Engineering and Planning Consultants

9th Floor
1199 West Hastings
Vancouver
British Columbia
Canada V6E 3T5

Telephone: 604 / 684 4488
Facsimile: 604 / 684 5908
office@gdhamilton.com
www.gdhamilton.com

HAMILTON ASSOCIATES

ISO 9001 Registered
Quality Assured

November 28, 2002

Mr. Mike Davis
BC Transit
520 Gorge Road East
P.O. Box 610
Victoria, B.C., V8W 2P3

Dear Mr. Davis:

RE: Highway 1 McKenzie/Tillicum Transit Queue Jump Reassessment

The following report was prepared in response to your request for a reassessment of the transit queue jump operations implemented at Highway 1 and McKenzie/Admirals and Highway 1 and Tillicum.

1.0 BACKGROUND

BC Transit had initiated the development of transit priority measures at the following two locations on the Trans Canada Highway:

- Trans-Canada & Admirals/McKenzie; and
- Trans Canada & Tillicum.

Measures developed included:

- Optimized traffic signal timings; and
- Westbound and eastbound queue jump lanes with right turn lane extensions.

The Ministry of Transportation developed designs for the geometric modifications outlined and implemented the following geometric and operational changes:

- Westbound queue jumps and right lane extensions; and
- Traffic signal timing plan modifications at Highway 1 & Admirals and Highway 1 & Tillicum

2.0 WORK PROGRAM

In order to determine to what extent the original project objectives were met and to verify the benefits of proceeding with the eastbound transit priority measures originally developed a post implementation assessment was initiated by BC Transit. The first phase of the post implementation assessment included:

- Signal timing plan checks;

- Field assessment of intersection operations at Highway 1 & Tillicum and Highway 1 and McKenzie/Admirals;
- Identification of AM and PM peak hour intersection demand at the intersection of Highway 1 and Tillicum;
- Update Synchro files with updated traffic demand and control information;
- Documentation and presentation of results.

3.0 OBSERVATIONS

Intersection operations were observed during the PM peak period (3:30 – 5:30 PM) on November 20, 2002 and in the AM peak period (7:00 – 8:30 AM) on November 21, 2002.

The field observations indicated that the west bound right turn extensions at both Highway 1 & McKenzie Admirals and Highway 1 & Tillicum were consistent with what was recommended.

Queue formations along Highway 1 at both intersections were generally twice as long as those observed in September 2000 n both AM and PM peak periods. Queuing at McKenzie and Tillicum approaches was much shorter in both AM and PM peak periods.

Tillicum and McKenzie approaches were observed to have significant unused green allocation while the Highway 1 approaches were severely queued.

The length of westbound queues extended beyond the reach of the extended westbound right turn lane extensions at both Highway 1 & Tillicum as well as at Highway 1 & McKenzie/Admirals during most of the PM peak period.

The bus only signal did not activate at Highway 1 and Tillicum in the PM peak on several occasions as bus departed from the westbound stop, entered the queue jump area, and then waited for the westbound phase to initiate.

4.0 SIGNAL TIMINGS

Signal timings were measured at both Highway 1 & Tillicum and Highway 1 and Admirals/McKenzie. TABLES 1 and 2 provides a comparison of: signal cycle lengths that were in operation prior to the implementation of the transit queue jump; signal cycle lengths recommended; and those observed to be in operation currently.

TABLE 1
AM PEAK PERIOD - TRAFFIC SIGNAL CYCLES
(seconds)

	Prior to Implementation of Transit Queue Jumps	Recommended	Current
Highway 1 & McKenzie/Admirals	162	130	200
Highway 1 & Tillicum	144	110	220

TABLE 2
PM PEAK PERIOD - TRAFFIC SIGNAL CYCLES
(seconds)

	Prior to Implementation of Transit Queue Jumps	Recommended	Current
Highway 1 & McKenzie/Admirals	150	130	180
Highway 1 & Tillicum	159	90	220

The signal timings that were recommended were designed to minimize total intersection delay as well as maintaining queue lengths shorter than the westbound right turn lane extensions. The recommended signal timings were based on signal timing modifications at Highway 1 & Admirals/McKenzie, Highway 1 & Tillicum; Douglas & Saanich and Douglas & Cloverdale. The westbound departure flows at Douglas & Saanich were designed to meter the westbound arrival flow at Highway & Tillicum.

The timings at Douglas & Saanich have not been modified and the current timings at both Highway 1 & Tillicum and Highway 1 & Admirals/McKenzie are significantly higher than what was recommended. This explains the increased queuing and approach service level anomalies observed.

5.0 TRAFFIC DEMAND

Intersection movement counts were undertaken during the PM peak hour (4:30 – 5:30 PM) on November 20, 2002 and in the AM peak period (7:30 – 8:30 AM) on November 21, 2002.

TABLES 3 and 3A provide a comparison between 2000 and November 2002 AM and PM peak hour intersection demand.

The traffic demand comparisons indicate that current peak hour demand at Highway 1 approaches is less than the 2000 demand during the same time periods. The demand on the Admirals/McKenzie and Tillicum approaches is generally the same as the 2000 demand during the same time periods.

Given that the Admirals/McKenzie and Tillicum approaches receive more green time than required it can be concluded that intersection demand has not changed. The reduction in Highway 1 demand is consistent with capacity losses attributable to excessive traffic signal cycle lengths.

Given that the peak intersection demand has been influenced by the signal timings implemented, the intersection count at Highway 1 and Tillicum was not carried out.

TABLE 3
AM PEAK HOUR INTERSECTION DEMAND COMPARISON – HIGHWAY 1 & TILLICUM
(Demand is represented as Passenger car units)

				PCU	42	362	75			
				B						
				T		3				
				C	17	450	96			
				PCU	17	458	96			
Highway 1					⇙	⇩	⇘			
PCU	B	T	C	PCU				PCU	B	T	C	PCU
44			66	66⇗				⇖ 22			22	24
1909	13	31	1720	1824⇨				⇦ 794	7	20	730	802
13			10	10⇘				⇙ 25			25	43
					⇖	⇧	⇗					
				PCU	152	369	40					
				C	130	337	40					
				T	8	12						
				B	1	1						
				PCU	123	482	74					

123Current Count (veh)
123Previous Count (PCU)
123Current Count (PCU)

Tillicum

TABLE 3A
PM PEAK HOUR INTERSECTION DEMAND COMPARISON – HIGHWAY 1 & TILLICUM
(Demand is represented as Passenger car units)

North approach (Tillicum southbound):

PCU	36	420	29
B		2	
T		1	
C	38	426	27
PCU	38	433	27
	⇙	⇩	⇘

Highway 1

West approach (eastbound):

PCU	B	T	C	PCU
66		5	66	79⇗
1159	3	11	906	940⇨
23			36	36⇘

East approach (westbound):

	PCU	B	T	C	PCU
⇖	21			21	47
⇦	1242	11	12	1190	1586
⇙	68			68	123

South approach (Tillicum northbound):

	⇖	⇧	⇗
PCU	228	513	84
C	213	503	81
T	6	4	1
B			
PCU	204	528	87

how does this reconcile with upstream flow

123Current Count (veh)
123Previous Count (PCU)
123Current Count (PCU)

Tillicum

6.0 ANALYSIS

In order to perform a meaningful assessment of the queue jump facilities it is important to understand the underlying principles of what was originally recommended.

Previous Design Concept

The provision of effective queue jump facilities at the intersections in question is markedly different in the AM from the PM peak period.

The eastbound (in-bound) peak flow in the AM peak period is unconstrained down-stream, therefore the hourly eastbound demand arriving at the McKenzie signal can increase with growth in an unimpeded manner. The McKenzie signal acts as a meter for subsequent eastbound flows inbound.

The westbound (outbound) peak flow in the PM peak period is metered by the signal at Douglas and Saanich. The westbound discharge will always be constrained by the westbound discharge capacity.

Because the westbound discharge flow can be managed, the westbound approaches at both Tillicum and McKenzie were selected for Queue jump/right lane extensions.

The design process for the effective operation of westbound Queue jumps at both Admirals/McKenzie and Tillicum involved signal plan development that minimized delays, stops, and queuing. Westbound right lane extension s that extended beyond the westbound through lane queues were then identified. In the case of Tillicum the extension was constrained by the location of a structure to the east. Further signal modifications were undertaken to shorten westbound queues to the maximum extent possible. TABLE 4 describes the westbound thorough signal discharge capacity at the intersections of Douglas and Saanich, Highway 1 and Tillicum and Highway 1 and McKenzie Admirals.

TABLE 4 WESTBOUND PM PEAK HOUR THROUGH SIGNAL DISCHARGE CAPACITY
(vehicles per hour)

	Recommended	Current
Douglas and Saanich	1,364	1,519
Highway 1 and Tillicum	1,440	1,275
Highway 1 and McKenzie/Admirals	1,911	941

It should be noted that the recommended design ensured increased up-stream capacity while the implemented timings features the reverse. This explains both the reduction in westbound through capacity observed as well as the dramatic increase in queuing.

Given that MoT proceeded with an incremental implementation the analysis was modified to include only the intersections of Highway 1 and Tillicum and Highway 1 and Admirals/McKenzie. The discharge capacity at Douglas and Saanich is assumed to be unchanged from 2002 levels. SYNCHRO files were modified to remove the intersections of Douglas & Saanich and Douglas & Cloverdale. This permits assessment of the intersections of Highway 1 & Admirals/McKenzie and Highway 1 & Tillicum in isolation.

The operations of the remaining intersections were then re-assessed to determine optimal cycle lengths and associated performance expectations. The performance under existing signal timings was also identified. TABLES 5 and 6 provide a comparison of key indicators between pre-implementation, pre-implementation optimized, current and current optimized operations under AM and PM peak hour demands (2000 counts).

TABLE 5 AM PEAK HOUR PERFORMANCE COMPARISON HIGHWAY 1 (ADMIRALS/McKENZIE & TILLICUM)

INDICATOR	Pre-Implem.	Pre-Implem. Optimized	Current	Current Optimized
Total Signal Delay (hr)	139	143	190	148
Total Stops	9217	9223	9221	9384
Total Time (hr)	319	317	410	322
*Queuing Penalty (veh)	1221	1134	1180	1159
**Performance Index	198.9	200.6	248	206.5
McKenzie EBD 95%Q m	498	498	754	501
Tillicum EBD 95% Q m	431	350	475	416

The queuing penalty is a SYNCHRO based quantification of the affects of queuing and blocking problems. It is roughly equal to the number of vehicles affected by blocking. In many cases shorter cycle lengths will experience shorter queues and less blocking. The queuing penalty is a convenient way to measure blocking network wide. The queuing penalty is calculated by the taking the volume of the blocked movement by the amount of time it is blocked. A penalty is calculated for both storage bay blocking and upstream blocking. Lower values represent better operations than higher values.

The Performance Index is a measure that captures the combined effects of queuing, stops, and delay. (stops are weighted 10 times the value of delay and queuing is weighted at 100 times the value of delay). Lower values represent better operations than higher values.

TABLE 6 PM PEAK HOUR PERFORMANCE COMPARISON HIGHWAY 1 (ADMIRALS/McKENZIE & TILLICUM)

INDICATOR	Pre-Implem.	Pre-Implem. Optimized	Current	Current Optimized
Total Signal Delay (hr)	166	156	271	127
Total Stops	9424	10425	11219	9355
Total Time (hr)	326	312	475	286
Queuing Penalty (veh)	2019	1181	2641	986
Performance Index	248.7	217.3	375.6	179.9
McKenzie WBD 95%Q m	313	243	573	243
Tillicum WBD 95% Q m	356	237	419	207

7.0 CONCLUSIONS AND RECOMMENDATIONS

- AM and PM peak hour demand has remained unchanged from 2000;
- Existing signal operations at Highway and Tillicum and Highway 1 and McKenzie/Admirals has increased delays, queuing and peak direction through capacity;
- Westbound right turn lane entry is blocked by through queues during the entire PM peak hour; and

- Current operations can be improved by changes in signal timing.

It is recommended that the following strategy be used to improve operations:

- It is recommended that revised signal timings be implemented immediately at Highway 1 & Tillicum as well as Highway 1 and Admirals/McKenzie;
- Timings should be implemented at Highway 1 and Tillicum initially and after a 5 to 7 days stabilization period timings can be implemented at Highway and McKenzie/Admirals; and
- The implementation process should be supported with specialist assistance in the field.

Hamilton Associates would be pleased to provide support for the field implementation of signal timing plan revisions. Updated SYNCHRO files can be made available for this implementation.

If you require additional information and/or clarification please contact the undersigned at 604 684-4488.

Yours truly,

G.D. HAMILTON ASSOCIATES CONSULTING LTD.

per: J. Schnablegger, P. Eng
Senior Project Manager

Livolsi, Patrick TRAN:EX

From: Webb, Bob TRAN:EX
Sent: Wednesday, December 04, 2002 8:37 AM
To: Livolsi, Patrick TRAN:EX
Cc: Steele, Bob D TRAN:EX
Subject: till/mckenzie

hi patrick,
see attached note from hamilton. transit would like us to review the timing at these intersections.
you may recall we had talked about doing a timing review at these intersections. is someone looking at this?
the process we would like is for your group to review then we have a meeting with our folks including bob steele.
once we have this meeting we will meet with transit and thier consultant.
i have talked to jerry about what he did for timing..who ever you assign to this project may want to talk to jerry.
please let me know your thoughts and target date.
thanks

Reassessment
Highway 1 Report_...

Bob Webb
District Technician
Vancouver Island District
Saanich Area Office

Sad Email to
Bob Webb.

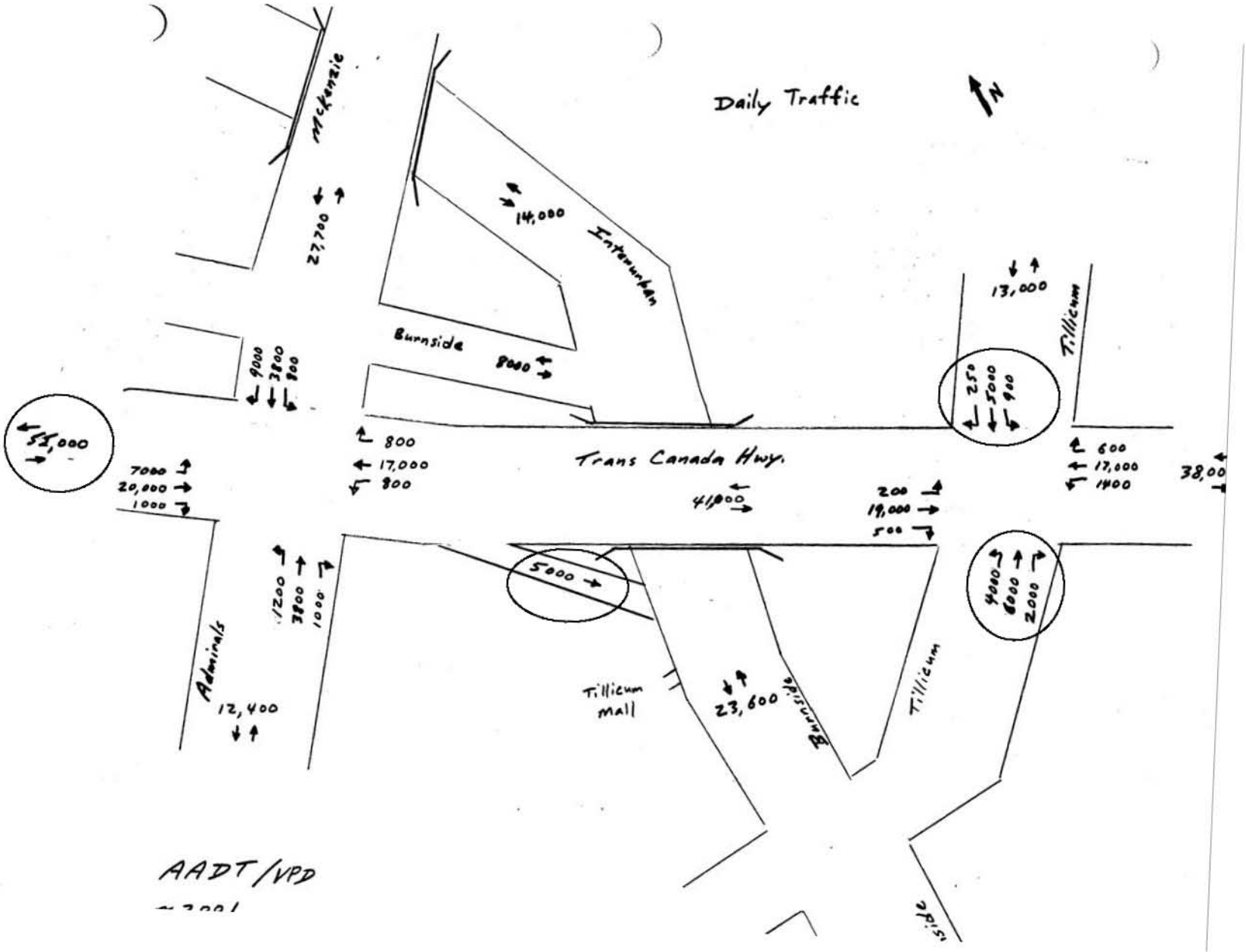
- USE TRANSITE CONSUCTANT

Future of Trans Canada Connections In Admirals / Tillicum Area

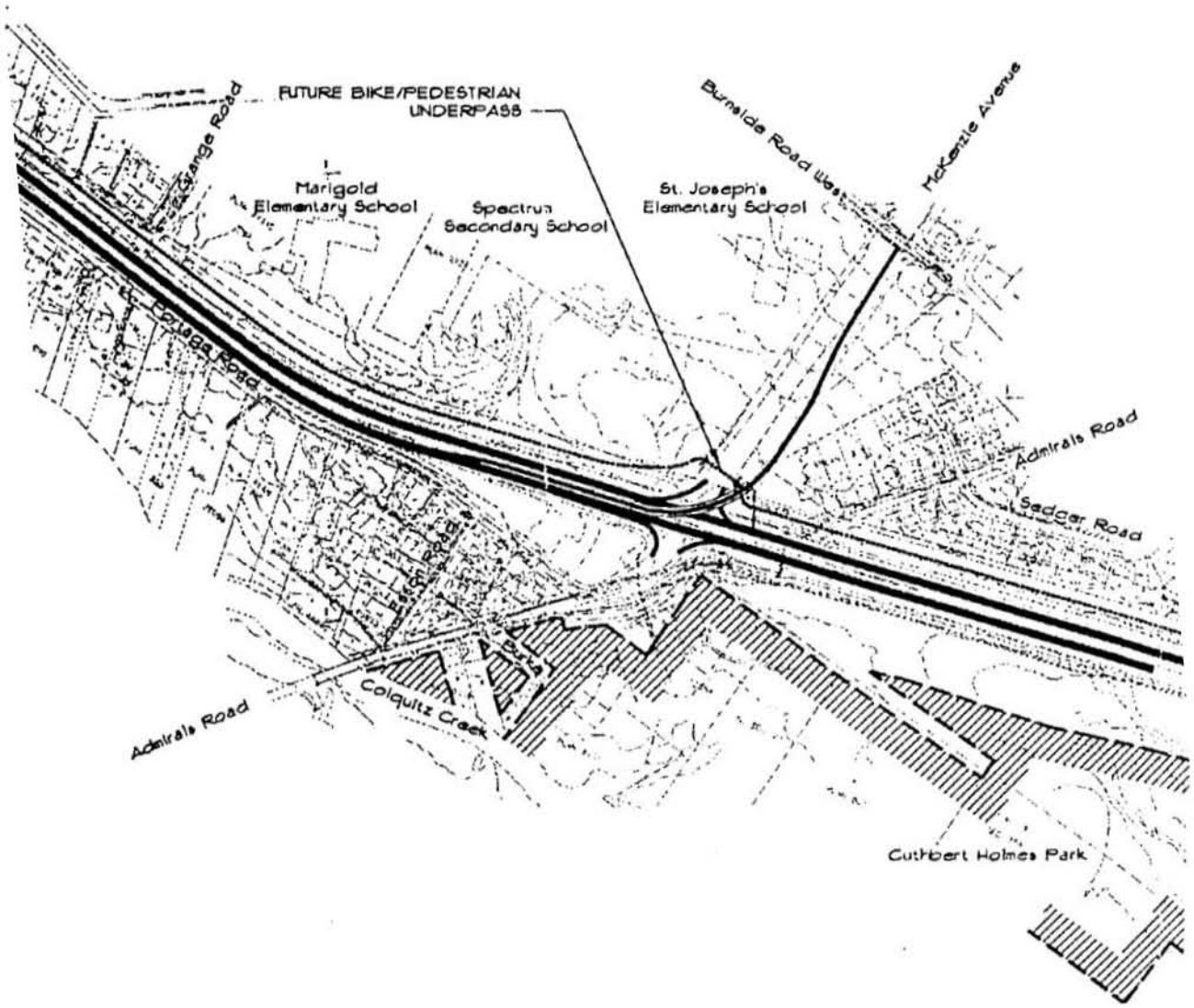
Some

Possibilities

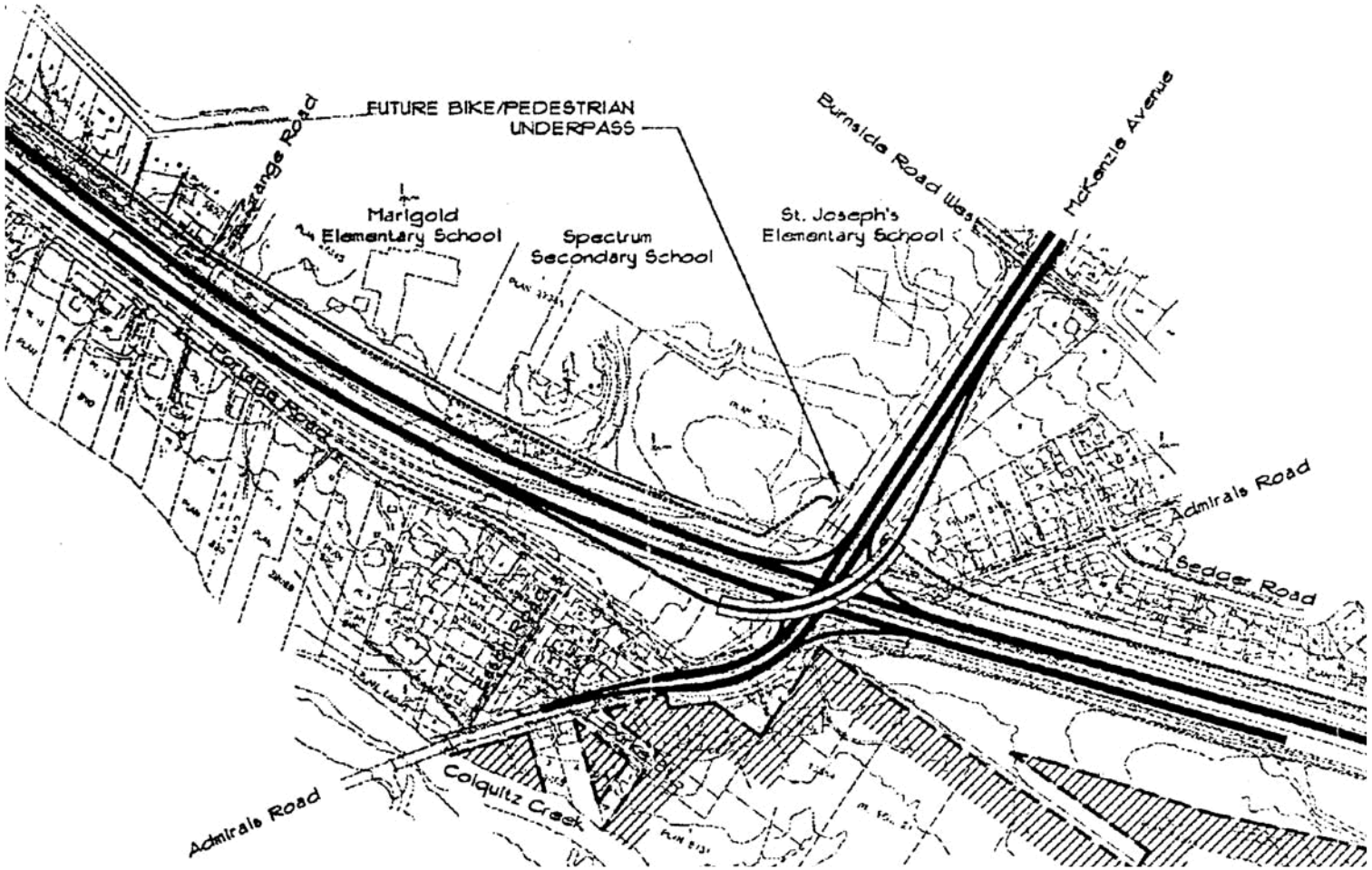
Current Traffic Volumes



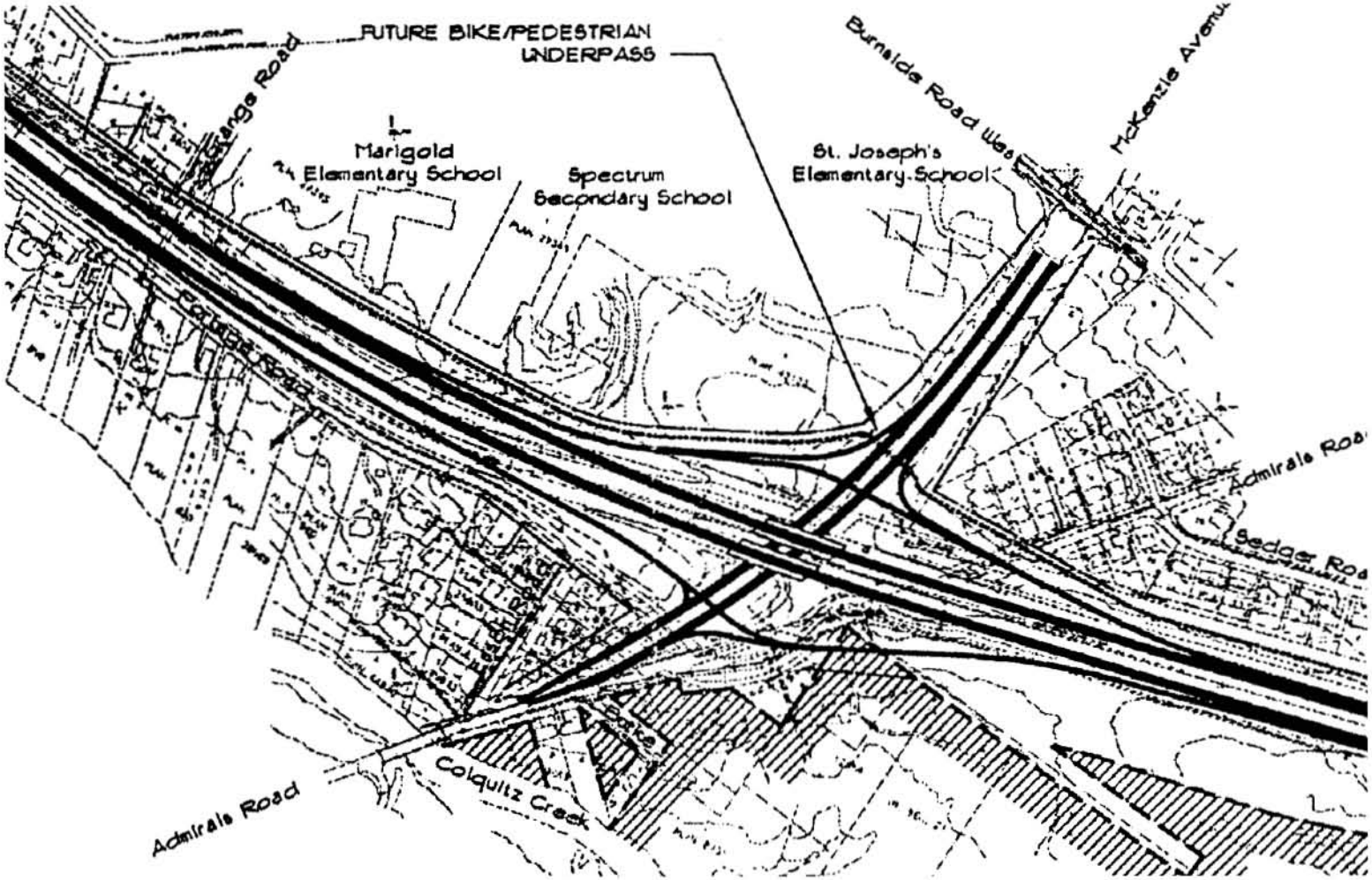
Directional Ramp from Fast Lane



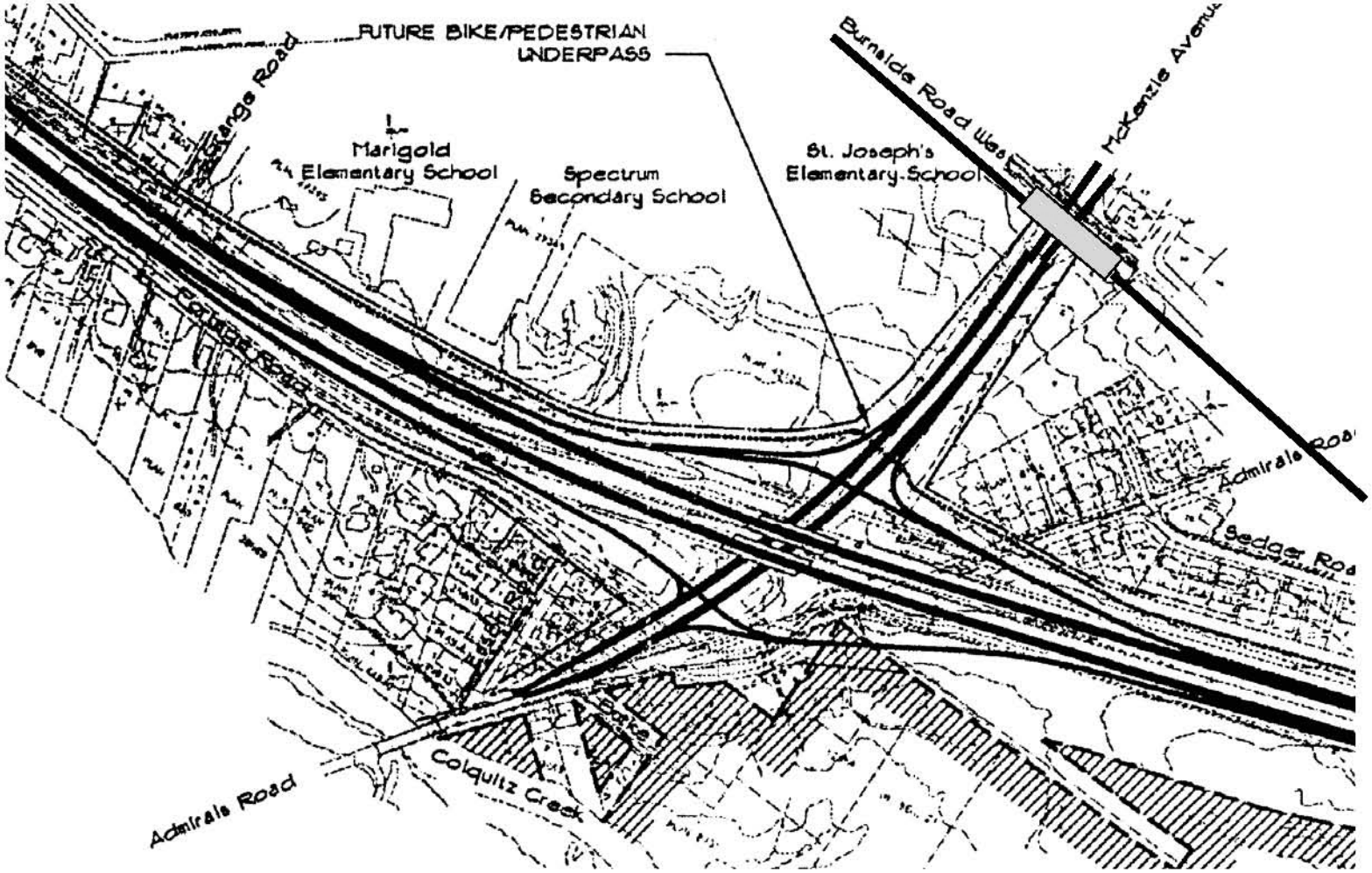
Directional Ramp from Slow Lane



Diamond Interchange Option

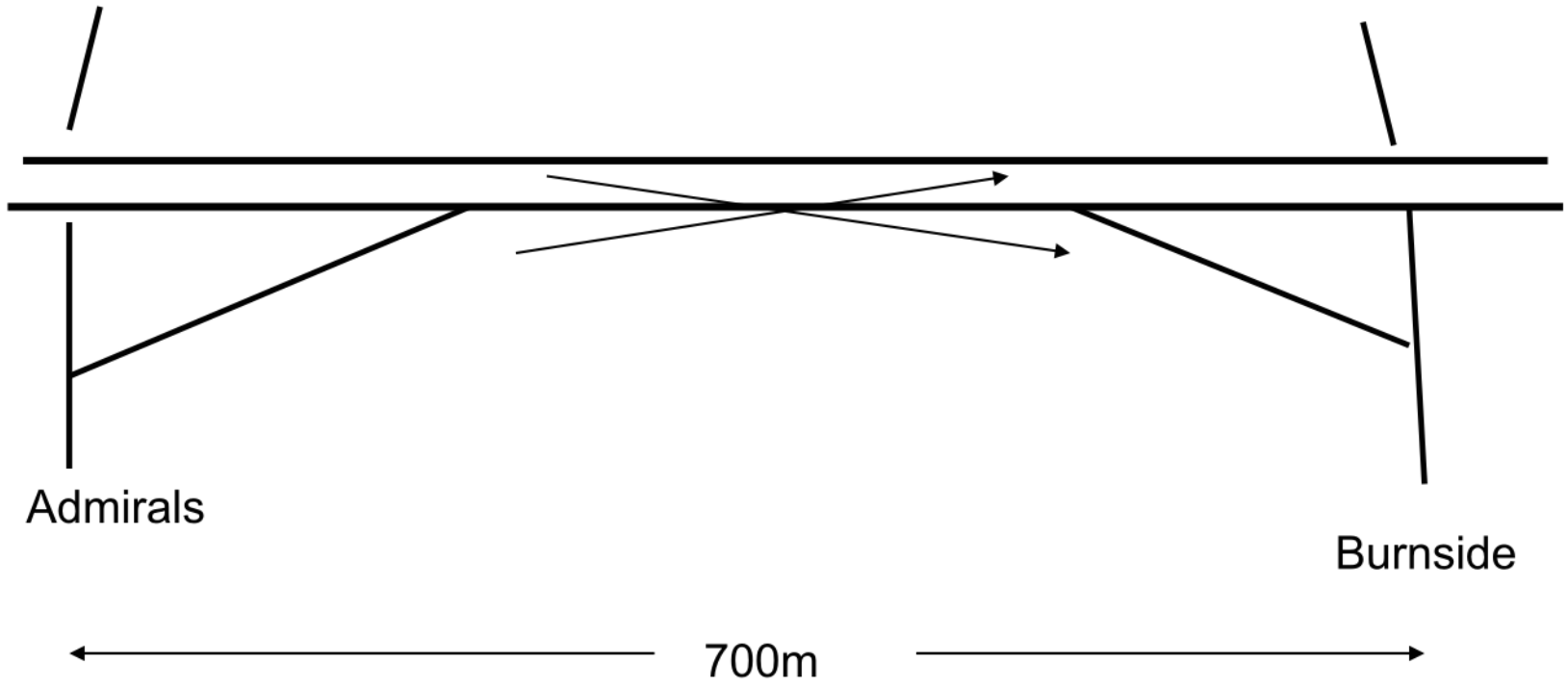


Interchange Option with McKenzie under Burnside



Future of Burnside Underpass

- Burnside off ramp in conflict with Admirals on ramp.



Future of Tillicum/TCH Intersection

- Signal Remains
  - As Is
  - 6 Lane TCH, more turn lanes on Tillicum
  - 6 lane TCH but new lanes to be HOV/Bus
- Remove signal, install median barrier
  - Right Turns only
  - Right Turns only except LT's into Tillicum
- Grade Separation
  - Tillicum under TCH
  - Full interchange, all movements allowed

Community input welcome and needed

Wrap Up

- Encourage Mixed Use, reasonably dense development
- Impeding traffic on major corridors may move traffic to local streets

s13

- MoT welcomes input on future of transportation in this area.

Technical Memorandum

Ministry of Transportation and Infrastructure

Highway 1 and Admirals McKenzie Intersection Preliminary Engineering Study: Traffic and Safety Assessment

April 2012

Executive Summary

The Highway 1 / Admirals Road / McKenzie Avenue intersection is a major intersection linking the two main areas of Victoria – the commercial business district (CBD) / Peninsula and Westshore – and is a pinch-point within the connecting corridor. To identify possible solutions and alternatives for improving this intersection and those in the immediate area, the Ministry of Transportation and Infrastructure has commissioned Associated Engineering to complete a Preliminary Engineering Study. This technical memorandum was prepared to summarize the results of the operational and safety assessment for the existing condition and a future planning horizon.

The following intersections were assessed to ascertain network performance:

- Highway 1 / Admirals Road / McKenzie Avenue;
- McKenzie Avenue / Burnside Road;
- McKenzie Avenue / Carey Road;
- McKenzie Avenue / Glanford Avenue;
- McKenzie Avenue / Highway 17 Interchange Southbound Ramp;
- Highway 1 / Tillicum Road;
- Highway 1 / Saanich Road;
- Highway 1 / Helmcken Road Interchange Northbound Ramp;
- Highway 1 / Helmcken Road Interchange Southbound Ramp;
- Admirals Road / Craigflower Road; and
- Admirals Road / Gorge Road.

The traffic analysis and safety assessments include traffic operations assessments of the above-noted intersections, constraints analysis (existing capacity and potential capacity of downstream intersections to Highway 1 / Admirals Road / McKenzie Avenue), and safety assessment of the Highway 1 / Admirals Road / McKenzie Avenue intersection.

1 TRAFFIC ASSESSMENT

The operations assessment utilized the Synchro traffic software to determine / analyze existing traffic operations / performance. The existing condition (2011) and a future planning horizon (2038) were analyzed.

Existing Conditions (2011)

The analysis of existing conditions at the above intersections indicated that most of the intersections operate at, or near-capacity. Table E-1 summarizes the overall levels of service (LOS) for each intersection under existing conditions.

Table E-1
Overall Intersection LOS

Intersection	2011	
	AM Peak Hour	PM Peak Hour
Highway 1 / Admirals Road / McKenzie Avenue	F	F
Highway 1 / Helmcken Road Interchange - North Ramp	F	D
Highway 1 / Helmcken Road Interchange - South Ramp	F	F
McKenzie Avenue / Burnside Road	E	C
McKenzie Avenue / Carey Road	B	B
McKenzie Avenue / Glanford Road	F	F
McKenzie Avenue / Highway 17 West Ramp (Southbound)	F	D
Admirals Road / Gorge Road	B	B
Admirals Road / Craigflower Road	C	C
Highway 1 / Tillicum Road	F	F
Highway 1 / Saanich Road	F	E

During certain peaks of the day, long queues form in the eastbound direction from the Highway 1 / Admirals Road / McKenzie Avenue intersection as far as west of the Helmcken Interchange. This is caused by queue jumping of vehicles in order to try and avoid congestion. Calculations from Synchro indicate a queue length of 580 m, which is shorter than the distance to the Helmcken Interchange. However, the actual queue could be longer than calculated as lane capacities from input demand were exceeded and thus the calculation from Synchro may yield results lower than expected. As confirmation to actual conditions, SimTraffic visualizations indicate a queue forming as far back as the Helmcken Interchange. In addition to the eastbound queues, southbound queues at the project intersection can extend to and beyond the McKenzie Avenue / Burnside Road intersection.

From a network perspective, most intersections under the Ministry's jurisdiction within the study area operate at- or near- capacity.

Forecast Horizon (2038)

Until design options are defined and agreed upon, a 30% growth factor was applied to the existing base model to anticipate forecast volumes. This equates to approximately 1% increase in traffic volume per annum, for assessment of the 2038 planning horizon. As existing traffic flows are already at- or near- capacity operations, the additional increase of traffic demand to the 2038 planning horizon will only further deteriorate existing conditions. In all likelihood, the continual increase in demand will further spread the peak hour to form longer peak periods throughout the day. Although the spreading of volume will decrease the demand during the peak periods of the day, it is certain the intersections will remain at- or above- capacity should no improvements be made. Table E-2 summarizes the results of the 2038 intersection operations. The preparation of the TransCAD model, upon definition and agreement of the network improvements, will further detail planning horizon traffic demand.

Table E-2
2038 Overall Intersection LOS

s13

2 CONSTRAINTS ANALYSIS

A constraints analysis was undertaken to assess the potential additional traffic capacity at each of the downstream intersections. Different improvements were modelled to the corresponding intersection configuration for each of the downstream intersections. Table E-3 summarizes the intersection improvements proposed for each intersection to ascertain potential additional capacity (and limits thereof) within the studied network.

Table E-3
Constraint Analysis Improvements Summary

s13

s13

3 SAFETY ASSESSMENT

A safety assessment was prepared utilizing 2006-2010 ICBC collision data. The assessment also reviewed the types of collisions occurring at the intersections.

s17

s13

4 CONCLUSION

Based on the above analyses, the following results were found:

- Traffic Assessment
  - For the existing and future conditions based on the existing roadway configuration, most intersections within the studied network exhibit failing Levels of Service.
  - Long queues are formed at the Highway 1 / Admirals Road / McKenzie Avenue intersection specifically extending from the eastbound and southbound directions.
- Constraints Analysis

s13

- Safety Assessment

s13, s17

5 MOVING FORWARD

Based on the conclusion of the analysis, the operational characteristics of the project intersection and the network as a whole are evident. Proposed improvement options should address the specific needs outlined. A preferred options shortlist will be developed based on the analysis above, which will form the basis of the multiple accounts evaluation study as well as the business case study.

Table of Contents

1 Introduction

The intersection of Highway 1 / Admirals Road / McKenzie Avenue is a major intersection in the transportation corridor linking the commercial business district (CBD) / Peninsula with the Westshore. The intersection is congested resulting in significant delays to motorists. It is currently one of the most critical pinch-points in the Capital Regional District's road network.

To develop possible solutions and alternatives for improvements to the intersection, existing and potential future operational deficiencies at the Highway 1 / Admirals Road / McKenzie Avenue intersection (along with the surrounding road network) must be identified. This traffic and safety assessment was prepared to summarize the results of the operational and safety analysis undertaken for the existing and future (2038) design horizon.

2 Purpose and Objective

To determine the operational performance of the intersection at the existing and future design horizon, a comprehensive assessment was carried out to evaluate existing and potential future operational deficiencies of the Highway 1 / Admirals Road / McKenzie Avenue intersection and its surrounding network system.

The following intersections were analyzed:

- Highway 1 / Admirals Road / McKenzie Avenue;
- McKenzie Avenue / Burnside Road;
- McKenzie Avenue / Carey Road;
- McKenzie Avenue / Glanford Avenue;
- McKenzie Avenue / Highway 17 Interchange Southbound Ramp;
- Highway 1 / Tillicum Road;
- Highway 1 / Saanich Road;
- Highway 1 / Helmcken Road Interchange Northbound Ramp;
- Highway 1 / Helmcken Road Interchange Southbound Ramp;
- Admirals Road / Craigflower Road; and
- Admirals Road / Gorge Road.

A constraints analysis, for intersections downstream of the project intersection, and a safety assessment, was prepared as part of this report.

The results of the analysis will aid in the identification of possible improvement opportunities and solutions.

3 Study Area

The study area is bounded by McKenzie Avenue to the north, Craigflower Road to the south, Helmcken Road (interchange) to the west, and Highway 17 and Saanich Road to the east. The intersections that were analyzed include those listed in Section 2.0. The study area is shown as Figure 3-1.

4 Methodology

4.1 Traffic Assessment - Existing Conditions (Year 2011)

Traffic analysis for the existing conditions utilized the Synchro Software along with background traffic counts and existing signal timing information provided by the Ministry of Transportation and Infrastructure (MoTI) staff. Where count information was not available, additional traffic counts were gathered during November 2011 to January 2012.

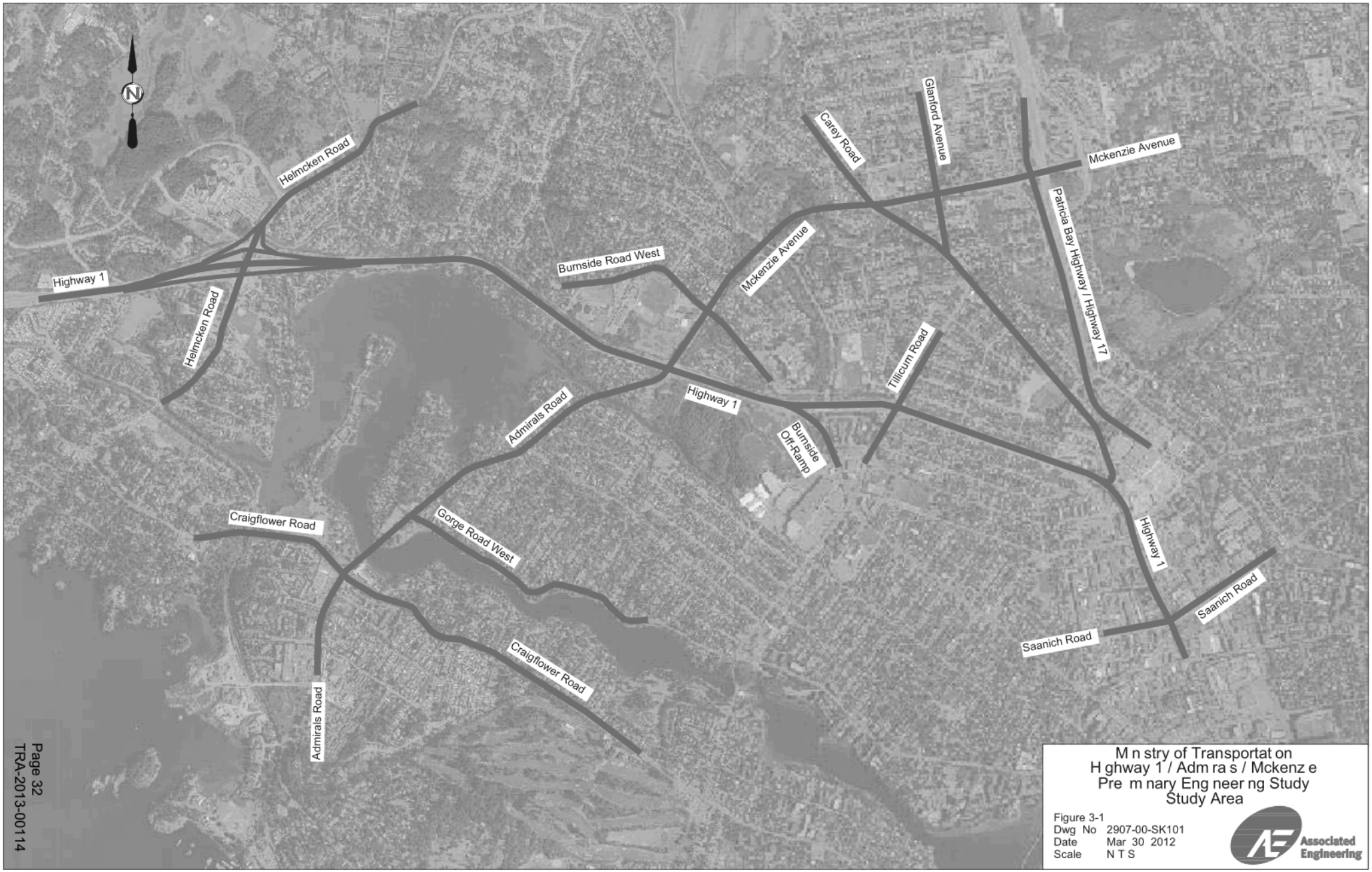
For the assessment, existing conditions traffic analyses were prepared assuming 2011 summer average daily traffic conditions with further balancing of flows between intersections. Summer average daily volumes were used as they are generally higher than the average annual daily volumes. To convert the counts not taken during the summer months to reflect summer volumes, monthly average roadway volume percentages were used.

The weekday AM and PM peak hours were studied with the expectation that the PM peak hour yields the highest weekday traffic volumes. The AM peak hour typically has similar characteristics (but slightly lower traffic volumes) as commuters commute to work in the morning peak and return home in the afternoon peak hour. The findings of the Highway 1 / Admirals Road / McKenzie Avenue Intersection Review prepared by Boulevard Transportation Group in July 2011 generally supports this assumption where peak hours of the day (AM and PM) generally corresponded to the peak traffic volumes.

The original background traffic information, including traffic counts and signal timing sheets, is attached as reference in Appendix A of this assessment.

4.2 Traffic Assessment - Future Conditions (Planning Horizon 2038)

An assessment of traffic conditions for the future 2038 horizon was undertaken for this study. The 2038 forecast was based on the Capital Regional District (CRD) Transportation Planning Model (TP Model). The TP Model was developed using the TransCAD software suite. It was originally created in 2008/9 and calibrated using 2006 demographics, traffic count data and origin destination survey data. It has recently gone through a significant update (December 2011) with CRD Planning personnel meeting frequently with Municipal Planning staff to rework the future expected demographic by traffic zone.


Helmcken Road
Highway 1
Helmcken Road
Burnside Road West
Mckenzie Avenue
Carey Road
Glanford Avenue
Mckenzie Avenue
Patricia Bay Highway / Highway 17
Tillicum Road
Highway 1
Admirals Road
Burnside Off-Ramp
Craigflower Road
Gorge Road West
Highway 1
Saanich Road
Saanich Road
Craigflower Road
Admirals Road
Mn stry of Transportat on
H ghway 1 / Adm ra s / Mckenz e
Pre m nary Eng neer ng Study
Study Area
Figure 3-1
Dwg No 2907-00-SK101
Date Mar 30 2012
Scale N T S
Associated Engineering

This 2011 update is the model utilized for the Associated Engineering team's early forecast of future volumes. Growth associated with the forecast was applied to the existing traffic count information for analysis.

Peak hour volumes were extracted from the 2006 Base and the 2038 Reference scenarios on the TransCanada Highway (TCH) and McKenzie Avenue in order to determine the additional future demand. However, these volumes were found to increase very little between the 2006 Base and the 2038 Reference scenarios. This was unexpected and caused some concern. As a result, additional investigation was carried out to determine the cause. Although the anticipated CRD population increase will be about 30%, the volumes on the TCH increased by less than 15% to the west and east of McKenzie Avenue. Working with the CRD Planning staff, it was determined that this low additional demand was mainly caused by the constraint of leaving Highway 1 at 4-lanes.

The scenarios utilized from the 2011 model and their characteristics are as follows:

2006 Base

- Demographics: Original Actual 2006 Population and Employment by traffic zone
- Network: 2006 "As Is" Network

2038 Reference

- Demographics: Future 2038 Population and Employment by traffic zone as determined by CRD Planning from recent discussions with Municipalities (Official Community Plan based)
- Network: Committed Projects Only Network
  - 4 lanes TransCanada Highway (TCH)
  - Spencer Interchange (I/C) and Leigh/Bear Mountain Parkway upgrades
  - Westshore Parkway I/C and 2 lane Westshore Parkway connection to Westhills and Highway 14
  - BC Transit 2038 Master Plan; Increased Rapid Bus with no LRT

2038 Reference on 2006 Network

- Demographics: Future 2038 Population and Employment by traffic zone as determined by CRD Planning from recent discussions with Municipalities (Official Community Plan based)
- Network: 2006 "As Is" Network

s13

2038 Reference Enhanced TransCanada Highway

s13

4.3 Constraints Analysis

Based on the existing conditions, a cursory constraints analysis of intersections / corridors downstream of the Highway 1 / Admirals Road / McKenzie Avenue intersection was undertaken to ascertain network performance assuming that certain improvements can be made at those downstream intersections.

Specifically, improvements, referenced in Table 4-1 below, were applied to the noted intersections to analyze the potential maximum constraint (in terms of traffic flow). Note that this is only a desktop / theoretical study element to capture the system-wide capacity potential.

The table below summarizes the improvements made to each tested intersection.

Table 4-1
Constraint Analysis Improvements Summary

s13

Resulting from the above intersection improvements, the downstream / immediate network capacity constraints were determined.

Based on the improvements set above, the downstream constraints (from the project intersection) were analyzed. The full analysis listing is submitted as **Appendix B** of this report.

Constraints analysis details are discussed in Section 5.7.

4.4 Safety Assessment

Safety assessment of the Highway 1 / Admirals Road / McKenzie Avenue intersection was prepared utilizing Insurance Corporation of British Columbia (ICBC) and MoTI collision data between 2006 and 2010 (5-year period). Temporal, location, type, and severity of collisions were analyzed. Results of the safety assessments for other intersections in the network were cited where a safety study was previously performed.

Safety assessment details are discussed in Section 6.

5 Traffic Assessment

Traffic analysis was performed for the existing conditions, (year 2011), and the future planning horizon (year 2038). The following sections outline the traffic operations analysis of the study area. Traffic flow and overall intersection performance information are summarized in Figures 5-1 to 5-6 of this section.

5.1 Traffic Network

In addition to the descriptions of the traffic network below, Figure 3-1 provides a map showing roadway locations.

Highway 1 – Highway 1 runs east-west through the Highway 1 / Admirals Road / McKenzie Avenue intersection. Within the study area, Highway 1 is a 4-lane highway with a posted speed of 80 km/h. It is the primary east-west corridor connecting CBD / Peninsula and the Westshore. In the study area, the Galloping Goose Trail runs parallel to the Highway.

McKenzie Avenue – McKenzie Avenue is located north of the Highway 1 / Admirals Road / McKenzie Avenue intersection. At the northeast boundary of the study area, McKenzie Avenue connects with Highway 17. It is an arterial connecting communities north of Highway 1 such as Royal Oak, Strawberry Vale, and Marigold in Saanich.

Not Responsive

Pages 37 through 42 redacted for the following reasons:
- -
s13

Not Responsive

5.2 Existing Traffic Volumes

Utilizing growth rates and average daily traffic monthly histograms (for adjustments of average daily traffic to summer daily equivalents), the collected traffic volumes were factored to 2011 summer average daily traffic volumes (worst case scenario) for analysis use. The traffic flows were further balanced between the intersections.

Existing conditions traffic volumes are summarized in Figures 5-1 and 5-2.

5.3 Future Traffic Volumes

Future traffic volumes were derived from the TransCAD regional model for the 2038 planning horizon. For detailed explanations of the derivation of the projected traffic volumes, please refer to Section 4.2. Future traffic volumes are summarized in Figures 5-4 and 5-5.

5.4 Intersection Performance

Several criteria were utilized for the analysis of intersection performance within the study area.

The Level of Service (LOS) is a general measure of operating performance of intersections. It is assigned to the intersection as a whole or to a specific approach / movement. The LOS grades correlate to a specific range of traffic delay (seconds). Table 5-1 below summarizes the LOS and their relationship with specific delay ranges for intersections, approaches, and movements.

Table 5-1
Signalized Intersections – Level of Service Characteristics

Level of Service	Average Signal Delay (seconds/vehicle)	Level of Service	Average Signal Delay (seconds/vehicle)
A	≤ 10	D	> 35 and ≤ 55
B	> 10 and ≤ 20	E	> 55 and ≤ 80
C	> 20 and ≤ 35	F	> 80

* The LOS ranges between A and F with LOS E considered “at capacity” and LOS F considered “at failure”.

In addition to LOS analyses, the volume-to-capacity ratio (v/c) are also analyzed. The v/c ratio indicates the volume of vehicles at an intersection, movement, or approach relative to the available capacity. Ministry guidelines typically consider a v/c ratio of 0.85 as just satisfactory.

The level of service analysis was undertaken using Synchro 7.0 traffic operations analysis software. This software uses evaluation criteria based on the methodologies stated in the Highway Capacity Manual (HCM) 2000. A VISSIM traffic model was also prepared to better understand the characteristics at the Highway 1 / Admirals Road / McKenzie Avenue intersection.

Of note, after analysis of heavy vehicle traffic in the nearby highway segments and surrounding areas, and after consultation with the MoTI staff, a general 5% heavy vehicle percentage is applied to all movements for analysis of the study area.

Movement information, v/c ratios, and queue lengths for each movement along with Synchro analysis output summaries are attached in Appendix C of this assessment.

5.5 Existing Conditions

Analysis Results

Based on existing traffic volumes and above-mentioned assumptions, the study intersections were assessed using Synchro. Table 5-2 summarizes overall intersection LOS for each of the analyzed intersections. Tables B1 to B22 within Appendix C summarizes detailed LOS for each individual turning movement.

Table 5-2
Overall Intersection LOS

Intersection	2011	
	AM Peak Hour	PM Peak Hour
Highway 1 / Admirals Road / McKenzie Avenue	F	F
Highway 1 / Helmcken Road Interchange - North Ramp	F	D
Highway 1 / Helmcken Road Interchange - South Ramp	F	F
McKenzie Avenue / Burnside Road	E	C
McKenzie Avenue / Carey Road	B	B
McKenzie Avenue / Glanford Road	F	F
McKenzie Avenue / Highway 17 West Ramp (Southbound)	F	D
Admirals Road / Gorge Road	B	B
Admirals Road / Craigflower Road	C	C
Highway 1 / Tillicum Road	F	F
Highway 1 / Saanich Road	F	E

A summary of the overall intersection levels of service for the existing condition are illustrated in Figure 5-3. Analysis, from a network standpoint, based on the results of a constraints analysis is further explored in Section 5.7 of this report.

Highway 1 / Admirals Road / McKenzie Avenue Intersection Performance

In general, analysis results for the Highway 1 / Admirals Road / McKenzie Avenue intersection indicate that the intersection is operating at above-capacity levels for many of the approaches during both the AM and PM peak hours, coupled with high queue lengths on all approaches. This is consistent with field observations where long queues formulate on the eastbound and westbound intersection approaches on the highway during the AM and PM peak hours, respectively.

The eastbound queue extends to the Helmcken Interchange. Although Synchro outputs indicate a queue length of 580 m for this approach during the existing conditions AM peak period (Table B1), it must be noted that the input demand is higher than capacity. The resultant queue can be much longer than that calculated. SimTraffic modelling (visualizations) confirms spillback as far as the Helmcken Interchange.

In addition, for the urban section (north and south leg of the intersection), long southbound queues at the Highway 1 / Admirals Road / McKenzie Avenue intersection form during the PM peak hours. This is caused by high traffic volumes merging onto the southbound right turn movements. At times, the queue hinders movements from the McKenzie Avenue / Burnside Road intersection, which is immediately to the north. It is possible that a non-failing LOS occurs at the McKenzie Avenue / Burnside Road intersection due to the traffic flows' inability to effectively pass through the intersection or potential spreading to other routes due to a local understanding and anticipation of potential congestion.

The traffic analysis results as compared to the stakeholder comments are generally consistent with one another. An excerpt of the stakeholder comments that correspond to the intersection

congestion conditions is included below. A full stakeholder consultation comments list is attached in **Appendix D** of this report.

Excerpt of Stakeholder Consultation Comments dated 24 November 2011.

Via the stakeholder consultation dated 24 November 2011, anecdotal traffic conditions at the intersection were gathered. Traffic conditions for comments made are summarized below:

- *Highway 1 / McKenzie Avenue / Admirals Road Intersection*
  - *Congestion problems can be found for eastbound movements (AM peak) and westbound movements (PM peak) on Highway 1.*
  - *Southbound queue for McKenzie Avenue during the PM peak hour can extend as far as Carey Road / Glanford Avenue.*
  - *Southbound movements (at the Intersection) are in conflict with Galloping Goose Trail users.*
  - *Northbound movements pose geometric problems and signal optimization problems (lack of adequate green time), which provoke drivers to run red lights and introduce safety concerns.*
  - *Signalization of Galloping Goose Trail may be an option for increasing efficiency for traffic on the North Leg of the Intersection.*
  - *Eastbound bus stop on Highway 1 (just east of the Intersection) promotes a weaving movement for vehicles traversing northbound right at the Intersection while buses diverge/merge from the bus station pull-out.*
  - *Westbound congestion during PM peak hour blocks the bus jump lane (which only has space for approximately 8 – 10 vehicles).*
  - *Westbound merge lane on Highway 1 west of the Intersection ends just short of the pedestrian overpass, creating a substandard merge (length) movement.*

Study Area Intersection Performance

Aside from the Highway 1 / Admirals Road / McKenzie Avenue intersection, most other intersections within the study area, are at failing levels on the McKenzie Avenue and Highway 1 corridors. For both the AM and PM peak hours, Synchro analysis results indicate that McKenzie Avenue / Burnside Road intersection yields acceptable LOS B. This could be the result of the inability of traffic flow to get to this intersection from the upstream above-capacity intersections. The resulting input volumes therefore yields better-than-failing results.

Though no intersection analysis was prepared for the Highway 1 / Burnside Road off-ramp, significant traffic exits the Highway through this movement. During the AM peak hour, this movement is in the order of 600 vehicles per hour. During the PM peak hour, it is in the order of 500 vehicles per hour. The flow, though substantial, is not very high as it is restricted by merging movements and roadway infrastructure constraints downstream. Some of the merging movements are by vehicles attempting to enter commercial areas immediately southeast of the off-ramp on Burnside Road west. Closure and restructuring of accesses along this corridor would decrease merging / weaving movements, thus potentially increasing the capacity of the off ramp.

5.6 Future Conditions

s13

Table 5-3
2038 Overall Intersection LOS

s13

Figures 5-4 and 5-5 exhibit traffic flows associated with the future model. A summary of the overall intersection levels of service for the future condition are illustrated in Figure 5-6 while Tables B13 to B23 in Appendix C summarize individual movements for the studied intersections.

Upon completion of the evaluation of options, a refinement of the 2038 planning horizon will be made in the TransCAD model thereby improving the projected likely future conditions.

5.7 Constraints Analysis

Based on methodologies described in Section 4.3, the constraints analysis was prepared. Table 5-4 below summarizes the results of the analysis.

Highway 1 Corridor Excess Capacity

s13

Table 5-4
Constraints Analysis Summary

s13

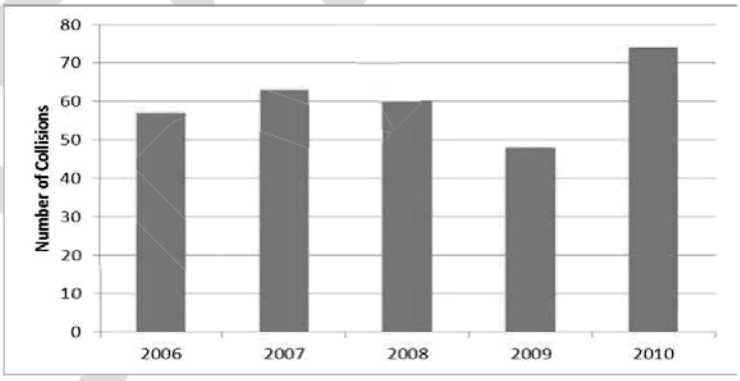
s13

6 Traffic Safety Analysis

ICBC accident data for the period of 2006 to 2010, inclusive, were provided for the traffic safety analysis. During the five year period, a total of 302 collisions were reported at the Highway 1/ Admirals Road / McKenzie Avenue intersection. The following charts summarize the temporal safety analysis findings for the intersection. A copy of the accident data is attached as Appendix E.

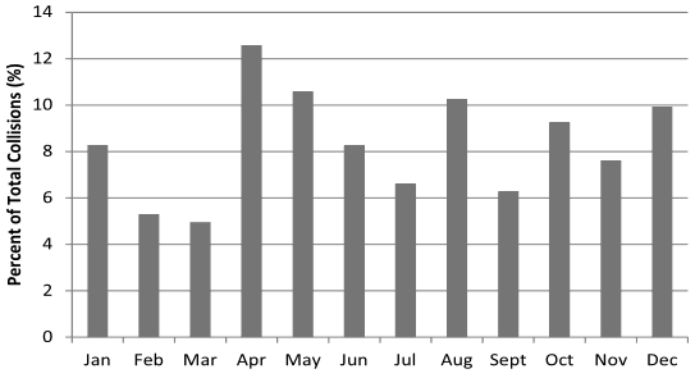
Annual Distribution - Collision frequency at Highway 1 and Admirals / McKenzie intersection has remained relatively consistent during the past five years with a peak of 74 collisions in 2010.

Figure 6-1
Collision: Annual Distribution



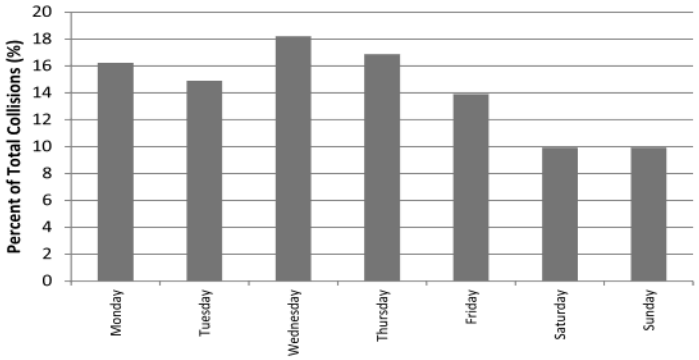
Monthly Distribution - Collision frequency is relatively consistent throughout the year with no significant monthly trends observed. Further analysis relating weather / seasons associated with collisions were also inconclusive, therefore seasonal factors did not seem to produce a trend in the collision frequency. Collisions were highest in April and lowest in February and March.

Figure 6-2
Collision: Monthly Distribution



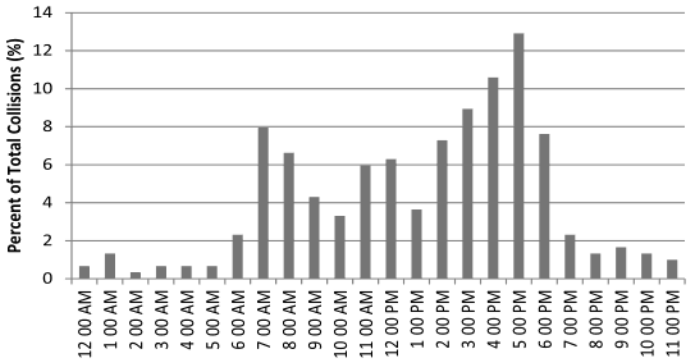
Day of Week Distribution - Collision frequency is highest during weekdays and lowest on weekends.

Figure 6-3
Collision: Day of Week Distribution



Hourly Distribution - Eighty-five percent of all collisions take place between 7:00 AM and 7:00 PM inclusive. Distinct peaks in collisions are observed during the AM and PM peak traffic periods and the increase in collisions are potentially related to the increases in traffic during these peaks.

Figure 6-4
Collision: Hourly Distribution



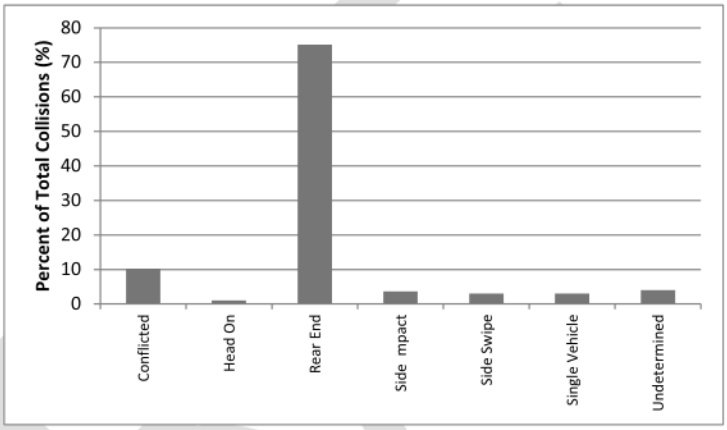
6.1 Collision Type and Location

The following is a summary of collisions by type, configuration and location for the Highway 1 / Admirals Road / McKenzie intersection over the five year period, from 2006 to 2010.

The majority of the collisions involved vehicle conflicts only, 5% of which involved heavy vehicles. Cyclists and pedestrians were involved in approximately 1% of all collisions over the past five years.

Collision Configuration - Three-quarters of all collisions reported at the intersection are rear end collisions. Approximately 10% are collisions involving conflicts with other vehicles, pedestrians or wildlife.

Figure 6-5
Collision Type

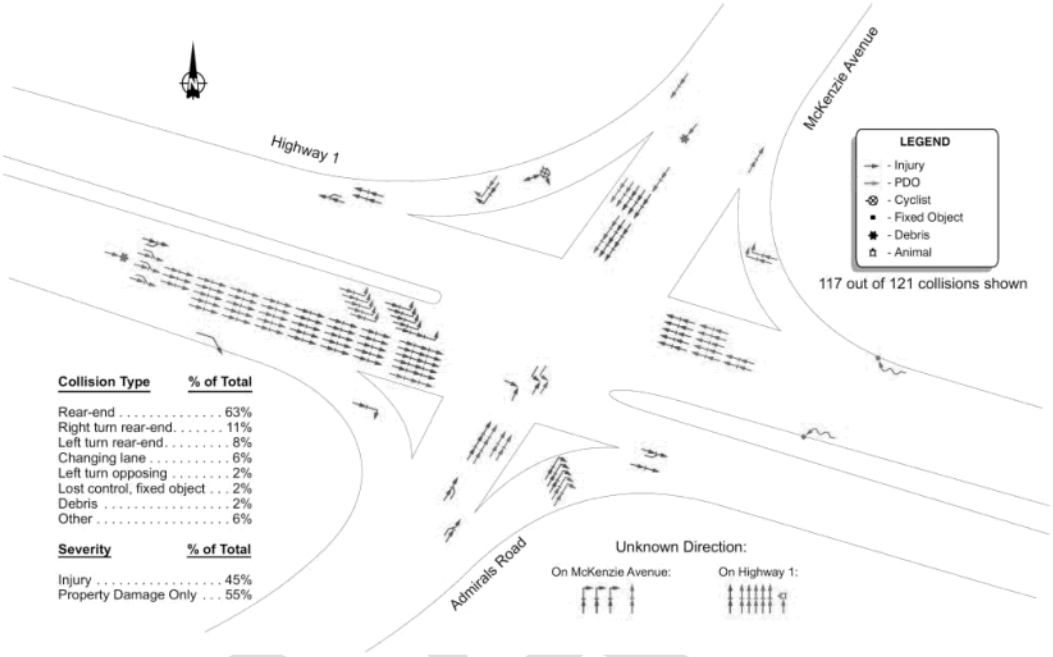


Approximately two-thirds of all intersection collisions were reported as taking place on the east and west legs of the intersection along Highway 1, approximately one-quarter were on the north leg of the intersection along McKenzie Avenue, and the remaining 10% were on the south leg of the intersection along Admirals Road.

Based on the Safety Review of McKenzie Avenue from Highway 1 to Highway 17 (Opus, 2011), the majority of the rear-end collisions occurred on eastbound Highway 1.

To show the trend of collisions, a collision diagram summarizing the collision statistics for 2009-2010 at the Highway 1 / Admirals Road / McKenzie Avenue intersection was presented in the above mentioned Opus, 2011 report. The diagram is re-attached below with only years 2009 and 2010 shown.

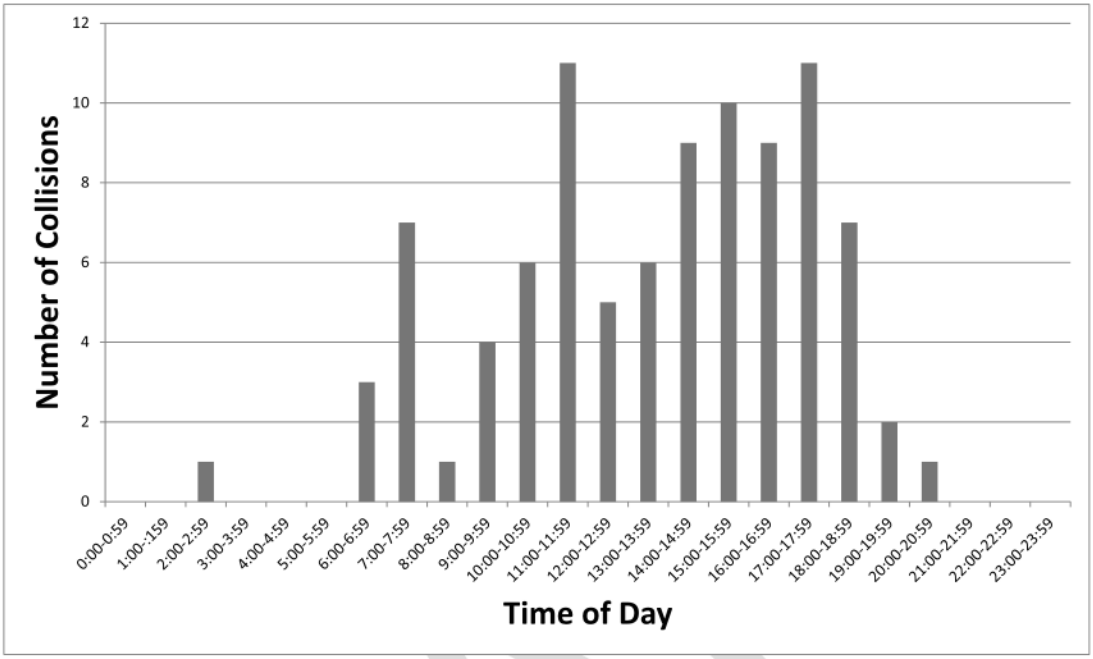
Figure 6-6
Collision Diagram



Source: *Safety Review of McKenzie Avenue from Highway 1 to Highway 17,* Opus, 2011

For the 2009-2010 study years, although rear-end collisions were found to be higher for the AM and PM peak periods, there were also "spikes" during the off-peak periods. From **Figure 6-7** below, the number of rear-end collisions appears to correlate to higher traffic flows during the day, as there is a higher frequency of collisions during the AM and PM peak hours, although a peak at the mid-day seems to be an anomaly.

Figure 6-7
Rear-end Collision Hourly Distribution



There was only one collision reported at the Galloping Goose Trail. This accident involved a cyclist and car. Although there does not appear to be a high accident rate, comments from the stakeholders suggest that future improvement to the Galloping Goose should be considered when possible to avoid potential dangerous conflicts between users and drivers.

6.2 Collision Severity and Cost

Over the past five years, 52% of all collisions at the Highway 1 / Admirals Road / McKenzie Avenue intersection were property damage only, and 48% involved injury. No fatal collisions occurred at this location during the past five years.

The following average collision cost figures were assumed (based on MoTI values for collision costs):

Fatality	$ 5.6M
Injury	$ 100K
PDO	$ 7,350

These values were used to calculate the cost of collisions dependant on severity. The total collision cost at the Highway 1 / Admirals Road / McKenzie Avenue intersection for the past five years is estimated to be approximately $15.6 million or an average of $3.1 million per year. This translates into an average cost of $51,500 per collision. While property damage only (PDO) collisions make up approximately half of the total observed collisions they contribute to only approximately 7% of total cost of collisions incurred over the five year time frame.

6.3 Average Annual Collision Rate

Average Annual Collision Rate is defined as the number of collisions per year divided by the number of vehicles entering the intersection. It provides a means of comparing collision frequency at a location with provincial average values to assist in determining if a location is collision prone.

Utilizing MoTI data, which records collision occurrences on provincial routes, the intersection collision rates were compared with average provincial rates.

The Average Daily Traffic (ADT) is based on the volume provided by MoTI from the 2010 signal download at the Highway 1 / Admirals Road / McKenzie Avenue intersection. Based on this information, the ADT passing through the intersection is approximately 81,000 vehicles per day.

Collision rates were then calculated for the intersection and compared with the 2006-2010 provincial average rates for similar highways. The results are shown in Table 6-1.

Table 6-1
Average Annual Collision Rate for Highway 1 and Admirals/McKenzie Intersection

Intersection	Collisions (2006-2010)	ADT	MEV/year	Collision Rate (C/MEV)	Provincial Rate* (C/MEV)	Exceeds Provincial Rate?
Highway 1 and Admirals/McKenzie	128	81,000	29.57	0.87	0.30	YES

*Source: MoTI as shown in Appendix E
ADT is average daily traffic
MEV is million vehicle entering
C is collisions

The Highway 1 / Admirals Road / McKenzie Avenue intersection was found to have an intersection collision rate at 0.87 collisions per million entering vehicles which is significantly higher than the average provincial rate of 0.30. Based on this analysis, this intersection may be considered collision prone. However, a more detailed critical collision rate analysis is required to confirm that this location is indeed hazardous due to location specific characteristics, for example intersection configuration.

Comparing the ICBC collisions (302 total) and the MoTI collisions (128 total), it can be deduced that only 42% of the total number of accidents were captured. This is due to the fact that the ICBC data includes all accidents that occurred in the vicinity of the intersection while the MoTI data only includes accidents that occur within roadways / intersections under provincial (i.e. Ministry jurisdiction). Also, the difference is due largely to the fact that many of the crashes are not being reported to the police. As a result, the Ministry information does not record all such instances.

6.4 Downstream Intersection Collision Analysis

Aside from the project intersection, the immediate downstream intersection collision statistics may be useful in determining network-wide benefits from the viewpoint of safety.

Collision statistics for the intersection of Highway 1 / Tillicum Road and McKenzie Avenue / Burnside Road were analyzed in a cursory manner.

The Highway 1 / Tillicum Road intersection yielded approximately 75% rear end collision of a total 244 collisions (2009-2010). It is suspected that the high occurrence of rear ending is related to congestion, which causes stop-start vehicle movements and anxiety amongst waiting drivers.

For the McKenzie Avenue / Burnside Road intersection, it bears much resemblance in collision types as Highway 1 / Tillicum Road, with approximately 70% collisions caused by rear ends out of a total of 62 collisions (2009-2010, Opus 2011). Congestion is also suspected to be the culprit of these high percentages of rear-end collisions.

7 Conclusion

7.1 Traffic Assessment

Existing Conditions (2011)

- The Highway 1 / Admirals Road/ McKenzie Avenue modelled intersection indicates the formulation of queues on all approaches, which are is consistent with field observations.
    - Long queues are formed on the Highway 1 eastbound and westbound directions during the AM and PM peak hours. Specific long queues were noted in the eastbound direction, which queues as far as the Helmcken Interchange.
    - Southbound queues on McKenzie Avenue extend past Burnside Road blocking vehicles at the Burnside Road / McKenzie Avenue intersection.
    - Most intersections (with the exception of those to the south of the Highway 1 / Admirals Road / McKenzie Avenue intersection) are performing at or near capacity.

Future Conditions (2038)

s13

s13

7.2 Constraints Analysis

s13

7.3 Safety Assessment

s13

7.4 Moving Forward

The above analysis, showcasing the characteristics of the Highway 1 / Admirals Road / McKenzie Avenue intersection, will serve as background to the development and shortlisting of options. Once options development is completed, a multiple accounts evaluation and finally the business case will determine the appropriate preliminary engineering solution.

Appendix A - Traffic Counts and Signal Timing Sheets

RTE. 1 @ ADMIRALS/McKENZIE
September 22, 2010 to September 28, 2010

Signal Download Summary Data:

DAILY TRAFFIC VOLUME

		MOVEMENT																ADT
		TCH NB	TCH NB	Admirals	TCH SB	McKenzie	TCH SB	TCH NB	McKenzie	TCH NB	TCH SB	Admirals	TCH SB	TCH NB	TCH SB	Admirals	McKenzie	
DATE	DAY	Thru (fast)	Thru (transit la	EB Thru	Thru (fast)	WB Thru	LT (fast)	Thru (slow)	WB LT	LT	Thru (slow)	EB LT	LT (slow)	RT	RT	EB RT	WB RT	
																		0
22/09/2010	Wednesday																	0
23/09/2010	Thursday	10147	120	2821	12887	3303	5214	8922	784	375	12571	2699	4090	683	2930	518	13957	82021
24/09/2010	Friday	10126	120	2798	12879	3299	5203	8889	783	373	12541	2691	4085	679	2927	513	13933	81839
25/09/2010	Saturday	10105	120	2796	12866	3295	5195	8869	783	370	12511	2688	4080	677	2926	512	13908	81701
26/09/2010	Sunday	10106	120	2816	12870	3299	5197	8884	782	371	12516	2693	4084	679	2925	512	13906	81760
27/09/2010	Monday	10125	124	2811	12873	3300	5207	8900	784	372	12523	2699	4088	680	2924	514	13925	81849
28/09/2010	Tuesday																	0
																		0

Average Weekend Volume (averaged over 2 days)		81731
Average Weekday Volume (averaged over 5 days)		

AM PEAK HOUR PERIOD VOLUME

			MOVEMENT																Total
		Starts at	TCH NB	TCH NB	Admirals	TCH SB	McKenzie	TCH SB	TCH NB	McKenzie	TCH NB	TCH SB	Admirals	TCH SB	TCH NB	TCH SB	Admirals	McKenzie	Hourly
DATE	DAY	TIME OF DAY	Thru (fast)	Thru (transit la	EB Thru	Thru (fast)	WB Thru	LT (fast)	Thru (slow)	WB LT	LT	Thru (slow)	EB LT	LT (slow)	RT	RT	EB RT	WB RT	Volume
22/09/2010	Wednesday																		
23/09/2010	Thursday	7:45:00 AM	670	4	320	1190	280	345	485	75	28	1075	117	183	60	161	46	635	5874
24/09/2010	Friday	7:45:00 AM	635	7	300	1205	255	340	500	66	18	1070	148	251	68	170	40	855	5928
25/09/2010	Saturday	12:45:00 PM	760	4	214	975	224	420	675	83	43	905	175	370	66	141	72	1150	6277
26/09/2010	Sunday	12:45:00 PM	765	3	169	860	230	405	710	56	38	830	159	360	58	158	63	1035	5899
27/09/2010	Monday	7:45:00 AM	600	6	314	1215	251	400	450	65	18	1090	142	237	64	181	44	815	5892
28/09/2010	Tuesday																		0
																			0

PM PEAK HOUR PERIOD VOLUME

			MOVEMENT																Total
		Starts at	TCH NB	TCH NB	Admirals	TCH SB	McKenzie	TCH SB	TCH NB	McKenzie	TCH NB	TCH SB	Admirals	TCH SB	TCH NB	TCH SB	Admirals	McKenzie	Hourly
DATE	DAY	TIME OF DAY	Thru (fast)	Thru (transit la	EB Thru	Thru (fast)	WB Thru	LT (fast)	Thru (slow)	WB LT	LT	Thru (slow)	EB LT	LT (slow)	RT	RT	EB RT	WB RT	Volume
22/09/2010	Wednesday	3:30:00 PM	935	12	109	875	216	385	730	24	14	820	201	330	25	140	23	1400	6239
23/09/2010	Thursday	2:15:00 PM	720	13	171	865	218	345	605	52	18	800	248	272	55	250	29	1215	5876
24/09/2010	Friday	3:00:00 PM	825	9	87	935	245	375	675	53	8	900	211	310	14	211	14	1520	6392
25/09/2010	Saturday	1:00:00 PM	740	4	209	980	233	420	650	86	40	910	175	365	78	156	76	1155	6277
26/09/2010	Sunday	2:45:00 PM	760	2	214	880	188	410	690	76	40	860	158	400	75	166	49	955	5923
27/09/2010	Monday	2:30:00 PM	685	7	147	870	225	380	605	68	16	825	253	315	69	229	26	1160	5880
28/09/2010	Tuesday																		0
																			0

DISTRICT OF SAANICH
FALL 2011 MANUAL TRAFFIC COUNTS

Major Route: Admirals
Minor Route: Gorge
Date: Thursday, September 22, 2011
Filename: Admirals@Gorge-Sep22-2011.xls

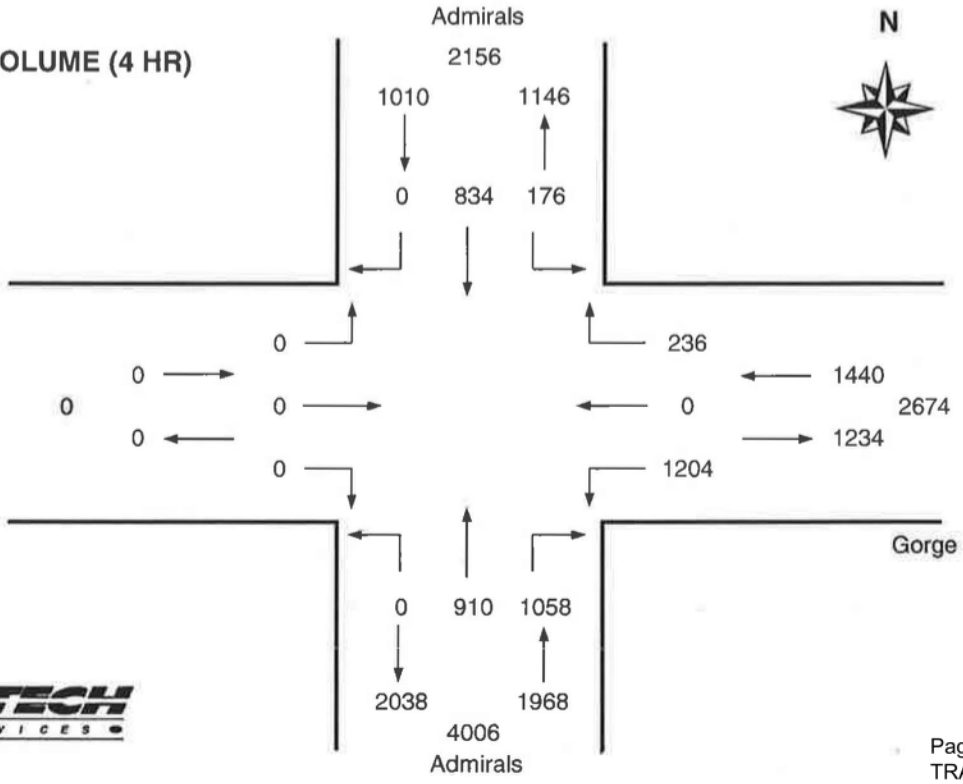
Station #:
Intersection Type: 3-leg
East/West Route: Gorge
Weather: Overcast and Damp

Comments: _____

Vehicle Data

Time Period	Admirals From North			Admirals From South			From West			Gorge From East			15 Min	Hourly	Pedestrians			
Starting	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Total	Total	N	S	W	E
07:30	14	65	0	0	68	75	0	0	0	35	0	9	266 *	-	0	0	0	2
07:45	23	75	0	0	51	75	0	0	0	33	0	4	261 *	-	1	0	1	2
08:00	21	65	0	0	51	90	0	0	0	45	0	13	285 +	-	6	0	3	4
08:15	10	44	0	0	51	105	0	0	0	48	0	10	268 *	1080	2	0	1	2
08:30	12	50	0	0	45	82	0	0	0	54	0	17	260	1074	8	0	0	3
08:45	9	38	0	0	43	68	0	0	0	45	0	8	211	1024	21	0	2	15
09:00	10	42	0	0	46	62	0	0	0	50	0	8	218	957	17	2	2	8
09:15	6	47	0	0	45	43	0	0	0	65	0	10	216	905	3	0	2	6
Total	**105**	**426**	**0**	**0**	**400**	**600**	**0**	**0**	**0**	**375**	**0**	**79**	**1985**	**-**	**58**	**2**	**11**	**42**
Pk Hr	68	249	0	0	221	345	0	0	0	161	0	36	1080 *	-	9	0	5	10
Pk Hr	0.74	0.83	n/a	n/a	0.81	0.82	n/a	n/a	n/a	0.84	n/a	0.69	0.95	* = Peak hour				
Factor	**0.81**			**0.91**			**n/a**			**0.85**				+ = Peak 15 minutes				
15:30	10	53	0	0	74	68	0	0	0	107	0	18	330 +	-	2	2	1	11
15:45	7	45	0	0	83	56	0	0	0	94	0	18	303 *	-	0	0	3	3
16:00	8	45	0	0	86	65	0	0	0	104	0	15	323 *	-	6	0	5	5
16:15	9	55	0	0	62	55	0	0	0	84	0	18	283 *	1239	3	0	3	2
16:30	10	54	0	0	57	52	0	0	0	99	0	26	298	1207	2	0	0	2
16:45	13	50	0	0	55	47	0	0	0	110	0	17	292	1196	2	0	2	2
17:00	8	51	0	0	53	65	0	0	0	120	0	23	320	1193	0	0	1	3
17:15	6	55	0	0	40	50	0	0	0	111	0	22	284	1194	1	0	1	3
Total	**71**	**408**	**0**	**0**	**510**	**458**	**0**	**0**	**0**	**829**	**0**	**157**	**2433**	**-**	**16**	**2**	**16**	**31**
Pk Hr	34	198	0	0	305	244	0	0	0	389	0	69	1239 *	-	11	2	12	21
Pk Hr	0.85	0.90	n/a	n/a	0.89	0.90	n/a	n/a	n/a	0.91	n/a	0.96	0.94					
Factor	**0.91**			**0.91**			**n/a**			**0.92**								

TOTAL VOLUME (4 HR)



TRANSTECH DATA SERVICES

DISTRICT OF SAANICH
FALL 2011 MANUAL TRAFFIC COUNTS

Major Route: Craigflower
Minor Route: Admirals
Date: Wednesday, September 21, 2011
Filename: Craigflower@Admirals-Sep21-2011.xls

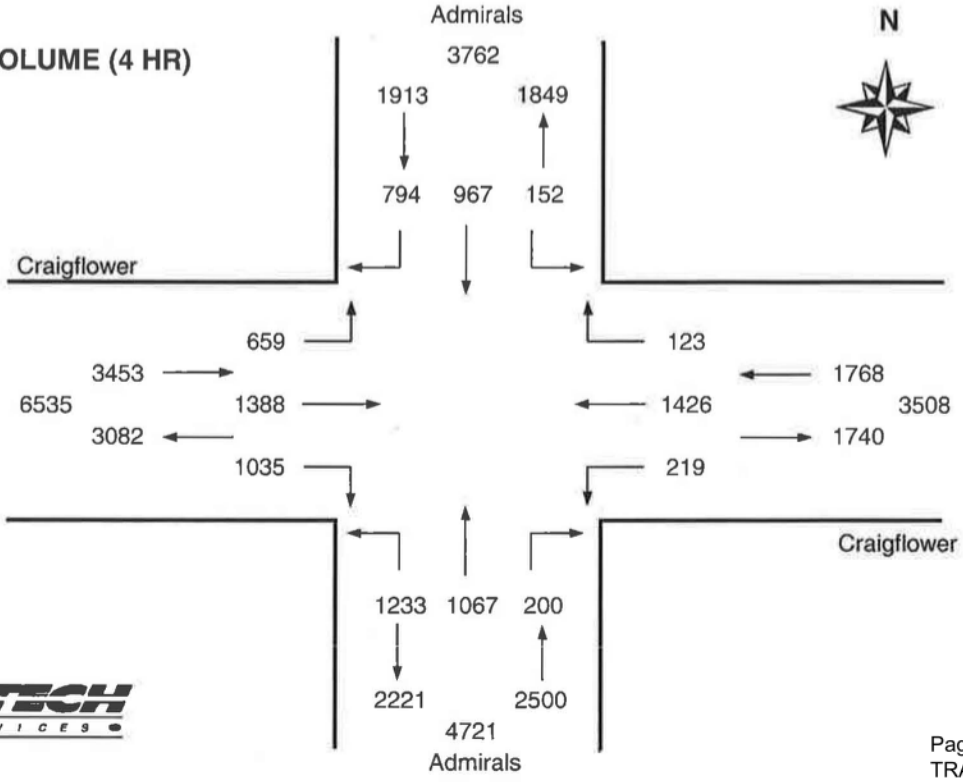
Station #:
Intersection Type: 4-leg
East/West Route: Craigflower
Weather: Overcast and Damp

Comments: _____

Vehicle Data

Time Period	Admirals From North			Admirals From South			Craigflower From West			Craigflower From East			15 Min Total	Hourly Total	Pedestrians			
Starting	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			N	S	W	E
07:30	4	72	16	32	65	8	51	120	120	9	45	6	548 *	-	7	1	8	2
07:45	4	78	20	41	65	17	60	145	106	14	50	12	612 *	-	2	1	1	5
08:00	5	45	31	58	54	16	86	169	90	7	60	9	630 +	-	9	9	8	8
08:15	3	36	30	58	48	14	60	125	81	9	63	13	540 *	2330	15	15	47	24
08:30	9	60	48	72	54	13	56	96	66	9	52	6	541	2323	7	7	16	10
08:45	11	72	22	49	54	10	47	95	68	13	45	10	496	2207	20	15	21	8
09:00	9	71	30	46	62	11	40	59	59	12	43	8	450	2027	8	10	9	13
09:15	5	46	32	57	69	13	24	66	52	19	39	9	431	1918	6	5	9	3
Total	**50**	**480**	**229**	**413**	**471**	**102**	**424**	**875**	**642**	**92**	**397**	**73**	**4248**	**-**	**74**	**63**	**119**	**73**
Pk Hr	16	231	97	189	232	55	257	559	397	39	218	40	2330 *	-	33	26	64	39
Pk Hr	0.80	0.74	0.78	0.81	0.89	0.81	0.75	0.83	0.83	0.70	0.87	0.77	0.92	* = Peak hour				
Factor	**0.84**			**0.93**			**0.88**			**0.87**				+ = Peak 15 minutes				
15:30	12	69	59	120	87	19	26	60	55	15	123	6	651 *	-	6	6	2	17
15:45	15	78	64	107	87	13	33	67	59	21	130	5	679 +	-	1	7	9	10
16:00	11	60	76	104	96	12	34	65	51	10	128	7	654 *	-	0	5	6	5
16:15	15	38	69	110	83	14	31	76	52	18	138	11	655 *	2639	2	2	7	6
16:30	12	65	75	95	73	10	36	63	44	11	130	1	615	2603	4	2	8	6
16:45	14	58	84	112	67	11	27	68	53	18	106	7	625	2549	2	4	3	10
17:00	13	56	64	99	62	7	28	55	38	22	156	8	608	2503	4	9	6	9
17:15	10	63	74	73	41	12	20	59	41	12	118	5	528	2376	1	5	5	8
Total	**102**	**487**	**565**	**820**	**596**	**98**	**235**	**513**	**393**	**127**	**1029**	**50**	**5015**	**-**	**20**	**40**	**46**	**71**
Pk Hr	53	245	268	441	353	58	124	268	217	64	519	29	2639 *	-	9	20	24	38
Pk Hr	0.88	0.79	0.88	0.92	0.92	0.76	0.91	0.88	0.92	0.76	0.94	0.66	0.97					
Factor	**0.90**			**0.94**			**0.96**			**0.92**								

TOTAL VOLUME (4 HR)



TRANSTECH DATA SERVICES

SIGNAL TIMING SHEET

DATE ISSUED	June 06, 2011	INTERSECTION	ROUTE 1 AT ADMIRALS ROAD/McKENZIE AVE
CONTROLLER TYPE	LMD 8000	LOCATION	SAANICH
CABINET TYPE	"S" RACK	SHEET NUMBER & REVISION	TE 97056 2D
SEQUENCE	4 OVER 2 PLUS 2	SITE CODE	

PHASE NUMBER	1	2	3	4	5	6	7	8
PHASE SETTING	ON	ON	ON	OFF	ON	ON	ON	ON
DESCRIPTION	ROUTE 1 SB LT	ROUTE 1 TRANSIT SIGNAL NB	ROUTE 1 NB		ROUTE 1 NB LT	ROUTE 1 SB	ADMIRALS ROAD EB LT	McKENZIE AVENUE ADMIRALS EB/WB
FUNCTION	Ay	AT	A1		Ax	A2	B1->	B2
OVERLAP	ΦOL1 (Ay)	ΦOL3 (AT)	ΦOL2 (A1)				ΦOL4 (B1)	ΦOL4 (B1)
MINIMUM GREEN	6	7	10		6	10	6	7
PASSAGE	3.0		5.0		3.0	5.0	3.0	4.0
YELLOW	5.0	3.0	4.9		4.9	4.9	4.7	4.7
RED	1.5		1.5		1.5	1.5	1.5	1.5
MAX I/MAX II	22		45		12	53	6	25
MAXPLAN (1,2,3,4)	49 25 36 22		45 43 78 43		6 12 12 12	101 53 102 53	6 12 12 6	28 22 23 28
MAXPLAN (5,6,7,8)	29		46		13	62	6	28
WALK			7			7		7
PEDESTRIAN CLEAR			11			12		21
WALK	STEADY	STEADY	STEADY		STEADY	STEADY	STEADY	STEADY
RECALL	OFF	OFF	EXT		OFF	EXT	OFF	OFF
MEMORY	OFF	OFF	OFF		OFF	OFF	OFF	OFF
COORDINATION ON PHASE			XXXX[2]			XXXX[2]		
FIRST GREEN DISPLAY							XXXX[1]	XXXX[1]
INTERSECTION FLASH	RED		RED		RED	RED		RED
AWF TIME [s]			5.7			5.7		
AWF TIME [s] [CH1/CH2]								

DELAY DETECTION TIMING	L15, L16, L17 10 SECONDS	PROGRAMMING COMMENTS	
	L2 5 SECONDS (RT CLIP)	1.	"SGO"-- PASSAGE CAN RESET ON HIGHWAY; CONDTIONAL PED SERVICE ON PHASE 3 & 6
		2	PED OVERLAP 2 IS PHASE 3 PED.
		3	NOTE 2 COORDINATION WITH TILLICUM/RO1 FOR MAXPLAN 2, 4, & 5 (NOT 1* & 3)
		4	NOTE 1 FIRST GREEN DISPLAY DEPENDENT ON TIME OF DAY.
		OPERATIONAL COMMENTS	
		1.	PED COUNTDOWN TIMERS ADDED TO ALL PED MOVEMENTS. (Rev. Dec 2010)
PRE-EMPTION TYPE	NONE	2.	DETECTOR MODE: - L2 USES PHASE 3 AS MODE
DELAY TIME		3.	DETECTOR MODE: - LOOPS 15-17 USE PHASE 3 AS MODE.
PRE-EMPTION TIME		4.	LOOPS (L15 AND L16) OR (L16 AND L17) MUST DETECT IN ORDER TO CALL TRANSIT PHAS
VOLUME LOGGING & MOES	ON	5	HIGHWAY SPEED = 80 Km/hr.
SCM	ON	6	THE DISTANCE OF AWF TO STOP BAR = 105 M

PED PERMISSIVE	1	CYCLE (1 TO 8)							
		1	2	3	4	5	6	7	8
			133		130	140			
OFFSET (1 TO 4)			45		45	45			

TIME CLOCK SETTINGS						
TIME OF DAY	DAY OF WEEK	MAXPLAN (1 TO 8)	CYCLE (1 TO 8)	OFFSET (1 TO 8)	SERVICEPLAN (1 TO 8)	ADDITIONAL TIME CLOCK INFORMATION
0630 0930	MON FRI					MAXPLAN 1
0930 1530	MON FRI	2	2	1		MAXPLAN 2
1530 1830	MON FRI					MAXPLAN 3
1830 2200	MON FRI	4	4	1		MAXPLAN 4
1100 2000	SAT SUN	5	5	1		MAXPLAN 5
0630* 2200	SUN SAT					PHASE 7 (B1 >) ENABLED BY TIME OF DAY

ENGINEER OF RECORD _____ DATE _____ RECEIVED & DISTRIBUTED BY MOT _____ DATE _____

Appendix B - Constraints Analysis

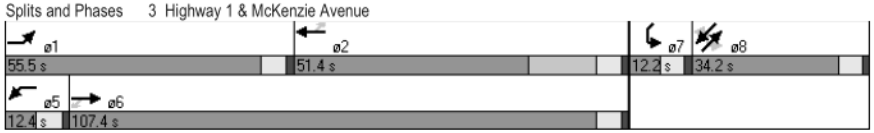
Appendix C - Synchro Output

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	621	2390	179	19	1200	71	155	315	42	69	268	898
deal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	160 0		30 0	100 0		180 0	60 0		50 0	40 0		0 0
Storage Lanes	2		1	1		1	1		1	1		1
Taper Length (m)	7 5		7 5	7 5		7 5	7 5		7 5	7 5		7 5
Lane Util Factor	0 97	0 95	1 00	1 00	0 95	1 00	1 00	1 00	1 00	1 00	1 00	1 00
Frt			0 850			0 850			0 850			0 850
Flt Protected	0 950			0 950			0 950			0 950		
Satd Flow (prot)	3335	3438	1538	1719	3438	1538	1719	1810	1538	1719	1810	1538
Flt Permitted	0 950			0 950			0 143			0 950		
Satd Flow (perm)	3335	3438	1538	1719	3438	1538	259	1810	1538	1719	1810	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd Flow (RTOR)			48			100			23			459
Link Speed (k/h)		90			90			60			60	
Link Distance (m)		216 0			560 9			292 3			319 1	
Travel Time (s)		8 6			22 4			17 5			19 1	
Peak Hour Factor	0 92	0 97	0 76	0 75	0 82	0 71	0 93	0 83	0 91	0 83	0 85	0 91
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj Flow (vph)	675	2464	236	25	1463	100	167	380	46	83	315	987
Shared Lane Traffic (%)												
Lane Group Flow (vph)	675	2464	236	25	1463	100	167	380	46	83	315	987
Enter Blocked ntersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7 2			7 2			3 6			3 6	
Link Offset(m)		0 0			0 0			0 0			0 0	
Crosswalk Width(m)		4 8			4 8			4 8			4 8	
Two way Left Turn Lane												
Headway Factor	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2 0	10 0	2 0	2 0	10 0	2 0	2 0	10 0	2 0	2 0	10 0	2 0
Trailing Detector (m)	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Detector 1 Position(m)	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Detector 1 Size(m)	2 0	0 6	2 0	2 0	0 6	2 0	2 0	0 6	2 0	2 0	0 6	2 0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Detector 1 Queue (s)	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Detector 1 Delay (s)	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Detector 2 Position(m)		9 4			9 4			9 4			9 4	
Detector 2 Size(m)		0 6			0 6			0 6			0 6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0 0			0 0			0 0			0 0	
Turn Type	Prot		Perm	Prot		Perm	Perm		Perm	Prot		Free
Protected Phases	1	6		5	2			8		7	8	
Permitted Phases			6			2	8		8			Free
Detector Phase	1	6	6	5	2	2	8	8	8	7	8	
Switch Phase												
Minimum nitial (s)	6 0	10 0	10 0	6 0	10 0	10 0	7 0	7 0	7 0	6 0	7 0	
Minimum Split (s)	12 5	25 4	25 4	12 4	24 4	24 4	34 2	34 2	34 2	12 2	34 2	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Total Split (s)	55 5	107 4	107 4	12 4	51 4	51 4	34 2	34 2	34 2	12 2	34 2	0 0
Total Split (%)	33 4%	64 6%	64 6%	7 5%	30 9%	30 9%	20 6%	20 6%	20 6%	7 3%	20 6%	0 0%
Maximum Green (s)	49 0	101 0	101 0	6 0	45 0	45 0	28 0	28 0	28 0	6 0	28 0	
Yellow Time (s)	5 0	4 9	4 9	4 9	4 9	4 9	4 7	4 7	4 7	4 7	4 7	
All-Red Time (s)	1 5	1 5	1 5	1 5	1 5	1 5	1 5	1 5	1 5	1 5	1 5	
Lost Time Adjust (s)	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Total Lost Time (s)	6 5	6 4	6 4	6 4	6 4	6 4	6 2	6 2	6 2	6 2	6 2	4 0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes			Yes								
Vehicle Extension (s)	3 0	5 0	5 0	3 0	5 0	5 0	4 0	4 0	4 0	3 0	4 0	
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	
Walk Time (s)		7 0	7 0		7 0	7 0	7 0	7 0	7 0		7 0	
Flash Dont Walk (s)		12 0	12 0		11 0	11 0	21 0	21 0	21 0		21 0	
Pedestrian Calls (#/hr)		0	0		0	0	0	0	0		0	
Act Effct Green (s)	38 0	101 1	101 1	6 0	63 8	63 8	28 0	28 0	28 0	6 0	28 0	161 2
Actuated g/C Ratio	0 24	0 63	0 63	0 04	0 40	0 40	0 17	0 17	0 17	0 04	0 17	1 00
v/c Ratio	0 86	1 14	0 24	0 39	1 07	0 15	3 71	1 21	0 16	1 30	1 00	0 64
Control Delay	70 5	99 7	11 6	95 4	93 0	6 3	1281 7	172 7	35 4	266 7	115 8	2 1
Queue Delay	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Total Delay	70 5	99 7	11 6	95 4	93 0	6 3	1281 7	172 7	35 4	266 7	115 8	2 1
LOS	E	F	B	F	F	A	F	F	D	F	F	A
Approach Delay		87 7			87 6			474 4			43 8	
Approach LOS		F			F			F			D	

ntersection Summary			
Area Type	Other		
Cycle Length 166 2			
Actuated Cycle Length 161 2			
Natural Cycle 145			
Control Type Actuated-Uncoordinated			
Maximum v/c Ratio 3 71			
ntersection Signal Delay 111 9		ntersection LOS F	
ntersection Capacity Utilization 114 8%		CU Level of Service H	
Analysis Period (min) 15			

Splits and Phases 3 Highway 1 & McKenzie Avenue



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	720	1928	222	8	1585	15	222	91	15	56	257	1597
deal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	160 0		30 0	100 0		180 0	60 0		50 0	40 0		0 0
Storage Lanes	2		1	1		1	1		1	1		1
Taper Length (m)	7 5		7 5	7 5		7 5	7 5		7 5	7 5		7 5
Lane Util Factor	0 97	0 95	1 00	1 00	0 95	1 00	1 00	1 00	1 00	1 00	1 00	1 00
Frt			0 850			0 850			0 850			0 850
Flt Protected	0 950			0 950			0 950			0 950		
Satd Flow (prot)	3335	3438	1538	1719	3438	1538	1719	1810	1538	1719	1810	1538
Flt Permitted	0 950			0 950			0 174			0 950		
Satd Flow (perm)	3335	3438	1538	1719	3438	1538	315	1810	1538	1719	1810	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd Flow (RTOR)			62			16			17			334
Link Speed (k/h)		90			90			60			60	
Link Distance (m)		216 0			560 9			292 3			80 2	
Travel Time (s)		8 6			22 4			17 5			4 8	
Peak Hour Factor	0 90	0 96	0 81	0 40	0 87	0 88	0 86	0 73	0 88	0 88	0 94	0 92
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj Flow (vph)	800	2008	274	20	1822	17	258	125	17	64	273	1736
Shared Lane Traffic (%)												
Lane Group Flow (vph)	800	2008	274	20	1822	17	258	125	17	64	273	1736
Enter Blocked ntersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7 2			7 2			3 6			3 6	
Link Offset(m)		0 0			0 0			0 0			0 0	
Crosswalk Width(m)		4 8			4 8			4 8			4 8	
Two way Left Turn Lane												
Headway Factor	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2 0	10 0	2 0	2 0	10 0	2 0	2 0	10 0	2 0	2 0	10 0	2 0
Trailing Detector (m)	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Detector 1 Position(m)	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Detector 1 Size(m)	2 0	0 6	2 0	2 0	0 6	2 0	2 0	0 6	2 0	2 0	0 6	2 0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Detector 1 Queue (s)	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Detector 1 Delay (s)	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Detector 2 Position(m)		9 4			9 4			9 4			9 4	
Detector 2 Size(m)		0 6			0 6			0 6			0 6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0 0			0 0			0 0			0 0	
Turn Type	Prot		Perm	Prot		Perm	Perm		Perm	Prot		Free
Protected Phases	1	6		5	2			8		7	8	
Permitted Phases			6			2	8		8			Free
Detector Phase	1	6	6	5	2	2	8	8	8	7	8	
Switch Phase												
Minimum nitial (s)	6 0	10 0	10 0	6 0	10 0	10 0	7 0	7 0	7 0	6 0	7 0	
Minimum Split (s)	12 5	25 4	25 4	12 4	24 4	24 4	34 2	34 2	34 2	12 2	34 2	

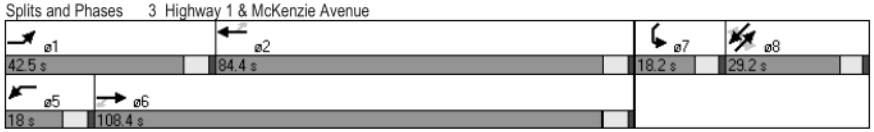
Lanes, Vo umes, T m ngs
3: H ghway 1 & McKenz e Avenue
2011 PM Peak Hour
4/12/2012

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Total Split (s)	42 5	108 4	108 4	18 0	84 4	84 4	29 2	29 2	29 2	18 2	29 2	0 0
Total Split (%)	24 4%	62 2%	62 2%	10 3%	48 4%	48 4%	16 8%	16 8%	16 8%	10 4%	16 8%	0 0%
Yellow Time (s)	5 0	4 9	4 9	4 9	4 9	4 9	4 7	4 7	4 7	4 7	4 7	
All-Red Time (s)	1 5	1 5	1 5	1 5	1 5	1 5	1 5	1 5	1 5	1 5	1 5	
Lost Time Adjust (s)	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Total Lost Time (s)	6 5	6 4	6 4	6 4	6 4	6 4	6 2	6 2	6 2	6 2	6 2	4 0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	
Act Effct Green (s)	36 0	111 6	111 6	7 6	78 0	78 0	23 0	23 0	23 0	10 5	23 0	172 9
Actuated g/C Ratio	0 21	0 65	0 65	0 04	0 45	0 45	0 13	0 13	0 13	0 06	0 13	1 00
v/c Ratio	1 15	0 90	0 27	0 26	1 17	0 02	6 14	0 52	0 08	0 61	1 13	1 13
Control Delay	142 2	34 5	11 8	88 2	127 5	10 9	2361 3	78 6	25 3	103 3	161 9	73 2
Queue Delay	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Total Delay	142 2	34 5	11 8	88 2	127 5	10 9	2361 3	78 6	25 3	103 3	161 9	73 2
LOS	F	C	B	F	F	B	F	E	C	F	F	E
Approach Delay		60 4			126 0			1548 7			85 8	
Approach LOS		E			F			F			F	
Queue Length 50th (m)	~177 4	346 7	34 2	7 2	~418 6	0 2	~179 4	43 3	0 0	23 1	~116 0	~149 7
Queue Length 95th (m)	#220 7	#431 2	45 9	7 5	#435 8	5 3	#219 5	54 0	8 2	40 4	#179 9	#230 2
nternal Link Dist (m)		192 0			536 9			268 3			56 2	
Turn Bay Length (m)	160 0		30 0	100 0		180 0	60 0		50 0	40 0		
Base Capacity (vph)	695	2219	1015	115	1552	703	42	241	220	119	241	1538
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1 15	0 90	0 27	0 17	1 17	0 02	6 14	0 52	0 08	0 54	1 13	1 13

ntersection Summary			
Area Type	Other		
Cycle Length 174 3			
Actuated Cycle Length 172 9			
Natural Cycle 145			
Control Type Actuated-Uncoordinated			
Maximum v/c Ratio 6 14			
ntersection Signal Delay 164 3		ntersection LOS F	
ntersection Capacity Utilization 111 3%		CU Level of Service H	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite
Queue shown is maximum after two cycles
95th percentile volume exceeds capacity, queue may be longer
Queue shown is maximum after two cycles

Splits and Phases 3 Highway 1 & McKenzie Avenue

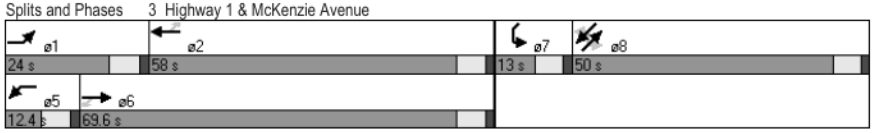


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	621	2390	179	19	1200	71	155	315	42	69	268	898
deal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	160 0		30 0	100 0		180 0	60 0		50 0	40 0		0 0
Storage Lanes	2		1	1		1	1		1	1		1
Taper Length (m)	7 5		7 5	7 5		7 5	7 5		7 5	7 5		7 5
Lane Util Factor	0 97	0 95	1 00	1 00	0 95	1 00	1 00	1 00	1 00	1 00	1 00	1 00
Frt			0 850			0 850			0 850			0 850
Flt Protected	0 950			0 950			0 950			0 950		
Satd Flow (prot)	3335	3438	1538	1719	3438	1538	1719	1810	1538	1719	1810	1538
Flt Permitted	0 950			0 950			0 235			0 950		
Satd Flow (perm)	3335	3438	1538	1719	3438	1538	425	1810	1538	1719	1810	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd Flow (RTOR)			38			118			31			339
Link Speed (k/h)		90			90			60			60	
Link Distance (m)		216 0			560 9			292 3			319 1	
Travel Time (s)		8 6			22 4			17 5			19 1	
Peak Hour Factor	0 92	0 97	0 76	0 75	0 82	0 71	0 93	0 83	0 91	0 83	0 85	0 91
Growth Factor	130%	130%	130%	130%	130%	130%	130%	130%	130%	130%	130%	130%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj Flow (vph)	878	3203	306	33	1902	130	217	493	60	108	410	1283
Shared Lane Traffic (%)												
Lane Group Flow (vph)	878	3203	306	33	1902	130	217	493	60	108	410	1283
Enter Blocked ntersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7 2			7 2			3 6			3 6	
Link Offset(m)		0 0			0 0			0 0			0 0	
Crosswalk Width(m)		4 8			4 8			4 8			4 8	
Two way Left Turn Lane												
Headway Factor	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2 0	10 0	2 0	2 0	10 0	2 0	2 0	10 0	2 0	2 0	10 0	2 0
Trailing Detector (m)	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Detector 1 Position(m)	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Detector 1 Size(m)	2 0	0 6	2 0	2 0	0 6	2 0	2 0	0 6	2 0	2 0	0 6	2 0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Detector 1 Queue (s)	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Detector 1 Delay (s)	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Detector 2 Position(m)		9 4			9 4			9 4			9 4	
Detector 2 Size(m)		0 6			0 6			0 6			0 6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0 0			0 0			0 0			0 0	
Turn Type	Prot		Perm	Prot		Perm	Perm		Perm	Prot		Free
Protected Phases	1	6		5	2			8		7	8	
Permitted Phases			6			2	8		8			Free
Detector Phase	1	6	6	5	2	2	8	8	8	7	8	
Switch Phase												
Minimum nitial (s)	6 0	10 0	10 0	6 0	10 0	10 0	7 0	7 0	7 0	6 0	7 0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Minimum Split (s)	12 5	25 4	25 4	12 4	24 4	24 4	34 2	34 2	34 2	12 2	34 2	
Total Split (s)	24 0	69 6	69 6	12 4	58 0	58 0	50 0	50 0	50 0	13 0	50 0	0 0
Total Split (%)	16 6%	48 0%	48 0%	8 6%	40 0%	40 0%	34 5%	34 5%	34 5%	9 0%	34 5%	0 0%
Yellow Time (s)	5 0	4 9	4 9	4 9	4 9	4 9	4 7	4 7	4 7	4 7	4 7	
All-Red Time (s)	1 5	1 5	1 5	1 5	1 5	1 5	1 5	1 5	1 5	1 5	1 5	
Lost Time Adjust (s)	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Total Lost Time (s)	6 5	6 4	6 4	6 4	6 4	6 4	6 2	6 2	6 2	6 2	6 2	4 0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes			Yes								
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	
Act Effct Green (s)	17 5	65 7	65 7	6 0	51 6	51 6	43 8	43 8	43 8	6 8	43 8	145 0
Actuated g/C Ratio	0 12	0 45	0 45	0 04	0 36	0 36	0 30	0 30	0 30	0 05	0 30	1 00
v/c Ratio	2 18	2 06	0 43	0 46	1 56	0 21	1 70	0 90	0 12	1 33	0 75	0 83
Control Delay	566 9	502 3	26 2	89 0	287 0	7 5	376 1	69 4	20 7	262 2	55 6	5 5
Queue Delay	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Total Delay	566 9	502 3	26 2	89 0	287 0	7 5	376 1	69 4	20 7	262 2	55 6	5 5
LOS	F	F	C	F	F	A	F	E	C	F	E	A
Approach Delay		482 0			266 2			152 0			32 3	
Approach LOS		F			F			F			C	
Queue Length 50th (m)	~218 7	~809 5	55 7	10 0	~425 7	2 4	~95 8	143 4	6 3	~42 4	112 2	0 0
Queue Length 95th (m)	#261 0	#841 5	65 0	18 4	#409 2	8 0	#150 3	#179 7	17 9	#75 0	142 2	0 0
nternal Link Dist (m)		192 0			536 9			268 3			295 1	
Turn Bay Length (m)	160 0		30 0	100 0		180 0	60 0		50 0	40 0		
Base Capacity (vph)	403	1557	718	71	1223	623	128	547	486	81	547	1538
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	2 18	2 06	0 43	0 46	1 56	0 21	1 70	0 90	0 12	1 33	0 75	0 83

ntersection Summary			
Area Type	Other		
Cycle Length 145			
Actuated Cycle Length 145			
Natural Cycle 145			
Control Type Actuated-Uncoordinated			
Maximum v/c Ratio 2 18			
ntersection Signal Delay 314 7		ntersection LOS F	
ntersection Capacity Utilization 141 4%		CU Level of Service H	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite			
Queue shown is maximum after two cycles			
# 95th percentile volume exceeds capacity, queue may be longer			
Queue shown is maximum after two cycles			

Splits and Phases 3 Highway 1 & McKenzie Avenue



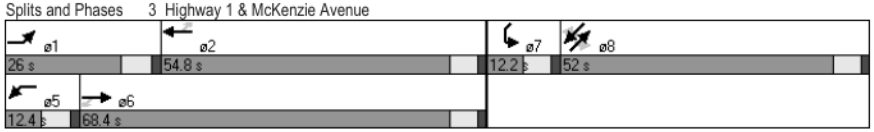
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Volume (vph)	720	1928	222	8	1585	15	222	91	15	56	257	1597
deal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (m)	160 0		30 0	100 0		180 0	60 0		50 0	40 0		0 0
Storage Lanes	2		1	1		1	1		1	1		1
Taper Length (m)	7 5		7 5	7 5		7 5	7 5		7 5	7 5		7 5
Lane Util Factor	0 97	0 95	1 00	1 00	0 95	1 00	1 00	1 00	1 00	1 00	1 00	1 00
Frt			0 850			0 850			0 850			0 850
Flt Protected	0 950			0 950			0 950			0 950		
Satd Flow (prot)	3335	3438	1538	1719	3438	1538	1719	1810	1538	1719	1810	1538
Flt Permitted	0 950			0 950			0 323			0 950		
Satd Flow (perm)	3335	3438	1538	1719	3438	1538	584	1810	1538	1719	1810	1538
Right Turn on Red			Yes			Yes			Yes			Yes
Satd Flow (RTOR)			53			15			22			294
Link Speed (k/h)		90			90			60			60	
Link Distance (m)		216 0			560 9			292 3			80 2	
Travel Time (s)		8 6			22 4			17 5			4 8	
Peak Hour Factor	0 90	0 96	0 81	0 40	0 87	0 88	0 86	0 73	0 88	0 88	0 94	0 92
Growth Factor	130%	130%	130%	130%	130%	130%	130%	130%	130%	130%	130%	130%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Adj Flow (vph)	1040	2611	356	26	2368	22	336	162	22	83	355	2257
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1040	2611	356	26	2368	22	336	162	22	83	355	2257
Enter Blocked ntersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(m)		7 2			7 2			3 6			3 6	
Link Offset(m)		0 0			0 0			0 0			0 0	
Crosswalk Width(m)		4 8			4 8			4 8			4 8	
Two way Left Turn Lane												
Headway Factor	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00	1 00
Turning Speed (k/h)	25		15	25		15	25		15	25		15
Number of Detectors	1	2	1	1	2	1	1	2	1	1	2	1
Detector Template	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Leading Detector (m)	2 0	10 0	2 0	2 0	10 0	2 0	2 0	10 0	2 0	2 0	10 0	2 0
Trailing Detector (m)	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Detector 1 Position(m)	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Detector 1 Size(m)	2 0	0 6	2 0	2 0	0 6	2 0	2 0	0 6	2 0	2 0	0 6	2 0
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Detector 1 Queue (s)	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Detector 1 Delay (s)	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Detector 2 Position(m)		9 4			9 4			9 4			9 4	
Detector 2 Size(m)		0 6			0 6			0 6			0 6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0 0			0 0			0 0			0 0	
Turn Type	Prot		Perm	Prot		Perm	Perm		Perm	Prot		Free
Protected Phases	1	6		5	2			8		7	8	
Permitted Phases			6			2	8		8			Free
Detector Phase	1	6	6	5	2	2	8	8	8	7	8	
Switch Phase												
Minimum nitial (s)	6 0	10 0	10 0	6 0	10 0	10 0	7 0	7 0	7 0	6 0	7 0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NET	NER	SWL	SWT	SWR
Minimum Split (s)	12 5	25 4	25 4	12 4	24 4	24 4	34 2	34 2	34 2	12 2	34 2	
Total Split (s)	26 0	68 4	68 4	12 4	54 8	54 8	52 0	52 0	52 0	12 2	52 0	0 0
Total Split (%)	17 9%	47 2%	47 2%	8 6%	37 8%	37 8%	35 9%	35 9%	35 9%	8 4%	35 9%	0 0%
Yellow Time (s)	5 0	4 9	4 9	4 9	4 9	4 9	4 7	4 7	4 7	4 7	4 7	
All-Red Time (s)	1 5	1 5	1 5	1 5	1 5	1 5	1 5	1 5	1 5	1 5	1 5	
Lost Time Adjust (s)	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Total Lost Time (s)	6 5	6 4	6 4	6 4	6 4	6 4	6 2	6 2	6 2	6 2	6 2	4 0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lag	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?	Yes			Yes	Yes	Yes						
Recall Mode	None	None	None	None	None	None	None	None	None	None	None	
Act Effct Green (s)	19 5	67 0	67 0	6 0	48 4	48 4	45 8	45 8	45 8	6 0	45 8	145 0
Actuated g/C Ratio	0 13	0 46	0 46	0 04	0 33	0 33	0 32	0 32	0 32	0 04	0 32	1 00
v/c Ratio	2 32	1 64	0 48	0 37	2 06	0 04	1 83	0 28	0 04	1 17	0 62	1 47
Control Delay	625 7	321 6	26 3	82 3	507 6	17 6	422 0	39 0	12 4	216 6	47 9	227 0
Queue Delay	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0
Total Delay	625 7	321 6	26 3	82 3	507 6	17 6	422 0	39 0	12 4	216 6	47 9	227 0
LOS	F	F	C	F	F	B	F	D	B	F	D	F
Approach Delay		374 3			498 5			285 3			203 1	
Approach LOS		F			F			F			F	
Queue Length 50th (m)	~263 6	~618 9	66 5	7 8	~592 0	1 4	~152 8	36 8	0 0	~29 7	91 6	~450 7
Queue Length 95th (m)	#306 9	#657 2	83 6	8 1	#604 8	7 9	#204 2	45 0	6 6	#64 9	127 1	#528 5
nternal Link Dist (m)		192 0			536 9			268 3			56 2	
Turn Bay Length (m)	160 0		30 0	100 0		180 0	60 0		50 0	40 0		
Base Capacity (vph)	449	1588	739	71	1148	523	184	572	501	71	572	1538
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	2 32	1 64	0 48	0 37	2 06	0 04	1 83	0 28	0 04	1 17	0 62	1 47

ntersection Summary			
Area Type	Other		
Cycle Length 145			
Actuated Cycle Length 145			
Natural Cycle 145			
Control Type Actuated-Uncoordinated			
Maximum v/c Ratio 2 32			
ntersection Signal Delay 352 8		ntersection LOS F	
ntersection Capacity Utilization 138 3%		CU Level of Service H	
Analysis Period (min) 15			

~ Volume exceeds capacity, queue is theoretically infinite
Queue shown is maximum after two cycles
95th percentile volume exceeds capacity, queue may be longer
Queue shown is maximum after two cycles

Splits and Phases 3 Highway 1 & McKenzie Avenue



Appendix B

2011 Existing Condition Tables

Table B1 Highway 1 / Admirals Road / McKenzie Avenue Intersection Levels of Service Summary

	Highway 1						Admirals Road / McKenzie Avenue					
AM Peak Hour	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c ratio	0.86	1.14	0.24	0.39	1.07	0.15	3.71	1.21	0.16	1.30	1.00	0.64
Average Delay (veh/s)	70.5	99.7	11.6	95.4	93.0	6.3	1281.7	172.7	35.4	266.7	115.8	2.1
LOS	E	F	B	F	F	A	F	F	D	F	F	A
95th Percentile Queue (m)	133.4	575.1	34.5	16.6	311.7	5.9	156.6	206.6	19.9	69.2	166.2	0.0
PM Peak Hour	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c ratio	1.15	0.90	0.27	0.26	1.17	0.02	6.14	0.52	0.08	0.61	1.13	1.13
Average Delay (veh/s)	142.2	34.5	11.8	88.2	127.5	10.9	2361.3	78.6	25.3	103.3	161.9	73.2
LOS	F	C	B	F	F	B	F	E	C	F	F	E
95th Percentile Queue (m)	220.7	431.2	45.9	7.5	435.8	5.3	219.5	54.0	8.2	40.4	179.9	230.2

Not Responsive

Not Responsive

2038 Future Conditions

Table B12 Highway 1 / Admirals Road / McKenzie Avenue Intersection Levels of Service Summary

s13

Not Responsive

Appendix D - Stakeholder Comments

Associated Engineering | GLOBAL PERSPECTIVE. LOCAL FOCUS.

Associated Engineering (B.C.) Ltd.
Suite 300 - 4940 Canada Way
Burnaby, B.C., Canada, V5G 4M5

TEL: 604.293.1411
FAX: 604.291.6163
www.ae.ca

January 11, 2012
File: 2011.2907.E.01.00

Patrick Hill
Transportation Planner
Ministry of Transportation and Infrastructure
7818 - Sixth Street
Burnaby, BC
V3N 4N8

Re: AGENCY STAKEHOLDER MEETING NO. 1 - STAKEHOLDER QUESTIONNAIRE SUMMARY

Dear Mr. Hill:

One of the main objectives of this study is to identify key issues and limitations existing at the Highway 1 and Admirals / McKenzie intersection as well as the broader study area. A two-step stakeholder engagement process has been designed to help obtain relevant input from key agency stakeholders at the early planning stages of the project. The following agency stakeholders were identified at this stage of the study:

- BC Ministry of Transportation;
- Capital Region District (CRD);
- BC Transit;
- Insurance Corporation of British Columbia (ICBC);
- City of Victoria;
- District of Saanich; and
- Town of Royal View.

The first stakeholder meeting was held on November 24, 2011 to familiarize the stakeholders with the study objectives and scope, and gain input and insight from each on the issues, limitation and needs of the study intersection. Following this meeting, stakeholders were asked to complete a questionnaire documenting their insight into relevant issues with respect to the following input criteria by 8 December 2011:

- Traffic Options;
- Access / Mobility;
- Network Effects;
- Safety;
- Pedestrian / Cyclists;
- Transit;
- Galloping Goose Trail;
- Property Requirements;
- Land Use and Development;
- Environment; and
- Other.

Together with the Stakeholder Consultation Meeting No. 1 meeting notes, comments and considerations from the different agencies are recorded.

SUMMARY OF COMMENTS

For the purposes of the summary below, "the Intersection" denotes the Highway 1 and McKenzie / Admirals intersection. In addition, Highway 1 is considered an east-west corridor while McKenzie Avenue-Admirals Road is considered a north-south corridor.

1 TRAFFIC OPERATIONS

1.1 MCKENZIE / ADMIRALS / HIGHWAY 1 INTERSECTION

- Congestion problems can be found for eastbound movements (AM peak) and westbound movements (PM peak) on Highway 1.
- Southbound queue for McKenzie Avenue during the PM peak hour can extend as far as Carey Road / Glanford Avenue.
- Southbound movements (at the Intersection) are in conflict with Galloping Goose Trail users.
- Northbound movements pose geometric problems and signal optimization problems (lack of adequate green time), which provoke drivers to run red lights and introduce safety concerns.
- Signalization of Galloping Goose Trail may be an option for increasing efficiency for traffic on the North Leg of the Intersection.
- Eastbound bus stop on Highway 1 (just east of the Intersection) promotes a weaving movement for vehicles traversing northbound right at the Intersection while buses diverge/merge from the bus station pull-out.
- Westbound congestion during PM peak hour blocks the bus jump lane (which only has space for approximately 8 – 10 vehicles).
- Westbound merge lane on Highway 1 west of the Intersection ends just short of the pedestrian overpass, creating a substandard merge (length) movement.
- Eastbound transit priority signalling during the AM peak hour would help decrease congestion.
- Recent modelling by CRD has shown that one option, the flyover, for the eastbound Highway 1 traffic turning left to go northbound on McKenzie Avenue, does not significantly ease congestion in the AM peak. It only eases congestion in the eastbound direction in the PM peak thus slightly reducing congestion on Helmcken Road / Wilkinson Road / Island Highway.

Not Responsive

2 ACCESS MOBILITY

- There are three schools (Ecolé Marigold School, Spectrum Community School Theatre, and St. Joseph's Catholic School) housed on the northwest quadrant of the Intersection. The safest route for students to access the eastbound bus station east of the Intersection (on Highway 1) requires use of the pedestrian overpass immediately southwest of the schools. However, this pedestrian overpass is inconveniently placed for access to the bus stop and requires much walking for students.
- There will be no direct access to Highway 1 for to developments on the highway
- Available information also from CRD Transportation Corridor Plan (2010).

3 NETWORK EFFECTS

s13

Not Responsive

4 SAFETY

- A cursory review of the claims-based collision data at ICBC indicates that on average, there are in excess of 50 collisions at the intersection per year. Given this historical level of collision frequency, it is expected that there is considerable potential for improvements to the level of safety performance at this location. In formulating improvement options, it will be important to quantify the expected safety improvement relative to the baseline conditions. Further, it will be important to undertake detailed collision analysis to search for deviant and statistically significant patterns within the data to identify important collision characteristics that are over-represented (or under-represented) in the data. This will ensure that any proposed improvement option will effectively address the existing safety deficiencies.
- At the Intersection, though the accident rate is not very high for pedestrian / cyclists, the accidents are generally severe.

Not Responsive

s13

5 PEDESTRIAN / CYCLISTS

s13

- An east-west trail link to the wider regional trail system is located in the Highway 1 right-of-way portion of Cuthbert Holmes Park (CHP). s13

s13

- Available information also from CRD Pedestrian and Cycling Master Plan (2011).

s13

6 TRANSIT

s13

- Bus stop east of the Intersection (eastbound) currently lacks a bus shelter

s13

- McKenzie Avenue north and northeast of the intersection is utilized as route between the West Shore and the University of Victoria.

s13

Not Responsive

s13

7 GALLOPING GOOSE TRAIL

- Capital Regional District Pedestrian and Cycling Master Plan considers Galloping Goose Trail to be the Primary Inter-Municipal Cycling Network(PIC).
- CRD Parks will be made aware of any work to the intersection.
- Improvements to the Intersection to incorporate a separated route for the Galloping Goose Trail.

8 PROPERTY REQUIREMENTS

- Should property requirements be needed, First Nations consultation will be required and will include multiple local First Nations groups.

9 LAND USE AND DEVELOPMENT

s13

s13

10 ENVIRONMENT

- The area of the Intersection is on the boundary between the Colquitz watershed and lands draining directly to Portage Inlet. In either case, stormwater from this area is entering the estuary of the Colquitz River, which has high environmental sensitivity and value. Currently, stormwater treatment of highway runoff is limited. s13

s13

Cuthbert Holmes Park has recently had an environmental review as part of a park planning process. The report is attached to provide additional information on the vegetation and wildlife communities of that corner of the interchange which is located next to Cuthbert Holmes Park. Of particular significance is the Great Blue Heron colony located within the park approximately 200 m from the highway. In 2010 there were 66 active nests in Cuthbert Holmes Park. This species is blue-listed in British Columbia. The Heron are commonly seen feeding within the river and estuary.

Also utilizing Colquitz River is a genetically distinct population of coho salmon. The Colquitz is an indicator stream for Fisheries and Oceans and a fish counting fence is maintained by a local fish and game club. Average escapement for the Colquitz is approx. 300 fish.

Numerous other wildlife species are known to frequent the Colquitz estuary and riparian area within Cuthbert Holmes Park. Please see the attached report for an inventory of wildlife within the park.

A Garry oak woodland, which forms part of the Sensitive Ecosytem Inventory (SEI) prepared by the Ministry of Environment and Environment Canada. Protection and restoration of this woodland is desirable. Protections of the natural hedgerows along the Galloping Goose corridor are also desirable.

January 11, 2012
Patrick Hill
Ministry of Transportation and Infrastructure
- 8 -

11 OTHER

- Ongoing operational complaints from some residents on Portage Road, west of the McKenzie intersection, about lack of barrier for sound and safety mitigation on Hwy 1.

Consideration will be given to the above comments during the improvement / design process.
Should you have any comments, please do not hesitate to contact Daniel Fung, P.Eng. at 604.293.1411.

Yours truly,

Daniel Fung, P.Eng.
Transportation Planning Engineer

DF/sj

Appendix E - Collision Data

Title: Intersection Crashes
Location: Trans-Canada Hwy & Admirals/McKenzie Intersection
Period: 2006 to 2010
Reported By: ICBC

Count of SEVERITY	SEVERITY		
YEAR	CASUALTY	PROPERTY DAMAGE ONLY	Grand Total
2006	30	27	57
2007	28	35	63
2008	29	31	60
2009	22	26	48
2010	35	39	74
Grand Total	**144**	**158**	**302**
	48	52	

Definitions:
CASUALTY: Crash incident resulting in injury or fatality
PROPERTY DAMAGE ONLY: Crash incident resulting in material damages to vehicles with no injuries or fatalities

Title: Intersection Crashes
Location: Trans-Canada Hwy & Admirals/McKenzie Intersection
Period: 2006 to 2010
Reported By: ICBC

INCIDENT_ID	VEHICLES	DATE	Day of Week	TIME	Day o	YEAR	MONTH	TIME CATEGORY	INJURED VICTIMS	SEVERITY	CRASH CONFIGURATION	STREET_ON	CROSS STREET	LATITUDE	LONGITUDE	INCIDENT DESCRIPTION
006500565	2	02/04/2007	2.00	1015	Monda	2007	APRIL	9 01-12 00	1	CASUALTY	CONFLICTED	ADMIRALS RD	HWY 1	48.45967200000	-123.40468100000	Report 0001 INSD N/B ADMIRALS RD, LN ?- TP VEH. S/B MCKENZIE(ADMIRALS TURNS INTO MCKENZIE)- LT GREEN- TP ATTEMPTED TO MKE L/TURN - INSD'S L/FRT BUMPER STRUCK TP'S R/FRT BUMPER-ALL EMERG VEH. ATTD. ;Report 0002 INSD'S ?/B ADMIRALS ATTPD TO MKE L/TURN ONTO TRANSCDA HWY-TP VEH. IN OPPOSITE DIRECTION- INSD PROCEEDED TO MKE L/TURN- ALL EMERG VEH. ATTD
006610479	2	11/06/2007	2.00	1110	Monda	2007	JUNE	9 01-12 00	0	PROPERTY DAMAGE ONLY	CONFLICTED	ADMIRALS RD	HWY 1	48.45967200000	-123.40468100000	Report 0001 INS ?B ON ADMIRALS IN LEFT TURN LANE. TP REVERSING DUE TO VEH AHEAD REVERSING AS FIRE TRUCK WAS COMING. TP REVERSED INTO HOOD, FROM TP DROP GATE ;Report 0002 REVERSED INTO TP VAN.. NO DAMGE TO THIS VEHICLE. TP HAS MINOR
006858499	2	17/12/2007	2.00	1800	Monda	2007	DECEMBER	15 01-18 00	0	PROPERTY DAMAGE ONLY	CONFLICTED	ADMIRALS RD	TRANS-CANADA HWY	48.45967200000	-123.40468100000	Report 0001 INSD E/B ADMIRALS IN L 1/3. TP E/B ADMIRALS IN FRONT OF INSD. L 1 TURN RIGHT ONTO TRANS CDA. TP STOPPED THEN REVERSED IN ORDER TO CHANGE INTO L 2 TO GO STRAIGHT. TP BACKED INTO INSD F/E. ;Report 0002 INS NB ON ADMIRALS. TP BEHIND. INS REVERSED INTO. INS REAR BUMPER MET TP'S FRONT HOOD ;
006462015	1	28/03/2007	4.00	0100	Wedn	2007	MARCH	0 01-3 00	1	CASUALTY	CONFLICTED	ADMIRALS RD	TRANS-CANADA HWY	48.45967200000	-123.40468100000	Report 0001 INS SEB IN ADMIRALS, L1/1, IMMEDIATELY AFTER MAKING R/TURN ONTO ADMIRALS. INS LOST CONTROL & WENT INTO A DITCH. SPEED UNDER 30MPH. NO AMB/FIRE. POL ATTENDED.
007355023	2	13/12/2008	7.00	2100	Satur	2008	DECEMBER	18 01-21 00	1	CASUALTY	CONFLICTED	ADMIRALS RD	TRANS-CANADA HWY	48.45967200000	-123.40468100000	Report 0001 AFTER 1ST MVA CLAIM # XXXXXX S INSD STOPPED BUT WAS REARENDED BY TP VEH DIRECTLY BEHIND WHO SPUN INSD ;Report 0002 INS E/B ADMIRALS 1/1, TP IN FRONT OF INS LOCKED UP BRAKES, SLID SIDEWAYS, INS HIT TP. TP2 BEHIND INS ALSO SLID AND HIT TP. INS DMG TO LF HEADLIGHT, HOOD, FLUID LEAKING. ;
008206591	2	24/09/2010	6.00	1330	Friday	2010	SEPTEMBER	12 01-15 00	1	CASUALTY	CONFLICTED	ADMIRALS RD	HWY 1	48.45967200000	-123.40468100000	Report 0001 FAX RPT FROM PREFERRED FLEET CUSTOMER CENTRAL ISL DISTRIB. DRIVER ?/B ADMIRALS, SHIFTING TO CURB LANE, CLIPPED RT REAR OF TP VEH THAT WAS AHEAD. ACC XXXXXX ;Report 0002 MVA....INS DRVR ?/ADMIRALS RD.L1/1 STOPPED@LITE-TP BEHIND INS-TP TRIED TO SQUEEZE INBETWEEN INS&CURB-TP L MID-SECTION STRUCK INS R SIDE OF BOX-NO WITNESSES-NO EMERG VEHS.
006921643	1	19/01/2008	7.00	1238	Satur	2008	JANUARY	12 01-15 00	0	PROPERTY DAMAGE ONLY	HEAD ON	ADMIRALS RD	TRANS-CANADA HWY	48.45967200000	-123.40468100000	Report 0001 INS PROCEEDING NE ADMIRALS . T/P AHEAD OF INS. INS ,T/P STOPPED IN TRAFFIC FOR LIGHT. WHEN LIGHT CHANGED, TRAFFIC PROCEEDED. INS HEARD SIREN. T/P STOPPED SUDDENLY & INS R/E T/P.
008303372	2	26/12/2010	1.00	1330	Sunda	2010	DECEMBER	12 01-15 00	1	CASUALTY	REAR END	ADMIRALS RD	TRANS-CANADA HWY	48.45967200000	-123.40468100000	Report 0001 INS N/B ON ADMIRALS RD TO MERGE RIGHT ONTO TRANS-CANADA HWY - TP N/B DIRECTLY BEHD INS - INS STOPPED FOR CYCLIST - TP REAR ENDED INS ;Report 0002 INS WAS MERGING ONTO MCKENZIE FROM THE HWY. TP WAS DIRECLTY IN FRONT OF INS STOPPED FOR PED. INS FAILED TO STOP AND INS F/BUMPER HIT TP R/BUMPER
006327609	2	04/12/2006	2.00	1300	Monda	2006	DECEMBER	12 01-15 00	1	CASUALTY	REAR END	ADMIRALS RD	TRANS-CANADA HWY	48.45967200000	-123.40468100000	Report 0001 INS TRAVELLING S ON ADMIRALS ST. AS INS WAS ATTEMPTING A RIGHT TURN ON DOUGLAS STREET TP VEH REAR ENDED INS. INS VEH WAS PUSHED A FEW FEET FORWARD. ;Report 0002 INS ?/B ADMIRALS, TP MERGING LANE ON ADMIRALS, STOPPED, INS CONTINUED ON AND R/E TP. INS DMG TO F BUMPER. TP DMG TO R BUMPER.
006668847	2	06/08/2007	2.00	0915	Monda	2007	AUGUST	9 01-12 00	2	CASUALTY	REAR END	ADMIRALS RD	HWY 1	48.45967200000	-123.40468100000	Report 0001 INSD ?/B ON ADMIRALS IN L1/3 INSD MAKING R/TURN IN OWN R/TURN LANE, TP AHEAD OF INSD. TP DID NOT KNOW THEY HAD OWN LANE, TP STPD STARTED TO GO THEN STPD AGAIN, INSD REAR ENDED TP ;Report 0002 INS ADMIRALS IN THE MERGING LANE ONTO HWY 1, TP WAS DIRECTLY BEHIND INS, INS SLOWED DOWN AND TP REARENDED INS. ;
007065984	2	12/05/2008	2.00	1630	Monda	2008	MAY	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	ADMIRALS RD	HWY 1	48.45967200000	-123.40468100000	Report 0001 INSD N/B ADMIRALS RD,LN 2/2-TP VEH. BEHIND INSD -TP R/E INSD(SLIGHT BUMP)-NO INJURIES ;Report 0002 INSD WAS ON ADMIRALS ROAD.TP WAS STOPPED DIRECTLY INFRONT OF INSD.INSD ROLLED INTO TP REAR BUMPER. NO POLICE
007514388	2	13/04/2009	2.00	1110	Monda	2009	APRIL	9 01-12 00	0	PROPERTY DAMAGE ONLY	REAR END	ADMIRALS RD	HWY 1	48.45967200000	-123.40468100000	Report 0001 INSD IN MERGE LANE WAITING TO MAKE R/TURN. R/E TP WHO WAS DIRECTLY IN FRONT. 2 VEH INVOLVED. NO INJURY.BOTH PARTIES EXCHANGED INFO. ;Report 0002 INSD E/B ON ROADWAY, TP DIRECTLY BEHIND INSD, INSD WENT TO TURN RIGHT BUT STOPPED FOR TRAFFIC, TP R/ENDED INSD. NOT PUSHED INTO ANYONE.
008338852	2	22/11/2010	2.00	1100	Monda	2010	NOVEMBER	9 01-12 00	0	PROPERTY DAMAGE ONLY	REAR END	ADMIRALS RD	TRANS-CANADA HWY	48.45967200000	-123.40468100000	Report 0001 INSD STPD FOR MVA AHEAD, BUT WAS R/E BY T/P XXXXXX , INSD THEN PUSHED INTO T/P2(????). INSD THEN HIT AGAIN BY T/P XXXXXX < INSD THEN PUSHE DINTO ????INSD FELT . IMPACTS ;Report 0002 INS STPD ON ROADWAY AFTER MVA S. TP1 XXXXXX R/ENDS INS INS VEH THEN SLIDS DOWN L/SIDE OF TP2 XXXXXX CORNER CAUSING DMG TO INS ENTIRE R/SIDE SCRAPED AND MIRROR BROKEN.
006483967	1	13/03/2007	3.00	1835	Tuesa	2007	MARCH	18 01-21 00	0	PROPERTY DAMAGE ONLY	REAR END	ADMIRALS RD	HWY 1	48.45967200000	-123.40468100000	Report 0001 MVA - INS N/B L 1/1 ADMIRALS ROAD. TP STOPPED IN FRNT OF INS FOR TRAFFIC. INS ATTENTION DIVERTED MOMENTARILY & INS APPLIED BRAKES, HOWEVER NOT ABLE TO STOP & REARENED TP. NO WITNESSES.
006453023	2	28/02/2007	4.00	0835	Wedn	2007	FEBRUARY	6 01-9 00	0	PROPERTY DAMAGE ONLY	REAR END	ADMIRALS RD	TRANS-CANADA HWY	48.45967200000	-123.40468100000	Report 0001 WEB REPORT RO WAITING AT R/LITE STOPPED. TP BEHIND R/E INSD. ;Report 0002 INSD ON ADMIRALS RD IN LN 1/1. TP ALSO ON ADMIRALS RD IN LN 1/1, DIRECTLY IN FRONT OF INSD. INSD THOUGHT TP WAS GONNA GO THROUGH LIGHT, TP STOPPED AND INSD R/ENDED TP.TP NOT PUSHED INTO ANY OTHER VEHS.
007318178	2	19/11/2008	4.00	0740	Wedn	2008	NOVEMBER	6 01-9 00	0	PROPERTY DAMAGE ONLY	REAR END	ADMIRALS RD	TRANS-CANADA HWY	48.45967200000	-123.40468100000	Report 0001 INSD ON ADMIRALS STOPPED AT RED LIGHT, TP BEHIND INSD . INSD WENT TO GO WHEN TP REARENDED INSD CAUSING REAR BUMPER DMG. ;Report 0002 BOTH VEHS N/B ON ADMIRALS RD IN SAME LANE. TP STOPPED FOR RED LITE WHEN INS R/E TP VEH. TP NOT PUSHED INTO ANY OTHER VEHS. ;

008129315	2	07/07/2010	4.00	1700	Wedn	2010	JULY	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	ADMIRALS RD	HWY 1	48.45967200000	-123.40468100000	Report 0001 INS S/B MACKENZIE IN L1/2. TP S/B IN L2/2 BESIDE INS. INSD S LANE HEADS TO THE HWY. TRAFFIC IN FRONT OF TP STOP, TP FORCES HIMSELF BETWEEN INS & VEH IN FRONT. INSD'S F/BUMPER HIT TP'S R/BUMPER. NO WITNESSES. ;Report 0002 INS TRAVELLING ON MAJOR MACKENZIE? STPD AT A RED LIGHT, TP TRAVELLING ON SAME RD BEHIND INS, TP R/END INS. NO POLICE. ;
008257693	3	24/11/2010	4.00	1420	Wedn	2010	NOVEMBER	12 01-15 00	1	CASUALTY	REAR END	ADMIRALS RD	HWY 1	48.45967200000	-123.40468100000	Report 0001 INS E/B ON ADMIRALS IN L2/2, TP1 E/B ON ADMIRALS IN L2/2 BEHIND INS, TP2 E/B ON ADMIRALS IN L2/2 BEHIND TP1, INS & TP1 STPD AT LIGHT, TP2 R/END TP1, PUSH TP1 INTO INS. NO WITN. NO POLICE. ;Report 0002 3-VEH COLL INS N/B ADMIRALS RD IN L3/3 STPD IN LINE UP IN TRAFFIC. TP XXXXXX IN FRT OF INS. TP2 XXXXXX STPD IN FRT OF INS. INS R/E TP. TP PUSHED INTO TP2. NO EMERG VEHS. ;Report 0003 INS WAS ON ADMIRALS INS L 3/3 STOPPED WAITING TO TURN LEFT. TP XXXXXX FAILED TO STOP AND TP F/BUMPER HIT INS R/BUMPER PUSHING INS F/BUMPER INTO TP2 XXXXXX REAR BUMPER.
005876861	2	19/01/2006	5.00	1505	Thurs	2006	JANUARY	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	ADMIRALS RD	TRANS-CANADA HWY	48.45967200000	-123.40468100000	Report 0001 INS W/B MCKENZIE L1 OF 1. TP W/B DIRECTLY IN FRT. TP STOPPED. INS HAD LOOKED DOWN MOMENTARILY. INS BRAKED BUT R/E TP. ;Report 0002 INSD S/B ON ADMIRALS IN L1/1; TP DIRECTLY BEHIND INSD; INSD STOPPED FOR A LEFT TURNING VEH AHEAD; TP DID NOT SEE INSD & REAR ENDED INSD; ;
006257863	2	19/10/2006	5.00	1520	Thurs	2006	OCTOBER	15 01-18 00	2	CASUALTY	REAR END	ADMIRALS RD	HWY 1	48.45967200000	-123.40468100000	Report 0001 INSD TRAV S ON HWY 1 IN 1/2. TP TRAV BEHIND INSD. INSD WAS STOPPED AT A RED LIGHT TP STRUCK INSD ON THE REAR BUMPER. ;Report 0002 INSD E/B ON 1 HWY IN LN 1/3.TP ALSO E/B ON 1 HWY LN 1/3 DIRECTLY IN FRONT OF INSD.BOTH VEHS AT A COMPLETE STOP AT RED LIGHT.LIGHT TURNED GREEN,INSD ACCELERATED, R/ENDED TP.TP NOT PUSHED INTO ANY OTHER VEHS.
006538502	2	10/05/2007	5.00	1650	Thurs	2007	MAY	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	ADMIRALS RD	TRANS-CANADA HWY	48.45967200000	-123.40468100000	Report 0001 INSD WAS N/B ADMIRALS RD. TP WAS BEHIND. INSD STPPD FOR THE R/LITE. TP FAILED TO STOP IN TIME & R/E INSD. TP'S F/BMPR STRUCK INSD'S R/BMPR. ;Report 0002 INSD ?/B ADMIRALS RDAD.T/P DIRECTLY IN FRONT.T/P STOPPED SUDDENLY,INSD R/E T/P VEH.INSD F/BUMPER HIT T/P R/BUMPER.NO WITNESS.POLICE DID NOT ATTEND.
006627002	2	19/07/2007	5.00	0945	Thurs	2007	JULY	9 01-12 00	0	PROPERTY DAMAGE ONLY	REAR END	ADMIRALS RD	HWY 1	48.45967200000	-123.40468100000	Report 0001 AS INSD WAS W/B ADMIRALS RD L 1/1, DIRECTLY AHEAD OF TP, WHEN INSD STOPPED BEHIND ANOTHER STOPPED VEH, TP R/E INSD. INSD'S FRIEND/WTN HAPPENED TO BE IN OTHER VEH BEHIND TP. NO POL. ;Report 0002 INS ?/B ON ADMIRALS L1/1. TP WAS DIRECTLY AHEAD OF INS. TP HAD TO STOP FOR L/TURNING VEH AHEAD. INS UNABLE TO STOP IN TIME. INS FRONT BUMPER HIT TP REAR BUMPER.
006600851	2	08/06/2007	6.00	0800	Friday	2007	JUNE	6 01-9 00	2	CASUALTY	REAR END	ADMIRALS RD	HWY 1	48.45967200000	-123.40468100000	Report 0001 INS E/B ADMIRAL 2/3. T/P IN FRONT OF INS. TP2 IN FRONT OF TP. TP2 STOPPED. TP STOPPED. INS COULD NOT STOP IN TIME. INS F/B WENT UNDER TP REAR BUMPER. INS UNSURE IF TP WAS PUSHED INTO TP2. ;Report 0002 INS EB ON ADMIRALS RD IN LANE 2/3 - TP EB ALSO BEHIND INS VEH- INS DRIVER STOPPED AND WAS R/E BY TP VEH - INS BUMPED TP VEH IN FRONT - ;
006618805	2	20/07/2007	6.00	1200	Friday	2007	JULY	9 01-12 00	1	CASUALTY	REAR END	ADMIRALS RD	HWY 1	48.45967200000	-123.40468100000	Report 0001 INSD S/B ADMIRALS RD L4/4 STOPPED AT THE LITE, TP DIRECTLY BEHIND INSD. TP NEVER STOPPED IN TIME AND TP RE INSD. SEE MORE NOTES. POLICE HAVE WITNESS INFO. ;Report 0002 INSD ?B ON ADMIRALS RD. TP DIRECTLY IN FRONT. INSD R/E TP
005989384	2	22/04/2006	7.00	1615	Satur	2006	APRIL	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	ADMIRALS RD	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS EB ON ADMIRALS LN 1/1. TP IN FRONT OF INS. TP STOPPED. INS R/E TP. ;Report 0002 INS EB ON ADMIRALS LN 1/1. INS STOPPED FOR TRAFFIC. TP REAR ENDED INS. ;
006748030	2	08/09/2007	7.00	1900	Satur	2007	SEPTEMBER	18 01-21 00	0	PROPERTY DAMAGE ONLY	REAR END	ADMIRALS RD	TRANS-CANADA HWY	48.45967200000	-123.40468100000	Report 0001 ECLAIM. MOVING H&R. INS WAS ?B ADMIRALS RD WHEN TP APPROACHED FROM BEHIND AT HIGH RATE OF SPEED. INS WAS APPROACHING RED LITE & HAD TO SLOW DOWN, TP R/E'D INS. INS GOT OUT TO TALK TO TP WHO FLED SCENE. ;Report 0002 H&R SUSPECT. INS TRAVELLING ON ADMIRALS ROAD. TP TRAVELLING IN FRONT OF INS' VEH. TP STOPPED FOR RED LITE & INS' VEHICLE R/END TP VEH. INS LEFT THE SCENE.
006890837	2	26/01/2008	7.00	1211	Satur	2008	JANUARY	12 01-15 00	5	CASUALTY	REAR END	ADMIRALS RD	TRANS-CANADA HWY	48.45967200000	-123.40468100000	Report 0001 INS ADMIRALS RD WB L1/1. TP DIRECTLY IN FRT OF INS. TP STOPPED IN TRAFFIC- INS BRAKED BUT RDS SLIPPERY- INS SLID, R/ENDED TP, INS S FRT BUMPER STRUCK TP'S REAR BUMPER. ;Report 0002 INS STOPPED AS 3 VEHS AHEAD STOPPED TO MAKE LEFT TURN. TP DID NOT STOP IN TIME & REARENDED INS. TP LEFT FRONT BUMPER AREA STRUCK INS REAR BUMPER, HITCH. TP HAD 2 CHILDREN AS PASSENGERS. TP VEH - NDV
007556813	2	23/05/2009	7.00	1630	Satur	2009	MAY	15 01-18 00	1	CASUALTY	REAR END	ADMIRALS RD	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 COLL. INSD IN TRAFFIC & WAS R/E BY TP. ;Report 0002 INS N/B HWY 1. TP DIRECTLY INFRONT OF INS. TP STPD. INS R/E TP. INS F/BUMPER HIT TP R/BUMPER. ;
006318255	2	05/12/2006	3.00	0550	Tuesa	2006	DECEMBER	3 01-6 00	1	CASUALTY	SIDE IMPACT	ADMIRALS RD	TRANS-CANADA HWY	48.45967200000	-123.40468100000	Report 0001 INSD DRVR ?/B ON ADMIRALS RD IN LANE 3/3 MAKING L/T TO HWY. T/P OPPOSITE DIRECTION TO INSD IN LANE 2/3. INSD DRVR DID NOT SEE TP AT ALL PULLED OUT INS L FRT CORNER HIT T/P L FRT TO DR AREA. ;Report 0002 INS ?/B ON ADMIRALS 1/1. T/P TRAV OPPOSITE DIRECTION IN LANE 1/1 MAKING A LEFT TURN. INS HAD GREEN LIGHT. T/P FRONT LEFT CORNER HIT INS LEFT SIDE. NO WITNESSES. NO POLICE ATTENDED.
007350679	2	10/12/2008	4.00	1520	Wedn	2008	DECEMBER	15 01-18 00	0	PROPERTY DAMAGE ONLY	SIDE IMPACT	ADMIRALS RD	HWY 1	48.45967200000	-123.40468100000	Report 0001 INS ?/B ADMIRALS RD IN L1/2. TP SAME DIRECTION ON ADMIRALS RD LFT TRN LANE. THERE WAS A LINE UP OF VEHS IN FRT OF TP SO TP CHANGED INTO INSDS LN. TP RF FNDR HIT INSDS LF FNDR. TP ACCUSED INS OF SPEEDING. ;Report 0002 ECLAIM. INS WB ADMIRALS LN 2/2; TP WB ADMERALS LN 1/2. INS CHANGED INTO LN 1/2 & 90% IN LN 1/2 WHEN HIT BY TP. INS FELT TP SPEEDING.
007197850	2	07/08/2008	5.00	1830	Thurs	2008	AUGUST	18 01-21 00	2	CASUALTY	SIDE IMPACT	ADMIRALS RD	HWY 1	48.45967200000	-123.40468100000	Report 0001 DRV E/B ON ADMIRALS IN LN 3/3 ATTEMPTING TO MAKE L/TURN ON AMBER LITE. TP W/B ON ADMIRALS IN LN 1/1 PROCEEDING STRAIGHT. INS L/FRONT COLLIDED WITH TP L/FRONT. ;Report 0002 INS ?/B MCKENZIE. TP ?/B ADIRALS MADE L/TURN. TP S L/SIDE FRONT CORNER COLLIDED WITH INS DRIVER SIDE FRONT END, HEAD LITES, L/SIDE DOOR

007566098	2	02/05/2009	7.00	1800	Satur	2009	MAY	15 01-18 00	1	CASUALTY	SIDE IMPACT	ADMIRALS RD	HWY 1	48.45967200000	-123.40468100000	Report 0001 INSD EB ON ADMIRALS. TP SB ON HWY AND WAS SUPPOSE TO TURN THE CORNER AND DIDN'T AND T-BONED INSD. TP FRT END COLL WITH INSD L/FRT DR. ;Report 0002 INS ?/B ON MCKENZIE MERGING ON TO ADMIRALS & LOST CONTROL WHILE TAKING TURN. TP ?/B ON ADMIRALS STOPPED AT RED LIGHT. INS F/END STRUCK TP L/FRONT DOOR & L/FENDER. ;
006686597	2	04/08/2007	7.00	1200	Satur	2007	AUGUST	9 01-12 00	1	CASUALTY	SIDE SWIPE - SAME DIRECTION	ADMIRALS RD	TRANS-CANADA HWY	48.45967200000	-123.40468100000	Report 0001 INSD N/B ON ADMIRALS IN L3/3-LEFT TURN LANE ONTO TRANSCANADA,. TP IN LANE 2/3 ON N/B ON ADMIRALS. TP ATTEMPTS TO CHANGE INTO LANE 3/3 AND STRIKES INSD. TP L/FENDER/ OF F/BUMPER IMPACTS W/INSD R/FENDER/DOOR ;Report 0002 INS N/B IN LANE 2/3 ON ADMIRALS. TP TURNING LEFT ONTO TRANS-CANADA IN LANE 3/3. TP STATED THAT INS CHANGED LANES FROM 2/3 TO 3/3 AND STRUCK TP. ;
007347960	1	28/12/2008	1.00	0900	Sunda	2008	DECEMBER	6 01-9 00	0	PROPERTY DAMAGE ONLY	SINGLE VEHICLE	ADMIRALS RD	TRANS-CANADA HWY	48.45967200000	-123.40468100000	Report 0001 INSD ON ADMIRALS ROAD TOWARD BRIDGE. INSD HIT BLACK ICE, SKIDDED ACROSS BRIDGE & STRUCK A POLE AT OTHER END.
007956536	1	21/03/2010	1.00	0140	Sunda	2010	MARCH	0 01-3 00	0	PROPERTY DAMAGE ONLY	CONFLICTED	HWY 1	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INS DRV ON HWY 1 WHEN DEER RAN OUT IN FRONT OF INS VEH. INS L/F HIT DEER.
008247212	1	10/10/2010	1.00	0007	Sunda	2010	OCTOBER	0 01-3 00	0	PROPERTY DAMAGE ONLY	CONFLICTED	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS NB 1 HWY L2/2, VEH HYDROPLANED ON TURN DUE TO WET ROADS, INS L/FRT BUMPER HIT THE MEDIAN. SVA. NO EMERGENCY VEH ATTENDED
006695085	1	13/08/2007	2.00	0400	Monda	2007	AUGUST	3 01-6 00	0	PROPERTY DAMAGE ONLY	CONFLICTED	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS ?/B ON HWY 1 WHEN A DEER JUMPED OUT FROM THE DITCH INTO THE MIDDLE OF THE ROAD. INS FRONT END HIT THE DEER. ;
007266279	1	27/10/2008	2.00		Monda	2008	OCTOBER	UNKNOWN	0	PROPERTY DAMAGE ONLY	CONFLICTED	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS S/B ON HWY 1 IN L1/2, INS CHANGING LANES INTO L2/2, A DEER RAN OUT ONTO THE HWY HITTING INS F/BUMPER, R/F FENDER. POLICE ATTD.
008309489	2	22/12/2010	4.00	1715	Wedn	2010	DECEMBER	15 01-18 00	1	CASUALTY	CONFLICTED	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 DRV E/B ON HWY 1 IN LN 2/2 PROCEEDING STRAIGHT. TP E/B ON HWY 1 IN LN 2/2 & ATTEMPTED TO CHANGE TO LN 1/2. INS R/REAR WAS STRUCK BY TP L/FRONT. ;Report 0002 INS. BEHIND STOPPED TRAFFIC MAKING LANE CHANGE BUT COULD NOT AND REAR END T/P. ;
008063697	1	17/06/2010	5.00	1630	Thurs	2010	JUNE	15 01-18 00	0	PROPERTY DAMAGE ONLY	CONFLICTED	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS DRIVING ALONG AND HEARD LOUD BANG, INS GOT HOME AND DISCOVERED DMGE TO L/S DOOR - LOWER PORTION.
006407409	1	26/01/2007	6.00	1400	Friday	2007	JANUARY	12 01-15 00	0	PROPERTY DAMAGE ONLY	CONFLICTED	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD N/B IN L?/?; LOAD FRM VEH IN FRT DROPPED IN FRT OF INSD; INSD EST 2.5 FEET LONG METAL OBJ; INSD WAS UNABLE TO AVOID & HIT THE OBJ /W F/BUMPER. NO WITNESSES
006009171	1	29/04/2006	7.00	1730	Satur	2006	APRIL	15 01-18 00	0	PROPERTY DAMAGE ONLY	CONFLICTED	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD LEAVING HWY 1 SOUTH TO GO ONTO MCKENZIE. VAN IN FRONT OF INSD WAITING TO MERGE ONTO MCKENZIE. INSD SAW TP MOVE AHEAD, THOUGHT THEY LEFT, INSD MOVED AHEAD AS TP STOPPED. INSD REARENDED TP. ;
008241094	2	18/10/2010	2.00	1520	Monda	2010	OCTOBER	15 01-18 00	0	PROPERTY DAMAGE ONLY	CONFLICTED	HWY 1	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INSD SB ON HWY 1 IN 2/4 CHANGING OVER TO LN 3/4 (L/TURN LANE) TP VEH IN 3/4 HIT INSD L/R. INSD VEH SPUN AND WAS THEN HIT ON INSD L/F DOOR AREA. POLICE ATTND - POLICE HAVE WITN NAME ;Report 0002 INSD E/B ON HWY 1 IN 3/4. TP IN L2/4 CHANGED INTO INSD'S LANE. INSD R/FRONT BUMPER HIT TP L/SIDE. TP WAS IN INSD'S BLIND SPOT.
005921484	2	22/02/2006	4.00	2130	Wedn	2006	FEBRUARY	21 01-24 00	0	PROPERTY DAMAGE ONLY	CONFLICTED	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS ?/B HWY 1 MAKING L/TURN ONTO MCKENZIE WITH ADVANCE GREEN ARROW. TP GOING IN OPPOSITE DIRECTION RAN RED LITE. TP'S FRONT END COLLIDED WITH INS PASSENGER SIDE 1/4 PANEL. TP ACCEPTED LIABILITY AT SCENE. ;Report 0002 INS N/B LANE 1/2 ON TRANS-CANADA. INS STOPPED AT RED LIGHT. INS NOT CERTAIN WHERE TP CAME FROM. INS SAW TP IN FRT OF HIM AND SAW THAT INS WAS IN I/S. INS R/FRT BUMPER HIT TP R/R CORNER.
008229086	2	08/10/2010	6.00	1440	Friday	2010	OCTOBER	12 01-15 00	0	PROPERTY DAMAGE ONLY	CONFLICTED	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 MVA- INSD SB ON HWY 2/2. TP DIRECTLY BEHIND INSD. ROCK CAME OFF LOAD & HIT TP'S W/S. ;Report 0002 INSD ON HWY 1. TP AHEAD WITH UNSAFE LOAD. TP ROCK DAMGD INSD VEH W/S. ;
008118754	2	28/07/2010	4.00	0950	Wedn	2010	JULY	9 01-12 00	1	CASUALTY	HEAD ON	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD S/B ON HWY 1 IN L1/2. T/P DIRECTLY IN FRONT OF INSD. T/P STARTED TO GO AND THEN STOPPED. INS REAR ENDED T/P. T/P WAS NOT PUSHED INTO ANYONE. ;Report 0002 INSD S/B ON HWY 1 STOPPING FOR RED LIGHT. TP DIRECTLY BEHIND R/E INSD. TP'S MID FRONT BUMPER STRUCK INSD'S MID REAR BUMPER.
005993720	2	16/04/2006	1.00	1815	Sunda	2006	APRIL	18 01-21 00	2	CASUALTY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 COLL. INSD S/B HWY 1 4/S (LEFT TURN LANE), TP DIRECTLY BEHIND. INSD STOPPED AT RED LIGHT, TP ERRORED IN BRAKING AND ACCELERATED AND COLLIDED WITH INSD S REAR BUMPER. INSD UNSURE IF PUSHED INTO FRONT VEH. ;Report 0002 INSD WAS S/B IN L/TURN LANE, TO TURN E/B ON MACKENZIE. TP WAS AHEAD OF INSD, SAME LANE, ALSO WAITING TO TURN L ONTO MACKENZIE. INSD'S FOOT SLIPPED OFF BRAKE, REAR ENDED TP.
007541224	2	12/04/2009	1.00	1630	Sunda	2009	APRIL	15 01-18 00	2	CASUALTY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD ON HWY #1 IN LANE 1/2. TP VEH IN LANE 1/2 AHEAD OF INSD. TP HAD TO STOP SUDDENLY AND INSD REAR ENDED TP. ;Report 0002 INSD N/B ON HWY 1 IN LN 1/2. TP BEHIND INSD. INSD BRAKED BECAUSE THERE WAS AN OBJECT ON THE ROADWAY AHEAD. TP R/ENDED INSD VEH. TP FRONT END STRUCK INSD REAR END.
007691884	2	02/08/2009	1.00	1040	Sunda	2009	AUGUST	9 01-12 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS E/B ON HWY 1 TO MAKE LEFT TURN ONTO MCKENZIE AVE - TP E/B DIRECTLY BEHD INS - INS WAS STOPPED AT RED LGHT WHEN REAR ENDED BY TP - INS WAS NOT PUSHED INTO ANY OTHER VEH ;Report 0002 TAKEN FROM XFILE - INS E/B HWY 1. TP DIRECTLY AHEAD OF INS. TP STOPPED AT RED LIGHT. INS DID NOT STOP & R/ENDED TP. ;
007817820	2	15/11/2009	1.00	1145	Sunda	2009	NOVEMBER	9 01-12 00	2	CASUALTY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS ?/B HWY IN 2/2. TP VEH ?/B HWY IN 2/2 AHEAD OF INS VEH. TP SLOWING FOR YELLOW LIGHT. INS UNABLE TO STOP IN TIME. INS R/E TP VEH. FRT OF INS VEH STRK REAR OF TP VEH. ;Report 0002 INSD SB ON TRANS CDA HWY. INSD WAS STOPPING FOR YELLOW AND TP R/ENDED INSD.
007918305	1	07/02/2010	1.00	1300	Sunda	2010	FEBRUARY	12 01-15 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 MVA- INSD SB ON HWY 1 IN LN 2/4. TP IN LN 3/4. L/TURN LANE LIGHT WENT YELLOW. TP IN THIS LANE COULDN'T STOP IN TIME FOR VEH INFRONT & WENT INTO LN 2/4 & INSD HIT TP'S R/REAR BUMPER WITH INSD F/END ;

Prepared By Marina Efimova
ICBC, Business Insights Road Safety

007971347	2	11/04/2010	1.00	1600	Sunda	2010	APRIL	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INSD DRVR ?/B ON HWY 1 IN LANE 1/2, ATTEMPTED TO CHANGE TO LANE 2/2 DUE TO SLOW MOVING VEH IN 1/2. TP ON HWY 1 IN LANE 2/2, STOPPED AT AMBER LITE, INSD DID NOT HAVE TIME TO STOP - INSD FRT END HIT TP REAR ;Report 0002 ON HWY 1, L2/2. STOPPED. TP BEHIND CHANGED FROM L1/2 AND R/E INSD. ;
008156391	2	08/08/2010	1.00	1710	Sunda	2010	AUGUST	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS S/B ON HWY 1 IN LN 2/2. TP STOPPED AT LIGHT AHEAD. INS DIDN'T STOP IN TIME AND REAR ENDED TP VEH. INS FRONT BUMPER HIT TP REAR BUMPER. TP NOT PUSHED INTO ANYTHING. ;Report 0002 INS S/B ISLAND HWY -STOPPED -TP REAR ENDED INS VEH -
008224915	2	10/10/2010	1.00	1330	Sunda	2010	OCTOBER	12 01-15 00	1	CASUALTY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS GOING STRAIGHT. TP AHEAD STPD SUDDENLY. INS F/BUMPER HIT TP R/BUMPER. NO POLICE/EMERG ;Report 0002 INS W/B HWY 1 LN 1/2 & INS BRAKING FOR TRAFFIC WHEN T/P F/E COLL WITH INS R/E - INS NOT PUSHED INTO ANYONE
008276417	2	05/12/2010	1.00	1105	Sunda	2010	DECEMBER	9 01-12 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD STOPPED S/B AT RED LITE IN L 4/4 AT I/S OF 1 HWY & MCKENZIE AVE. NO LANE CHANGE PRIOR TO IMPACT. TP BEHIND & DIDN'T STOP IN TIME. TP F/BUMPER HIT INSD R/BUMPER-NOT PUSHED INTO ANYONE. ;Report 0002 INSD TRAVELLING ON HWY 1 IN LEFT TURN LANE. S/B....TRAFFIC WAS ALREADY STOPPED. INSD CAME FROM HWY AND BRAKED TO STOP BUT SLID ON BLACK ICE. INSD'S FRONT BUMPER STRUCK TP'S REAR BUMPER. TP IN L TURN LANE ;
005985202	3	10/04/2006	2.00	1200	Monda	2006	APRIL	9 01-12 00	6	CASUALTY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS S/B ON HWY 1 STOPPED AT THE RED LIGHT. TP XXXXXX BEHIND INS REARENDED INS PUSHING HER INTO TP2(PLATE U/K). ;Report 0002 INSD S/B ON PATRICIA BAY HWY IN LANE 1/4, STOPPED IN TRAFFIC AT RED LIGHT. TP2 S/B ON HWY STOPPED BEHIND INSD. TP1 BEHIND TP2, TP1 R/ENDED TP2 & PUSHED TP2 INTO INSD. INSD HEARD 2 IMPACTS BUT FELT ONE IMPACT. ;Report 0003 INSD REAR ENDED TP XXXXXX PUSHING TP INTO TP2 XXXXXX . INSD GIVEN 24 HOUR SUSPENSION. ;
006092385	2	26/06/2006	2.00	0845	Monda	2006	JUNE	6 01-9 00	1	CASUALTY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS E/B ON HWY 1 IN LN 2/2, STOPPED AT RED LIGHT, TP DIRECTLY BEHIND R/E INS. INS WAS NOT PUSHED AHEAD INTO OTHER VEHS. INS DMG R/BUMPER. TP HAD NO VISIBLE DMG. ;Report 0002 BOTH VEHS S/B HWY 1 LN 2/4. TP DIRECTLY INFRONT STPD IN TRAFFIC. INSD SLIGHTLY BUMPED TP REAR BUMPER.
006200855	5	10/04/2006	2.00	1730	Monda	2006	APRIL	15 01-18 00	6	CASUALTY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD S/B ON HWY 1, LN 2/4 STOPPED AT RED LIGHT WHEN HE WAS REARENDED BY TP AND PUSHED AHEAD INTO VEH AHEAD - 4-5 VEHICLES INVOLVED ;Report 0002 INS WAS S/B ON HWY 1 2/4. TP2 WAS INFRNT OF INS, TP3 XXXXXX WAS BEHIND INS. LITE WAS GREEN COMING AROUND BEND. INS SLOWED FOR TRFC. INS STPD AND INS WAS R/E. INS FELT ONE IMPACT. INS WAS PUSHED INTO TP2 ;Report 0003 INS DRVR S/B ON TRANS-CANADA HWY IN LANE 2/4. T/P 1, 2, 3,4 BEHIND INSD. INSD DRVR STOPPED IN TRAFFIC, TP1 REARENDED TP2 WHO WAS PUSHED INTO TP3 WHO WAS PUSHED INTO TP4 WHO WAS PUSHED INTO INSD. ;Report 0004 UNKNOWN DETAILS - VEH STALLED ON HWY..... INSD VEH S?/B ON HWY. RO UNSURE OF DETAILS. T/P REAR ENDED INSD, WHO THEN REAR END TP2 INFRONT. POLICE HAVE WITNESS INFO. RO THINKS ANOTHER 4 VEH ALSO INVOLVED ;Report 0005 INS S/B ON HWY 1 L2/4. TRAFFIC HEAVY. INS R/ENDED TP XXXXXX THEN TP HIT TP2 THEN TP2 HIT TP3 THEN TP3 HIT TP4
006255671	1	09/10/2006	2.00	1555	Monda	2006	OCTOBER	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INS E/B HWY. TP DIRECTLY IN FRONT OF INS. TP SLAMMED ON BRAKES SUDDENLY. INS DIDN'T STOP IN TIME. INS F/E HIT TP R/E. TP NOT PUSHED INTO VEH AHEAD. ;
006908667	1	28/01/2008	2.00	1100	Monda	2008	JANUARY	9 01-12 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD S/B IN L2/4. INS APPROACHING R/LITE. TP IN FRONT OF INSD. INSD PUT HEAD DOWN FOR A SECOND & R/E TP. INSD TICKETED FOR NOT DRIVING SLOWLY?
006917472	1	07/01/2008	2.00	0845	Monda	2008	JANUARY	6 01-9 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS S/B HIGHWAY 1, VEH AHEAD STOPPED SUDDENLY SO INS BRAKED. TP DIRECTLY BEHIND INS, TP R/E INS. INS NOT PUSHED INTO VEH AHEAD. NO WITNESS/POLICE
007185061	1	18/08/2008	2.00	1250	Monda	2008	AUGUST	12 01-15 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INSD STOPPED AT RED LIGHT AND WAS REARENDED BY TP VEH ;Report 0002 INSD ?/B ON HWY 1, TP IN FRONT, TP2 IN FRONT OF TP. TRAFFIC STOPPED STOPPED. INSD R/ENDED TP AND PUSHED INTO TP2. ;
007452228	2	09/02/2009	2.00	0915	Monda	2009	FEBRUARY	9 01-12 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS E/B LN 1/3 ON HWY 1 . INS STP'D AT RED LIGHT. TP DIRECTLY BEHIND INS. LGHT TRN 'D GREEN. TP F/MID/BMPR HIT INS REAR/MID/BMPR. NO WIT NO POLICE ;Report 0002 BOTH VEHS S/B ON HWY 1 IN SAME LANE. TP STOPPED WHEN INS R/E TP VEH. TP NOT PUSHED INTO ANY OTHER VEHS. NO WIT & NO POL.
007877829	3	25/01/2010	2.00	1812	Monda	2010	JANUARY	18 01-21 00	2	CASUALTY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS S/B LN 4/4 SLOWED FOR TRAFFIC AHEAD. TP1 XXXXXX BEHIND INSTP2 XXXXXX BEHIND TP1. INS SAYS TP1 XXXXXX R/E INS THEN TP2 XXXXXX R/E TP1. INS FELT ONE BUMP FROM BEHIND. ;Report 0002 INSD PREPARING TO MAKE L/T ONTO MCKENZIE AT S/S. TP2 (U/K) IN FRONT OF INSD, TP XXXXXX BEHIND. INSD TOOK FOOT OFF BRAKE, TP FROM BEHIND PUSHED INSD INTO TP2 HITCH IN FRONT. ;Report 0003 COLL? INS S/B LN 4/4. TP1 XXXXXX DIR IN FRT. TP2 XXXXXX IN FRT OF TP1. INS REAR ENDED TP1 AND PUSHED TP1 INTO TP2. INS TICKETED FOR FOLLOWING TOO CLOSELY/UNDUE ATTENTION. ;
008001806	2	12/04/2010	2.00	1400	Monda	2010	APRIL	12 01-15 00	1	CASUALTY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS S/B HWY 1 L2/3. TP DIRECTLY AHEAD OF INS. TP STPD AT R/LITE. INS FOOT SLIPPED OFF BRAKE ONTO GAS PEDAL. INS R/E TP. TP WAS NOT PUSHED INTO ANYONE ELSE. NO POLICE. NO WITNESSES. ;Report 0002 INSD E/B ON HWY 1 IN LN 2/4. STOPPED BEHIND TRAFFIC AT RED LIGHT. TP HAD BEEN STOPPED BEHIND INSD HE BELIEVES AND TP HIT GAS INSTEAD OF BRAKE AND REARENDED INSUREDS VEH. INSD NOT PUSHED INTO ANYONE.
008280926	2	22/11/2010	2.00	1100	Monda	2010	NOVEMBER	9 01-12 00	1	CASUALTY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS E/B HWY 1 . TP E/B HWY 1. INS SLIDE ON ICE. WEB REPORT. DETAILS NOT CLEAR. ;Report 0002 INSD E/B HWY 1 STOPPED IN LINE OF TRAFFIC AT R/LIGHT IN L/TRN LANE. STOPPED FOR APPROX 20-30SECS WHEN R/ENDED INSD. INSD VEH PUSHED FORWARD APPRX 5 FEET BUT NOT INTO VEH AHEAD.

008303227	2	20/12/2010	2.00	1100	Monda	2010	DECEMBER	9 01-12 00	1	CASUALTY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD S/B ON HWY 17 IN L1/2 AND STOPPED IN TRAFFIC. TP DIRECTLY BEHIND R/ENDED INSD. TP'S F/END AND HIT INSD'S R/END. ;Report 0002 INS S/B ON HWY 1 IN LN 1/3 - TP S/B IN FRONT OF INS - TP STOPPED FOR TRAFFIC - INS REAR ENDED TP - TP WAS NOT PUSHED INTO ANY OTHER VEH ;
005996714	1	18/04/2006	3.00	1540	Tuesa	2006	APRIL	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS N/B IN S/S. T/P AHEAD OF INS. ALL STOP'D AT R/LIGHT. WHEN LIGHT TURNED GRN, INS MOVED FWD AND T/P STOP'D IN TRAFFIC. INS FAILED TO STOP IN TIME AND R/ENDED T/P. NO OTHER VEH'S INVOLVED. NO INJ.
006120921	2	11/07/2006	3.00	0830	Tuesa	2006	JULY	6 01-9 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD MADE R/TURN ONTO MCKENZIE, STOPPED FOR TRAFFIC. TP DIRECTLY BEHIND R/ENDED INSD. NO WITNESSES. ;Report 0002 INS TURNING ONTO MACKENZIE, TP AHEAD OF INS. BOTH STOPPED FOR TRAFFIC. INS MOVED FORWARD AND BUMPED TPS R/BUMPER.
006283834	2	21/11/2006	3.00	1600	Tuesa	2006	NOVEMBER	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INSD S/B 1 HWY L2/2 STOPPED FOR R/L. TP DIR BEH R/E INSD. ;Report 0002 INS ON ISLAND HWY TRAVELLING SOUTH .. TP AHEAD OF INS DRV STOPPED SUDDENLY AND INS RE TP
006617199	2	26/06/2007	3.00	0830	Tuesa	2007	JUNE	6 01-9 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS S/B TRANS-CANADA HWY LN 3/4. TP DIRECTLY BEHIND INS. INS STOPPED AT RED LIGHT. TP R/E INS AND WAS PUSHED INTO TP2. NO WITNESSES. ;Report 0002 INS STOPPED AT LIGHT L3/3. TP DIRECTLY AHEAD OF INS. TP STARTED TO GO. TP BREAKED SUDDENLY. INS FRONT BUMPER STRUCK TP REAR BUMPER. TP SAYS HE WAS PUSHED INTO TP2. TP2 DID NOT STOP.
007086951	2	10/06/2008	3.00	1415	Tuesa	2008	JUNE	12 01-15 00	1	CASUALTY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS ?/B TRANS CDA STOPPED FOR RED LITE. TP DIRECTLY BEHIND INS. TP FRONT BUMPER COLLIDED WITH INS REAR BUMPER ;Report 0002 INS ON TRAN-CANADA HWY. TP DIRECTLY IN FRONT OF INS. TP STOPPED. INS R'END TP.
007458043	2	03/02/2009	3.00	0717	Tuesa	2009	FEBRUARY	6 01-9 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS S/B HWY 1, LN 1/2. TP DIRECTLY IN FRONT OF INS. HEAVY TRAFFIC. INS ATTMPT CHANGE INTO LN 2/2. TRAFFIC STOPPED. INS VEH R FRONT HIT TP VEH LEFT REAR. ;Report 0002 INS EB TRAN-CANADA HWY L2/3. TP VEH EB BEHIND. STOP & GO TRAFFIC. INS STOPPED. TP R/E INS. TP F/E HIT INS R/E. NO OTHER VEH INVOLVED.
007675855	2	11/08/2009	3.00	0715	Tuesa	2009	AUGUST	6 01-9 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD S/B L4/4 ON HWY 1 WAITING TO TURN L. TP S/B L4/4 ON HWY 1 DIRECTLY INFRNT OF INSD. INSD LOOKED AWAY AND FOOT NOT ON BRAKES HARD ENOUGH. INSD ROLLED FWD AND INSD'S F/BMPER HIT TP'S R/BMPER. ;Report 0002 INS SB ON HWY 1 STPD AT RED LIGHT. TP DIRECTLY BEHIND REAR ENDED INS REAR BUMPER ;
007686190	2	28/07/2009	3.00	1100	Tuesa	2009	JULY	9 01-12 00	1	CASUALTY	REAR END	HWY 1	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INS ?/B HWY 1 MAKING R/TURN ONTO ADMIRALS DIRECTLY BEHIND TP. TP STARTED TO MAKE R/TURN ON RED THEN STOPPED. INS LOOKING LEFT FOR ONCOMING TRAFFIC, INS SAW TP HAD NOT GONE, BRAKED & TAPPED TP REAR BUMPER ;Report 0002 INS ?/B TRANS-CANADA HWY IN L1/4 STPD AT R/LITE & WHEN THE LIGHT TURN GREEN INS STILL STPD BUT WAS GETTING READY TO MOVE FORWARD. TP BEHIND INS. TP R/E INS. INS NOT PUSHED INTO ANOTHER VEH. ;
007855236	2	15/12/2009	3.00	1830	Tuesa	2009	DECEMBER	18 01-21 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSURED S/B ON 1 IN L2/4. TP IN FRONT OF INSURED. TP STOPPED FOR A RED LIGHT. INSURED R/E TP. ;Report 0002 INSD WAS ON HWY 1 GOING S/B IN LN3/5 STOPPED AT RED LIGHT. TP WAS DIRECTLY BEHIND INSD. TP R/ENDED INSD. NOT PUSHED INTO ANYTHING.
007885275	2	12/01/2010	3.00	1430	Tuesa	2010	JANUARY	12 01-15 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD S/B ON #1 HWY LN 2/4 STOPPED AT R/LIGHT. TP DIRECTLY BEHIND INSD. TP'S FRONT BUMPER HIT INSD S REAR/BUMPER. TP STOPPED AT FIRST AND THEN LURCHED FORWARD. INSD NOT PUSHED. ;Report 0002 INS ?/B ON MCKENZIE IN 1/4. TP AHEAD OF INS. INS & TP WERE STOPPED FOR RED LIGHT. INS ADJUSTED HER SEAT & ROLLED FORWARD & R/ENDED TP.
007980232	2	13/04/2010	3.00	1400	Tuesa	2010	APRIL	12 01-15 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD ON HWY 1 LN 3/4 STOPPED AT LIGHT. TP DIRECTLY BEHIND REARENDED. INSD NOT PUSHED INTO ANYONE. NO LANE CHANGE. ;Report 0002 FILE OPENED DUE TO NO RESPONSE. TP HWY 1 LN 3/4 STPD @ LITE. INS DIRECTLY BEHIND TP. INS R/E TP. TP NOT PUSHED INTO ANY VEHS AHEAD. NO LANE CHANGE.
008109760	2	27/07/2010	3.00	1205	Tuesa	2010	JULY	12 01-15 00	1	CASUALTY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS S/B TRANS CAN HWY FAR LEFT L/T LANE, TP IN FRONT OF INS. TP STOPPED SUDDENLY AND INS COULD NOT STOP AND R/ENDED TP. ;Report 0002 INS S/B ON HWY 1 IN L/TURN LANE, INS STOPPED AS LITE TURNED AMBER. INS STOPPED BEFORE OF STOPLINE. TP VEH DIRECLTY BEHIND INS. TP PULLING A BOAT. TP REAR ENDED INS. NO POL/FIRE AMB NO WITNESS
008244197	2	19/10/2010	3.00	1030	Tuesa	2010	OCTOBER	9 01-12 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 AS INSD WAS S/B TCH L 1/4, DIRECTLY AHEAD OF TP, WHEN INSD STOPPED 'QUICKLY' DUE TO THE VEH AHEAD OF INSD STOPPING QUICKLY, TP ATTEMPTED TO STOP BUT SLID INTO INSD S R/END. NO POL/WTN. ;Report 0002 INS REAR ENDED TP. INS S/B 1 HWY 1/4. TP AHEAD OF INSURED. TRAFFIC STOPPED. INS F/B HIT TP REAR BUMPER.
008296000	2	28/12/2010	3.00	1230	Tuesa	2010	DECEMBER	12 01-15 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS S/B ON HWY 1 IN 2/3, A VEH AHEAD SLOWED, INS BRAKED, TP VEH BEHIND INS, TPS F/E COLL WITH INS R/E. ;Report 0002 INS S/B ON HWY 1 IN LN 1/4 - TP S/B DIRECTLY IN FRONT OF INS - BOTH INS & TP WERE STOPPED FOR RED LGHT - INS FOOT SLIPPED OFF BRAKE & ROLLED INTO TP REAR BUMPER
005948401	2	29/03/2006	4.00	0845	Wedn	2006	MARCH	6 01-9 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INS EB HWY 1, L2/2. TP EB HWY 1, L2/2, DIR BEHIND INS. INS WAS STPD IN TRAFFIC WHEN TP R/ENDED INS. TP F/BUMP MET INS R/BUMP. ;Report 0002 INS EB STOP AND GO TRAFFIC, TP DIRECTLY AHEAD OF INS, INS DID NOT REALIZE HE BUMPED TP REAR BUMPER, TP MOTIONED FOR INS TO PULL OVER, INS NOT DISPUTING JUST DID NOT FEEL IMPACT AS HIS TRUCK IS LARGE.
006154049	2	16/08/2006	4.00	1800	Wedn	2006	AUGUST	15 01-18 00	1	CASUALTY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS SB STOPPED AT RED LIGHT, TP DIRECTLY BEHIND INS, TP REAR ENDED INS. ;Report 0002 INSD S/B ON HWY 1/3. TP INFRONT OF INSD. TP SLOWED FOR TRAFFIC. INSD R/E TP.
006283754	2	25/10/2006	4.00	1730	Wedn	2006	OCTOBER	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INSD & T/P W/B ON HIGHWAY. T/P WAS INFRONT OF INSD. T/P STOPPED INFRONT OF INSD. INSD SAID HE STOPPED. ISND SAID HE NEVER HIT T/P. ;Report 0002 INSD WB LANE 1/? STPD IN TRAFFIC FOR R/LITE. TP WAS ALSO STPD BEHIND INSD. TP R/E INSD. TP S SPARE TIRE IN FRT STRUCK INSD'S R/E.

Prepared By Marina Efimova
ICBC, Business Insights Road Safety

006408495	2	10/01/2007	4.00	2030	Wedn	2007	JANUARY	18 01-21 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD IN L1/2 ON HWY 1 STOPPED FOR RED LITE - TP CAME BEHIND AND REAR ENDED INSD. ;Report 0002 COLL? INSD NB HWY1. TP DIR IN FRONT. INT LITE AHEAD CHANGED TO RED. INSD ATTEMPTED TO STOP BUT DUE TO SNOW SLID AND R/E TP VEH. ;
006601221	2	20/06/2007	4.00	0810	Wedn	2007	JUNE	6 01-9 00	1	CASUALTY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS DRVR S/B ON HWY 1, LN 1/2 (CURB). TP DIRECTLY BEHIND INS. IN TRAFFIC TRAVELLING APPROX 30KPH. TP ATTEMPTING LANE CHANGE, R/F/BUMPER HIT INS L/R/BUMPER. INS WAS FORCED AHEAD. DIDN'T HIT UNKN TP VEH. ;Report 0002 MVA - INSD ?/B ON HWY 1 L1/2 ATTEMPTING TO CHANGE TO L2/2. TP VEH WAS IN FRONT OF INSD L1/2. TP STPD AS VEH IN FRONT MERGING. INSD DID NOT SEE THIS. INSD R/E TP VEH. TP NOT PUSHED INTO OTHER VEHS. NO WTNS. NO ;
006669070	1	15/08/2007	4.00	1640	Wedn	2007	AUGUST	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS ?/B ON HWY 17 STPD AT TRAFFIC LIGHT. TP ?/B BEHIND SAME LANE R/E INS. ;Report 0002 INS S/B ON HWY 1 IN LANE 1OF3. TP S/B ON HWY 1, IN LN 1OF3, AHEAD OF INS. INS REAR ENDED TP.
006693011	2	29/08/2007	4.00	1235	Wedn	2007	AUGUST	12 01-15 00	1	CASUALTY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD W/B HWY 1 L2/3 SLOWING DOWN,TP DIRECTLY BEHIND INSD. TP NEVER STOPPED AND TP RE INSD.INSD NOT PUSHED INTO ANY OTHER VEH ;Report 0002 INSD W/B L1/2 HWY1. TP AHEAD OF INSD ON SAME. TP MADE SUDDEN STOP. INSD R/E TP. INSD FRONT L/P, F/BMPR & R/F SIGNAL MET TP R/BMPR.
007146720	2	23/07/2008	4.00	1645	Wedn	2008	JULY	15 01-18 00	2	CASUALTY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 PASSENGER IN FRT PASS SEAT, INJURED IN MVA, VEH HE WAS IN R/E TP VEH-NOT SURE NAME OF HIGHWAY - COULD BE TRANS CANADA OR ISLAND HIGHWAY ;Report 0002 INSD ?/B ON HWY 1, TP IN FRONT, INSD R/ENDED TP, NOT PUSHED INTO ANYONE. ;Report 0003 INSD SB HWY 1 L2/2. TP SB HWY 1 L2/2 BEHIND INSD. VEH IN FRONT OF INSD STPD SUDDENLY AS DID INSD. TP REARENDED INSD VEH. DMGE TO INSD'S REAR BUMPER AND TAILGATE. DMGE TO TP'S F/END.
007185008	2	06/08/2008	4.00	1700	Wedn	2008	AUGUST	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 COLL. INSD DRVG ON HWY 1 IN HEAVY TRAFFIC. INSD HAD TO STP FOR TRAFFIC. INSD WAS R/E. INSD WASN T PUSHED INTO VEH AHEAD. ;Report 0002 INS S/B HWY 1 LN 2/2 & T/P TRAVELLING AHEAD OF INS - INS SAW FLASHING LIGHTS (AMBULANCE?) INS DID RIGHT SHOULDER CHECK TO PULL OVER & WHILE DOING THAT T/P BRAKED & INS F/E SLID INTO T/P - T/P NOT PUSHED INTO
007555263	2	06/05/2009	4.00	1510	Wedn	2009	MAY	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS N/B 1/2 HWY1 IN STOP & GO TRAFFIC, TP R/E INS, INS REAR BUMPER & TP FRONT BUMPER, INS NOT PUSHED INTO ANYTHING, NO WITNESS/EMERG VEH ;Report 0002 INS N/B ON HWY 1 IN LN 2/2. TP AHEAD OF INS. BUMPER TO BUMPER TRAFFIC. TP STPD INS DID NOT AND R/E TP. F/BPR TO R/BPR. NO WITN. NO POLICE. ;
007558881	2	06/05/2009	4.00	1045	Wedn	2009	MAY	9 01-12 00	1	CASUALTY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 MVA - INS & TP ?B ON #1 HWY IN L 3 OF 5? TRAFFIC MOVING SLOWLY. INS ROLLED INTO TP R/E BUMPER WITH F/E BUMPER. NO OTHER VEHICLES INVOLVED. ;Report 0002 INS S/B ON HWY 1 IN LANE 2/4. TP DIRECTLY BEHIND INSD IN THE SAME LANE. INS STOPPED AT RED LIGHT. LIGHT TURNED GREEN. VEH IN FRONT OF INS STARTED TO GO. INS NOT YET MOVED FWD. INS F/B HIT TP R/BUMPER ;
007596765	2	24/06/2009	4.00	0920	Wedn	2009	JUNE	9 01-12 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD S/B HIGHWAY 1 FAR LEFT LANE; TP DIRECTLY BEHIND INSD; TP R/ENDED INSD; INSD KEPT DRIVING QUITE A BIT BEFORE MAKING L/TURN @ MCKENZIE & THEN R/TURN @ ARLENE PLACE; TP DIDN'T FOLLOW; NO EMER VEHS ;Report 0002 H&R SUSPECT - INS S/B HWY 1 FAR LEFT LANE. TP DIRECTLY INFRONT OF INS. INS AT A STOP & THEN SLIGHTLY MOVED FRWD & TAPPED TP. INS & TP DIDN'T SPEAK TO EACHOTHER & TP DIDN'T SIGNAL FOR INS TO PULL OVER.
007685529	2	26/08/2009	4.00	0740	Wedn	2009	AUGUST	6 01-9 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 COLL?INSD S/B ON TRANSCANADA. TP DIRECTLY INFRONT. INSD R/E TP.INSD L/F CORNER BUMPER HIT TP R/R CORNER BUMPER. NEITHER PUSHED INTO ANY OTHER OBJECT OR VEHICLE. NO POLICE/NO EMERGENCY. ;Report 0002 INS SB ON HWY 1. TP DIRECTLY BEHIND REAR ENDED INS REAR BUMPER
007757862	2	21/10/2009	4.00	1400	Wedn	2009	OCTOBER	12 01-15 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS STPD ?S/B L2/2 HWY 1. INS STPD FOR STPD TRAFFIC AND R/LITE. TP DID NOT STOP AND R/ENDED INS. INS WAS STPD FOR SEVERAL SECONDS ALREADY PRIOR TO IMPACT. NO OTHER VEH'S INVOLVED. ;Report 0002 INS AND TP ON HWY 1 STPNG FOR TRAFFIC. INS DIDN'T STOP COMPLETELY AND VEH ROLLED INTO TP STPD VEH REAR BMPR. TP HAD MINIMAL MARK ON L/REAR OF CTR BMPR.
008038709	2	12/05/2010	4.00	1700	Wedn	2010	MAY	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INS N/B ON HWY 1 IN LANE 2/2, T/P WAS DIRECTLY BEHIND INS, TP STOPPED IN TRAFFIC, TP FAILED TO STOP & R/E INS. ;Report 0002 INSD WAS STOPPED AT RED LIGHT ON HWY 1 STOPPED AT RED LIGHT BEHIND TRAFFIC. TP VEH DIRECTLY AHEAD OF INSD. INSD WAS DISTRACTED AND FOOT SLIPPED OFF BRAKE AND SHE TAPPED TP R/BUMPER ;
008075526	2	30/06/2010	4.00	1540	Wedn	2010	JUNE	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS N/B ON HWY 1. TP BEHIND INS. INS STOPPED FOR TRAFFIC AND TP R/ENDED INS. ;Report 0002 INSD N/B HWY 1 L1/2. TP DIRECTLY INFRONT OF INSD. STOP/GO TRAFFIC. INSD R/E TP.
005913610	2	02/02/2006	5.00	1100	Thurs	2006	FEBRUARY	9 01-12 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS ?/B HWY 1 STP. AT THE R/LIGHT. TP DIRECTLY BEHIND THE INS. TP FAILED TO STOP AND R/E INS VEHICLE. ;Report 0002 INS S/B ON MCKENZIE ST, LN2/2. INS WAS STOPPED REACHING FOR HEADACHE PILL AS STEPPING ON GAS AND R/ENDED TP VEH. ;
005921736	2	23/02/2006	5.00	0850	Thurs	2006	FEBRUARY	6 01-9 00	2	CASUALTY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD & R/P ?/B ON HIGHWAY. T/P INFRONT OF INSD. T/P STOPPED FOR TRAFFIC. INSD R/E T/P. ;Report 0002 INS N/B ON HWY 1 IN L2/2, TP N/B ON HWY 1 IN L2/2 BEHIND INS, INS STPD FOR TRAFFIC AHEAD, TP R/END INS. WITNESS. NO POLICE.
006021770	3	25/05/2006	5.00	1610	Thurs	2006	MAY	15 01-18 00	2	CASUALTY	REAR END	HWY 1	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INS S/B TRANS CAN HWY L2/2, TP XXXXXX BEHIND INS, TP2 XXXXXX IN FRONT OF INS. INS STOPPING BEHIND TP2. TP FAILED TO STOP AND STRUCK INS R/BUMPER PUSHING INS INTO TP2. ;Report 0002 INS S/B ON TRANS CANADA HWY. INS MOVED INTO THE RIGHT LANE AND HIT TP IN FRONT OF HIM PUSHING TP XXXXXX INTO TP2 XXXXXX . ;Report 0003 INSD S/B HWY 1, LN 2/2; TP1 XXXXXX WAS BEHIND INSD; TP XXXXXX WAS VEH.#3; INSD AND TP1 STOPPED IN TRFC; TP R/E TP1, PUSHING THEM INTO INSURED

006126291	2	27/07/2006	5.00	1430	Thurs	2006	JULY	12 01-15 00	2	CASUALTY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS S/B IN LANE 2/4 ON HWY STOPPED AT RED LIGHT. TP2 DIRECTLY BEHIND INS. TP BEHIND TP 2. TP REAR ENDED TP2 WHO WAS PUSHED INTO INS. ;Report 0002 INS ?B HWY 1 L1/1 STOPPED @ S/SIGN. TP2 XXXXXX DIR INFRONT OF INS. TP XXXXXX DIR BEHIND INS. TP R/E INS, INS PUSHED INTO TP2. TP F/BUMPER COLL WITH INS R/BUMPER. INS F/BUMPER COLL WITH TP2 R/BUMPER ;Report 0003 INSD E/B ON HWY 1 L2/4 - STPD @RED LIGHT. TP & TP2 STPD AHEAD OF INSD. L/TURN GREEN LIGHT WENT BESIDE INSD & INSD JUST STARTED TO ACCELERATE & BUMPED TP , INSD R/END TP, TP PUSHED TP2
006165161	2	10/08/2006	5.00	2235	Thurs	2006	AUGUST	21 01-24 00	2	CASUALTY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS S/B ON HWY 1 IN LANE 1/2, T/P WAS DIRECTLY BEHIND INS, INS STOPPED AT STOP LIGHT, TP FAILED TO STOP & R/E INS ;Report 0002 APPEARS INS REARENDED TP INS IN HOSPITAL. ;
006245961	2	05/10/2006	5.00	1730	Thurs	2006	OCTOBER	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD N/B HWY 1 L2/2. TP DIRECTLY BEHIND INSD. BOTH VEHS MOVING SLOWLY W/FLOW OF TRAFFIC. TP ACCELERATED & TP F/BUMPER HIT INSD REAR BUMPER. INSD NOT PUSHED INTO VEH AHEAD. ;Report 0002 INSD AND TP WERE BOTH STOPPED AT A RED LIGHT ON HWY 1 L2/2. INSD BECAME DISTRACTED WITH GRANDCHILDREN IN CAR AND HIS FOOT CAME OFF BRAKE. INSD FRT BMPR ROLLED INTO TP'S REAR BMPR
006304386	2	23/11/2006	5.00	1745	Thurs	2006	NOVEMBER	15 01-18 00	1	CASUALTY	REAR END	HWY 1	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INSD ?/B HWY 1 AT A FULL STOP AT RED LIGHT, TP REAR ENDED INSD, INSD WAS ABOUT TO PULL OVER TO THE SIDE & FELT A 2ND IMPACT, TP HAD R/ENDED INSD A 2ND TIME, THERE WAS NO OTHER VEH BEHIND TP ;Report 0002 INSD ON HWY 1. TP DIRECTLY IN FRONT. INSD REAR ENDED TP VEHICLE
006436586	2	01/02/2007	5.00	1530	Thurs	2007	FEBRUARY	15 01-18 00	1	CASUALTY	REAR END	HWY 1	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INS WAS STOPPED AT RED LIGHT IN LEFT TURN LANE IN HWY 17 IN LANE 4/4. TP TRAVELLING IN LANE 4/4 ON HWY 17 DIRECTLY BEHIND INS, REAR ENDED INS. TP DID NOT EXCHANGE INFO AND BLAMED INS FOR ACCIDENT. NO WITNESS. ;Report 0002 INSD ?/B ON 1 HWY STOPPED IN L3/3(L/T LANE ONLY), TP DIRECTLY IN FRT OF INSD. TP STARTED TO REVERSE, INSD HONKED, TP MIDDLE REAR BUMPER STRUCK INSD FRT LIC PLATE. NO WITNESS.
006603919	2	07/06/2007	5.00	0750	Thurs	2007	JUNE	6 01-9 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INS SOUTHBOUND HIGHWAY 1. TRAFFIC SLOWING AND COMING TO A STOP. INS VEHICLE STOPPED. TP REAR ENDED INS. ;Report 0002 INS FOLLOWING TP ON HIGHWAY. TP STOPPED. INS R/E TP.
006713132	2	27/09/2007	5.00	1230	Thurs	2007	SEPTEMBER	12 01-15 00	1	CASUALTY	REAR END	HWY 1	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 COLL INSD S/B HWY 1, TP DIRECTLY IN FRONT APPROX 1 CAR LENGTH. INSD TOOK FOOT OFF BRAKE, ROLLED INTO TP. TP NOT PUSHED INTO ANY OTHER VEHS. ;Report 0002 INS S/B HIGHWAY 1, LANE 2/2, TP DIRECTLY BEHIND INS. INS STOPPED AT LIGHT, TP R/E INS.
007254753	2	25/09/2008	5.00	1620	Thurs	2008	SEPTEMBER	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD W/B ON HWY#1 STPD @ LITE,LITE TURNED GREEN,TRFC STILL STPD,TP R/E'D INSD. ;Report 0002 INS N/B ON HWY 1 STOPPED BEHIND TP AT LIGHT. TRAFFIC STARTED AHEAD & GLANCED DOWN FOR A MOMENT & RO BUMPED REAR OF TP VEH. ;
007327771	2	20/11/2008	5.00	1700	Thurs	2008	NOVEMBER	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INS WAS S/B RIGHT CURB LANE TRANS CAN HWY. TP WAS S/B SAME LANE DIR BEHIND INS. INS SLOWED DUE TO TRAFFIC. TP R/E'D INS. ;Report 0002 INSD E/B ON HWY L1/3 STPD IN LINE UP @RED LIGHT. TP STPD AHEAD. INSD LOOKED BEHIND HER @GRANDSON IN BACK SEAT. INSD ROLLED FWD INTO TP REAR BUMPER. NO VISIBLE DMG AT SCENE
007561637	3	07/05/2009	5.00	1630	Thurs	2009	MAY	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS STOPPED FOR TRAFFIC S/B #1 HWY LN 2/2. VEH INFRONT SUDDENLY STOPPED. TP DIRECTLY BEHIND FAILED TO STOP. 2 IMPACTS. TP F/E HIT INS R/E. THEN TP WAS R/E BY TP2 AND TP PUSHED BACK INTO INS. VEH NOV TOWED. ;Report 0002 INSD. SLOWING DOWN IN LINE OF TRAFFIC SB ON HWY. 1. TP VEH. BEHIND INSD. VEH. INSD. STOPPED - TP R/E INSD. PUSHING INSD. INTO VEH. INFRONT. ;Report 0003 INSD REAR ENDED VEH IN FRONT & THEN WAS REAR ENDED BY TP BEHIND
007794666	2	26/11/2009	5.00	1610	Thurs	2009	NOVEMBER	15 01-18 00	1	CASUALTY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS N/B IN MERGE LANE OF TRANS-CANADA HWY IN LN 1/3. TP DIRECTLY IN FRONT OF INS. INS FRONT BUMPER HIT TP REAR BUMPER. NO DMG TO INS VEH. ;Report 0002 COLLISION CLAIM - INSD DRVR W/B ON HWY 1, T/P ?/B ON MCKENZIE ATTEMPTING A R/TURN, T/P TURNED RIGHT BEHIND INSD, T/P ADV INSD SHE HAD ACCELERATED INSTEAD OF BRAKING, T/P R/E INSD VEH.
007822978	2	19/11/2009	5.00	0740	Thurs	2009	NOVEMBER	6 01-9 00	1	CASUALTY	REAR END	HWY 1	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 BOTH VEHS E/B HWY 1 LN 1/3. TP DIRECTLY INFRONT STPD IN TRAFFIC. INSD WAS LOOKING AT ANOTHER VEH IN THE NEXT LN. INSD R/ENDED TP. ;Report 0002 AS INSD WAS S/B TCH L 1/2, DIRECTLY AHEAD OF TP, WHEN INSD STOPPED DUE TO STOPPED TRAFFIC AHEAD, TP R/E INSD. NO POL/WTN. INSD'S NECK IS STIFF.
007966911	1	25/03/2010	5.00	0630	Thurs	2010	MARCH	6 01-9 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS S/B ON HWY 1 IN L2/2. TRAFFIC AHEAD STOPPED STOPPED SUDDENLY. RO R/ENDED TP & PUSHED TP INTO TP #2. ;
007998691	3	29/04/2010	5.00	1500	Thurs	2010	APRIL	12 01-15 00	5	CASUALTY	REAR END	HWY 1	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INS S/B TRANS-CAN HWY IN 2/2. TP S/B TRANS-CAN IN 2/2 BEHIND INS VEH. VEH'S AHEAD SLOWED TO A STOP. INS STOPPED. TP R/E INS VEH AND PUSHED INS AHEAD INTO REAR OF TP VEH 2 ;Report 0002 INS EB TRANS CANADA HWY L 2/2. TRAFFIC AHEAD HAD STOPPED. INS STOPPED. TP2 DIRECTLY BEHIND INS WAS R/ENDED BY TP DIRECTLY BEHIND AND PUSHED TP2 INTO INSD. 3 VEH R/END. ;Report 0003 3 VEH R/E INS EB HWY 1 L2/2. TP XXXXXX DIR INFRONT OF INS. TP2 XXXXXX . TRAFFIC STOPPED, INS R/E TP, TP PUSHED INTO TP2. INS F/BUMPER COLL WITH TP R/HATCH DR & BUMPER.
006201981	3	15/09/2006	6.00	0810	Friday	2006	SEPTEMBER	6 01-9 00	1	CASUALTY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD TRAV IN U/K DIRECTION ON TRANS CANADA HWY. TP AND TP2 WERE STOPPED IN FRONT OF INSD. INSD STRUCK TP ON THE REAR BUMPER TP PUSHED INTO THE REAR OF TP2. ;Report 0002 INSD, T/P#2 & T/P ?/B ON HIGHWAY. INSD STOPPED, T/P#2 STOPPED. T/P R/E T/P#2. T/P#2 GOT PUSHED INTO INSD. ;Report 0003 INS S/B ON HWY 1 2/2. TP2 XXXXXX WAS DIRECTLY INFRT OF INS. TP XXXXXX DIRECTLY BEHIND INS. TRAFFIC WAS HEAVY, MOVING SLOW. TP R/E INS WHILE MOVING, PUSHING INS INTO TP2. NO POLICE ATTENDED. NO WITNESSE

006311242	2	03/11/2006	6.00	1830	Friday	2006	NOVEMBER	18 01-21 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS ?B HWY 1 IN LANE 3/3, TP DIRECTLY BEHIND INS. INS STOPPED FOR LIGHT. TP REARENDED INS Report 0002 AS PER TP RPT INS R/E TP STPD @ LIGHT
006460484	2	23/03/2007	6.00	1623	Friday	2007	MARCH	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS ?/B HWY 1 L?/?. TP FOLLOWING INS. STP & GO TRAFFIC. INS STPD IN LINEUP. TP WAS ON CELLPHONE. TP R/E INS LIGHTLY. INS WAS NOT PUSHED INTO ANYONE ELSE. ;Report 0002 BOTH VEHS ?/B ON HWY. TP STPD IN TRAFFIC WHEN INS TAPPED TP R/BMPR. TP & INS GOT OUT, LOOKED AT DMG & THEN TP DROVE OFF.
006783822	3	19/10/2007	6.00	1130	Friday	2007	OCTOBER	9 01-12 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 WEB REPORT RO WAS STOPPED AT LITE IN LINE UP OF TRAFFIC. TP(XXXXXX US) R/E INSURED PUSHING RO INTO TP2 (XXXXXX K) ;Report 0002 MVA - INS S/B L 2/3 HWY 1 STOPPED AT RED LITE. LITE TURNED GREEN AND INS ABOUT TO GO FORWARD, TP CAME FROM BEHIND & NOT ABLE TO STOP & REARENDED TP2 STOPPED BEHIND INS, PUSHING TP2 INTO INS. ;Report 0003 INSD E/B ON HWY 1 IN L2/4. TP AND TP2 DIRECTLY IN FRONT. ALL STOPPED AT RED LIGHT. ALL STARTED MOVING FORWARD. TP R/ENDED TP2, THEN INSD R/ENDED TP. NO WITNESSES.
007000133	2	11/04/2008	6.00	1400	Friday	2008	APRIL	12 01-15 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INS W/B ON HWY 1 LANE 2OF3. TP W/B ON HWY 1 BEHIND INS. INS STOPPED FOR R/LITE. TP F/E COLL WITH INS R/E. Report 0002 INSD W/B STPD BEHIND TP AT R/LITE. INSD'S FOOT CAME OFF BRAKE & ROLLED INTO TP AHEAD. ;
007224235	2	19/09/2008	6.00	1630	Friday	2008	SEPTEMBER	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD WAITING TO MAKE L/T ONTO MCKENZIE, TP VEH IMMED BEHIND DID NOT STOP IN TIME, R/E INSD ;Report 0002 INS EXITING FROM HWY 1 TO EXIT AT MCKENZIE, TP DIRECTLY IN FRONT OF INS, INS R/E TP. NO WITNESS/POLICE
007314712	1	14/11/2008	6.00	0150	Friday	2008	NOVEMBER	0 01-3 00	1	CASUALTY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS N/B ON HWY 1 IN LN 2OF2. TP N/B ON HWY 1 IN LN 2OF2,BEHIND INS. THERE WAS A DEER IN INS LANE. INS BRAKED & HIT THE DEER WITH R/F BUMPER OF HIS VEH. INS WAS THEN REAR ENDED BY TP. ;Report 0002 INS N/B ON HWY 1 IN LN 2OF2. TP ON HWY 1 N/B IN LN 2OF2 , AHEAD OF INS. TP BREAKED & HIT A DEER THAT WAS IN HIS LANE. INS REAR ENDED TP.
007359749	2	05/12/2008	6.00	1045	Friday	2008	DECEMBER	9 01-12 00	1	CASUALTY	REAR END	HWY 1	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INSD NE/B MERGING FROM ADMIRALS ROAD ONTO HWY#1,INSD STPD TO YIELD TO TRFC,TP BEHIND R/E D INSD. ;Report 0002 INS U/K DIRECTION MERGING FROM ADMIRALS ONTO HWY 1 - TP IN FRONT OF INS - INS REAR ENDED TP .
007712933	1	18/09/2009	6.00	0900	Friday	2009	SEPTEMBER	6 01-9 00	2	CASUALTY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS S/B HWY 1 LN 3/3 & SLOWING FOR RED LIGHT & T/P ON CELL PHONE HIT INS R/E & PUSHED INS INTO T/P2
007956789	2	26/02/2010	6.00	1700	Friday	2010	FEBRUARY	15 01-18 00	1	CASUALTY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS MERGING ONTO TRANS-CANADA HWY - A VEH AHEAD OF INS HAD TO STOP SUDDENLY FOR A CYCLIST - INS THEN STOPPED - TP BEHIND DID NOT STOP AND TP R/E INS. INS WAS NOT PUSHED INTO VEH AHEAD. ;Report 0002 INSD MERGING FROM MCKENZIE TO HWY 1. TP AHEAD. ALL STARTED TO ACCELERATE. CYCLIST FLEW OUT. TP BRAKED. INSD REARENDED TP.
007986224	2	23/04/2010	6.00	1730	Friday	2010	APRIL	15 01-18 00	2	CASUALTY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD S/B ON HWY 1 IN LN 2/4. TP XXXXXX BEHIND INSD. TP2 INFRONT OF INSD. INSD WAS STOPPED & WAS REARENDED BY TP VEHICLE, INSD WAS PUSHED INTO TP2. ;Report 0002 INSD ?/B 1 HWY. INSD CHANGED LANES. INSD R/E TP XXXXXX . TP PUSHED INTO TP2.
008066744	2	18/06/2010	6.00	1600	Friday	2010	JUNE	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INSD S/B IN LEFT LANE ON HWY 1 STPD FOR TRAFFIC. TP DIR BEHIND R/E INSD. ;Report 0002 INS S/B ON HWY 1 L2/2. TP DIRECTLY IN FRONT STOPPED IN TRAFFIC. INS R/E TP.
008201433	3	24/09/2010	6.00	0700	Friday	2010	SEPTEMBER	6 01-9 00	1	CASUALTY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 ALL VEHS S/B HWY 1 IN SAME LN. TP2 & INSD STPD IN TRAFFIC. TP R/ENDED INSD, PUSHING INSD INTO TP2. ;Report 0002 INSD TRAVELLING ALONG THE TRANS CANADA HWY. TP STOPPED IN TRAFFIC DIRECTLY INFRONT OF INSD. INSD S FRONT END STRUCK TP'S REAR BUMPER. TP THEN STRUCK TP2. ;Report 0003 INS S/B ON HWY, TP2 BEHIND INSD, TP BEHIND TP2. INSD & TP2 BOTH STOPPED FOR TRAFFIC AHEAD. TP R/ENDED TP2, TP2 PUSHED INTO VEH. TCD
006083031	2	03/06/2006	7.00	2300	Satur	2006	JUNE	21 01-24 00	1	CASUALTY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS ?/B HWY 1. TP DIRECTLY AHEAD STPD FOR FIRE TRUCKS MERGING ONTO HWY FRM MCKENZIE, BRUSH FIRE IN AREA. INS BRAKED BUT SLID. INS R/E TP. TP NOT PUSHED INTO ANY OTHER VEHS. EMERG VEHS ATTND -DRVR TAKEN VIA AMB ;Report 0002 INS TRAVELLING NB ON TCH. INS APPROACHED INTERSECTION. INS HAD TO STPD SUDDENLY AS EMERGENCY VEH GOING THRU RED LIGHT. TP DIRECLTY BEHIND INS, TP DID NOT STOP IN TIME AND REAR ENDED INS
006172241	2	05/08/2006	7.00	1420	Satur	2006	AUGUST	12 01-15 00	1	CASUALTY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD W/B 1 HWY L3/3. INSD R/E TP XXXXXX . TP PUSHED INTO TP2 XXXXXX ;Report 0002 INS. ON 1 HWY. IN L/N 1/2 T/P1 IN FRONT OF INS. T/P2 BEHIND INSINS. R/ENDED TP1, AFTERWARDS T/P2 R/ RENDED INS. BUT IT DID NOT PUSH INS.
006180862	2	05/08/2006	7.00	1420	Satur	2006	AUGUST	12 01-15 00	2	CASUALTY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD ON 1 HIGHWAY IN LN 1/2. T/P1 IN FRONT OF INSD, T/P2 BEHIND INSD, INSD R/ENDED T/P1, AFTERWARDS T/P2 R/ENDED INSD....BUT IT DID NOT PUSH INSD INTO T/P1 AGAIN. DMG IS ON FRNT & REAR OF VEH. INSD INJD. ;Report 0002 INSD N/B IN L1/2-INSD STOPPED FOR TRAFFIC-T/P BEHIND INSD-T/P DID NOT STOP AND R/E INSD-DMG TO INSD REAR BUMPER, REAR HATCH, TRAILER HITCH, R/L Q.PANEL, L/F DOOR
006894793	2	19/01/2008	7.00	2200	Satur	2008	JANUARY	21 01-24 00	1	CASUALTY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD S/B ON HWY# 1 APPR INT,THE FLASHING LITES WERE INDICATING THAT TRFC LITE WAS GOING TO CHANGE,INSD SLOWED/STPD WHEN SIGNAL TURNED YELLOE,TP BEHIND R/E'D INSD,INSD PUSHED INTO INT. ;Report 0002 INSD S/B ON TRANS-CANADA HWY, LN 1/2. TP INFRONT OF INSD. TP STOPPED FOR AMBER LIGHT. INSD R/E TP. ;
006985697	1	15/03/2008	7.00	1605	Satur	2008	MARCH	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INSD S/B HWY 1 L2/4 DRIVING STRAIGHT AHEAD. TRAFFIC AHEAD CONGESTED. INSD BRAKED TO A STOP. TP DIRECTLY BEHIND DIDN'T BRAKE IN TIME AND REARENDED INSD VEH. INSD NOT PUSHED INTO ANYONE.

007509616	2	18/04/2009	7.00	1335	Satur	2009	APRIL	12 01-15 00	1	CASUALTY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS WAS N/B ON HWY 1 IN LN 1/2. TP DIRECTLY INFRONT OF INS. INS SHOULDER CHECKED TO CHANGE INTO LN 2/2. INS FRONT END COLL WITH TP REAR BUMPER. ;Report 0002 INSRD ON HWY IN L1/2 TRAFFIC SLOW AS TRAFFIC MERGING FROM MCKENZIE ONTO HWY. TP R/E INSRD S L/R AND TP WENT INTO LEFT LANE. TP HIT INSRD'S TIRE. ;
007551471	2	23/05/2009	7.00	0915	Satur	2009	MAY	9 01-12 00	2	CASUALTY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 BOTH VEHS S/B ON HWY 1 IN SAME LANE. INS STOPPED IN TRAFFIC WHEN TP R/E INS VEH. INS NOT PUSHED INTO ANY OTHER VEHS. ;Report 0002 INSD WAS ON HWY 1.INSD WAS STOPPED AT RED LIGHT.TP WAS ON HWY 1 DIRECTLY INFRONT OF INSD.INSD FOOT SLIPPED OFF OF CLUTCH.INSD FRONT BUMPER HIT TP REAR TRAILER HITCH.
007651812	2	04/07/2009	7.00	1700	Satur	2009	JULY	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD W/B HWY 1, LN 2/3. TP VEH DIR AHEAD. BOTH STOPPD AT R/LIGHT. ON GREEN, BOTH ACCELED, BUT TP THEN HAD TO BRAKE AGAIN & INSD R/ENDED. INSD F/PLATE HOLDER HIT TP R/BUMPER. ;Report 0002 INSD N/B HIGHWAY 1 L1/3; TP DIRECTLY BEHIND INSD; LIGHT TURNED GREEN; INSD STARTED FORWARD; INSD WAS THEN R/ENDED FROM BEHIND; INSD NOT PUSHED INTO VEH IN FRT NO EMER VEHS
007860307	2	26/12/2009	7.00	1000	Satur	2009	DECEMBER	9 01-12 00	1	CASUALTY	REAR END	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS DRVGON TILLICUM TO MERGE ONTO HIGHWAY, TP INF OF INS. INS VEH ROLLED AHEAD AND TAPPED TP'S BACK BUMPER. INS LOOKING TO LEFT. INSD'S FRONT PLATE HIT TP S BACK BUMPER. ;Report 0002 INS WAS N/B HWY 1 ONRAMP WAITING FOR TRAFFIC TO CLEAR INTENDING TO MERGE ONTO HWY 1. TP WAS N/B DIRECTLY BEHIND INS. TP'S FRT LIC PLATE R/E'D INS'S CENTER REAR BUMPER.
006952025	2	05/02/2008	3.00	0753	Tuesa	2008	FEBRUARY	6 01-9 00	1	CASUALTY	REAR END	HWY 1	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INSD ON HWY 1 BRAKED FOR AMBER LIGHT. TP RE INSD. ;Report 0002 INS N/B TRANS-CANADA LN 2/2 & T/P TRAVELLING AHEAD OF INS T/P BRAKED IN MIDDLE OF INTERSECTION ON AN AMBER & INS F/E COLL WITH T/P R/E - T/P NOT PUSHED INTO ANYONE ;
008156119	2	11/08/2010	4.00	1316	Wedn	2010	AUGUST	12 01-15 00	0	PROPERTY DAMAGE ONLY	REAR END	HWY 1	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INS E/B ON HWY 1 LANE 1OF2. TP E/B ON HWY 1 BEHIND INS. INS STOPPED FOR TRAFFIC. TP F/E COLL WITH INS R/E. ;Report 0002 INS EB ADMIRAL IN LN 1/1. TP IN FRONT OF INS IN SAME LN. INS WAS LOOKING IN HIS MIRRORS AND TP HAD STOPPED SUDDENLY FOR TRAFFIC AHEAD - INS FRONT BUMPER HIT TP REAR BMPR.
006331116	2	26/12/2006	3.00	1545	Tuesa	2006	DECEMBER	15 01-18 00	0	PROPERTY DAMAGE ONLY	SIDE IMPACT	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD ON HWY 1 N/B IN LN 1/3 TO MAKE R TRN, TP N/B ON HWY 1 IN LN 2/3, TP MADE LANE CHANGE FROM LANE 2/3 TO LN 1/3, TP R SIDE COLL WITH INSD L SIDE DOOR/ FRNT QP. POLICE ATTENDED. NO INDEP WITNESSES. ;Report 0002 INSD IN LN 1/2, TP IN LN 2/2, INSD CHANGED LANES, INSD R/SIDE COLL WITH TP L/SIDE.
006841807	2	22/12/2007	7.00	1440	Satur	2007	DECEMBER	12 01-15 00	1	CASUALTY	SIDE IMPACT	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS E/B HWY 1 L4/4 WHICH IS L/TRN ONLY LANE ONTO MCKENZIE. INS IN L4/4 L/TRN ONLY LANE. TP W/B HWY 1 MADE R/TRN THEN L/CHG- UTURN COMBO. INS COULD NOT AVOID TP. INS R/FRNT HIT TP L/FENDER & DRVR DOOR. ;Report 0002 INSD'S W/S WIPER FELL OFF AND THEN HE ATTEMPTED UTURN AND CAUSD MVA. LEFT FRONT HIT BY TP'S RT FRONT. ;
006722195	1	17/09/2007	2.00	2000	Monda	2007	SEPTEMBER	18 01-21 00	1	CASUALTY	SIDE IMPACT	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD N/B ON HWY 1, LN 1/2. CONSTRUCTION HAD LN 1/2 BLOCKED. INSD SLOWED BIKE DOWN TO 5KM/HOUR & PROCEEDED TO MERGE INTO LN 2/2. AS INSD CHANGING LNS, CONSTRUCTION WRKER SPRAYED TAR CAUSING INSD TO CRASH.
008231172	1	10/10/2010	1.00	1745	Sunda	2010	OCTOBER	15 01-18 00	1	CASUALTY	SIDE SWIPE - SAME DIRECTION	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 DRIVER STATES HE WAS IN THE MERGE LANE AND T/P VEHICLE AND THE BUS MADE CONTACT. PLEASE SEE ATTACHED BC TRANSIT LETTER ;Report 0002 INSD W/B IN R/LANE ON HWY#1,TP(TRANSIT BUS)IN HOV LANE TO INSD S R/SIDE,TP CHANGED LANES AND HIT INSD,NEW DMG ON R/SIDE DOORS/BMPR/WHEEL ;
007167096	2	14/07/2008	2.00	1545	Monda	2008	JULY	15 01-18 00	0	PROPERTY DAMAGE ONLY	SIDE SWIPE - SAME DIRECTION	HWY 1	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 COLL. INSD ?/B HWY 1 2/2, TP SAME DIRECTION HWY 1 1/2. TP CAME ACROSS AND TRIED TO MERGE INTO LANE 2/2. TP S L/F FENDER SIDESWIPED INSD'S R/F FENDER & DOOR AREA. NO WITNESSES ;Report 0002 INSD N/B? ON HWY 1 (FROM VICTORIA TO NANAIMO) LN 1/2. INSD CHANGING LANES INTO LN 2/2. INSD L/F DOOR TO L/R WHEEL WELL STRUCK TP'S R/SIDE.
007770363	2	05/10/2009	2.00	1540	Monda	2009	OCTOBER	15 01-18 00	0	PROPERTY DAMAGE ONLY	SIDE SWIPE - SAME DIRECTION	HWY 1	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INS S/B HWY 1 L1/2. TP S/B L2/2. INS CHANGED LANES. TP MUST HAVE BEEN SPEEDING. INS L/F HIT TP. NO WITNESSES. INS TICKETED FOR UNSAFE LANE CHANGE. NO WITNESSES. ;Report 0002 INSD S/B LN 3/3 TP LN 1/3 CHANGING INTO LN 3/3 AND HIT INSD RIGHT REAR WHEEL OF INSD VEH
006765326	2	19/10/2007	6.00	0855	Friday	2007	OCTOBER	6 01-9 00	1	CASUALTY	SIDE SWIPE - SAME DIRECTION	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD DRIVING SOUTH HWY 1 L1/2. TP S/B L2/2. TP CHG LANES INTO INSD. TP HIT INSD S L/SIDE. AIRBAGS DID NOT DEPLOY. VEH TOWED AWAY. ;Report 0002 INS S/B 1/2 HWY 1 APPROACHING MACKENZIE - INS ATT TO CHANGE LANES AND STRUCK TP S/B 2/2. INS DMG NONE. TP DMG R/F FENDER TO R/R QPANEL. POLICE ENROUTE. ;
007979875	1	19/04/2010	2.00	0115	Monda	2010	APRIL	0 01-3 00	1	CASUALTY	SINGLE VEHICLE	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS S/B HWY 1, LN ? INS FELL ASLEEP & VEH WENT OFF HWY & ROLLED OVER. POLICE ATTND. INS TO HOSP BY AMB.
006200988	2	25/09/2006	2.00	0730	Monda	2006	SEPTEMBER	6 01-9 00	2	CASUALTY	UNDETERMINED	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD S/B ON HWY 1, LN 1/2, SIGNALLED LANE CHANGE TO 2/2, TP WAS IN FRT OF INSD IN LN 1/2, AS INS CHANGED LANES HER PASS FRT COLLIDED WITH TP DRVR SIDE REAR SUN WAS IN INSURED'S EYES ;Report 0002 INSD S/B ON HWY 1 IN L1/3. T/P S/B ON HWY 1 IN L2/3. T/P CHANGED LANES AND T/P'S RIGHT FRONT BUMPER COLLIDED WITH INSD S LEFT REAR BUMPER. ;

006451502	5	20/12/2006	4.00	1600	Wedn	2006	DECEMBER	15 01-18 00	5	CASUALTY	UNDETERMINED	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD ON HWY 1 LN 2/2 NB. TP NB HWY 1 CROSSED OVER MERIDIAN HITTING INSD LFT DOOR & QP. TP HIT TP2. ;Report 0002 INSD WAS N/B, TP WAS S/B. TP LOST CONTROL WENT OVER MEDIAN. DETAILS ARE UNCLEAR. ;Report 0003 INS ?/B ON TRANS-CANADA HWY AND WAS SLOWING FOR TRAFFIC AHEAD, TP VEH BEHIND INS, TPS F/E HIT INS R/E, INS VEH STARTED TO SPIN AND THEN HIT A CEMENT BLOCK ON THE HW, DMG TO F/E AND R/BUMPER AREA ;Report 0004 INS S/B IN L1/2 ON HIGHWAY 1. TP1 IN L2/2. TP1 CHANGED LANES TO L1/2 IN FRONT OF INS. INS SWERVED TO RIGHT TO AVOID TP1. INS HIT BARRICADE, WENT INTO N/B TRAFFIC, HIT FRONT END OF TP2. WITNESS ;Report 0005 INS DRVR S/B HWY 1, LN 2/2 DIRECTLY BEHIND INS, LN 1/2. INS DRVR ATTMPT CHANGE INTO LN 1/2. INS SAW TP & PULLED BACK. TP TOO FAST & LOST CONTROL. TP HIT 3 OTHER VEH. NO CONTACT WITH INS VEH. INS TICKETED
007180617	2	07/08/2008	5.00	1915	Thurs	2008	AUGUST	18 01-21 00	0	PROPERTY DAMAGE ONLY	UNDETERMINED	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD IN L 2/4 GOING STRAIGHT, TP IN L 3/4 MADE LANE CHANGE & STRUCK INSD L/R CORNER WITH TP R/F. TP S LANE SHOULD HAVE GONE L TO MCKENZIE. L 1/4 & 2/4 GO STRAIGHT TO THE HIGHWAY, L 3/4 & 4/4 GO L TO MCKENZIE ;Report 0002 INS ON TRANS-CANADA HWY L3/4 (LEFT TURN ONLY) INS WANTED TO GO INTO L2/4. INS DID NOT SEE TP WHEN LANE CHANGE. INS' R/F BUMPER AND COWLING HIT TP L/R HUBCAP ;
007881916	2	07/01/2010	5.00	1740	Thurs	2010	JANUARY	15 01-18 00	0	PROPERTY DAMAGE ONLY	UNDETERMINED	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS EB ON HWY 1 IN L3/4-LTURN LANE. TP IN L4/4 CHANGED LANES. TPS R/F TIRE HIT INS L/R QP. INS NOT PUSHED. NO 911. NO WITN. ;Report 0002 INSD S/B ON MCKENZIE IN L/LANE CHANGING INTO LANE RT LANE - TP S/B ON MCKENZIE IN RT LANE -COLLIDED - INSD R/F TIRE HIT INSD L/R FENDER
008103971	2	08/07/2010	5.00	1850	Thurs	2010	JULY	18 01-21 00	0	PROPERTY DAMAGE ONLY	UNDETERMINED	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD S/B L3/3 STOPPED WAITING TO MAKE L/T, INSD WAS STRUCK BY TP DIRECTLY BEHIND INSD. ;Report 0002 INS VEH IN BUMPER TO BUMPER TRAFFIC ON HWY 1. TP VEH AHEAD OF INS VEH. INS DISTRACTED A BIT AND TOUCHED REAR OF TP VEH. FRT INS VEH STRK REAR OF TP VEH.
006977021	2	07/03/2008	6.00	0750	Friday	2008	MARCH	6 01-9 00	0	PROPERTY DAMAGE ONLY	UNDETERMINED	HWY 1	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD TRAV N ON MCKENZIE AND WAS MERGING ONTO THE ISLAND HWY. TP TRAVELLING ON ISLAND HWY IN 2/2. INSD WAS MERGING INTO 2/2 AND WAS STRUCK ON THE L/S DOOR BY TP R/S REAR QP AREA. ;Report 0002 INSD N/B HWY 1 LANE 2/2 WITH TP N/B HWY 1 LANE 1/2. TP CHANGED LANES INTO LANE 2/2 AND STRUCK INSD'S RIGHT REAR QUARTER PANEL WITH TP'S LEFT FRONT END. ;
007316226	1	23/11/2008	1.00	0615	Sunda	2008	NOVEMBER	6 01-9 00	1	CASUALTY	CONFLICTED	MCKENZIE AVE	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INS ON MCKENZIE TOWARDS ESQUIMALT, THEN TURNS INTO ADMIRALS. INS HAD GREEN LITE. TP ON ADMIRALS MAKING L/TURN INFRONT OF INS. INS COULDN'T STOP IN TIME & T-BONED TP. TP WAS OFFICERS. NO LIGHTS ON VEH.
007504589	2	28/04/2009	3.00	0800	Tuesa	2009	APRIL	6 01-9 00	1	CASUALTY	CONFLICTED	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 INS ?/B ON MCKENZIE AVE IN RIGHT MERGE LANE ONTO HWY 1. RO STOPPED FOR CYCLIST X'ING IN FRONT & TP REARENDED INS. ;Report 0002 INS WAS ON MCKENZIE .. INS WAS CHECKING FOR TRAFFIC .. TP IN FRONT OF INS STOPPED AND INS RE TP VEHICLE
007991154	1	20/04/2010	3.00	0725	Tuesa	2010	APRIL	6 01-9 00	0	PROPERTY DAMAGE ONLY	CONFLICTED	MCKENZIE AVE	TRANS-CANADA HWY	48.45967200000	-123.40468100000	Report 0001 INS'D W/B ON MCKENZIE STOPPED AT CROSSWALK FOR CYCLIST. TP VEH BEHIND FAILED TO STOP AND R/END INS'D. INS'D NOT PUSHED INTO ANY OTHER VEH/OBJECT.
008309280	2	22/12/2010	4.00	1713	Wedn	2010	DECEMBER	15 01-18 00	0	PROPERTY DAMAGE ONLY	CONFLICTED	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 INS W/B ON MCKENZIE MAKING LEFT TURN ONTO HWY 1; TP E/B ON MCKENZIE. TP LEFT FRONT BUMPER AREA MADE CONTACT WITH INS RIGHT FRONT AREA. INSURED TICKETED FAILING TO YIELD ON LEFT TURN ;Report 0002 INS E/B ADMIRALS RD L1/1. TP W/B MCKENZIE RD L2/2. GRN LITE. INS PROCEEDING STRAIGHT. A W/B VEH MADE L/T FRM MCKENZIE. INS BRAKED. THEN TP TRND LEFT AFTERWARDS. INS F/E HIT TP LFT F/E.
006807070	1	01/11/2007	5.00	1600	Thurs	2007	NOVEMBER	15 01-18 00	1	CASUALTY	CONFLICTED	MCKENZIE AVE	TRANS-CANADA HWY	48.45967200000	-123.40468100000	Report 0001 INS S/B ON MCKENZIE AVE IN CURB LANE RIDING A BICYCLE. TP(PASSENGER) DISEMBARKING FROM VEH XXXXXX . TP VEH S IN TRAFFIC IN L1/2. SUDDENLY PASSENGER GOT OUT OF VEH. INS COLLIDED WITH PASSENGER GETTING OUT ;Report 0002 PSGR REPT - PSGR EXITED R/SLIDING DOOR OF VEH & WAS STRUCK BY CYCLIST. BOTH WERE KNOCKED TO GROUND. ;Report 0003 INSD STOPPED TO LET PASSENGER OUT OF VEH. PASSENGER OPENED DOOR AND GOT OUT. CYCLIST COMING DOWN ROAD AND STRUCK PASSENGER. PSSGR KNOCKED DOWN & CYCLIST KNOCKED OFF BIKE. NO DMG TO VEH.
007560527	1	29/04/2009	4.00	0640	Wedn	2009	APRIL	6 01-9 00	1	CASUALTY	CONFLICTED	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 INSD WAS GOING TO CROSS CROSSWALK ON MCKENZIE. TP VEH STOPPED JUST AHEAD OF CROSS WALKON ON MCKENZIE. INSD STARTED TO CROSS AND TP STARTED TO REVERSE. INSD HAD TO AVOID TP VEH, HIT CURB AND DMGD BIKE ;Report 0002 INS S/B MCKENZIE - AS INS APPROACHED INT - LOOKS AS THOUGH STREET STOPS DUE FENCE ETC. INS ATT TO REV AND LOOKING BACKWARDS STARTED TO REV - GALLOPING GOOSE TRAIL - TP CAME FLYING OUT BEHIND INS. INS BRAKED
007618356	2	10/06/2009	4.00	1215	Wedn	2009	JUNE	12 01-15 00	0	PROPERTY DAMAGE ONLY	CONFLICTED	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 INS TRVG S/B LANE 1/2. TP TRVG S/B LANE 1/2 DIRECTLY BEHIND INS. INS'S TRAILER HIT BUMP AND GRAVEL CAME OUT FROM THE BACK AND DMGD TP WINDSHEILD. NO INJ, NO POLICE. NO DMG TO INS VEH. ;Report 0002 INS FOLL TP TRUCK (GRAVEL TRUCK WITH TRLR) TRUCK HIT A BUMP AND GRAVEL FLEW OUT AND HIT INS VEH. INS SPOKE TO TP DRVR WHO ACCEPTS. FT WINDSHIELD DAM
007682551	2	12/08/2009	4.00	0930	Wedn	2009	AUGUST	9 01-12 00	0	PROPERTY DAMAGE ONLY	CONFLICTED	MCKENZIE AVE	TRANS-CANADA HWY	48.45967200000	-123.40468100000	Report 0001 INS'D WAS DRIVING N/B ON MCKENZIE. INS'D PULLED OVER TO LET A FIRE TRUCK DEPT, INS'D COULD NOT MOVE OVER. FIRE TRUCK STRUCK INS' D KAYAK, KAYAK TOOK OFF ROOF RACK DAMAGED ROOF. Report 0002 INSD (FIRE TRUCK) CLIPPED A KAYAK RESTING ON TOP OF A STATIONARY VEH ;
005908152	2	22/01/2006	1.00	1520	Sunda	2006	JANUARY	15 01-18 00	2	CASUALTY	REAR END	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 AS INSD WAS S/B MCKENZIE AVE L 1/2, DIRECTLY BEHIND TP, AS TP STOPPED POSSIBLY FOR A CYCLIST, INSD R/ENDED TP. TP WAS NOT PUSHED INTO ANYTHING/ANYONE ELSE. NO POLICE INVOLVEMENT. ;Report 0002 INS ?/B MCKENZIE. TP BEH INS. INS STPD FOR CYCLIST. TP F/BUMPER HIT INS R/BUMPER.

006827541	2	25/11/2007	1.00	1400	Sunda	2007	NOVEMBER	12 01-15 00	0	PROPERTY DAMAGE ONLY	REAR END	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 INS WAS ON MCKENZIE IN L1/1. MCKENZIE MERGES ONTO HWY 1. INS STOPPED TO LET A CYCLIST CROSS XWALK. TP WAS DIRECTLY BEHIND INS. TP REAR ENDED INS. INS HAS NO VISIBLE DMGE REAR BUMPER. DID NOT LOOK AT TP VEH. ;Report 0002 INS SB L1/1 ON MCKENZIE. TP DIRECTLY L/F OF INS. TP STOPPED FOR CYCLIST. INS COULDN'T STOP AND R/D TP. ;
007687605	2	16/08/2009	1.00	1230	Sunda	2009	AUGUST	12 01-15 00	0	PROPERTY DAMAGE ONLY	REAR END	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 INS ON ONRAMP FROM MCKENZIE TO HWY 1. TP FOLLOWING INS. INS SLOWED TO YIELD. TP R/E INS LIGHTLY. INS WAS NOT PUSHED INTO ANYONE ELSE. NO POLICE NO WITNESSES. ;Report 0002 INSD MERGING N/B ONTO HWY 1. TP DIRECTLY AHEAD STOPPED. INSD R/E TP. INSD'S MID FRONT BUMPER STRUCK TP S MID REAR BUMPER.
007990497	3	25/04/2010	1.00	1000	Sunda	2010	APRIL	9 01-12 00	1	CASUALTY	REAR END	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 INS 7/B ON WESTMINSTER HWY IN LN 2/2 PROCEEDING STRAIGHT. TP DIRECTLY BEHIND & UNABLE TO STOP. INS R/REAR STRUCK BY TP F/END. NO OTHER VEH'S INVOLVED. ;Report 0002 SINGLE MVA? INS W/B ON MCKENZIE AVE IN L1/2 MERGING ONTO HWY 1, INS LOST CONTROL. INS FRT END HIT A LAMP POST. INS WAS GIVEN A 24HR SUSPENSION. ;Report 0003 INS W/B ALDERBRIDGE WAY L2/2, TP IN FRONT OF INS. INS FELL ASLEEP AT THE WHEEL AND R/ENDED TP. ;Report 0004 PD ONLY - FILE XXXXXX 0 - CONTACT XXXXXXXXX
006060292	1	29/05/2006	2.00	0845	Monda	2006	MAY	6 01-9 00	0	PROPERTY DAMAGE ONLY	REAR END	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 INSD S/B ON MCKENZIE COMING UP TO MERGE ONTO TRANS CANADA. TP DIRECTLY BEHIND INSD. INSD SLOWED DOWN AND TP REAR ENDED INSD. TP FRONT BUMPER HIT INSD REAR BUMPER. ;Report 0002 INSD 7B ON MCKENZIE APPROACHING OFFRAMP TO HWY, TP WAS IN FRONT OF INSURED; TP STOPPED TO LET ANOTHER VEHICLE IN, INS UNABLE TO STOP IN TIME, REARENDED TP
006224236	2	04/09/2006	2.00	1730	Monda	2006	SEPTEMBER	15 01-18 00	2	CASUALTY	REAR END	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 INSD ON MCKENZIE MERGING ONTO HWY 1. TP DIRECTLY BEHIND. TP REAR ENDED INSDS VEHICLE - ONLY 2 VEHS INVOLVED - WITNESS ;Report 0002 INS W/B 1/2 MCKENZIE. TP DIRECTLY INFRONT. TP STOPPED FOR CROSS WALK. INS DIDN'T SEE THEM, COULDN'T STOP IN TIME. INS FROM END HIT TP REAR END. TP WASN'T PUSHED INTO ANYONE.
006512910	2	02/04/2007	2.00	0750	Monda	2007	APRIL	6 01-9 00	1	CASUALTY	REAR END	MCKENZIE AVE	TRANS-CANADA HWY	48.45967200000	-123.40468100000	Report 0001 INS WAS W/B 1/3 ON MCKENZIE AVENUE. TP VEH AHEAD STOPPED FOR PERSON AT XWALK. INS SLIDE ON ICE ABOUT 15FT AND HIT TP VEH DIRECTLY AHEAD. INS F/BMPR STRUCK TP'S R/BMPR. ;Report 0002 INSD W/B ON MCKENZIE IN LANE 1/3 - TP BEHIND INSD. INSD STOPPED FOR CYCLIST, TP R/ENDED INSD VEHICLE. INSD WAS NOT PUSHED INTO ANYONE. ;
006994681	2	18/02/2008	2.00	1520	Monda	2008	FEBRUARY	15 01-18 00	1	CASUALTY	REAR END	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 INSD IN LN 2/2, TP IN LN 1/2, INSD CHANGED LANES TO LN 1/2, SHORTLY AFTER INSD CAME TO A STOP WITH TRAFFIC, TP R/ENDED INSD. ;Report 0002 INSD W/B MCKENZIE IN L1/2. TP IN FRONT. POLICE OFFICER SET UP RADAR ON OTHER SIDE. INSD GLANCED OVER QUICKLY AND PROBABLY TP GLANCED OVER TOO. INSD R/E TP. INSD NO DMG. TP DMG REAR BUMPER. EXCH INFO. ;
007051101	2	19/05/2008	2.00	1700	Monda	2008	MAY	15 01-18 00	1	CASUALTY	REAR END	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 INSD W/B ON MCKENZIE IN LN 1/1. TP BEHIND INSD. INSD STOPPED FOR CYCLIST AT CROSSWALK AND TP R/ENDED INSD VEH. TP R/F BUMPER STRUCK INSD REAR BUMPER. NO WITNESSES. ;Report 0002 INS W/B MCKENZIE L1/3 IN STOP N GO TRAFFIC WHEN INS R/E INS. TP ADV STPD FOR CYC BUT INS DIDN'T SEE ANY CYC ARND. NO POLICE/WITNS.
007265230	2	27/10/2008	2.00	0720	Monda	2008	OCTOBER	6 01-9 00	1	CASUALTY	REAR END	MCKENZIE AVE	TRANS-CANADA HWY	48.45967200000	-123.40468100000	Report 0001 INS W/B MCKENZIE AVE IN L 1/2. TP DIRECTLY IN FRONT OF INS. CYCLIST AT X-WALK WAITING TO CROSS. TP STOPPED FOR CYCLIST. INS BRAKED AND INS R/E TP. ;Report 0002 INS N/B MCKENZIE - STOPPED AT CROSSWALK FOR PEDESTRIANS, INS R/E BY TP DIRECTLY BEHIND. INS TAKEN TO HOSPITAL BY AMBULANCE. POLICE ATT
007276986	2	13/10/2008	2.00	1700	Monda	2008	OCTOBER	15 01-18 00	2	CASUALTY	REAR END	MCKENZIE AVE	TRANS-CANADA HWY	48.45967200000	-123.40468100000	Report 0001 INS W/B ON MCKENZIE ST IN LANE 1/2. TP DIRECTLY BEHIND INS IN SAME LANE. INS SLOWING DOWN DUE TO VEHICLES AHEAD. TP F/B HIT INS REAR BUMPER. NO OTHER VEHICLES INVOLVED. UNSURE IF DIRECT HIT. ;Report 0002 INS W/B MCKENZIE. TRAFFIC STOPPED. INS NOT ABLE TO STOP IN TIME DUE TO WET ROADS. TP HAD STOPPED SUDDENLY DUE TO TRAFFIC AHEAD. NOT VISIBLE DMG TO EITHER VEH ;
008013675	2	26/04/2010	2.00	1645	Monda	2010	APRIL	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	MCKENZIE AVE	TRANS-CANADA HWY	48.45967200000	-123.40468100000	Report 0001 INSD /B ON MCKENZIE AVE WAITING TO MERGE ONTO HWY. TP IN FRT OF INSD. TP STOPPED FOR TRAFFIC. INSD R/ENDED TP. TP NOT PUSHED INTO ANYONE. ;Report 0002 INS WAS ON ADMIRALS RD. TP WAS BEHIND INS. INS SLOWED TO MERGE ONTO HWY. TP FAILED TO STOP IN TIME & R/E INS VEHICLE.
008140882	2	09/08/2010	2.00	0650	Monda	2010	AUGUST	6 01-9 00	1	CASUALTY	REAR END	MCKENZIE AVE	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INS S/B IN LL1/2. TP BEHIND INS - TP2 IN FRONT OF INS. INS STOPPED AT RED LIGHT - TP WAS UNABLE TO STOP. TP REARENDED INS AND PUSHED INS INTO TP2. TP2 LEFT SCENE ;Report 0002 INSD S/B ON MCKENZIE, LN 1/2; TP AHEAD STOPPED & INSD COULDNT STOP IN TIME. REAR ENDED VEH AHEAD PUSHING IT INTO TP2 AHEAD OF TP
006364982	2	09/01/2007	3.00	0809	Tuesa	2007	JANUARY	6 01-9 00	0	PROPERTY DAMAGE ONLY	REAR END	MCKENZIE AVE	TRANS-CANADA HWY	48.45967200000	-123.40468100000	Report 0001 ECLAIM. INSD & TP BOTH SW ON MCKENZIE ST. INSD BRAKED DUE TO A VEH AHEAD & MANAGED TO STOP BUT TP DID NOT AND REARENDED INSD. ;Report 0002 INSD W/B ON MCKENZIE, TP STOPPED IN FRONT OF INSD FOR A VEHICLE THAT LOST CONTROL IN FRONT OF TP AND INSD SLID ON ICE AND REAR ENDED TP ;
006771774	2	16/10/2007	3.00	0750	Tuesa	2007	OCTOBER	6 01-9 00	1	CASUALTY	REAR END	MCKENZIE AVE	TRANS-CANADA HWY	48.45967200000	-123.40468100000	Report 0001 INS W/B MCKENZIE TO GO N/B ON HWY1. INS STOPPED FOR TAFFIC AND PED, TP DIDN'T AND TP REAR ENDED INS. TP FRONT END HIT INS REAR END. INS WASN T PUSHED FORWARD. ;Report 0002 INS W/B ON MCKENZIE AVE , TP DIRECTLY IN FRT S. INS R/BUMPER HIT TP R/BUMPER, TP WAS NOT PUSHED INTO ANOTHER VEH.
007349876	2	02/12/2008	3.00	0640	Tuesa	2008	DECEMBER	6 01-9 00	0	PROPERTY DAMAGE ONLY	REAR END	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 INS SW/B ON MCKENZIE IN LN 1/3 MAKING R/T TO GO ONTO HWY 1. TP SW/B ON MCKENZIE IN LN 2/3. TP CUT INTO LN 1/3 IN FRONT OF INS AND THEN BRAKED FOR CYCLIST CROSSING. ABRUPT LN CHG. NO WITN. NO POLICE. ;Report 0002 INS W/B MCKENZIE LN 1/3, MERGING RT ONTO HWY 1, STPPD FOR CYCLIST IN X-WALK. TP DIRECTLY BEHIND R/ENDED INS. INS NOT PUSHD FWD.

Prepared By Marina Efimova
ICBC, Business Insights Road Safety

007546134	3	05/05/2009	3.00	1715	Tuesa	2009	MAY	15 01-18 00	1	CASUALTY	REAR END	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 MOVING H&R. INSD S/B ON MCKENZIE L2/2 STOPPED IN TRAFFIC AT RED LIGHT. INSD TOWING TRAILER NO INSD FELT IMPACT FROM BEHIND. TP DIRECTLY BEHIND INSD. TP FRONT HIT REAR OF INSD'S TRAILER. TP FELD. ;Report 0002 MOVING H&R WITH SUSPECT. THIS TRAILER BEING TOWED BY PLATE XXXXXX DAMAGE TO REAR RAMP BENT IN. LATCHING DEVICE TORN HALF OFF. LATCH FOR HINGE CAP. RUBBER GASKET TORN. ;Report 0003 INS VEH IS SUSPECT IN MOVING H&R. INS DRV HAS NO KNOWLEDGE OF HITTING ANYONE. TP ALLEGING INS R/E THEIR TRAILER.
007613492	2	30/06/2009	3.00	1100	Tuesa	2009	JUNE	9 01-12 00	0	PROPERTY DAMAGE ONLY	REAR END	MCKENZIE AVE	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INS ?/B ON HWY 1 LANE 2OF3. TP BEHIND INS. INS WAS STOPPED AT R/LITE. TP F/E COLL WITH INS R/E. ;Report 0002 INS N/B ON MCKENZIE AVE, TP VEH IN FRONT OF INS, THE LIGHT TURNED GREEN, TP STARTED TO GO AND THEN STOPPED FOR NO APPARENT REASON, INS F/E TO TPS R/E.
007769028	2	13/10/2009	3.00	1817	Tuesa	2009	OCTOBER	18 01-21 00	1	CASUALTY	REAR END	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 TP VEH WB ON MCKENZIE, LANE 2/2. INSD VEH FOLLOWING TP. TP STOPPED IN TRAFFIC AT LIGHT AT HWY 1. INSD R/E TP VEH. ;Report 0002 INS VEH WB ON MCKENZIE, LANE 2 OF 2. TP VEH FOLLLOWING INS. INS STOPPED IN TRAFFIC AT LITE AT HWY 1. TP R/E INS VEH.
008020903	1	18/05/2010	3.00	1130	Tuesa	2010	MAY	9 01-12 00	0	PROPERTY DAMAGE ONLY	REAR END	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 INSURED S/B ON MCKENZIE IN L2/2. TP IN FRONT OF INSURED. TP STOPPED FOR A RED LIGHT. INSURED R/E TP. ;
008321424	1	28/12/2010	3.00	2050	Tuesa	2010	DECEMBER	18 01-21 00	0	PROPERTY DAMAGE ONLY	REAR END	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 INS S/B MCKENZIE IN LANE 1/2. TP INFRONT OF INS. TP AND INS STOPPED AT RED LIGHT. TP STARTED TO GO AND THEN STOPPED AS ONLY L HAND TURN LIGHT WENT ON. INS REARENDED TP.
005882252	2	11/01/2006	4.00	1655	Wedn	2006	JANUARY	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	MCKENZIE AVE	TRANS-CANADA HWY	48.45967200000	-123.40468100000	Report 0001 INSD COMING DOWN TOWARDS TRANS CANADA HWY. INSD REARENDED TP VEH. TP NOT PUSHED INTO ANY OTHER VEHS. ;Report 0002 INS E/B MCKENZIE LN 1/2. TP DIRECTLY BEHIND INS. INS STOPPED FOR TRAFFIC AHEAD. TP R/E INS. INS WAS NOT PUSHED FWD INTO ANY OTHER VEHICLES. NO POLICE, WITNESSES, OR INJ'S AT SCENE. ;
006668210	2	29/08/2007	4.00	1710	Wedn	2007	AUGUST	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 MVA - INS ?/B L 1/2 MCKENZIE AVE TAKING HWY 1 ONRAMP. TP STOPPED DIRECTLY IN FRNT OF INS. TP PROCEEDED TO GO & THEN STOPPED ABRUPTLY FOR A CYCLIST. INS PROCEEDED TO GO & REARENDED TP. NO WITNESSES. Report 0002 INSD ?/B ON MCKENZIE IN LN 1/2. TP DIRECTLY BEHIND INSD. INSD STOPPED FOR CYCLIST CROSSING INFRONT OF INSD AND WAS REAR ENDED BY TP VEH. TP FRONT BUMPER STRUCK INSD REAR BUMPER. ;
006761638	2	17/10/2007	4.00	1500	Wedn	2007	OCTOBER	12 01-15 00	0	PROPERTY DAMAGE ONLY	REAR END	MCKENZIE AVE	TRANS-CANADA HWY	48.45967200000	-123.40468100000	Report 0001 INS WB MCKENZIE IN 1/4 (RIGHT TURN ONLY) TP BEHIND INS IN SAME LN. INS STOPPED FOR PEDESTRIANS CROSSING - TP DID NOT. ;Report 0002 INSD E/B MCKENZIE ST, TP IN FRONT OF INSD. TRAFFIC STOP AND GO TO MERGE ONTO TRANS-CANADA HWY, TP HAD STPD & INSD LIGHTLY R/ENDED TP'S VE
007630335	4	15/07/2009	4.00	1800	Wedn	2009	JULY	15 01-18 00	2	CASUALTY	REAR END	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 INS'D S/B IN 1/2. TP INFRONT OF INS'D STOPPED SUDDENTLY - INS'D FRONT BUMPER TAPPED REAR BUMPER. TP2 BEHIND INS'D DIDN T STOP. TP2 S FRONT BUMPER HIT INS'D REAR BUMPER & PUSHED INS D BACK INTO TP. ;Report 0002 3 VEH MVA - INS FRONT VEH, INS STOPPED, TP DIRECTLY BEHIND R/E INS, THEN INS WAS HIT AGAIN. TP2 BEHIND TP. ;Raport 0003 INSD S/B IN 1/2. TP IN FRONT OF INSD STOPPED SUDDENLY - INSD FRONT BUMPER TAPPED REAR BUMPER. TP2 BEHIND INSD DIDN'T STOP. TP2'S FRONTBUMPER HIT INSD REAR BUMPER & PUSHED INSD BACK INTO TP. ;Report 0004 COLLISION CLAIM - ALL VEHS ?/B ON MCKENZIE, A VEH IN FRT BRAKED, T/P PL XXXXXX BRAKED HARD & T/P2 PL XXXXXX INSD R/E T/P PL XXXXXX INSD ADV T/P WAS NOT FORCED INTO T/P2 AGAIN?.
007706951	2	19/08/2009	4.00	1800	Wedn	2009	AUGUST	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 INSD HAD JUST COME OFF HWY #1. INSD TOOK THE MCKENZIE AVE EXIT. INSD WAS STOPPED AT THE SS ON MCKENZIE AVE. TP CAME UP BEHIND INSD AND REARENDED INSD. ;Report 0002 INS ?/B MCKENZIE LN 2/2, SHLDR CHECKING TO CHG TO LN 1 & DIDN'T NOTICE TRAFFIC HAD STPPD AHEAD IN LN 2. INS BRAKED, FOOT GOT CAUGHT ON PEDAL, R/ENDED TP. TP NOT PUSHD INTO ANYONE. ;
007874903	2	13/01/2010	4.00	0730	Wedn	2010	JANUARY	6 01-9 00	0	PROPERTY DAMAGE ONLY	REAR END	MCKENZIE AVE	TRANS-CANADA HWY	48.45967200000	-123.40468100000	Report 0001 INSD & T/P ?/B ON MCKENZIE. INSD INFRONT OF T/P. INSD STOPPED FOR TRAFFIC. T/P R/E INSD. ;Report 0002 COLL - INS ?/B LN 1/3 DIRECTLY BEHIND TP - TP STPD FOR TRAFFIC - INS HAD REACHED FOR COFFEE & DIDN'T SEE TP STP - INS SWERVED LFT TO AVOID & IMPACTED TP L/F QP
008053754	1	19/05/2010	4.00	1510	Wedn	2010	MAY	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	MCKENZIE AVE	TRANS-CANADA HWY	48.45967200000	-123.40468100000	Report 0001 INS S/B ON MCKENZIE AVE IN L1/2 MAKING A RHT TURN ONTO HWY. TP DIRECTLY IN FRT OF INS S. INS R/ENDED TP. INS FRT END HIT TP REAR BUMPER. ;
005924378	2	23/02/2006	5.00	0700	Thurs	2006	FEBRUARY	6 01-9 00	1	CASUALTY	REAR END	MCKENZIE AVE	TRANS-CANADA HWY	48.45967200000	-123.40468100000	Report 0001 INSD ON MCKENZIE AVENUE. TP DIRECTLY BEHIND. TP REAR ENDED INSDS VEHICLE - ONLY 2 VEHS INVOLVED ;Report 0002 INS W/B IN 1/4. T/P AHEAD OF INS. T/P STOP'D TO YIELD FOR TRAFFIC. INS BRAKED BUT UNABLE TO STOP IN TIME. INS VEH SLID INTO T/P'S R/BUMPER WITH F/BUMPER. NO INJURIES.
006354689	1	21/12/2006	5.00	1700	Thurs	2006	DECEMBER	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 INSD S/B LN MAKING R/TURN TO GO W/B, FOLLOWING IN LINE OF TRAFFIC, TP AHEAD STPD QUICKLY, INSD R/E TP. ;
006446776	2	22/03/2007	5.00	1700	Thurs	2007	MARCH	15 01-18 00	1	CASUALTY	REAR END	MCKENZIE AVE	TRANS-CANADA HWY	48.45967200000	-123.40468100000	Report 0001 INSD S/B ON MCKENZIE AVE IN LN 1/2 TO TURN RIGHT TO MERGE ONTO HWY. INSD STOPPED FOR VEH AHEAD AS A CYCLIST CUT ACROSS ROADWAY. INSD STOPPED. TP VEH DIRECTLY BEHIND REARENDED INSDS VEH. ;Report 0002 ON MCKENZIE IN MERGE LANE TO GO ONTO HWY 1, DIRECTLY BEHIND TP. TP STOPPED SUDDENLY FOR CYCLIST. INSD R/E TP. LOW SPEED IMPACT.
006500858	1	12/04/2007	5.00	1800	Thurs	2007	APRIL	15 01-18 00	2	CASUALTY	REAR END	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 INS ON MCKENZIE DOWNHILL, PEDESTRIAN ON WALKWAY. INS STOPPED FOR PED AND WAS REAR ENDED BY TP VEH. TP FRONT LEFT DMG, RIGHT FRONT CRACKED AND DMG AND INS DMG REAR BUMPER. ;Report 0002 INSD N/B ON MCKENZIE MERGING ONTO HWY 1. TP AHEAD OF INSD. SAYS TP SLAMMED ON HIS BRAKES AND INSD R/E TP.

006519273	2	12/04/2007	5.00	0720	Thurs	2007	APRIL	6 01-9 00	0	PROPERTY DAMAGE ONLY	REAR END	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 WEB REPORT RD S/B ON MCKENZIE, RO APPROCHING I/S ON G/LITE. RO BRAKED HARD TO AVOID A VEH ON BURNSIDE WHO ALMOST RAN R/LITE. TP BEHIND R/E INSD. ;Report 0002 INS S/B IN 1/2 ON MCKENZIE AVE. TP WAS IN FRONT OF INS IN THE SAME LANE. INS F/BUMPER HITS TP S R/BUMPER. TP SLAMMED BRAKES FOR OTHER VEH THAT LOOKED LIKE RUNNING RED. INS 3-4 CAR LENGTHS AWAY.
006900825	2	17/01/2008	5.00	0700	Thurs	2008	JANUARY	6 01-9 00	1	CASUALTY	REAR END	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 INS W/B 1/2 MCKENZIE. TP BEHIND INS. TP F/BUMPER HIT INS REAR BUMPER. WITNESS FROM VEH BEHIND TP. TP I XXXXXX XXXXXX XXXXXX . NO TP DL OR PLATE # OBTAINED. ;Report 0002 INS DRV W/B MCKENZIE ST LANE 1/2 GOING STRAIGHT, TP IN FRONT OF INS, TP STOPPED ABRUPTLY FOR CYCYLIST, INS BRAKED BUT SLID ON ICY ROADS, INS FRONT BUMPER STRUCK TP REAR BUMPER. ;
007038981	2	24/04/2008	5.00	1615	Thurs	2008	APRIL	15 01-18 00	2	CASUALTY	REAR END	MCKENZIE AVE	TRANS-CANADA HWY	48.45967200000	-123.40468100000	Report 0001 INS MERGING ONTO TRANS CAN HWY, TP BEHIND INS. TP FAILED TO STOP AND STRUCK THE R/BUMPER OF INS VEH. ;Report 0002 INS ?/B MCKENZIE L2/2 CHANGING LANES TO L1/2. TP DIRECTLY IN FRONT OF INS. INS FRONT BUMPER COLLIDED WITH TP S REAR BUMPER
007062932	1	22/05/2008	5.00	1700	Thurs	2008	MAY	15 01-18 00	1	CASUALTY	REAR END	MCKENZIE AVE	TRANS-CANADA HWY	48.45967200000	-123.40468100000	Report 0001 INS N/B ON MCKENZIE ST ON R/TURN LN - MERGING ONTO HWY 1. TP SAME DIRECTION BEHIND INS. INS STOPPED AS VEH AHEAD STOPPED. TP R/END HIT INS R/BUMPR. ;Report 0002 TRAFFIC AHEAD STOPPED TO CYCLIST. INS REARENDED TP VEHICLE.
007142697	2	24/07/2008	5.00	1700	Thurs	2008	JULY	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 INS IN MERGE LANE FROM MCKENZIE TO HWY 1. TP DIRECTLY AHEAD OF INS. INS WAS SHOULDER-CHECKING. TP STPD. INS R/E TP. TP WAS NOT PUSHED INTO ANYONE ELSE. ;Report 0002 INS HAD EXITED PAT BAY HWY & WAS ON MCKENZIE AVE OFFRAMP - TP GOING SAME DIRECTION BEHD INS - INS STOPPED FOR TRAFFIC - TP REAR ENDED INS - INS WAS NOT PUSHED INTO ANY OTHER VEH ;
007979570	2	15/04/2010	5.00	1530	Thurs	2010	APRIL	15 01-18 00	1	CASUALTY	REAR END	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 MVA. INSD W/B ON MCKENZIE IN LN 1/2. TP DIRECTLY IN FRONT. STOP & GO TRAFFIC. TP STPD & INSD DIDNT. INSD F/BMPR STRUCK TP REAR BMPR. ALL EMERG VEH ATT. ;Report 0002 INS W/B ON MCKENZIE IN LANE 1/2 STOPPING IN TRAFFIC. TP BEHIND INS DID NOT STOP IN TIME AND R/ENDED INS. INS DGMG TO REAR HATCH DOOR. TP DMG NONE.
008010154	2	01/04/2010	5.00	1545	Thurs	2010	APRIL	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 INSD DRIVING ON MCKENZIE LN 1/2. TP DIRECTLY BEHIND. TP2 DIRECTLY AHEAD. HEAVY TRAFFIC. TP REARENDED INSD PUSHING INSD INTO TP2 (32 XXXXXX . ;Report 0002 INS SB MCKENZIE IN LN 1/2. TP IN FRONT OF INS IN SAME LN. TP SLOWED FOR TRAFFIC AHEAD - INS DID NOT. INS CNTR TO R/S FRONT BMPR. HIT TP CNTR REAR BMPR. TP WAS PUSHED INTO VEH AHEAD. NO DMG TO FRONT VEH.
005873779	2	06/01/2006	6.00	1939	Friday	2006	JANUARY	18 01-21 00	1	CASUALTY	REAR END	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 INSD & T/P ?/B ON MCKENZIE. T/P INFRONT OF INSD. T/P STOPPED FOR TRAFFIC. ISND R/E T/P. ;Report 0002 INSD MERGING ONTO HWY 1, TP BEHIND INSD, TP REAR ENDED INSD ;
005952338	3	03/03/2006	6.00	0900	Friday	2006	MARCH	6 01-9 00	0	PROPERTY DAMAGE ONLY	REAR END	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 INS. S/B MCKENZIE ST, LN 2/2- TP1 XXXXXX DIRECTLY BEHIND INS.- INS. STP FOR RD LT- TP1 DIRECTLY BEHIND INS. STPD-TP 2 XXXXXX BEHIND TP1 REAR ENDED TP1 & PUSHED TP1 INTO INS. REAR BUMPER.-INS. FELT 1 IMPACT. ;Report 0002 3 VEH REAR ENDER, INS W/B L?/? ON MCKENZIE, TP DIR BEHIND INS, TP2 DIR INFRONT OF INS, TP RE INS, INS PUSHED INTO TP2, NO WITNESS/POLICE/INJURIES ;Report 0003 INSD W/B MCKENZIE ST. TP XXXXXX WAS IN FRT OF INSD. TP2 XXXXXX WAS IN FRT OF TP. INSD TOOK EYES OFF RD FOR A SECOND. TP & TP2 WERE STPPD AT THE LITE. INSD R/E TP.TP WAS PUSHED INTO TP2.
006028162	2	05/05/2006	6.00	1830	Friday	2006	MAY	18 01-21 00	1	CASUALTY	REAR END	MCKENZIE AVE	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INS N/B MCKENZIE, LANE 2/3. TP AHEAD OF INS, SAME LANE. HEAVY TRAFFIC, INS DIDN T SEE ANY BRAKE LIGHTS ON TP VEHICLE, BRAKED BUT TOO LATE AND INS REAR ENDED TP. TP NOT PUSHED INTO ANYONE ELSE. ;Report 0002 INSD NB L1/2 TRANS-CANADA -HAD JUST GONE THROUGH THE LIGHT AND HAD TO STOP FOR TRAFFIC-TP R/ENDED INSD ;
006064516	2	26/05/2006	6.00	1530	Friday	2006	MAY	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 INSURED STOPPED WAITING TO MAKE RIGHT TURN FROM MCKENZIE ONTO HWY 1. TP REARENDED INSURED VEHICLE. ;Report 0002 RO MERGING OFF HWY ONTO MCKANZIE. TP VEH DIRECTLY IN FRONT. TP STPD SUDDENLY WHILE MERGING. RO S L/FRONT AREA HIT TP'S R/END. NO INJ.
006450516	2	16/03/2007	6.00	0910	Friday	2007	MARCH	9 01-12 00	0	PROPERTY DAMAGE ONLY	REAR END	MCKENZIE AVE	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 BOTH VEHS ?/B ON MCKENZIE. INS STPD AT RED LITE WHEN TP R/E INS. NO OTHER VEHS INVOLVED. ;Report 0002 COLL?? DRVR REARENDED TP DIRECTLY IN FRONT NO DETAILS AS AVIS REPORTING ;
006550309	2	25/05/2007	6.00	1505	Friday	2007	MAY	15 01-18 00	1	CASUALTY	REAR END	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 INS S/B ON MCKENZIE AVE, WAITING TO MERGE ONTO ISLAND HWY. TP DIRECTLY AHEAD STARTED TO GO BUT THEN STOPPED, INS SWERVED TO AVOID BUT HIT TP. INS DMG PASS SDE FND & F/DR. TP DMG DRV SDE R/BMP & QTR PNL. ;Report 0002 INSD AND TP SB ON MCKENZIE AVE IN LN 1/2. TP R/E INSD. TP'S R FRONT FENDER HIT INSD L REAR BUMPER.
006582475	2	01/06/2007	6.00	1600	Friday	2007	JUNE	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	MCKENZIE AVE	TRANS-CANADA HWY	48.45967200000	-123.40468100000	Report 0001 INS ?/B MACKINZIE ST STOPPED TO YIELD ONTO HWY. TP BEHIND INS DID NOT STOP & R/ENDED INS. TP F/BUMPER COLL WITH INS TRAILER HITCH. ;Report 0002 INSD W/B ON MCKENZIE PL, LN 2/2. TP INFRONT OF INSD. TP CHANGED LNS INTO LN 1/2. INSD FOLLOWED. TP STOPPED SUDDENLY. INSD S FRONT BUMPER HIT REAR BUMPER
007050477	4	30/05/2008	6.00	1730	Friday	2008	MAY	15 01-18 00	2	CASUALTY	REAR END	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 4 VEH R/E INS WB MCKENZIE AVE L2/2. TP3 XXXXXX DIR INFRONT OF INS STOPPED. TP2 ? DIR BEHIND INS VEH. TP ? DIR BEHIND TP2. TP R/E TP2, TP2 PUSHED INTO INS. INS PUSHED INTO TP3. INS DMG F/BUMPER & R/BUMPER ;Repart 0002 INS ?/B L2/4 ON MCKENZIE ST GOING TO CHANGE LANES L1/4 TO MERGE ONTO HWY 1. TP DIRECTLY INFRONT OF INS L2/4. INS REAR ENDED TP.TP PUSHED INTO ANOTHER VEHICLE. ;Report 0003 INS W/B MCKENZIE 2/2, TP XXXXXX HIT TP2 TP2 HIT TP3 XXXXXX , TP3 HIT INS. INS DMG TO BUMPER. ;Report 0004 INSD W/B ON MCKENZIE IN LANE 2/2 - TP , TP2 & TP3 ALSO W/B - TP3 STOPPED - TP2 STOPPED - INSD STOPPED - TP R/E INSD PUSHING INTO TP2 PUSHING INTO TP3

007272493	2	03/10/2008	6.00	1930	Friday	2008	OCTOBER	18 01-21 00	0	PROPERTY DAMAGE ONLY	REAR END	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 INS 7/B MCKENZIE MAKING R/T TO MERGE ONTO HWY # 1. TP VEH 7/B MCKENZIE IN RIGHT LANE. INS STPD FOR CYCLIST ON X-WALK. TP R/E INS VEH. FRT OF TP VEH STRK REAR OF INS VEH. INS NOT PUSHED AHEAD, NO EMERG VEH S ;Report 0002 INSD W/B ON MCKENZIE TURNING N/B TO ISLAND HWTP VEH DIRECTLY AHEAD OF INSD STOPPED SUDDENLY AS CYCLIST RODE ACROSS ST IN FRONT OF INSD. RAINING. INSD BRAKED AND SKIDDED ABOUT 3 FT AND TAPPED TP R/BUMPER.
007802236	2	20/11/2009	6.00	0855	Friday	2009	NOVEMBER	6 01-9 00	0	PROPERTY DAMAGE ONLY	REAR END	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 INS ON MCKENZIE ST L1/2 STPING FOR YELLOW LITE. TP BEHIND INS. TP R/ENDED INS ;Report 0002 INS EB ON MCKENZIE . TP DIRECTLY AHEAS STPD ON AMBER LIGHT. INS BRAKED BUT SLID ON WET ROADWAY, INS STATES THERE SHOULD BE NO DAMAGE. ;
007118235	1	21/06/2008	7.00	0000	Satur	2008	JUNE	21 01-24 00	1	CASUALTY	REAR END	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 INSURED STOPPED ON MCKENZIE AT RED LIGHT. TP VEHICLE BEHIND INSURED. TP REARENDED INSURED VEHICLE.
007476974	2	07/03/2009	7.00	1130	Satur	2009	MARCH	9 01-12 00	2	CASUALTY	REAR END	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 INS S/B ON TRANS CANADA HWY IN LN 1/2. TP DIRECTLY INFRONT OF INS. TRAFFIC STARTED TO MOVE FORWARD & TP STOPPED SUDDENLY. INS FRONT BUMPER COLLIDED WITH TP REAR BUMPER. ;Report 0002 INSURED SB ON HWY STOPPED AT RED LIGHT. TP VEHICLE BEHIND INSURED. TP REARENDED INSURED.
007088138	2	24/06/2008	3.00	1355	Tuesa	2008	JUNE	12 01-15 00	0	PROPERTY DAMAGE ONLY	REAR END	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 INSD W/B MCKENZIE L1/3 WANTED TO MERGE ONTO HWY 1. PEDESTRIANS WAITING TO CROSS. INSD STOPPED. TP DIRECTLY BEHIND REARENDED INSD VEH. INSD NOT PUSHED INTO ANYTHING. ;Report 0002 INSD JUST RECENTLY PUT NEW REAR TIRE ON BIKE- IT DID NOT HAVE THE SAME GRIPPING POWER. TP TRAVELING AHEAD OF INSD, TP STPD FOR CYCLIST. INSD LEFT PROPER DISTANCE BUT - INSD REAR ENDED TP
006402979	2	18/01/2007	5.00	1600	Thurs	2007	JANUARY	15 01-18 00	0	PROPERTY DAMAGE ONLY	SIDE SWIPE - SAME DIRECTION	MCKENZIE AVE	TRANS-CANADA HWY	48.45967200000	-123.40468100000	Report 0001 DRIVER REPTG. DOES NOT KNOW ABOUT ANY INCIDENT. NO DMGE TO HIS VEH. ;Report 0002 INSD SW/B IN L/LANE ON MCKENZIE IN HEAVY TRFC,TP SW/B IN R/LANE,TP SIGNALLED AND MERGED W/O HESITATION,TP HIT INSD R/F,TP BACK INTO R/LANE(TO PULL OVER),INSD COULDN'T PULL OVER,GOT TP L/P.
007793827	2	13/11/2009	6.00	1230	Friday	2009	NOVEMBER	12 01-15 00	4	CASUALTY	SIDE SWIPE - SAME DIRECTION	MCKENZIE AVE	TRANS-CANADA HWY	48.45967200000	-123.40468100000	Report 0001 INS 7/B MCKENZIE AVE IN L/TURN LANE (3/3) & T/P 7?B MCKENZIE SAME DIRECTION & PASSED OTHER TRAFFIC TO GET INTO LN 3/3 & T/P R/SIDE COLLIDED WITH INS L/SIDE ;Report 0002 INSD E/B ON MCKENZIE IN LN 2/3. TP INFRONT OF INSD. INSD MOVED INTO LN 3/3 & WAS FULLY ESTABLISHED IN THE LANE. TP THEN ATTEMPTED TO MOVE INTO LN 3/3 AND STRUCK INSD R/R TIRE WITH TP L/F DOOR, L/F BUMPER. ;
007459367	1	03/10/2008	6.00	0300	Friday	2008	OCTOBER	0 01-3 00	0	PROPERTY DAMAGE ONLY	SINGLE VEHICLE	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 INSD TURNED CORNER AND WAS GOING TO MERGE, INSD PANICKED & HIT GAS INSTEAD OF BRAKE. INSD SPUN OUT & HIT A POLE. ;Report 0002 PD ONLY - XXXXXX 4 - CONTACT XXXXXXXX
006796540	1	10/11/2007	7.00	2100	Satur	2007	NOVEMBER	18 01-21 00	0	PROPERTY DAMAGE ONLY	SINGLE VEHICLE	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 INS TURNING LEFT FROM MCKENZIE TO GO ONTO HWY1, INS SUDDENLY REALIZED SHE WAS IN THE WRONG LN & THERE WAS ON-COMING TRAFFIC COMING. INS WENT ONTO EASEMENT & THEN HIT TREE. DMG F/BMP & PASS H/L. ;
006797972	2	26/11/2007	2.00	1720	Monda	2007	NOVEMBER	15 01-18 00	1	CASUALTY	UNDETERMINED	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 MVA - INS & TP ?B MERGING ONTO HWY #1 FROM MACKENZIE. INS STOPPED FOR PEDESTRIAN AT CROSSWALK. TP HIT INS R/E WITH F/E. NO OTHER VEHICLES INVOLVED. ;Report 0002 INS SW MCKENZIE IN R/LANE. T/P AHEAD OF INS. T/P SLOWED/STOPPED & INS R/E T/P. INS DMG F/E.
007894511	2	04/01/2010	2.00	1730	Monda	2010	JANUARY	15 01-18 00	2	CASUALTY	UNDETERMINED	MCKENZIE AVE	TRANS-CANADA HWY	48.45967200000	-123.40468100000	Report 0001 INSD ON MCKENZIE TURNING LEFT ONTO TRANS CDA HWY. INSD ENTERED INT ON GREEN LIGHT THEN WAITED FOR TRAFFIC. LIGHT TURNED YELLOW SO INSD STARTED TO TURN. TP ON ADMIRALS COMING TOWARDS INSD. TP HIT INSD R/SIDE. ;Report 0002 INSD TRAV N ON ADMIRALS. TP TRAV S ON ADMIRALS AND MAKING A L/H TURN IN FRONT OF INSD. THE VEHICLES COLLIDED WHEN LIGHT WAS YELLOW. INSD HAS DAMAGE TO THE FRONT END AND L/S FENDER.
007143064	2	30/07/2008	4.00	1600	Wedn	2008	JULY	15 01-18 00	1	CASUALTY	UNDETERMINED	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 INS NB IN 2/2 ON MCKENZIE. TP IN FRONT OF INS IN L/2. INS STATES AN OBJECT HIT INS W/S INS SWERVED, INS HIT TP'S REAR WITH HIS L/FRONT ;Report 0002 INS EB L1/2 ON MCKENZIE. TP EB L2/2. TP SWERVED INTO L1/2 AFTER SOMETHING HIT TP'S W/S. INS FELT IMPACT, HIT BRAKES AND FELT ANOTHER IMPACT .
006318405	2	29/12/2006	6.00	1800	Friday	2006	DECEMBER	15 01-18 00	0	PROPERTY DAMAGE ONLY	UNDETERMINED	MCKENZIE AVE	HWY 1	48.45967200000	-123.40468100000	Report 0001 INSRD MERGING ONTO HWY AND TP R/E INSRD. ;Report 0002 INS N/B HWY 1 IN LANE 1/2. TP IS COMING OFF MCKENZIE, MERGING INTO HWY 1, IN MERGING LANE. TP L/F HIT INS R/SIDE DOOR. INS STOPPED. TP WAS GOING TO KEEP GOING.
007546655	1	17/05/2009	1.00	1200	Sunda	2009	MAY	9 01-12 00	0	PROPERTY DAMAGE ONLY	CONFLICTED	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD W/B L1/3; TP DIRECTLY IN FRT OF INSD STOPPED FOR TRAFFIC; INSD DIDN'T STOP IN TIME & R/ENDED TP; TP NOT PUSHED INTO ANYONE ELSE; TP & INSD TALKED BUT DIDN'T EXCHANGE PLATE #S & DL #S ;
006771912	1	02/10/2007	3.00	0352	Tuesa	2007	OCTOBER	3 01-6 00	0	PROPERTY DAMAGE ONLY	CONFLICTED	TRANS-CANADA HWY	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 SVA. INS S/B TRANS-CANADA L1/2. VERY WET RD. INS REAR WHEELS SLID. INS WENT UP ON MEDIAN, ROLLED ONTO R/SIDE OFF MEDIAN & WENT INTO DITCH & THEN OUT AGAIN. ;Report 0002 PD ONLY FILE# XXXXXX 0 - CONTACT XXXXXXXX
008084084	1	22/06/2010	3.00	1130	Tuesa	2010	JUNE	9 01-12 00	1	CASUALTY	CONFLICTED	TRANS-CANADA HWY	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 ROAD RAGE INCIDENT. TP ON MOTORCYCLE. INS WAS STOPPED @ R/LIGHT. TP JUMPED OFF HIS MOTORCYCLE, RAN AROUND TO INS' R/F DOOR.INS' WINDOW WAS OPEN, TP PROCEEDED TO BEAT UP INS' SON(PSGR IN INS' VEH).TP ARRESTED. ;
007590503	2	24/06/2009	4.00	1047	Wedn	2009	JUNE	9 01-12 00	1	CASUALTY	CONFLICTED	TRANS-CANADA HWY	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INS E/B TRANS-CANADA HWY LN 1/2 & T/P 2/2 T/P CHANGED FROM 2/2 TO 1/1 & INS ATTEMPTED TO SWERVE BUT T/P L/F COLLIDED WITH INS R/F ;Report 0002 AS INSD WAS E/B TCH L 4/5, TP WAS E/B TCH L 3/5. AS INSD'S LANE IS FOR L/T TRAFFIC, AND AS INSD WANTED TO GO STRAIGHT, INSD PROCEEDED TO CHANGE INTO L 3/5. TP'S L/F HIT INSD'S R/R. INSD HAD NOT SEEN/HEARD TP. ;
007197710	0	01/08/2008	6.00	2310	Friday	2008	AUGUST	21 01-24 00	0	PROPERTY DAMAGE ONLY	CONFLICTED	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 DRIVING DOWN TRANS CANADA AND REAR-ENDED BY A US INS FROM CALIFORNIA. ;
006155088	2	11/08/2006	6.00	1653	Friday	2006	AUGUST	15 01-18 00	0	PROPERTY DAMAGE ONLY	CONFLICTED	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS DRVG ON HIGHWAY N/B IN L1/2, TP ON INS RIGHT IN THE MERGING LANE. ;Report 0002 INSD MERGING ONTO HWY, TP LANE 1/2, INSD'S TRUCK AND TRAILER HALF WAY INTO LANE 1/2 WHEN TP ATTEMPTED TO PASS INSD AND INSD STRUCK TP S RIGHT FRONT WITH INSD'S ??

006651283	2	22/07/2007	1.00	2100	Sunda	2007	JULY	18 01-21 00	1	CASUALTY	HEAD ON	TRANS-CANADA HWY	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INS ?/B ADMIRALS TURNING L/ ONTO TRANS-CANADA HWY. INS MISTAKINGLY TURNED INTO ONCOMING TRAFFIC LANE. TP COMING OPP. DIRECTION ON HWY. INS L/SIDE SIDESWIPED TP L/SIDE. NDV. ;Report 0002 INSD N/B TRANS-CANADA HWY L1/2 GOING STRAIGHT. TP S/B TRANS-CANADA,TP CAME ACROSS INTO INSD LANE AND TP'S FRONT END HIT INSD LEFT SIDE AND INSD WENT INTO THE DITCH.
005966100	2	05/03/2006	1.00	1525	Sunda	2006	MARCH	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS SB IN 3/4(LEFT TURN LANE) INS STARTED TO PROCEED. TRAFFIC STOPPED INS STOPPED. TP BEHIND INS FAILED TO STOP IN TIME R/E INS. ;Report 0002 INS S/B ON TRANS-CANADA HWY LANE 4OF4. TP S/B ON TRANS-CANADA HWY AHEAD OF INS. TP STOPPED. INS F/E COLL WITH TP R/E. ;
006136211	2	16/07/2006	1.00	2229	Sunda	2006	JULY	21 01-24 00	4	CASUALTY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD NB ON TRANS CANADA L2/2. TP NB DIRECTLY BEHIND INSD. INSD CAME TO STOP, TP FAILED TO STOP AND R/E TP. INSD AND 2 PASS GOING TO DOCTOR, 1 PASS TAKEN IN AMBULANCE. ;Report 0002 INS N/B ON HWY 1 IN 2/2. TP DIRECTLY IN FRONT OF INS WAS STOPED FOR TRAFFIC AHEAD AND INS R/ENDED TP. INS FRONT END HIT TP'S REAR END.
007102739	2	18/05/2008	1.00	1830	Sunda	2008	MAY	18 01-21 00	4	CASUALTY	REAR END	TRANS-CANADA HWY	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INS WAS PSGR IN VEH THAT WAS R/ENDED. ;Report 0002 INS N/B ON HWY IN 3/3 STOPPED WAITING TO MAKE A L/TURN. TP BEHIND INS. TP R/ENDED INS. INS NOT PUSHED INTO ANY OTHER VEHS. ;Report 0003 DETAILS OFF OF TP CLAIM. TP VEH INFRONT. STOPPED WAITING TO TURN L/TURN. INDS R/ENDED TP VEH. DMG TO FRONT END. TP DMG REAR BMPR/FENDER.
007235646	2	21/09/2008	1.00	1110	Sunda	2008	SEPTEMBER	9 01-12 00	2	CASUALTY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD DRIVING DOWN TRANS-CANADA HWY. TP BEHIND INSD. TP KEPT RUSHING UP BEHIND INSD & THEN BACKING OFF. TP CAME UP BEHIND INSD AND REARENDED INSD. ;Report 0002 INS ?/B ON HWY 1 AT RED LITE - LITE WENT GRN - ONCOMING AMB SO TRAFFIC STOPPED - INS TOOK FOOT OFF BRAKE AND ROLLED INTO TP R/BUMPER - TP GOT OUT OF VEH FURIOUS CA XXXXXX ACCUSED INS OF BEING IMPAIRED ;
008198077	2	19/09/2010	1.00	1930	Sunda	2010	SEPTEMBER	18 01-21 00	0	PROPERTY DAMAGE ONLY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS WAS STOPPED SB TRANS-CANADA HWY L1/2. TP R/E INS. INS TRAILER & BOAT TRAILER WERE DAMAGED. ;Report 0002 INS WAS STOPPED SB L1/2. TP SB BEHIND. TP R/E INS. TP F/E HIT INS RE. INS HAS DAMAGE TO BOAT HE WAS TOWING & TO BOAT TRAILER. ;Report 0003 INS STOPPED IN LINEUP OF TRAFFIC ON PAT BAY HWY -- INS FOOT SLIPPED OFF THE BRAKE & R/E TP --- TP VEH WAS TRUCK TOWING A BOAT -- INS STRUCK BOAT MOTOR ;
008297980	2	12/12/2010	1.00	1730	Sunda	2010	DECEMBER	15 01-18 00	1	CASUALTY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS WAS ON TRANSCANADA SB IN L 2/4. TP WAS STOPPED IN L 2/4 DIRECTLY IN FRONT OF INS. INS FRONT GRILLE HIT TP R/BUMPER. INS GOT A TICKET AT THE SCENE ;Report 0002 INSD S/B ON TCH, LN 2/4, STOPPED FOR R/LITE. TP HIT INSD WHILE STOPPED. DMG TO INSD R/BUMPER. INSD NOT PUSHED FORWARD.
006201461	3	11/09/2006	2.00	0725	Monda	2006	SEPTEMBER	6 01-9 00	2	CASUALTY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS SB HWY 1 L1/2. TP2 XXXXXX BEHIND INS. TP XXXXXX BEHIND TP2. INS STOPPED IN TRAFFIC. INS FELT FIRST IMPACT WHEN TP2 R/E INS & THEN A GREATER IMPACT WHEN TP PUSHED TP2 INTO INS AGAIN. ;Report 0002 INSD S/B TRANS-CANADA HWY LN 1/2 STOPPED@RR/LIGHT BEHIND TRAFFIC. TP XXXXXX DIRECTLY BEHIND F/END STRUCK INSD R/END & PUSHED INSD INTO TP2. TP2 XXXXXX STOPPED IN FRONT OF INSD. NO WITNESSES. ;Report 0003 INSD, T/P & T/P#2 ?/B ON HIGHWAY. INSD, T/P & T/P#2 IN LANE 1 OF 2. T/P WAS STARTING TO CHANGED INTO LANE 2. T/P#2 STOPPED. T/P STOPPED. INSD R/E T/P. T/P GOT PUSHED INTO T/P#2. ;
006368161	2	08/01/2007	2.00	1650	Monda	2007	JANUARY	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD VEH WAITING IN TRAFFIC FOR LITE. TP VEH R/E INSD VEH. ;Report 0002 INSD STOPPING FOR RED LITE BEHIND TP - TP STOPPED - INSD FOOT SLIPPED OFF BRAKE AND REAR ENDED TP.
006466016	2	12/03/2007	2.00	1700	Monda	2007	MARCH	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS N/B ON HWY 1 - TP N/B DIRECTLY IN FRONT OF INS - INS REAR ENDED TP ;Report 0002 INS N/B HWY 1, LANE ?/?. TP BEHIND INS, SAME LANE. INS WAS REAR-ENDED BY TP. INS NOT PUSHED INTO ANYONE ELSE. ;
006999766	2	28/04/2008	2.00	0835	Monda	2008	APRIL	6 01-9 00	1	CASUALTY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD W/B ON MACKENZIE IN THE 1/3 (ONRAMP). TP IN FRONT BRAKED. INSD BRAKED BUT SKIDDED INTO TP'S VEH. INSD'S F/END HIT TP'S R/END. ;Report 0002 INSD NB MCKENZIE ST ATTEMTPING TO MERGE ONTO TRANS-CANADA HWY. TP BEHIND INSD. INSD STPD DUE TO TRAFFIC IN FRONT. TP REARENDED INSD CAUSING DMGE TO INSD'S REAR BUMPER, QPANEL, TRUNK.
007984771	1	05/04/2010	2.00	1615	Monda	2010	APRIL	15 01-18 00	1	CASUALTY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS DRV DOWN HWY.INS BRAKED FOR TRAFFIC AHEAD. TP BEHIND. TP REAR ENDED INS. DMG TO REAR END, REAR BUMPER ;Report 0002 INSD ON HWY 1, JUST BEFORE MCKENZIE TRAFFIC STOPPED & INSD R/E TP. INSD AIRBAGS DEPLOYED
008003154	2	05/04/2010	2.00	1330	Monda	2010	APRIL	12 01-15 00	2	CASUALTY	REAR END	TRANS-CANADA HWY	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INS E/B TRANS-CANADA HWY (TOWARDS TOWN) LN 3/3 (LEFT TURN LANE) T/P AHEAD OF INS FULLY STPD WAITING FOR ADVANCE GREEN ARROW INS FOOT CAME OFF BRAKED & TAPPED T/P R/E - NOTHING VISIBLE ON EITHER VEH ;Report 0002 INS STOPPED AT RED LIGHT, TURNING OFF LANE FROM HIGHWAY TO MCKENZIE, LANE 4/4, LT TURN ONLY, TP STOPPED BEHIND INS, TP TOOK FOOT OFF BRAKE AND BUMPED INS' REAR BUMPER MIDDLE. NO POLICE/AMBULANCE ATTENDED.
008219865	2	04/10/2010	2.00	1215	Monda	2010	OCTOBER	12 01-15 00	1	CASUALTY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS S/B ON TRANS CANADA HWY IN LN 1/2. TP DIRECTLY INFRONT OF INS & STOPPED. INS UNABLE TO STOP IN TIME. INS FRONT BUMPER COLLIDED WITH TP REAR BUMPER. ;Report 0002 INS S/B ON DOUGLAS/HWY AND STOPPED IN TRAFFIC. TP BEHIND R/ENDED INS. TPS' F/BUMPER COLL WITH INS REAR BUMPER.
006687698	2	07/08/2007	3.00	1300	Tuesa	2007	AUGUST	12 01-15 00	1	CASUALTY	REAR END	TRANS-CANADA HWY	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INS WAS ON TRANS CANADA WAY STOPPED AT RED LIGHT. TP WAS DIRECTLY BEHIND. TP R/ENDED INS. ;Report 0002 INSD S/B LN 2/4 STOPPED FOR TRAFFIC TOOK FOOT OFF THE BRAKE AND ROLLED INTO TP DIRECTLY IN FRONT

006897776	3	22/01/2008	3.00	1220	Tuesa	2008	JANUARY	12 01-15 00	3	CASUALTY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS TRAVELLING W/B TRANS-CANADA HWY IN LN 2/3. STOPPED AT RED LIGHT. TP BEHIND INS STOPPED AND TP2 R/ENDED TP AND TP WAS PUSHED INTO INS. ;Report 0002 TP REPORTS TP N/B TRANS-CANADA HWY 3/4, TP STOPPED INTRAFFIC INS XXXXXX DIRECTLY BEHIND TP. INS R/E TP. TP PUSHED INTO TP2 XXXXXX ;Report 0003 INS N/B TRANS-CANADA HWY 3/4. INS STOPPED IN TRAFFIC. TP XXXXXX DIRECTLY BEHIND INS. TP R/E INS. INS PUSHED INTO TP2 XXXXXX
007003960	2	22/04/2008	3.00	2235	Tuesa	2008	APRIL	21 01-24 00	1	CASUALTY	REAR END	TRANS-CANADA HWY	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INS(UNDERCOVER POLICE VEH) SB 2/2 ON TRANS CANADA HWY STOPPED IN A LINE OF TRAFFIC AT A RED LIGHT. TP BEHIND INS FAILED TO STOP & R/E INS. INS NOT PUSHED INTO VEH IN FRONT ;Report 0002 INS E/B L1/2 ON HWY 1 STOPPED AT RED LITE. TP DIRECTLY INFRONT OF INS. INS REAR ENDED TP.TP DID NOT PUSH INTO ANOTHER VEHICLE. ;
007070826	2	06/05/2008	3.00	1620	Tuesa	2008	MAY	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS PREFERS TO SPEAK IN PERSON. NO DETAILS. ;Report 0002 INSD S/B TRANS-CANADA HWY LN 2/2. INSD HAD TO STP IN TRAFFIC. TP CAME FR BEHIND & R/ENDED INSD.
007071916	3	27/05/2008	3.00	1730	Tuesa	2008	MAY	15 01-18 00	5	CASUALTY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSURED STOPPED IN TRAFFIC. TP VEHICLE REARENDED INSURED. INS PUSHED INTO TP2. THREE MORE VEHICLES THEN REARENDED EACH OTHER. SIX CARS IN TOTAL ;Report 0002 INS COMING AROUND CURVE IN ROAD, TP SLAMMED ON BRAKES, TP PUSHED INTO TP2. THREE MORE VEHICLES THEN REARENDED EACH OTHER. SIX CARS IN TOTAL. POLICE HAVE ALL INFO ;Report 0003 MVA -MULTI VEH- IN & 6 OTHER VEHS S/B ON HWY IN LN 2/2. TRAFFICSTOPPED. INS HIT TRUCK IN FRONT OF HER REAR VEH GREEN CAR HIT SUV BEHIND INS THEN PUSHED SUV INTO INS & STARTED THE CHAIN.
007530560	2	28/04/2009	3.00	1445	Tuesa	2009	APRIL	12 01-15 00	0	PROPERTY DAMAGE ONLY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD STOPPED FOR RED LIGHT ON TRANSCANADA AT MCKENZIE. TP BEHIND FAILED TO STOP & R/E INSD. ;Report 0002 INSD APPROACHING RED LIGHT. TP HAD JUST SWITCHED LANES & INSD WAS SLOWING DOWN. INSD REALIZED TP WAS THERE & BRAKED BUT BUMPED INTO TP REAR BUMPER. ;
007603948	2	23/06/2009	3.00	1700	Tuesa	2009	JUNE	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	TRANS-CANADA HWY	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INS N/B ON HWY IN LN 2/2. TP DIRECTLY BEHIND INS. TRAFFIC HEAVY. EVERYONE STPD FOR R/LIGHT. GREEN LIGHT CAME ON, LN 1/2 STARTED MOVING AND TP JUMPED THE GUN AND R/E INS. NO WITN. NO POLICE. ;Report 0002 INS ?/B HWY 1. TP DIRECTLY IN FRONT OF INS. INS FRONT PLATE COLLIDED WITH TP'S TRAILER HITCH
007959819	2	02/03/2010	3.00	1015	Tuesa	2010	MARCH	9 01-12 00	2	CASUALTY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS E/B ON TRANS-CANADA HWY IN L1/2 S FOR R/LITE, TP DIRECTLY BEHIND INS. TP R/ENDED INS. TP F/BUMPER HIT INS REAR BUMPER. INS WAS NOT PUSHED INTO ANOTHER VEH. NO EMG VEH ATTENDED. ;Report 0002 INSD S/B HWY 1 L1/2 GOING STRAIGHT, TP STOPPED INFRONT OF INSD. INSD NEVER STOPPED IN TIME AND INSD RE TP. TP NOT PUSHED INTO ANY OTHER VEH
008025206	2	04/05/2010	3.00	0740	Tuesa	2010	MAY	6 01-9 00	0	PROPERTY DAMAGE ONLY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 ECLAIM. INS SB TC LN 2/2; TP DIRECTLY BEHIND. TRAFFIC WAS HEAVY & GOING AT A SLOW PACE. TP R/E'D INS HITTING INS'S REAR HATCH DOOR WITH TP'S F/E. ;Report 0002 BOTH INS & TP S/B 2/2 IN BUMPER TO BUMPER TRAFFIC, INS GOT LAZY & BUMPED INTO TP, TP DIRECTLY INFRONT OF INS, INS FRONT BUMPER HIT TP REAR BUMPER
008117390	2	27/07/2010	3.00	1615	Tuesa	2010	JULY	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS S/B TRANS-CANADA HWY LN 2/2 & T/P TRAVELLING BEHIND INS - INS BRAKED FOR TRAFFIC & T/P F/E BUMPED INS R/E & INS NOT PUSHED INTO ANYONE ;Report 0002 DRIVER ON TRANS-CANADA HWY L2/2. TP IN FRNT OF INS. TRAFFIC HEAVY. TP STPD. INS R/ENDED TP ;
008138065	2	03/08/2010	3.00	0230	Tuesa	2010	AUGUST	0 01-3 00	0	PROPERTY DAMAGE ONLY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 BOTH VEHS E/B ON HWY LN 2/2. INS STPD IN TRAFFIC WHEN TP R/E INS. NO OTHER VEHS INVOLVED. NO EMERG VEHS ATTD. NO WITN. ;Report 0002 COLL. INSD E/B T/C HWY 2/2, TP STPD (RO DOES NOT KNOW DETAILS). INSD UNABLE TO STP IN TIME AND HIT TP'S REAR BUMPER.
008225405	2	05/10/2010	3.00	0615	Tuesa	2010	OCTOBER	6 01-9 00	2	CASUALTY	REAR END	TRANS-CANADA HWY	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 TP & INSD E/B IN LN 1/3 OF HWY. PED (IMPAIRED?) RAN ACROSS HWY. TP BRAKED. INSD BRAKED & SWERVED. INSD VEH R/FRT HIT TP VEH L/REAR. PED WENT INTO DITCH. POLICE ATTD & APPREHENDED PED. ;Report 0002 INS S/B TRANS-CANADA HWY LN 1/2 T/P BEHIND INS - INSURED HAD TO BRAKE FOR AN IMPAIRED PEDESTRIAN JUST MISSING PEDESTRIAN & TP F/E COLL WITH INS R/E
005895903	2	11/01/2006	4.00	1800	Wedn	2006	JANUARY	15 01-18 00	2	CASUALTY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS S/B TRANS-CANADA HWY L2/3. TP S/B DIRECTLY BEHIND THE INS. INS STP. FOR R/LIGHT. TP FAILED TO STOP AND REAR ENDED INS VEHICLE. ;Report 0002 INS S/B LN 2/2. TP DIRECTLY AHEAD OF INS. ROADS VERY WET. INS WANTED TO MAKE L/TURN SO WAS GOING TO CHANGE LANES BUT ANOTHER VEH WAS THERE SO INS TURNED BACK INTO OWN LANE AND R/ENDED TP. TP NOT PUSHED AHEAD
006109738	2	05/07/2006	4.00	1300	Wedn	2006	JULY	12 01-15 00	1	CASUALTY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD WAS S/B IN LN 2/4 ON HWY, APPROACHING LIGHT, SLOWED AS WAS AMBER. T/P BEHIND INSD IN LN 2/4 ALSO S/B ON HWY, T/P R/ENDED INSD. T/P'S F/BMPR HIT INSD S R/BMPR. SOME DETAILS UNCLEAR. INSD & PSSGR INJD. ;Report 0002 INSD S/B ON THE HWY L2/4 GOING STRAIGHT,TP INFRONT OF INSD. LITE TURNED AMBER AND TP SLAMMED ON BRAKES BUT INSD COULDNT STOP IN TIME AND INSD RE TP. TP WASN'T PUSHED INTO ANY OTHER VEH ;
006123350	2	26/07/2006	4.00	0830	Wedn	2006	JULY	6 01-9 00	1	CASUALTY	REAR END	TRANS-CANADA HWY	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INS S/B 2/2 TRANS-CANADA. TP DIRECTLY BEHIND. INS AT STOP LIGHT. TP DIDN T STOP AND REAR ENDED INS. TP FRONT END HIT INS REAR END. INS WAS PUSHED INTO ANYONE. ;Report 0002 INS ?/B TRANS CANADA HWY. TP DIRECTLY IN FRONT OF INS. INS FRONT BUMPER COLLIDED WITH TP'S REAR BUMPER.
006182516	2	09/08/2006	4.00	1700	Wedn	2006	AUGUST	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD S/B TRANS-CANADA HWY LN 2/2. TP DIRECTLY BEHIND INSD. TRAFFIC STOPPED AHEAD. TP R/E INSD. ;Report 0002 INS WAS ON TRANSCANADA HWY IN L2/2. INS SLOWING DOWN AT A RED LIGHT. TP WAS DIRECTLY IN FRONT OF INS. TP WAS STOPPED. INS REAR ENDED TP. INS HAS NO DMGE FRONT BUMPER. TP HAS NO VISIBLE DMGE REAR BUMPER.

006683008	1	08/08/2007	4.00	1730	Wedn	2007	AUGUST	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	TRANS-CANADA HWY	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INS S/B IN L2/4. TP S/B IN L2/4. INS HEARD A SIRENS & PULLING TO SIDE (POLICE HEADING N/B MAKING L/T ONTO ADMIRAL) TP MADE A FULL STOP RIGHT AT INTERSECTION. INS REAR ENDED TP. INS'D L/F BUMPER STRUCK TP'S R/R ;Report 0002 ALBERTA INSURED VEHICLE REAR-ENDED BY BC INSURED VEH. ;Report 0003 ALBERTA INSURED VEHICLE REAR-ENDED BY BC INSURED VEH.
006689848	2	15/08/2007	4.00	1430	Wedn	2007	AUGUST	12 01-15 00	0	PROPERTY DAMAGE ONLY	REAR END	TRANS-CANADA HWY	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INS W/B ON TRANS-CANADA HWY. TP W/B ON TRANS-CANADA HWY BEHIND INS. INS STOPPED & VEERED TO THE RIGHT FOR TRAFFIC AHEAD. TP R/F BUMPER COLL WITH INS L/R BUMPER. ;Report 0002 INS W/B ON TRANS-CANADA HWY IN LN 2/3 - TP W/B DIRECTLY IN FRONT OF INS - TP STOPPED FOR TRAFFIC - INS REAR ENDED TP - TP WAS NOT PUSHED INTO ANY OTHER VEH ;
006890550	2	02/01/2008	4.00	1620	Wedn	2008	JANUARY	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD S/B ON TRANS-CANADA. LIGHT TURNED GREEN AND ISND ROLLING AHEAD. TP DIRECTLY BEHIND INSD. TP REAR ENDED INSD. POLICE ATTENDED ;Report 0002 INSD TRAV S ON TRANS CANADA HWY IN 3/4. TP WAS STOPPED IN FRONT OF INSD. INSD STRUCK TP ON THE REAR BUMPER WHEN TP PROCEEDED TO MOVE, BUT NOT AS FAST AS THE INSD.
007043158	2	07/05/2008	4.00	0755	Wedn	2008	MAY	6 01-9 00	0	PROPERTY DAMAGE ONLY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD IN STOP & GO TRAFFIC, INSD STPD THEN HIT FROM BEHIND BY T/P. INSD'S REAR D/S BUMPER. NO INJURIES/NO POLICE ;Report 0002 INS S/B ON TRANS-CANADA IN LN 1/2. TP DIRECTLY AHEAD. STOP AND GO. INS LET FOOT OFF BRAKE, TP STPD AGAIN AND INS TOUCHED TP R/BPR. NO WITNESSES. NO POLICE.
007450825	2	18/02/2009	4.00	1430	Wedn	2009	FEBRUARY	12 01-15 00	1	CASUALTY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD S/B IN L2/2. TP IN FRONT OF INSD. TP SLOWED DOWN FOR MERGING TRAFFIC, INSD R/E TP. INSD HAD TRAILER HOOKED UP, TRAILER JUMPED OFF BALL CAUSING DMG TO HITCH. ;Report 0002 INSD WAS S/B TCH L 2/2. L 1/2 CLOSED DUE TO CONSTRUCTION. TP DIRECTLY BEHIND INSD. WHEN INSD STOPPED DUE TO STOPPED VEHS AHEAD, TP R/E INSD. INSD DRVR HURT HER NECK AND BACK.
008084394	2	16/06/2010	4.00	1530	Wedn	2010	JUNE	15 01-18 00	2	CASUALTY	REAR END	TRANS-CANADA HWY	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INSD S/B ON THE HWY L2/3 GOING STRAIGHT. TP INFRONT OF INSD. TP VEH STALLED AND INSD RE TP. TP NOT PUSHED INTO ANY OTHER VEH ;Report 0002 INS S/B LANE 2/4 ON TRANS-CANADA. INS STOPPED FOR R/LIGHT. TP R/E INS.
008182699	2	15/09/2010	4.00	1200	Wedn	2010	SEPTEMBER	9 01-12 00	0	PROPERTY DAMAGE ONLY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD STOPPED AT R/LITE. TP R/E INSD. INS NOT PUSHED INTO ANYONE AHEAD. ;Report 0002 COLLISION - INSD NB HWY 1 - HEAVY TRAFFIC, SLOW MOVING. TP DIRECTLY IN FRONT . TP STOPPED. INSD ATTEMPTED TO STOP - FOOT CAUGHT UNDER PEDAL - INSD R/ENDED TP. NO EMERGENCY VEHICLES
008296346	1	15/12/2010	4.00	1710	Wedn	2010	DECEMBER	15 01-18 00	3	CASUALTY	REAR END	TRANS-CANADA HWY	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INSD N/B ON TRANS-CANADA L2/2 STOP AND GO TRAFFIC. INSD ALMOST STOPPED IN TRAFFIC WHEN TP DIRECTLY BEHIND INSD HIT INSD REAR BUMPER WITH TP FRONT BUMPER.
008302656	2	08/12/2010	4.00	1500	Wedn	2010	DECEMBER	12 01-15 00	0	PROPERTY DAMAGE ONLY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS'D WAS DRIVING E/B ON LN 2/2. TP DIRECTLY IN FRONT OF INSD. INSD R/ENDED TP VEH. DAMAGE TO R/SIDE FRONT BUMPER/HEADLIGHT/HOOD. ;Report 0002 INSD S/B ON TRANSCANADA, LN 2/2. TP DIRECTLY BEHIND INSD. RAINING REALLY HEAVY, HEAVY TRAFFIC. INSD STOPPED, TP R/E INSD.
006021639	2	25/05/2006	5.00	0820	Thurs	2006	MAY	6 01-9 00	1	CASUALTY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS E/B HWY 1. BUMPER TO BUMPER TRAFFIC. STOP & GO. TP E/B IN FRONT OF INS. INS R/E T/P. ;Report 0002 INSD S/B ON HWY 1 IN L 2/2 NEARING MCKENZIE EXIT. TP IN L2/2 BEHIND INSD APPROX ONE/TWO CAR LENGTHS BEHIND. TP DROVE INTO INSD R/E. TP STATED TO INSD, TP DISTRACTED BY BABY . TPS F/E MET WITH INSD S R/E. ;
006203235	2	07/09/2006	5.00	1450	Thurs	2006	SEPTEMBER	12 01-15 00	0	PROPERTY DAMAGE ONLY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 COLL-INSD N/B TRANS-CDA HWY, - TP VEH. AHEAD STPD FOR MERGING VEH. ?- INSD ATTEMPTED TO AVOID TP- INSD R/E TP-NO INJ. POL ATTD. ;Report 0002 INSD N/B TRANS-CANADA L2/3. TP DIRECTLY BEHIND INSD L2/3. INSD HAD TO SLOW DOWN TO AVOID OTHER VEH THAT WAS MERGING IN AHEAD. TP FAILED TO SLOW & R/ENDED INSD. INSD NOT PUSHED INTO VEH AHEAD.
006287849	2	23/11/2006	5.00	1030	Thurs	2006	NOVEMBER	9 01-12 00	0	PROPERTY DAMAGE ONLY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS NB ON TRANS CAN HWY IN LN 2/2. TP DIRECTLY IN FRONT. UNKNOWN VEH CUT IN FRONT OF TP. TP STOPPED AND INS F/BUMPER HIT TP R/BUMPER ;Report 0002 INSD WAS W/BOUND ON HWY 1 L2/2. TP WAS DIRECTLY BEHIND INSD. INSD WAS MOVING WHEN TP REAR ENDED INSD. INSD NOT PUSHED INTO ANY OTHER VEH.
006361868	2	18/01/2007	5.00	1830	Thurs	2007	JANUARY	18 01-21 00	0	PROPERTY DAMAGE ONLY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS N/B 1/2 HWY 1, MVA DIRECTLY AHEAD - RAINY/ICY - TP2 DIRECTLY IN FRONT SLAMMED ON BRAKES GOING OVER SHOULDER, INS LOST CONTROL AND SLID INTO TP DMG NONE TO REAR. INS DMG F/END - RADIATOR. POLICE ATTENDED. ;Report 0002 INS DRV N/B ON TCH IN L1/2, TRAFFIC AHEAD STOPPED QUICKLY. INS STOPPED & TP R/E. NOT PUSHED INTO VEH AHEAD ;
006551506	2	24/05/2007	5.00	0950	Thurs	2007	MAY	9 01-12 00	1	CASUALTY	REAR END	TRANS-CANADA HWY	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INS S/B TRANSCANADA HWY -STOPPED IN LINE OF TRAFFIC -TP APPROACHING -TP'S FOOT SLIPS OFF BRAKE -TP FRONT HIT THE BACK OF INS VEH PUSHED INS INTO TP2 -TP2 DID NOT SEE ANY MD AND LEFT W/OUT EXCHG OF INF ;Report 0002 INSD SB L3/4 STOPPED BEHIND TP INSD ADJUSTING SEAT FOOT SLIPPED OFF BREAK AND CAR WENT FWD-INSD R/ENDED TP-TP THEN HIT TP2-TP2 LEFT WITHOUT EXCHANGING INFO ;
006673545	2	16/08/2007	5.00	1500	Thurs	2007	AUGUST	12 01-15 00	0	PROPERTY DAMAGE ONLY	REAR END	TRANS-CANADA HWY	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INS ?/B ON HIGHWAY 1 STOPPED A RED LIGHT. LIGHT TURNED GREEN. BEFORE INS COULD MOVE FORWARD, TP REARENDED INS. ;Report 0002 INSD S/B ON TRANS-CANADA IN L2/3, TP XXXXXX & TP2 S/B DIR AHAD OF ISND. TP & TP2 STPD FOR RED LIGHT. INSD BRAKED BUT VEH DID NOT STOP, INSD REAR ENED TP, TP PUSHED INTO TP2. POSSIBLE NO DMG BETWEEN TP &TP2
007037623	2	10/04/2008	5.00	2020	Thurs	2008	APRIL	18 01-21 00	2	CASUALTY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS NB LEFT TURN LANE, TP DIRECTLY BEHIND INS, INS STOPPED FOR R/LIGHT AND TP REAR ENDED INS. ;Report 0002 INS 4/4, INS IN THE INSIDE L/TRNING LN, LGHT GRN, TP IN FRNT OF INS STPD AND INS HIT TP REAR BMPR WITH INS FRNT BUMPER - TP TOOK INS INFO- INS SAW NO DMG ON EITHER VEH-

007054843	2	22/05/2008	5.00	1250	Thurs	2008	MAY	12 01-15 00	0	PROPERTY DAMAGE ONLY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD WAS ON TRANS-CANADA HWY.INSD WAS STOPPED IN TRAFFIC.TP WAS DIRECTLY BEHIND INSD AND MADE CONTACT WITH INSD REAR BUMPER. POLICE ATTENDED ;Report 0002 INSD R/E TP ON TRAN-CANADA HWY. ;
007292429	2	23/10/2008	5.00	1400	Thurs	2008	OCTOBER	12 01-15 00	3	CASUALTY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 SEE XXXXXX 5 & XXXXXX 3. ;Report 0002 INSD S/B HWY 1 L1/2, TP VEH S/B HWY 1 L1/2 IN FRT OF INSD. CROSSWALK LITES STARTED FLASHING, TP STPD SUDDENLY, INSD VEH R/F BUMPER R/E TP VEH L/R BUMPER. NO WITNESSES ;Report 0003 COLL. INSD SB ON HWY. INSD SLOWED FOR YELLOW FLASHING LITE @ INTERSECTION AHEAD & WAS R/E VERY HARD BY TP. TP CHARGED W/UNDUE CARE/ATTN
007838645	2	03/12/2009	5.00	1500	Thurs	2009	DECEMBER	12 01-15 00	1	CASUALTY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD S/B TRANS-CDA HWY, LN 2/4- INSD STP FOR RED LT- TP VEH. BEHIND INSD R/E INSD -NOT PUSHED INTO ANYONE-NO INJ-NO POL ;Report 0002 RO IS ICBC. AS INSD WAS S/B TCH L 2/4, DIRECTLY BEHIND TP, WHEN TP STOPPED, INSD R/E TP, NO POL/WTN.
008009454	2	08/04/2010	5.00	1730	Thurs	2010	APRIL	15 01-18 00	1	CASUALTY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD W/B HIGHWAY 1 L2/2 STOPPED BECAUSE OF RUSH HOUR TRAFFIC; INSD WAS R/ENDED FRM BEHIND BY TP; INSD NOT PUSHED INTO VEH IN FRT; INSD CAME HOME & THEN CALLED POL; NO WITS ;Report 0002 COLL INSD W/B 1 HWY L2/2. TP IN FRONT. TRAFFIC STOPPED. INSD DAYDREAMING. INSD SAW TRAFFIC IN L1/2 MOVING, INSD STARTED MOVING. DIDN'T REALIZED TP IN FRONT HADN'T MOVED YET. INSD R/E'D TP. TP NOT PUSHED AHEAD
006512011	2	27/04/2007	6.00	1900	Friday	2007	APRIL	18 01-21 00	0	PROPERTY DAMAGE ONLY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INDS S/B IN LN 1/2. INDS STOPPED AT RED LIGHT. TRAFFIC STARTED TO MOVE ON GREEN AND THEN STOPPED AND INDS WAS R/ENDED BY TP VEH. INDS DMG TO REAR BMPR. UNDERCARRIAGE. TP DMG FRONT BMPR. SCRATCHES. POLICE ;Report 0002 INSD S/B?? TRANS-CANADA HWY, L12. TP DIRECTLY IN FRONT OF INSD. INSD & TP WERE STOPPED AT RED LITE. TP STARTED TO MOVE FORWARD, INSD STARTED TO MOVE FORWARD. TP STOPPED AGAIN & INSD R/E TP.
006583395	2	01/06/2007	6.00	1430	Friday	2007	JUNE	12 01-15 00	1	CASUALTY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS ?B MERGING FROM MCKENZIE TO GO ONTO TRANS CANADA HWY TP WAS PULLED OVER ONTO SHOULDER, AS INS WAS GOING TO ENTER INTO DRIVING LANE. TP PULLED OVER FROM SHOULDER, HITTING INS R/F FNDER ;Report 0002 ATTEMPTING TO MERGE ONTO HWY 1 N/B FROM MCKENZIE ONRAMP W/B. TP DIRECTLY BEHIND. INSD SLOWED DOWN FOR TRAFFIC AHEAD. TP LOOKING TO THE LEFT ATTEMPTING TO MERGE & DIDN'T NOTICE INSD HAD STPD. TP R/ENDED INSD. ;
006751147	1	05/10/2007	6.00	1850	Friday	2007	OCTOBER	18 01-21 00	0	PROPERTY DAMAGE ONLY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 RENTAL PLATE XXXXXX (604) XXXXXX REC'D CALL FROM TCD TO REPORT CLAIM. NO DMG TO RENTAL VEHICLE & NO REPORT FROM CUSTOMER. ;Report 0002 INSD STPD AT LIGHT, T/P CAME FROM BEHIND & R/E INSD. NO WITNESS'S/NO INJURIES/NO POLICE.
007587811	2	12/06/2009	6.00	1545	Friday	2009	JUNE	15 01-18 00	0	PROPERTY DAMAGE ONLY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 COLLISION INS NE TRANS CAN. HWY L1/2 MAKING R/T ONTO MCKENZIE AVE. TP DIR INFRONT OF INS VEH. INS THOUGHT TP WENT, TP STOPPED. INS R/E TP. INS R/F BUMPER COLL WITH TP L/R BUMPER ;Report 0002 INSD N/B ON DOUGLAS, WAITING TO YIELD ONTO MCKENZIE. TP DIRECTLY BEHIND, R/E INSD. INSD NOT PUSHED INTO ANY OTHER VEHICLES; INSD HAD NOT CHANGED LANES PRIOR TO MVA
007916548	2	19/02/2010	6.00	1800	Friday	2010	FEBRUARY	15 01-18 00	2	CASUALTY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS ON OFF RAMP OF HWY, TP CAME UP BEHIND AND REAR ENDED INS. POL/FIRE/AMB ATT. INS TAKEN VIA AMBULANCE. ;Report 0002 INSD W/B ON MCKENZIE IN MERGE LANE ATTEMPTING TO GET ONTO PAT BAY HWY, TP WAS DIRECTLLY AHEAD OF INSD., INSD CHECKING TRAFFIC AND INSD THOUGHT TP HAD GONE AND INSD R/E TP.
007996947	2	23/04/2010	6.00	1430	Friday	2010	APRIL	12 01-15 00	0	PROPERTY DAMAGE ONLY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS S/B HWY 1 L3/3. TP FOLLOWING INS. INS SLOWED FOR TRAFFIC. TP R/E INS. INS WAS NOT PUSHED INTO ANYONE ELSE. NO POLICE. NO WITNESSES. ;Report 0002 2 VEH R'END COLL - INS TRAVELLING ON TRANS-CANADA HWY DIRECTLY BEHIND TP. TP STOPPED FOR TRAFFIC AHEAD. INS R'END TP.
008273713	2	05/11/2010	6.00	1445	Friday	2010	NOVEMBER	12 01-15 00	0	PROPERTY DAMAGE ONLY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS ON THE OFFRAMP FOR MCKENZIE AVENUE. TP IN FRONT OF INS. TP STOPPED, YIELDING TO MCKENZIE TRAFFIC. INS SLOWED AND ALMOST STOPPED. TP STARTED TO GO AGAIN, THEN STOPPED AGAIN. INS R/E TP. ;Report 0002 INS ON OFFRAMP FROM W/B HWY 1 TO N/B MCKENZIE. TP FOLLOWING INS. INS STPD WAITING TO ENTER MCKENZIE. TP R/E INS. INS WAS NOT PUSHED INTO ANYONE ELSE. NO POLICE. NO WITNESSES.
005913560	2	11/02/2006	7.00	1100	Satur	2006	FEBRUARY	9 01-12 00	0	PROPERTY DAMAGE ONLY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD ? BOUND ON HWY IN LEFT TURNING LANE STOPPED AT RED LIGHT BEHIND TRAFFIC. TP VEH DIRECTLY BEHIND INSD REARENDED INSUREDS VEH. INSD NOT PUSHED INTO ANYONE. DMG TO R/R CORNER ;Report 0002 INSD WAS TRALLING ALONG TRANS CAN HWY. TP DIRECTLY IN FRT. TP STPPD FOR A R/LITE. INSD R/E TP. INSD'S FRT END STRUCK TP'S R/R BMPR.
006859809	2	08/12/2007	7.00	1702	Satur	2007	DECEMBER	15 01-18 00	1	CASUALTY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS'D WAS N/B ON HWY - INS'D SLOWED FOR TRAFFIC - TP DIRECTLY BEHIND R/E INS D - INS'D WAS NOT PUSHED INTO ANYONE ;Report 0002 INS WAS ON TRANS CANADA HWY IN L2/2. BUSY TRAFFIC. TP WAS DIRECTLY IN FRONT OF INS. TP STOPPED. INS REAR ENDED TP. INS HAS DMGE TO THE FRONT HOOD AREA. TP HAS DMGE TO THE REAR BUMPER. ;
007356579	2	06/12/2008	7.00	0935	Satur	2008	DECEMBER	9 01-12 00	1	CASUALTY	REAR END	TRANS-CANADA HWY	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INSD S/B ON HWY IN L1/2, STOPPED AT RED LIGHT. TP DIRECTLY BEHIND, R/E INSD. INSD NOT PUSHED INTO ANY OTHER VEHICLES. ;Report 0002 INS S/B TRANS-CANADA HIGHWAY -- TP AHEAD OF INS -- TP STOPPED FOR TRAFFIC -- INS UNABLE TO STOP IN TIME/BRAKES FAILED & R/E TP
007845726	1	05/12/2009	7.00	1845	Satur	2009	DECEMBER	18 01-21 00	0	PROPERTY DAMAGE ONLY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INSD STOPPED FACING S/B L4/4 ON HWY 1 AT R/LIGHT. TP R/ENDED INSD. INSD NOT PUSHED INTO ANYTHING. NO RECENT LANE CHANGES. NO POLICE/EMRG VEH. ;

007774393	2	14/10/2009	4.00	1100	Wedn	2009	OCTOBER	9 01-12 00	0	PROPERTY DAMAGE ONLY	REAR END	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS WAS STOPPED AT RED LIGHT ON HWY 1 LN 1/2 - LIGHT TURNED GREEN & TRAFFIC STARTED TO MOVE BUT NOT THE VEHICLE AHEAD OF INS SO INS REMAINED STOPPED - TP BEHIND INS STARTED TO MOVE & TP F/E HIT INS R/E. ;Report 0002 INS ?/B ON TRANS CANADA IN LANE ?/?. TP STOPPED INFRONT OF INS. INS ROLLED FORWARD AND BUMPED TP'S R/BUMPER. INS NO DMG.
008211865	2	08/09/2010	4.00	1900	Wedn	2010	SEPTEMBER	18 01-21 00	1	CASUALTY	REAR END	TRANS-CANADA HWY	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INSD E/B L3/4 ON HWY1. INSD STOPPED FOR R/LIGHT. TP TRAVELING BEHIND INSD. TP SWERVED LAST MINUTE INTO L2/4 TO AVOID HITTING INSD. TP'S TRAILER FISH TAILED AND HIT INSD'S R/R END. INSD NOT PUSHED INTO ANYTHING ;Report 0002 INS E/B HWY 1 LN3/4. TP DIRECTLY INFRONT OF INS. TP STPD AT R/LITE. INS UNABLE TO STP. INS LOST CONTROL AS TRYING TO AVOID TP. INS L/F/CORNER OF FLAT DECK HIT TP R/R/BUMPER. ;
008042913	2	30/05/2010	1.00	1215	Sunda	2010	MAY	12 01-15 00	1	CASUALTY	SIDE IMPACT	TRANS-CANADA HWY	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INS ?/B ON TRANSCANADA LANE 3/3. TP COMING FROM YIELD AREA ONTO HWY. TP CAME ACROSS OTHER LANES & INTO INS LANE& TP COLL WITH INS RIGHT REAR DOOR AREA ;Report 0002 BR XXXXXX 1 HELPING INS TO REPORT. INS MADE WIDE R/TURN FROM ADMIRALS ONTO HWY 1 & DID NOT SEE TP IN HIS BLIND SPOT, INS L/SIDE STRUCK TP R/REAR, INS TICKETED FOR UNSAFE LANE CHANGE. NO WITNESSES. ;
006520130	2	30/04/2007	2.00	0810	Monda	2007	APRIL	6 01-9 00	1	CASUALTY	SIDE IMPACT	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS ?/B ON TRANS CANADA HWY IN 1/2. TP OPPOSITE DIRECTION IN L2/2 MAKING L/TURN. INS IN INTERSECTION ON YELLOW AND TP MADE L/TURN AND TP FRONT END STRUCK L/FRONT WHEEL. NO WITNESS. ;Report 0002 INSD W/B MCKENZIE L2/2 MAKING L/T ONTO TRAN-CANADA. TP E/B MCKENZIE L?/?. INSD L/FRONT HIT TP L/FRONT. INSD MAKING L/T ON YELLOW LIGHT.
006603744	2	09/06/2007	7.00	0700	Satur	2007	JUNE	6 01-9 00	0	PROPERTY DAMAGE ONLY	SIDE IMPACT	TRANS-CANADA HWY	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INS N/B ON HWY LN 1/2- BOAT/TRAILER ON FIRE AT SIDE OF ROAD-INS PULLING OVER TO THE SHOULDER TO ASSIST- TP MERGING ON THE HWY @ ADMIRALS RD, DISTRACTED BECAUSE OF THE FIRE, TP L/F STRUCK INS R/SIDE ;Report 0002 INSD W/B MCKENZIE L1/3, MERGING ONTO TRANS-CANADA HWY TO HEAD N/B. BOAT WAS ON FIRE AT SIDE OF HWY. TP N/B TRANS-CANADA. TP CROSSED INTO INSD LANE. TP R/SIDE HIT INSD L/SDIE.
006716031	2	01/09/2007	7.00	1815	Satur	2007	SEPTEMBER	18 01-21 00	1	CASUALTY	SIDE IMPACT	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS ?/B IN LN 2/4 ON TRANS-CANADA. T/P IN SAME DIR AS IN BUT IN LN 3/4 (LEFT TURN LANE). T/P ATTEMPTED TO CHANGE TO LN 2/4 AND INS LEFT FRONT BUMPER HIT T/P RIGHT REARQP. ;Report 0002 MVA - INS ?/B L 1/2 OF TWO LEFT TURN LANES TRANS-CANADA HWY. TP ?/B L 2/2 TO TWO LEFT TURN LANES GOING STRAIGHT. INS CHNGD MIND & CHNGD LANES FROM 1/2 TO 2/2. TP'S L/FRNT STRUCK INS R/REAR. NO WITNESSES
007088472	2	27/05/2008	3.00	2120	Tuesa	2008	MAY	21 01-24 00	0	PROPERTY DAMAGE ONLY	SIDE SWIPE - SAME DIRECTION	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS MERGED ONTO HWY FROM MCKENZIE. INS N/B 1/2 HWY 1. TP N/B 2/2 HWY 1. TP TRIED TO CHANGE 2/2 TO 1/2. TP R/REAR QP HIT INS L/F FENDER/BUMPER. TP CONTINUED DRIVING. INS PURSUED TP. INS REPORTED TO POLICE. ;Report 0002 INSD ?/B TRANS CANADA LN 3/3. TP COMING OFF OF MCKENZIE IN MERGE LANE TO GET ONTO TRANS CANADA TO GO IN THE SAME DIR AS INSD (LN 1/3 OF TRANS CANADA). TP CHANGED FROM LN 1/3 INTO LN 3/3. TP L/F HIT INSD R/R.
007223155	2	02/09/2008	3.00	1730	Tuesa	2008	SEPTEMBER	15 01-18 00	0	PROPERTY DAMAGE ONLY	SIDE SWIPE - SAME DIRECTION	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS S/B IN LANE 2/2. ACCIDENT UP AHEAD, SO ALL TRAFFIC WAS MOVING INTO LANE 1/2. INS CHANGED LANES WHEN TP CAME UP BESIDE HIM ON LEFT SIDE TOO CLOSE. DMG TO LEFT REAR Q/P ;Report 0002 INS S/B HWY 1 L2/2. TP S/B L1/2. INS LANE WAS BLOCKED BY POLICE CAR. INS STARTED TO MERGE INTO L1/2. INS R/F COLL WITH TP L/REAR. NO POLICE REPT. NO WITNESSES.
006315337	1	26/11/2006	1.00	2300	Sunda	2006	NOVEMBER	21 01-24 00	0	PROPERTY DAMAGE ONLY	SINGLE VEHICLE	TRANS-CANADA HWY	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INS VEH ?/B TRANS-CANADA HWY L2/2. INS SLID ON HWY. INS HIT A METAL POLE ? AND VEH WENT OVER A SLIGHT EMBANKMENT.. DMGE TO INS FRONT BUMPER, FRONT END.
008086238	1	30/05/2010	1.00	0423	Sunda	2010	MAY	3 01-6 00	0	PROPERTY DAMAGE ONLY	SINGLE VEHICLE	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 ECLAIM. INS NB TRANS-CANADA HWY, LOST CONTROL HITTING A SIGN & ENDING UP IN A DITCH.
006954281	1	02/02/2008	7.00	0500	Satur	2008	FEBRUARY	3 01-6 00	0	PROPERTY DAMAGE ONLY	SINGLE VEHICLE	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS N/B ON TRANS-CANADA HWY IN LN 2/2 & FELL ASLEEP AND WENT OFF ROAD & HIT LAMP STANDARD AND THEN INTO DITCH ;
006857128	1	06/12/2007	5.00	0700	Thurs	2007	DECEMBER	6 01-9 00	1	CASUALTY	SINGLE VEHICLE	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 AS INSD W/B MCKENZIE AVE L 1/3, INSD HAD SLOWED AND/OR STOPPED AT A MARKED XWALK DUE TO A CYCLIST APPROACHING FROM LT. AS CYCLIST MOTIONED FOR INSD TO PROCEED, INSD PROCEEDED. CYCLIST FROM RT HIT INSD'S R/F. ;Report 0002 INSD ?/B ON TRANS-CANADA. T/P ?/B ON MCKENZIE. T/P MAKING A RIGHT TURN AND MERGING ONTO HIGHWAY. ISND WAS IN CROSSWALK. T/P HIT INSD. ;
007393636	1	26/01/2009	2.00	0640	Monda	2009	JANUARY	6 01-9 00	0	PROPERTY DAMAGE ONLY	SINGLE VEHICLE	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS WAS S/B TRANS CANADA HWY WHEN VEH MADE CONTACT WITH AN OVERHEAD PASSENGER WALKWAY THAT GOES OVER HIGHWAY. DMG TO RAIL SYSTEM AT REAR BEHIND CAB. THERE IS ALSO PD ;Report 0002 PD ONLY - FILE XXXXXX 8 - CONTACT XXXXXXXX
008283103	2	01/11/2010	2.00	0725	Monda	2010	NOVEMBER	6 01-9 00	1	CASUALTY	UNDETERMINED	TRANS-CANADA HWY	ADMIRALS RD	48.45967200000	-123.40468100000	Report 0001 INS E/B HWY IN RIGHT LANE. T/P E/B AHEAD OF INS. INS STOPPED FOR T/P MERGING. INS CHECKING FOR TRAFFIC. T/P STOPPED. INS R/E T/P. INS F/E HIT T/P R/BUMPER. ;Report 0002 INS VEH ?/B HWY 1 L1/?. INS EASED FORWARD AND BRAKED WHEN INS SAW SOMETHING. TP WAS BEHIND INS. TP REAR ENDED INS. INS NOT PUSHED INTO ANOTHER VEH ;
006618676	2	30/06/2007	7.00	0845	Satur	2007	JUNE	6 01-9 00	0	PROPERTY DAMAGE ONLY	UNDETERMINED	TRANS-CANADA HWY	MCKENZIE AVE	48.45967200000	-123.40468100000	Report 0001 INS N/B TRANS CANADA HWY L2/2. TP N/B TRANS CANADA HWY L1/2. TP CHANGED LANES & TP L/MIRROR COLL WITH INS R/F & R/DOOR. ;Report 0002 INSD N/B ON MCKENZIE ST ON-RAMP MERGING ONTO HWY 1 CHANGING TO LANE 2/2 FROM MERGE LANE. TP N/B ON MERGE LANE BEHIND INSD, CHANGED INTO LANE 2/2. INSD L/SIDE MIRROR HIT TP R/SIDE. ROAD RAGE????

Sunday	1
Monday	2
Tuesday	3
Wednesday	4
Thursday	5

Prepared By Marina Efimova
ICBC, Business Insights Road Safety

Friday	6
Saturday	7

Prepared By Marina Efimova
ICBC, Business Insights Road Safety

British Columbia Ministry of Transportation and Infrastucture
AVERAGE PROVINCIAL COLLISION RATES BY HIGHWAY SERVICE CLASS AND TRAFFIC VOLUME RANGE
01/01/2003 - 12/31/2007 (5 years), 01/01/2004 - 12/31/2007 for "UFD4" (4 Years)

Collisions Occurring At Signalized Intersections (LKI Landmarks A3, A5). Zero radius from intersection point.

Traffic Volume (ADT) (vpd)	Highway Class																										
	UAU2			UAU4			UAD4			UED4 **			UFD4 ++ **			RAU2			RAU4			RAD4**			RFD4 **		
	(C/MV)	(# int)	(# coll)	(C/MV)	(# int)	(# coll)	(C/MV)	(# int)	(# coll)	(C/MV)	(# int)	(# coll)	(C/MV)	(# int)	(# coll)	(C/MV)	(# int)	(# coll)	(C/MV)	(# int)	(# coll)	(C/MV)	(# int)	(# coll)	(C/MV)	(# int)	(# coll)
1 - 5,000	0.87	37	188	1.40	9	80	3.93	6	82							0.91	10	47		1	2		3	13		1	3
5,001 - 10,000	0.54	27	187	0.83	27	270	0.57	4	34							0.68	11	113	1.19	3	35		6	23			
10,001 - 15,000	0.41	21	201	0.31	22	168		3	12		2	17				0.63	24	344	0.37	5	40	0.62	17	244			
15,001 - 20,000	0.42	11	145	0.32	19	204	0.24	10	76							0.42	11	146	0.52	4	71	0.36	10	113			
over 20,000	0.17	14	156	0.24	58	1004	0.36	34	1031	0.30	23	438		1	1	0.26	21	265	0.39	32	683	0.47	15	325		1	13
All Volumes	0.38	110	877	0.30	135	1726	0.37	57	1235	0.30	25	455		1	1	0.43	77	915	0.40	45	831	0.48	51	718		2	16

1. ++ For UFD4, the urban portion of Hwy #1 in the Lower Mainland (Seg. 506/508, 510/531, 550/555 - w of 272nd St.), the RCMP stopped providing LKI info for these collisions from 1999 to 2003 (5 yrs). The 2003-2007 rates are low as a substantial number of collisions from 2003 are missing. The above "UFD4" rates are calculated from 2004-2007 collision data.
2. ** All RFD4 & UFD4 and most UED4 & RAD4 roadways have a separate LKI segment for each direction of travel (see the "opposing LKI segments" tab for details). Therefore, the length in the tables above, which represents LKI segment length, will differ from roadway length for these 4 service classes. As well, for these 4 classes the rate is based on the collisions and volumes for each 1-directional LKI segment. Therefore to find an average rate by volume range for any of these 4 classes use the volume range that best represents the 1-way AADT.
3. Provincial average intersection collision rates are artificially high due to the lack of cross-street volume data in the HAS, and the fact that the HAS analysis does not include intersections where there are zero collisions when calculating provincial average rates.
4. Rates for traffiic volumes and highway classes that have less than 25 collions for the 2003-2007 are blacked out. These rates are provided and can be viewed by clicking on each individual cell. The blacked-out collision rates may be used at the discretion of the person performing an analysis.
5. May 26, 2008 is the effective date of the data. The collision data was updated on this date and the effective LKI at the time was dated August 20, 2007. Subsequent updates to the collision data in HAS may affect the rates.

Legend

U = Urban
R = Rural
A = Arterial
E = Expressway, mu ti-lanes with at grade intersections
F = Freeway, multi-lane w th grade separations
U2 = Undivided Up to 3 Lanes
U4 = Undivided 4 or More Lanes
D4 = Divided 4 or More Lanes

ADT = Average Da ly Traffic
vpd =Vehicles per Day
C/MVK = Collisions per Million Vehicle Kilometres
C/MV = Col isions per Mi lion Vehicles
coll = Number of Collisions
int = Number of Intersections

A1 = Uncontrolled Intersection (Stop Sign or Flashing Red Lights)
A2 = Uncontrolled Intersection with Turning Slots (Same as A1 w th Turning Slots)
A3 = Controlled Intersection (w th Traffic Control Lights)
A5 = Controlled Intersection with Turning Slots (Same as A3 with Turning Slots)
Less than 25 Collisions for this volume range and service class
No HAS data for this volume range and service class

Date: July 18, 2008

British Columbia Ministry of Transportation and Infrastructure
NUMBER OF COLL SIONS BY SERVICE CLASS AND TRAFFIC VOLUME RANGE
01/01/2003 - 12/31/2007 (5 years), 01/01/2004 - 12/31 2007 for "UFD4" (4 Years)

All Collisions

Traff c Volume (ADT) (vpd)	Highway C ass UAU2						UAU4						UAD4						UED4						UFD4**						RAU2						RAU4						RAD4						RFD4						All Highway Classes					
	FAT	%	INJ	%	PDO	%	FAT	%	INJ	%	PDO	%	FAT	%	INJ	%	PDO	%	FAT	%	INJ	%	PDO	%	FAT	%	INJ	%	PDO	%	FAT	%	INJ	%	PDO	%	FAT	%	INJ	%	PDO	%	FAT	%	INJ	%	PDO	%	FAT	%	INJ	%	PDO	%	All
1 - 5 000	22	1 7%	743	37 3%	1225	61 6%	8	1 2%	162	37 9%	261	61 0%	0	0 0%	53	44 5%	66	55 5%	0	0 0%	0	0 0%	2	100 0%	473	2 5%	7664	40 4%	10818	57 1%	9	2 2%	48	36 0%	84	61 8%	2	4 3%	19	41 3%	25	54 3%	38	1 3%	1238	42 2%	1650	56 5%	542	2 2%	9319	40 3%	13140	57 5%	24851
5 001 - 10 000	15	1 5%	519	37 4%	1001	63 0%	7	1 4%	327	33 9%	630	64 6%	0	0 0%	24	45 6%	31	54 4%	0	0 0%	0	0 0%	0	0 0%	118	1 9%	2325	37 4%	3761	60 7%	4	3 2%	49	39 5%	71	57 3%	1	0 9%	36	34 0%	69	65 1%	12	1 0%	220	18 6%	353	29 8%	167	1 7%	3615	37 7%	5797	60 5%	9579
10 001 - 15 000	8	0 8%	462	46 0%	511	53 2%	3	0 6%	168	31 8%	358	67 7%	1	1 5%	38	56 7%	28	41 8%	1	0 4%	96	36 9%	163	62 7%	0	0 0%	25	33 2%	46	64 8%	57	2 3%	1216	49 9%	1620	55 8%	6	2 6%	89	39 7%	135	59 7%	9	0 9%	426	42 5%	567	56 6%	9	1 6%	216	34 4%	323	59 9%	104	1 6%	2716	41 3%	3751	57 1%	6571
15 001 - 20 000	3	1 0%	144	49 0%	147	50 0%	11	1 6%	323	44 6%	390	53 9%	2	1 2%	65	39 2%	99	59 6%	0	0 0%	10	37 0%	17	63 0%	1	0 4%	77	33 3%	153	66 2%	8	1 5%	247	46 1%	281	52 4%	8	1 2%	308	45 8%	360	53 3%	2	0 6%	133	43 0%	174	56 3%	6	1 1%	193	36 2%	334	62 7%	41	1 2%	1500	42 9%	1955	55 9%	3496
over 20,000	5	1 1%	193	42 4%	257	56 5%	15	0 6%	1063	40 5%	1241	52 9%	9	0 4%	1025	47 3%	1132	52 3%	16	0 7%	568	40 0%	1433	59 8%	14	0 5%	1018	35 4%	1845	64 1%	21	0 8%	472	43 6%	542	52 4%	33	1 6%	971	45 7%	1128	52 7%	13	1 3%	459	44 4%	562	54 4%	21	0 7%	1041	33 6%	1982	63 7%	147	0 8%	7268	41 7%	9664	57 4%	17451
All Volumes	63	1 2%	2141	40 7%	3141	59 8%	41	0 8%	2673	42 7%	3738	56 4%	12	0 5%	1207	46 9%	1386	52 7%	17	0 6%	1094	40 1%	1615	59 2%	15	0 5%	1124	33 3%	2047	64 2%	685	2 3%	11914	40 2%	17042	57 5%	54	1 6%	1495	44 6%	1770	53 8%	27	1 1%	1873	43 0%	1397	55 8%	87	1 2%	2918	38 7%	4631	60 1%	1081	1 6%	25010	40 6%	35637	57 8%	61648

Co lisions Occurring At All Intersections (MV6020 Accident Location Code 01, LKJ Landmarks A1, A2, A3 & A5)

Traff c Volume (ADT) (vpd)	Highway C ass UAU2						UAU4						UAD4						UED4						UFD4**						RAU2						RAU4						RAD4						RFD4						All Highway Classes					
	FAT	%	INJ	%	PDO	%	FAT	%	INJ	%	PDO	%	FAT	%	INJ	%	PDO	%	FAT	%	INJ	%	PDO	%	FAT	%	INJ	%	PDO	%	FAT	%	INJ	%	PDO	%	FAT	%	INJ	%	PDO	%	FAT	%	INJ	%	PDO	%	FAT	%	INJ	%	PDO	%	All
1 - 5 000	8	0 8%	340	37 6%	572	62 2%	3	0 8%	148	38 3%	235	60 9%	0	0 0%	52	44 8%	64	55 2%													138	2 4%	2104	39 7%	3207	58 9%	0	0 0%	25	36 8%	43	63 2%	0	0 0%	4	28 6%	10	71 4%	0	0 0%	102	38 9%	160	61 1%	145	1 9%	2983	38 4%	4642	59 7%	7770
5 001 - 10 000	8	0 8%	390	40 6%	578	59 1%	5	0 7%	281	38 5%	426	59 8%	0	0 0%	25	47 2%	28	52 8%													35	1 3%	1028	37 5%	1680	61 2%	1	1 3%	34	43 6%	43	55 1%	2	1 7%	43	36 7%	74	62 2%	1	1 0%	53	33 0%	66	66 0%	52	1 1%	1845	38 4%	2908	60 5%	4805
10 001 - 15 000	4	0 5%	335	44 1%	421	55 4%	4	0 7%	193	33 4%	383	62 8%	1	1 6%	37	57 8%	26	40 6%	0	0 0%	33	37 5%	55	62 5%							22	1 3%	774	44 0%	962	54 7%	4	2 5%	68	42 5%	88	55 0%	2	0 5%	191	43 7%	244	55 8%	2	1 4%	53	37 2%	87	61 3%	39	1 0%	1987	42 6%	2736	58 5%	3964
15 001 - 20 000	3	1 1%	131	46 1%	150	52 8%	7	1 2%	343	45 3%	386	53 4%	2	1 3%	56	37 1%	93	61 6%	0	0%	7	43 8%	9	56 3%	0	0 0%	13	37 0%	22	63 0%	9	2 1%	193	43 8%	235	54 1%	4	1 0%	162	43 8%	230	55 3%	1	0 3%	153	45 9%	179	53 8%	3	0 7%	42	32 2%	85	65 4%	29	1 2%	1017	43 4%	1296	55 3%	2342
over 20,000	3	0 9%	149	43 3%	192	55 8%	12	0 5%	1029	46 8%	1156	52 6%	8	0 4%	1008	47 4%	1118	52 2%	10	0 7%	557	40 6%	813	58 8%	4	0 5%	296	34 9%	549	64 7%	11	1 3%	379	46 5%	425	52 1%	18	1 0%	838	46 2%	956	52 8%	12	1 3%	397	42 9%	516	55 8%	5	0 7%	249	34 6%	426	62 6%	83	0 7%	4952	44 0%	6208	55 2%	11244
All Volumes	38	0 8%	1553	40 4%	2062	58 8%	31	0 7%	1667	40 3%	2464	59 0%	11	0 3%	1176	46 0%	1321	52 6%	10	0 6%	647	40 4%	943	58 9%	4	0 4%	326	34 6%	693	64 7%	207	1 8%	4475	40 0%	6026	54 2%	27	1 1%	1147	45 2%	1362	53 7%	17	0 9%	786	42 1%	1023	56 0%	11	0 6%	479	34 6%	826	62 7%	348	1 2%	12486	41 4%	17293	57 4%	30125

Co lisions Occurring At Nonsignalized ntersections (MV6020 LKJ Landmarks A1, A2)

Traff c Volume (ADT) (vpd)	Highway C ass UAU2						UAU4						UAD4						UED4						UFD4**						RAU2						RAU4						RAD4						RFD4						All Highway Classes					
	FAT	%	INJ	%	PDO	%	FAT	%	INJ	%	PDO	%	FAT	%	INJ	%	PDO	%	FAT	%	INJ	%	PDO	%	FAT	%	INJ	%	PDO	%	FAT	%	INJ	%	PDO	%	FAT	%	INJ	%	PDO	%	FAT	%	INJ	%	PDO	%	FAT	%	INJ	%	PDO	%	A
1 - 5 000	8	0 9%	340	37 6%	572	62 2%	3	2 7%	36	33 6%	72	63 7%	0	0 0%	9	42 9%	12	57 1%													86	2 2%	1471	39 7%	2249	59 1%	0	0 0%	22	36 7%	38	63 3%													96	1 9%	1906	38 2%	2987	59 9%	4999
5 001 - 10 000	6	1 0%	225	41 6%	347	57 1%	4	1 7%	103	44 4%	129	54 0%	0	0 0%	7	46 7%	8	53 3%													24	1 5%	588	36 0%	981	62 4%	0	0 0%	7	43 8%	9	56 3%	0	0 0%	11	34 4%	21	65 6%	1	0 6%	3	17 6%	13	76 5%	35	1 4%	853	36 2%	1506	63 4%	2468
10 001 - 15 000	2	0 6%	158	43 8%	201	55 7%	8	0 0%	60	23 4%	144	70 6%	0	0 0%	18	64 3%	10	35 7%													10	1 4%	321	43 9%	400	54 7%	3	4 3%	28	40 0%	39	55 7%	8	0 0%	11	55 0%	9	45 0%	0	0 0%	22	42 3%	30	57 7%	15	1 0%	618	42 2%	833	56 8%	1466
15 001 - 20 000	1	1 0%	38	39 4%	59	59 6%	8	0 0%	62	40 5%	91	59 5%	0	0 0%	11	31 4%	24	68 6%													5	0 0%	32	37 7%	64	63 4%	0	0 0%	32	44 7%	134	55 3%	3	1 9%	163	49 7%	163	49 7%	0	0 0%	18	29 0%	44	71 0%	9	0 9%	284	30 7%	412	69 4%	682
over 20 000	1	1 6%	27	47 4%	29	50 8%	2	0 3%	293	45 2%	348	54 5%	1	0 3%	156	47 7%	172	52 0%	3	1 1%	87	32 2%	180	66 7%	0	0 0%	9	36 0%	16	64 0%	8	1 4%	189	49 0%	191	49 5%	3	1 9%	163	49 7%	183	49 7%	3	1 5%	96	44 4%	108	53 7%	0	0 0%	43	32 2%	90	67 7%	23	1 0%	1075	44 5%	1317	54 5%	2415
All Volumes	18	0 9%	819	40 0%	1208	59 1%	9	0 7%	555	41 2%	784	58 2%	1	0 3%	203	47 2%	226	52 6%	3	1 1%	87	32 2%	180	66 7%	0	0 0%	9	36 0%	16	64 0%	130	2 0%	2579	39 1%	3885	58 9%	10	1 4%	332	45 8%	383	52 8%	3	1 1%	122	43 7%	154	55 2%	1	0 3%	112	33 5%	221	66 2%	175	1 5%	4818	40 0%	7057	58 6%	12050

Co lisions Occurring At Signalized ntersections (MV6020 LKJ Landmarks A3, A5)

Traff c Volume (ADT) (vpd)	Highway C ass UAU2						UAU4						UAD4						UED4						UFD4**						RAU2						RAU4						RAD4						RFD4						All Highway Classes					
	FAT	%	INJ	%	PDO	%	FAT	%	INJ	%	PDO	%	FAT	%	INJ	%	PDO	%	FAT	%	INJ	%	PDO	%	FAT	%	INJ	%	PDO	%	FAT	%	INJ	%	PDO	%	FAT	%	INJ	%	PDO	%	FAT	%	INJ	%	PDO	%	FAT	%	INJ	%	PDO	%	A
1 - 5 000	1	0 8%	66	35 1%	121	64 4%	0	0 0%	26	32 5%	54	67 5%	0	0 0%	34	41 5%	48	58 5%													6	0 6%	21	44 7%	26	55 3%	0	0 0%	0	0 0%	0	0 0%	2	100 0%	0	0 0%	4	30 8%	9	69 2%	0	0 0%	3	0 0%	3	100 0%	1	0 2%	151	36 4%	263	63 4%	415
5 001 - 10 000	2	1 7%	75	45 1%	110	58 8%	1	0 4%	93	34 4%	176	65 2%	0	0 0%	16	47 7%	18	52 9%													8	0 0%	45	39 8%	68	60 2%	0	0 0%	17	48 6%	18	51 4%	1	4 3%	9	39 1%	13	56 5%							4	0 6%	255	36 5%	483	69 0%	682
10 001 - 15 000	2	1 0%	83	41 3%	116	57 7%	0	0 0%	64	36 1%	104	61 9%	0	0 0%	6	60 0%	4	40 0%	0	0 0%	7	41 2%	10	58 8%							8	0 0%	158	49 0%	186	54 1%	1	2 5%	21	52 5%	18	45 0%	2	0 8%	102	41 8%	140	57 4%							5	0 5%	441	43 0%	580	56 5%	1026
15 001 - 20 000	0	0 0%	75	57 7%	70	48 3%	1	0 5%	99	48 5%	104	51 0%	2	2 6%	23	32 9%	49	64 5%	0	0 0%	2	40 0%	3	60 0%							2	1 4%	69	47 7%	75	51 4%	1	1 4%	34	47 9%	36	50 7%	1	0 9%	53	49 5%	53	49 5%							7	0 9%	365	47 0%	393	50 7%	775
over 20 000	2	1 3%	65	41 7%	89	57 1%	8	0 8%	493	49 8%	536	50 3%	5	0 5%	494	47 9%	532	51 6%	1	0 2%	186	49 4%	247	66 4%	0	0 0%	6	0 0%	1	100 0%	4	1 5%	117	44 2%	144	54 3%	7	1 0%	319	46 7%	357	52 3%	4	1 2%	129	39 7%	192	59 1%	0	0 0%	6	46 2%	7	53 8%	31	0 8%	1612	46 3%	2073	52 9%	3916
All Volumes	7	0 8%	364	41 5%	506	57 7%	10	0 6%	774	44 8%	942	54 6%	7	0 1%	575	46 6%	653	52 9%	1	0 2%	197	49 3%	257	64 4%	0	0 0%	6	0 0%	1	100 0%	6	0 7%	410	44 8%	499	54 5%	9	1 1%	391	47 7%	431	51 9%	8	1 1%	297	41 4%	413	57 5%	0	0 0%	6	37 5%	10	62 5%	48	0 7%	3014	44 5%	3712	54 8%	6774

Non-Intersection Coll sions (Collisions not occurring at Intersections above)

Traff c Volume (ADT) (vpd)	Highway C ass UAU2						UAU4						UAD4						UED4						UFD4**						RAU2						RAU4						RAD4						RFD4						All Highway Classes					
	FAT	%	INJ	%	PDO	%	FAT	%	INJ	%	PDO	%	FAT	%	INJ	%	PDO	%	FAT	%	INJ	%	PDO	%	FAT	%	INJ	%	PDO	%	FAT	%	INJ	%	PDO	%	FAT	%	INJ	%	PDO	%	FAT	%	INJ	%	PDO	%	FAT	%	INJ	%	PDO	%	All
1 - 5,000	11	1 9%	223	38 4%	347	59 7%	2	4 8%	14	33 3%	26	61 9%	0	0 0%	1	33 3%	2	66 7%	0	0 0%	0	0 0%	0	0 0%							340	2 7%	5244	41 9%	7240	58 5%	3	3 8%	33	39 0%	46	58 2%	2	0 3%	15	46 9%	15	46 9%	38	1 5%	1139	42 8%	1565	58 1%	397	2 4%	6666	41 0%	9183	56 5%	16249
5 001 - 10,000	15	2 6%	195	34 2%	341	63 0%	2	1 8%	44	41 1%	44	57 1%	0	0 0%	1	25 0%	3	75 0%	0	0 0%	4	57 1%	3	42 9%	62	2 3%	1332	38 7%	2214	61 0%	3	8 6%	9	25 7%	23	65 7%	0	0 0%	16	24 0%	51	66 0%	11	2 3%	191	39 3%	284	58 4%	113	2 3%	1784	36 7%	2963	61 0%	4860
10 001 - 15,000	5	2 1%	119	49 8%	115	48 1%	0	0 0%	15	20 8%	37	71 2%	0	0 0%	1	33 3%	2	66 7%	1	0 6%	63	36 6%	108	62 8%	0	0 0%	14	31 1%	31	68 9%	41	2 6%	678	42 6%	871	54 8%	1	1 8%	19	34 5%	35	63 6%	5	1 5%	146	42 7%	191	55 8%	6	1 4%	167	39 7%	248	59 0%	59	2 0%	1222	41 9%	1638	56 1%	2919
15 001 - 20,000	0	0 0%	17	54 8%	14	45 2%	3	3 5%	28	32 9%	54	63 5%	0	0 0%	9	60 0%	6	40 0%	0	0 0%	3	27 3%	8	72 7%	1	0 6%	50	32 5%	103	66 9%	5	3 7%	67	49 3%	64	47 1%	5	2 1%	110	47 0%	119	50 9%	0	0 0%	18	38 7%	31	63 3%	5	1 2%	155	37 8%	252	61 0%	19	1 7%	455	40 6%	651	57 7%	1128
over 20,000	2	1 9%	44	40 7%	62	57 4%	3	1 7%	73	41 2%	101	57 1%	1	2 5%	17	42 5%	22	55 0%	0	0 6%	381	49 0%	554	58 9%	10	0 5%	736	35 7%	1317	63 8%	18	3 7%	118	43 4%	144	52 9%	10	4 3%	151	43 0%	185	52 7%	3	1 5%	93	45 2%	109	53 3%	15	0 7%	706	33 4%	1418	67 0%	85	1 0%	2356	37 6%	3868	61 4%	6309
All Volumes	33	2 2%	598	39 2%	879	58 6%	10	2 7%	176	27 8%	262	69 3%	1	2 5%	29	44 6%	35	53 8%	1	0 6%	447	39 7%	672	59 7%	11	0 5%	864	35 4%	1454	64 1%	67	2 6%	7439	40 3%	10533	57 1%	27	3 6%	319	42 3%	408	54 1%	10	1 5%	265	42 6%	374	59 9%	76	1 3%	2439	39 2%	3767	59 6%	653	2 1%	12526	39 7%	18344	58 2%	31523

1. ++ For UFD4, the urban portion of Hwy #1 in the Lower Mainland (Seg. 986/008, 010/531, 550/555 - w st 272nd St.), the RCMP stopped providing LKJ in o or hase co lisions from 1999 to 2003 (5 yrs). The 2003-2007 rates are low as a substantial number of collisions from 2003 are missing. The UFD4* rates are by rates calculated from 2004-2007 and there are the collision coun s for *UFD4* are provided for 2004 2007.
2. May 26, 2008 Is the effective date of the da a. The HAS was updated on th s date. Subsequent upda es to HAS may af ect the collision counts.

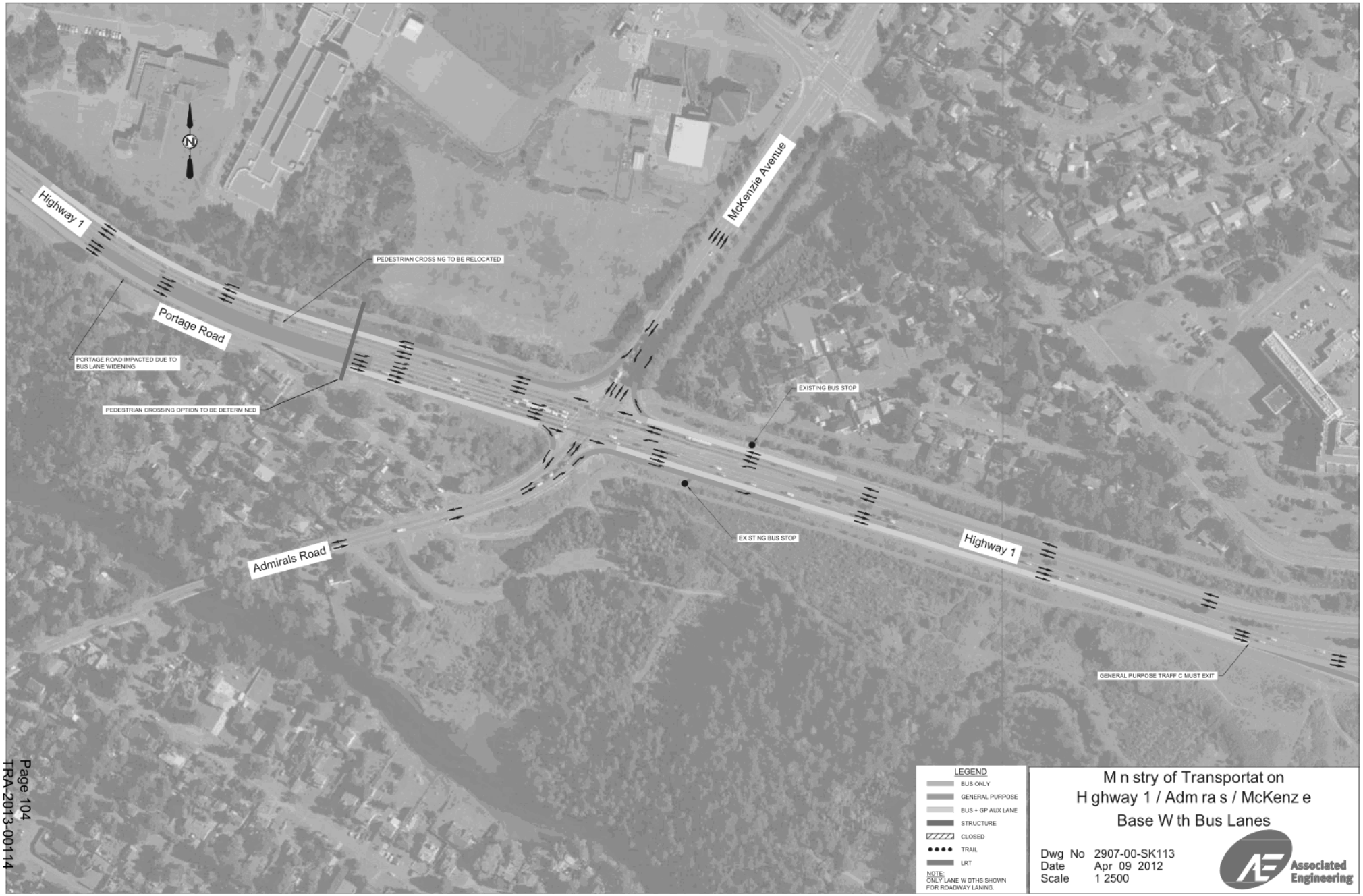
Legend
U = Urban
R = Ru a
A = Ar er a
E = Expressway ma l - anes w th at grade in ersec ons
F = F eeway ma l - ane w th g ade separa ons
U2 = Undivided Up to 2-Lanes
U4 = Undivided 4 or More Lanes
D4 = Divided 4 or More Lanes

ADT = Average Da y Tra f c
vpd = Vehi c Less than 25 Co s ons for h s volume range and servi ce c ass
FAT = Num b r HAS data for th s volume range and servi ce c ass
INJ = Number of n jury co s ons
PDO = Number of Prope ty Damage Only co s ons

A1 = Uncon ro led Intersect on (Stop S gn or Flash ng Red L ghts)
A2 = Uncon ro led Intersect on with Turn ng S ots (Same as A1 w h Turn ng Slots)
A3 = Control led Inte section (w th Tra fic Control L ghts)
A5 = Cont c led Inte section with Turning S o s (Same as A3 with Tu n ng S ots)

Less than 25 Co s ons for th s volume range and servi ce c ass
No HAS data or th s volume range and servi ce c ass

Date: June 21, 2008


Highway 1
McKenzie Avenue
PEDESTRIAN CROSS NG TO BE RELOCATED
Portage Road
PORTAGE ROAD IMPACTED DUE TO BUS LANE WIDENING
PEDESTRIAN CROSSING OPTION TO BE DETERM NED
EXISTING BUS STOP
EX ST NG BUS STOP
Admirals Road
Highway 1
GENERAL PURPOSE TRAFF C MUST EXIT
LEGEND
BUS ONLY
GENERAL PURPOSE
BUS + GP AUX LANE
STRUCTURE
CLOSED
TRAIL
LRT
NOTE:
ONLY LANE W DTHS SHOWN FOR ROADWAY LANING.
M n stry of Transportat on
H ghway 1 / Adm ra s / McKenz e
Base W th Bus Lanes
Dwg No 2907-00-SK113
Date Apr 09 2012
Scale 1 2500
Associated Engineering

Pages 105 through 112 redacted for the following reasons:
- -
s13

Appendix C

Breakdown of Cost Estimates

Pages 114 through 163 redacted for the following reasons:
- -
s13, s17

Memorandum

To: Janelle Erwin, P.Eng., Ministry of Transportation and Infrastructure

From: Paul Butterfield, BSc, AScT, District of Saanich

Date: 15 July, 2010

Re: Synchro Modelling of Dual Right Turn lanes on McKenzie at Hwy 1

Saanich Engineering Department was asked to create a Synchro model of a potential future scenario that included two right turn lanes westbound on McKenzie Avenue to Highway 1 northbound [this keeps the Ministry designation of highway 1 as north-south].

Saanich acquired the traffic volume counts available from the Ministry web site (1999 – 2006) and various relevant traffic signal downloads (2007 – 2009). These traffic volumes were compared to the 2010 Uptown traffic model that included the finished Uptown Shopping complex; which likely is equivalent to a 2013 model. Traffic signal timing was assumed to reflect existing conditions; the basis for this model came from the Bunt Synchro model for Uptown Shopping Centre.

The traffic volumes indicated in the traffic signal downloads were considerably lower than those presented in the model, so the model volumes were kept along the highway 1 corridor. Some adjustments were made where it appeared the signal controller had higher volumes (i.e. SB LT from Hwy 1 to McKenzie and WB RT from Tillicum to Hwy 1) and some were lowered in the model where it likely made sense (i.e. through traffic on McKenzie and Admirals crossing Hwy 1).

Once the model seemed adequate across the links (volume balancing was roughly equalised and minimised) new geometry was introduced into the model. The following scenarios were developed:

1. **Simple Lane Addition (2010 Dual RT.syn)**

In this scenario a right turn lane was added westbound on McKenzie Avenue to Burnside. An additional merge lane was added on Hwy 1 to accommodate two turning lanes (free turn). The dual merge lanes were taken to mirror the dual SB LT lanes in length, and a single merge lane to mirror the length of the single SB LT lane. The upstream lane includes a free right turn from Burnside on to McKenzie to develop the additional lane.

In this scenario the assumptions were:

- The crosswalk that forms part of the Galloping Goose Regional Trail would hold all foot and bicycle traffic on the trail prior to the delta island until the northbound green phase for the traffic signal started. The pedestrian crosswalk would have automatic (not pushbutton control) for this crosswalk only during daylight hours that gave adequate time for pedestrians and cyclists to get from the trail head on either side fully across the intersection.
- Synchro can not model the channelised RT lanes interaction with crossing pedestrians.

Result: Although two lanes are now available to the McKenzie traffic, the queues continue to extend upstream on McKenzie to a significant length. The link between Burnside and Highway 1 has significant spare capacity

Not Responsive

Result: McKenzie is relatively clear (no queues extend beyond the overpass above Interurban Road Not Responsive Not Responsive Next scenario will see if simply a longer merge lane with one right turn is effective.

3. Scenario 2 with Only One Merge Lane (2010 Dual RT Rev2.syn)

This scenario reduces the laning from McKenzie westbound to a single (as existing) right turn lane, but extends it per Scenario 2. This also keeps the signal revisions in scenario 2.

Result: McKenzie remains relatively clear with queues extending upstream from Burnside to the Interurban overpass; just slightly longer than scenario 2.

Summary

There are several findings that can be taken from these models.

1. Dual right turn lanes may not necessary to achieve significant capacity gains from McKenzie to Highway 1 northbound.
2. The Galloping Goose Regional Trail significantly hampers the McKenzie right turn lane.
3. Another model to review the sensitivity of the length of the merge lane on Highway 1 from McKenzie would need to be run.
4. Signal timing adjustments for the PM Peak period may increase capacity along McKenzie if sufficient capacity gains at Highway 1 (Galloping Goose crossing) can be realised

Recommendations

Synchro does not effectively model the crossing of pedestrians to the delta island, therefore the model underestimates the delay for the right turn from McKenzie to Highway 1, however, even with this drawback comparisons between the models can be inferred that suggest exploration of a detailed analysis of the effect of the Galloping Goose Regional Trail GGRT on the McKenzie (and Highway 1 northbound merge effect) should take place. This may require VISSIM or some other software to explicitly model this effect.

It appears that immediate capacity gains may be achieved by limiting the pedestrian and cycling flow across the GGRT crossing of the McKenzie merge lane to Highway 1 northbound. It is recommended that the Ministry of Transportation and Infrastructure investigate options for treatment of the GGRT to control it's movement across the McKenzie merge lane. This option is likely the most cost effective scenario that appears to provide significant capacity gains.

Admirals/McKenzie Intersection Options Study

Options Selection Workshop

Agenda

- Traffic Assessment Results
- Constraints Analysis
- Options Selection / Pre-Screening

Traffic Assessment Results

- Presentation by Daniel Fung

Constraints Analysis

- Presentation by Daniel Fung and Marco Guarnaschelli

Options Selection / Pre-Screening

- Aim :
  - To pre-screen options on the basis of work done to date for further refinement and Multiple Account Evaluation

- Initial Options Description
- Overall Review Based on Initial Matrix - Fatal Flaws ?
- Detailed Criteria Evaluation
- Overall Review Based on Final Matrix
- Selection of Three Options for Detailed Analysis

Initial Options Description

s13

Page 172 redacted for the following reason:
- -
s13

Evaluation - Criteria

- Additional Capacity
- Network Operations
- Cost
- Safety
- Transit
- LRT
- Galloping Goose Trail
- Alternative Modes
- Socio-Community
- Environmental
- Constructability
- Stageability

Evaluation – Additional Capacity

Comment **Rating**

s13

Evaluation – Additional Capacity

Comment **Rating**

s13

Evaluation – Cost

Comment **Rating**

s13

Evaluation – Safety

Comment **Rating**

s13

Evaluation – Transit

Comment **Rating**

s13

Evaluation – LRT

Comment **Rating**

s13

Evaluation – Galloping Goose

Comment **Rating**

s13

Evaluation – Alternate Modes

Comment **Rating**

s13

Evaluation – Alternate Modes

Comment **Rating**

s13

Evaluation – Socio-Community

Comment	Rating
s13	

Evaluation – Environmental

Comment **Rating**

s13

Evaluation – Constructability

Comment **Rating**

s13

Evaluation – Stageability

Comment **Rating**

s13

Final Review – Other Options?

s13

Option Selection

Three options to be selected for further, more detailed analysis under a Multiple Account Analysis framework

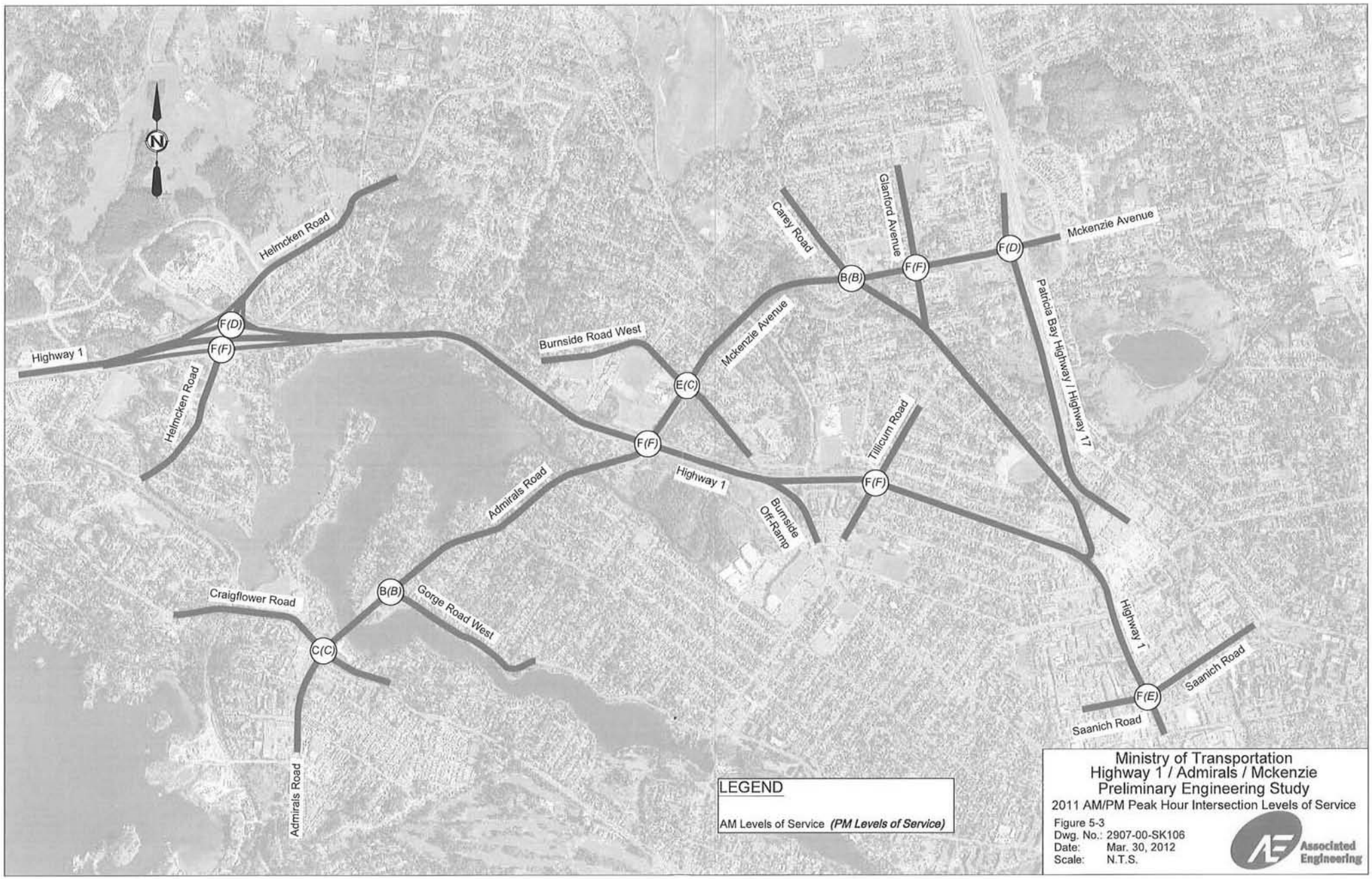
- First Option:
- Second Option:
- Third Option

Ministry of Transportation
Highway 1 / Admirals / Mckenzie
Preliminary Engineering Study
2011 PM Peak Hour Volumes

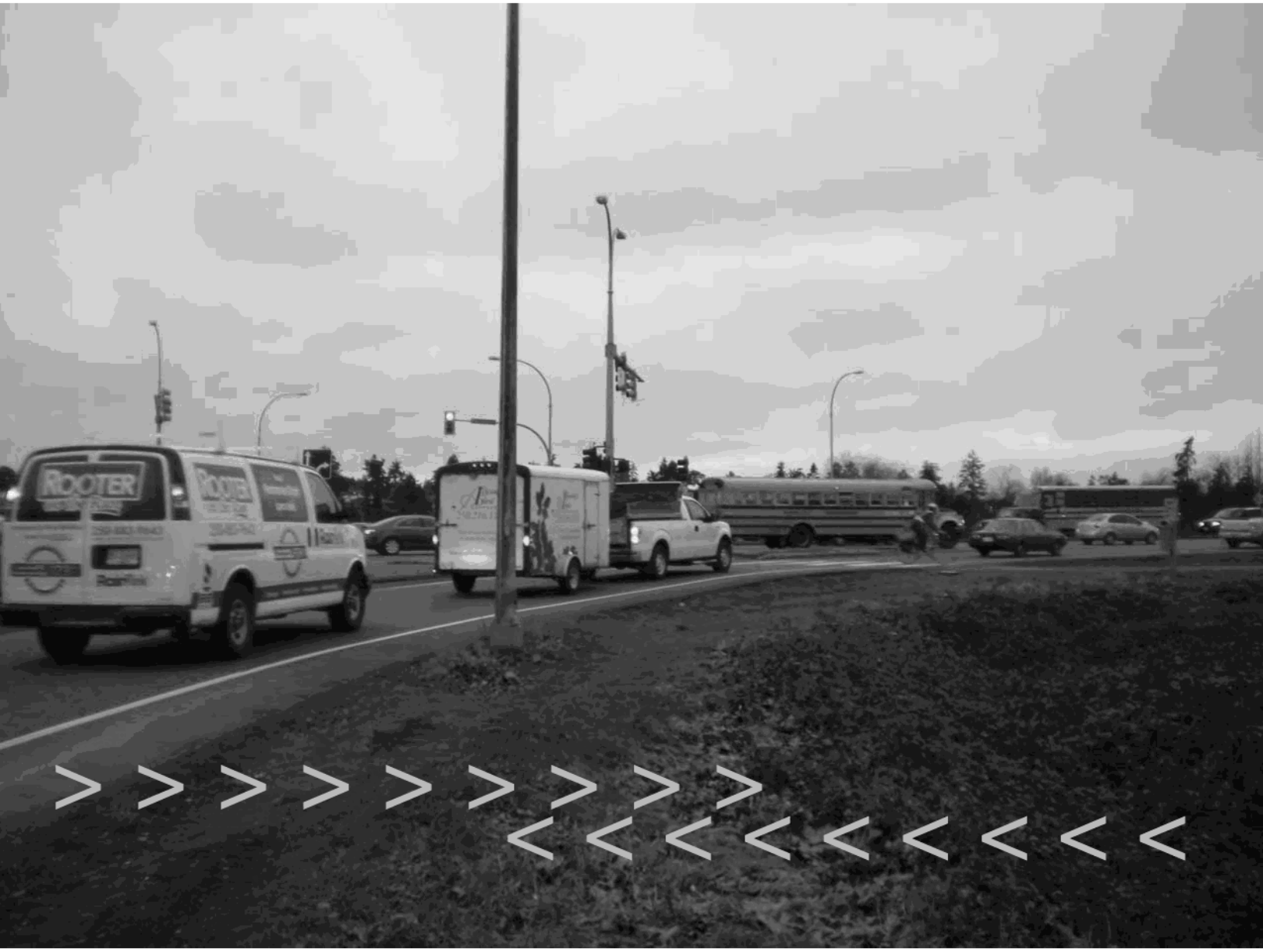
Figure 5-2
Dwg. No.: 2907-00-SK105
Date: Mar. 30, 2012
Scale: N.T.S.

Associated Engineering

Highway 1
Helmcken Road
Admirals Road
Craigflower Road
Gorge Road West
Burnside Road West
Burnside Off-Ramp
Mckenzie Avenue
Carey Road
Glanford Avenue
Tillicum Road
Patricia Bay Highway / Highway 17
Saanich Road
Ministry of Transportation
Highway 1 / Admirals / Mckenzie
Preliminary Engineering Study
2011 AM Peak Hour Volumes
Figure 5-1
Dwg. No.: 2907-00-SK104
Date: Mar. 30, 2012
Scale: N.T.S.
Associated Engineering


N
Helmcken Road
F(D)
F(F)
Highway 1
Helmcken Road
Burnside Road West
E(C)
Mckenzie Avenue
Carey Road
Glanford Avenue
B(B)
F(F)
F(D)
Mckenzie Avenue
Patricia Bay Highway / Highway 17
F(F)
Tillicum Road
Highway 1
Burnside Off-Ramp
Admirals Road
B(B)
Gorge Road West
Craigflower Road
C(C)
Admirals Road
Highway 1
F(E)
Saanich Road
Saanich Road
LEGEND
AM Levels of Service (PM Levels of Service)
Ministry of Transportation
Highway 1 / Admirals / Mckenzie
Preliminary Engineering Study
2011 AM/PM Peak Hour Intersection Levels of Service
Figure 5-3
Dwg. No.: 2907-00-SK106
Date: Mar. 30, 2012
Scale: N.T.S.
Associated Engineering

Pages 192 through 194 redacted for the following reasons:
- -
s13



HIGHWAY 1/ADMIRALS ROAD/MCKENZIE AVENUE INTERSECTION REVIEW

Ministry of Transportation and Infrastructure

Boulevard TRANSPORTATION GROUP

DATE: July 20, 2011

File: 1224

EXECUTIVE SUMMARY

This study reviews the conditions at the intersection of Highway 1/Admirals Road/McKenzie Avenue including traffic, transit, and the north Galloping Goose crossing. As the busiest intersection in the CRD, Highway 1 / McKenzie Avenue experiences very large traffic volumes, delays and queues, which are contributing to safety and operational concerns. In addition, the Galloping Goose Regional Trail crosses at this intersection, adding safety concerns between cyclists / pedestrians and vehicle traffic. Existing conditions plus nine scenarios were developed and reviewed to assess potential mitigation measures that may improve conditions. This list of options was not meant to be an exhaustive list of all possible options, but a starting point to gain an understanding of the relative benefits of the options. This study is intended to explore solutions for existing operational conditions and not a study to determine long term solutions. The focus of this technical study was on travel delay experienced by all users as well as conflicts and safety, with a focus on safety of pedestrians at the Galloping Goose Trail crossing of the westbound right turn lane.

A thorough review of historical and existing conditions was undertaken to develop a baseline for comparison. Over the past twenty years there has been steady growth on Highway 1 north of McKenzie Avenue/Admirals Road/Highway 1 averaging slightly more than 2% per year. Ten years of historical traffic volume data were collected and analyzed to determine any changes in pattern. No significant change in traffic pattern has occurred at the intersection; however, there has been some spreading of the pm peak traffic period from 4pm-6pm to 3pm-6pm. The westbound right turn movement has seen significant spreading of peak periods and growth throughout the day. Similarly the southbound left turn movement has seen significant growth in volumes between 9am and 6pm such that the pm peak hour is within 50 vehicles per hour (vph) of the am peak hour.

Conflicts between Galloping Goose users and westbound right turn vehicles were observed and broken down in the following categories: no vehicle present, car stopped in advance of crossing, car stopped safely near crossing, stopping conflict, and accelerated through the crossing. In the am peak hour 8% of interactions resulted in a stopping conflict or a vehicle accelerating through the crossing. In the pm peak hour the percentage is lower at 5%. This is likely because in the pm peak hour there is effectively continuous and slow moving vehicle traffic that can easily stop for any pedestrians and cyclists present. Therefore the Galloping Goose crossing risk is potentially less when there is peak (at capacity) west-to-northbound right turning traffic volume.

Observations of weaving along McKenzie Avenue between Burnside Road and Highway 1 observed 10 vph turning right from the westbound through lane, 171 vph merge at Burnside Road, 145vph

merge mid-block, and 42 vph merged right at the right turn island. The northbound left turn movement from Burnside Road at McKenzie intersection was also observed for several cycles and found that 86% of vehicles turning left onto McKenzie Avenue turned directly into the outside lane and 30% of the vehicles conflicted with southbound right turn vehicles.

A review of the westbound queue on McKenzie Avenue observed that by 3:55pm the queue extended back beyond Burnside Road to the Interurban Bridge (700m queue length). Within 30 minutes the queue extended back through multiple intersections and exceeded 2km.

The nine scenarios developed include signalizing the westbound right turn movement with a single and dual turn lane, addition of a second eastbound through lane with existing phasing and split phasing, addition of a third southbound through lane, addition of a southbound queue jumper lane, optimizing existing timings, and a flyover that would eliminate the southbound dual left turn lanes.

s13

TABLE OF CONTENTS

1.0 INTRODUCTION

Boulevard Transportation Ltd. was retained to review the existing traffic operation at the intersection of the Trans Canada Highway (Highway 1), Admirals Road and McKenzie Avenue and related issues, including the interaction of cyclists/pedestrians at the Galloping Goose crossing. The focus of this technical study was on travel delay experienced by all users as well as conflicts and safety of pedestrians at the Galloping Goose Trail crossing the westbound right turn lane. A range of potential improvement options were identified by staff from the District of Saanich, Ministry of Transportation & Infrastructure (MoT), and Boulevard Transportation Group. The improvement options were not meant to be an exhaustive list of all possible options, but meant as a starting point in order to gain an understanding of the relative benefits of the options.

The work was intended to explore solutions to address operational issues that exist today. It was not meant to be a study to determine the long term strategy for this location.

For the purposes of this report the approach legs to the intersection were designated as follows: Highway 1 is the north leg (up island) and south leg (Victoria), Admirals Road is the west leg and McKenzie Avenue is the east leg. Also, Burnside Road is designated as north-south at McKenzie Avenue

2.0 DATA COLLECTION

Field data collection was undertaken February 1 to 3, 2011 between 8am and 9am and 4pm and 5pm. Field data collection included observations and measurement of the westbound queue length on McKenzie Avenue, observations and recording of cyclist/pedestrian and vehicle interactions at the north Galloping Goose crossing, and observation and recording of vehicle weaving manoeuvres westbound on McKenzie Avenue between Burnside Road and Highway 1.

2.1 Traffic Volumes

Annual Average Daily Traffic (AADT) was collected from Saanich's 2008 daily traffic volume map and growthed by 2.5% per year to obtain 2011 AADT. (2.5% growth rate was determined based on average growth at permanent count station P-11-1NS.) The 2011 AADT on Highway 1, south of McKenzie Avenue is 50,100 vpd and north of McKenzie Avenue is 71,000 vpd. On McKenzie Avenue the AADT is 31,800 vpd and on Admirals Road the AADT is 13,500 vpd.

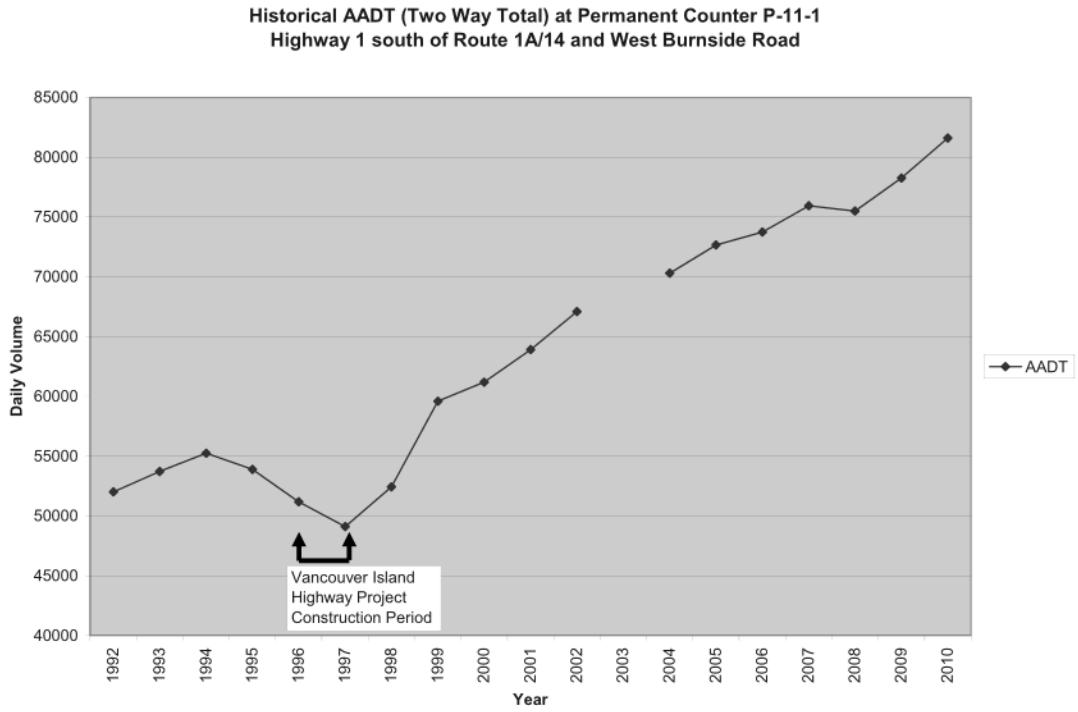
The following AADT volumes are provided for comparison purposes:

Table 1: AADT for Various Highways within BC

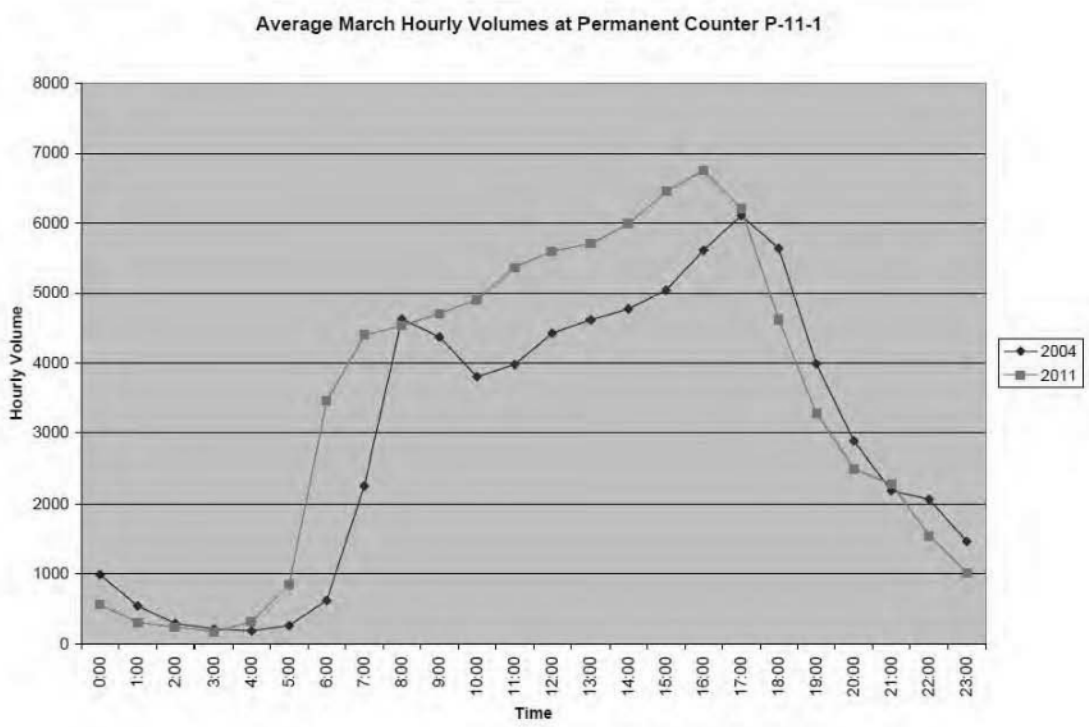
Location	AADT
Highway 1, north of McKenzie Avenue	71,000vpd
McKenzie Avenue	31,800vpd
Admirals Road	13,500vpd
Highway 1, north of Helmcken*	83,250vpd
Highway 1, north of Goldstream Avenue*	24,750vpd
Highway 17, south of McTavish Road*	34,300vpd
Highway 17 at Ladner Truck Road*	10,000vpd
Highway 5, 12km north of Hwy 3 (Hope)*	11,000vpd
Highway 5, north of Paul Lake Road (Kamloops)*	11,300vpd
Highway 97, 0.6km north of Kelowna Airport Access	27,000vpd
Highway 97, 1.12km south of Hwy 33 (Kelowna)*	54,900vpd
Highway 1, east of Bradner Road, Abbotsford*	71,000vpd
Highway 1, west end of Port Mann Bridge*	115,000vpd

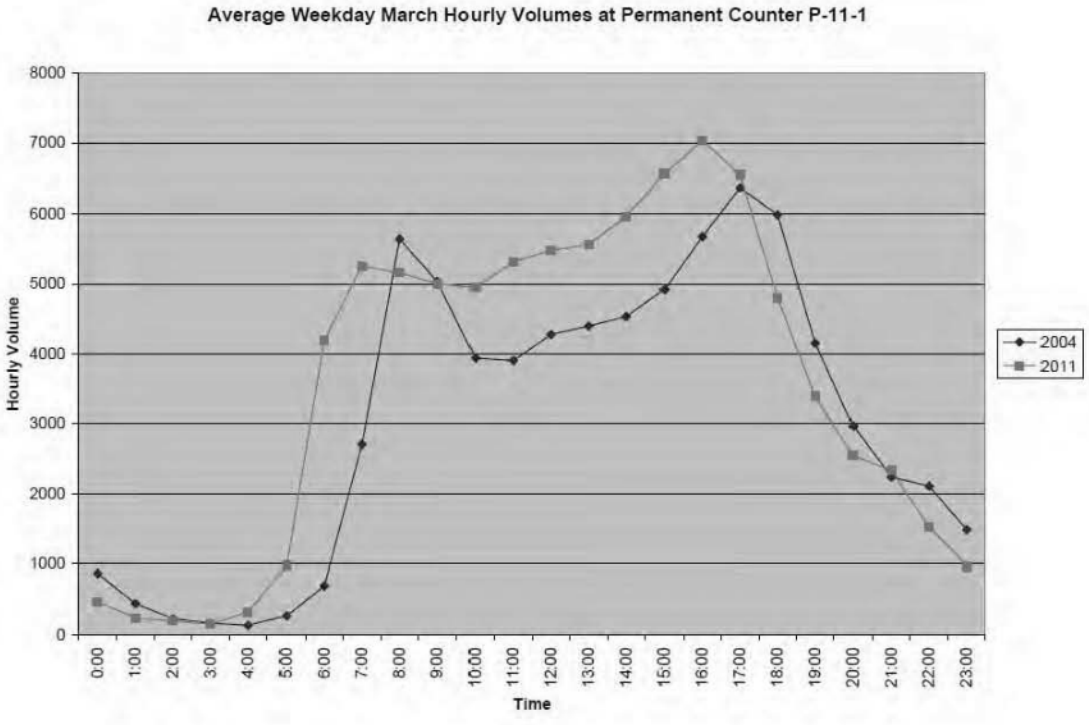
*Adjusted to 2011 levels using a 2% per year growth rate.

A review of AADT traffic volumes on Highway 1 at the nearest permanent count station (located on Highway 1 south of Route 1a/14 and West Burnside Road) to this site was undertaken to determine the growth in Highway traffic over the last 20 years. In the last 20 years, traffic volumes on Highway 1 have increased by 57% (52,015 to 81,602 vehicles per day). This an average growth rate of 2.28% per year. As the graph below illustrates, traffic volumes increased until the mid-1990's when construction of the Vancouver Island Highway Project started to impact highway traffic. This decrease in volume continued through the construction period, but then began to increase and by 1999 the volume was greater than pre-construction levels.



A review of the average daily traffic per hour at permanent counter P-11-1 was also reviewed. Hourly data per day was collected for March 2004 and March 2011. The hourly volumes were averaged for the month by dividing the each hour's data by the number of days with data. The following graphs outline the average volume per hour per day and the average volume per hour per weekday for March. (March was selected as representing typical conditions.)


Average March Hourly Volumes at Permanent Counter P-11-1
Hourly Volume
8000
7000
6000
5000
4000
3000
2000
1000
0
0:00
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
Time
2004
2011


Average Weekday March Hourly Volumes at Permanent Counter P-11-1
Hourly Volume
8000
7000
6000
5000
4000
3000
2000
1000
0
0:00
1:00
2:00
3:00
4:00
5:00
6:00
7:00
8:00
9:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
19:00
20:00
21:00
22:00
23:00
Time
2004
2011

With and without the weekends included in the data the graphs illustrate that at 6am there has been a dramatic increase (+3,000 vph) in traffic and that the am peak has spread over several hours rather than a distinctive one hour peak. The mid-day pattern shows a similar pattern between 2004 and 2011; however 2011 has consistently higher volumes. In the afternoon the peak hour is occurring earlier than in 2004 and has spread over several hours. However, following the end of the pm peak period traffic levels drop off faster in 2011 than they did in 2004 and remains at or below 2004 levels between 6pm and 3am.

Historical twenty four (24) hour traffic volume data, from signal downloads, was collected from the Ministry of Transportation and Infrastructure for the following periods:

- June 1999
- July 2006
- August 2007
- February 2009.

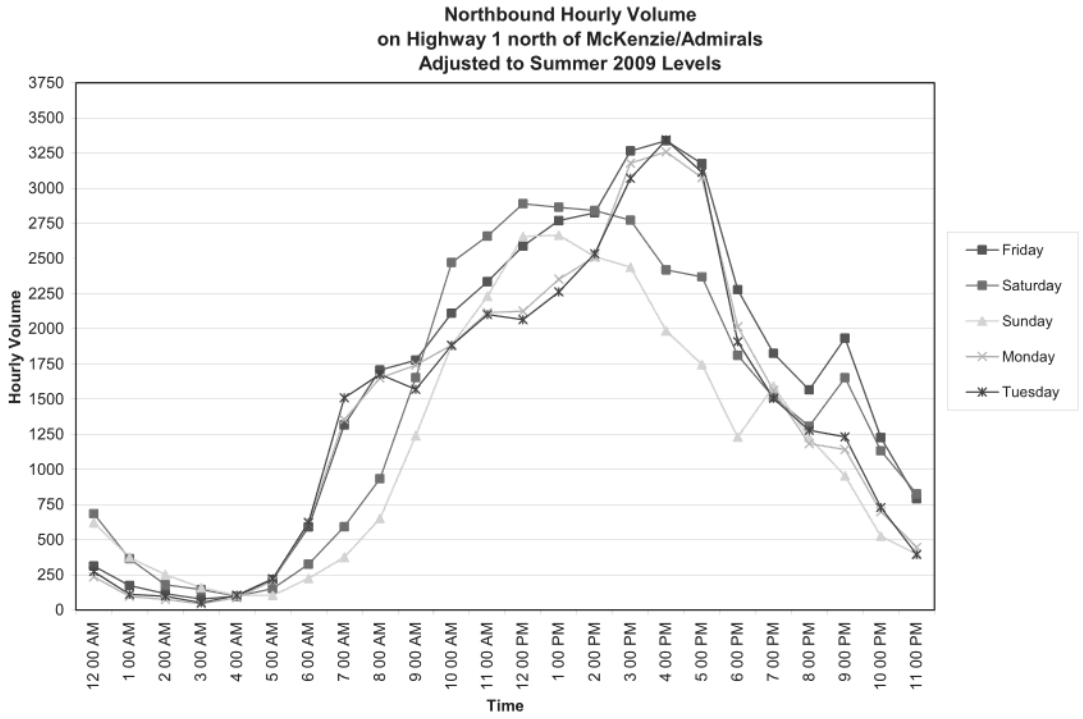
Since the historical traffic volume data ranges from late winter to summer traffic volumes traffic data from the nearest permanent count station was collected to get an average weekday hour by hour ratio of February to July volumes. Traffic volume data by hour was collected from permanent count station P-11-1NS (Route 1 South of Route 1a/14 And West Burnside Road in Colwood). **Table 2** summarizes the hour by hour ratios of winter to summer volumes in 2009.

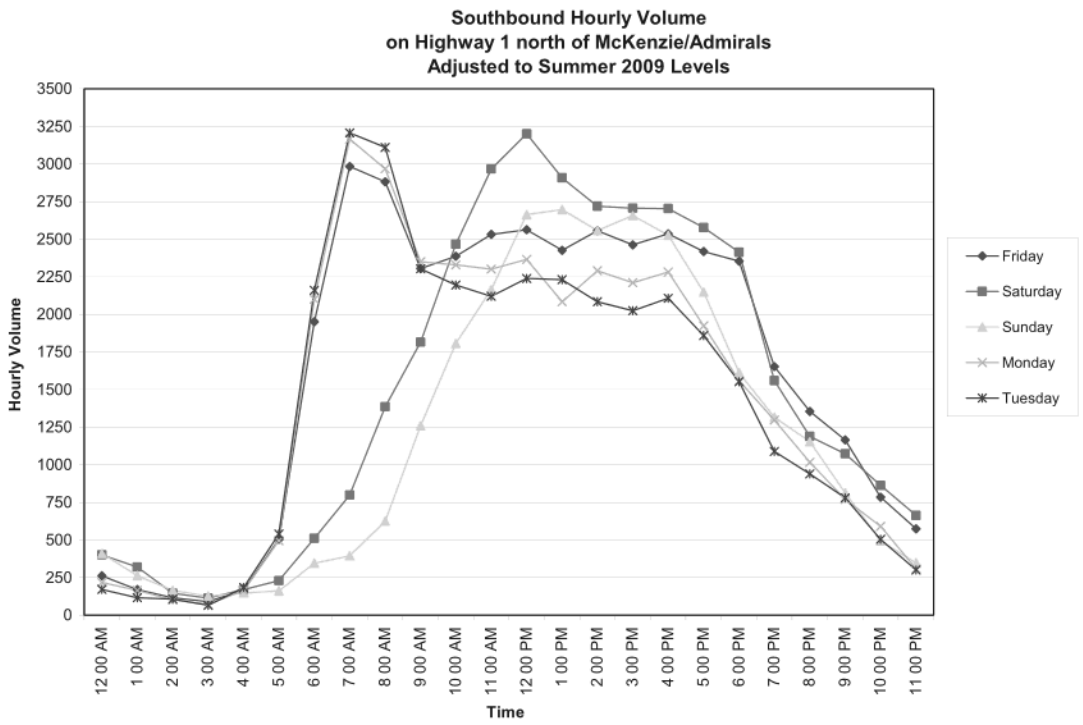
Table 2: February to July Ratio by Hour

12:00 AM	1.4
1:00 AM	1.38
2:00 AM	1.11
3:00 AM	1.12
4:00 AM	1.14
5:00 AM	1.12
6:00 AM	1.03
7:00 AM	0.97
8:00 AM	0.98
9:00 AM	1.1
10:00 AM	1.2
11:00 AM	1.2
12:00 PM	1.19
1:00 PM	1.19
2:00 PM	1.13
3:00 PM	1.08
4:00 PM	1.04
5:00 PM	1.1
6:00 PM	1.16
7:00 PM	1.27
8:00 PM	1.38
9:00 PM	1.31
10:00 PM	1.3
11:00 PM	1.24
Daily Average	1.13

As the table outlines in the summer months traffic volumes are higher for the majority of the hours of the day. However, between 7am and 9am the summer traffic volumes are slightly less than in the winter. In the afternoon peak the summer volumes are only slightly higher than winter conditions. These ratios were used to adjust the February 2009 volumes to estimated July 2009 levels. For the purposes of comparison the Summer 2009 volume will be utilized so all of the historical data is based on summer months.

Hourly traffic volumes north of the McKenzie Avenue/Admirals Road/Highway 1 intersection were reviewed by weekday using the 2009 data. The follow charts outline the northbound and southbound volumes by hour and day of the week.

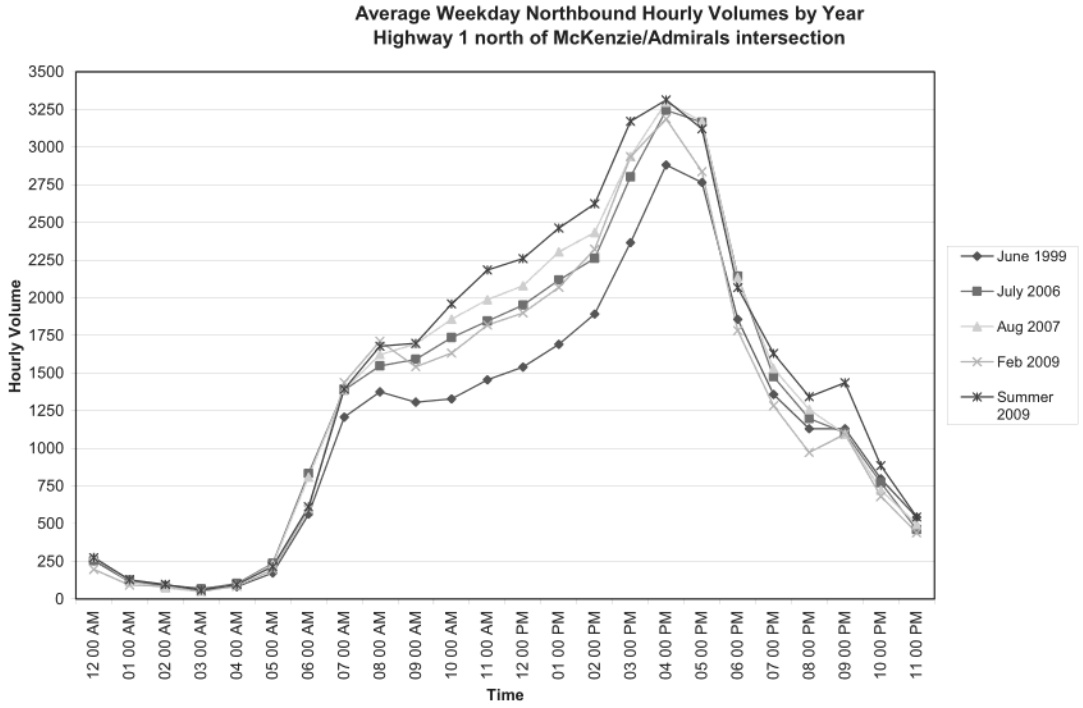


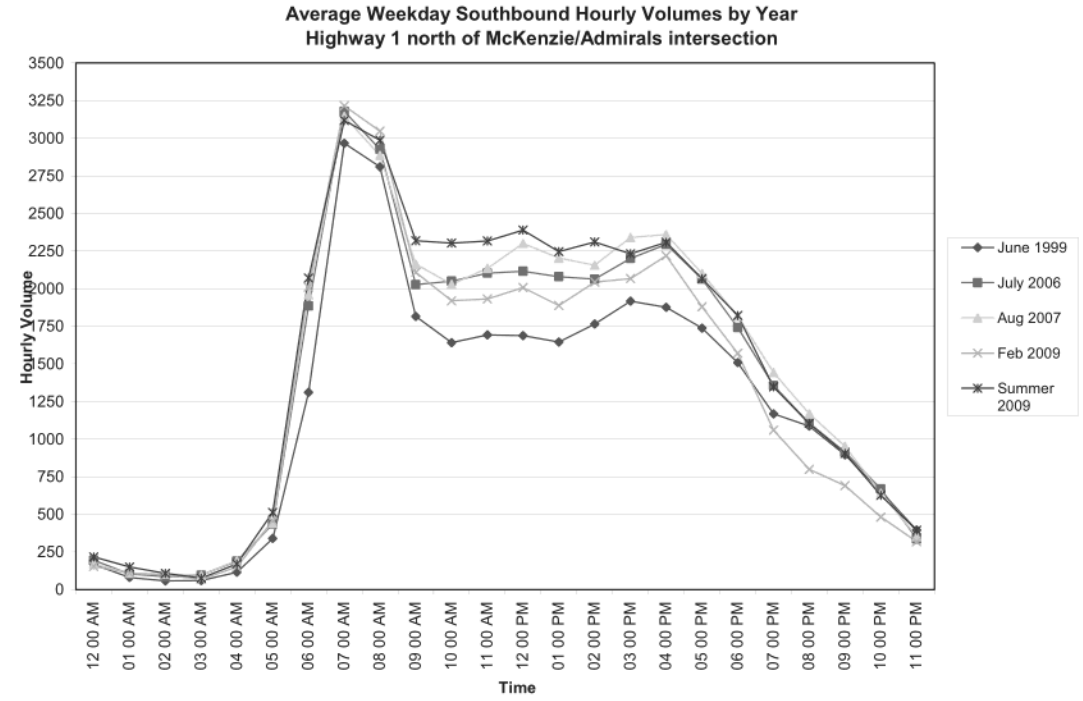


In the northbound direction the weekday traffic volumes have a similar pattern with traffic increasing through out the day until 3pm when a several hour peak occurs until 5pm then starts to decrease again. On the weekends there is a different pattern with traffic increasing earlier than on weekdays and sustaining a lower, but longer peak period.

In the southbound direction, again the weekdays have a very similar pattern for each day of the week. Volumes peak in the am at 7am and continue until 9am when they decrease to a consistent level until dropping again after 5pm. On the weekends traffic has a significant peak mid-day which is similar in volume to the weekday am peak; however, overall weekend volumes increase in the morning and remain steady until decreasing the late afternoon.

Average weekday traffic volumes over the last 10 years were reviewed to determine if there has been a growth in traffic volumes during the peaks and /or if there has been a shift or lengthening in the peak hours. Volumes were reviewed for a screenline north of the Admirals Road/McKenzie Avenue/Highway 1 intersection.

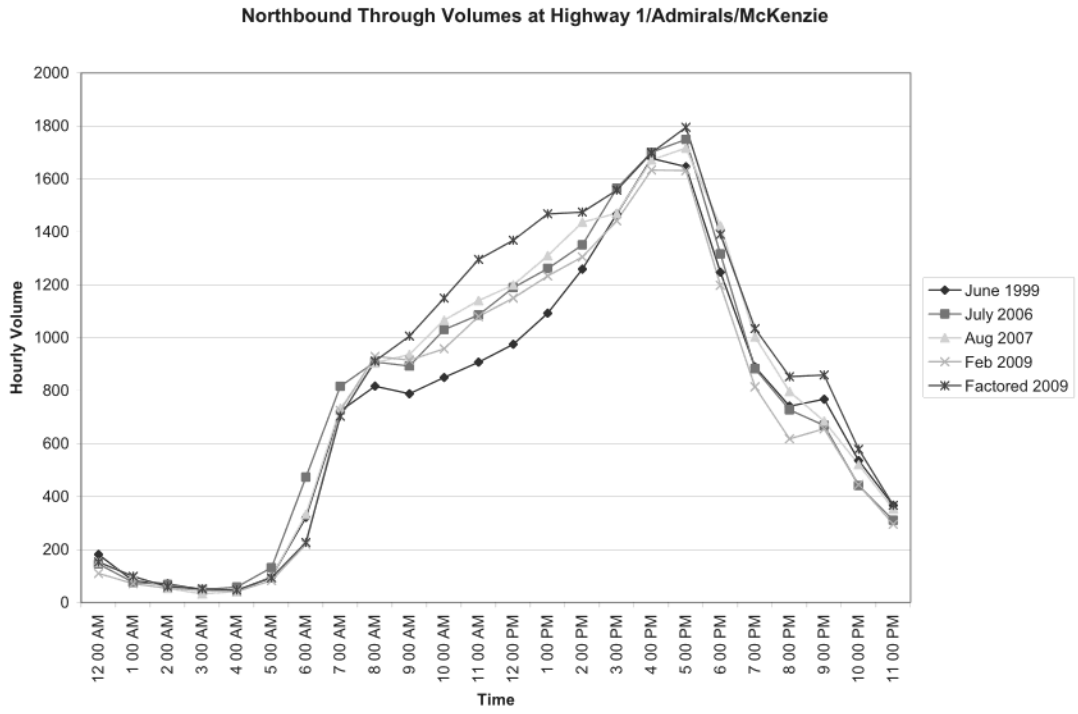




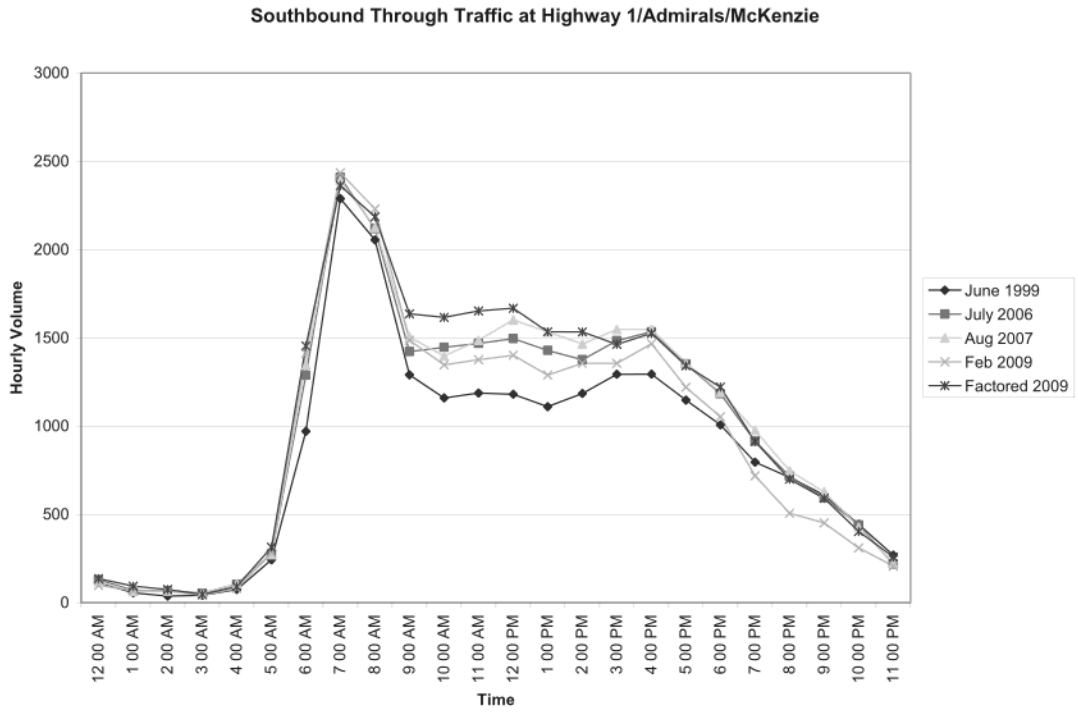
In the northbound direction there has been a lengthening of the pm peak hour. In 1999, the peak hour started at 4pm and ended at 6pm; however the traffic volumes at 3pm have been increasing to create a

peak period from 3pm to 6pm in 2009. Traffic volumes between 10pm and 7am (night time) have not significantly changed over the last 10 years; however volumes have been steadily increasing in the period between 7am and 10pm. In the peak hours, since 2006 there has been less than 100 vph difference in the traffic volumes indicating that the road network may be over-saturated during these periods.

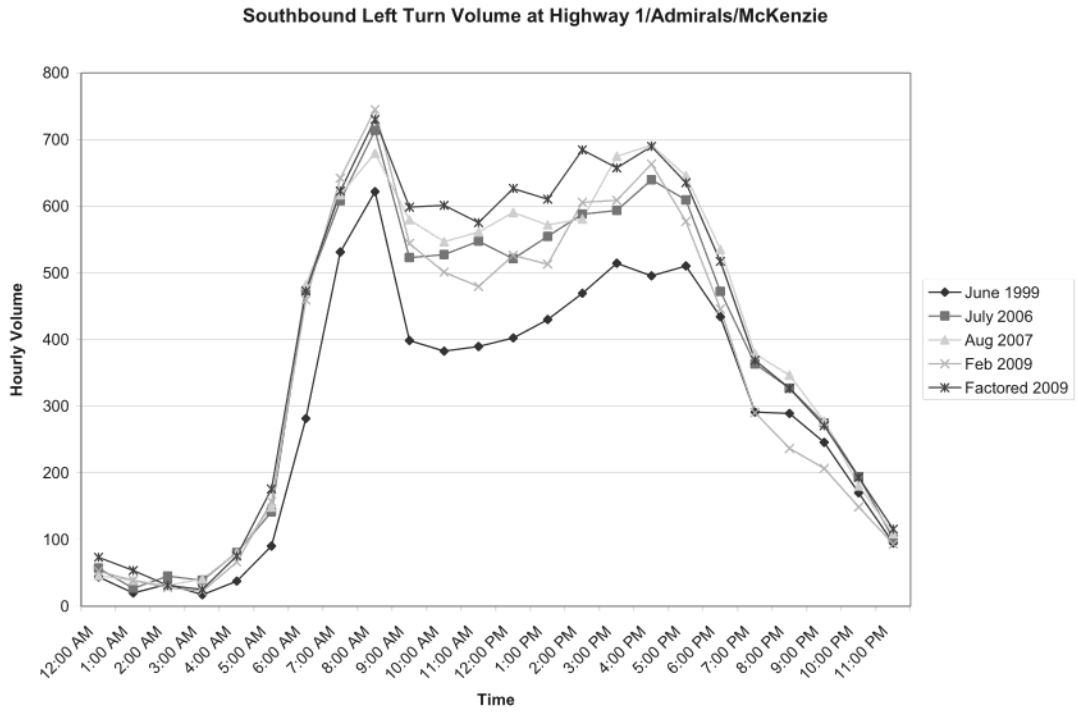
Historical traffic volumes were also reviewed for each of the key movements at the intersection to determine the change in volumes over the last 10 years.



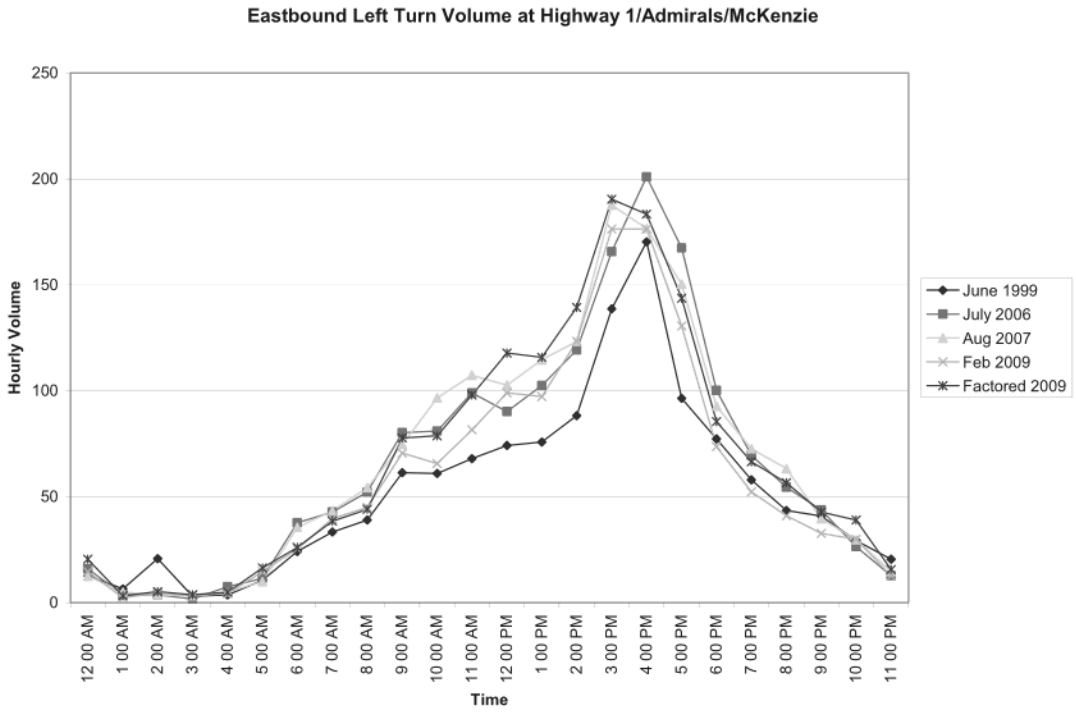
For the northbound through movement there has been a steady increase in traffic between 9am and 2pm; however after 2pm there has been no significant change in traffic volumes over the last 10 years.



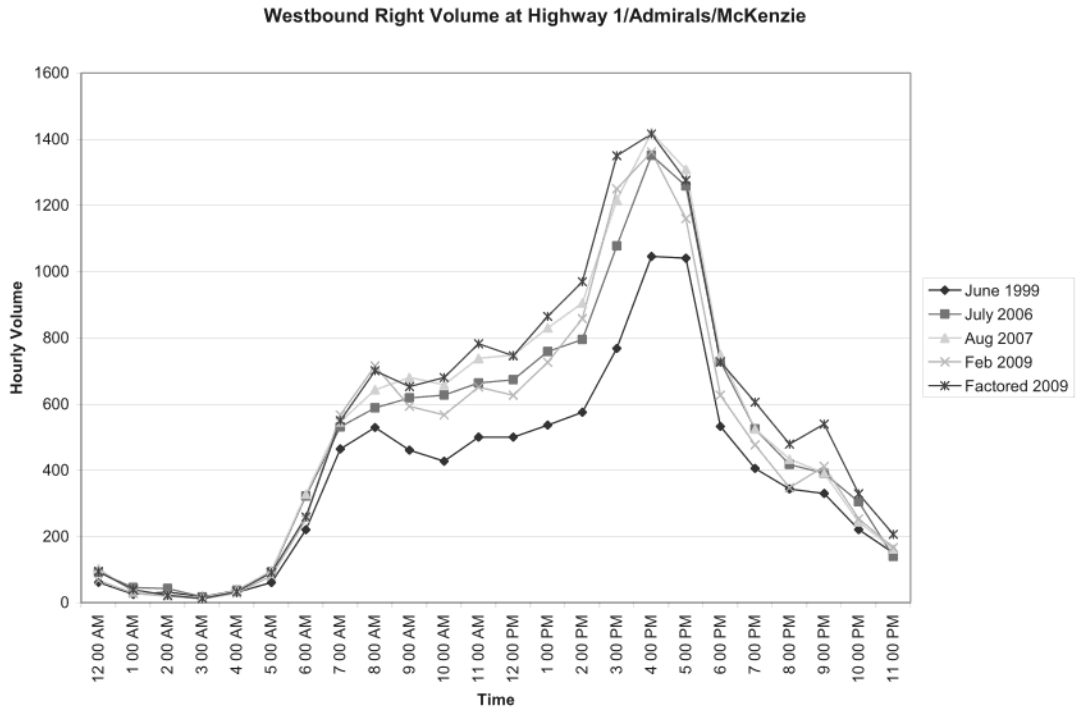
There has been no change in the traffic pattern throughout the day in the past 10 years. In the southbound direction there have been slight increases in traffic volumes (150 vph in 10 years) during the am peak hour; however, it is the mid-day volumes that have seen a more significant increase in traffic. This indicates that in the am peak hours the road is at capacity and can't accommodate any more volume, while mid-day there is spare capacity. In the am peak hour there is close to 2,500 vph travelling southbound through the intersection or 1,250 vph per lane. This volume of traffic is at the upper end of the range a traffic signal can typically handle (depending on side street demand). As the counts indicate additional traffic isn't able to travel through the intersection southbound during the peak hour, which accounts for the long queues and delays in the am peak hour. It is estimated based on the queues (typically extend back past Six Mile Road interchange) there is an additional 650vph or more trying to travel southbound through the signal, but are unable due to a lack of capacity at the traffic signals. Therefore, based on existing traffic volumes the southbound through movement is significantly over capacity creating long delays and queues in the am peak hour.



The southbound left turn lane peaks in the am peak hour; however over the last 10 years there has been a steady increase in the volume of left turners between the am peak hour to pm peak hour. The pm peak hour volumes in 2009 (factored to summer) have significantly increased in the past 10 years and the pm peak hour volumes are within 50vph of the am peak (which is the highest volume of the day). The high volume of southbound left turners in the pm peak hour competes with the high northbound through movement for green time at the intersection.



The eastbound left turn movement from Admirals Road to Highway 1 has experienced a change in traffic pattern in the pm peak hour. Prior to 2007, the peak hour occurred in a single hour at 4pm; however, since 2007 the volume at 4pm has dropped slightly, but the 3pm hour has increased and created a two hour peak.



The westbound right turn movement from McKenzie Avenue to Highway 1 has increased by over 350 vph in the pm peak hour in the last 10 years. In addition the peak has spread from two hours (4-6pm) to three hours (3pm-6pm).

2.2 Conflict Analysis – Galloping Goose Trail Crossings

Conflicts were investigated between right-turning westbound to northbound vehicles and pedestrian and cyclist traffic on the Galloping Goose trail crossing between the northwest corner and the pork-chop island. The AM data was collected between 7 and 8 AM on February 3 2011, and the PM data was collected between 4 and 5 PM on Feb 2 2011.

The conflict analysis was assessed by counting the number of pedestrian and cycling crossings, and assigning that crossing event to a conflict category. Five conflict breakdown categories were established, as follows:

- No vehicle - where no vehicle was present (i.e. unimpeded cyclist or pedestrian)
- Car stopped – where a vehicle was stopped in advance of the crosswalk before a pedestrian or cyclist arrived (either due to queuing from the merge lane or for stopping for earlier cyclists / pedestrian crossings). These are considered conflict free interactions.
- Stopping safely – this is where a vehicle braked safely for pedestrians and/or cyclists that were at or near the crosswalk edge (on the side of the road).
- Stopping conflict – this is where a vehicle either braked abruptly for a pedestrian / cyclist or braked abruptly in following a vehicle that braked safely for a pedestrian
- Accelerated through – this is where a vehicle accelerated through the crosswalk rather than stop for pedestrians or cyclists at or near the crosswalk edge, even though they were deemed to have sufficient time and space to brake safely. These are considered potential conflicts (even though in many cases the actual risk of a collision is minimal).

Groups of two or more pedestrians or cyclists crossed at the same time were only considered as one crossing event.

Note that pedestrian and cyclist induced conflict behaviour was not summarized, e.g. cutting in front of vehicles unsafely, as the focus was on driver-related conflicts. Also, note however that only one instance of pedestrian or cyclist-induced conflict was observed over both the AM and PM counts, with a cyclist riding the wrong way up the turning lane and then off-road.

Tables 3 and 4 summarize the crossing conflict analysis for the AM and PM peak hours respectively.

Table 3: AM Crossing Conflicts – Galloping Goose Trail and Westbound McKenzie Ave Right Turn Lane

	Total Trail Crossings				
	No Car	Car Stopped	Braking Safely	Braking Conflict	Accelerated Through
7:00-7:15	12	1	10	0	2
7:15-7:30	3	0	30	0	2
7:30-7:45	11	2	13	1	1
7:45-8:00	7	5	17	0	4
TOTAL	33	8	70	1	9

Table 4: PM Crossing Conflicts – Galloping Goose Trail and Westbound McKenzie Ave Right Turn Lane

	Total Trail Crossings				
	No Car	Car Stopped	Braking Safely	Braking Conflict	Accelerated Through
4:00-4:15	0	1	10	0	1
4:15-4:30	0	5	14	0	1
4:30-4:45	2	10	15	1	1
4:45-5:00	3	4	13	0	0
TOTAL	5	20	52	1	3

The following observations can be made from the conflict categorization summary. In the AM there were 10 out of 121 events that were considered conflicts (9 accelerated through vehicles, 1 braking conflict – or 8 percent). In contrast, only 4 of 81 PM peak hour events were considered potential conflicts (5 percent), despite the higher volume of right turning westbound McKenzie Avenue traffic in the PM peak hour. In particular if one considers only crossing events where a vehicle was present, the conflict percentage rises to 11 percent in the AM but remains at 5 percent in the PM peak hour.

It is in fact the higher PM peak hour volumes that reduce the conflict potential between Galloping Goose trail users and turning vehicles, as the traffic is effectively non-stop but also slow-moving because of merging behaviours upstream and slow traffic downstream waiting to merge onto Highway 1 northbound.

Note that when vehicles accelerated through the crosswalk rather than brake for trail users, the trailing vehicle was always observed to brake safely, but this safe braking was not noted in the tabulations (since the crossing event was defined by the "accelerated through" event).

During the observations of the interactions between the Galloping Goose users and the westbound right turn traffic approximately 70-80 vehicles per peak hour braked or stopped for a crossing pedestrian/cyclist. The crossing time for a pedestrian / cyclist would be less than 5 seconds (based on 6m crossing at 1.2m/s) and based on observations one to two vehicles were stopped/slowed per cycle. Therefore the crossing does not significantly add to the westbound right turn queue. The westbound right turn queue is almost exclusively due to movement being overcapacity.

2.3 Weaving Analysis

Weaving and merging conflicts were investigated for vehicles along westbound McKenzie Avenue between Burnside Road and Highway 1. The merging behaviour in this area results from the large number of vehicles that wish to turn right onto northbound Highway 1 in the afternoon peak traffic period, where both westbound lanes on McKenzie Avenue are used by vehicles wishing to turn right, but only one right turn lane being present. These merging behaviours are not necessarily conflicts that would result in collisions, although they can be, and they are not typical driving manoeuvres (unless one is familiar with the site specific characteristics) and can result in undesirable aggressive driver behaviour.

The data was collected in the PM peak hour between 4 and 5 PM on February 1 2011. Five "movement zones" were established for specific manoeuvres that occur within each zone. They are as follows:

- Zone 1 - Right turn behind island - where a westbound right turn vehicle turns right from the through lane onto Hwy 1, turning around the right turn island instead of using the right turn lane (note that these events were recorded in-field and not with the video camera).
- Zone 2 - Merge at Island / End of Thru Lane Queue – where a vehicle merges right at the last possible location in front of either the right turn island or at the end of the through lane queue.
- Zone 3 - Merge mid-section (no queue) – where a vehicle merges midblock between Burnside Rd and Hwy 1, but not near the end of the through lane queue. These vehicles often stop and impede through-vehicles (which can lead to the Zone 5 manoeuvres).
- Zone 4 - Merge at top of hill (camera view) – where vehicles merge into the right turn lane near Burnside Road at the top of the hill (as far as the camera could record).

- Zone 5 - Through vehicles crossing median – where through-vehicles travelling westbound on McKenzie Avenue are impeded by merging vehicles (particularly Zone 3 and Zone 4 merges), and cross the roadway centreline into eastbound lanes to bypass the blocking vehicle(s). This could result in potential for serious conflict should any eastbound vehicles be present.

Zone 3 and Zone 4 Merging

Zone 4 and Zone 5 Movements

Table 5 shows the summary of weaving manoeuvres.

Table 5: Weaving and Merging Conflicts, Westbound McKenzie Avenue Between Burnside Road and Highway 1 – PM Peak Hour

	4:00-4:15 PM	4:15-4:30 PM	4:30-4:45 PM	4:45-5:00 PM	Total
Right Turn Events					
Zone 1 - Right turn behind island	3	2	2	3	10
Zone 2 - Merge at Island / End of Thru Lane Queue	10	6	13	13	42
Zone 3 - Merge mid-section (no queue)	34	41	32	38	145
Zone 4 - Merge at top of hill (camera view)	33	39	41	58	171
Through Movement Events					
Zone 5 - Through vehicles crossing median	2	3	0	6	11
				Total	379

Some observations are that for right turning vehicles, the majority attempt to do so before the last moment (e.g. either in Zone 3 or 4). There were 10 of the undesirable right turn behind island (from

through lane) movements, and 11 of the potentially severe-conflict through-vehicles crossing median movements. This indicates that the large traffic volumes are resulting not only in level of service concerns but also safety and merging concerns.

Note that since the data was collected in February 2011 the Ministry of Transportation and Infrastructure has installed a "No Right Turn" sign to dissuade the Zone 1 right turn behind island manoeuvre.

2.4 Burnside Left Turn Movements

A review of left turn movements from northbound Burnside Road onto McKenzie Avenue were taken over 6 signal cycles to record the tendencies of traffic merging into the outside and inside lanes.

Results showed that 86 percent of traffic would turn into the right (outside) lane and 14% turned into the left (inside) lane on McKenzie Avenue. 30 percent of the turning movements conflicted with vehicles turning southbound right off of Burnside Road onto westbound McKenzie Avenue. On three out of the six cycles, vehicles in the through movement on westbound McKenzie Avenue would be stuck in the intersection due to the queue and this would interfere with the Burnside green light movements. In some cases this resulted in traffic weaving into oncoming and/or incorrect lanes.

The conflict was apparent as vehicles entered the outside westbound McKenzie Avenue lane causing merging issues with the southbound right vehicles off of Burnside Road. The left turning vehicles tended to perform this manoeuvre due to the fact that they intend on turning right from McKenzie Avenue onto Highway 1.

Results of the turning movement are shown in **Table 6**.

Table 6 – Burnside Road Left Turn Movements

Time	Traffic Turned into Inside Lane	Traffic Turned into Outside Lane	Conflicts with Right Turn	Notes
3:35	0	5	3	
3:40	1	6	2	SB McKenzie Vehicles Stuck in Intersection
3:45	3	5	1	SB McKenzie Vehicles Stuck in Intersection
5:05	2	4	1	
5:10	1	7	2	SB McKenzie Vehicles Stuck in Intersection
5:15	3	5	0	
Total:	10 vehicles - 14%	32 vehicles - 86%	9 vehicles - 30% of Outside Lane Traffic	

2.5 Back of Queue on McKenzie

Data collection and analysis of the queue on McKenzie Avenue, east of Highway 1 was performed by noting the back of queue using GPS and recording trends of the traffic. Collection was performed between 4:00pm and 5:00pm on Tuesday, February 1, 2011.

The analysis showed that the queue at 4:00pm on McKenzie Avenue was backed up to the Interurban Road Bridge. Within 30 minutes, the queue had substantially progressed to the point at which vehicles were stopped at both green light movements at Carey Road as well as Glanford Avenue. On multiple occasions, traffic was stuck in the intersection during the red phase of the signal. Vehicles were queued as far as the Pat Bay Highway at approximately 4:25pm. This traffic may have queued past Saanich Road on McKenzie Avenue. Another notable incident was two U-turn movements out of the eastbound McKenzie lane into the westbound lane between Carey Road and Burnside Road. Refer to **Figure 1** for queue analysis results.

The volume of westbound right turn traffic making the right turn movement Highway 1/McKenzie Avenue/Admirals Road is approximately 1,400 vph, which is the capacity of the right turn movement. The queues are formed because the volume of traffic arriving to make the westbound right turn

exceeds the capacity of the movement. Arrival counts were not undertaken as part of this study, but based on the queue length extending to at least Carey Road there is at least an additional 170 vph (1,275m queue/7.5m vehicle) that want to make the right turn.

Equal queue per lane north or bridge – 4:02pm

Queues stopped at green light at Carey Road – 4:18pm

Queues proceed past Glanford Ave to Pat Bay – 4:25pm

Queues Extend Past Glanford Ave to Pat Bay Highway– 4:25pm

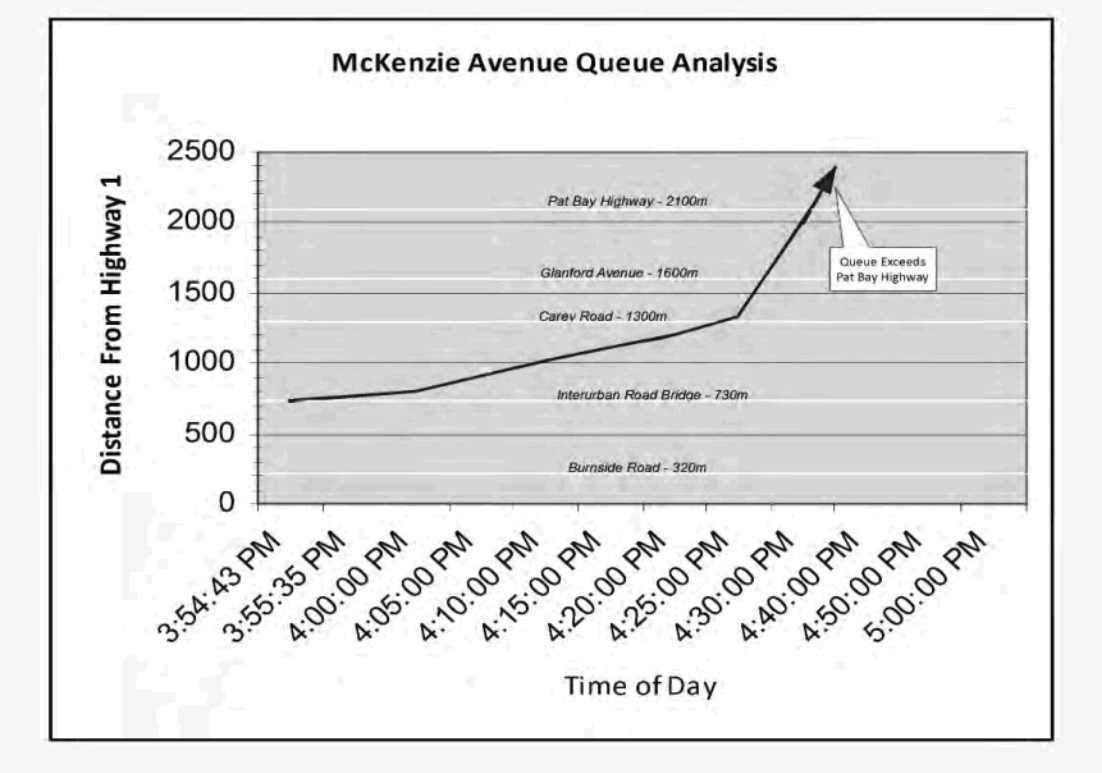


Figure 1 – McKenzie Avenue Queue Distances

2.6 Burnside Road / McKenzie Avenue

The intersection of Burnside Road/McKenzie Avenue is located approximately 300m east of the Highway 1/Admirals Road/McKenzie Avenue intersection. The Burnside Road/McKenzie Avenue intersection is currently in coordination with the signals at Carey Road, Glanford Road, Highway 17 West, and Highway 17 East. These intersections are running cycle lengths of 110 to 116 seconds depending on the time of day. The intersection at Burnside Road provides a metering of the westbound traffic as it heads west. The metering allows the westbound right turn queue to partially dissipate and allow for the northbound left and southbound right turn vehicles off of Burnside Rd to join the 'back' of the westbound right turn queue. The signal is not contributing to the delay and queue for the westbound right turn at Highway 1. Changes in signal timing to provide more green time to McKenzie Avenue would reduce the metering effect of the signal and could lead to vehicles queuing within the Burnside Road intersection. In addition, this increase in green time would not significantly change the queue length on McKenzie Avenue and could increase the queue on Burnside Road northbound as these vehicles are further delayed due to less green time.

It is recommended that the signal timing at McKenzie Avenue/Burnside Road not be changed.

3.0 OPTION GENERATION

Seven options were developed to improve operations and / or control the Galloping Goose crossing of the westbound right turn movement. During the analysis process of the options two additional sub-options were developed. The following sections outline the options. See *Appendix A* for sketches of each option.

s13

s13

s13

4.0 TRAFFIC OPERATIONS

Synchro/SimTraffic software was utilized to model the am and pm peak hour conditions for existing network conditions and each of the scenarios.

A base pm peak hour model for the intersection of Highway 1/McKenzie Avenue/Admirals Road was provided by MoT. This model was reviewed to ensure that all inputs were appropriate including storage lanes and laning, saturation flows, lane widths, peak hour factors, signal timing, and traffic volumes. Traffic volumes utilized in the model were from February 2009 and adjusted to July 2009 levels. The existing August 2011 signal timing plans were utilized in the models. The volumes utilized in the models were the volume of vehicles passing the loops (or travelling through the intersection) per hour. There is additional demand on several movements at different periods that is not included in the modelling (ie. southbound through in am, westbound right and northbound through in the pm). The model uses Synchro and HCM methodologies for determining the level of service, delays, and queues. Movements that reach a LOS F have forced flows (jammed conditions) and can result in excessive delays and unstable patterns. Queue lengths with # behind them indicate movements where the 95th percentile cycle exceeds the capacity. The queues shown are based on two complete cycles of 95th percentile traffic (in Synchro); however if the v/c exceeds 1.0 then Synchro's method is not accurate for determining queue lengths. SimTraffic may better represent field queue lengths as traffic is modelled using simulation of traffic behaviours rather than by formulas in the macroscopic model (Synchro).

4.1 Results

The following tables outline the results of the analysis for the key movements at the intersection for each of the scenarios and time of day analyzed.

Table 7: Overall Intersection Results for the Am and Pm Peak Hour (Synchro)

AM Peak Hour – Overall Results

Scenario	LOS	Max v/c	Intersection Delay (sec)
Existing	E	1.18	75.6

PM Peak Hour – Overall Results

Scenario	LOS	Max v/c	Intersection Delay (sec)
Existing	F	1.17	84.5

s13

The scenarios were reviewed in SimTraffic as the Synchro model results did not reflect field conditions as well as the SimTraffic results. The following tables outline the results of the SimTraffic analysis by movement. A summary of the Synchro results can be found in *Appendix B*.

Table 8: Am Peak Hour – Southbound Left and Through Results

Southbound Left		
Scenario	Delay (s)	95th Queue
Existing	414.5	356.7

Southbound Through		
Scenario	Delay (s)	95th Queue
Existing	413.3	2252.0

s13

Table 9: Am Peak Hour - Northbound Left and Through Results

Northbound Left		
Scenario	Delay (s)	95th Queue
Existing	124.0	44.6

Northbound Through		
Scenario	Delay (s)	95th Queue
Existing	30.6	100.7

s13

Table 10: Am Peak Hour – Eastbound Left and Through Results

Eastbound Left		
Scenario	Delay (s)	95th Queue
Existing	69.1	47.4

Eastbound Through		
Scenario	Delay (s)	95th Queue
Existing	65.2	147.5

s13

Table 11: Am Peak Hour – Westbound Left and Through Results

Westbound Left		
Scenario	Delay (s)	95th Queue
Existing	187.5	27.7

Westbound Through		
Scenario	Delay (s)	95th Queue
Existing	129.0	233.9

s13

Table 12: Am Peak Hour – Westbound Right Results

	Delay per Segment (seconds)			95th Queue (m)		
Scenario	**WBR**	**WBT (McKenzie)**	**NBL (Burnside)**	**WBR**	**WBT (McKenzie)**	**NBL (Burnside)**
Existing	9.7	36.8	37.9	163.8	117.6	23.8

s13

s13

Table 13: Pm Peak Hour – Southbound Left and Through Results

Southbound Left		
Scenario	Delay (s)	95th Queue
Existing	294.1	404.1

Southbound Through		
Scenario	Delay (s)	95th Queue
Existing	101.1	1320.4

s13

Table 14: Pm Peak Hour - Northbound Left and Through Results

Northbound Left		
Scenario	Delay (s)	95th Queue
Existing	348.6	59.6

Northbound Through		
Scenario	Delay (s)	95th Queue
Existing	681.1	2278.5

s13

Table 15: Pm Peak Hour – Eastbound Left and Through Results

Eastbound Left		
Scenario	Delay (s)	95th Queue
Existing	352.9	89.1

Eastbound Through		
Scenario	Delay (s)	95th Queue
Existing	226.7	435.7

s13

The eastbound left turn and through movements are significantly improved with the implementation of the flyover (Scenarios G and G1). Scenario A also provides some improvement to the eastbound through movement delays.

Table 16: Pm Peak Hour – Westbound Left and Through Results

Westbound Left		
Scenario	Delay (s)	95th Queue
Existing	153.0	27.0

Westbound Through		
Scenario	Delay (s)	95th Queue
Existing	88.8	266.3

s13

Table 17: Pm Peak Hour – Westbound Right Results

	Delay per Segment (second)			95th Queue (m)		
Scenario	WBR	WBT (Burnside)	NBL (Burnside)	WBR	WBT (Burnside)	NBL+NBT (Burnside)
Existing	18.1	210.9	202.7	137.3	781.1	304+488.7

s13

s13

6.0 EVALUATION

The options were evaluated based on vehicle safety using the crash prediction models, impact to the Galloping Goose in terms of crossing delay, impact to transit operations and priority through the intersection, impact to overall intersection operations, and capital cost to construct the improvement.

The following table outlines the results of the evaluation and a description of the criteria used in the evaluation.

Table 17: Summary Matrix

	Existing
Vehicle Safety	●
Impact to Goose	●
Vehicle Operations	● / ●
Transit Operations	●
Capital Cost	$0 ●

* xx/xx = am / pm

s13

Vehicle Safety (based on collision modification factors):

●	Reduction in safety performance
●	No change in safety performance
●	Increase in safety performance

Impact to Goose: describes the amount of waiting time for a pedestrian/cyclist travelling from the south side of McKenzie to the north side using the Galloping Goose

●	Less than 5 seconds (ie. for a vehicle to stop and give right of way to pedestrian/cyclist)
●	5 seconds to 60 seconds
●	More than 60 seconds delay

Vehicle Operations: reviews the overall intersection level of service and delays

●	Less than 60 seconds of overall intersection delay
●	Between 60 seconds and 90 seconds of delay
●	More than 90 seconds of delay

Transit Operations: ability to provide priority for transit

●	Provides transit priority in both directions and reduces northbound/southbound queues
●	Provides transit priority in both directions and no change in northbound/southbound queues
●	Does not provide transit additional transit priority and no improvement in northbound/southbound queues

Cost: Total estimated cost to undertake the project

●	Costs under $500,000
●	Costs between $500,000 and $1 million
●	Costs over $1 million

7.0 SUMMARY OF EVALUATION

s13

s13

s13

s13

9.0 NEXT STEPS / ADDITIONAL STUDY

All of the nine options reviewed were done in isolation from each other. Additional study should be considered to assess the impacts and benefits of combining options

s13

s13

s13

APPENDIX A

Sketches

Pages 244 through 250 redacted for the following reasons:
- -
s13

APPENDIX B

Synchro Results

Table B1: Am Peak Hour – Southbound Left and Through Results

Southbound Left

Scenario	LOS	Delay (s)	95th Queue	v/c
Existing	E	66.9	160.9	0.89

Southbound Through

Scenario	LOS	Delay (s)	95th Queue	v/c
Existing	F	113.1	559.3#	1.18

s13

Table B2: Am Peak Hour - Northbound Left and Through Results

Northbound Left

Scenario	LOS	Delay (s)	95th Queue	v/c
Existing	F	93.4	22.6	0.48

Northbound Through

Scenario	LOS	Delay (s)	95th Queue	v/c
Existing	E	59.6	192.7	0.87

s13

Table B3: Am Peak Hour – Eastbound Left and Through Results

Eastbound Left

Scenario	LOS	Delay (s)	95th Queue	v/c
Existing	E	57.7	22.1	0.44

Eastbound Through

Scenario	LOS	Delay (s)	95th Queue	v/c
Existing	E	70.1	157.7#	0.79

s13

s13

Table B4: Am Peak Hour – Westbound Left and Through Results

Westbound Left

Scenario	LOS	Delay (s)	95th Queue	v/c
Existing	E	79.9	26.6	0.48

Westbound Through

Scenario	LOS	Delay (s)	95th Queue	v/c
Existing	F	98.5	147.5#	0.93

s13

Table B5: Am Peak Hour – Westbound Right Results

Westbound Right

Scenario	LOS	Delay (s)	95th Queue	v/c
Existing	A	2	0	0.6

s13

s13

Table B6: Pm Peak Hour – Southbound Left and Through Results

Southbound Left

Scenario	LOS	Delay (s)	95th Queue	v/c
Existing	F	113.6	182.0#	1.05

Southbound Through

Scenario	LOS	Delay (s)	95th Queue	v/c
Existing	C	31.2	278.8	0.8

s13

Table B7: Pm Peak Hour - Northbound Left and Through Results

Northbound Left

Scenario	LOS	Delay (s)	95th Queue	v/c
Existing	F	87.2	19	0.37

Northbound Through

Scenario	LOS	Delay (s)	95th Queue	v/c
Existing	F	128.8	433.6#	1.17

s13

Table B8: Pm Peak Hour – Eastbound Left and Through Results

Eastbound Left

Scenario	LOS	Delay (s)	95th Queue	v/c
Existing	F	155.3	124.2#	1.13

Eastbound Through

Scenario	LOS	Delay (s)	95th Queue	v/c
Existing	E	63.7	127	0.63

s13

s13

Table B9: Pm Peak Hour – Westbound Left and Through Results

Westbound Left

Scenario	LOS	Delay (s)	95th Queue	v/c
Existing	E	78.9	27.1	0.46

Westbound Through

Scenario	LOS	Delay (s)	95th Queue	v/c
Existing	F	100.8	140.8#	0.88

s13

Table B10: Pm Peak Hour – Westbound Right Results

Westbound Right

Scenario	LOS	Delay (s)	95th Queue	v/c
Existing	F	80.6	222.9#	1.14

s13

APPENDIX C

Cost Estimate Breakdowns

Pages 260 through 268 redacted for the following reasons:
- -
s13, s17

June 23, 2011

Mr. Andrew Hind
Senior Transportation Planning Engineer
Ministry of Transportation and Infrastructure
7818 6th Street
Burnaby, British Columbia
V3N 4N8

H-90284.01

Dear Mr. Hind

RE: Safety Review of McKenzie Avenue from Highway 1 to Highway 17

Opus International Consultants was retained by the British Columbia Ministry of Transportation and Infrastructure (Ministry) to conduct a detailed Safety Review of McKenzie Avenue between Highway 1 and Highway 17. This letter report documents our findings along the corridor, in preparation for an Issues Meeting with the Ministry.

1. BACKGROUND

This safety review involves a desktop assessment of this section of McKenzie Avenue to: determine collision rates for the route and intersections/interchanges; and determine crash severity by location.

1.1 Study Route

The study route consists of the 2.6 km stretch of McKenzie Avenue from Rainbow Street to Highway 1. The route is a predominantly 4 lane urban arterial road with both divided and undivided segments. This section of McKenzie Avenue is known as Unnumbered Route 962 (LKI Segment 0306). The study route is shown in FIGURE 1.

FIGURE 1: STUDY ROUTE: MCKENZIE AVENUE FROM HIGHWAY 1 TO HIGHWAY 17

(Source: Google Maps)

2. STUDY APPROACH

To complete this study, the Opus team conducted a review of TAS collision data, traffic data, and ICBC claims data to:

1) Compare collision rates to provincial averages for segments and intersections;
2) Review environmental and temporal trends for the corridor and intersections;
3) Review collision types for the 6 main intersections and prepare collision diagrams for the 6 main intersections using enough historical data to establish patterns;
4) Identify safety issues; and
5) Confirm contributory causes using the Ministry photo log.

This letter report documents the findings of this analysis for discussion during the Issues Meeting. Because the Opus team did not have access to the Ministry photo log at the time of this study, Google Street View images were used instead.

3. CORRIDOR COLLISION ANALYSIS

Traffic Accident System (TAS) data was obtained for the Ministry controlled segment of McKenzie Avenue from Rainbow Street to Admirals Road/Highway 1 for the five year period from January 1st, 2006 to December 31st, 2010. Data was also obtained for Highway 1 and Highway 17 within 100 metres of McKenzie Avenue to capture merge lane and/or ramp related collisions. Annual collision totals, after editing the data for location, are summarized in TABLE 1 below.

TABLE 1: TAS COLLISION DATA, 2006-2010

Crash Year	Crash Severity		Total Collisions
	Property Damage Over $1000	Casualty	
2006	11	14	25
2007	13	20	33
2008	20	12	32
2009	15	28	43
2010	15	1	16
5-Year Total	**74**	**75**	**149**

The severity of collisions showed significant fluctuation from year to year, but overall was evenly split between property damage and injury collisions. Collision severity by location was also analysed and showed similar overall trends with collisions split approximately evenly between property damage and injury collisions. For the 5-year study period, collisions were shown to predominantly occur at or near the highway intersections. Collisions at the Highway 1 intersection account for the majority of collisions (97 out of 149 collisions). Collisions at Highway 17 are also notable to a lesser extent, accounting for 36 collisions. The Highway 1 and Highway 17 intersections account for approximately 90 percent of all collisions reported along McKenzie Avenue. FIGURE 2 provides a breakdown of collisions by location, based on their distance from Rainbow Street (to the nearest 100 metres).

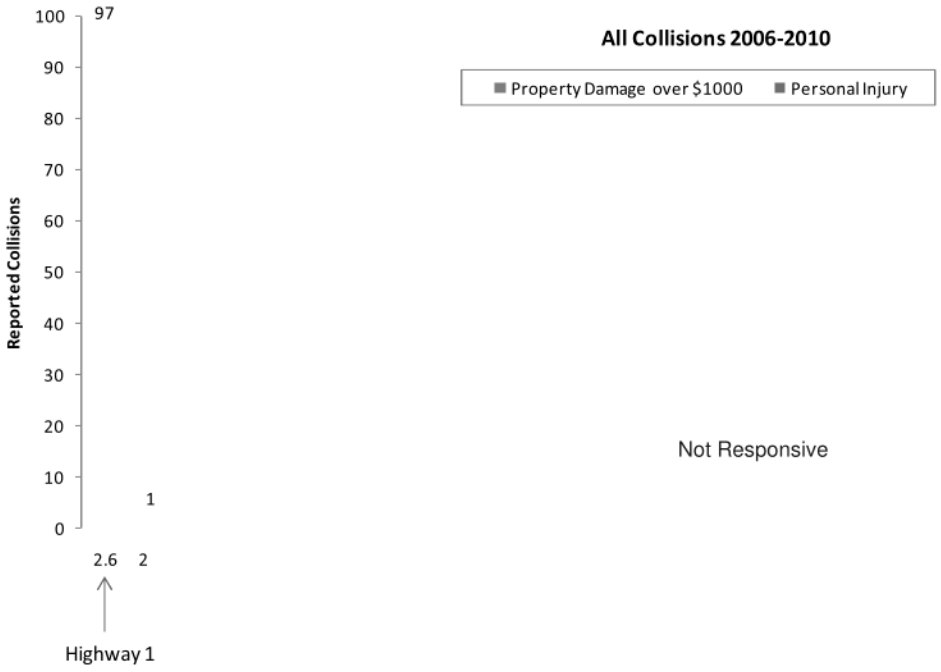


FIGURE 2: REPORTED COLLISIONS BY LOCATION AND SEVERITY, 2006-2010 (TAS)

Not Responsive

4. INTERSECTION COLLISION ANALYSIS

4.1 Intersection Collision Rates

Collision rates were calculated for the 6 major intersections along the study route based on TAS collision data and Ministry traffic count data. The 6 intersections, from east to west, are at:

Not Responsive

Not Responsive

Not Responsive TABLE 3 summarizes the calculated intersection collision rates and provides a comparison to the provincial average collision rate for signalized intersections for matching highway classes. The number of ICBC collision claims at each intersection is also tabulated as a means of comparison between the two data sets. It is important to note that only collisions coded as occurring at the intersection in the TAS data set were considered in the calculation of intersection collision rates.

TABLE 3: INTERSECTION COLLISION RATES (TAS) & ICBC COLLISIONS BY INTERSECTION, 2006-2010

Intersection	TAS Collisions (5 Years)	Estimated 2010 AADT	Annual Collision Rate	Road Classification	Provincial Average Collision Rates (Signalized Intersections)	Collision Rate Comparison (calculated vs provincial average)	ICBC Collisions for Comparison (5 Years)
Not Responsive							
Highway 1	69	84,005	0.450	UED4	0.297	152%	303
Not Responsive							

TABLE 3 shows that intersection collision rates were highest at the Highway 1 Not Responsive intersections. The intersection at Highway 1 had a collision rate significantly higher than the provincial average suggesting that safety is an issue at the intersection; however, it is possible that the collision rate is a function of high volumes and/or congestion and that the overrepresentation of collision rate is due to the fact that provincial averages provide only a single collision rate for all intersections with ADT greater than 20,000.

Not Responsive

ICBC data has been used to establish intersection collision patterns and trends, which are discussed in the following subsections. Temporal collision trends for each individual intersection have been based on the 5 years of available claims data and are shown alongside local traffic volume patterns (as discussed in SECTION 3.2 above) for comparison purposes. Not Responsive

Not Responsive collision diagrams have been based on the most recent 2 years of data. Given the significant number of ICBC claims at each intersection (see TABLE 3 above), 2 years of collision data was deemed sufficient to produce observable collision trends.

4.6 Highway 1

ICBC collision data yielded a total of 303 collisions occurring at the Highway 1 / McKenzie Avenue intersection during the study period. An aerial view of the intersection is provided in FIGURE 28.

Collision trends are discussed below:

FIGURE 29 below shows temporal collision distributions for the Highway 1 intersection over the 5-year study period. Collision numbers were relatively constant year to year, although noticeably lower in 2009 and higher in 2010 than average. No clear monthly trends were observed, although collisions showed significant lows during February and March and a peak in April. Collision trends at the intersection matched trends along the corridor as a whole on both a day of the week and hourly basis. Collisions were more frequent during the weekdays and were most frequent on Wednesdays. Collisions showed AM and PM peaking generally corresponding to peak traffic times in the area.

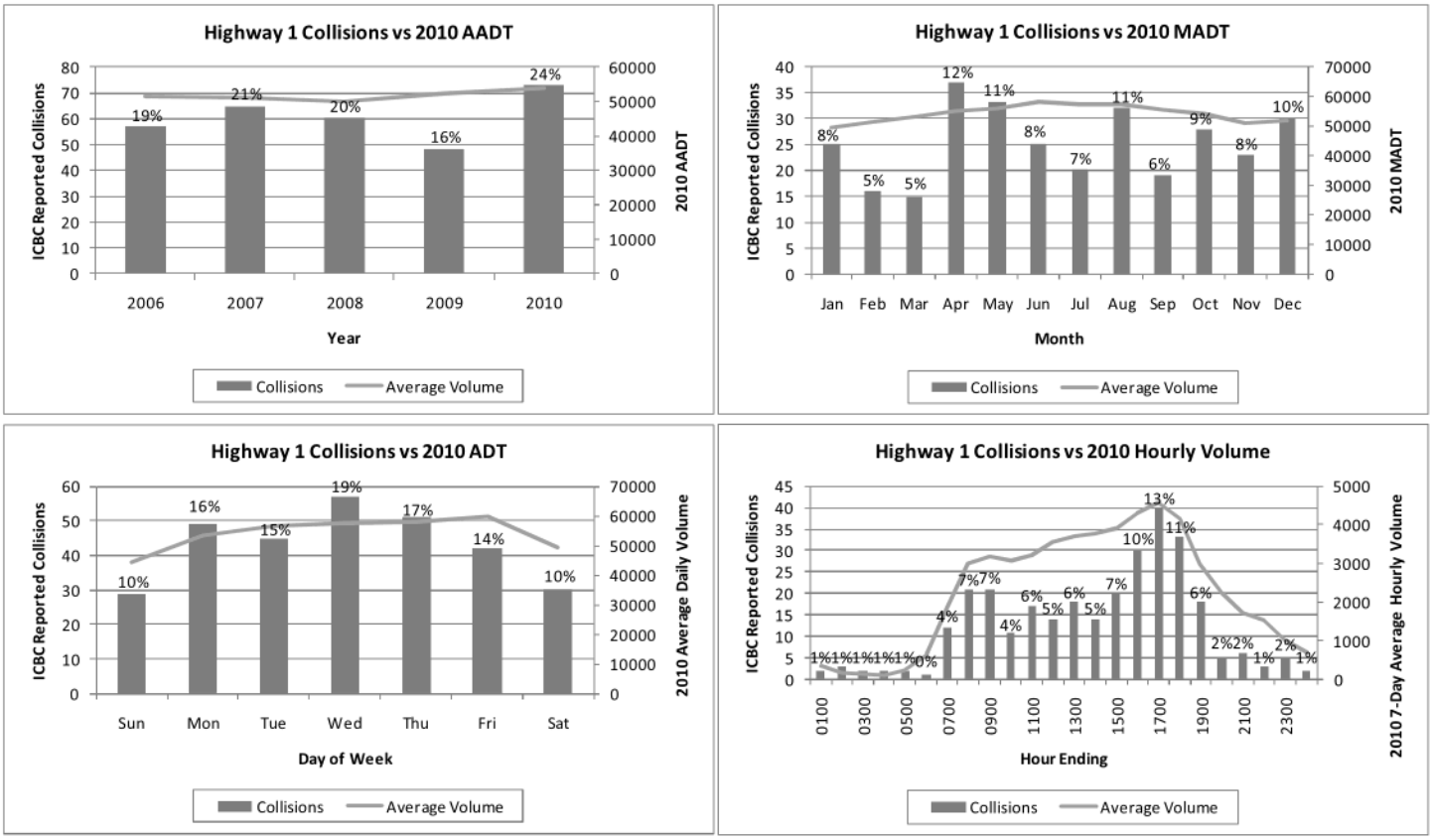


FIGURE 29: HIGHWAY 1 / MCKENZIE AVENUE TEMPORAL COLLISION TRENDS, 2006-2010 (ICBC)

FIGURE 30 below shows collision location and type trends at the Highway 1 intersection. Given the significant number of collision claims at this intersection, the most recent two years of data was deemed sufficient to determine collision trends. Rear-end collisions were by far the most common collision type at this intersection, accounting for 63% of all collisions. The majority of rear-ends occurred in the eastbound direction along Highway 1. It is expected that the high volumes and likely congestion occurring at this intersection are major factors, and that the high proportion of eastbound rear-ends is a factor of commuter travel patterns. Northbound right turn rear-ends onto Highway 1 and eastbound left-turn rear-ends onto McKenzie Avenue were also significantly represented. Traffic along Highway 1 is significantly greater in the eastbound direction and most likely contributed to the high incidence of rear-ends at the intersection. Heavy traffic, congestion and/or long queues most likely contribute to both through and left-turn rear-ends. Additionally, heavy through traffic means that fewer gaps are available for northbound right-turning vehicles looking to merge onto Highway 1. Dedicated merge lanes are provided on Highway 1 and the angle of the right-turn channels makes it difficult for drivers to judge adequate gaps. .

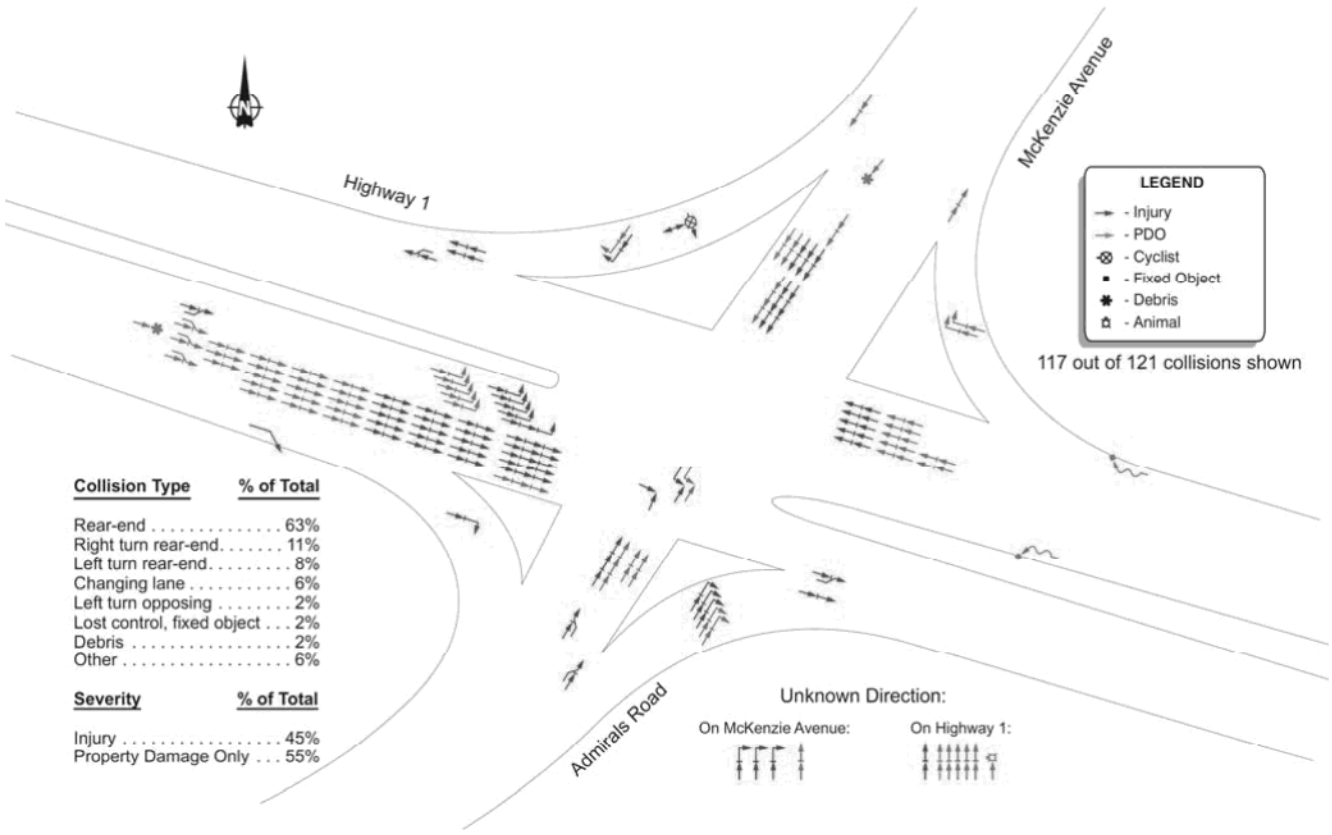


FIGURE 30: HIGHWAY 1 / MCKENZIE AVENUE COLLISION DIAGRAM, 2009-2010 (ICBC)

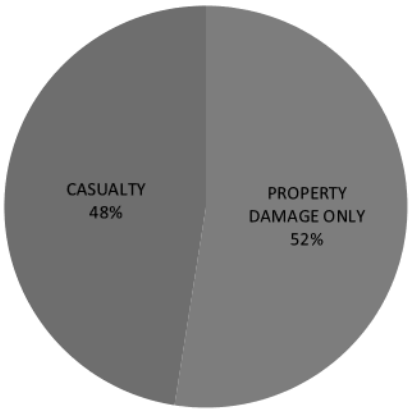


FIGURE 31: HIGHWAY 1 / MCKENZIE AVENUE SEVERITY DISTRIBUTION, 2006-2010 (ICBC)

FIGURE 31 shows the severity distribution of ICBC collision claims at the Highway 1 intersection over the 5-year study period. Again, the severity distribution is fairly evenly distributed between casualty and property damage only collisions at 48% and 52% of collisions respectively.

5. CONCLUSIONS

Corridor Safety Evaluation

Not Responsive

Intersection Safety Evaluation

Collision rates were determined for the 6 major signalized intersections along the study route. With the exception of the Highway 1 intersection, intersection collision rates were below provincial averages for signalized intersections along comparable roads. The collision rate at the Highway 1 intersection was over 150% of the provincial average collision rate, indicating that the intersection performs poorly from a safety standpoint; however, no significant safety issue was clearly discernable from the collision claims. It is important to keep in mind that it is possible that the high collision rate at the intersection is a function of high volumes, congestion, and/or driver behaviour particular to this specific intersection and that the provincial average collision rate may not be applicable. Not Responsive

Not Responsive

A review of ICBC collision claims data revealed a trend of rear-end collisions along McKenzie Avenue, the majority of which occurred in the westbound direction. Intersection collisions generally peaked during the afternoon peak traffic period and it is likely that congestion and/or longer queues formed during the PM peak period contributed to the increased frequency of rear-end collisions. It is unknown if speed was a factor in the rear-end collisions, (as suggested in Saanich Police comments); it may be beneficial to conduct a review of operations and driver behaviour at the intersections to more accurately determine the cause of the rear-end collisions.

In addition to the rear-end collisions, right turn rear-end collisions were notable at all intersections to varying degrees. Almost all of the right turn rear-ends involved vehicles turning onto McKenzie Avenue from a channelized right-turn lane. Given the high volumes along McKenzie Avenue during peak traffic periods and the existing approach angles of these channels, it may be difficult for drivers to adequately judge gaps in through traffic sufficient for merging.

Other intersection specific safety issues were noted through collision analysis and are discussed below:

-

Not Responsive

- A significant number of left-turn opposing collisions were recorded during the study period. It is possible that laning and signal operations at the intersection may be issues. It may be beneficial to review signal operations and driver behaviour at the intersection to more accurately determine the cause of the left-turn opposing collisions.
-

-

Not Responsive

-

Not Responsive

In general, the severity of collisions at the intersections was split evenly between injury and property damage only collisions.

Not Responsive

Not Responsive

This summarizes the results of the Safety Review of McKenzie Avenue from Highway 1 to Highway 17 in the District of Saanich. Please do not hesitate to contact us if you require additional information.

OPUS INTERNATIONAL CONSULTANTS (CANADA) LIMITED.

Sarah Rocchi, P.Eng., PTOE
Vice President - Vancouver, Partner

Pages 280 through 282 redacted for the following reasons:
- -
s13

Technical Memorandum

Ministry of Transportation and Infrastructure

Highway 1 and Admirals McKenzie Intersection Preliminary Engineering Study: Traffic and Safety Assessment

February 2012

Table of Contents

1 Introduction

The intersection of Highway 1 / Admirals Road / McKenzie Avenue is a major intersection linking the two main areas of the region, the commercial business district (CBD) / Peninsula and the Westshore. The intersection is congested, causing significant delays for motorists. It is currently one of the most critical pinch-points in the Capital District's road network.

In an effort to propose possible solutions and alternatives for the intersection, identification of existing and potential future operational deficiencies at the Highway 1 / Admirals Road / McKenzie Avenue intersection (along with the surrounding road network) is necessary. This traffic and safety assessment was prepared to summarize the results of the operational and safety analysis performed for the existing and forecast periods.

2 Purpose and Objective

In an effort to ascertain operation characteristics at the intersection for the existing and future conditions, a comprehensive assessment was carried out to evaluate the existing and potential future operational deficiencies of the Highway 1 / Admirals Road / McKenzie Avenue intersection and its surrounding network system.

The following intersections were analyzed:

- Highway 1 / Admirals Road / McKenzie Avenue;
- McKenzie Avenue / Burnside Road;
- McKenzie Avenue / Carey Road;
- McKenzie Avenue / Glanford Avenue;
- McKenzie Avenue / Highway 17 Interchange Southbound Ramp;
- Highway 1 / Tillicum Road;
- Highway 1 / Saanich Road;
- Highway 1 / Helmcken Road Interchange Northbound Ramp;
- Highway 1 / Helmcken Road Interchange Southbound Ramp;
- Admirals Road / Craigflower Road; and
- Admirals Road / Gorge Road.

A safety assessment was prepared for the Highway 1 / Admirals Road / McKenzie Avenue intersection as part of this report.

The results of the analysis will aid in the identification of possible improvement opportunities and solutions.

3 Study Area

The study area is bounded by McKenzie Avenue to the north, Craigflower Road to the south, Helmcken Road (interchange) to the west, and Highway 17 and Saanich Road to the east. The intersections that were analyzed include those listed in Section 2.0 above. A figure of the study area is shown as **Figure 3-1**.

Ministry of Transportation
Highway 1 / Admirals / Mckenzie
Preliminary Engineering Study
Study Area
Figure 3-1
Dwg. No.: 2907-00-SK101
Date: Jan. 30, 2012
Scale: N.T.S.
Associated Engineering
Patricia Bay Highway / Highway 17
Mckenzie Avenue
Highway 1
Saanich Road
Glanford Avenue
Tillicum Road
Carey Road
Mckenzie Avenue
Burnside Road West
Highway 1
Admirals Road
Gorge Road West
Craigflower Road
Admirals Road
Craigflower Road
Helmcken Road
Helmcken Road
Highway 1
N

4 Methodology

4.1 Traffic Assessment - Existing Conditions (Year 2011)

Traffic analysis for the existing conditions utilized background traffic counts and existing signal timing information provided by the Ministry of Transportation and Infrastructure (MoTI) staff and the District of Saanich. Where count information was not available, traffic counts were taken during November 2011 to January 2012.

For the purpose of analysis, all existing conditions traffic analyses were prepared assuming 2011 summer average daily traffic conditions with further balancing of flows between intersections. The original background traffic information, including traffic counts and signal timing sheets, is attached as reference in Appendix A of this assessment.

4.2 Traffic Assessment - Future Conditions (Planning Horizon 2038)

Traffic forecasting was based on the Capital Regional District (CRD) Transportation Planning Model (TP Model). The TP Model is a model based on the TransCAD software suite. It was originally created in 2008/9 and calibrated on 2006 demographics and traffic count data. It has recently gone through a significant update (December 2011) with CRD Planning personnel meeting frequently with Municipal Planning staff and very thoroughly reworking the future expected demographic by traffic zone.

This 2011 update is the model utilized for the Associated Engineering team's early forecast of future volumes. Growth associated with the forecast was applied to the existing traffic count information for analysis. The scenarios utilized from the 2011 model and their characteristics are as follows:

2006 Base

- Demographics: Original Actual 2006 Population and Employment by traffic zone
- Network: 2006 "As Is" Network

2038 Reference

- Demographics: Future 2038 Population and Employment by traffic zone as determined by CRD Planning from recent discussions with Municipalities (OCP based)
- Network: Committed Projects Only Network
  - 4 lanes TCH
  - Spencer I/C and Leigh/Bear Mtn Parkway upgrades
  - Westshore Parkway I/C and 2 lane Westshore Parkway connection to Westhills and Hwy 14
  - BC Transit 2038 Masterplan; Increased Rapid Bus with no LRT

2038 Reference on 2006 Network

- Demographics: Future 2038 Population and Employment by traffic zone as determined by CRD Planning from recent discussions with Municipalities (OCP based)
- Network: 2006 "As Is" Network

Peak volumes were extracted from the 2006 Base and the 2038 Reference scenarios on the TransCanada Highway (TCH) and McKenzie Avenue in order to determine the additional future demand. However, these volumes were found to increase very little between the 2006 Base and the 2038 Reference scenarios. This was unexpected and caused some concern. As a result additional investigation was carried out to determine the cause. Though the anticipated CRD population increase will be about 30%, the volumes on the TCH increased by less than 15% to the west and east of McKenzie Avenue. Working with the CRD Planning staff, it was determined that this low additional demand was mainly caused by the constraint of leaving the TCH at 4-lanes.

As the facility is at capacity now, an attempt to assign additional demand to the facility causes the model to react in a number of ways. The model generally attempts to assign the majority of the demand to other parallel routes. In fact, both Burnside Road and the Old Island Highway saw significant increases in traffic. However, constrained capacity on these routes cause the model to redistribute trips "internally" within the two halves of the Region. That is, if commuters from the CBD could not find reasonable routes home to the Westshore then some commuters / residents would relocate to areas more conveniently located to their workplaces or others would find work more conveniently located to their residences thereby avoiding the CBD to Westshore trips altogether. As a result, a scenario was run that allowed for enhanced capacity on the TCH in order to determine the unconstrained demand. This scenario can be described as follows:

2038 Reference Enhanced TransCanada Highway

- Demographics: Future 2038 Population and Employment by traffic zone as determined by CRD Planning and local municipalities (OCP based)
- Network: Committed Projects Only + TCH Upgrade
  - 6 lanes TCH Tillicum to Helmcken
  - Spencer I/C and Leigh/Bear Mtn Parkway upgrades
  - Westshore Parkway I/C and 2 lane Westshore Parkway connection to Westhills and Hwy 14
  - BC Transit 2038 Masterplan; Increased Rapid Bus with no LRT

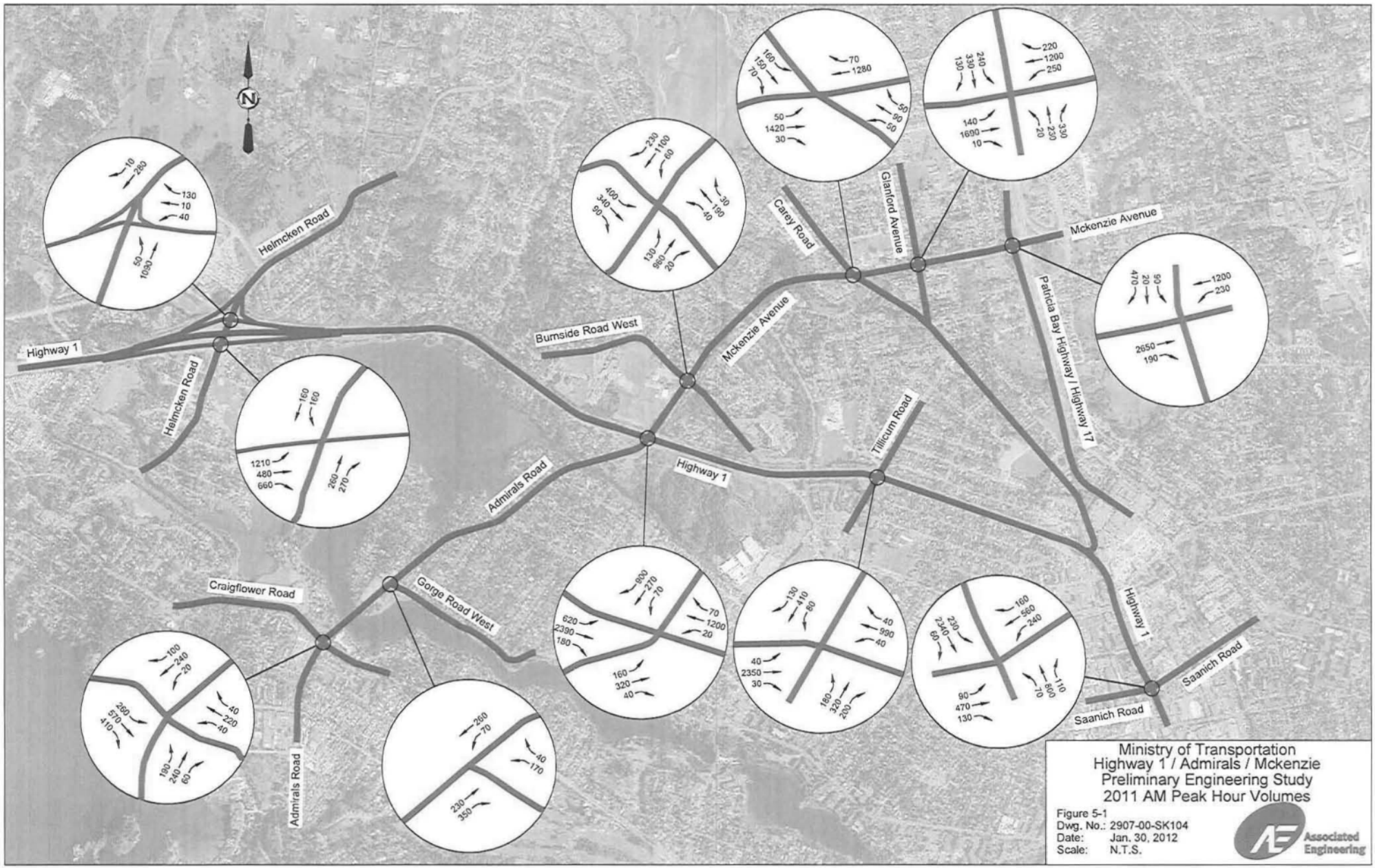
s13

4.3 Safety Assessment

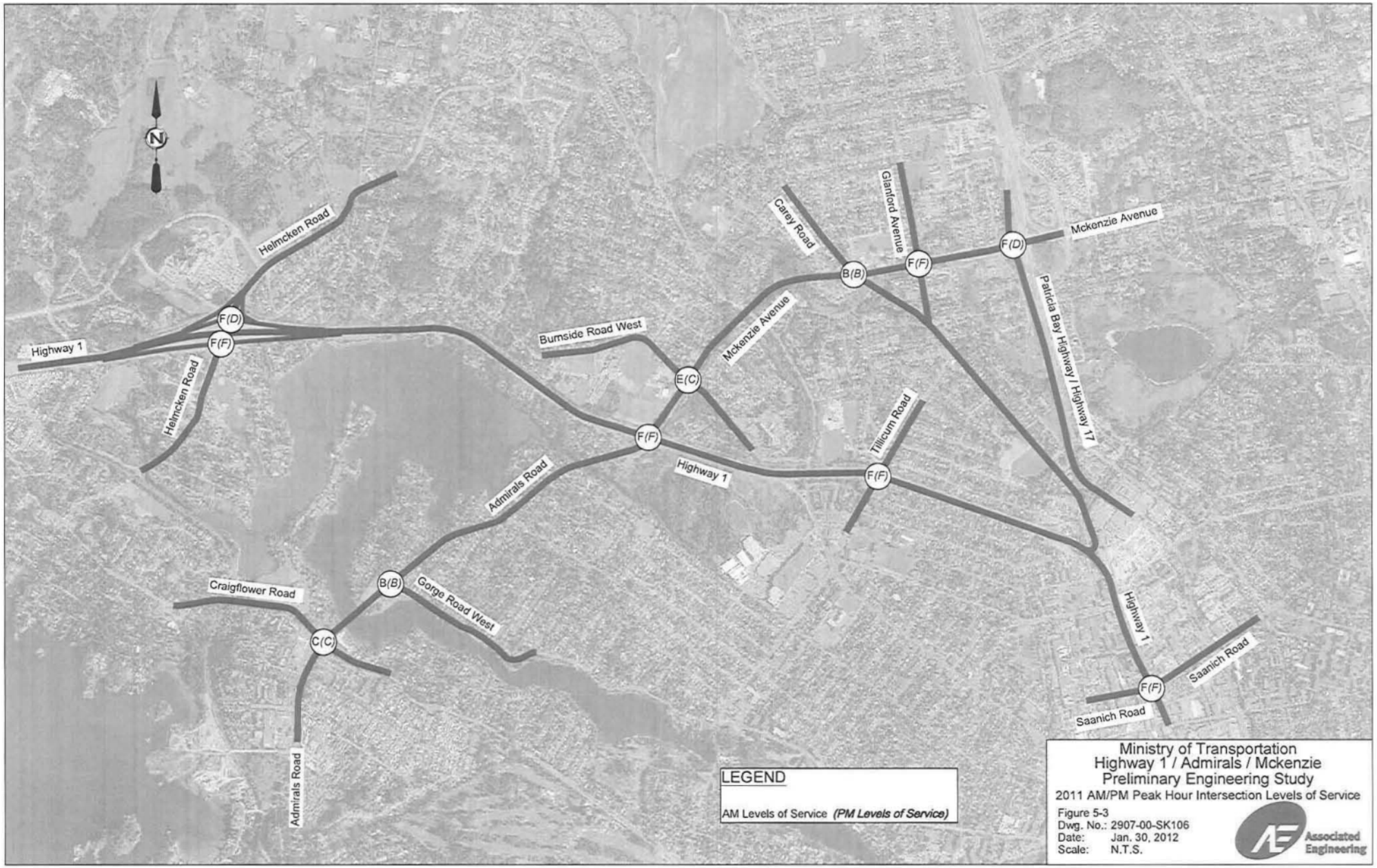
Safety assessment of the Highway 1 / Admirals Road / McKenzie Avenue intersection was prepared utilizing Insurance Corporation of British Columbia (ICBC) collision data collected (five years) between 2006 and 2010 (5 year period). Temporal, location, type, and severity of collisions were analyzed.

5 Traffic Assessment

Traffic analysis was performed for the existing conditions, year 2011, and the future planning horizon, year 2038. The following sections outline the traffic operations analysis of the study area. Traffic flow and overall intersection performance information are summarized in **Figures 5-1** to **5-6** of this section


Helmcken Road
Highway 1
Helmcken Road
Burnside Road West
Carey Road
Gianford Avenue
Mckenzie Avenue
Mckenzie Avenue
Patricia Bay Highway / Highway 17
Tillicum Road
Highway 1
Admirals Road
Craigflower Road
Gorge Road West
Admirals Road
Highway 1
Saanich Road
Saanich Road
Ministry of Transportation
Highway 1 / Admirals / Mckenzie
Preliminary Engineering Study
2011 AM Peak Hour Volumes
Figure 5-1
Dwg. No.: 2907-00-SK104
Date: Jan. 30, 2012
Scale: N.T.S.
Associated Engineering

Ministry of Transportation
Highway 1 / Admirals / Mckenzie
Preliminary Engineering Study
2011 PM Peak Hour Volumes
Figure 5-2
Dwg. No.: 2907-00-SK105
Date: Jan. 30, 2012
Scale: N.T.S.
Associated Engineering
Patricia Bay Highway / Highway 17
Mckenzie Avenue
Glanford Avenue
Carey Road
Tillicum Road
Saanich Road
Highway 1
Burnside Road West
Admirals Road
Gorge Road West
Craigflower Road
Helmcken Road
Admirals Road
Highway 1


N
Helmcken Road
F(D)
F(F)
Highway 1
Helmcken Road
Burnside Road West
E(C)
Mckenzie Avenue
Carey Road
Glanford Avenue
B(B)
F(F)
F(D)
Mckenzie Avenue
Patricia Bay Highway / Highway 17
F(F)
Tillicum Road
Highway 1
Admirals Road
Craigflower Road
B(B)
Gorge Road West
C(C)
Admirals Road
Highway 1
F(F)
Saanich Road
Saanich Road
LEGEND
AM Levels of Service (PM Levels of Service)
Ministry of Transportation
Highway 1 / Admirals / Mckenzie
Preliminary Engineering Study
2011 AM/PM Peak Hour Intersection Levels of Service
Figure 5-3
Dwg. No.: 2907-00-SK106
Date: Jan. 30, 2012
Scale: N.T.S.
Associated Engineering

Pages 295 through 297 redacted for the following reasons:
- -
s13

5.1 Traffic Network

In addition to the descriptions of the Traffic Network below, please refer to **Figure 3-1** of this study for a diagrammatic view of the respective roadway locations.

Highway 1 – Highway 1 runs east-west through the Highway 1 / Admirals Road / McKenzie Avenue intersection. Within the study area, Highway 1 is a 4-lane highway with a posted speed of 80 km/h. It is the primary east-west corridor connecting CBD / Peninsula and the Westshore. In the area of study, the Galloping Goose Trail runs parallel to the Highway.

McKenzie Avenue – McKenzie Avenue is located north of the Highway 1 and Admirals Road / McKenzie Avenue intersection. At the northeast boundary of the study area, McKenzie Avenue connects with Highway 17. It is an arterial connecting communities in Saanich north of Highway 1 such as Royal Oak, Strawberry Vale, and Marigold.

Admirals Road – Admirals Road is located south of the Highway 1 / Admirals Road / McKenzie Avenue intersection. At the southern boundary, Admirals Road runs over the Gorge Waterway and connects with Craigflower Road. Admirals Road is an arterial connecting areas such as View Royal to Highway 1.

Helmcken Road Interchange – The Helmcken Road interchange is located at the west end of the study area. Helmcken Road connects with Highway 1 via a diamond interchange.

Burnside Road – Burnside Road, within the study area, runs in the northwest-southeast direction. It connects with McKenzie Avenue northeast of the Highway 1 / Admirals Road / McKenzie Avenue intersection.

Carey Road – Carey Road, within the study area, runs as a northwest-southeast corridor. It connects with McKenzie Avenue northeast of the Highway 1 / Admirals Road / McKenzie Avenue intersection.

Glanford Avenue – Glanford Avenue within the study area runs as a north-south corridor. It connects with McKenzie Avenue northeast of the Highway 1 / Admirals Road / McKenzie Avenue intersection.

Highway 17 – Also known as the Patricia Bay Highway, it is a highway connecting the Saanich Peninsula and the Swartz Bay Ferry Terminal to Victoria.

Gorge Road – Gorge Road is an east-west corridor south of the Highway 1 / Admirals Road / McKenzie Avenue intersection. It connects with Admirals Road south of Highway 1 and serves communities in the View Royal area.

Craigflower Road – Craigflower Road is an east-west corridor south of the Highway 1 / Admirals Road / McKenzie Avenue intersection. It connects with Admiral Road south of Highway 1 within the study area and serves communities south of the Gorge Waterway.

Tillicum Road – Tillicum Road connects areas east of the Highway 1 / Admirals Road / McKenzie Avenue intersection. It is a northeast-southwest corridor that serves residential as well as commercial areas within the study area.

Saanich Road / Boleskin Road – Saanich Road / Boleskin Road sets the eastern boundary of the study area. Saanich Road is in close proximity to the Uptown Commercial development. This development is expected to be a major traffic generator at full build-out.

5.2 Existing Traffic Volumes

By utilizing growth rates and average daily traffic monthly histograms (for preparation of average daily to summer daily conversion rates), the collected traffic volumes were adjusted to 2011 summer average daily traffic volumes (worst case scenario) for analysis use. The traffic flows were further balanced between the intersections.

Existing conditions traffic volumes are summarized in **Figures 5-1** and **5-2**.

5.3 Future Traffic Volumes

Future traffic volumes were derived from the TransCAD regional model for the 2038 planning horizon. For detailed explanations of the derivation of the projected traffic volumes, please refer to Section 4.2. Future traffic volumes are summarized in **Figures 5-4** and **5-5**.

5.4 Intersection Performance

Several criteria were utilized for the analysis of intersection performance within the study area.

The Level of Service (LOS) is a general measure of quality for intersections. The LOS is assigned to the intersection as a whole or the specific approach/movement. The specific levels correlate to a range in delay (seconds). Table 5-1 below summarizes the LOS and their relationship with specific delay ranges for intersections, approaches, and movements.

Table 5-1
Signalized Intersections - Level of Service Characteristics

Level of Service	Average Signal Delay (seconds/vehicle)	Level of Service	Average Signal Delay (seconds/vehicle)
A	≤ 10	D	> 35 and ≤ 55
B	> 10 and ≤ 20	E	> 55 and ≤ 80
C	> 20 and ≤ 35	F	> 80

The LOS ranges between A and F with a LOS F generally considered as minimum acceptable

level.

In addition to LOS analyses, the volume-to-capacity ratios (v/c) are also analyzed. The v/c ratio analyzes the volume of vehicles at an intersection, movement, or approach and compares that with the available capacity. Under general Ministry guidelines, a v/c ratio of 0.85 is considered at capacity.

The level of service analysis was undertaken using Synchro 7.0 traffic operations analysis software. This software uses evaluation criteria in-line with the methodologies stated in the Highway Capacity Manual (HCM) 2000. A VISSIM traffic model was also prepared to better understand the characteristics at the Highway 1 / Admirals Road / McKenzie Avenue intersection.

Of note, after analysis of heavy vehicle traffic in the nearby highway segments and surrounding areas and after consultation with the MoTI staff, a general 5% heavy vehicle percentage is applied to all movements for analysis of the study area.

Synchro analysis output summaries are attached in **Appendix B** of this assessment.

5.5 Existing Conditions

Based on traffic volumes and above-mentioned assumptions, the study intersections were assessed using Synchro. Tables 5-2 to 5-12 summarize intersection LOS for each of the analyzed intersections.

Analysis results for the Highway 1 / Admirals Road / McKenzie Avenue intersection indicate that the intersection is operating at above-capacity levels for many of the approaches during both the AM and PM peak hours, coupled with high queue lengths on all approaches. This is consistent with field observations where long queues formulate on the eastbound and westbound intersection approaches on the highway during the AM and PM peak hours, respectively. For the urban section, the north leg and south leg of the intersection (McKenzie Avenue and Admirals Road) also exhibit long queues.

In specific, the southbound queue at the Highway 1 / Admirals Road / McKenzie Avenue intersection spills over as far as the Burnside Road / McKenzie Avenue intersection, effectively blocking movements from the Burnside Road / McKenzie Avenue intersection at times.

Most intersections to the west, north, and east of the Highway 1 / Admirals Road / McKenzie Avenue intersection have at/or near-capacity approaches with the exception of the intersections to the south of the Highway 1 / Admirals Road / McKenzie Avenue intersection, specifically the Admirals Road / Gorge Road and the Admirals Road / Craigflower Road intersections.

A summary of the overall intersection levels of service for the existing condition are illustrated in **Figure 5-3**.

Table 5-2 Highway 1 / Admirals Road / McKenzie Avenue Intersection Levels of Service Summary

	Highway 1						Admiral's Road / McKenzie Avenue					
AM Peak Hour	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c ratio	0.86	1.14	0.24	0.39	1.07	0.15	3.71	1.21	0.16	1.30	1.00	0.64
Average Delay (veh/s)	70.5	99.7	11.6	95.4	93.0	6.3	1281.7	172.7	35.4	266.7	115.8	2.1
LOS	E	F	B	F	F	A	F	F	D	F	F	A
95th Percentile Queue (m)	133.4	575.1	34.5	16.6	311.7	5.9	156.6	206.6	19.9	69.2	166.2	0.0
PM Peak Hour	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c ratio	1.15	0.90	0.27	0.26	1.17	0.02	6.14	0.52	0.08	0.61	1.13	1.13
Average Delay (veh/s)	142.2	34.5	11.8	88.2	127.5	10.9	2361.3	78.6	25.3	103.3	161.9	73.2
LOS	F	C	B	F	F	B	F	E	C	F	F	E
95th Percentile Queue (m)	220.7	431.2	45.9	7.5	435.8	5.3	219.5	54.0	8.2	40.4	179.9	230.2

Table 5-3 Highway 1 / Helmcken Road Interchange North Ramp Intersection Levels of Service Summary

	Highway 1						Helmcken Road					
AM Peak Hour	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c ratio				0.19	0.19	0.51	0.59	1.54			0.28	0.02
Average Delay (veh/s)				25.8	25.8	10.4	14.9	260.5			14.3	7.2
LOS				C	C	B	B	F			B	A
95th Percentile Queue (m)				8.9	8.1	8.8	2.6	65.5			21.2	2.8
PM Peak Hour	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c ratio				0.29	0.30	0.38	1.30	0.99			0.36	0.16
Average Delay (veh/s)				27.3	27.3	9.7	203.7	47.6			14.7	4.2
LOS				C	C	A	F	D			B	A
95th Percentile Queue (m)				16.8	14.7	12.2	55.1	87.3			33.9	6.6

Table 5-4 Highway 1 / Helmcken Road Interchange South Ramp Intersection Levels of Service Summary

	Highway 1						Helmcken Road					
AM Peak Hour	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c ratio	1.56	1.55	1.26					0.87		1.73	0.43	
Average Delay (veh/s)	281.5	279.5	140.8					33.7		387.8	42.1	
LOS	F	F	F					C		F	D	
95th Percentile Queue (m)	225.7	231.1	32.8					53.1		66.8	20.5	
PM Peak Hour	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c ratio	0.59	0.59	2.73					0.75		2.25	0.71	
Average Delay (veh/s)	21.2	21.1	795.0					16.1		612.7	44.3	
LOS	C	C	F					B		F	D	
95th Percentile Queue (m)	57.5	53.7	204.8					31.6		98.5	36.6	

Table 5-5 McKenzie Avenue / Burnside Road Intersection Levels of Service Summary

	Burnside Road						McKenzie Avenue					
AM Peak Hour	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c ratio	1.65	0.56	0.17	0.20	0.40	0.06	0.70	0.59	0.04	0.41	0.86	0.50
Average Delay (veh/s)	334.4	31.8	14.1	26.7	28.2	12.3	38.7	21.4	10.6	20.8	24.6	9.1
LOS	F	C	B	C	C	B	D	C	B	C	C	A
95th Percentile Queue (m)	186.3	97.9	19.4	16.9	50.9	8.3	36.8	109.2	4.0	13.3	135.4	20.6
PM Peak Hour	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c ratio	0.60	0.23	0.30	1.02	0.47	0.14	0.51	0.52	0.03	0.39	0.99	0.29
Average Delay (veh/s)	41.5	27.7	5.3	86.8	32.2	13.7	24.8	18.2	8.9	15.0	38.1	5.8
LOS	D	C	A	F	C	B	C	B	A	B	D	A
95th Percentile Queue (m)	55.5	37.2	15.7	163.2	66.1	13.6	23.0	92.5	2.9	13.4	235.7	14.5

Table 5-6 McKenzie Avenue / Carey Road Intersection Levels of Service Summary

	McKenzie Avenue						Carey Road					
AM Peak Hour	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c ratio	0.48	0.68			0.61		0.81	0.51	0.26	0.31	0.43	0.21
Average Delay (veh/s)	16.2	11.8			5.6		69.2	44.8	17.5	40.9	42.4	22.0
LOS	B	B			A		E	D	B	D	D	C
95th Percentile Queue (m)	7.1	123.5			33.7		59.6	52.4	13.9	19.7	28.2	13.3
PM Peak Hour	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c ratio	0.33	0.60			0.72		0.74	0.41	0.10	0.50	0.81	0.22
Average Delay (veh/s)	14.4	8.0			3.4		79.6	44.4	12.9	49.5	63.5	17.6
LOS	B	B			A		E	D	B	D	E	B
95th Percentile Queue (m)	4.1	49.5			16.3		27.7	43.0	6.9	32.4	89.1	12.5

Table 5-7 McKenzie Avenue / Glanford Road Avenue Intersection Levels of Service Summary

	McKenzie Avenue						Glanford Avenue					
AM Peak Hour	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c ratio	0.69	1.42		0.91	1.07		0.38		0.54	1.17		
Average Delay (veh/s)	65.1	216.6		78.8	70.8		35.3		7.3	126.2		
LOS	E	F		E	E		D		A	F		
95th Percentile Queue (m)	53.2	359.2		79.8	246.0		39.5		27.2	158.2		
PM Peak Hour	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c ratio	0.58	1.21		1.04	1.10		0.49		0.63	1.02		
Average Delay (veh/s)	59.8	128.8		94.4	86.8		37.4		10.2	79.9		
LOS	E	F		F	F		D		B	E		
95th Percentile Queue (m)	39.0	279.6		134.4	277.0		55.2		43.5	121.3		

Table 5-8 McKenzie Avenue / Highway 17 Southbound Ramp Intersection Levels of Service Summary

	McKenzie Avenue						Highway 17 Southbound Ramp					
AM Peak Hour	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c ratio	1.36		0.17	0.90	0.41					0.25	0.05	1.30
Average Delay (veh/s)	199.7		20.3	85.0	10.9					35.5	32.4	182.6
LOS	F		C	F	B					D	C	F
95th Percentile Queue (m)	254.6		16.5	54.9	60.5					31.2	9.4	193.9
PM Peak Hour	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c ratio	1.06		0.12	0.83	0.52					0.42	0.02	1.26
Average Delay (veh/s)	47.6		3.0	78.7	11.7					40.0	33.2	171.1
LOS	D		A	E	B					D	C	F
95th Percentile Queue (m)	133.5		2.0	31.9	83.4					52.9	6.8	214.5

Table 5-9 Admirals Road / Gorge Road Intersection Levels of Service Summary

	Gorge Road						Admirals Road					
AM Peak Hour	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c ratio				0.38		0.11		0.66		0.34	0.28	
Average Delay (veh/s)				16.8		6.0		9.8		11.4	7.2	
LOS				B		A		A		B	A	
95th Percentile Queue (m)				30.4		4.0		56.2		11.2	26.3	
PM Peak Hour	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c ratio				0.74		0.13		0.80		0.23	0.29	
Average Delay (veh/s)				24.3		4.6		19.2		12.3	9.9	
LOS				C		A		B		B	A	
95th Percentile Queue (m)				79.0		6.8		76.6		7.3	24.8	

Table 5-10 Admirals Road / Craigflower Road Intersection Levels of Service Summary

	Craigflower Road						Admirals Road					
AM Peak Hour	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c ratio	0.78	0.83	0.53		0.57		0.82	0.51		0.10	0.49	0.44
Average Delay (veh/s)	27.6	25.3	4.7		21.4		53.3	16.9		21.2	23.9	26.4
LOS	C	C	A		C		D	B		C	C	C
95th Percentile Queue (m)	40.7	117.7	17.1		30.3		30.5	48.2		6.1	22.6	23.0
PM Peak Hour	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c ratio	0.71	0.44	0.32		0.84		0.89	0.56		0.29	0.39	0.86
Average Delay (veh/s)	38.8	18.8	3.6		34.8		50.8	16.8		27.7	25.3	52.2
LOS	D	B	A		C		D	B		C	C	D
95th Percentile Queue (m)	33.9	52.1	12.8		75.9		65.6	74.8		17.6	27.9	84.1

Table 5-11 Highway 1 / Tillicum Road Intersection Levels of Service Summary

	Highway 1						Tillicum Road					
AM Peak Hour	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c ratio	0.32	1.44	0.06	0.52	0.62	0.08	0.67	1.05		1.94	0.88	0.46
Average Delay (veh/s)	71.3	231.4	16.1	81.5	29.1	5.4	49.4	100.6		517.8	78.0	34.1
LOS	E	F	B	F	C	A	D	F		F	E	C
95th Percentile Queue (m)	11.3	616.9	8.6	24.9	164.0	2.3	65.8	137.1		74.1	110.1	42.5
PM Peak Hour	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c ratio	0.49	1.97	0.15	0.57	1.11	0.09	0.83	1.25		0.59	1.02	0.46
Average Delay (veh/s)	60.1	466.1	22.9	60.7	99.8	8.9	45.1	159.5		82.5	89.1	26.2
LOS	E	F	C	E	F	A	D	F		F	F	C
95th Percentile Queue (m)	22.5	473.3	15.6	39.1	238.1	7.0	94.4	159.7		20.1	122.1	32.6

Table 5-12 Highway 1 / Saanich Road Intersection Levels of Service Summary

	Saanich Road						Highway 1					
AM Peak Hour	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c ratio	0.66	0.98		0.92	0.48	0.30	2.10	0.60	0.20	0.77	1.37	
Average Delay (veh/s)	77.0	87.4		78.2	37.6	15.3	578.9	35.2	19.2	32.1	199.2	
LOS	E	F		E	D	B	F	D	B	C	F	
95th Percentile Queue (m)	55.0	147.0		115.5	94.5	33.0	48.9	133.4	29.4	54.5	597.9	
PM Peak Hour	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c ratio	0.61	1.00		0.86	0.36	0.46	1.90	0.70	0.46	0.85	1.23	
Average Delay (veh/s)	60.0	80.1		68.5	29.4	9.8	495.1	42.9	27.2	49.2	144.0	
LOS	E	F		E	C	A	F	D	C	D	F	
95th Percentile Queue (m)	62.5	159.1		88.9	71.6	46.7	49.9	145.8	57.1	76.9	463.0	

5.6 Future Conditions

s13

s13

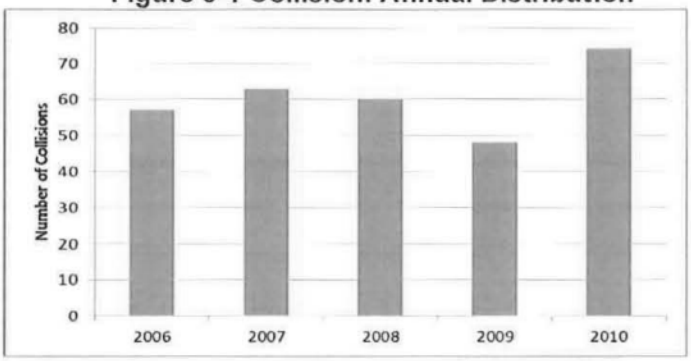
Not Responsive

6 Traffic Safety Analysis

ICBC accident data for the period of 2006 to 2010, inclusive, were provided for the traffic safety analysis. During the five year period, a total of 302 collisions were reported at the Highway 1/ Admirals Road / McKenzie Avenue intersection. The following charts summarize the temporal safety analysis findings for the intersection. A copy of the accident data is attached as **Appendix C**.

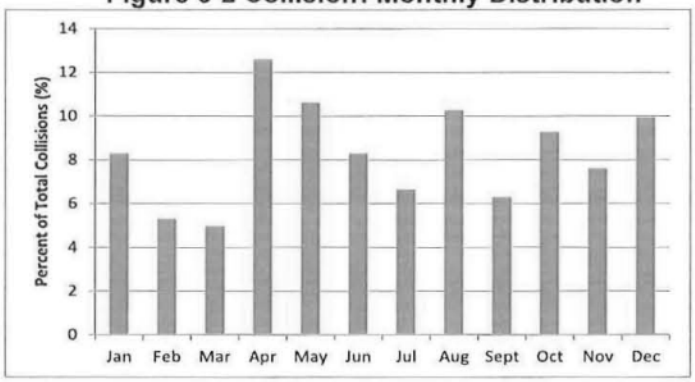
Annual Distribution - Collision frequency at Highway 1 and Admirals/McKenzie intersection has remained relatively consistent during the past 5 years with a peak of 74 collisions in 2010.

Figure 6-1 Collision: Annual Distribution



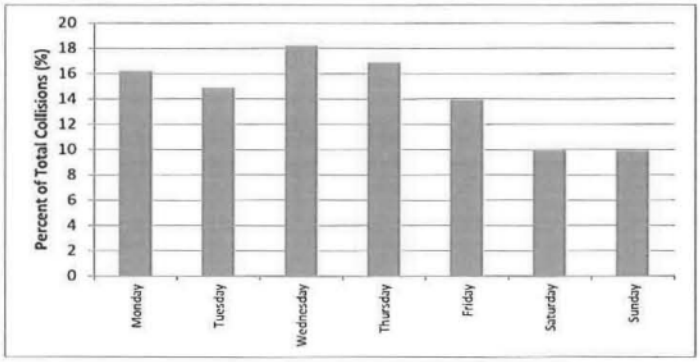
Monthly Distribution - Collision frequency is relatively consistent throughout the year with no significant monthly trends observed. Collisions were highest in April and lowest in February and March.

Figure 6-2 Collision: Monthly Distribution



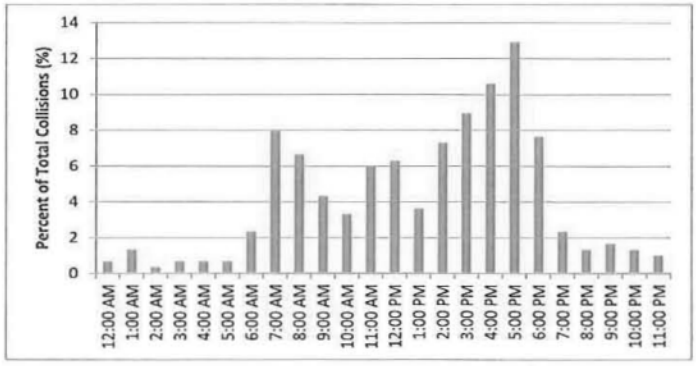
Daily of Week Distribution - Collision frequency is highest during weekdays and lowest on weekends.

Figure 6-3 Collision: Day of Week Distribution



Hourly Distribution - Eighty-five percent of all collisions take place between 7:00 AM and 7:00 PM inclusive. Distinct peaks in collisions are observed during the AM and PM peak traffic periods.

Figure 6-4 Collision: Hourly Distribution

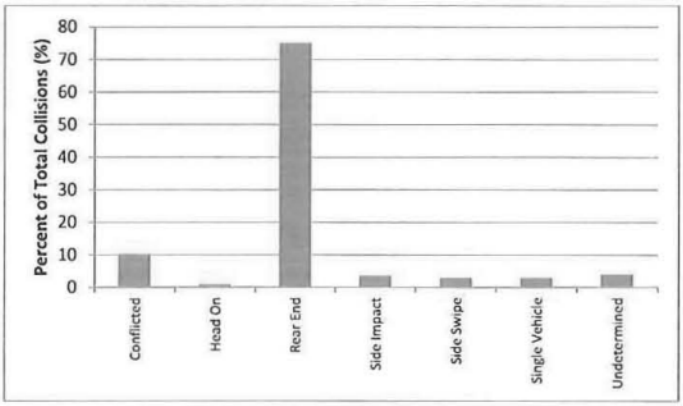


6.1 Collision Type and Location

The following is a summary of collisions by type, configuration and location for the Highway 1 / Admirals Road /McKenzie intersection over the five year period, from 2006 to 2010.
Majority of the collisions involved vehicle conflicts only, 5% of which involved heavy vehicles. Cyclists and pedestrians were involved in approximately 1% of all collisions over the past 5 years.

Collision Configuration - Three-quarters of all collisions reported at the intersection are rear end collisions. Approximately 10% are collisions involving conflicts with other vehicles, pedestrians or wildlife.

Figure 6-5 Collision Type



Approximately two-thirds of all intersection collisions were reported as taking place on the east and west legs of the intersection along Highway 1, approximately one-quarter were on the north leg of the intersection along McKenzie Avenue, and the remaining 10% were on the south leg of the intersection along Admirals Road.

Based on the Safety Review of McKenzie Avenue from Highway 1 to Highway 17 (Opus, 2011), the majority of the rear-end collisions occurred on eastbound Highway 1.

6.2 Collision Severity and Cost

Over the past five years, 52% of all collisions at the Highway 1 / Admirals Road / McKenzie Avenue intersection were property damage only, and 48% involved injury. No fatal collisions occurred at this location during the past 5 years.

The following average collision cost figures were assumed (based on MoTI values for collision costs):

Fatality	$ 5.6M
Injury	$ 100K
PDO	$ 7,350

These values were used to calculate the cost of collisions dependant on severity. The total collision cost at the Highway 1 / Admirals Road / McKenzie Avenue intersection for the past five years is estimated to be approximately $15.6 million or an average of $3.1 million per year. This translates into an average cost of $51,500 per collision. While property damage only (PDO) collisions make up approximately half of the total observed collisions they contribute to only approximately 7% of total cost of collisions incurred over the five year time frame.

6.3 Average Annual Collision Rate

Average Annual Collision Rate is defined as the number of collisions per year divided by the number of vehicles entering the intersection. It provides a means of comparing collision frequency at a location with provincial average values to assist in determining if a location is collision prone.

The Average Daily Traffic (ADT) is based on the volume provided by MoT from the 2009 signal download at the Highway 1 / Admirals Road / McKenzie Avenue intersection. Based on this information ADT is estimated as approximately 69,000 vehicles per day.

Collision rates were then calculated for the intersection and compared with the 2003-2007 provincial average rates for similar highways. The results are shown in Table 6-1.

Table 6-1
Average Annual Collision Rate for Highway 1 and Admirals/McKenzie Intersection

Intersection	Collisions (2006-2010)	ADT	MEV/year	Collision Rate (C/MEV)	Provincial Rate* (C/MEV)	Exceeds Provincial Rate?
Highway 1 and Admirals/McKenzie	302	69,000	25.19	2.4	0.36	YES

*Source: MoTI as shown in Appendix D
ADT is average daily traffic
MEV is million vehicle entering
C is collisions

The Highway 1 / Admirals Road / McKenzie Avenue intersection was found to have an intersection collision rate at 2.4 collisions per million entering vehicles which is significantly higher than the average provincial rate of 0.36. Based on this analysis, this intersection may be considered collision prone. However, a more detailed critical collision rate analysis is required to confirm that this location is indeed hazardous due to location specific characteristics, for example intersection configuration.

7 Conclusion

7.1 Traffic Assessment

Existing Condition (2011)

- The Highway 1 / Admirals Road/ McKenzie Avenue modelled intersection indicates the formulation of queues on all approaches, which are consistent with field observations.
  - Long queues are formed on the TransCanada Highway eastbound and westbound directions during the AM and PM peak hours.
  - Southbound queues on McKenzie Avenue extend past Burnside Road blocking vehicles at the Burnside Road / McKenzie Avenue intersection.
  - Most intersections (with exception to those south of the Highway 1 / Admirals Road / McKenzie Avenue intersection) are performing at or near capacity.

Future Condition (2038)

s13

7.2 Safety Assessment

- The number of collisions throughout the studied years was relatively consistent.

- Major collision types include:
  - Rear end (specifically in the eastbound direction) - 75%
  - Conflicts with other vehicles, pedestrians, or wildlife contributes - 10%
- The estimated collision for the studied area during the 5-year study period was $15.6 million or an average of $3.1 million per year. There were no fatal collisions throughout the studied period.
- The collision rate is at 2.4 collisions per million, which is higher than the average provincial rate of 0.36, and may be considered collision prone.

CLIENT

BC TRANSIT

DESCRIPTION

VICTORIA, BC

HIGHWAY 1 BUS LANE CONCEPTS

THETIS INTERCHANGE TO SAANICH ROAD

VICTORIA, BC

MCSL PROJECT NO

2231-28901-01

DRAWING INDEX:

McElhanney

McElhanney Consulting Services Ltd.

SUITE #1 1351 ESTEVAN RD
NANAIMO BC V9S 3Y3

PH (250) 716-3336
FAX (250) 716-3339

Pages 312 through 336 redacted for the following reasons:
- -
s13