International Mobility & Trade Corridor Project (IMTC)

2008 Passenger Intercept Survey

Final Report

Border Policy Research Institute
Western Washington University

Whatcom Council of Governments

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1. Introduction

1.1 Objectives

The 2008 International Mobility & Trade Corridor Project (IMTC) Passenger Intercept Survey was conducted to assess characteristics of cross-border travel in the Cascade Gateway and provide that information to regional and federal public and private agencies. Information includes who crosses the border, for what purposes, origins and destinations, trip frequency, and other details of cross-border travel. These data can be compared to matching information collected by IMTC in the year 2000 to see how cross-border travel demand has changed over the last seven years.

1.2 The IMTC Project

The International Mobility & Trade Corridor Project (IMTC) is a U.S. – Canadian coalition of government and business entities that identifies and promotes improvements to mobility and security for the four border crossings that connect Whatcom County, Washington State and Lower Mainland British Columbia. Together, these four crossings are called the Cascade Gateway.

In 2000, IMTC participants identified the need to better understand the nature of cross-border travel. A comprehensive survey of all four Cascade Gateway ports-of-entry was conducted in the Summer and Fall of 2000.

In 2007, IMTC participants wanted to understand how cross-border travel trends may have altered over the seven years, given changes in exchange rate, border operations, and impacts on the border environment in the aftermath of September 11, 2001.

1.3 Project Partners

The Border Policy Research Institute (BPRI) at Western Washington University funded this study. BPRI partnered with the Whatcom Council of Governments (WCOG), the Metropolitan Planning Organization for Whatcom County and lead agency for IMTC, to conduct the survey. BPRI and WCOG collaboratively staffed and managed the project.

Additional support for the 2008 survey was provided by U.S. Customs & Border Protection (CBP) and Canada Border Services Agency (CBSA). Survey, traffic control, and safety equipment was provided by the WA State Transportation Center, B.C. Ministry of Transportation, the City of Blaine, WA, and the City of Bellingham, WA.

Surveyors collect northbound data at the Lynden/Aldergrove Port-of-Entry (July, 2007)

The original 2000 Cross-Border Trade and Travel Survey was funded by the U.S. Federal Highway Administration (FHWA) Coordinated Border Infrastructure Program, and managed by WCOG.

This research was supported by the U.S. Department of Transportation, Office of the Secretary, Grant No. DT0S59005-G-00016.

1.4 Acknowledgements

The study was overseen by BPRI and WCOG staff, but would not have been possible without the partnership of numerous agencies and individuals who provided assistance in data collection, data cleansing, and data analysis. The following people and organizations made the research possible:

- David Davidson, Border Policy Research Institute, Western Washington University
- Hugh Conroy, Whatcom Council of Governments
- Melissa Miller, Whatcom Council of Governments
- James Rector, U.S. Customs & Border Protection
- Kim Scoville, Canada Border Services Agency
- Heather Ardiel, Canada Border Services Agency
- The student survey team from Western Washington University
- John Schnablegger, B.C. Ministry of Transportation
- Max Walker, B.C. Ministry of Transportation
- Grant Smith, B.C. Ministry of Transportation
- Ed McCormack, WA State Transportation Center (TRAC)
- Stephen Banham, City of Blaine
- Clark Williams, City of Bellingham

1.5 Study Area

The study area includes the Cascade Gateway, a system of four land ports-of-entry (POEs) between Whatcom County, Washington State, and the Lower Mainland of British Columbia. (**see Figure 1**). The following POEs were included:

Figure 1: The Cascade Gateway border crossing system
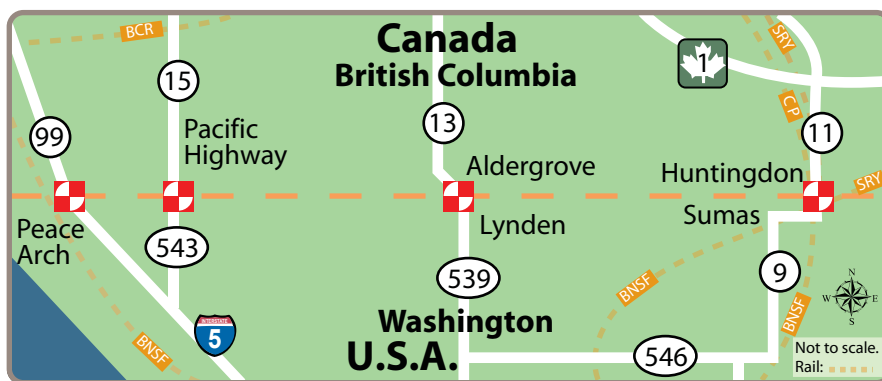
- **Peace Arch/Douglas** (Interstate 5/B.C. Highway 99) – 24 hour, passenger vehicles only - Blaine, WA/Surrey, B.C.
- **Pacific Highway** (State Route 543/B.C. Highway 15) – 24 hour, passenger and commercial vehicles - Blaine, WA/Surrey, B.C.
- **Lynden/Aldergrove** (State Route 539/B.C. Highway 13) – 16 hour, passenger and commercial vehicles (southbound permitted trucks only) – Lynden, WA/Aldergrove, B.C.
- **Sumas/Huntingdon** (State Route 9/B.C. Highway 11) – 24 hour, passenger and commercial vehicles – Sumas, WA/Abbotsford, B.C.

Peace Arch is the 3rd busiest passenger vehicle crossing on the U.S. – Canada border, and Pacific Highway is the 4th busiest commercial vehicle crossing.

1.6 The 2000 Trade & Travel Study

Prior to 2000, little data existed to provide regional planners and border agencies with detailed information about travelers crossing the border. The 2000 study collected both passenger and commercial vehicle data to determine:

1. Who crosses the border and what drives demand?
2. What are the time-of-day characteristics of cross-border travel?
3. What is the potential to divert traffic to alternative crossings?
4. What is the potential for greater use of high occupancy vehicle (HOV) lanes?
5. What is the potential to divert traffic to alternative modes?
6. What are the markets for pre-approved programs?

Data collection was performed using intercept surveys at the crossings, stopping passenger and commercial vehicle drivers to ask a series of questions. Data were collected at each POE and in each direction (northbound and southbound).

Data were weighted to represent an 11-hour period (7am – 6pm) during which peak traffic occurs. Data were collected in summer and in fall, 2000, and collected separately for weekdays and weekends.

Results from this effort provided detailed information about traveler origin and destination, trip purpose and length, whether or not alternative modes or crossings would be considered, and the market for pre-approved travel programs.

The following reports are available from this effort:

- Final report
- Existing data sources and utility for cross-border travel studies
- Intercept survey design and procedures
- Survey database contents
- Results of the survey (tabulations)
- Results of logistics process interviews
- Report on traffic forecasting
- GIS mapping of data results

The database from this survey is available on the 2008 Passenger Intercept Survey Database CD.

2. The Survey

2.1 Development of the Survey Instrument

The 2008 survey is intended to serve as a complement to the 2000 survey, supporting the investigation of changes in behavior over time. The 2008 survey instrument was therefore designed to collect data that is closely comparable to the data collected in 2000. A choice was made, though, to use a different technology for collection of data. The 2000 survey was performed using paper-based questionnaires. Each interview resulted in a single 8.5" X 11" page of responses, and the responses were then transcribed into a database. For the 2008 project, personal digital assistant (PDA) devices were used to collect drivers' responses. Palm Pilot Tungsten E2 PDAs were selected because of their long battery life, good screen contrast (for operation in sunlight), and reasonably low cost. Pendragon Forms 5.1 software was used to program a custom application that would present a series of questions in the desired order, guiding the surveyors through each interview. The Pendragon software uses Microsoft Access as the underlying database on the desktop PC that is used to interface with the PDAs. At the end of each day's efforts, all of the interviews collected on the PDAs were thus readily imported into an Access database on a PC.

Surveyors intercept southbound passenger vehicles at Lynden/Aldergrove (February, 2008)

The questionnaire used in 2000 was reviewed, and 15 out of 18 questions were retained for the 2008 project (Appendix A contains a copy of the 2000 questionnaire). The omitted questions were demographic in nature (household size, employment status, and willingness to consider using other transportation modes). Given that such questions are most likely to generate unease in an interview subject, and given that the demographic data collected in 2000 had not actually been put to any analytical use in subsequent years, the decision was made to omit the questions.

The 2000 form contained several questions for which a "pick list" of likely responses was itemized on the form – e.g., pre-printed responses such as "work commute" and "shopping" were listed adjacent to the question "Trip Purpose?" The options available in the 2000 pick-lists were generally incorporated directly into the pick-lists used in 2008. In addition, the 2000 form typically allowed a response of "other," allowing the surveyor to fill-in-the-blank with the specific response provided by the driver. An analysis of the "other" responses was performed in order to find the ones given most frequently in 2000, and the pick-lists used in 2008 were then augmented to also include those responses.

A major goal of the project is to identify the specific trip origins and destinations of individual drivers, in order to support the analysis of travel patterns. In 2000, the paper questionnaires were designed to record a street address and a city name for three locations: the driver's place of residence, the trip origin, and the trip destination. In practice, relatively few drivers provided street addresses, so the city names were the most useful data fields. With the goal of collecting better locational data, the 2008 survey was performed in conjunction with a booklet of maps. The maps portrayed the near-border region (i.e., for a distance of about 40 miles either side of the border), and the boundaries of numbered "traffic analysis zones" (TAZs) were superimposed upon the regular street

grid. The TAZ boundaries were provided by regional transportation planning agencies, so that locational data would be directly useful to those agencies. TAZ zones allow finer-grain specification of locations, with several TAZs encompassed within a given municipality (e.g., Langley, B.C., contains 8 TAZs). In response to a question (e.g., "where do you live?"), a driver would provide a city name and would then also point to a location on a map. The surveyor would record the city name, as well as the number of the TAZ pointed to by the driver.

Finally, the 2008 survey included some questions that had not been asked in 2000. These questions pertained to the kind of documentation possessed by the driver (e.g., driving license, passport, birth certificate, etc.) and to the driver's familiarity with the NEXUS program. A copy of the question scripts used in the 2000 and 2008 interviews is included in **Appendix B**.

2.11 Survey Fields

The following data fields and possible answers were developed based on the questions of the survey instrument. Data to complete the first 11 fields was gathered prior to any interaction with a vehicle's driver. Fields 12 through 30 record a driver's responses to the standardized set of questions.

Surveyors interview northbound drivers waiting in queues at Peace Arch (July, 2007)

1. Date
2. Time
3. Time period (Early morning, Late morning, Afternoon, Evening)
4. Port (Peace Arch, Pacific Highway, Lynden/Aldergrove, Sumas/Huntingdon)
5. Lane type (Nexus, Standard)
6. Direction (Northbound, Southbound)
7. Day of week (Monday, Tuesday, Wednesday, Thursday, Friday, Saturday, Sunday)
8. Day type (Weekday, Weekend)
9. Vehicle type (Car/Truck/SUV, RV, Motorcycle, Trailer or Boat)
10. License (State or Province)
11. Passenger Count (1-6)
12. Residence (City name)
13. Residence TAZ (for cities in close proximity to the border)
14. Residence superzone (Geographic region)
15. Residence country (USA, Canada, Other)
16. Destination (City name)

17. Destination TAZ (for cities in close proximity to the border)

18. Destination country (USA, Canada, Other)

19. Destination superzone (Geographic region)

20. Origin (City name)

21. Origin TAZ (for cities in close proximity to the border)

22. Origin country (USA, Canada, Other)

23. Origin superzone (Geographic region)

24. Trip purpose (Vacation, Recreation, Shopping, Business, Work commute, Family visit, Mail, Doctor/dentist, Airport, Church, School, Other)

25. Length of stay (In hours/days)

26. Reason a port was chosen (ATIS sign, Avoid congestion, Don't know, Duty Free Store, Follow directions, Most direct, NEXUS Lane, Web page advice, Radio advice, Road came here, Other)

27. Frequency of cross-border trips (Number per year)

28. Why no NEXUS? (Application in process, Application a hassle, Cost of card, Don't cross often enough, Don't want to, Meaning to, Not eligible, Passenger in vehicle, Other program flaw, Unfamiliar, Other)

29. Is your entire family enrolled in NEXUS? (Yes, No)

30. What do you intend to do once WHTI becomes law in the US? (Have passport, Will get passport, Use NEXUS, Stop crossing, No knowledge of WHTI, Enhanced DL, Hope it is delayed/cancelled, Other)

Note the last question, #30, was changed in the Winter Wave to the following:

30. Do you have a passport? (Yes, No)

31. (*If answer "no" to prior question*) When the US imposes new ID requirements, what will you do? (Get passport, Have NEXUS, Use Enhanced DL, Get NEXUS, Get PASS card, Stop travel, Have other compliant ID, Undecided, Unfamiliar with topic, Other)

Traffic queues southbound at the Pacific Highway
Port-of-Entry (July, 2007)

2.2 Summer Wave (July, 2007)

The schedule of data collection for the 2008 survey was designed to be slightly greater in scope than for the 2000 survey. As in 2000, data was collected on both a weekday (Tuesday, Wednesday, or Thursday) and a weekend day (Saturday or Sunday) in each direction (northbound, southbound) at each of the four ports-of-entry. In addition, in response to a request from the inspection agencies, data was gathered on a Friday in each direction at the Peace Arch/Douglas crossing. On weekdays, in an effort to gather data from work commuters, data collection began at 6:00 am. This is one hour earlier than was the case in 2000. On weekend days and Fridays, data was gathered beginning at 7:30 am. At Lynden/Aldergrove, surveying began at 8:00 am, when the port opened each morning (**see Figure 2**).

In planning the project, minute-by-minute traffic count data (from loop detectors) for the Peace Arch/Douglas crossing was available. That data was plotted for a period of several weeks in the spring of 2007, so that the diurnal flow of traffic throughout the week was well understood. The operational hours chosen for this project were known to encompass all the periods of significant traffic flow through the Peace Arch port.

Figure 2: Summer Survey Schedule, July 2007

Port	Direction	Day type	Date	Hours
Peace Arch	N	Weekday	18-Jul	6 am - 9 pm
Peace Arch	N	Weekend	22-Jul	7:30 am - 9 pm
Peace Arch	N	Friday	13-Jul	7:30 am - 9 pm
Peace Arch	S	Weekday	19-Jul	6 am - 9 pm
Peace Arch	S	Weekend	21-Jul	7:30 am - 9 pm
Peace Arch	S	Friday	20-Jul	7:30 am - 9 pm
Pacific Highway	N	Weekday	12-Jul	6 am - 9 pm
Pacific Highway	N	Weekend	14-Jul	7:30 am - 9 pm
Pacific Highway	S	Weekday	17-Jul	6 am - 9 pm
Pacific Highway	S	Weekend	15-Jul	7:30 am - 9 pm
Lynden/Aldergrove	N	Weekday	25-Jul	8 am - 9 pm
Lynden/Aldergrove	S	Weekday	24-Jul	8 am - 9 pm
Lynden/Aldergrove	S+N	Weekend	7-Jul	8 am - 9 pm
Sumas/Huntingdon	N	Weekday	11-Jul	6 am - 9 pm
Sumas/Huntingdon	S+N	Weekend	8-Jul	7:30 am - 9 pm
Sumas/Huntingdon	S	Weekday	10-Jul	6 am - 9 pm

2.3 Winter Wave (February, 2008)

In the 2000 study, winter-season interviews were collected in November, and all things being equal, the 2008 study would also have collected data in late fall. However, the Winter Olympics are scheduled to occur in Vancouver, B.C., in February 2010, and it was decided that collection of winter-season data in February would provide useful baseline information for people engaged in planning for the Olympics. A second wave of interviews therefore occurred in February 2008 (**see Figure 3**).

Weather was a concern in February, so some analysis of the July 2007 survey data was performed in order to determine whether the number of survey days could be reduced without harming the usefulness of the resulting data. Analysis revealed that for a given type of day (e.g., a weekday), no significant difference exists between the northbound and southbound traffic through the two smaller ports (Lynden/Aldergrove and Sumas/Hunting-

Figure 3: Winter Survey Schedule, February, 2008

Port	Direction	Day type	Date	Hours
Peace Arch	N	Weekday	27-Feb	7 am - 8 pm
Peace Arch	N	Weekend	23-Feb	7:30 am - 8 pm
Peace Arch	S	Weekday	20-Feb	7 am - 8 pm
Peace Arch	S	Weekend	17-Feb	7:30 am - 8 pm
Pacific Highway	N	Weekday	6-Feb	7 am - 8 pm
Pacific Highway	N	Weekend	10-Feb	7:30 am - 8 pm
Pacific Highway	S	Weekday	13-Feb	7 am - 8 pm
Pacific Highway	S	Weekend	16-Feb	7:30 am - 8 pm
Lynden/Aldergrove	S	Weekend	9-Feb	8 am - 8 pm
Lynden/Aldergrove	S	Weekday	7-Feb	8 am - 8 pm
Sumas/Huntingdon	N	Weekend	24-Feb	7 am - 8 pm
Sumas/Huntingdon	N	Weekday	26-Feb	7:30 am - 8 pm

don). It was therefore decided to collect data in one direction only through the small ports, while continuing to gather both weekday and weekend day data. At the larger two ports, both north- and southbound data was still collected on each type of day. It was also decided to omit Friday surveys at the Peace Arch/Douglas crossing. Finally, the hours of data collection were shorter at all ports, in order to ensure that surveyors could work safely in a season of limited daylight.

3. The Database

The database of 2000 and 2008 surveys is available on CD from the Whatcom Council of Governments.

For information about the development of expansion factors, database structure, and technical details regarding the database, please see **Appendix A: Development of Survey Database.**

4. Results

4.1 Origin-Destination Data

Origin-destination patterns have not significantly changed since 2000. The predominant travel route is between the West Lower Mainland of British Columbia and Whatcom County, Washington (**see Figures 4 and 5**).

One small difference over the last eight years has been the slight relative increase in longer-distance travel. A higher percentage of travelers from West and East Lower Mainland travelled to Puget Sound, and long-distance recreation trips from B.C. to the west and rest of the U.S. also increased as a percentage.

Primary destinations in the U.S. include Bellingham, Seattle, and Blaine (**see Figure 6**). Primary Canadian destinations include Vancouver, Surrey, Abbotsford, and White Rock (**see Figure 7**).

Figure 4: Origin-Destination Matrix
(Summer, All Ports-of-Entry, Northbound and Southbound)

DESTINATION

ORIGIN	Alaska	Alberta	East Canada	East Lower Mainland	East Washington	Point Roberts	Puget Sound	Rest of BC	Rest USA	West Canada	West Lower Mainland	West USA	West Washington	Whatcom	Total
Alaska					0.02%		0.04%					0.02%	0.02%		0.09%
Alberta							0.13%		0.01%			0.03%		0.08%	0.25%
East Canada					0.08%							0.01%		0.02%	0.12%
East Lower Mainland				0.01%	0.15%		2.36%	0.10%				0.22%	0.30%	8.95%	12.08%
East Washington	0.01%			0.12%		0.01%		0.05%		0.01%	0.26%				0.46%
Point Roberts					0.01%	0.01%	0.09%		0.02%		0.01%		0.02%	0.35%	0.51%
Puget Sound	0.05%	0.07%	0.02%	1.99%		0.06%	0.03%	2.01%		0.07%	12.21%	0.01%		0.02%	16.54%
Rest of BC					0.11%		2.74%	0.22%			0.54%	0.48%		1.32%	5.41%
Rest USA	0.01%			0.09%				0.22%		0.01%	0.88%				1.21%
West Canada					0.01%		0.05%	0.05%			0.00%	0.01%		0.09%	0.21%
West Lower Mainland					0.42%		13.52%	0.71%			0.02%	1.88%	1.61%	16.52%	34.68%
West USA	0.03%	0.01%		0.23%		0.02%	0.34%			0.02%	1.51%				2.16%
West Washington	0.05%			0.38%		0.05%	0.01%	0.27%		0.03%	1.34%				2.12%
Whatcom	0.03%	0.07%	0.02%	7.77%		0.43%		0.63%		0.02%	15.14%			0.06%	24.18%
	0.18%	0.14%	0.04%	10.58%	0.72%	0.57%	19.04%	3.52%	1.11%	0.17%	31.36%	2.70%	2.44%	27.42%	100.00%

Figure 5: Origin-Destination Matrix
(Winter, All Ports-of-Entry, Northbound and Southbound)

DESTINATION

ORIGIN	Alaska	Alberta	East Canada	East Lower Mainland	East Washington	Point Roberts	Puget Sound	Rest of BC	Rest USA	West Lower Mainland	West USA	West Washington	Whatcom	Total
Alaska							0.02%							0.02%
Alberta							0.04%					0.05%		0.10%
East Canada							0.02%					0.02%		0.04%
East Lower Mainland							2.69%		0.06%	0.02%	0.12%	0.16%	8.60%	11.67%
East Washington							0.05%	0.01%		0.08%			0.02%	0.17%
Point Roberts							0.06%				0.06%	0.02%	0.49%	0.72%
Puget Sound	0.01%	0.04%	0.05%	1.58%	0.04%	0.08%		2.37%		9.59%				13.75%
Rest of BC					0.03%		2.11%	0.22%			0.16%	0.11%	0.29%	2.93%
Rest USA				0.07%				0.15%		0.41%				0.63%
West Lower Mainland					0.07%		14.64%		0.43%		0.84%	0.88%	19.16%	36.07%
West USA				0.09%				0.13%		1.31%				1.52%
West Washington				0.22%		0.03%	0.32%			0.77%				1.34%
Whatcom		0.08%		8.82%	0.04%	0.57%		0.86%		20.66%				31.05%
	0.01%	0.12%	0.05%	10.77%	0.18%	0.77%	19.65%	3.84%	0.72%	32.87%	1.18%	1.19%	28.64%	100.00%

Figure 6: Top U.S. City Destinations
(All Ports-of-Entry, Southbound)

Summer Destination	Count	% of Total Traffic
Bellingham	4202	28%
Seattle	2642	18%
Blaine	1409	9%
Birch Bay	1166	8%
Lynden	541	4%
Sumas	519	3%
Oregon	451	3%
West Washington	428	3%
Everett	335	2%
Maple Falls	314	2%

Winter Destination	Count	% of Total Traffic
Bellingham	2670	40%
Seattle	1290	19%
Blaine	731	11%
Lynden	498	7%
Everett	255	4%
Birch Bay	211	3%
Ferndale	134	2%
Burlington	106	2%
Oregon	94	1%
Mt. Vernon	67	1%

Figure 7: Top Canadian City Destinations
(All Ports-of-Entry, Northbound)

Summer Destination	Count	% of Total Traffic
Vancouver	6093	27%
Surrey	2896	13%
Abbotsford	1594	7%
Delta	1518	7%
White Rock	1321	6%
Richmond	1041	5%
Langley Township	772	3%
Burnaby	767	3%
Coquitlam	663	3%
Chilliwack	647	3%

Winter Destination	Count	% of Total Traffic
Vancouver	2588	26%
Surrey	1654	17%
White Rock	894	9%
Abbotsford	789	8%
Richmond	404	4%
Whistler	366	4%
Chilliwack	298	3%
Delta	294	3%
Coquitlam	277	3%
Burnaby	270	3%

4.2 Who Crosses the Border?

Residence patterns since 2000 have not changed noticeably. The largest percentage of cross-border travelers in the summer came from Seattle and Vancouver, the region's largest cities (**see Figures 8 and 9**). However the cities of Surrey and Abbotsford have been experiencing rapid growth, leading to greater demands on the system.

Figure 8: Top 10 U.S. Residence Cities
(All Ports-of-Entry)

Summer Residence	Count	% of Total Traffic
Seattle	3141	17%
Other USA	2861	16%
Bellingham	2132	12%
California	1088	6%
West Washington	872	5%
Blaine	828	5%
Oregon	821	4%
Lynden	689	4%
Bellevue	537	3%
Ferndale	456	2%

Winter Residence	Count	% of Total Traffic
Seattle	1773	27%
Bellingham	978	15%
Blaine	502	8%
USA (Rest)	416	6%
Oregon	323	5%
Lynden	256	4%
Washington (West)	250	4%
Everett	207	3%
Ferndale	207	3%
Birch Bay	164	3%

Figure 9: Top 10 Canadian Residence Cities
(All Ports-of-Entry)

Summer Residence	Count	% of Total Traffic
Vancouver	5074	19%
Surrey	5062	19%
Abbotsford	2407	9%
White Rock	1797	7%
Richmond	1317	5%
Burnaby	1207	5%
Coquitlam	1131	4%
Langley Township	1127	4%
Chilliwack	986	4%
Delta	974	4%

Winter Residence	Count	% of Total Traffic
Surrey	2872	22%
Vancouver	2509	19%
White Rock	1124	8%
Abbotsford	953	7%
Richmond	743	6%
Langley (Township)	648	5%
Burnaby	645	5%
Coquitlam	557	4%
Delta	429	3%
Langley (City)	387	3%

4.3 What Drives Demand?

Cross-border travel is impacted by varying external factors including exchange rate and trip purpose. In the summer, 49 percent of cross-border trips were for recreation and vacation purposes (**see Figure 10**), with Vancouver and Seattle being the primary destinations (**see Figures 11 and 12**). Shopping is another strong trip generator, with primary destinations in Surrey, B.C., and Bellingham, WA (**see Figures 13 and 14**).

87 percent of all trips by U.S. residents, and 93 percent of trips by Canadian residents, are made for discretionary purposes (non-work related).

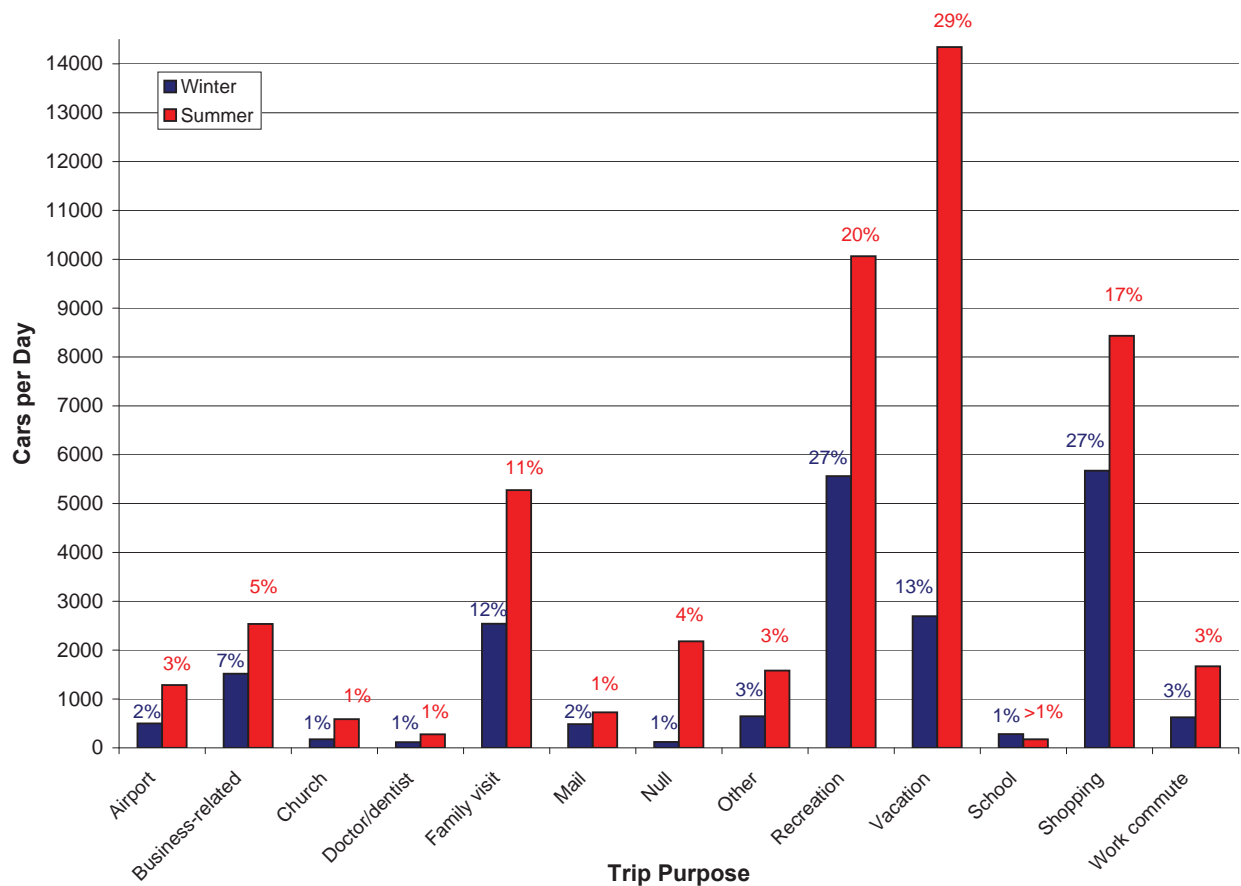**Figure 10: Trip Purpose**
(All Ports-of-Entry, Northbound and Southbound)

Figure 11: U.S. Recreation Destinations*
(All Ports-of-Entry, Northbound)

SUMMER

US Destinations	Count	% Total
Seattle	1,938	15%
Birch Bay	1,793	14%
Bellingham	1,544	12%
Maple Falls	851	7%
Blaine	590	5%
Oregon	583	5%
West Washington	526	4%
Lynden	457	4%
Deming	364	3%
Ferndale	267	2%

WINTER

US Destinations	Count	% Total
Seattle	1,046	24%
Bellingham	820	19%
Birch Bay	422	10%
Maple Falls	379	9%
Blaine	344	8%
Ferndale	162	4%
Lynden	161	4%
Oregon	136	3%
Sumas	115	3%
Everett	95	2%

Figure 12: Canadian Recreation Destinations*
(All Ports-of-Entry, Southbound)

SUMMER

Cana ian Destinations	Count	% Total
Vancouver	4,364	43%
Whistler	936	9%
Other BC	754	7%
Delta	524	5%
Islands via Tsawassen	407	4%
Victoria	369	4%
Abbotsford	353	3%
Surrey	344	3%
Richmond	341	3%
White Rock	325	3%

WINTER

Cana ian Destinations	Count	% Total
Vancouver	1,526	50%
Whistler	609	20%
Surrey	170	6%
Richmond	100	3%
White Rock	89	3%
Burnaby	60	2%
Abbotsford	58	2%
Langley Township	57	2%
Victoria	56	2%
Langley City	45	1%

Figure 13: U.S. Shopping Destinations*
(All Ports-of-Entry, Northbound)

SUMMER

US Destinations	Count	% Total
Bellingham	4,138	55%
Blaine	959	13%
Seattle	711	9%
Lynden	340	4%
Sumas	292	4%
Everett	284	4%
Burlington	164	2%
Pt. Roberts	79	1%
Birch Bay	70	1%
West Washington	66	1%

WINTER

US Destinations	Count	% Total
Bellingham	2,994	56%
Blaine	865	16%
Seattle	449	8%
Lynden	279	5%
Everett	204	4%
Burlington	115	2%
Sumas	102	2%
Birch Bay	48	1%
Mt. Vernon	39	1%
Rural King County	35	1%

* Note: Percentages shown are for the total responses from the question, not just the top ten destinations illustrated. Percentages do not include other/null/other country responses.

Figure 14: Canadian Shopping Destinations*
(All Ports-of-Entry, Southbound)

SUMMER

Canadian Destinations	Count	% Total
Vancouver	159	25%
Abbotsford	149	23%
Richmond	86	13%
White Rock	71	11%
Surrey	57	9%
Langley City	34	5%
Coquitlam	30	5%
Aldergrove	15	2%
Burnaby	12	2%
Delta	10	1%

WINTER

Canadian Destinations	Count	% Total
Vancouver	75	30%
Abbotsford	39	16%
Richmond	35	14%
White Rock	28	11%
Langley City	19	8%
Surrey	13	5%
Coquitlam	11	4%
Langley Township	7	3%
Aldergrove	7	3%
Port Moody	6	2%

The number of Canadians crossing the border to purchase gas has long been speculated. Based on the numbers collected for Canadian residents shopping in either Blaine, Lynden, or Sumas (cities without large shopping centers) it can be estimated that approximately 415 cross-border trips per day are for gas only (**see Figure 15**).

Figure 15: Estimated Number of Cross-Border Gas Trips per Day
(All Ports-of-Entry, Northbound and Southbound)

SUMMER

DayType	Destination	Cars during survey period
Weekday	Blaine	722
Weekday	Lynden	247
Weekday	Sumas	242
TOTAL		**1212**
Weekend	Blaine	236
Weekend	Lynden	93
Weekend	Sumas	50
TOTAL		**379**

SUMMER

Average	Total Cars Expanded	% of total expanded cars	Jul/Feb Actual Volume Totals (NB&SB)	Avg Daily Volume	ESTIMATED DAILY GAS TRIPS
795	49144	1.62%	715,100	23,837	**386**

WINTER

DayType	Destination	Cars during survey period
Weekday	Blaine	548
Weekday	Lynden	149
Weekday	Sumas	78
TOTAL		**774**
Weekend	Blaine	317
Weekend	Lynden	130
Weekend	Sumas	25
TOTAL		**472**

WINTER

| Average	Total Cars Expanded	% of total expanded cars	Jul/Feb Actual Volume Totals (NB&SB)	Avg Daily Volume	ESTIMATED DAILY GAS TRIPS
623	20971	2.97%	447,844	14,928	**444**

Average: 415 a day

Residence: Canada
Trip Purpose: Shopping
NB Origin or SB Destination: Blaine, Lynden, or Sumas

4.4 What are the Frequency Patterns?

On average, 45 percent of all cross-border travelers cross the border at least once a month. 18 percent of winter travelers cross at least once a week (**see Figure 16**).

As to be expected, NEXUS travelers that were surveyed showed higher cross-border trip frequency patterns than the general traffic, with over 60 percent of users crossing once a week or more (**see Figure 17**).

Figure 16: Cross-Border Trip Frequency - General Lanes (not NEXUS)
(All Ports-of-Entry, Northbound and Southbound)
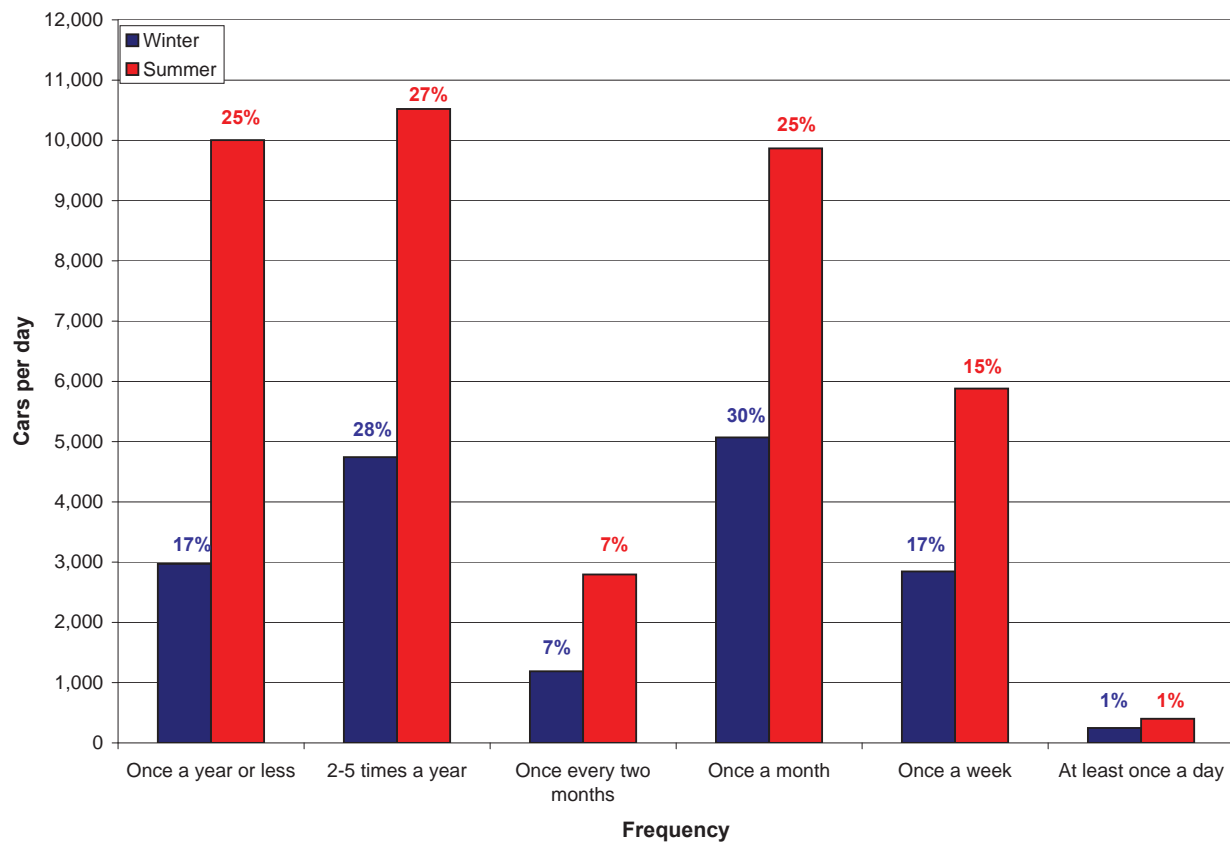
**Figure 17: Cross-Border Trip Frequency - NEXUS Lane
(Peace Arch, Northbound and Southbound)**
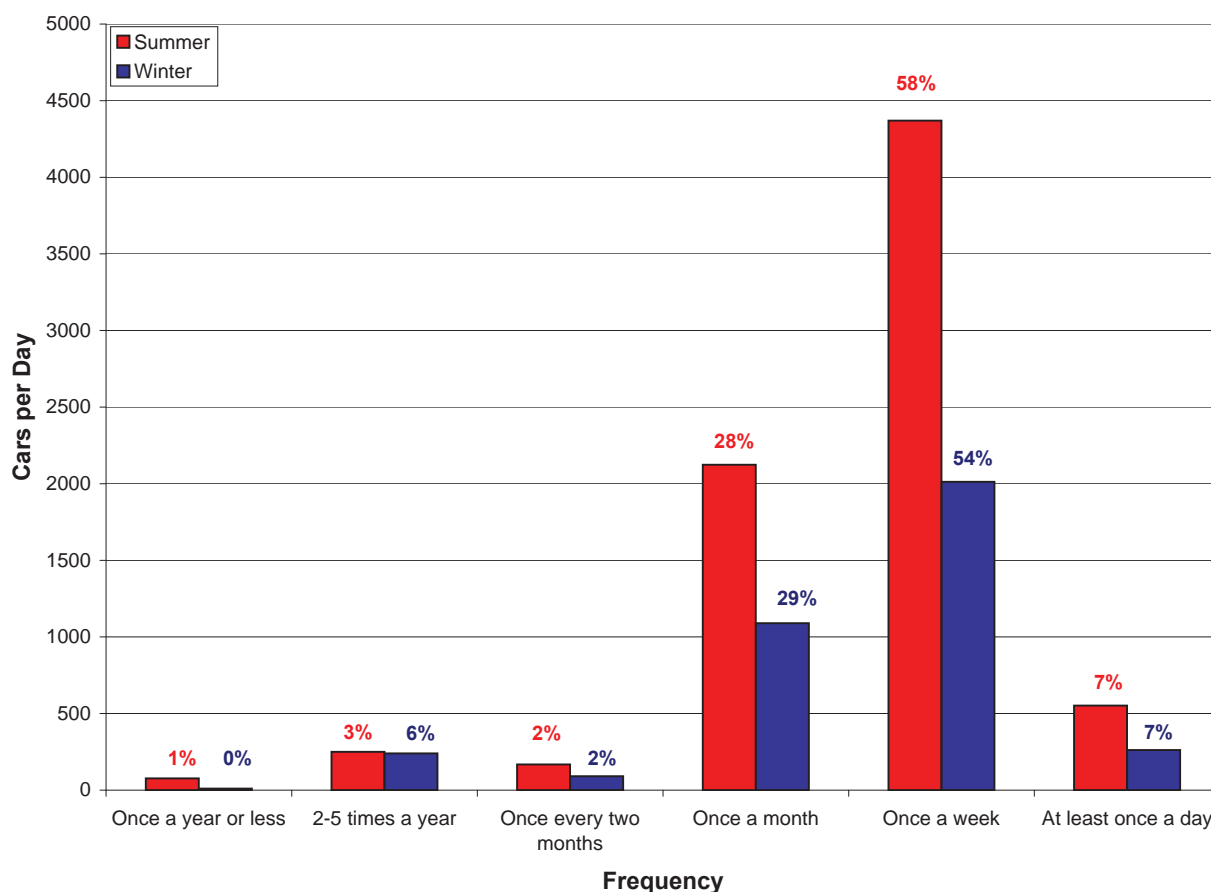
4.5 What is the Potential to Divert Traffic to Alternative Crossings?

As part of the survey, respondents were asked to state why they chose a particular border crossing. Several participants found the question confusing. For example, many respondents said they chose a crossing because it was the "fastest" or to avoid waits. However, whether or not this decision was based on prior experience, or the advanced traveler information system (ATIS) signs (which was another anticipated answer) is unclear.

Nevertheless, the following results can be determined from the data:

Peace Arch

Half of Peace Arch crossers chose the border crossing because they felt it was the most direct route (48 percent).

The second most popular reason to choose Peace Arch was for the NEXUS lane (13 percent).

Southbound, approximately 12 percent of the travelers said they used the ATIS sign to choose the Peace Arch crossing. Northbound, the signs were inoperative during the survey period.

A large number of crossers at Peace Arch either: (1) chose the crossing because "the road came here" (it is the direct route on B.C. Highway 99/Interstate 5); or (2) didn't know why they chose that crossing; or (3) didn't know that they had other options (7 percent). This suggests that many drivers may not know about the nearby

Pacific Highway Port-of-Entry alternative.

Other responses included avoiding congestion (8 percent), following directions (3 percent), and radio/website advice (1 percent). None of the respondents said they crossed for the duty free store.

Pacific Highway

In the summer, the number one reason travelers chose to cross the border at Pacific Highway was to avoid congestion (45 percent). Only 29 percent chose the crossing because it was most direct.

In the winter, 33 percent of crossers chose Pacific Highway to avoid congestion, with 48 percent using the crossing because it was most direct.

Only 10 percent specifically stated they used the ATIS sign.

4 percent of crossers used Pacific Highway because of the proximity to the duty free store.

Lynden/Aldergrove

Half of the crossers at Lynden/Aldergrove chose that port-of-entry because it was the most direct route (56 percent).

Approximately 28 percent of crossers chose Lynden/Aldergrove to avoid congestion.

Approximately 5 percent were classified as "other" reasons.

Surveyors used PDAs and maps to help participants identify TAZ zones (southbound Lynden/Aldergrove, February, 2008)

Sumas/Huntingdon

Very few travelers used the Sumas/Huntingdon crossing as an alternative route. 84 percent crossed there because it was the most direct route to their destination. Only 10 percent said they chose it to avoid congestion at the other crossings.

The data suggest that Peace Arch, Pacific Highway, and Lynden/Aldergrove all serve as alternative routes for those looking for faster border crossings. Better information to the travelers about the viability of Pacific Highway and Lynden/Aldergrove as options should be considered.

4.6 What is the Market for NEXUS?

NEXUS is a pre-approved traveler program jointly administered by U.S. Customs & Border Protection and the Canada Border Services Agency for frequent cross-border travelers. The program replaced the former CAN-PASS and PACE regional traveler programs in 2001. NEXUS lanes operate northbound and southbound at Peace Arch and Pacific Highway ports-of-entry.

A study completed by the Washington State Department of Transportation in 1998 concluded that, if pre-approved travel program usage were to increase from its 1998 level of 28 percent of total southbound traffic at Peace Arch to 45 percent of the traffic flow, wait times at peak hours would drop from 45-90 minutes to a maximum of 15 minutes (WA State Department of Transportation, "Technical Memoranda – ITS Early Development Program, I-5 Seattle to Vancouver B.C., Appendix F: Border-Crossing Situational Development", 1998).

Given that increased enrollment in NEXUS reduces wait times for not only frequent travelers, but the general traffic as well, regional transportation, inspection, and planning agencies all have an interest in maximizing enrollment for this region.
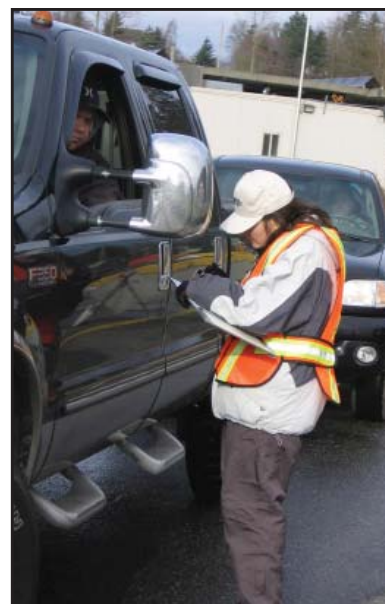
Given that 56 percent of summer traffic, and 61 percent of winter traffic, crosses the border at least 6 times a year, there is potential to expand the NEXUS user base in this region (**see Figure 16)**. Currently NEXUS traffic makes up approximately 30 percent of the traffic volume northbound and southbound at Peace Arch; increasing this proportion would lead to greater times savings for everyone.

Because all passengers in a vehicle are required to be enrolled in the NEXUS program in order to use the NEXUS lane, it is important to consider vehicle occupancy. Approximately 76 percent of general lane trips are made in vehicles occupied by one or two people (**see Figure 18**). This bodes well for the viability of increasing program enrollment.

**Figure 18: Vehicle Occupancy - General Lane
(All Ports-of-Entry, Northbound and Southbound)**
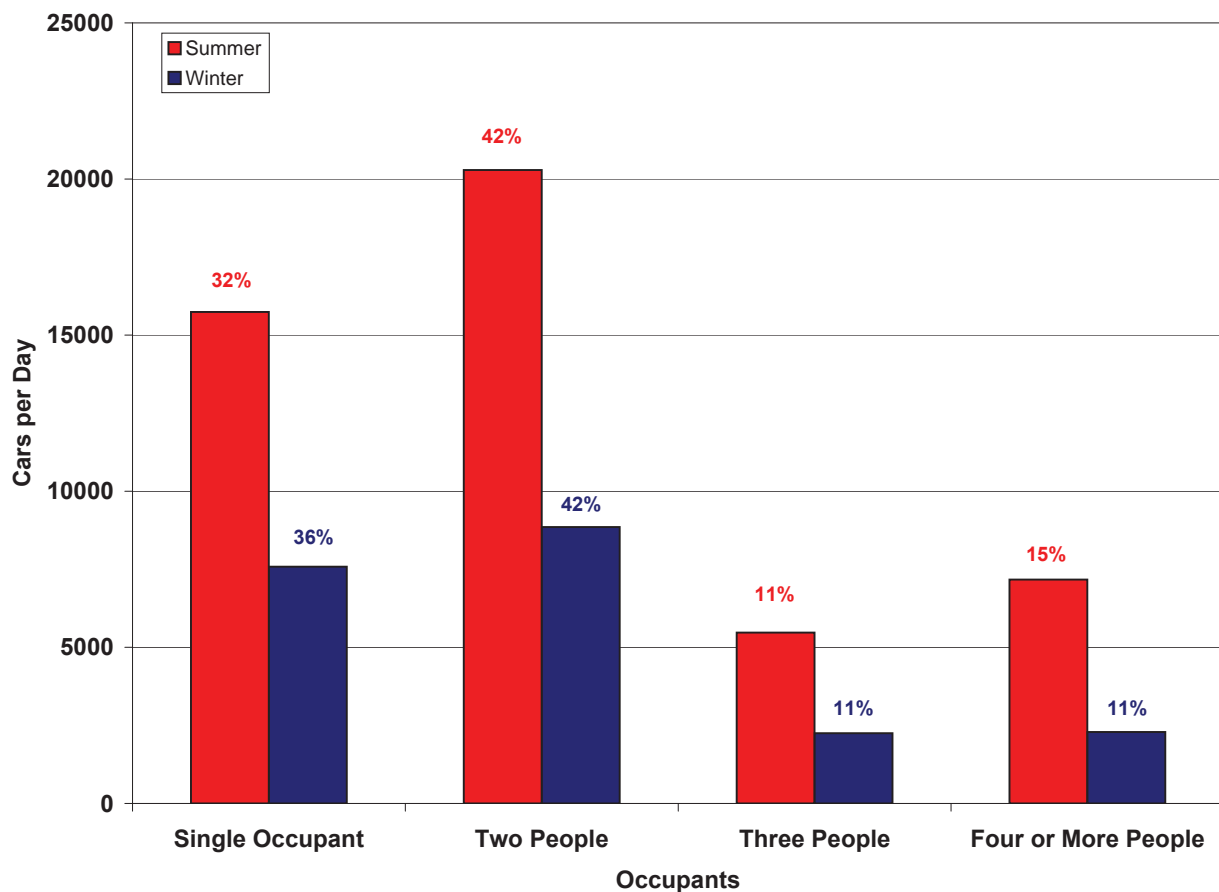
Opportunities for Marketing NEXUS

A tabulation of where travelers live who cross eight or more times a year and yet are not in the NEXUS program is organized by city below. This indicates where marketing efforts should take place: Surrey, Vancouver, White Rock, Richmond, and Burnaby in B.C., and Bellingham and Seattle, WA (**see Figure 19**).

Figure 19: Residence of Travelers Crossing the Border Eight or More Times Per Year (Peace Arch and Pacific Highway, Northbound and Southbound, Not Including NEXUS)

Summer		
Residence	**Count**	**% of total traffic**
Surrey	1518	17%
Vancouver	1123	13%
Seattle	697	8%
Bellingham	590	7%
White Rock	497	6%
Richmond	392	4%
Burnaby	380	4%
Langley	348	4%
Blaine	281	3%
Delta	269	3%
Coquitlam	229	3%

Winter		
Residence	**Count**	**% of total traffic**
Surrey	1181	22%
Vancouver	778	15%
Bellingham	390	7%
White Rock	353	7%
Seattle	314	6%
Delta	235	4%
Blaine	217	4%
Richmond	211	4%
Coquitlam	200	4%
Burnaby	179	3%
Langley City	103	2%

At Peace Arch and Pacific Highway ports-of-entry, surveyors asked drivers in the general lane why they were not enrolled in the NEXUS program (**see Figure 20**). Approximately 27 percent of travelers said they were unfamiliar with the program (24 percent in winter and 31 percent in the summer). Some travelers were aware of the program but did not have specifics. Many said they didn't think they crossed often enough to apply, or thought the program cost too much.

Of the 27 percent who said they were not familiar with the program, an additional analysis shows where those who cross more than six times a year live, to better focus marketing efforts in the future (**see Figure 21**).

Figure 20: Why Traveler Not in NEXUS Lane

(Winter, Peace Arch and Pacific Highway, Northbound and Southbound, Not including NEXUS)
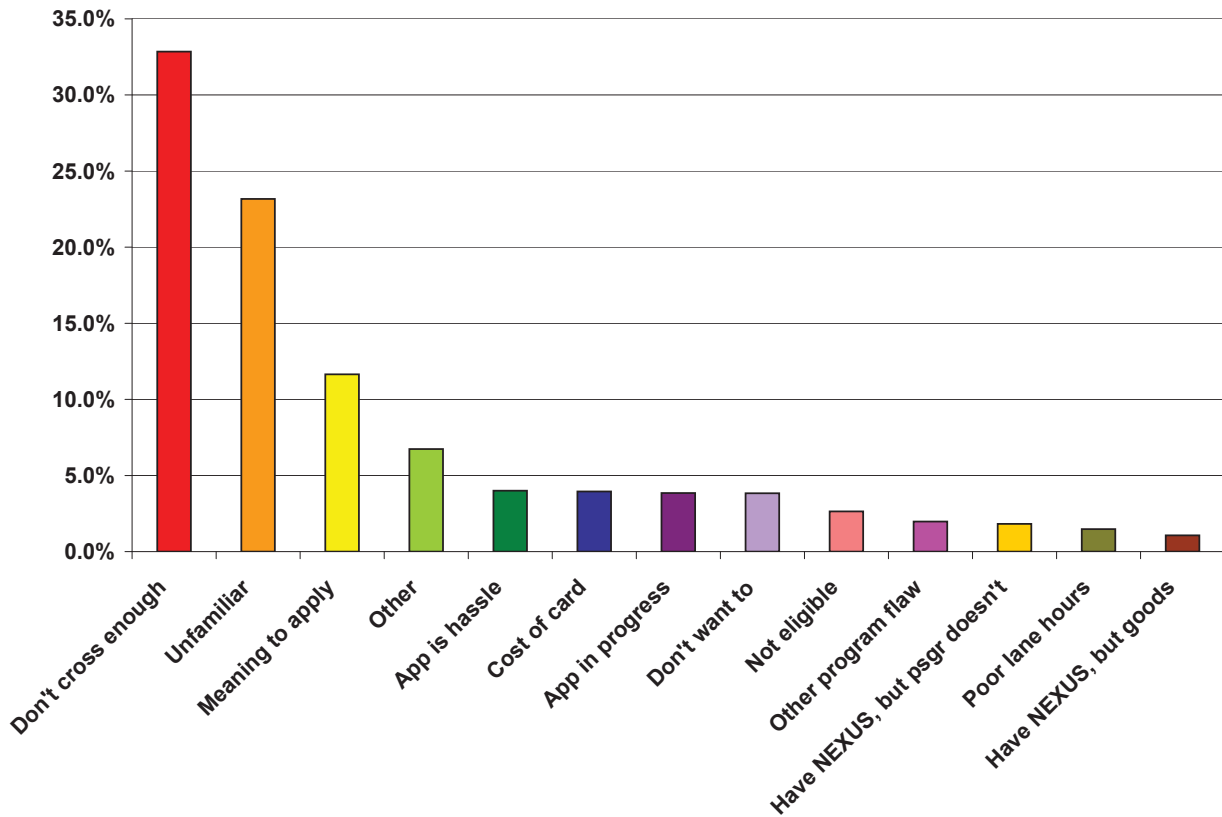
Figure 21: Residence of Travelers Crossing the Border Six or More Times Per Year who are Unfamiliar with the NEXUS Program

(Peace Arch and Pacific Highway, Northbound and Southbound, Not Including NEXUS)

Summer				Winter		
Residence	**Count**	**% of Total Traffic**		**Residence**	**Count**	**% of Total Traffic**
Surrey	289	14%		Surrey	203	27%
Vancouver	246	12%		Seattle	112	15%
Seattle	216	11%		Vancouver	96	13%
Burnaby	92	5%		Richmond	51	7%
Richmond	90	4%		Bellingham	34	5%
Bellingham	78	4%		Burnaby	32	4%
White Rock	69	3%		Coquitlam	27	4%
Delta	67	3%		Other	17	2%
North Vancouver	63	3%		White Rock	16	2%
Coquitlam	62	3%		Langley City	14	2%

Another way to target market NEXUS could be to look at where current NEXUS users who were surveyed reside (**see Figure 22**). The majority live in West Lower Mainland (64 percent) with Whatcom County being the second highest region (19 percent).

Many of the respondents who crossed often and lived within the border region said they were either planning on applying, or wanted to, and just hadn't gotten around to it. This suggests that efforts could be made to make applying to the program easier. The new online NEXUS application process should be better advertised for the benefit of these people. Also, applications should be made more readily available at key locations in the primary areas of residence to better motivate those frequent, low-risk travelers to consider joining the program. The fact that the NEXUS card has been approved as a legitimate citizenship document for entering the U.S. through land and air ports-of-entry should also be advertised, and used as another incentive for enrolling in NEXUS.

**Figure 22: Residence of NEXUS Travelers
(Peace Arch and Pacific Highway, Northbound and Southbound)**
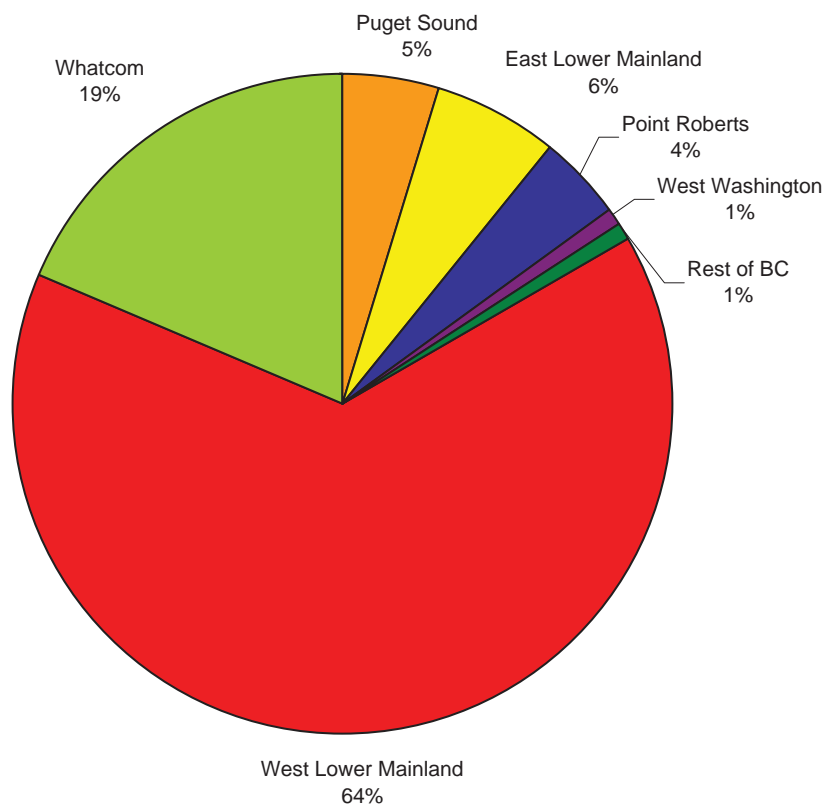
4.7 What are the Impacts of the Western Hemisphere Travel Initiative?

The Western Hemisphere Travel Initiative (WHTI) is a law in the United States that will require all persons entering the U.S. to show proof of citizenship starting in June 2009. Canadian and U.S. citizens are no longer exempt from having to show citizenship documentation when crossing a land port-of-entry.

To better gauge how the new law will affect cross-border travelers, surveyors asked whether or not participants had a passport. 89 percent of winter travelers, and 82 percent of summer travelers, already carried passports with them.

In the winter wave of surveying, this question was further refined. *Of those respondents who did not already have a passport*, surveyors asked what the driver intended to do once the law came into effect. The majority said they would be getting passports in the future, or else use another form of approved identification (enhanced drivers license, NEXUS or FAST driver card, or PASS card). 4 percent responded that they would stop crossing altogether (**see Figure 23**). 1 percent seemed unaware that the laws would be changing.

**Figure 23: Passport Holders and Plans for WHTI
(Winter, All Ports-of-Entry, Northbound and Southbound)**

Winter Passports	Count	% of Total Traffic
Y	18549	89%
N	2183	11%

Of the 11% without a passport:

| WHTI Plans	Count	% of Total Traffic
Get passport	1374	63%
Have NEXUS	242	11%
Get/use EDL	171	8%
Undecided	104	5%
Have other ID	80	4%
Stop travel	79	4%
Other	44	2%
Say what?!	29	1%
Get PASS	25	1%
Get NEXUS	23	1%

5. Conclusions

Although cross-border volumes have decreased substantially since 2000, much of the characteristics of cross-border travel remain the same. People are crossing for the same reasons (shopping and recreation in the winter; recreation, vacation, and shopping in the summer); they are travelling to and from the same locations (West Lower Mainland and Whatcom County, as well as the greater Puget Sound region); and the distributed frequency of cross-border travel remains consistent, with approximately half of the people using the border crossing once a month or more.

New initiatives since the 2000 IMTC Cross-Border Trade and Travel Study include the NEXUS program, established in 2001, and the enactment of the Western Hemisphere Travel Initiative (WHTI), which goes into effect in 2009 and will require citizenship documentation at land ports-of-entry.

There is still a large number of potential NEXUS applicants that should be encouraged to apply. With half of the border traffic making monthly trips, with only one or two occupants in the vehicle, there is a good opportunity to ease overall border congestion by increasing enrollment in this program. Many of the frequent travelers were either unclear about the program specifics, their eligibility, the cost, or did not know of the program at all, suggesting that better marketing efforts could be productive.

Since 2000, there have also been advances in signage, websites, and traveler information services which better inform the public regarding travel planning and route choices. Improvements in signage approaching the border have and will continue to increase usage of the Pacific Highway and Lynden/Aldergrove ports-of-entry as alternatives to the Peace Arch crossing during peak summer months of travel.

With construction being completed at the Douglas facility, and construction just beginning at the U.S. facility at Peace Arch, fluctuating capacity as well as traffic interruptions will influence both travel demand and route choices. This project's results will help regional transportation, inspection, and planning agencies work with the public to inform them of upcoming delays, route shifts, and program impacts as the Cascade Gateway continues to grow and change with the evolving population and economic shifts of the border region.
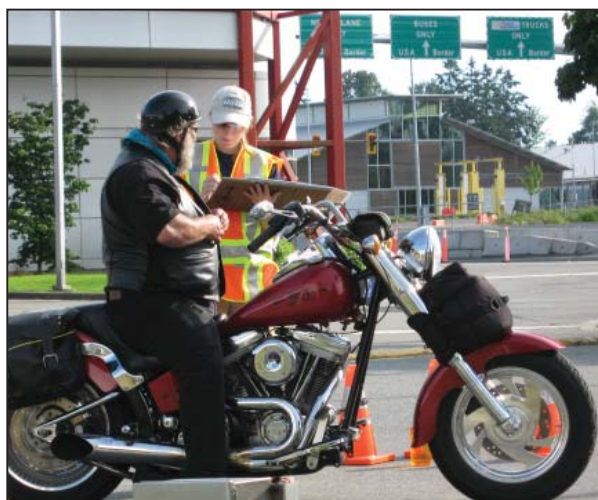
Vehicle types specified included cars, RVs, motorcycles, and trailer/boats, and other (northbound Pacific Highway, July, 2007)

Appendix A: Development of Survey Database

The survey database uses Microsoft Access and includes tables from the summer 2007 and winter 2008 waves of data collection, as well as year 2000 summer and fall survey results. The database is available through the Whatcom Council of Governments upon signing a usage agreement.

Important Notes on Using the Database

Always use the **Expansion** field of each record as the value for the results. This will expand the individual record proportionate to the traffic volume for that port-of-entry, day, direction, and hour. See the included sample queries.

If you are reporting in absolute numbers rather than percentages, then it is highly recommended that you break out your queries by **weekday** and **weekend**. This is because the traffic patterns on weekdays and weekend days are very different, and a count will erroneously merge the two patterns together. This is not an issue if you are planning to use percentages.

Tables and Queries in the Database

Tables

The database consists of four primary tables of data:

- **FALL_2000:**   The records from the 2000 IMTC Cross-Border Trade and Travel Study fall wave of intercept surveys.
- **SUMMER_2000:** The records from the 2000 IMTC Cross-Border Trade and Travel Study summer wave of intercept surveys.
- **SUMMER_2007:** The new records from the 2007 intercept surveys.
- **WINTER_2007:** The new records from the 2007/2008 intercept surveys.

In addition, the database contains two tables of traffic count data which were used to develop expansion factors for the survey:

- **TrafficCountsSummer07:** Summer traffic volumes
- **TrafficCountsWinter07:** Winter traffic volumes

Queries

Six sample queries are included in the database to illustrate how to use the expansion factors.

- **FrequencyPeaceArch_Summer00:** This example shows how often people crossed the border per year southbound at Peace Arch, with a filter limiting results to those who cross more than eight times a year. This is the only sample query using the 2000 database tables.
- **ODMatrix_Winter07:** This example shows how to create an origin-destination matrix between superzones.
- **TripPurpose_Summer07:** This example shows how trip purpose broke down by port-of-entry and direction.
- **USCityDestinations_Summer07:** This example illustrates how to use the destination

field at the city/place detail (rather than Superzones)

- **WHTI_Winter07:** This shows a simple one-question query.
- **WhyPacHwy_Summer07:** This example illustrates how to use weekday/weekend and port filters on a query to limit the results.

Data Expansion Factors

Expansion factors were developed by dividing the total count of vehicles through a particular port/direction each hour by the total count of surveys collected for that hour. Therefore, expansion factors vary by hour, day type, summer, winter, etc. Note that these are twelve hour counts, so they represent a typical twelve hour day.

NEXUS lane expansion factors are based on the traffic counts of the lane. This only affects northbound and southbound Peace Arch traffic.

Because the total traffic counts (available in the database) from U.S. Customs & Border Protection (CBP) and the Canada Border Services Agency (CBSA) were for the whole hour, but survey set up/break down did not allow for surveying the entire first hour or last hour of any day, we adjusted these hours (7:00am and 8:00pm for summer at 8:00am and 5:00pm for winter). To compensate for the discrepancy, we adjusted the volume count at 7:00am and 8:00pm each day to fit the corresponding start and end times of the actual survey period. For example, if surveying started at 7:30am instead of 7:00am, the volume count for 7:00am was cut by half.

NEXUS Counts

Summer Wave

NEXUS counts were received separately from the total volume traffic counts at the Pacific Highway ports-of-entry. In order to develop accurate expansion factors for standard lane traffic and for the NEXUS lane, the following changes were made:

Peace Arch Southbound counts were for the total crossing, so the NEXUS counts later received were subtracted from the total hourly number to develop the standard lane count. The NEXUS hourly counts were used exclusively for developing expansion factors for the NEXUS surveys.

Peace Arch Northbound numbers did not include a NEXUS breakout. We used the numbers provided by Canada Border Services Agency (CBSA) for the standard lanes. For the NEXUS lanes, CBSA was only able to provide a daily total, not an hourly breakdown. Therefore the following steps were taken to establish hourly NEXUS counts for the three northbound Peace Arch days:

- **Friday, July 13, 2007**: The number provided by CBSA was 15 percent lower than the number from the CascadeGatewayData.com traffic monitoring system. Therefore, we took the hourly percentage breakdown from the archive and applied those percentages to the CBSA number to get an hourly count.
- **Wednesday, July 18, 2007**: The numbers provided by CBSA were almost exactly the same as the numbers in the CascadeGatewayData.com archive system. Therefore we just used the hourly counts from the archive system.
- **Sunday, July 22, 2007**: The CascadeGatewayData.com system was down on this day, and so we only had the daily total from CBSA. After speaking with WA State Department of Transportation, we were able to get the volume counts from the loop that closely matched the CBSA number (off by five cars)

and is also the loop usually used for developing NEXUS numbers in the archive system. We applied those hourly counts.

Winter Wave

Full breakdown of lane traffic by lane type and hour were received in both directions by both inspection agencies, and so none of the above steps were required to develop the expansion factors.

Database Post-Processing

After the data were collected, post-processing cleaned up any inconsistencies during the survey period and coded each record with appropriate TAZ and superzone information. The following tasks were completed for the Summer_2007 and Winter_2007 tables:

- Incomplete records (anything prior to the "residency" question) were deleted

- Accuracy was checked by date, port-of-entry location, direction, and lane type

- Some surveys were collected with a city/town selected for Residence/Origin/Destination but no corresponding TAZ number. For these records, a TAZ number was chosen based on the map and the most common TAZ selected for each city/town. A standard number was established that replaced the blank for each city/town. The following table shows the standard numbers chosen for each city/town:

- Some TAZ numbers recorded did not correspond with their listed city/town. If the TAZ zone recorded was significantly far away from the city/town on the map then it was replaced by the standard TAZ number above. For city/town locations where no TAZ number was required, but TAZ numbers were given, those TAZ numbers were deleted.

- Recreation was chosen for any trip two days in length or under. Vacation was chosen for any trip lasting longer than 3 days.

- A formula was developed to calculate trip duration (based on length unit and length value), i.e. 1 = 1 day, 7 = 1 week, etc. Hours were converted into fractions of days, i.e. 6 hours = .25. One way trips were given the duration of 7300, which equals 20 years.

- A formula was developed for frequency (based on frequency unit and frequency value), i.e. once a year = 1, twice a year = 2, once a month = 12, once a week = 52 etc. Once every 2-5 years = .28. Once every 5+ years, first ever, and one-way = .05.

Notes on the 2000 tables: Similar data post-processing occurred in 2000 for these data. Additional steps were completed in 2008 so that the two databases have the same field names. The 2000 data were collected on paper surveys so there is greater variation in city and place names than with to the 2007 effort, which was completed using an electronic device with a drop-down menu of pre-defined locations.

Appendix B: 2000 and 2008 Survey Questions

2008 Survey Questions

Data coded to the record based on interview session setup on the PDA

- Date & time stamp
- Border Crossing
- Direction being interviewed (northbound/southbound)
- Day of week
- Lane-type: Nexus or standard

Observational data gathered before interview:

1. Vehicle type [car/van/suv/pickup; car etc. w/ trailer; camper/RV, motorcycle, cargo truck]
2. Vehicle occupancy [1,2,3,4,5,6+]
3. Jurisdiction of vehicle registration (e.g., "Alberta")

Start interview:

I'm from Western Washington University and we're gathering data to be used in planning of border-crossing improvements. I have a questionnaire that is completely anonymous and that takes less than 2 minutes to complete. May I ask you the questions?

4) What city do you live in or live closest to?

    4a**) If near-border**: Can you show me on this map? **record zone**

5) Right now, where are you going in [Canada /USA]?

    5a) **If near-border**: Can you show me on this map? **record zone**

6) Where did you drive from, just now?

    6a) **If near-border**: Can you show me on this map? **record zone**

7) What [is /was] the purpose of your trip across the border? – **pick list of response types**

8) How long [will /did] you stay in [Canada / USA]? – **pick list of time increments**

9) Why are you using THIS border crossing today? – **pick list of reasons**

10) How frequently do you drive across the border? – **pick list of frequencies & units**

If interviewing a person not in a NEXUS lane:

11std) Why aren't you using the NEXUS lane? – **pick list of reasons**

If interviewing a person in a NEXUS lane:

11nxs)Does every person in your immediate family have a NEXUS card? – **pick list yes or no**

12) What are you plans regarding the upcoming U.S. requirement for a passport to enter/re-enter the United States? – **pick list of response types**

2000 Survey Questions

IMTC Cross Border Traffic Study – Passenger Questionnaire

Q1. Crossing Location (Check one): 1☐ Peace Arch 2☐ Pacific Hwy 3☐ Lynden/Aldergrove 4☐ Sumas/Huntington	**Q2. Date:** 08/___/00 (mm / dd / yy)

Q3. Surveyor ID:	**Q4. Time:**	**Q5. Direction Surveyed (Check one):** 1☐ NB 2☐ SB

Q6. Vehicle Type.
1☐ Car/van/pickup/SUV   5☐ Other _____
2☐ RV/camper
3☐ Vehicle plus trailer or boat
4☐ Service/delivery vehicle* _____
*FedEx van, construction equipment, agricultural equipment, etc.

Q12. Trip Purpose:
1☐ Work commute   5☐ Vacation (multi-day)
2☐ Business-related   6☐ Other _____
3☐ Recreation (single day or _____
    weekend outing)   7☐ Refused
4☐ Shopping

Q7. State/province of registration.
1☐ BC   2☐ WA   3☐ OTHER _____

Q13. How long will/did you stay in the U.S. or Canada?
1_____ Hours   2_____ Days   3_____ Weeks
4_____ Months   5_____ Indefinite   6_____ Refused

Q8. Vehicle Occupancy.
1☐ One   2☐ Two   3☐ Three
4☐ Four   5☐ Five   6☐ Six or more

Q14. Number of round trips typically made across the border or nearby border crossings. _____ First time
1_____ Per week   2_____ Per month   3_____ Per year
4_____ Don't know   5_____ One way only   6_____ Refused

Q9. Residence.
_____ **BC WASH**
   City, State/Province   (circle)
2☐ Resident of third country
3☐ Refused

Q15. Why are you using this particular border crossing location?
1☐ On fastest or most direct route to destination
2☐ To avoid congestion at other crossing
3☐ Other reasons _____
4☐ Didn't know
5☐ Refused

Q10. Trip Origin Today.
_____ **BC WASH**
   City, State/Province   (circle)
If in WA or BC,
Address/Intersection/Landmark/Business Name: _____
_____
3☐ Refused

Q16. Would you consider using any other transportation options?
1☐ No
2☐ Yes   If yes, specify:
     1☐ Bus   2☐ Train   3☐ Airplane   4☐ Others
3☐ Refused

Q11. Trip Destination Today.
_____ **BC WASH**
   City, State/Province   (circle)
If in WA or BC,
Address/Intersection/Landmark/Business Name: _____
_____
3☐ Refused

Q17. Household Size (total number of persons).
1☐ One   5☐ Five
2☐ Two   6☐ Six + _____
3☐ Three   7☐ Refused
4☐ Four

Comments:

Q18. Employment Status
1☐ Student   4☐ Presently unemployed
2☐ Employed   5☐ Retired
3☐ Homemaker   6☐ Refused