

2009 International Mobility & Trade Corridor Project (IMTC) Commercial Vehicle Operations Survey

Final Report



March, 2010

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INTRODUCTION

The 2009 International Mobility & Trade Corridor Project (IMTC) Commercial Vehicle Operations (CVO) Survey took place in June, 2009. This project was identified by IMTC participants in order to periodically evaluate CVO at the Cascade Gateway's three ports-of-entry as a priority for informing regional investment strategies, and to analyze the impacts of changes to road and inspection systems.

The International Mobility & Trade Corridor 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 Cascade Gateway border crossings between Whatcom County, Washington State and the Lower Mainland of British Columbia. The goals of the IMTC project are to facilitate a forum for ongoing communication between agencies that affect regional, cross-border transportation, safety, and security; coordinate planning of the Cascade Gateway as a transportation and inspection system rather than as individual border crossings; improve and distribute traffic data and information; and identify and pursue improvements to infrastructure, operations, and information technology.

Since 1997, IMTC has served as a model of regional coordination on border issues and has helped secure over \$38 million (USD) from U.S. and Canadian partners to pursue the goals listed above.

2009 CVO Evaluation Survey

The Whatcom Council of Governments (WCOG) partnered with the Border Policy Research Institute (BPRI) at Western Washington University, and the University of Washington to conduct a 2009 evaluation of commercial vehicle movement through the Pacific Highway, Lynden/Aldergrove, and Sumas/Huntingdon ports-of-entry. The analysis included measurement of border processing rates, northbound and southbound at all three crossings, as well as the collection of origin-destination and commodity data. Data were collected July, 2009 by a team of Western Washington University students.

This final report, the full project database, and BPRI Border Policy Briefs using the data collected are available from this effort by contacting Melissa Miller, Project Coordinator, at (360) 676-6974.

2006 and 2002 CVO Evaluation Survey

Two prior studies were conducted at Pacific Highway, in 2002 and in 2006. The original study was sponsored by U.S. Federal Highway Administration and completed by SAIC and TSi Consultants to evaluate the potential benefits of ITS deployment at the Pacific Highway port-of-entry. The study specifically looked at current delay and estimated future delay with and without the addition of an electronic commercial vehicle processing lane such as a FAST (Free and Secure Trade) Program lane, and concluded that substantial benefits could be achieved if even 15 percent of commercial vehicles crossing at Pacific Highway were to use a dedicated ITS lane.

Given the changes at Pacific Highway since 2002, IMTC participants advanced a repeat study in 2006 to examine if the border wait times improved five years after the original study and after substantial investments in infrastructure improvements. The study examined changes in queueing patterns, travel delay, and processing times at the border, and also attempted to attribute any improvements to discreet projects or initiatives at the border. The study also collected data to be used for ongoing modeling efforts and to develop a baseline for future project monitoring. Initial results showed that the new alignment of southbound B.C. Highway 15 has improved overall travel time for FAST-approved trucks using the ITS lane. For other trucks, however, through-border travel time increased from 2002, despite roadway improvements.

GEOGRAPHY

Surveying conducted both directions at all three Cascade Gateway commercial ports-of-entry:

Pacific Highway (Interstate 5/State Route 543 & B.C. Highway 15)

Lynden/Aldergrove (State Route 539 & B.C. Highway 13)

Sumas/Huntingdon (State Route 9 & B.C. Highway 11)

FUNDING

- Border Policy Research Institute, Western WA Univ. (WWU)
- Whatcom Council of Governments (WCOG)
- University of Washington (UW)

SURVEY TEAM

- 13 WWU students
- 3 supervisors (David Davidson, Hugh Conroy, Melissa Miller)
- Port-of-entry coordination & facilitation: US Customs & Border Protection, Canada Border Services Agency
- Post-processing: WCOG, 2 WWU students

SURVEY SCHEDULE

TRUCK PROCESSING		
Pacific Highway	Northbound	June 15 & 16, 9:00am - 1:30pm; June 24 & 25, 1:30pm - 9:00pm
Pacific Highway	Southbound	June 17 & 18, 9:00am - 1:30pm; June 22 & 23, 1:30pm - 9:00pm
Lynden/Aldergrove	Northbound	July 8 & 9, 8:00am - 9:00pm
Lynden/Aldergrove	Southbound	July 1 & 2, 8:00am - 9:00pm
Sumas/Huntingdon	Northbound	July 6 & 7, 8:00am - 9:00pm
Sumas/Huntingdon	Southbound	June 29 & 30, 6:00am - 9:00pm
PACIFIC HIGHWAY BUSES		
	Northbound	July 4, 9:00am - 2:00pm; July 10, 9:00am - 3:00pm
	Southbound	July 3, 9:00am - 2:00pm; July 11, 9:00am - 3:00pm
24 HOUR BOOTH DATA COLLECTION		
	Both Directions	July 12 - July 19

ADDITIONAL DATA COLLECTION

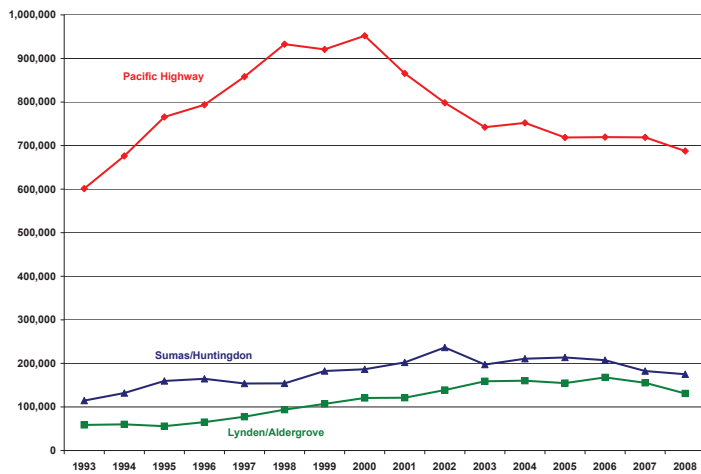
Data were collected in addition to the port-of-entry observations. An online carrier dispatcher survey was distributed to truck drivers at the Pacific Highway port-of-entry; and a survey of passenger buses crossing at Pacific Highway was conducted. Details of both efforts are included in this report. A separate report on the carrier survey data has been prepared by the University of Washington.

Not included in this report are add-on data collection efforts including an analysis of the passenger vehicle anti-idling zone southbound at the Peace Arch port-of-entry; a survey of potential NEXUS travelers at The Lynden/Aldergrove and Sumas/Huntingdon ports-of-entry; and an inventory of border-related signage in Lower Mainland, B.C. and Whatcom County, WA. Separate reports for these projects are available by contacting BPRI or WCOG.

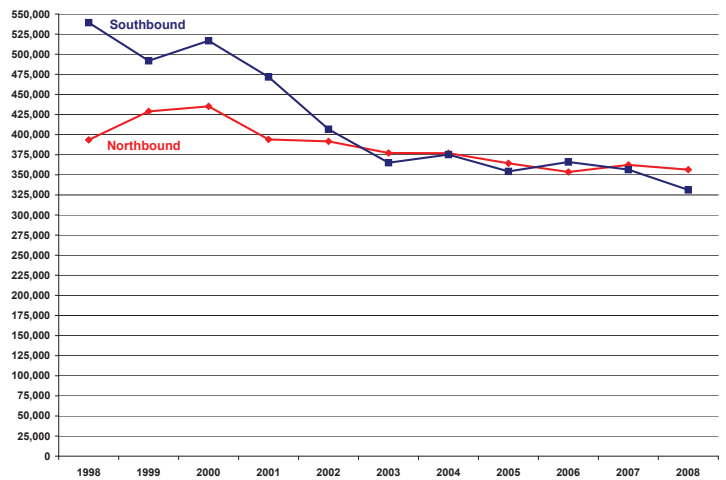


CASCADE GATEWAY COMMERCIAL VOLUME

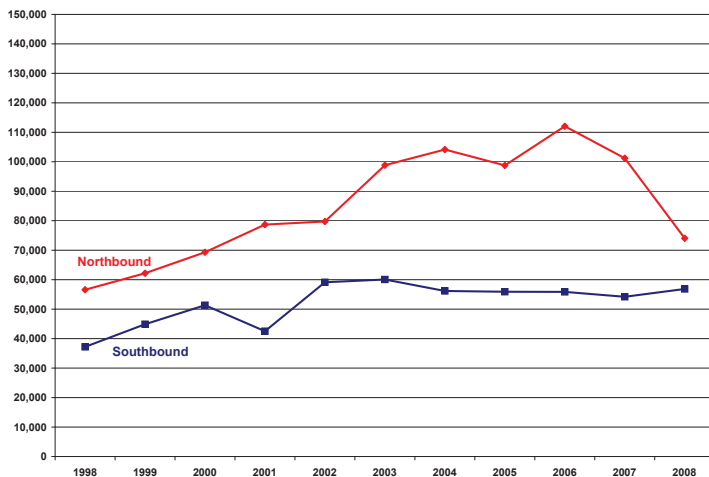
Commercial Volumes, Both Directions, 15 Years



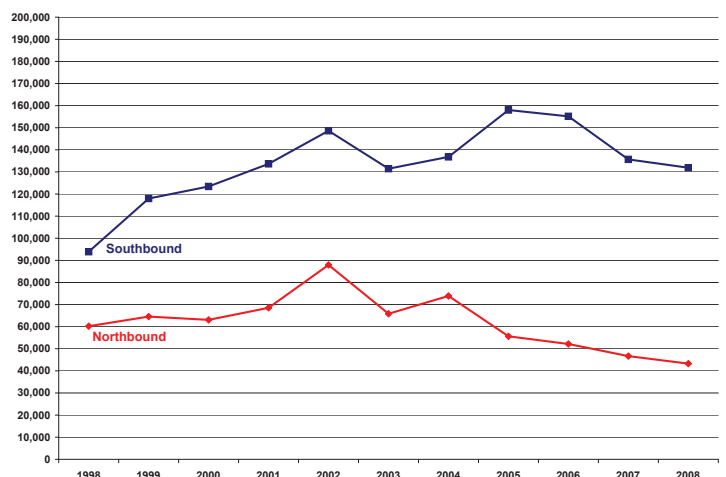
Pacific Highway Commercial Volume, 10 Years



Lynden/Aldergrove Commercial Volume, 10 Years



Sumas/Huntingdon Commercial Volume, 10 Years



VOLUME DURING SURVEY MONTH

	Pacific Highway		Lynden/Aldergrove		Sumas/Huntingdon	
	Northbound	Southbound	Northbound	Southbound	Northbound	Southbound
June 2002	33,603	35,695	6,466	4,288	7,520	11,522
June 2006	31,897	30,646	11,791	5,443	4,317	15,286
June 2009	27,740	27,083	6,016	4,313	4,082	11,729

This number is unusually high.

24% decrease in southbound Pacific Highway truck volume since 2002; 12% decrease since 2006.

PACIFIC HIGHWAY SURVEY POSITIONS



- | | | |
|---|----------------------|---|
| ① | QUEUE END - STANDARD | ① |
| ② | QUEUE END - FAST | ② |
| ③ | PARKING LOT | ③ |
| ④ | BOOTHS | ④ |
| ⑤ | PORT EXIT | ⑤ |

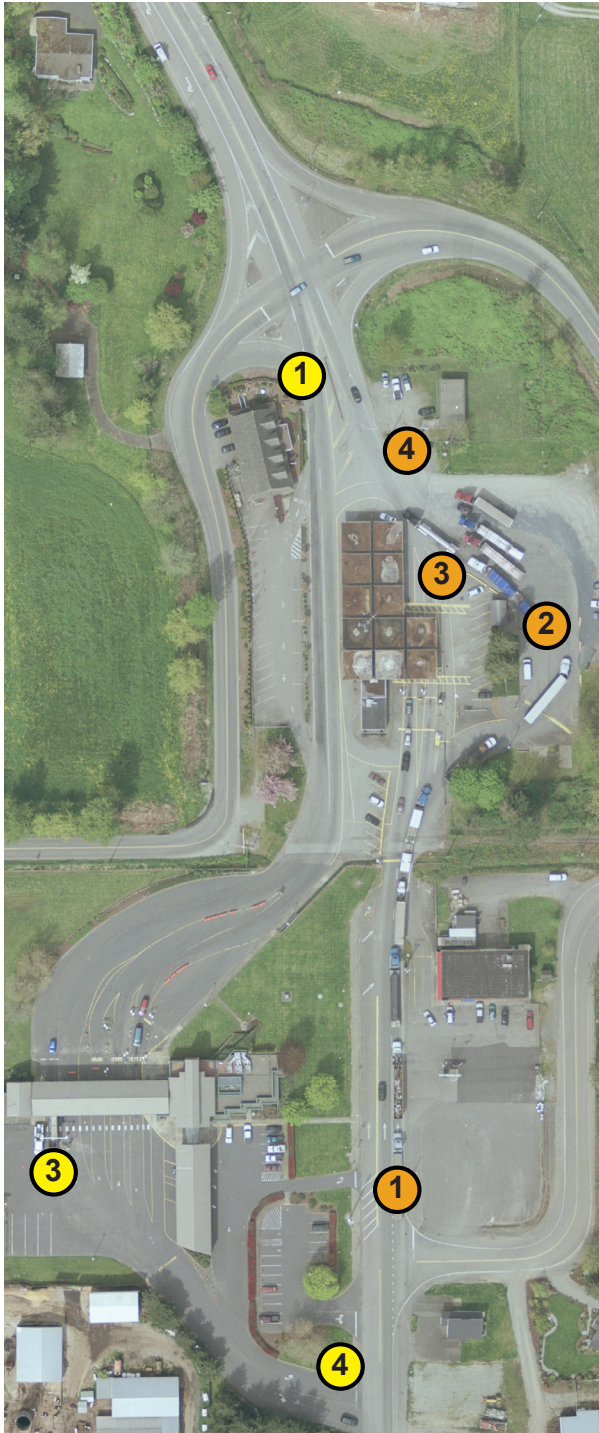
NORTH

Roving position

Booth position includes a processing surveyor outside the booth, and an in-booth data entry surveyor for each booth open.

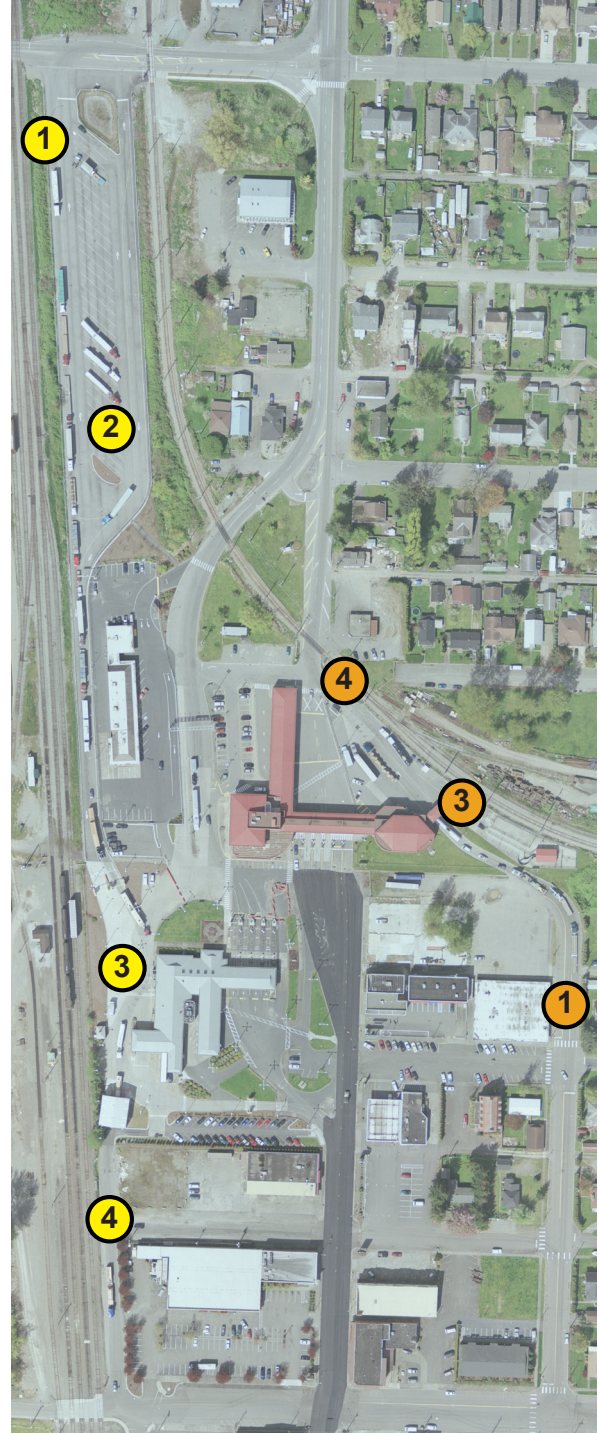
LYNDEN/ADLERGROVE & SUMAS/HUNTINGDON SURVEY POSITIONS

**LYNDEN/ALDERGROVE
NORTH**



SOUTH

**SUMAS/HUNTINGDON
NORTH**



SOUTH

- | | | |
|----------|----------------------|----------|
| 1 | QUEUE END - STANDARD | 1 |
| 2 | PARKING LOT | 2 |

- | | | |
|----------|-----------|----------|
| 3 | BOOTHS | 3 |
| 4 | PORT EXIT | 4 |

DATA FIELDS

Processing Table

TripID	Links Processing record to Booth record
Date	Date of truck trip
Port	Port-of-Entry <i>Pacific Highway, Lynden/Aldergrove, Sumas/Huntingdon</i>
Direction	Direction of travel <i>Northbound, Southbound</i>
Day of Week	Day of week for the truck trip
Booth No.	Which booth the truck used <i>1 (FAST lane), 2, 3</i>
Lane Type	What type of lane the truck used <i>FAST, Standard (STD)</i>
Trip No	How many times this truck crossed the border in one day
Identifier	Unique number to represent license plate of vehicle
Plate Jurisdiction	License plate jurisdiction <i>BC, WA, AB, OR, ID, CA, Canada Other, US Other, Other</i>
Vehicle Type	Type of truck <i>Passenger vehicle, RV, Pickup Truck, Light Truck, Tractor Only, Tractor Van, Tractor Container, Tractor Flatbed, Tractor Tank, Truck, Truck with Trailer, Other</i>
Arrive Time	Time of truck's arrival at the end of the queue
Park Time	Time the truck parked (if applicable)
Unpark Time	Time the truck left the parking lot
Park Duration	Total time the truck spent parked
Park Reason	Reason the driver gave for parking <i>Duty Free, U.S. Paperwork, Canadian Paperwork, Broker Paperwork, Drive Time Window, Other</i>
Arrive Duration	Total time between end of queue and arrival at inspection booth
Arrive Booth Time	Time the truck arrived at the primary inspection booth
Depart Booth Time	Time the truck departed the inspection booth
Depart Obstructed	Marked if the truck's departure from the booth was obstructed by another truck ahead
Booth Duration	Total time the truck spent at the booth
Corrected Booth Duration	The booth duration, minus a correction factor to account for surveyor presence

RECORDS COLLECTED	Northbound	Southbound	Total
Pacific Highway	4,586	4,516	9,102
Lynden/Aldergrove	807	826	1,633
Sumas/Huntingdon	1,281	2,389	3,670
Total	6,674	7,731	14,405

TRUCK TRIPS REPRESENTED	Northbound	Southbound	Total
Pacific Highway	1,571	1,623	3,194
Lynden/Aldergrove	275	294	569
Sumas/Huntingdon	447	818	1,265
Total	2,293	2,735	5,028

DATA FIELDS

Booth Table

TripID	Links Processing record to Booth record
RecordID	Unique number for this record
Timestamp	Computer-based timestamp of record entry
Date	Date of truck trip
Time	Time the record was entered
Port	Port-of-Entry <i>Pacific Highway, Lynden/Aldergrove, Sumas/Huntingdon</i>
Direction	Direction of travel <i>Northbound, Southbound</i>
Booth No	Which booth the truck used <i>1 (FAST lane), 2, 3</i>
Identifier	Unique number to represent the license plate of the vehicle
Trip No	How many times this truck crossed the border in one day
License	License plate of the truck
Origin	Truck's origin city
Origin State	State or Province of origin city
Origin Zone	Origin region- <i>Whatcom, Pt Roberts, Puget Sound, W WA, E WA, AK, W USA, Rest USA, E Lower Mainland, W Lower Mainland, Rest BC, AB, W Canada, E Canada</i>
Destination	Truck's destination city
Destination State	State or Province of destination city
Destination Zone	Destination region <i>Whatcom, Pt Roberts, Puget Sound, W WA, E WA, AK, W USA, Rest USA, E Lower Mainland, W Lower Mainland, Rest BC, AB, W Canada, E Canada</i>
Commodity	Commodity description
Commodity Code	Two-digit SCTG code for the commodity type
Commodity Category	Generalized commodity categories used in regional model <i>Manufacturing, Unknown, Food, Wood, Bulk, Farm, PrintedMatters, Empty</i>
LTL	Marked if the truck was carrying less-than-truckload
Carrier No	Number representing the name of the trucking company
Carrier City	Carrier company's base city (as listed on the truck)
Carrier State	State or Province of the carrier company's base city
Carrier Zone	Carrier base city's region <i>Whatcom, Pt Roberts, Puget Sound, W WA, E WA, AK, W USA, Rest USA, E Lower Mainland, W Lower Mainland, Rest BC, AB, W Canada, E Canada</i>
Vehicle Type	Type of truck <i>Passenger vehicle, RV, Pickup Truck, Light Truck, Tractor Only, Tractor Van, Tractor Container, Tractor Flatbed, Tractor Tank, Truck, Truck with Trailer, Other</i>

FROM BOOTH (Matched Records)	Northbound	Southbound	Total
Pacific Highway	1,457	1,522	2,997
Lynden/Aldergrove	245	284	529
Sumas/Huntingdon	414	777	1,191
Total	2,134	2,583	4,714

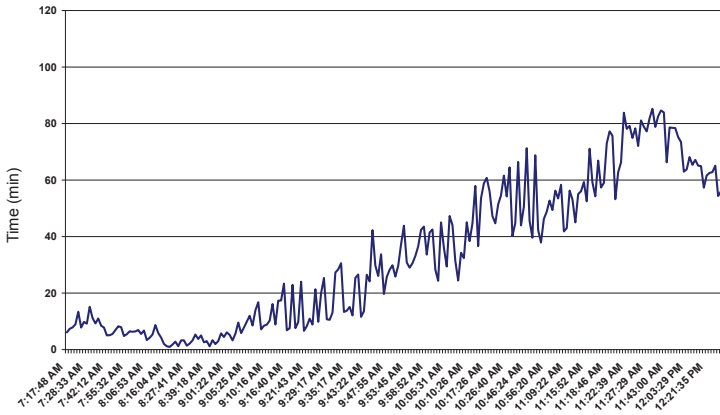
FROM BOOTH_24	Northbound	Southbound	Total
Pacific Highway	4,355	4,136	8,491

TRAVEL TIMES

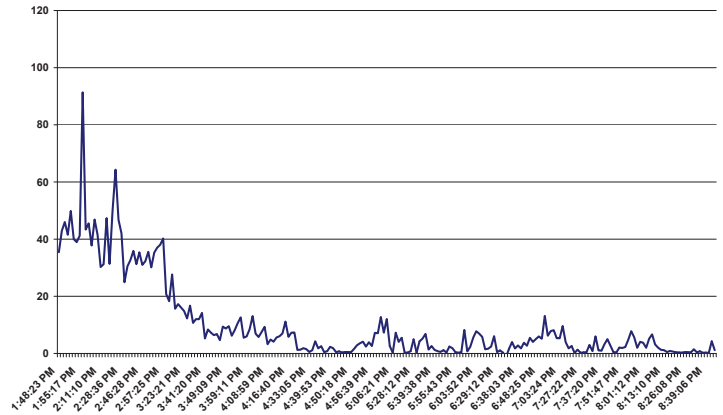
Truck Wait Times, Pacific Highway Southbound Standard Lanes

From end of queue to arrival at booth (not including booth time)

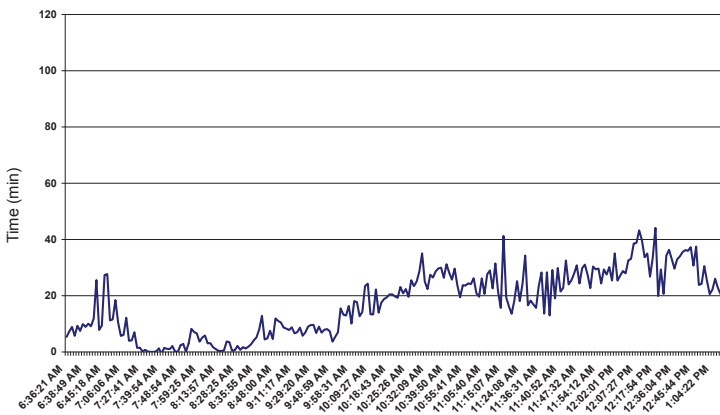
Wednesday, June 17, 2009



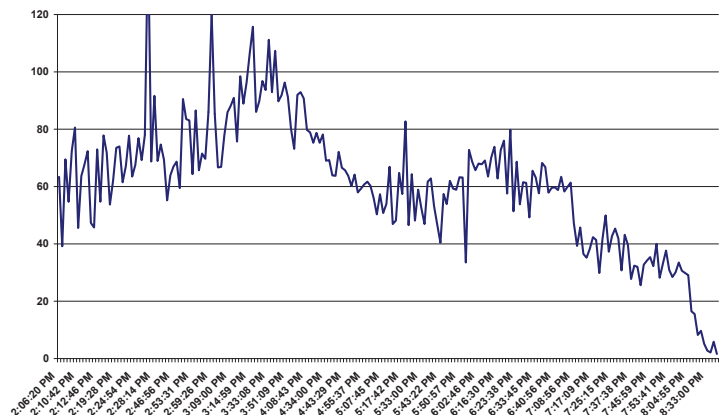
Monday, June 22, 2009



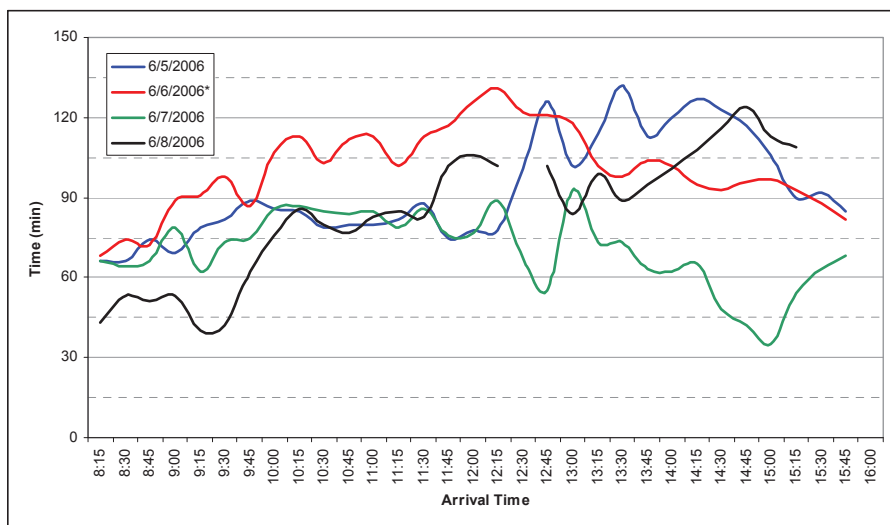
Thursday, June 18, 2009



Tuesday, June 23, 2009



2006 Southbound Non-FAST Lanes Travel Times



* The FAST lane was open to general truck traffic during the entire day

QUEUE & INSPECTION TIMES

PACIFIC HIGHWAY NORTHBOUND

8AM-5PM weekday

Year	Lane	Queue Time (Avg Mins)	Inspection Time (Avg Secs)	Total Time (Avg Mins)
2002	General	14	49	15
2006	General		64	
2009	FAST	2	69	3
	General	16	76	17

PACIFIC HIGHWAY SOUTHBOUND

8AM - 5PM weekday

Year	Lane	Queue Time (Avg Mins)	Inspection Time (Avg Secs)	Total Time (Avg Mins)
2002	Empty/Preclear	45	NA	
	General	70	57	50
2006	FAST	20	87	21
	General	78	120	80
2009	FAST	7	76	8
	General	28	100	29

LYNDEN/ALDERGROVE 2009

8AM-5PM weekday

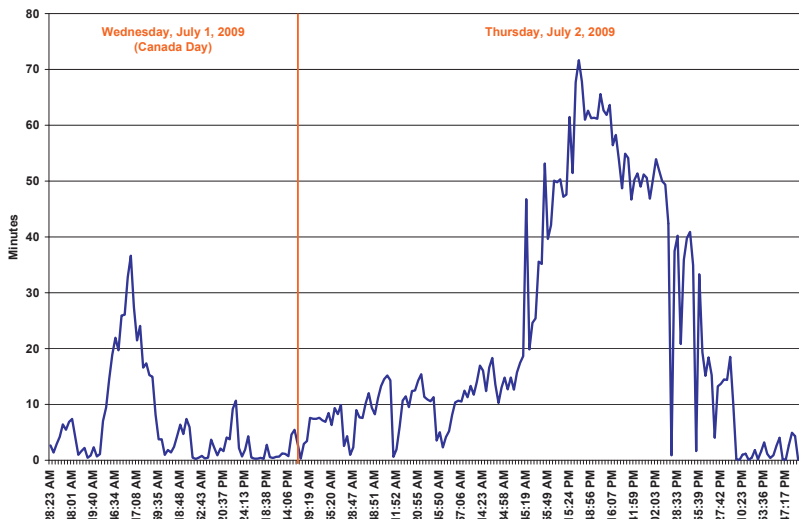
Direction	Queue Time (Avg Mins)	Inspection Time (Avg Secs)	Total Time (Avg Mins)
Northbound		351	
Southbound	18	105	19

SUMAS/HUNTINGDON 2009

8AM-5PM weekday

Direction	Queue Time (Avg Mins)	Inspection Time (Avg Secs)	Total Time (Avg Mins)
Northbound	11	140	13
Southbound	15	57	16

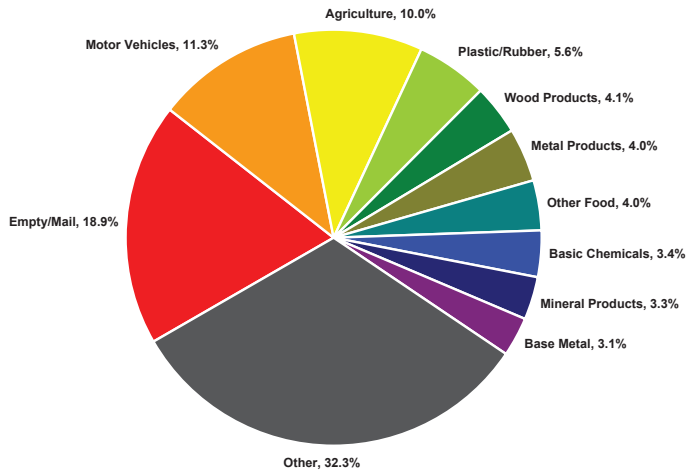
Lynden/Aldergrove Southbound Truck Wait Times



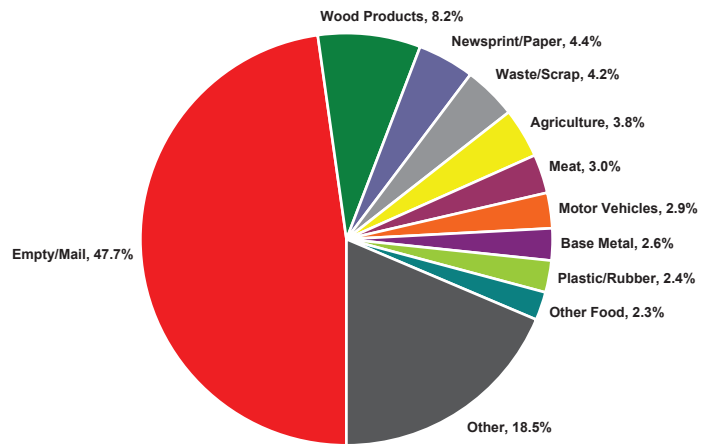
COMMODITY

Pacific Highway Booth Data

Northbound

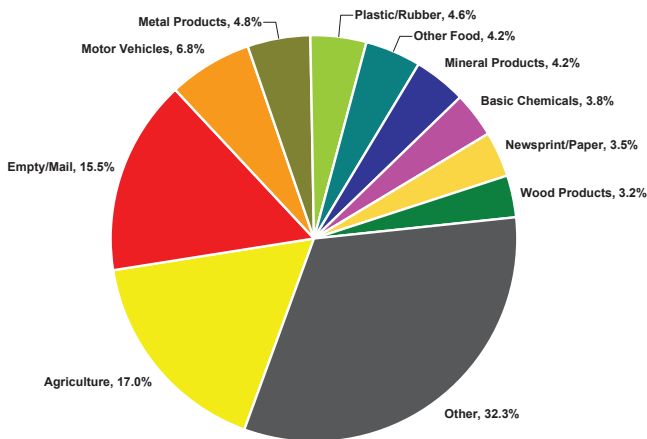


Southbound

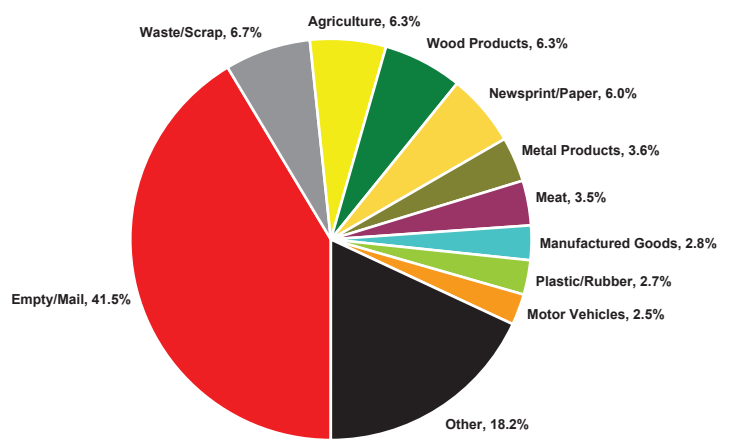


Pacific Highway 24 Hour Data

Northbound



Southbound

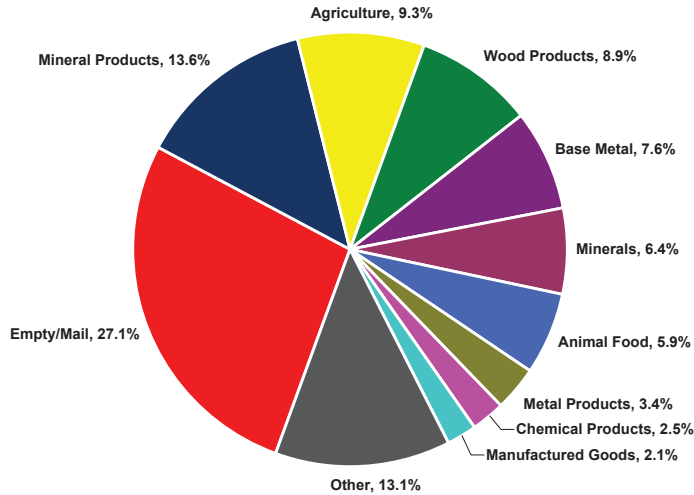


Note: These data represent truck loads, not value or weight (as are national level trade statistics).

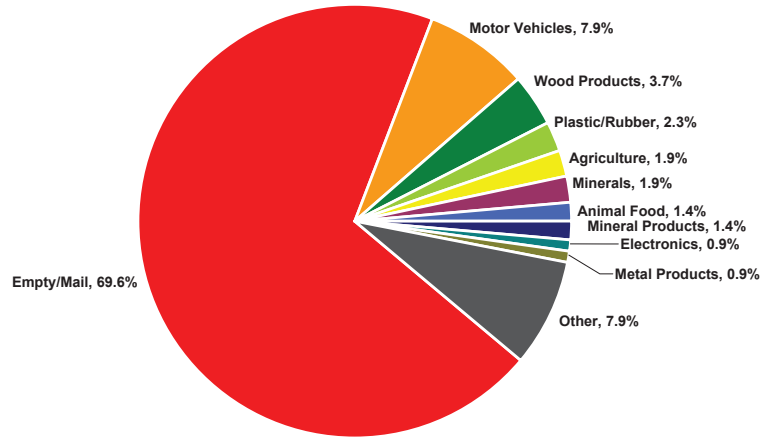
COMMODITY

Lynden/Aldergrove Booth Data

Northbound

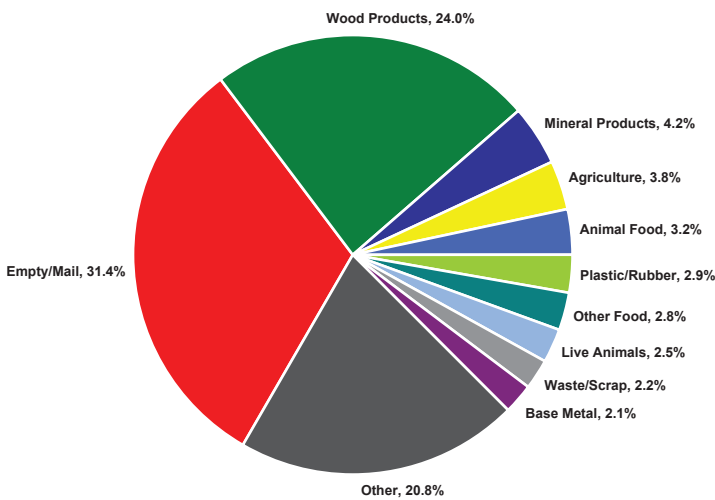


Southbound

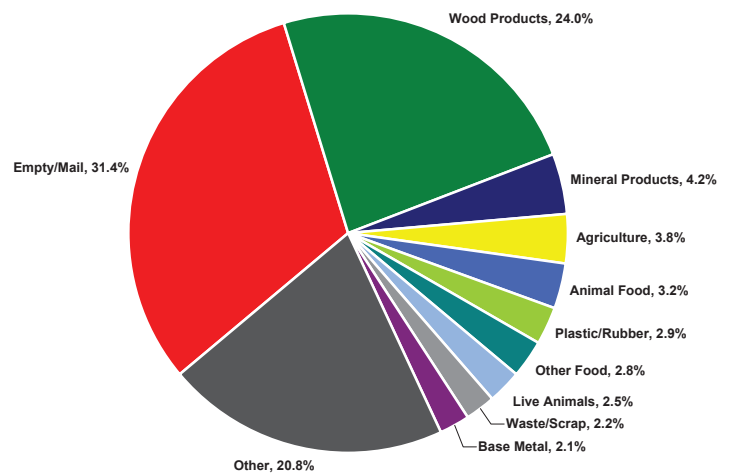


Sumas/Huntingdon Booth Data

Northbound



Southbound

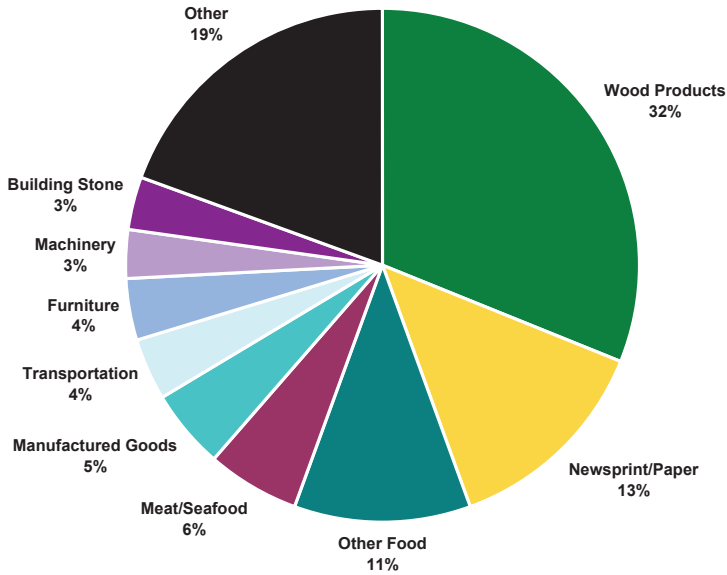


Note: These data represent truck loads, not value or weight (as are national level trade statistics).

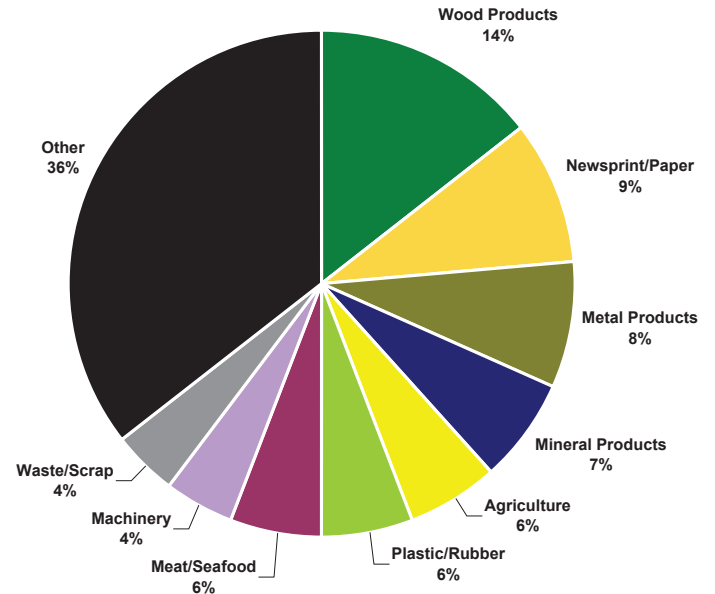
COMMODITY

9 Year Comparison of Southbound Commodity Composition

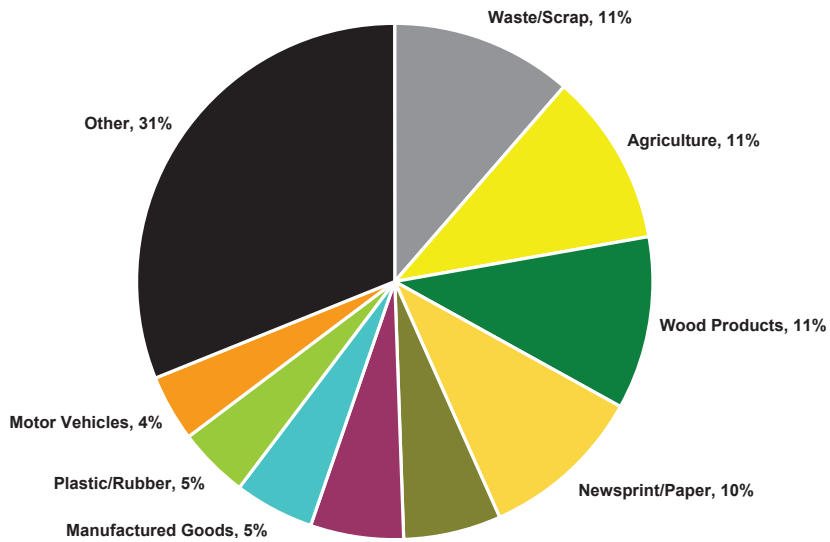
**2000 Commodities, Pacific Highway Southbound
Not including empty/NA truck loads**



**2006 Commodities, Pacific Highway Southbound
Not including empty/NA truck loads**



**2009 Commodities, Pacific Highway Southbound
Not including empty/NA truck loads**



Data Sources: 2009 IMTC CVO Survey; 2006 CVO Evaluation Study; 2000 Cross-Border Trade & Travel Study

VEHICLE TYPES

PACIFIC HIGHWAY NORTHBOUND

Vehicle Type	#	%
Tractor Van	792	51.7%
Tractor Flatbed	145	9.5%
Tractor Container	130	8.5%
Light Truck	121	7.9%
Tractor Tank	101	6.6%
Passenger Vehicle	94	6.1%
Other	32	2.1%
Pickup Truck	27	1.8%
Truck Trailer	26	1.7%
Tractor Other	24	1.6%
Tractor Only	24	1.6%
Truck	13	0.8%
RV	3	0.2%
TOTAL	1,532	

LYNDEN/ALDERGROVE NORTHBOUND

Vehicle Type	#	%
Tractor Flatbed	108	41.1%
Tractor Van	61	23.2%
Tractor Other	21	8.0%
Light Truck	20	7.6%
Tractor Tank	19	7.2%
Tractor Container	13	4.9%
Truck	9	3.4%
Truck Trailer	6	2.3%
Pickup Truck	3	1.1%
Passenger Vehicle	2	0.8%
Tractor Only	1	0.4%
Other	0	0.0%
RV	0	0.0%
TOTAL	263	

SUMAS/HUNTINGDON NORTHBOUND

Vehicle Type	#	%
Tractor Flatbed	125	28.5%
Tractor Van	104	23.7%
Tractor Other	55	12.6%
Passenger Vehicle	37	8.4%
Light Truck	34	7.8%
Tractor Tank	23	5.3%
Pickup Truck	19	4.3%
Tractor Container	16	3.7%
Truck Trailer	15	3.4%
Truck	4	0.9%
Other	4	0.9%
Tractor Only	2	0.5%
RV	0	0.0%
TOTAL	438	

PACIFIC HIGHWAY SOUTHBOUND

Vehicle Type	#	%
Tractor Van	895	57.5%
Tractor Flatbed	163	10.5%
Tractor Tank	125	8.0%
Light Truck	120	7.7%
Tractor Container	64	4.1%
Passenger Vehicle	63	4.0%
Pickup Truck	38	2.4%
Tractor Only	26	1.7%
Tractor Other	25	1.6%
Other	20	1.3%
Truck Trailer	13	0.8%
Truck	5	0.3%
RV	0	0.0%
TOTAL	1,557	

LYNDEN/ALDERGROVE SOUTHBOUND

Vehicle Type	#	%
Tractor Van	61	26.8%
RV	43	18.9%
Truck Trailer	32	14.0%
Tractor Flatbed	27	11.8%
Passenger Vehicle	27	11.8%
Light Truck	25	11.0%
Tractor Tank	19	8.3%
Pickup Truck	14	6.1%
Tractor Other	12	5.3%
Tractor Container	9	3.9%
Other	9	3.9%
Truck	6	2.6%
Tractor Only	5	2.2%
TOTAL	228	

SUMAS/HUNTINGDON SOUTHBOUND

Vehicle Type	#	%
Tractor Van	238	29.5%
Tractor Flatbed	236	29.2%
Tractor Other	70	8.7%
Passenger Vehicle	54	6.7%
Pickup Truck	47	5.8%
Light Truck	42	5.2%
Tractor Tank	38	4.7%
Tractor Container	25	3.1%
Truck	17	2.1%
Truck Trailer	16	2.0%
Tractor Only	13	1.6%
Other	11	1.4%
RV	0	0.0%
TOTAL	807	

Container traffic percentages shift noticeably by direction at Pacific Highway.

RVs are often processed through the commercial lane.

ORIGIN-DESTINATION PATTERNS

Pacific Highway Southbound Tractor Vans only

Note: Excludes all records which did not list an origin and destination, and all origin/destination pairings with less than 4 truck trips.

ORIGIN	DESTINATION																TOTAL		
	BELLINGHAM	BLAINE	BURLINGTON	FERNDALE	FRESNO	KENT	L.A.	MT VERNON	ORTING	PT TOWNSEND	PORTLAND	RENTON	RIVERSIDE	SACRAMENTO	SEATTLE	STOCKTON		TACOMA	YAKIMA
BURNABY						5									9				14
DELTA	6	15	6			6		4	4						15	4	15		75
LANGLEY		6													4				10
RICHMOND		14		7		6		5				7			13		4		56
SURREY		16	5		4	13	11	5		5	14		4	5	16		17		115
VANCOUVER		18								5					11			4	38
TOTAL	6	69	11	7	4	30	11	14	4	10	14	7	4	5	68	4	36	4	308

Lynden/Aldergrove Northbound Tractor Flatbeds only

Note: Excludes all records which did not list an origin and destination, and all origin/destination pairings with less than 2 truck trips.

ORIGIN	DESTINATION							TOTAL
	ABBOTSFORD	LADNER	LANGLEY	PORT KELLS	RICHMOND	SURREY	VANCOUVER	
LEBANON						2		2
LYNDEN		2				2		8
MONROE	4							5
MOSES LAKE						3		3
PORTLAND	2		2					4
RAINIER			4	4		8		16
SEATTLE	4		2		2	2	2	12
SPOKANE						2		2
TACOMA						2		2
WOODINVILLE			3					3
TOTAL	15	2	11	4	2	21	2	57

Origin-destination pairings available on a regional level as well, and by commodity if desired.

FAST LANE COMMODITIES

Pacific Highway Northbound

STANDARD LANES

Commodity Group	#	%
Empty/Mail	249	18.5%
Motor Vehicles	152	11.3%
Agriculture	136	10.1%
Plastic/Rubber	74	5.5%
Wood Products	56	4.2%
Metal Products	55	4.1%
Other Food	54	4.0%
Basic Chemicals	46	3.4%
Mineral Products	45	3.3%
Base Metal	41	3.0%
Manufactured Goods	40	3.0%
Paper Products	40	3.0%
Newsprint/Paper	39	2.9%
Electronics	30	2.2%
Gasoline	29	2.2%
Meat	29	2.2%
Furniture	28	2.1%
Mixed Freight	27	2.0%
Machinery	23	1.7%
Bakery	20	1.5%
Textiles	17	1.3%
Transportation	16	1.2%
Chemical Products	16	1.2%
Other	83	6.2%
TOTAL	1,345	98.0%

FAST LANE

Commodity Group	#	%
Empty/Mail	9	40.9%
Plastic/Rubber	2	9.1%
Motor Vehicles	2	9.1%
Mixed Freight	2	9.1%
Furniture	2	9.1%
Transportation	1	4.5%
Other Food	1	4.5%
Basic Chemicals	1	4.5%
Base Metal	1	4.5%
Agriculture	1	4.5%
TOTAL	22	2.0%

Pacific Highway Southbound

STANDARD LANES

Commodity Group	#	%
Empty/Mail	448	40.4%
Wood Products	99	8.9%
Agriculture	54	4.9%
Waste/Scrap	48	4.3%
Newsprint/Paper	48	4.3%
Meat	41	3.7%
Base Metal	37	3.3%
Motor Vehicles	37	3.3%
Plastic/Rubber	31	2.8%
Manufactured Goods	29	2.6%
Other Food	27	2.4%
Paper Products	18	1.6%
Metal Products	18	1.6%
Electronics	17	1.5%
Bakery	17	1.5%
Mineral Products	15	1.4%
Printed Materials	14	1.3%
Mixed Freight	13	1.2%
Machinery	12	1.1%
Chemical Products	11	1.0%
Furniture	11	1.0%
Other	64	5.8%
TOTAL	1,109	77.4%

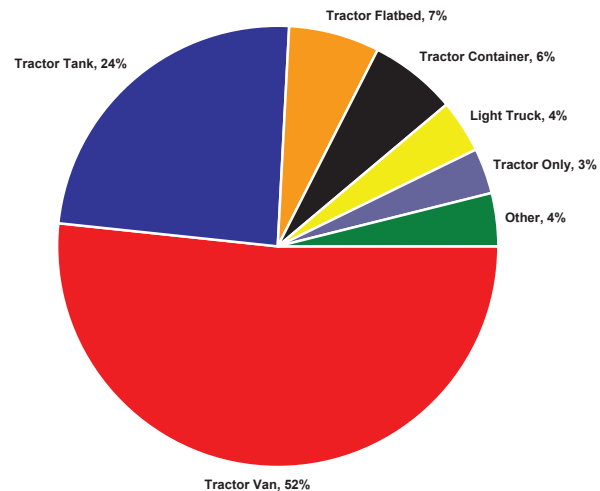
FAST LANE

Commodity Group	#	%
Empty/Mail	236	72.8%
Wood Products	19	5.9%
Newsprint/Paper	15	4.6%
Waste/Scrap	12	3.7%
Other Food	6	1.9%
Mineral Products	5	1.5%
Paper Products	4	1.2%
Motor Vehicles	4	1.2%
Other	23	7.1%
TOTAL	324	22.5%



Surveyors monitor truck arrivals at the FAST and 2nd booths at Pacific Highway southbound.

SOUTHBOUND FAST VEHICLE TYPES



FAST LANE TRUCK ORIGINS, DESTINATIONS

Pacific Highway Northbound

ORIGINS	#	%
SEATTLE	8	34.8%
KENT	2	8.7%
FERNDALE	2	8.7%
BURLINGTON	2	8.7%
BLAINE	2	8.7%
BELLINGHAM	2	8.7%
TACOMA	1	4.3%
PROSSER	1	4.3%
LYNDEN	1	4.3%
LOS ANGELES	1	4.3%
CORONA	1	4.3%
TOTAL	23	100.0%

DESTINATIONS	#	%
VANCOUVER	9	37.5%
RICHMOND	4	16.7%
SURREY	2	8.3%
LANGLEY	2	8.3%
VICTORIA	1	4.2%
PT ROBERTS	1	4.2%
DELTA	1	4.2%
COQUITLAM	1	4.2%
CLOVERDALE	1	4.2%
BURNABY	1	4.2%
ABBOTSFORD	1	4.2%
TOTAL	24	

Pacific Highway Southbound

ORIGINS	#	%
VANCOUVER	79	25.2%
DELTA	69	22.0%
SURREY	58	18.5%
RICHMOND	35	11.2%
LANGLEY	21	6.7%
BURNABY	20	6.4%
NEW WESTMINSTER	5	1.6%
VANCOUVER AIRPORT	5	1.6%
COQUITLAM	4	1.3%
ANNACIS ISLAND	3	1.0%
PITT MEADOWS	3	1.0%
MAPLE RIDGE	2	0.6%
PT ROBERTS	2	0.6%
OTHER	7	2.2%
TOTAL	313	

DESTINATIONS	#	%
BLAINE	49	15.9%
SEATTLE	41	13.3%
FERNDALE	34	11.0%
CHERRY POINT	22	7.1%
TACOMA	18	5.8%
KENT	13	4.2%
BELLINGHAM	13	4.2%
MT VERNON	12	3.9%
BURLINGTON	9	2.9%
ARLINGTON	7	2.3%
EVERETT	7	2.3%
REDMOND	7	2.3%
SUMNER	6	1.9%
OTHER	71	23.0%
TOTAL	309	

CARRIER FREQUENCY

Pacific Highway Northbound & Southbound, 24 Hour Booth Data

Total number of carrier companies observed: 1,263

Number of carriers which make up 50 percent of all observed crossings (northbound and southbound): 110

9 percent of carriers make up 50 percent of all commercial traffic at Pacific Highway.

Booth Data

Port	Direction	Total Number of Carrier Companies Observed	Number of Carriers which Make Up 50% of all Observed Crossings
Pacific Highway	Northbound	516	87
Pacific Highway	Southbound	552	81
Lynden/Aldergrove	Northbound	118	21
Lynden/Aldergrove	Southbound	102	82
Sumas/Huntingdon	Northbound	166	47
Sumas/Huntingdon	Southbound	324	126

CARRIER STATE/PROVINCIAL BASE

58 percent of carriers are based in British Columbia; 25 percent are based in Washington State, with the rest based elsewhere. The only crossing that shows a higher Washington State base than B.C. is southbound at Lynden/Aldergrove, where 45 percent of carriers are from WA State and 37 percent from B.C. (Note: Surveying at Lynden/Aldergrove southbound included Canada Day, which may have affected the numbers of Canadian trucking companies working on the holiday).



Carrier names and cities of origin were collected from the sides of tractor vehicles. Southbound at Sumas, surveyors collected this information separately due to booth visibility restrictions.

ONLINE DISPATCHER SURVEY

1,797 survey flyers were distributed to truck drivers at Pacific Highway northbound and southbound ports-of-entry between June 15 and June 25, 2009.

188 surveys were completed online (218 surveys were started), a **10 percent** response rate. The resulting database has 211 records, of which all but 41 are linked directly to the main survey. A separate final report is available for this survey, written by the University of Washington.



Surveyors handed flyers to truck drivers and asked them to give the forms to their dispatchers.

Survey Questions

- Survey number (to tie into carrier name, license plate, date, and port written on slip, and to link to main database)
- Carrier Name
- Facility the truck is based at
- Did the truck make multiple border crossings this day?
- Where did the truck start its day?
- At what kind of facility did it start?
- How many stops did the truck make before crossing the border?
- What city was the load picked up in?
- At what type of facility was the load picked up?
- Description of freight picked up
- (Questions repeated for additional loads)
- (Questions for trucks crossing empty)
- How many deliveries made?
- Delivery location(s) and type(s)
- Delivery load time window
- Penalty if missed time window?
- What happened after deliveries completed?
- Backhaul picked up? Location, description, and destination
- Who is enrolled in FAST? (i.e. driver, carrier, shipper, U.S. program, Cdn program, etc.)
- Did the truck use the northbound FAST lane?
- Did the truck use the southbound FAST lane?
- How many minutes does your company/driver typically plan to wait at the border?
- What is more important to you for cross-border wait times, predictability or speed?
- What do you consider a predictable amount of border wait time?
- Optional contact information/e-mail

Survey Number: 10525
 Direction: N
 Date: 6/15
 LP# P9 8687 St. Prov BC
 Carrier Name and City Chuck's Trucks, Port Coquitlam

MONDAY, JUNE 15, 2009
10 AM

Survey Number 10525 TIME SENSITIVE

WA-BC Cross-border Truck Study
 June 2009

Please give this sheet to your company dispatcher. Thank you.

Dear cross-border carrier,

On behalf of federal inspection agencies, state and provincial transportation agencies, and industry associations, the Whatcom Council of Governments (WCOG) is asking for a small amount of your time to complete a questionnaire that will add to regional planners' understanding of how your company and others use the cross-border transportation system.

The questionnaire is on-line at

www.wcog.org/trucksurvey

For feedback to be considered, we need your response within 48 hours

The questionnaire is anonymous. If you would like to provide an e-mail or other contact information at the end of the questionnaire, we would like to provide you with the summarized results regarding regional cross-border freight logistics. The quality of this product is dependent on feedback from companies like yours. Please take a moment now to complete the questionnaire.

Help the agencies who manage regional roads and borders gain insight on:

- Characteristics of freight travel demand,
- How freight movements in our region compare and contrast to nation-wide characteristics and attributes of other regions,
- What parts of the freight network are most critical to cross-border trade.

Your participation is valuable and is much appreciated. **THANK YOU.**

If you have questions about this survey, please call the Whatcom Council of Governments, Bellingham, Washington - 360 676-6974
www.wcog.org

Copy of flyer distributed to truck drivers as they exited the port-of-entry. Top portion of flyer was ripped off and entered into the database at WCOG.

BUS SURVEY

Survey dates northbound: Saturday July 4, 9am-2pm; Friday July 10, 9am-3pm
Survey dates southbound: Friday July 3, 9am-2pm; Saturday July 11, 9am-3pm
Buses observed northbound: 27 **Passengers interviewed northbound:** 95
Buses observed southbound: 57 **Passengers interviewed southbound:** 203

Data Fields

Bus Number	Number for each individual bus, linking to passenger data
State/Prov	License plate state or province
Carrier	Name of bus company
Carrier City	City listed on side of bus for carrier company
Carrier State	State or Province listed for the carrier company city
Vehicle Type	Type of vehicle <i>Bus, Shuttle, Van, Limo, RV</i>
Luggage Off?	Marked if passengers unloaded their luggage for inspection
Passengers Off?	Marked if passengers disembarked the vehicle
Date	Date of survey
Direction	Direction of travel <i>Northbound, Southbound</i>
Queue End	Timestamp of vehicle's arrival at the end of the queue, or at the facility itself if no queue
Inspection Arrival	Timestamp when the driver began the inspection process
Inspection Departure	Timestamp when the vehicle left the inspection area
Staging Full	Marked when the staging area was full of buses and the bus was waiting in line to enter the bus area
Last Passenger Off	Timestamp of the last passenger leaving the bus
No. Passengers	Number of passengers, as provided by the bus driver
Capacity	Number of seats in the vehicle
Last Stop	Location of the most recent bus stop
Next Stop	Location of the next bus stop
All Off	Marked if all passengers getting off at the next stop
Pickups	Marked if the bus plans on picking up additional passengers before the last stop
Farthest Destination	Last destination of the bus trip
Border Trips	Marked if the bus will be making another cross-border trip that day
No. Trips	Number of additional cross-border trips to be made (if answered yes to the above question)
Carrier Type	Type of service <i>Charter, Common Carrier, Private, Other</i>
Inspection Counters	How many (maximum) inspection counters were open during inspection
Last Passenger On	Timestamp of the last passenger getting on the bus to depart the facility

Inspection Times

Direction	Average Duration at the Port	Longest Time	Shortest Time	# Buses Unloaded	# Buses Pre-cleared
Northbound	28 min, 35 sec	1 hr, 25 min	3 min	10	17
Southbound	28 min, 3 sec	1 hr., 29 min	1 min	35	22

Carriers

Direction	# Carriers	# Charters	# Common Carriers	# Private/Other
Northbound	9	11	9	3
Southbound	19	33	16	2

NEXUS SURVEYING

This survey effort solicited feedback from passenger travelers at the Lynden/Aldergrove and Sumas/Huntingdon ports-of-entry. The information gathered can be used to gauge awareness of the NEXUS program, interest in the program, and basic parameters around eligibility and marketability.

Schedule

Port	Day	# Records
Lynden/Aldergrove	Mon, July 20	122
Sumas/Huntingdon	Tue, July 21	175
Lynden/Aldergrove	Wed, July 22	133
Sumas/Huntingdon	Thu, July 23	106
Lynden/Aldergrove	Fri, July 4	37
TOTAL		573

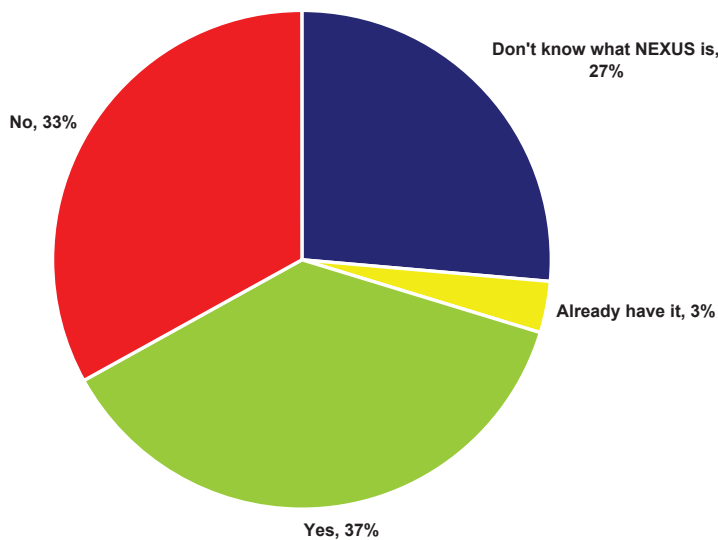
NEXUS familiarity

Are you familiar with the NEXUS program?

	Lynden		Sumas	
	#	%	#	%
No	78	27.4%	78	28.7%
Yes	207	72.6%	194	71.3%
Total	285		272	

Would you get NEXUS if it were at this port-of-entry?

Lynden/Aldergrove & Sumas/Huntingdon responses combined as they were nearly identical.

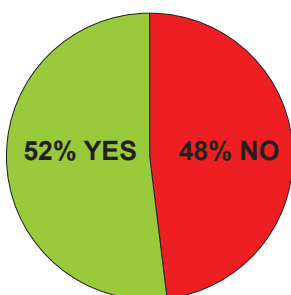


Surveyors interview southbound drivers at the Lynden/Aldergrove port-of-entry about NEXUS.

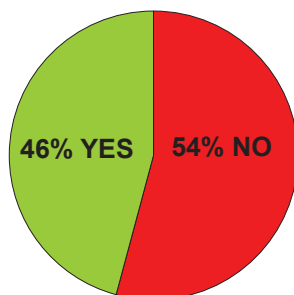
NEXUS Quiz

If drivers indicated they were familiar with NEXUS, but did not have a NEXUS card themselves, they were asked about four attributes of the program.

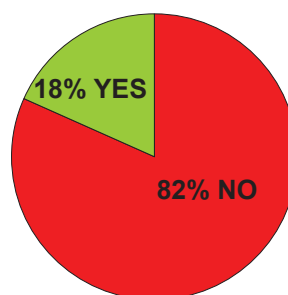
Do you know it costs \$50?



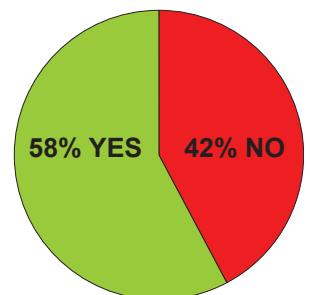
Do you know it's good for 5 years?



Do you know kids are free?



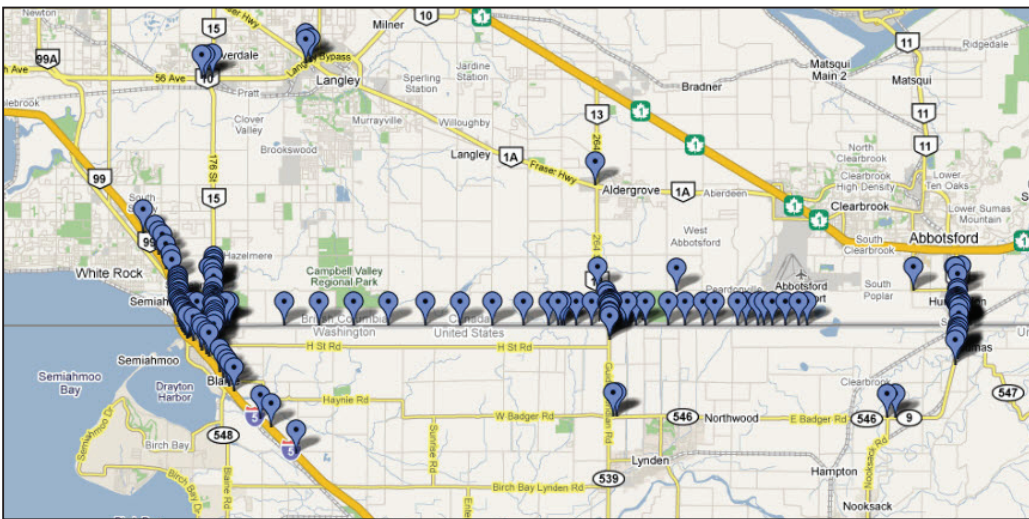
Do you know it's good for new US ID reqs?



CASCADE GATEWAY SIGNAGE INVENTORY

The signage inventory project was undertaken to a) identify gaps in signage between crossings and where improvements need to be made to better direct to and between each crossing; b) understand signage appearance discrepancies between U.S. and Canada and between agencies and support recommendations for future designs; and c) suggest message clarification on signs that have outdated wording or messages to improve traveler understanding.

- Data collection completed July 21-23 by a team of 4 BPRI student researchers
- Day 1: East-west connecting roads in WA plus Lynden/Aldergrove & Sumas/Huntingdon ports
- Day 2: East-west connecting roads in BC plus Peace Arch port
- Day 3: North-south connecting roads and Pacific Highway port
- All border-related signs photographed and marked with GPS location device
- Sign images linked to Google Map using GPS coordinates
- Online map and photos is on the project website at www.wcog.org/imtc



Online map shows where border-related signs are located. Clicking on a link shows a picture and the coordinates of each sign.

Collection showing the various signs facing travelers as they approach a port-of-entry.



OTHER PRODUCTS AVAILABLE UPON REQUEST

Material from the 2009 IMTC Commercial Vehicle Operations Survey include:

- Final project database
- Database documentation
- Bus database
- Nearborder operations and logistical inefficiencies: an analysis of 2009 CVO survey data - Report from University of Washington
- NEXUS survey database
- NEXUS survey final report
- Online signage inventory
- Peace Arch anti-idling zone survey report
- Border Policy Research Institute policy briefs
- 2006 and 2003 CVO Evaluation survey reports

For these and other materials, contact the Whatcom Council of Governments at (360) 676-6974 or visit the project website online at: www.wcog.org.



Surveyors collected bus passenger and bus processing data at Pacific Highway.