

Washington State Freight Truck Origin and Destination Study: Pacific County



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by

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in cooperation with

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EWITS Research Report: Background and Purpose

This is the twenty-first in a series of Research Reports prepared from the Eastern Washington Intermodal Transportation Study (EWITS). The reports prepared as a part of this study provide information to help shape the multimodal network necessary for the efficient movement of both freight and people into the next century.

EWITS is a six-year study funded jointly by the Federal government and the Washington State Department of Transportation as a part of the Intermodal Surface Transportation Efficiency Act of 1991. Dr. Ken Casavant of Washington State University is Director of the study. A state-level Steering Committee provides overall direction pertaining to the design and implementation of the project. The Steering Committee includes Jerry Lenzi, Chair and Regional Administrator (WSDOT, Eastern Region); Richard Larson, Regional Administrator (WSDOT, South Central Region); Don Senn, Regional Administrator (WSDOT, North Central Region); Charles Howard (WSDOT, Planning Manager), and Eric Berger, Executive Director, County Road Administration Board. Pat Patterson represents the Washington State Transportation Commission on the Steering Committee. An Advisory Committee with representation from a broad range of transportation interest groups also provides guidance to the study. The following are key goals and objectives for the Eastern Washington Intermodal Transportation Study:

- *Facilitate existing regional and state-wide transportation planning efforts.*
- *Forecast future freight and passenger transportation service needs for eastern Washington.*
- *Identify gaps in eastern Washington's current transportation infrastructure.*
- *Pinpoint transportation system improvement options critical to economic competitiveness and mobility within eastern Washington.*

For additional information about the Eastern Washington Intermodal Transportation Study or this report, please contact Ken Casavant at the following address:

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EWITS PREVIOUS REPORTS NOW AVAILABLE

1. Gillis, William R. and Kenneth L. Casavant. "Linking Transportation System Improvements to New Business Development in Eastern Washington." EWITS Research Report Number 1. February 1994.
2. Gillis, William R. and Kenneth L. Casavant. "Lessons from Eastern Washington: State Route Mainstreets, Bypass Routes and Economic Development in Small Towns." EWITS Research Report Number 2. February 1994.
3. Gillis, William-R. and Kenneth L. Casavant. "Washington State Freight Truck Origin and Destination Study: Methods, Procedures, and Data Dictionary." EWITS Research Report Number 3. December 1994.
4. Gillis, William R. and Kenneth L. Casavant. "Major Generators of Traffic on U.S. 395 North of Spokane: Including Freight Trucks and Passenger Vehicles Crossing the International Border." EWITS Research Report Number 4. January 1995.
5. Newkirk, Jonathan, Ken Eriksen, and Kenneth L. Casavant. "Transportation Characteristics of Wheat and Barley Shipments on Haul Roads To and From Elevators in Eastern Washington." EWITS Research Report Number 5. March 1995.
6. Jessup, Eric and Kenneth L. Casavant. "A Quantitative Estimate of Eastern Washington Annual Haul Road Needs for Wheat and Barley Movement." EWITS Research Report Number 6. March 1995.
7. Gillis, William R., Emily Gruss Gillis, and Kenneth L. Casavant. "Transportation Needs of Eastern Washington Fruit, Vegetable and Hay Industries." EWITS Research Report Number 7. March 1995.
8. Casavant, Kenneth L. and William R. Gillis. "Importance of U.S. 395 Corridor For Local and Regional Commerce in South Central Washington." EWITS Research Report Number 8. April 1995.
9. Gillis, William R., Eric L. Jessup, and Kenneth L. Casavant. "Movement of Freight on Washington's Highways: A Statewide Origin and Destination Study." EWITS Report Number 9, November 1995.
10. Chase, Robert A. and Kenneth L. Casavant. "Eastern Washington Transport-Oriented Input Output Study: Technical Report." EWITS Research Report Number 10. March 1996.

11. Chase, Robert A. Kenneth L. Casavant. "The Economic Contribution of Transport Industries to Eastern Washington." EWITS Report Number 11. April 1996.
12. Lee, Nancy S. and Kenneth L. Casavant. "Waterborne Commerce on the Columbia-Snake." EWITS Report Number 12. October 1996.
13. Alderson, Lynn C., Kenneth L. Casavant and Eric Jessup. "Transportation Characteristics and Needs of Forest Products Industries Using Eastern Washington Highways: Part I Economic Structure of the Industry." EWITS Research Report Number 13. January 1997.
14. Eriksen, Ken and Kenneth L. Casavant. "Impact of North American Free Trade Agreement (NAFTA) on Washington Highways - Part 1: Commodity and Corridor Projections." EWITS Research Report Number 14. January 1997.
15. Alderson, Lynn C. and Kenneth L. Casavant. "Transportation Characteristics and Needs of Forest Products Industries Using Eastern Washington Highways: Part 2 Movement of Raw Logs." EWITS Research Report Number 15. May 1997.
16. Alderson, Lynn C. and Kenneth L. Casavant. "Transportation Characteristics and Needs of Forest Products Industries Using Eastern Washington Highways: Part 3 Shipment from Mills." EWITS Research Report Number 16. May 1997.
17. Alderson, Lynn C. and Kenneth L. Casavant. "Transportation Characteristics and Needs of Forest Products Industries Using Eastern Washington Highways: Part 4 Commercial Shipments." EWITS Research Report Number 17. February 1997.
18. Jessup, Eric L., John Ellis, and Kenneth L. Casavant. "A GIS Commodity Flow Model for Transportation Policy Analysis: A Case Study of the Impacts of a Snake River Drawdown." EWITS Research Report Number 18. May 1997.
19. Lee, Nancy S. and Kenneth L. Casavant. "A Commodity and Origin-Destination Analysis of Rail Traffic in Washington--1990-1995. EWITS Research Report Number 19. May 1997.
20. Edwards, Richard, Eric L. Jessup, and Kenneth L. Casavant. "Eastern Washington On-Farm and Commercial Grain Storage." EWITS Research Report Number 20. January 1998.

EWITS Previous Working Paper Series Now Available

1. Lee, Nancy and Ken Casavant. "Grain Receipts at Columbia River Grain Terminals." EWITS Working Paper #1, March 1996.
2. Lenzi, Jerry, Eric Jessup, and Ken Casavant. "Prospective Estimates for Road Impacts in Eastern Washington from a Drawdown of the Lower Snake River." EWITS Working Paper #2, March 1996.
3. Ellis, John, Eric Jessup, and Ken Casavant. "Modeling Changes in Grain Transportation Flows in Response to Proposed Snake River Drawdowns: A Case Study for Eastern Washington." EWITS Working Paper #3, March, 1996.
4. Painter, Kate and Ken Casavant. "A Comparison of Canadian Versus All Truck Movements In Washington State With A Special Emphasis On Grain Truck Movements." EWITS Working Paper #4, March 1996.
5. Jessup, Eric L., John Ellis and Kenneth L. Casavant. "Estimating the Value of Rail Car Accessibility for Grain Shipments: A GIS Approach." EWITS Working Paper #5. April 1996.
6. Painter, Kathleen M. and Kenneth L. Casavant. "Truck Movement Characteristics on Selected Truck Routes in Washington State." EWITS Working Paper #6. August 1996.
7. Lee, Nancy S. and Kenneth L. Casavant. "Grain Receipts at Columbia River Grain Terminals, 1980-81 to 1995-96." EWITS Working Paper #7. January 1997.
8. Jessup, Eric L. and Ken Casavant. "Economic Evaluation of Grain Shipment Alternatives: A Case Study of the Coulee City and Palouse River Railroad." EWITS Working Paper #8, March 1997.

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Introduction

A large statewide survey of truck traffic origination, destination, and freight characteristics provided the data for in-depth county level reports of freight truck movement in Washington State. Considerable detail on road usage, truck weight, truck configuration, commodity type, and seasonal traffic variation is available in this survey. We were able to examine a rich set of characteristics for trucks whose freight was either destined for or originating from a particular county. It is important to note the survey does not capture truck movement that did not pass through one of 20 survey sites located on major routes throughout the state (see Table 1A for survey sites). For this reason, considerable intra- and intercounty traffic will not be included for some counties depending on their proximity to a survey site. Again, these truck characteristics reflect only the truck movements as reported at the statewide survey locations.

Table 1A--Survey Sites and Traffic Direction

Weigh Station	Site Number	Direction of Traffic	Road Designation
Brady West, WA	1	West	SR12
Brady East, WA	2	East	SR12
Cle Elum East, WA	3	East	I90
Cle Elum West, WA	4	West	I90
Deer Park South, WA	6	South	SR395
Douglas POE (BC Border	7	North	I5
Everett North, WA	8	North	I5
Everett South, WA	9	South	I5
Goldendale, WA	10	North/South	SR97
Kelso South, WA	11	South	I5
Othello, WA	12	All Four	SR17
Pasco, WA	13	South	SR395
Peshastin West, WA	15	West	SR2
Plymouth POE, WA	16	North	SR395
East Port Angeles Westbound, WA	17	West	SR101
Sea Tac South, WA	19	South	I5
Sea Tac North, WA	20	North	I5
East Spokane POE, WA	21	West	I90
Tokio East, WA	22	East	I90
Tokio West, WA	23	West	I90
Umatilla POE, WA	24	South	SR395
Vancouver North, WA	25	North	I5
Wallula POE, WA	26	All Four	SR12, SR395, & SR 370
Osoyoos, BC (BC Border	28	North	SR97
Oroville, WA (US Border	29	South	SR97

Information for this report was provided by an extensive study of freight truck movements on major Washington State highways conducted under the Eastern Washington Intermodal Transportation Study (EWITS). This study was the first in the United States to collect statewide freight truck origination and destination data through direct interviews of truck drivers at weigh stations. Over 300 persons conducted these personal interviews of a total of 30,000 truck drivers, providing an extensive database on freight and goods movements in Washington State.

Method of Analysis

Truck traffic characteristics at the county level were analyzed for trucks whose trips either originated or ended in a particular county. Given the survey data, there was no feasible method for analyzing truck traffic that was simply passing through the county. Detailed truck traffic characteristics for each of Washington's 39 counties by season included number of trucks with freight destined for that county per day, their payload weight and commodity type; road usage, including number of trucks per day, freight weight and commodity type; and number of trucks per day, freight weight and commodity type by city of cargo origin and destination. Truck traffic was analyzed on an annual basis for the following characteristics: county road usage, average and total truck tonnage, and number of trucks by commodity; distribution of freight weight by commodity and by road; type of commodity hauled by truck configuration; and truck carriers' home base for truck trips originating or ending in that county. Truck traffic data is likely to be more accurate in terms of relative differences by road, season, etc., than actual magnitude for any one characteristic due to the nature of the survey approach.

Presentation of Results

Detailed truck traffic characteristics are presented for Washington's 39 counties in a set of nine tables for each county. Table 1 presents information by road for truck traffic either originating or ending in that county for each season. Characteristics include total number of trucks, number of trucks with freight, average payload, and total tonnage. In addition, the percentage of loads by commodity on each road is calculated.

Tables 2 and 3 present seasonal truck traffic characteristics by city of cargo origin and city of cargo destination, respectively. For each city, the daily number of trucks, trucks with freight, their average payload weight, and total truck traffic weight are presented. Again, there is a breakdown by commodity type for each city.

Table 4 summarizes truck traffic characteristics for trucks whose trips end in that county by season. Total daily truck traffic, number of trucks with freight, average payload weight, and the total tonnage per day as well as the percentage of truckloads by commodity are presented.

Table 5 analyzes truck traffic originating or ending in that county by commodity. The number of trucks per day as well as the average and total payload by commodity is presented. In addition, truck traffic usage by road is detailed for each commodity.

Table 6 shows distribution of payload weight by commodity for truck traffic originating or ending in that county. Five weight categories in five-ton increments are used. Table 7 presents distribution of payload weight by road for truck traffic originating or ending in that county. Weight characteristics by commodity and by road are easily identified from these two tables.

Table 8 shows truck configuration by commodity for truck traffic originating or ending in that county. The percentage of trucks with freight by configuration is presented for each commodity. Table 9 presents truckers' home base by city and the number of Washington-based carriers for truck traffic originating or ending in the county.

Overall, this county-by-county disaggregation of truck movements shows the powerful impact of particular commodity movements on certain roads and during certain seasons. Farm commodities are hauled from the field to the processor or market on a seasonal basis. Lumber harvest has considerable seasonal variation as well. Construction or closures on major roads used for these purposes will need to be planned accordingly. As different industries grow or shrink, they create specific demands on the transportation infrastructure that may need to be accommodated in future transportation planning.

These results represent a summary of truck traffic origin and destination information at the county level. This information should be useful for state and county planning with respect to traffic sources, either origin or destination, and the characteristics of this traffic. It should also be valuable for planning road maintenance and construction at the county and regional level.

Pacific County Results

The main truck routes in Pacific County are State Routes 101, 6, and 4 (SR101, SR6 and SR4) (Table 1). Truck traffic is highest on SR101, ranging from an average of 120 trucks per day in both winter and summer to 65 per day in fall. Traffic on SR6 ranges from an average of 67 trucks per day in winter to three per day in fall; while traffic on SR4 ranges from an average of 52 trucks per day in winter to 22 per day in fall. Lumber or wood products are the predominant freight on these routes. Other common freight categories include food, propane, metal, recycled materials, and agricultural products, with considerable seasonal variation. The highest average payload weight of 35 tons occurs on SR4 in spring when the freight consists of lumber or wood products.

The majority of truck traffic originating from Pacific County leaves from the towns of Long Beach, Raymond, South Bend, and Menlo, although there is considerable seasonal variation based on the survey data (Table 2). The highest level of outgoing truck traffic occurs from Long Beach in fall, averaging 56 trucks per day; Raymond in winter, averaging 57 trucks per day; Raymond in spring, with 45 trucks per day; and Long Beach in summer with 51 trucks per day. Most of the freight leaving Long Beach consists of agricultural products, although food and furniture are also common. Lumber or wood products are the predominant freight from Raymond, although general freight, recycled materials, machinery, and food are also common. Truck traffic from South Bend peaks at 19 trucks per day in winter, but averages only one to two trucks per day in fall and spring. Menlo averages from none to six trucks per day across the seasons according to the survey data. Freight from Menlo consists entirely of lumber or wood products, while freight from South Bend consists mainly of food and lumber or wood products. The highest average payloads of 34 and 39 tons occur in winter from the towns of Long Beach and Menlo respectively, when freight consists of agricultural products (Long Beach) and lumber or wood products (Menlo).

Incoming truck traffic for Pacific County is destined mainly for the towns of Long Beach, Raymond, and South Bend (Table 3). Incoming trucks for Long Beach range from a high of 30 per day in fall to 4 per day in winter, with freight consisting mainly of lumber or wood products, food, and paper or pulp. Incoming trucks for Raymond range from 26 per day in fall to 11 per day in spring, with varied freight consisting of food, machinery, lumber or wood products, and petroleum. For South Bend, traffic ranges from 22 per day in winter to 6 per day in fall, with lumber or wood products, food, and chemicals as the primary freight. The highest average payload weight of 36 tons occurs for cargo destined for Ocean Park in summer. The freight type was unknown (or survey question was not unanswered by truck driver) for this cargo.

Total truck traffic heading for or leaving from Pacific County ranges from 189 trucks per day in summer to 110 trucks per day in spring (Table 4). The predominant freight is agricultural products in fall and summer, accounting for 33% to 21% of freight respectively for those seasons. Lumber or wood products is the most commonly hauled freight in winter and spring, hauled by 36% and 63% of trucks with freight, respectively. Other common freight types include food, propane, general freight, and paper or pulp,

with considerable seasonal variation. Average payload weights range from 20 to 23 tons across the seasons with the highest payloads occurring in spring.

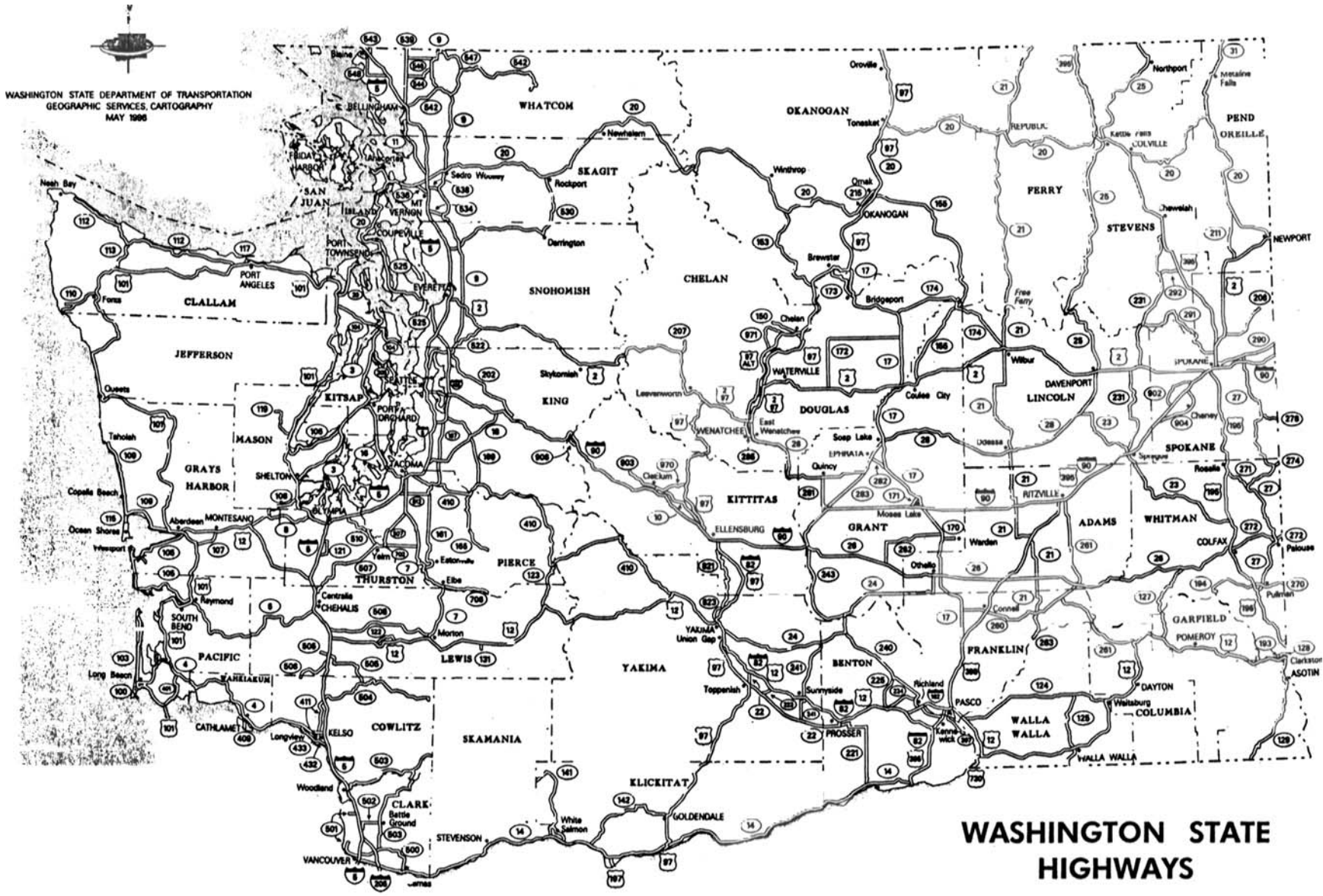
Table 5 shows road usage by type of freight for the major commodities hauled into or out of Pacific County over the entire year. Lumber or wood products are the predominant commodity hauled into and out of Pacific County, accounting for 23% of trucks with loads and 41% of total tonnage. Agricultural products are the next most common category of freight, accounting for 14% of the trucks with loads and 21% of total tonnage. SR101 is the most commonly used route for trucks with freight, used by 71% of trucks carrying lumber or wood products and 84% of trucks with food. Over half of trucks hauling food also use SR105. The average payload weight is highest for lumber or wood products at 28 tons.

Weight category by commodity for trucks hauling freight into or out of Pacific County is presented in Table 6. The majority of trucks carrying agricultural products or food have payloads weighing between 20 and 25 tons. For trucks carrying lumber or wood products, 45% have loads weighing over 30 tons. Trucks carrying paper or pulp products or transportation equipment have relatively light payloads, none weighing more than 15 tons.

Table 7 shows weight category by roadway for truckloads originating or ending in Pacific County. For SR101 and SR6, slightly more than one-fourth of trucks hauling freight have payloads weighing over 30 tons. For SR4, nearly half of the trucks with freight fell in this category. The percentage of trucks in the lower weight categories was much higher for SR101 and SR6 than for SR4. Seventy percent of all freight hauled on SR4 weighs 25 tons or more.

Truck configuration for trucks carrying loads into or out of Pacific County are most likely to be a tractor and trailer, with 46% of trucks with loads falling in this category (Table 8). Another 28% are a truck and trailer configuration, while 16% are tractors plus two trailers. Just 10% of trucks hauling freight into or out of Pacific County are straight trucks.

Over a four-day survey period (one day in each season), a total of 621 trucks, loaded and empty, were either heading for or leaving Pacific County (Table 9). Of these trucks, 64% were Washington-based carriers. Seattle and Raymond are each listed as home base for 8% of the surveyed carriers. Another 7% each are based out of Aberdeen and Portland.



WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
 GEOGRAPHIC SERVICES, CARTOGRAPHY
 MAY 1986

WASHINGTON STATE HIGHWAYS

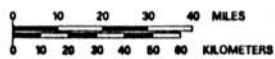


Table 1--Daily Truck Traffic by Road for Each Season, Pacific County

Season/ Road	Total Trucks Per Day (No.)	Loaded Trucks Per Day (No.)	Average Payload (Tons)	Total Tonnage ¹	Commodity	
					Category	Percent
Fall:						
SR101	65	39	21	828	Propane	27
					Rock, sand	5
					Food	19
					Lumber, wood	28
					Petroleum	5
					Rubber, plastic	5
SR6	3	1	26	34	Lumber, wood	100
SR4	22	20	22	447	Propane	43
					Lumber, wood	57
Winter:						
SR101	120	93	19	1803	Food	18
					Lumber, wood	39
					Chemicals	8
					Metal	11
					Recycled materials	12
SR6	67	64	18	1148	Food	21
					Lumber, wood	32
					Metal	16
					Machinery	13
					Recycled materials	18
SR4	52	39	29	1141	Agriculture	30
					Lumber, wood	30
					Chemicals	13
					Metal	27
Spring:						
SR101	75	48	24	1128	Food	12
					Lumber, wood	81
SR6	25	22	31	690	Lumber, wood	94

Table 1--Daily Truck Traffic by Road for Each Season, Pacific County (cont.)

Season/ Road	Total Trucks Per Day (No.)	Loaded Trucks Per Day (No.)	Average Payload (Tons)	Total Tonnage ¹	Commodity	
					Category	Percent
Spring: SR4	26	13	35	435	Lumber, wood	100
Summer: SR101	120	81	22	1782	Food	32
					Lumber, wood	17
					Trans. equipment	15
					General freight	11
SR6	42	22	23	504	Lumber, wood	8
					Trans. equipment	50
					General freight	42
SR4	23	22	28	611	Agriculture	9
					Lumber, wood	16

¹Total tonnage may differ from the number of trucks per day multiplied by the average payload due to rounding of values for average number of loaded trucks per day and average payload.

Table 2--Daily Truck Traffic by City of Cargo Origin for Each Season, Pacific County

Season/ Town	Total Trucks Per Day (No.)	Loaded Trucks Per Day (No.)	Average Payload (Tons)	Total Tonnage ¹	Commodity	
					Category	Percent
Fall:						
Long Beach	56	44	18	772	Agriculture	85
					Trans. Equipment	12
Raymond	19	8	21	167	Lumber, wood	50
					Furniture	17
					Machinery	33
South Bend	1	1	33	33	Food	100
Winter:						
Long Beach	17	15	34	516	Agriculture	100
Menlo	2	2	39	61	Lumber, wood	100
					Metal	21
					Recycled materials	22
					Lumber, wood	27
					Metal products	9
Spring:						
Long Beach	28	18	14	252	Agriculture	7
					Food	64
					Furniture	30
Menlo	6	6	31	195	Lumber, wood	100
Raymond	45	43	24	1017	Food	10
					Lumber, wood	85
					Recycled materials	5
South Bend	2	2	28	59	Lumber, wood	100
Summer:						
Long Beach	51	51	22	1124	Agriculture	63
					Glass, cement	6
					General freight	21
					Rubber, plastic	7

Table 2--Daily Truck Traffic by City of Cargo Origin for Each Season, Pacific County (cont.)

Season/ Town	Total Trucks Per Day (No.)	Loaded Trucks Per Day (No.)	Average Payload (Tons)	Total Tonnage ¹	Commodity	
					Category	Percent
Summer: Raymond	36	21	25	523	General freight	43
					Lumber, wood	41
					Paper, pulp	8
					Trans. Equipment	8
South Bend	12	11	20	217	Lumber, wood	33
					Mail, packages	16

¹Total tonnage may differ from the number of trucks per day multiplied by the average payload due to rounding of values for average number of loaded trucks per day and average payload.

Table 3--Daily Truck Traffic by City of Cargo Destination for Each Season, Pacific County

Season/ Town	Total Trucks Per Day (No.)	Loaded Trucks Per Day (No.)	Average Payload (Tons)	Total Tonnage ¹	Commodity	
					Category	Percent
Fall:						
Long Beach	30	30	15	458	Lumber, wood	66
					General freight	34
Ocean Park	2	2	1	1	Rubber, plastic	100
Raymond	26	8	24	199	Rock, sand	25
					Food	50
					Petroleum	25
South Bend	6	4	8	31	Food	50
					Lumber, wood	50
Winter:						
Long Beach	4	4	1	5	Lumber, wood	50
					Medical instr.	50
Ocean Park	4	2	5	10	Food	100
Raymond	15	15	16	227	Lumber, wood	14
					Furniture	14
					Chemicals	14
					Machinery	59
South Bend	22	9	21	195	Food	22
					Lumber, wood	22
					Chemicals	57
Spring:						
Long Beach	7	1	28	40	Food	100
Raymond	11	1	4	6	Furniture	100
South Bend	9	6	23	131	Landscaping	25
					Lumber, wood	75
Summer:						
Long Beach	14	14	11	146	Pulp, paper	90
					Propane	10
Ocean Park	11	11	36	379	Unknown	100
Raymond	20	4	28	112	Petroleum	33
					Lumber, wood	33
					Chemicals	33

¹Total tonnage may differ from the number of trucks per day multiplied by the average payload due to rounding of values for average number of loaded trucks per day and average payload.

Table 4--Truck Traffic for Trips Originating or Ending in Pacific County by Season

Season	Total Trucks Per Day (No.)	Loaded Trucks Per Day (No.)	Average Payload (Tons)	Total Tonnage ¹	Commodity	
					Category	Percent
Fall:	170	115	20	2290	Agricultural	33
					Propane	9
					Food	7
					Lumber, wood	28
					General freight	9
Winter:	153	125	21	2600	Agricultural	12
					Food	13
					Lumber, wood	36
					Chemicals	28
					Metal	8
					Machinery	8
					Recycled materials	9
Spring:	110	78	23	1776	Food	22
					Lumber, wood	63
					Furniture	9
Summer:	189	149	21	3188	Agricultural	21
					Food	17
					Lumber, wood	9
					Pulp, paper	10
					Trans. equip.	8
					General freight	13

¹Total tonnage may differ from the number of trucks per day multiplied by the average payload due to rounding of values for average number of loaded trucks per day and average payload.

Table 5--Truck Trips by Commodity for Truck Traffic Originating or Ending in Pacific County

Commodity	Truck Trips	Total Weight		Avg. Payload (Tons)	County Roads Used	
	Per Year (%)	Tons	% of Total		Road	% of Trips
Lumber, Wood	23	3891	41	28	SR101	71
					SR4	28
					SR6	32
Agriculture	14	2008	21	24	SR101	21
					SR4	16
Food	11	924	10	14	SR101	84
					SR6	19
					SR105	54
Other	53	2619	28	15	SR101	60
					SR4	23
					SR6	30

Table 6--Weight Category by Commodity for Truck Loads Originating or Ending in Pacific County

Weight Category (tons)	Commodity											
	Agriculture		Food		Lumber, Wood		Pulp, Paper		Trans. Equipment		Other	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
<5	4	6	15	23	4	3	13	87	0	0	29	20
5 - <10	0	0	6	9	4	3	2	13	2	11	13	9
10 - <15	0	0	2	3	0	0	0	0	16	89	13	9
15 - <20	0	0	11	17	11	8	0	0	0	0	25	18
20 - <25	70	81	26	40	14	10	0	0	0	0	36	25
25 - <30	0	0	5	8	44	32	0	0	0	0	3	2
>30	12	14	0	0	62	45	0	0	0	0	23	16
Total	86	100	65	100	139	100	15	100	18	100	142	100

Table 7--Weight Category by Road for Truck Loads Originating or Ending in Pacific County

Weight Category (tons)	SR101		Road SR6		SR4	
	No.	%	No.	%	No.	%
<5	42	16	23	21	0	0
5 - <10	14	5	4	4	2	2
10 - <15	17	6	19	17	0	0
15 - <20	11	4	0	0	14	15
20 - <25	70	26	22	20	12	13
25 - <30	40	15	12	11	20	22
>30	73	27	29	27	45	48
Total	269	100	108	100	93	100

Table 8--Truck Configuration by Type of Commodity Hauled, Pacific County (%)

Commodity	Truck Configuration				No. of Loads
	1	2	4	5	
Agricultural products	0	31	57	12	85
Landscaping materials	0	0	100	0	1
Propane	0	11	89	0	12
Rock & sand	0	100	0	0	4
Food	23	21	39	17	67
Lumber & wood products	3	12	56	30	140
Furniture	37	0	63	0	12
Pulp & paper	12	88	0	0	14
Chemicals	0	0	100	0	8
Petroleum products	0	100	0	0	3
Rubber & plastic products	37	0	63	0	6
Glass and cement products	0	0	100	0	3
Metal, metal products	0	100	0	0	12
Fabricated metal products	53	0	47	0	3
Machinery	12	10	77	0	13
Transportation equipment	71	0	29	0	18
Medical & photo. instruments	0	100	0	0	2
General freight	0	66	0	34	30
Mail & packages	100	0	0	0	2
Recycled materials	0	84	16	0	13
Total	10%	28%	46%	16%	448

Legend: 1 = straight truck, 2 = truck and trailer,
4 = tractor and trailer, 5 = tractor and two trailers

Table 9--Truckers' Home Base for Truck Trips Originating or Ending in Pacific County

	Location	Number	Percent
By Town:			
	Aberdeen	44	7
	Portland, OR	42	7
	Seattle	49	8
	Raymond	49	8
	Other	437	70
	Total	621	100
	Wash. State carriers:	400	64