

Washington State Freight Truck Origin and Destination Study: Okanogan 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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The contents of this report reflect the views of the author, who is responsible for the facts and accuracy the data presented herein. The contents do not necessarily reflect the official views or policies of the Washington State Department of Transportation or the Federal Highway Administration. This report does not constitute a standard, specification or regulation.

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.

Okanogan County Results

The main truck routes in Okanogan County are State Routes 97 and 17 (SR97 and SR17) (Table 1). Truck traffic on SR97 ranges from an average of 200 trucks per day in winter to 110 per day in fall, while traffic on SR17 ranges from an average of 88 trucks per day in winter to 14 per day in fall. Agricultural products and lumber or wood products are the predominant freight on these routes. Other common freight categories include food, petroleum, and transportation equipment, with considerable seasonal variation. The highest average payload weight of 24 tons occurs on SR17 in summer when the primary freight consists of agricultural products.

The majority of truck traffic originating from Okanogan County leaves from the towns of Brewster, Omak, Oroville, Riverside, and Tonasket, although there is considerable seasonal variation based on the survey data (Table 2). The highest level of outgoing truck traffic occurs from Brewster in winter and spring, averaging 73 and 58 trucks per day respectively. The freight consists almost entirely of agricultural products. The highest average payload of 32 tons occurs from the town of Tonasket in summer, when freight consists of agricultural products and lumber or wood products.

Incoming truck traffic for Okanogan County is destined mainly for the towns of Brewster, Omak, and Oroville (Table 3). Incoming trucks with freight for Oroville range from a high of 19 per day in winter to 13 per day in fall. For Omak, incoming trucks range from 17 per day in winter to six per day in summer and, for Brewster, from one per day in fall to 12 per day in winter. Freight headed for Okanogan County consists mainly of lumber or wood products, food, agricultural products, petroleum, glass or cement, transportation equipment, furniture, and general freight. The highest average payload weights of 28 and 29 tons occur for Omak in fall and winter, respectively, when freight consists mainly of lumber or wood products and food products.

Total truck traffic heading for or leaving from Okanogan County ranges from 242 trucks per day in winter to 132 trucks per day in fall (Table 4). The predominant freight is agricultural products, accounting for 34% to 54% of all freight across the seasons. Other common freight types include lumber or wood products, petroleum, chemicals, food, and transportation equipment. Average payload weights range from 16 to 21 tons across the seasons.

Table 5 shows road usage by type of freight for the major commodities hauled into or out of Okanogan County over the entire year. Agricultural products are the predominant commodity hauled into and out of Okanogan County, accounting for 32% of trucks with loads and 45% of total tonnage. Lumber or wood products are the next most common category of freight, accounting for 14% of the trucks with loads and 26% of total tonnage. SR97 is the most commonly used route for trucks with freight, used by 94% of trucks carrying lumber or wood products, 78% of trucks with agricultural products, and 69% of all other trucks with freight. SR17 is the next most commonly used truck route in the county, particularly for agricultural products. The average payload weight is highest for lumber or wood products at 25 tons.

Weight category by commodity for trucks hauling freight into or out of Okanogan 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, 39% have loads weighing over 30 tons. Of the trucks carrying freight other than these main categories, 23% have payloads of over 30 tons as well.

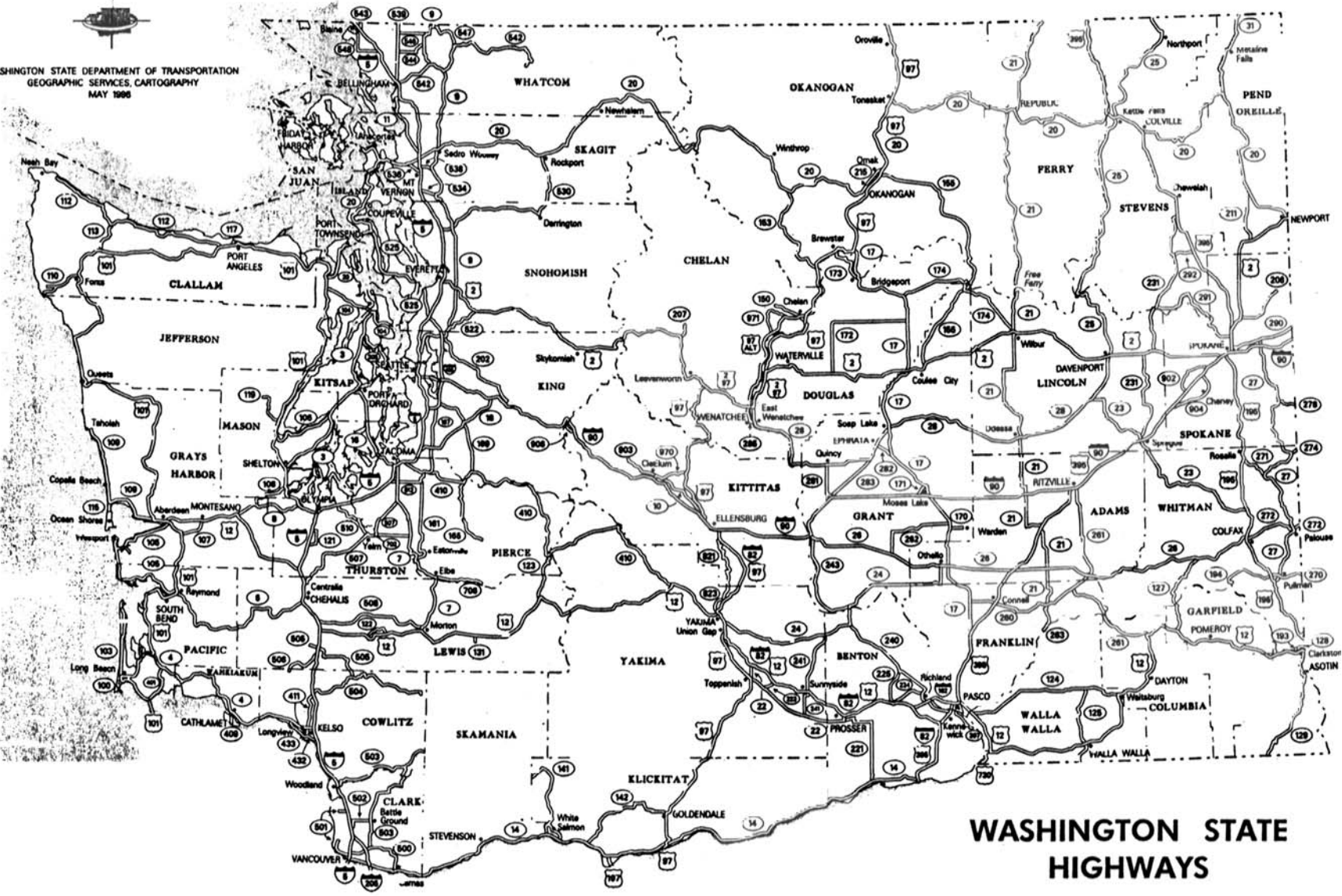
Table 7 shows weight category by roadway for truckloads originating or ending in Okanogan County. Of the surveyed trucks using the two main truck routes, SR97 and SR17, nearly half have payloads weighing between 20 and 25 tons. The percentage of trucks weighing over 30 tons is highest for SR20 at 22% of surveyed trucks. Just 15% and 16%, respectively, of trucks on SR97 and SR17 fall into this category.

Truck configuration for trucks carrying loads into or out of Okanogan County is most likely to be a tractor-trailer configuration, with 68% of trucks with loads falling in this category (Table 8). Another 14% have truck and trailer configurations while 10% are tractors plus two trailers. Just 6% of trucks hauling freight into or out of Okanogan County are straight trucks.

Over a four-day survey period (one day in each season), a total of 704 trucks, loaded and empty, were either heading for or leaving Okanogan County (Table 9). Of these trucks, 52% are Washington-based carriers. Wenatchee is home base for 7% of the surveyed carriers. Five percent are based in Tonasket and 4% are based in Seattle.



WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
GEOGRAPHIC SERVICES, CARTOGRAPHY
MAY 1996



WASHINGTON STATE HIGHWAYS

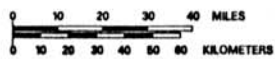


Table 1--Daily Truck Traffic by Road for Each Season, Okanogan County

Season/ Road	Total Trucks Per Day (No.)	Loaded Trucks Per Day (No.)	Average Payload (Tons)	Total Tonnage ¹	Commodity	
					Category	Percent
Fall: SR97	110	65	16	1,052	Agriculture	31
					Lumber, wood	30
					Chemicals	16
SR17	14	5	22	120	Agriculture	100
Winter: SR97	200	132	22	2,908	Agriculture	48
					Food	8
					Lumber, wood	19
					Glass, cement	5
SR17	88	69	21	1,462	Agriculture	61
					Food	6
					Lumber, wood	11
					Machinery	7
					Trans. equipment	5
					General freight	7
Spring: SR97	179	125	23	2,871	Agriculture	49
					Lumber, wood	29
					Metal products	5
					Trans. equipment	6
SR17	42	31	18	550	Agriculture	43
					Rock, sand	17
					Food	20
					Lumber, wood	20

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

Season/ Road	Total Trucks Per Day (No.)	Loaded Trucks Per Day (No.)	Average Payload (Tons)	Total Tonnage ¹	Commodity	
					Category	Percent
Summer: SR97	121	87	20	1,734	Agriculture	47
					Lumber, wood	15
					Furniture	6
					Petroleum	13
SR17	29	24	24	562	Agriculture	36
					Furniture	18
					Petroleum	18
					Trans. equipment	14

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, Okanogan County

Season/ Town	Total Trucks Per Day (No.)	Loaded Trucks Per Day (No.)	Average Payload (Tons)	Total Tonnage ¹	Commodity	
					Category	Percent
Fall:						
Brewster	21	21	21	438	Agriculture	74
Omak	16	10	14	147	Agriculture	9
					Lumber, wood	82
					General freight	9
Oroville	10	6	12	74	Agriculture	50
					Lumber, wood	21
					Pulp, paper	15
Riverside	11	11	14	148	Agriculture	24
					Metal	29
					General freight	47
Tonasket	12	11	23	258	Rock, sand	8
					Chemicals	92
Winter:						
Brewster	73	62	22	1,340	Agriculture	90
					Recycled materials	8
Omak	36	31	20	631	Agriculture	15
					Lumber, wood	66
					Print materials	5
					General freight	15
Oroville	11	8	16	120	Agriculture	73
					Trans. equipment	13
Riverside	3	3	22	75	Agriculture	100
Tonasket	24	19	23	424	Agriculture	61
					Lumber, wood	6
					Chemicals	6
Spring:						
Brewster	58	58	21	1,226	Agriculture	100
Omak	37	28	23	636	Lumber, wood	67
					Rubber, plastic	9
					Metal products	21

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

Season/ Town	Total Trucks Per Day (No.)	Loaded Trucks Per Day (No.)	Average Payload (Tons)	Total Tonnage ¹	Commodity	
					Category	Percent
Spring: Oroville	30	17	23	395	Agriculture	14
					Lumber, wood	80
					Trans. equipment	6
Riverside	11	11	23	259	General freight	100
Tonasket	13	12	21	252	Agriculture	20
					Rock, sand	43
					Rubber, plastic	10
					Machinery	17
					Trans. equipment	10
Summer: Brewster	22	16	17	260	Recycled materials	9
Omak	11	7	20	135	Agriculture	91
					Lumber, wood	63
Oroville	19	13	17	218	General freight	14
					Food	22
					Agriculture	66
Riverside	26	26	17	446	Trans. equipment	8
					Pulp, paper	8
					Lumber, wood	11
					Agriculture	48
Tonasket	6	5	32	171	General freight	5
					Petroleum	48
					Lumber, wood	19
					Agriculture	81

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, Okanogan County

Season/ Town	Total Trucks Per Day (No.)	Loaded Trucks Per Day (No.)	Average Payload (Tons)	Total Tonnage ¹	Commodity	
					Category	Percent
Fall:						
Brewster	1	1	6	7	Food	100
Okanogan	5	1	10	11	Food	100
Omak	14	5	28	133	Lumber, wood	100
Oroville	13	9	13	110	Lumber, wood	56
					Glass, cement	33
					General freight	11
Winter:						
Brewster	12	1	2	3	Chemicals	100
Okanogan	4	4	15	54	Trans. equipment	100
Omak	17	11	29	327	Food	71
					Lumber, wood	18
					General freight	11
Oroville	19	8	26	207	Lumber, wood	25
					Furniture	38
					Petroleum	12
					Glass, cement	25
Spring:						
Brewster	5	4	10	45	Agriculture	78
					Lumber, wood	22
Okanogan	5	5	15	79	Trans. equipment	100
Omak	11	8	22	183	Food	86
					General freight	14
Oroville	16	14	26	362	Agriculture	8
					Lumber, wood	78
					General freight	14
Summer:						
Brewster	10	4	23	99	Furniture	100
Okanogan	1	1	16	21	Food	100

Table 3--Daily Truck Traffic by City of Cargo Destination for Each Season, Okanogan County (cont.)

Season/ Town	Total Trucks Per Day (No.)	Loaded Trucks Per Day (No.)	Average Payload (Tons)	Total Tonnage ¹	Commodity	
					Category	Percent
Summer: Omak	6	5	17	89	General freight	18
					Lumber, wood	82
Oroville	8	6	15	90	Metal	16
					Petroleum	16
					Furniture	21
					Lumber, wood	16
					Pulp, paper	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 4--Truck Traffic for Trips Originating or Ending in Okanogan County by Season

Season	Total Trucks Per Day (No.)	Loaded Trucks Per Day (No.)	Average Payload (Tons)	Total Tonnage ¹	Commodity	
					Category	Percent
Fall:	132	86	16	1,393	Agriculture	34
					Food	7
					Lumber, wood	23
					Chemicals	12
					Trans. equipment	6
					General freight	9
Winter:	242	158	21	3,397	Agriculture	54
					Food	7
					Lumber, wood	16
					Glass, cement	5
					Agriculture	44
					Lumber, wood	28
Spring:	228	171	21	3,673	Trans. equipment	5
					General freight	8
					Agriculture	46
					Food	7
					Lumber, wood	11
					Petroleum	19

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 Okanogan County

Commodity	Truck Trips	Total Weight		Avg. Payload (Tons)	County Roads Used	
	Per Year (%)	Tons	% of Total		Road	% of Trips
Agriculture	32	4,759	45	19	SR97	78
					SR17	51
Lumber, wood	14	2,720	26	25	SR97	94
					SR17	13
Other	54	3,055	29	16	SR97	69
					SR20	7
					SR17	35

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

Weight Category (tons)	Commodity							
	Agriculture		Food		Lumber, Wood		Other	
	No.	%	No.	%	No.	%	No.	%
<5	12	5	1	3	16	15	27	20
5 - <10	4	2	7	23	0	0	13	10
10 - <15	12	5	1	3	3	3	4	3
15 - <20	49	20	0	0	0	0	17	13
20 - <25	152	62	16	53	33	31	41	30
25 - <30	14	6	1	3	13	12	3	2
>30	0	0	4	13	41	39	31	23
Total	240	100	7	100	66	100	434	100

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

Weight Category (tons)	SR97		Road SR20		SR17	
	Number	Percent	Number	Percent	Number	Percent
<5	49	13	2	11	3	2
5 - <10	9	2	1	6	15	12
10 - <15	15	4	4	22	7	5
15 - <20	44	11	6	33	17	13
20 - <25	181	47	0	0	62	48
25 - <30	31	8	1	6	5	4
>30	60	15	4	22	20	16
Total	389	100	18	100	129	100

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

Commodity	Truck Configuration					No. of Loads
	1	2	3	4	5	
Agricultural products	2	20	0	77	2	246
Rock, sand	0	0	0	15	85	6
Food	4	0	0	57	40	32
Lumber, wood products	1	8	5	67	20	107
Furniture	0	0	0	100	0	9
Pulp, paper	100	0	0	0	0	4
Printed materials	0	0	0	100	0	1
Chemicals	0	9	0	91	0	14
Petroleum products	18	26	0	50	6	24
Rubber, plastic products	34	66	0	0	0	4
Glass and cement products	39	10	0	0	51	10
Metal, metal products	0	0	0	100	0	4
Fabricated metal products	0	0	0	100	0	6
Machinery	0	69	0	31	0	7
Transportation equipment	33	0	14	52	0	23
Misc. manufactured goods	0	0	0	100	0	1
General freight	16	15	0	69	0	30
Recycled materials	0	0	0	78	22	7
Total	6%	14%	2%	68%	10%	534

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 Okanogan County

	Location	Number	Percent
By Town:			
	Brewster	19	3
	Seattle	28	4
	Tacoma	24	3
	Tonasket	38	5
	Wenatchee	46	7
	Other	549	78
	Total	704	100
	Wash. State carriers:	364	52