

# Washington State Freight Truck Origin and Destination Study: Kittitas 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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## **DISCLAIMER**

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.

## Kittitas County Results

The most heavily used truck route in Kittitas County is Interstate 90 (I90), with a daily average ranging from 678 in summer to 536 in spring (Table 1). The most commonly hauled products on I90, in order of magnitude, are agricultural products, food, and lumber or wood products, with an average payload weight for this roadway ranging from 14 to 20 tons. Interstate 82 (I82) and State Route 97 (SR97) are the next most heavily used, averaging between 22 and 49 trucks per day across the seasons. Freight hauled on I82 varies considerably across the seasons. Lumber or wood products are the predominant freight in fall, food is predominant in winter, agricultural and food products are most common in spring, and metal products make up the largest weight class in summer. Freight is also quite varied seasonally on SR97, consisting mainly of machinery, food, lumber or wood products, agricultural products, and metal products. The average payload weight is highest at 22 tons on I82 in fall.

The majority of truck traffic originating from Kittitas County leaves from the town of Ellensburg, ranging from an average of 201 trucks per day in summer to 178 per day in fall (Table 2). Agricultural and food products make up the main categories of freight leaving from Ellensburg. Cle Elum has the next highest level of outgoing truck traffic, averaging from 71 trucks per day in winter to 47 per day in fall. Freight from Cle Elum consists mainly of lumber or wood products and rock or sand. Easton, Snoqualmie Pass, Vantage, and Nelson also have significant outgoing truck traffic, ranging from 5 to 25 trucks per day across the seasons. Lumber or wood products, food, and agricultural products are the most commonly hauled freight from other towns in Kittitas County. The highest average payload weight of 30 tons occurs for trucks originating from Easton in summer when freight consists of miscellaneous manufactured goods.

Trucks headed to destinations in Kittitas County are most likely to be headed for Ellensburg or Cle Elum (Table 3). Food is the most common freight destined for Ellensburg across the seasons. Other common freight categories, with considerable seasonal variation, include general freight, agricultural products, lumber or wood products, propane, and petroleum products. Freight to Cle Elum consists mainly of agricultural products, food, petroleum, transportation equipment, and metal products. Truck traffic to Ellensburg ranges from a high averaging 267 trucks per day in summer to a low of 175 in fall, while traffic to Cle Elum ranges from 100 per day in spring to 75 per day in summer. The highest average payload weight of 23 tons occurs for trucks heading to Ellensburg in summer.

Total truck traffic heading for or leaving from Kittitas County ranges from 680 trucks per day in summer to 565 trucks per day in winter (Table 4). The most common freight categories include agricultural products, food products, and lumber or wood products. Average payload weights are slightly higher in fall and summer at 19 tons.

Table 5 shows road usage by type of freight for the major commodities hauled into or out of Kittitas County over the entire year. I90 is used by over 94% or more of all trucks hauling freight into or out of Kittitas County. SR10 is the next most heavily used route,

used by 16% of the trucks hauling food, 17% of the trucks hauling lumber or wood, and 7% of trucks hauling agricultural products. I82 is next most frequently used, by 14% of trucks hauling food, 12% of those hauling lumber or wood, and 8% of trucks hauling agricultural products. SR97 is used by 10% or less of trucks hauling freight in Kittitas County according to the survey data. Agricultural products are the predominant commodity hauled into and from Kittitas County, accounting for 16% of trucks with loads and 33% of total tonnage. Lumber or wood products make up 7% of loaded trucks and account for 17% of the total tonnage with the heaviest average payload weight among the listed categories of 25 tons.

Weight category by commodity for trucks hauling freight into or out of Kittitas County is presented in Table 6. For trucks carrying lumber or wood products, 38% have loads weighing over 30 tons. For trucks carrying agricultural products, one-third have payload weights between 25 and 30 tons and another 11% weigh over 30 tons. One-fifth of the trucks carrying cargo other than the main groups listed in the table have payload weights of over 30 tons, although one-fourth have freight weighing under five tons.

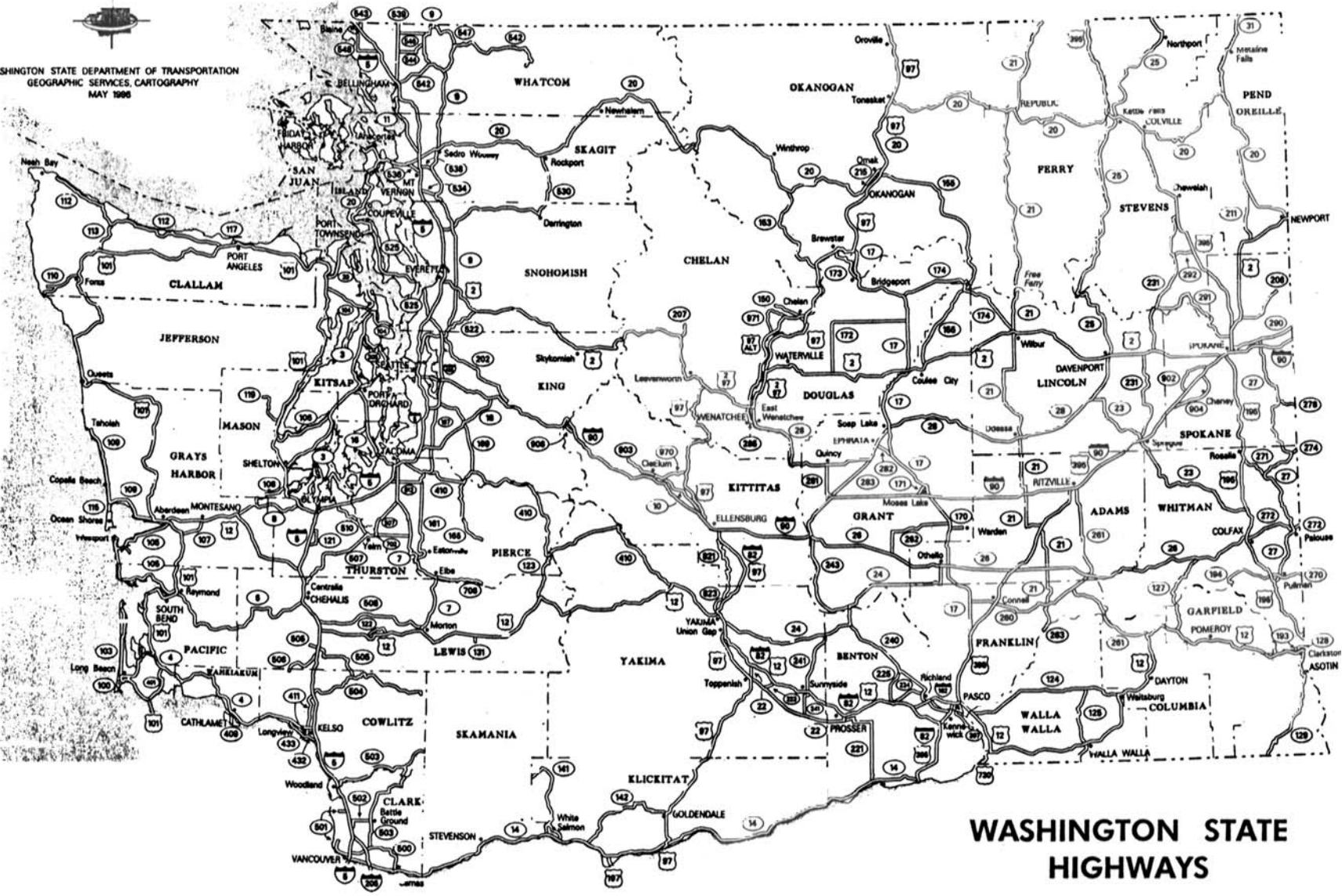
Table 7 shows weight category by roadway for truckloads originating or ending in Kittitas County. For the 1,157 trucks with loads in the survey using I90, payload weight is fairly evenly distributed across the weight categories. SR10 carries the highest percentage of trucks with freight weighing over 30 tons with 17% of all loads in this category.

The most common truck configuration for trucks carrying loads into or out of Kittitas County is the tractor and trailer configuration, accounting for half of the trucks with loads (Table 8). Another 13% each are straight trucks and tractors with two trailers. Seventeen percent are truck and tractor configurations. Agricultural products are mainly carried by tractor and trailer configurations (77% of loads).

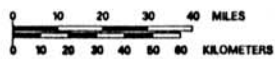
Over the four-day survey period (one day in each season), a total of 2,391 trucks, loaded or empty, were either heading for or leaving Kittitas County (Table 9). Of these trucks, 83% were Washington-based carriers. Ellensburg is home base for 33% of the surveyed carriers, while another 6% each are based in Seattle and Cle Elum.



WASHINGTON STATE DEPARTMENT OF TRANSPORTATION  
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# WASHINGTON STATE HIGHWAYS



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

Season/ Road	Total Trucks Per Day (No.)	Loaded Trucks Per Day (No.)	Average Payload (Tons)	Total Tonnage <sup>1</sup>	Commodity	
					Category	Percent
<b>Fall:</b>						
I90	557	278	19	5,150	Agriculture	44
					Food	16
					Lumber, wood	11
					Trans. equipment	7
					General freight	6
I82	43	33	22	728	Agriculture	7
					Food	13
					Lumber, wood	46
					Petroleum	16
					Mail, packages	12
SR97	49	17	19	332	Agriculture	6
					Livestock	12
					Food	38
					Lumber, wood	7
					Glass, cement	14
					Mail, packages	23
<b>Winter:</b>						
I90	546	325	17	5,608	Agriculture	21
					Propane	5
					Food	17
					Lumber, wood	17
					Petroleum	5
					Machinery	6
					Trans. equipment	10
					Mail, packages	6

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

Season/ Road	Total Trucks Per Day (No.)	Loaded Trucks Per Day (No.)	Average Payload (Tons)	Total Tonnage <sup>1</sup>	Commodity						
					Category	Percent					
<b>Winter:</b> I82	46	32	14	449	Agriculture	8					
					Food	47					
					Furniture	14					
					Metal products	15					
SR97	37	25	18	437	Agriculture	15					
					Food	19					
					Metal products	5					
					Machinery	61					
<b>Spring:</b> I90	536	319	14	4,585	Agriculture	20					
					Rock, sand	7					
					Food	27					
					Lumber, wood	9					
					Petroleum	9					
					Machinery	5					
					I82	22	18	18	323	Agriculture	40
										Food	40
										Chemicals	7
										Machinery	7
SR97	31	25	18	445	Electrical	7					
					Agriculture	13					
					Food	14					
					Lumber, wood	39					
					Metal	5					
					Machinery	5					
	Electrical	10									

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

Season/ Road	Total Trucks Per Day (No.)	Loaded Trucks Per Day (No.)	Average Payload (Tons)	Total Tonnage <sup>1</sup>	Commodity	
					Category	Percent
Summer: I90	678	325	20	6,418	Agriculture	33
					Food	16
					Lumber, wood	11
					Machinery	8
I82	31	23	17	390	Food	15
					Laundry	18
					Lumber, wood	19
					Metal products	24
					Mail, packages	18
SR97	29	23	19	438	Agriculture	11
					Livestock	11
					Food	5
					Lumber, wood	6
					Print materials	15
					Chemicals	5
					Metal products	23
					General freight	5

<sup>1</sup>Total 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, Kittitas County**

Season/ Town	Total Trucks Per Day (No.)	Loaded Trucks Per Day (No.)	Average Payload (Tons)	Total Tonnage <sup>1</sup>	Commodity	
					Category	Percent
<b>Fall:</b>						
Cle Elum	47	31	23	732	Rock, sand	16
					Lumber, wood	50
					Print materials	17
Easton	25	20	19	376	Lumber, wood	75
					Trans. equipment	25
Ellensburg	178	152	20	3,022	Agriculture	76
					Food	16
<b>Winter:</b>						
Cle Elum	71	64	26	1,657	Lumber, wood	84
					Petroleum	8
					Machinery	8
Ellensburg	183	131	20	2,598	Agriculture	44
					Food	24
					Mail, packages	8
Snoqualmie Pass	5	5	5	23	Propane	100
Vantage	5	5	16	84	Agriculture	100
<b>Spring:</b>						
Cle Elum	51	45	17	771	Rock, sand	25
					Lumber, wood	25
					Petroleum	13
					Recycled materials	24
Easton	22	16	2	38	Chemicals	33
					Petroleum	33
Ellensburg	183	142	18	2,617	Agriculture	44
					Food	42
Roslyn	11	11	25	288	Food	50
					Lumber, wood	50



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

Season/ Town	Total Trucks Per Day (No.)	Loaded Trucks Per Day (No.)	Average Payload (Tons)	Total Tonnage <sup>1</sup>	Commodity	
					Category	Percent
<b>Summer:</b>						
Cle Elum	57	28	22	619	Print materials	12
					Lumber, wood	57
					Machinery	15
Easton	5	5	30	164	Misc. goods	100
Ellensburg	201	148	17	2,578	Agriculture	66
					Food	17
Nelson	15	11	26	274	Agriculture	18
					Lumber, wood	82
Vantage	8	4	20	79	Agriculture	100

<sup>1</sup>Total 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, Kittitas County**

Season/ Town	Total Trucks Per Day (No.)	Loaded Trucks Per Day (No.)	Average Payload (Tons)	Total Tonnage <sup>1</sup>	Commodity	
					Category	Percent
<b>Fall:</b> Cle Elum	88	36	14	502	Agriculture	24
					Rock, sand	14
					Food	17
					Furniture	14
					Glass, cement	17
					Mail, packages	11
Ellensburg	175	35	20	702	Food	27
					Petroleum	15
					Trans. equipment	15
					General freight	30
					Mail, packages	10
<b>Winter:</b> Cle Elum	77	36	16	563	Food	14
					Petroleum	28
					Metal	14
					Machinery	14
					Trans. equipment	15
					Mail, packages	14
Ellensburg	179	51	11	567	Agriculture	16
					Propane	20
					Food	29
					Textiles	10
					Furniture	8
					Metal products	7
					Trans. equipment	10

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

Season/ Town	Total Trucks Per Day (No.)	Loaded Trucks Per Day (No.)	Average Payload (Tons)	Total Tonnage <sup>1</sup>	Commodity	
					Category	Percent
<b>Spring:</b> Cle Elum	100	67	15	1,018	Food	24
					Lumber, wood	11
					Chemicals	8
					Petroleum	16
					Metal	17
Ellensburg	186	56	12	695	Agriculture	13
					Food	16
					Lumber, wood	21
					Furniture	9
					Chemicals	2
					Petroleum	9
					Machinery	11
<b>Summer:</b> Cle Elum	75	15	18	271	Rock, sand	27
					Lumber, wood	10
Ellensburg	267	80	23	1,824	Metal products	63
					Machinery	7
					Metal	5
					General freight	5
					Mail, packages	5
					Petroleum	16
					Food	35
					Lumber, wood	5
Pulp, paper	6					

<sup>1</sup>Total 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 Kittitas County by Season**

Season	Total Trucks Per Day (No.)	Loaded Trucks Per Day (No.)	Average Payload (Tons)	Total Tonnage <sup>1</sup>	Commodity	
					Category	Percent
<b>Fall:</b>	570	285	19	5,355	Agriculture	43
					Food	16
					Lumber, wood	11
					Trans. equipment	7
					General freight	5
<b>Winter:</b>	565	331	17	5,753	Agriculture	21
					Propane	5
					Food	18
					Lumber, wood	16
					Petroleum	5
					Machinery	6
					Trans. equipment	9
					Mail, packages	6
<b>Spring:</b>	576	348	16	5,403	Agriculture	20
					Rock, sand	7
					Food	27
					Lumber, wood	11
					Petroleum	8
					Machinery	5
<b>Summer:</b>	680	327	19	6,342	Agriculture	33
					Food	16
					Lumber, wood	11
					Machinery	8

<sup>1</sup>Total 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 Kittitas County**

Commodity	Truck Trips	Total Weight		Avg. Payload (Tons)	County Roads Used	
	Per Year (%)	Tons	% of Total		Road	% of Trips
Agriculture	16	7,488	33	20	I82	8
					I90	97
					SR10	7
					SR97	3
Food	11	3,893	17	15	I82	14
					I90	95
					SR10	16
					SR97	7
Lumber, wood	7	3,978	17	25	I82	12
					I90	94
					SR10	17
					SR97	8
Other	67	7,406	33	15	I82	11
					I90	98
					SR10	12
					SR97	10

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

Weight Category (tons)	Commodity											
	Agricultural		Food		Lumber, Wood		Machinery		Trans. Equipment		Other	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
<5	22	6	35	14	6	4	18	53	16	34	83	25
5 - <10	0	0	38	15	0	0	1	3	10	21	70	21
10 - <15	86	25	44	18	5	3	10	29	0	0	20	6
15 - <20	40	12	39	16	7	4	0	0	0	0	41	12
20 - <25	48	14	61	24	46	29	5	15	5	11	39	12
25 - <30	110	32	25	10	34	22	0	0	11	23	16	5
>30	36	11	9	4	59	38	0	0	5	11	66	20
<b>Total</b>	<b>342</b>	<b>100</b>	<b>251</b>	<b>100</b>	<b>157</b>	<b>100</b>	<b>34</b>	<b>100</b>	<b>47</b>	<b>100</b>	<b>335</b>	<b>100</b>

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

Weight Category (tons)	Commodity							
	I90		I82		SR97		SR10	
	No.	%	No.	%	No.	%	No.	%
<5	177	15	13	12	15	18	18	14
5 - <10	134	12	14	13	6	7	14	11
10 - <15	159	14	13	12	16	19	10	8
15 - <20	123	11	7	7	7	8	9	7
20 - <25	214	18	41	39	17	20	24	18
25 - <30	211	18	8	8	12	14	34	26
>30	139	12	9	9	11	13	22	17
<b>Total</b>	<b>1157</b>	<b>100</b>	<b>105</b>	<b>100</b>	<b>84</b>	<b>100</b>	<b>131</b>	<b>100</b>

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

Commodity	Truck Configuration				No. of Loads
	1	2	4	5	
Agricultural products	4	9	77	11	373
Livestock	0	44	56	0	5
Propane	67	33	0	0	15
Rock, sand	48	52	0	0	41
Food	8	20	59	12	252
Textiles	0	0	100	0	5
Laundry, misc. apparel	100	0	0	0	4
Lumber, wood products	7	19	67	7	159
Furniture	55	0	45	0	19
Pulp, paper	0	0	0	100	5
Printed materials	100	0	0	0	9
Chemicals	0	81	0	19	13
Petroleum products	59	23	10	8	62
Rubber, plastic products	0	0	100	0	1
Glass, cement products	68	0	32	0	7
Metal, metal products	0	20	51	29	31
Fabricated metal products	44	36	20	0	19
Machinery	0	19	28	0	63
Electrical equipment	0	0	50	0	2
Transportation equipment	0	9	18	10	57
Medical, photo. instruments	0	0	0	0	4
Misc. manufactured goods	0	63	37	0	9
General freight	0	0	5	95	26
Mail, packages	19	11	0	58	48
Recycled materials	52	0	48	0	11
<b>Total</b>	<b>13%</b>	<b>17%</b>	<b>51%</b>	<b>13%</b>	<b>1,240</b>

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

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

	<b>Location</b>	<b>Number</b>	<b>Percent</b>
<b>By Town:</b>			
	Cle Elum	135	6
	Ellensburg	797	33
	Seattle	108	5
	Tacoma	133	6
	Other	1218	50
	Total	2391	100
<b>Wash. State carriers:</b>		<b>1989</b>	<b>83</b>