

Washington State Freight Truck Origin and Destination Study: Stevens County



EWITS Research Report Number 21-Stevens
January 1998

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.

Stevens County Results

The predominant truck route in Stevens County is State Route 395 (SR395). Truck traffic either originating from or headed to Stevens County ranges from 179 per day in summer to 280 per day in spring on this roadway (Table 1). Other major truck routes include State Routes 20, 231, and 25 (SR20, SR231, and SR25), but daily truck traffic is much lower on these routes. On SR20, truck traffic ranges from 54 per day in winter to 12 per day in summer. On SR231, traffic remains fairly steady year-round at 20 to 26 trucks per day. For SR25, traffic ranges from 8 trucks per day in spring to 30 trucks per day in fall. Lumber or wood products and paper or pulp products are the predominant freight for all roads except SR231 and SR25 in spring. Given the predominance of lumber or wood products carried by trucks in this county, the relatively high average payload weight is not surprising. On SR395, the average payload weight ranges from 22 to 25 tons across the seasons. On the other routes, the average payload weight is even higher, for the most part, due to the higher percentage of freight falling into the lumber or wood products category. The highest average payload weight of 34 tons was recorded for SR20 in summer.

Most truck traffic in Stevens County originates from the towns of Colville, Kettle Falls, and Arden (Table 2). Chewelah, Springdale, Valley, and Addy are also significant sources of truck traffic in the county. Truck traffic from Colville ranges from 96 per day in spring to 59 trucks per day in fall, with lumber or wood products being the primary freight category in all seasons. Daily truck traffic from the other towns in Stevens County tends to be less than 40 trucks per day, with lumber or wood products being a major freight category for most. Rock or sand is another common freight category, particularly from the towns of Valley, Chewelah, and Addy. Average payload weights tend to quite high, frequently averaging above 25 tons.

Table 3 describes the characteristics of trucks destined for towns in Stevens County by season. Daily truck traffic heading for Colville ranges from a high of 17 trucks per day in spring to a low of three per day in summer. Addy, Kettle Falls, Chewelah, and Valley also receive small amounts of daily truck traffic in most seasons. Food products, wood or lumber products, metal, petroleum, and glass or cement products are among the variety of freight headed for Stevens County. The heaviest average payload weight of 29 tons is metal freight headed for Addy in both fall and spring. Of the 17 trucks destined for Stevens County during the summer months, six refused to participate in the survey. All were carrying wood chips and headed for Kettle Falls; their average payload weight was 69 tons. These data were not included in the survey as only partial information was completed for these non-participants.

Daily truck traffic counts for trucks either destined for or originating from Stevens County show that total traffic is highest in spring at 312 per day and lowest in summer at 214 per day (Table 4). The predominant freight in all seasons is lumber or wood products, ranging from 41% of all trucks with loads in spring to 73% of all trucks with loads in summer. Other important freight categories include food products, rock or sand, and

metal. The average payload weight ranges between 22 and 25 tons across the seasons.

Over half of all loaded trucks in Stevens County carry lumber or wood products (Table 5). The average payload weight is 27 tons, compared to 18 tons for all other freight. Most traffic in the county is carried on SR395; 90% of all lumber or wood products and 81% of all other freight travels on this road. The other two main routes, SR25 and SR231, are used by just 6% to 12% of trucks with freight, depending on the category.

Payload weight is broken down by five ton increments for each major category of freight in Table 6. Lumber or wood products exceed 30 tons for 45% of the loads. Loads in the agricultural products and food products categories tended to be in the lower weight categories. Freight in the “other” category have 26% of loads in the over 30 tons range, perhaps due to the inclusion of rock and sand in this category.

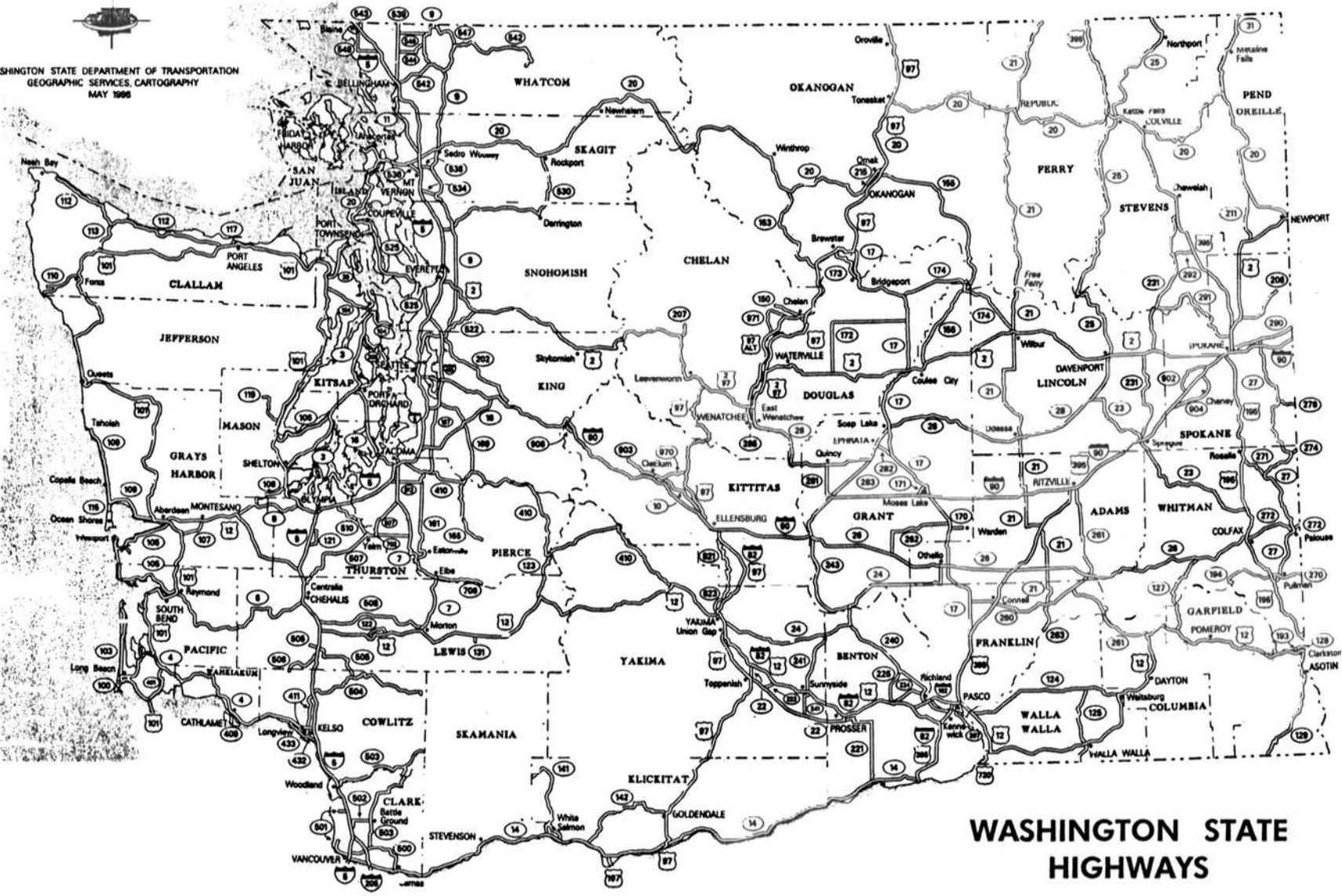
The distribution of weight categories by major routes for all truck traffic is presented in Table 7. For Stevens County, SR395 is the most heavily traveled route, with 638 trucks in the survey. Over one-third of these trucks have a payload weight of over 30 tons. Another 44% lie in the 20- to 30-ton weight bracket. On SR25, nearly half of the 53 surveyed trucks carry payloads weighing over 30 tons while on SR231, 61% of the 77 trucks in this survey fall in the highest weight class. (The survey method used for this study is less accurate at portraying movements within counties due to the location of survey locations at major weigh stations. Another potentially misleading phenomenon in the survey is the tendency for trucks with extremely heavy payloads to refuse to participate in the survey.)

Type of truck configuration by commodity hauled is presented in Table 8. Nearly half of all freight is hauled by tractor-trailer configurations, and another one-third is hauled by tractors plus two trailers. Just 8% of all freight is hauled by straight trucks, while another 12% is hauled by truck and trailer configurations.

Table 9 presents the distribution of truckers’ home base for truck trips originating or ending in this county. The most common base is Spokane, with 25% of the truck trips. Colville and Lewiston, Idaho, are the next most common bases for 7% and 6% of truck trips, respectively. Washington-based carriers represented 61% of all truck trips in the survey for this county.



WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
GEOGRAPHIC SERVICES, CARTOGRAPHY
MAY 1996



WASHINGTON STATE HIGHWAYS

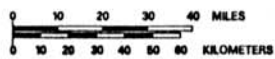


Table 1--Daily Truck Traffic by Road for Each Season, Stevens County

| Season/ Road | Total Trucks Per Day (No.) | Loaded Trucks Per Day (No.) | Average Payload (Tons) | Total Tonnage ¹ | Commodity | |
|-----------------|----------------------------------|-----------------------------------|------------------------------|-------------------------------|----------------|---------|
| | | | | | Category | Percent |
| Fall: | | | | | | |
| SR395 | 204 | 155 | 23 | 3,532 | Lumber, wood | 68 |
| | | | | | Food | 5 |
| SR20 | 44 | 39 | 28 | 1,094 | Lumber, wood | 73 |
| | | | | | Petroleum | 11 |
| SR231 | 26 | 21 | 30 | 634 | Rock, sand | 25 |
| | | | | | Lumber, wood | 75 |
| SR25 | 30 | 14 | 19 | 255 | Lumber, wood | 51 |
| | | | | | Pulp, paper | 37 |
| | | | | | Chemicals | 12 |
| Winter: | | | | | | |
| SR395 | 221 | 160 | 25 | 3,914 | Rock, sand | 9 |
| | | | | | Food | 5 |
| | | | | | Lumber, wood | 55 |
| | | | | | Metal | 8 |
| SR20 | 54 | 51 | 27 | 1,398 | Livestock | 7 |
| | | | | | Food | 6 |
| | | | | | Lumber, wood | 55 |
| | | | | | Chemicals | 7 |
| | | | | | Petroleum | 6 |
| | | | | | Metal | 16 |
| SR231 | 24 | 18 | 26 | 463 | Rock, sand | 29 |
| | | | | | Lumber, wood | 37 |
| | | | | | Metal | 25 |
| | | | | | Mail, packages | 8 |
| SR25 | 15 | 15 | 24 | 358 | Lumber, wood | 56 |
| | | | | | Glass, cement | 34 |

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

| Season/ Road | Total Trucks Per Day (No.) | Loaded Trucks Per Day (No.) | Average Payload (Tons) | Total Tonnage ¹ | Commodity | |
|-------------------------|----------------------------------|-----------------------------------|------------------------------|-------------------------------|-----------------|---------|
| | | | | | Category | Percent |
| Spring: SR395 | 280 | 217 | 22 | 4,806 | Rock, sand | 11 |
| | | | | | Food | 11 |
| | | | | | Lumber, wood | 46 |
| | | | | | Chemicals | 5 |
| | | | | | Metal | 6 |
| SR20 | 25 | 21 | 25 | 540 | Rock, sand | 6 |
| | | | | | Lumber, wood | 71 |
| | | | | | Chemicals | 12 |
| | | | | | Electrical | 6 |
| | | | | | General freight | 6 |
| SR231 | 20 | 19 | 24 | 444 | Rock, sand | 29 |
| | | | | | Lumber, wood | 28 |
| | | | | | Glass, cement | 31 |
| | | | | | Metal | 6 |
| | | | | | Machinery | 7 |
| SR25 | 8 | 6 | 16 | 97 | Food | 79 |
| | | | | | Lumber, wood | 21 |
| | | | | | | |
| Summer: SR395 | 179 | 113 | 25 | 2,832 | Rock, sand | 11 |
| | | | | | Lumber, wood | 70 |
| SR20 | 12 | 12 | 34 | 397 | Lumber, wood | 100 |
| SR231 | 20 | 20 | 28 | 566 | Rock, sand | 49 |
| | | | | | Lumber, wood | 51 |
| SR25 | 22 | 22 | 19 | 407 | Food | 5 |
| | | | | | Lumber, wood | 89 |
| | | | | | Machinery | 5 |

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, Stevens County

| Season/ Town | Total Trucks Per Day (No.) | Loaded Trucks Per Day (No.) | Average Payload (Tons) | Total Tonnage ¹ | Commodity | |
|-----------------|----------------------------------|-----------------------------------|------------------------------|-------------------------------|-----------------|---------|
| | | | | | Category | Percent |
| Fall: | | | | | | |
| Addy | 3 | 2 | 24 | 37 | Lumber, wood | 100 |
| Arden | 35 | 33 | 25 | 841 | Lumber, wood | 100 |
| Chewelah | 20 | 13 | 19 | 252 | Agriculture | 12 |
| | | | | | Rock, sand | 24 |
| | | | | | Lumber, wood | 12 |
| | | | | | Chemicals | 12 |
| | | | | | General freight | 41 |
| Colville | 59 | 33 | 23 | 745 | Lumber, wood | 66 |
| | | | | | Petroleum | 5 |
| | | | | | Metal | 5 |
| | | | | | Metal products | 5 |
| | | | | | Machinery | 10 |
| | | | | | Solid waste | 5 |
| Kettle Falls | 33 | 28 | 25 | 689 | Food | 11 |
| | | | | | Lumber, wood | 83 |
| | | | | | Machinery | 6 |
| Northport | 5 | 5 | 24 | 113 | Lumber, wood | 67 |
| | | | | | Machinery | 33 |
| Springdale | 16 | 16 | 28 | 452 | Food | 33 |
| | | | | | Lumber, wood | 67 |
| Valley | 5 | 5 | 33 | 174 | Rock, sand | 100 |
| Waterloo | 10 | 10 | 8 | 72 | Furniture | 50 |
| Winter: | | | | | | |
| Addy | 15 | 13 | 28 | 376 | Food | 11 |
| | | | | | Chemicals | 27 |
| | | | | | Metal | 61 |
| Arden | 26 | 23 | 28 | 657 | Lumber, wood | 100 |
| Chewelah | 12 | 4 | 19 | 86 | Agriculture | 33 |
| | | | | | Laundry | 33 |
| | | | | | Machinery | 33 |

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

| Season/ Town | Total Trucks Per Day (No.) | Loaded Trucks Per Day (No.) | Average Payload (Tons) | Total Tonnage ¹ | Commodity | |
|----------------------------|----------------------------------|-----------------------------------|------------------------------|-------------------------------|-----------------|---------|
| | | | | | Category | Percent |
| Winter: Colville | 85 | 53 | 24 | 1285 | Livestock | 7 |
| | | | | | Lumber, wood | 75 |
| | | | | | Furniture | 6 |
| | | | | | Lumber, wood | 89 |
| | | | | | Chemicals | 6 |
| Kettle Falls | 35 | 26 | 24 | 615 | Machinery | 6 |
| | | | | | Lumber, wood | 89 |
| | | | | | Chemicals | 6 |
| Springdale | 7 | 6 | 23 | 140 | Lumber, wood | 75 |
| Valley | 16 | 16 | 27 | 417 | Glass, cement | 25 |
| | | | | | Rock, sand | 90 |
| Waterloo | 5 | 5 | 9 | 44 | Mail, packages | 10 |
| Spring: Addy | 29 | 25 | 23 | 583 | Food | 100 |
| | | | | | Rock, sand | 20 |
| | | | | | Lumber, wood | 5 |
| | | | | | Chemicals | 29 |
| | | | | | Metal | 25 |
| Arden | 18 | 18 | 29 | 509 | Solid waste | 21 |
| Chewelah | 23 | 16 | 15 | 238 | Lumber, wood | 100 |
| | | | | | Agriculture | 23 |
| | | | | | Food | 8 |
| | | | | | Lumber, wood | 39 |
| | | | | | Furniture | 8 |
| | | | | | Chemicals | 8 |
| | | | | | General freight | 8 |
| | | | | | Mail, packages | 8 |
| Colville | 96 | 55 | 20 | 1120 | Agriculture | 10 |
| | | | | | Livestock | 10 |
| | | | | | Food | 11 |
| | | | | | Lumber, wood | 54 |
| | | | | | Machinery | 7 |
| | | | | | | |

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

| Season/ Town | Total Trucks Per Day (No.) | Loaded Trucks Per Day (No.) | Average Payload (Tons) | Total Tonnage ¹ | Commodity | |
|-----------------|----------------------------------|-----------------------------------|------------------------------|-------------------------------|-----------------|---------|
| | | | | | Category | Percent |
| Spring: | | | | | | |
| Kettle Falls | 39 | 32 | 29 | 909 | Lumber, wood | 96 |
| Northport | 3 | 3 | 13 | 34 | Food | 50 |
| | | | | | Lumber, wood | 50 |
| Springdale | 6 | 1 | 14 | 18 | Machinery | 100 |
| Valley | 39 | 39 | 23 | 909 | Rock, sand | 49 |
| | | | | | Lumber, wood | 13 |
| | | | | | Glass, cement | 28 |
| Waterloo | 10 | 10 | 8 | 78 | Food | 100 |
| Summer: | | | | | | |
| Addy | 8 | 4 | 33 | 118 | Glass, cement | 33 |
| | | | | | General freight | 33 |
| | | | | | Rock, sand | 33 |
| Arden | 23 | 16 | 28 | 430 | Lumber, wood | 100 |
| Chewelah | 11 | 4 | 27 | 96 | Rock, sand | 33 |
| | | | | | Agriculture | 33 |
| | | | | | Food | 33 |
| Colville | 79 | 49 | 24 | 1202 | Machinery | 5 |
| | | | | | General freight | 5 |
| | | | | | Lumber, wood | 76 |
| Kettle Falls | 42 | 27 | 25 | 683 | Lumber, wood | 87 |
| Northport | 9 | 5 | 18 | 86 | Machinery | 25 |
| | | | | | Lumber, wood | 75 |
| Springdale | 7 | 5 | 22 | 104 | Agriculture | 75 |
| | | | | | Lumber, wood | 25 |
| Valley | 11 | 11 | 29 | 328 | Rock, sand | 89 |
| | | | | | Lumber, wood | 11 |
| Waterloo | 4 | 4 | 13 | 54 | Lumber, wood | 100 |

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, Stevens County

| Season/ Town | Total Trucks Per Day (No.) | Loaded Trucks Per Day (No.) | Average Payload (Tons) | Total Tonnage ¹ (Tons) | Commodity | |
|-----------------|----------------------------------|-----------------------------------|------------------------------|---|-----------------|---------|
| | | | | | Category | Percent |
| Fall: | | | | | | |
| Addy | 5 | 5 | 29 | 153 | Metal | 100 |
| Colville | 15 | 15 | 17 | 255 | Food | 21 |
| | | | | | Lumber, wood | 34 |
| | | | | | Petroleum | 28 |
| | | | | | Metal products | 7 |
| | | | | | General freight | 10 |
| Kettle Falls | 3 | 4 | 25 | 90 | Lumber, wood | 100 |
| Winter: | | | | | | |
| Chewelah | 3 | 3 | 23 | 69 | Petroleum | 100 |
| Colville | 13 | 13 | 17 | 223 | Food | 23 |
| | | | | | Glass, cement | 38 |
| | | | | | Metal | 38 |
| Spring: | | | | | | |
| Addy | 6 | 6 | 29 | 185 | Metal | 100 |
| Chewelah | 5 | 5 | 18 | 92 | Food | 100 |
| Colville | 17 | 17 | 15 | 262 | Food | 51 |
| | | | | | Lumber, wood | 20 |
| | | | | | General freight | 28 |
| Kettle Falls | 6 | 5 | 12 | 63 | Agriculture | 100 |
| Summer: | | | | | | |
| Arden | 4 | | | | | |
| Colville | 3 | 3 | 25 | | Glass, cement | 100 |
| Kettle Falls | 12 | 8 | 18 | | Lumber, wood | 34 |
| | | | | | Chemicals | 66 |
| | | | | | Valley | 4 |

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 Stevens County by Season

| Season | Total Trucks Per Day (No.) | Loaded Trucks Per Day (No.) | Average Payload (Tons) | Total Tonnage ¹ | Commodity | |
|---------|----------------------------------|-----------------------------------|------------------------------|-------------------------------|--------------|---------|
| | | | | | Category | Percent |
| Fall: | 247 | 191 | 22 | 4,277 | Lumber, wood | 60 |
| | | | | | Food | 7 |
| Winter: | 229 | 166 | 24 | 4,050 | Rock, sand | 9 |
| | | | | | Food | 8 |
| | | | | | Lumber, wood | 54 |
| | | | | | Metal | 8 |
| Spring: | 312 | 243 | 22 | 5,370 | Agriculture | 6 |
| | | | | | Rock, sand | 10 |
| | | | | | Food | 16 |
| | | | | | Lumber, wood | 41 |
| | | | | | Chemicals | 5 |
| | | | | | Metal | 5 |
| Summer: | 214 | 143 | 25 | 3,558 | Rock, sand | 9 |
| | | | | | Lumber, wood | 73 |

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 Stevens County

| Commodity | Truck Trips Per Year (%) | Total Weight | | Avg. Payload (Tons) | County Roads Used | |
|--------------|--------------------------------|--------------|------------|------------------------|-------------------|------------|
| | | Tons | % of Total | | Road | % of Trips |
| Lumber, wood | 55 | 10,979 | 64 | 27 | SR395 | 91 |
| | | | | | SR25 | 9 |
| | | | | | SR231 | 9 |
| Other | 45 | 6,216 | 36 | 18 | SR395 | 81 |
| | | | | | SR25 | 6 |
| | | | | | SR231 | 12 |

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

| Weight Category (tons) | Commodity | | | | | | | |
|------------------------|-------------|------------|-----------|------------|--------------|------------|------------|------------|
| | Agriculture | | Food | | Lumber, Wood | | Other | |
| | No. | % | No. | % | No. | % | No. | % |
| <5 | 5 | 24 | 15 | 22 | 17 | 4 | 37 | 14 |
| 5 - <10 | 0 | 0 | 17 | 25 | 5 | 1 | 22 | 9 |
| 10 - <15 | 6 | 29 | 3 | 4 | 4 | 0 | 11 | 4 |
| 15 - <20 | 0 | 0 | 13 | 19 | 11 | 3 | 21 | 9 |
| 20 - <25 | 5 | 24 | 17 | 25 | 105 | 26 | 55 | 22 |
| 25 - <30 | 4 | 19 | 3 | 4 | 84 | 21 | 35 | 14 |
| >30 | 1 | 5 | 1 | 1 | 182 | 45 | 64 | 26 |
| Total | 21 | 100 | 69 | 100 | 408 | 100 | 245 | 100 |

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

| Weight Category (tons) | Road | | | | | |
|------------------------|------------|------------|-----------|------------|-----------|------------|
| | SR395 | | SR25 | | SR231 | |
| | No. | % | No. | % | No. | % |
| <5 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5 - <10 | 53 | 8 | 9 | 17 | 1 | 1 |
| 10 - <15 | 31 | 5 | 1 | 2 | 1 | 1 |
| 15 - <20 | 46 | 7 | 7 | 13 | 0 | 0 |
| 20 - <25 | 163 | 26 | 9 | 17 | 17 | 22 |
| 25 - <30 | 117 | 18 | 2 | 4 | 11 | 14 |
| >30 | 228 | 36 | 25 | 47 | 47 | 61 |
| Total | 638 | 100 | 53 | 100 | 77 | 100 |

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

| Commodity | Truck Configuration (%) | | | | | Total Loads |
|---------------------|-------------------------|------------|-----------|------------|------------|-------------|
| | 1 | 2 | 3 | 4 | 5 | |
| Agriculture | 0 | 24 | 0 | 60 | 16 | 22 |
| Livestock | 59 | 0 | 0 | 41 | 0 | 9 |
| Propane | 100 | 0 | 0 | 0 | 0 | 1 |
| Rock, sand | 0 | 29 | 0 | 34 | 37 | 59 |
| Food | 27 | 4 | 0 | 65 | 4 | 69 |
| Laundry | 100 | 0 | 0 | 0 | 0 | 1 |
| Lumber, wood | 2 | 10 | 1 | 44 | 44 | 408 |
| Furniture | 14 | 0 | 0 | 86 | 0 | 9 |
| Pulp, paper | 0 | 0 | 0 | 100 | 0 | 6 |
| Chemicals | 8 | 13 | 0 | 21 | 58 | 19 |
| Petroleum | 0 | 0 | 0 | 82 | 18 | 9 |
| Glass, cement | 33 | 0 | 0 | 39 | 28 | 20 |
| Metal | 0 | 7 | 0 | 76 | 17 | 34 |
| Metal products | 0 | 0 | 0 | 58 | 42 | 4 |
| Machinery | 13 | 48 | 0 | 39 | 0 | 19 |
| Electrical | 0 | 0 | 0 | 100 | 0 | 1 |
| Trans. equipment | 0 | 100 | 0 | 0 | 0 | 1 |
| Manufacturing parts | 100 | 0 | 0 | 0 | 0 | 2 |
| General freight | 7 | 33 | 0 | 52 | 7 | 16 |
| Mail, packages | 100 | 0 | 0 | 0 | 0 | 7 |
| Solid waste | 23 | 0 | 0 | 77 | 0 | 7 |
| Recycled materials | 32 | 0 | 0 | 30 | 38 | 4 |
| Manuf. materials | 100 | 0 | 0 | 0 | 0 | 2 |
| Total | 8% | 12% | 1% | 47% | 32% | 744 |

Legend: 1 = straight truck, 2 = truck and trailer, 3 = tractor only,
4 = tractor & trailer, 5 = tractor and two trailers

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

| Location | Number | Percent |
|------------------------------|------------|-----------|
| By Town: | | |
| Colville | 66 | 7 |
| Lewiston, ID | 59 | 6 |
| Spokane | 247 | 25 |
| Other | 630 | 62 |
| Total | 1002 | 100 |
| Wash. State carriers: | 613 | 61 |