TESTING FOR REVENUE NEUTRALITY OF FLAT FEE FIRMS IN OREGON (2023)

Final Report

Prepared by

Dr. Catherine T. Lawson
The University at Albany

For the Oregon Department of Transportation
August 2024

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INTRODUCTION

Oregon generally imposes a mileage-based tax on heavy vehicles operating on public roads in the state. Within specific limitations, carriers of wood chips, sand and gravel and logs, may instead, elect to pay a "flat fee." Separate flat fee rates are provided for each of these commodity-types. This analysis compares the amount of highway use tax paid by each group of flat fee taxpayers to the amount this group would have paid on a mileage basis to determine revenue neutrality across payment methods. The comparisons are made using current mileage rates applied to the 2023 reported data.

EXECUTIVE SUMMARY

The comparisons yielded the following commodity-specific results:

WOOD CHIPS

- There were no flat fee records for wood chips for 2023**.**

SAND & GRAVEL

- The total flat fee tax liability for hauling sand and gravel was $389,394.59. Using 2023 data and applying 2022 rates, with axle adjustment, this total would have been $585,044.59 on a mileage basis. Under the flat fee method, $195,650.00 less was paid than under a mileage basis. This represents 33.44% underpayment.
- Vehicles with a declared weight of over 104,000 lbs. had a calculated underpayment of $212,089.71.

LOGS

- The total flat fee tax liability for hauling logs was $9,238,009.91. Using the 2022 rate schedule, based on 100% of reported miles as taxable and an operating scenario of 50% loaded and 50% empty, this total would have been $9,189,031.06 on a mileage basis. Under the flat fee method, $48,978.85 more was paid than under a mileage basis. This represents a 0.53% overpayment.
- Using the 2022 rates with axle adjustments and a combination of 2023 Oregon taxable miles, based on a reporting practices analysis, and the assumption of 45% loaded/55% empty operating practices, this total would have been $8,312,742.09 under a mileage basis. Under the flat fee method, $925,267.82 more was paid than under a mileage basis. This represents an overpayment of approximately 11.13%.

DATA ANALYSIS

Original Data Collection As part of its administrative function, the Oregon Department of Transportation (ODOT) staff collects and retains copies of Form 735-9189, used by eligible motor carrier firms to report and submit their highway use taxes, using the flat fee method. Staff also makes an unaudited electronic entry of some of the information provided on these forms, including:

- the Motor Carrier Authority Number;
- the reporting period;
- the plate number from the vehicle used to haul flat fee commodities;
- the weight declared for each vehicle;
- the axle configuration;
- the commodity designated;
- Oregon miles reported[1]; and
- tax liability for the reporting period.

Staff has developed a data retrieval process that allows the assembly of the accumulated entries into a spreadsheet. This process was used to prepare the dataset for this study. Each entry is a line of information that comes from the Form 735-9189, or is an amended entry from existing ODOT databases. On-line forms completed by firms entered at https://www.oregon.gov/odot/Forms/Motcarr/9189fill.pdf were automatically assembled in the ODOT database used in this study.

After extracting the flat fee entries, staff audited the spreadsheet for any apparent data entry errors. Questionable entries were verified against the original hardcopy documents. In some cases, information was missing from the entries and/or hardcopy documentation was incomplete. Staff logged these entries separately and set them aside with explanations. Staff then sorted the remaining entries that were adequate for analysis by qualifying commodity (Wood Chips, Sand & Gravel, or Logs) and saved them in an EXCEL file - "Flat Fee Filers Sorted 2023.xlsx" with worksheets labeled "Raw Data", "CHIPS", "S&G", and "LOGS".

Methodology for Analysis This analysis is derived from state's dataset. All of the available documentation for the dataset was reviewed, including the log of exceptions. From this dataset, commodity-specific files for 2023 were generated for Sand and Gravel, Chips, and Logs.

The Mileage Tax Rates[2] tables provide the current rate schedule for each weight group used to calculate mileage taxes. Table 1 replicates the rate schedules used in this study.

[1] The only miles that are taxable are those that are run on the public roadways within Oregon.
[2] https://www.oregon.gov/odot/Forms/Motcarr/9928-2022.pdf

TABLE 1 Mileage Rates by Weight Group*

WEIGHT GROUPS		2022 rates	5 axles	6 axles	7 axles	8 axles	9 axles or more
26001	28000	0.0720					
28001	30000	0.0764					
30001	32000	0.0798					
32001	34000	0.0834					
34001	36000	0.0866					
36001	38000	0.0911					
38001	40000	0.0945					
40001	42000	0.0980					
42001	44000	0.1016					
44001	46000	0.1050					
46001	48000	0.1084					
48001	50000	0.1120					
50001	52000	0.1161					
52001	54000	0.1205					
54001	56000	0.1250					
56001	58000	0.1302					
58001	60000	0.1361					
60001	62000	0.1432					
62001	64000	0.1511					
64001	66000	0.1597					
66001	68000	0.1711					
68001	70000	0.1831					
70001	72000	0.1952					
72001	74000	0.2064					
74001	76000	0.2170					
76001	78000	0.2274					
78001	80000	0.2370	5 axles	6 axles	7 axles	8 axles	9 axles or more
80001	82000		0.2447	0.2238	0.2092	0.1988	0.1875
82001	84000		0.2526	0.2274	0.2127	0.2013	0.1900
84001	86000		0.2602	0.2327	0.2161	0.2038	0.1927
86001	88000		0.2690	0.2377	0.2195	0.2074	0.1952
88001	90000		0.2795	0.2438	0.2231	0.2109	0.1988
90001	92000		0.2915	0.2508	0.2264	0.2143	0.2022
92001	94000		0.3047	0.2577	0.2300	0.2177	0.2049
94001	96000		0.3186	0.2656	0.2343	0.2213	0.2082
96001	98000		0.3333	0.2752	0.2395	0.2249	0.2118
98001	100000			0.2854	0.2447	0.2291	0.2152
100001	102000				0.2499	0.2343	0.2188
102001	104000				0.2552	0.2395	0.2231
104001	105500				0.2620	0.2447	0.2274

*Based on 2022 Monthly Mileage Tax Rates (https://www.oregon.gov/odot/Forms/Motcarr/9928-2022.pdf)

The rates in Table 1 were used to conduct a series of explicit systematic simulations, using the verified data from 2023 to compare the effect of the flat fee payment method to the mileage payment method.

WOOD CHIPS ANALYSIS

Data There were no flat fee records for wood chips in the 2023 dataset.

WOOD CHIPS SIMULATION

There were no miles reported, or tax liability paid, for wood chips using flat fee rates.

TABLE 2 Wood Chips Simulation Using 2023 Data

		Simulated Tax Paid	Difference	% over/(under)
Total Miles Reported	0			
Total Tax Liability	$0.00			
2020 rates w/axles		$0.00	$0.00	0.0%

FINDINGS:

There were no flat fee records for wood chips for 2023.

SAND and GRAVEL ANALYSIS

Data In the "2023 Flat Fee Filers (Sorted).xlsx" dataset, 458 lines of data pertained to the firms eligible to haul sand and gravel, using a flat fee payment method. The data assigns each firm a unique carrier number, the authority number. This number is associated with the carrier firm name. The dataset also includes the reporting period and the declared weight and axle configuration for each vehicle reported on the forms.

According to the database of verified entries, firms hauling sand & gravel, under the flat fee method, reported a total of 2,407,496 miles. These firms reported transmitting $389,394.59, under the flat fee payment method.

SAND and GRAVEL SIMULATION

The simulations are constructed using "OR_S&G_100%_97%_95%_2023.xlsx".

The reported mileage for 2023 was multiplied by the weight group rates for 2022 to calculate the mileage tax owed in lieu of a flat fee payment. The total calculated amount is $585,044.59. Subtracting this amount from the flat fee payment yields an underpayment of $195,658.00. This represents an underpayment of 33.44%.

Table 3 reports Sand and Gravel operations by weight group. There is a large variation in operating characteristics across the weight groups. As a result, some weight groups using the flat fee method are paying substantially more than they would have paid using the mileage method, while others are paying less. The weight group, over 104,000, has an underpayment of $212,089.71.

If the reported mileage used in the simulation includes off-road and/or out-of-state miles, there is a potential to over-state highway mileage. Table 4 is a sensitivity analysis to illustrate the effect of over-stated highway miles by the firms hauling sand & gravel and using the flat fee method. Two adjustments were made: 3% (97% of reported miles) and a 5% (95% of reported miles), based on professional judgment. Using the 2022 rate schedule and the identified 97% of the reported miles, flat fee firms paid $178,098.66 less than if they had paid using the mileage method. This represents a 31.38% underpayment.

TABLE 3 Sand & Gravel Operations by Weight Group for 2023*

Weight	Miles	Flat Fees Paid	Tax if Paid on Mileage	Difference	% Difference
44001 - 46	4,046	$417.83	$424.83	($7.00)	(1.65%)
46001 - 48	2,184	$1,744.00	$236.75	$1,507.25	636.66%
48001 - 50	1,505	$1,362.51	$168.56	$1,193.95	708.32%
50001 - 52	9,392	$1,416.99	$1,090.41	$326.58	29.95%
52001 - 54	18,013	$5,940.00	$2,170.57	$3,769.43	173.66%
54001 - 56	5,457	$2,034.68	$682.13	$1,352.56	198.29%
58001 - 60	15,697	$4,905.00	$2,136.36	$2,768.64	129.60%
62001 - 64	1,148	$1,716.75	$173.46	$1,543.29	889.69%
64001 - 66	2,023	$595.41	$323.07	$272.34	84.30%
78001 - 80	236,452	$53,773.58	$56,039.12	($2,265.54)	(4.04%)
84001 - 86	30,849	$8,592.87	$7,587.02	$1,005.85	13.26%
86001 - 88	124,601	$24,643.03	$30,113.67	($5,470.64)	(18.17%)
88001 - 90	116,194	$24,525.00	$28,217.87	($3,692.87)	(13.09%)
94001 - 96	4,087	$872.00	$957.58	($85.58)	(8.94%)
96001 - 98	90,393	$23,144.42	$24,876.15	($1,731.73)	(6.96%)
102001 - 104	106,156	$42,052.52	$26,099.32	$15,953.20	61.12%
104001 - 1055	1,639,299	$191,658.00	$403,747.71	($212,089.71)	(52.53%)
Total	2,407,496	$389,394.59	$585,044.59	($195,650.00)	(33.44%)

*Rounded

TABLE 4 Sensitivity Analysis for Oregon Sand & Gravel for 2023

	Miles	Flat Fees Paid	Tax if Paid on Mileage	Difference	% over/(under)
100% of Miles	2,407,496	$389,394.59	$585,044.59	($195,650.00)	(33.44%)
97% of Miles	2,335,271	$389,394.59	$567,493.25	($178,098.66)	(31.38%)
95% of Miles	2,287,121	$389,394.59	$555,792.36	($166,397.77)	(29.94%)

FINDINGS:

The total flat fee tax liability for hauling sand and gravel was $389,394.59. Using 2023 data and applying 2022 rates, with axle adjustment, this total would have been $595,044.59 on a mileage basis. Under the flat fee method, $195,650.00 less was paid than under a mileage basis. This represents a 33.44% underpayment. Vehicles with a declared weight of over 104,000 lbs. had a calculated underpayment of $212,089.71.

LOGS ANALYSIS

Data In the "Flat Fee Filers Sorted 2023.xlsx" dataset, 11,139 lines of data pertain to firms eligible to haul logs using the flat fee method of taxation. The data assigns each firm a unique carrier number, the authority number. This number is associated with the carrier firm name. The dataset also includes the reporting period and the declared weight and axle configuration for each vehicle reported on the forms.

According to the database of verified entries for 2023, firms hauling logs, using the flat fee method, reported a total of 52,269,772 miles. These firms reported transmitting $9,238,009.91 under the flat fee payment method.

LOGS SIMULATION

The simulations are constructed, using the tabs for each of the categories from the following file: "OR_LOGS_100%_95%_90%_85%_80%_2023.xlsx".

Table 5 is a sensitivity analysis using three adjustments to illustrate the effect of over-stating highway miles: 5% (95% of reported miles); 10% (90% of reported miles); 15% (85% of reported miles); and 20% (80% of reported miles). Professional judgment expects the difference between off-road/out-of-state miles and total mileage to be approximately 15%.

The sensitivity analysis also quantifies the effect of loaded and empty mileage: 50% loaded and 50% empty; 45% loaded and 55% empty; 40% loaded and 60% empty; and 30% loaded and 70% empty.

It was necessary to quantify the effect of loaded and empty mileage because mileage based rates for loaded trucks are higher than they are for unloaded trucks. The 46,000 lbs. rate applies to "decked miles", while loaded trucks have higher declared weights. The sensitivity analysis illustrates the results of the different operating assumptions made in the paragraph above.

TABLE 5 Sensitivity Analysis for Logs for 2023*

	100% of miles	95% of miles	90% of miles	85% of miles	80% of miles
Miles	52,269,772	49,656,283.40	47,042,794.80	44,429,306.20	41,815,817.60
Flat Fee Liability	$9,238,009.91	$9,238,009.91	$9,238,009.91	$9,238,009.91	$9,238,009.91
50% loaded	$6,444,868.03	$6,122,624.63	$5,800,381.23	$5,478,137.83	$5,155,894.42
50% empty	$2,744,163.03	$2,606,954.88	$2,469,746.73	$2,332,538.58	$2,195,330.42
Total	$9,189,031.06	$8,729,579.51	$8,270,127.96	$7,810,676.41	$7,351,224.84
Difference	$48,978.85	$508,430.40	$967,881.95	$1,427,333.50	$1,886,785.07
% over/(under)	0.53%	5.82%	11.70%	18.27%	25.67%
45% loaded	$5,800,381.23	$5,510,362.17	$5,220,343.10	$4,930,324.04	$4,640,304.98
55% empty	$3,018,579.33	$2,867,650.37	$2,716,721.40	$2,565,792.43	$2,414,863.47
Total	$8,818,960.56	$8,378,012.54	$7,937,064.50	$7,496,116.47	$7,055,168.45
Difference	$419,049.35	$859,997.37	$1,300,945.41	$1,741,893.44	$2,182,841.46
% over/(under)	4.75%	10.26%	16.39%	23.24%	30.94%
40% loaded	$5,155,894.42	$4,898,099.70	$4,640,304.98	$4,382,510.26	$4,124,715.54
60% empty	$3,292,995.64	$3,128,345.85	$2,963,696.07	$2,799,046.29	$2,634,396.51
Total	$8,448,890.06	$8,026,445.55	$7,604,001.05	$7,181,556.55	$6,759,112.05
Difference	$789,119.85	$1,211,564.36	$1,634,008.86	$2,056,453.36	$2,478,897.86
% over/(under)	9.34%	15.09%	21.49%	28.64%	36.67%
30% loaded	$3,866,920.82	$3,673,574.78	$3,480,228.74	$3,286,882.70	$3,093,536.65
70% empty	$3,841,828.24	$3,649,736.83	$3,457,645.42	$3,265,554.01	$3,073,462.59
Total	$7,708,749.06	$7,323,311.61	$6,937,874.16	$6,552,436.71	$6,166,999.24
Difference	$1,529,260.85	$1,914,698.30	$2,300,135.75	$2,685,573.20	$3,071,010.67
% over/(under)	19.84%	26.15%	33.15%	40.99%	49.80%

*Rounded

The total flat fee tax liability for hauling logs was $9,238.009.91. Using the 2022 rate schedule, based on 100% of reported miles as taxable and an operating scenario of 50% loaded and 50% empty, this total would have been $9,189,031.06 on a mileage basis. Under the flat fee method, $48,978.85 more was paid than under a mileage basis. This represents a 0.53% overpayment.

REPORTING PRACTICES ANALYSIS

There are concerns regarding the reporting practices of the firms using the flat fee method. As mentioned previously, the reported miles are assumed to be the Oregon taxable miles. This assumption requires an eligible firm to calculate their total miles and then subtract all the off-road and out-of-state miles from their total miles. Professional judgment suggests it is unlikely that firms hauling logs would run 100% of their miles on road, given the nature of the business practices of hauling logs from the forest to the mill. The flat fee reports for logs should therefore show a difference between the total miles and the reported Oregon taxable miles over a year's worth of activity.

An audit of the actual reports (Form 735-9189) was conducted to determine if firms hauling logs were reporting their Oregon taxable miles correctly. Incorrectly filled-in forms may contain the following errors: firm reports no miles (simply indicating their flat fee tax liability only); firm indicates the difference in the odometer readings and does not fill-in the total miles or the Oregon taxable miles; firm calculates and reports total miles and does not fill-in anything for the Oregon taxable miles; firm calculates the total miles but does not report total miles and reports their total miles as their Oregon taxable miles; or a firm calculates the total miles only and fill-ins both the total miles and the Oregon taxable miles with this same number. The correct procedure is to calculate the total miles from the difference in the odometer or hub meter readings (subtracting the beginning readings from the ending readings) and then subtract all off-road and out-of-state miles and report this number for their Oregon taxable miles.

Hard copies of the original filed reports were provided by ODOT staff and were reviewed to determine whether the forms used for reporting flat fee log activities were properly completed. The reporting practices analysis found that of the 11,139 lines in the database, 7063 lines were correctly completed, approximately 63.41%.

The simulations were then rerun, using 100% of the taxable miles for those firms who filed correctly, and 85% (representing a 15% difference between total miles and Oregon taxable miles) of the taxable miles for the remaining firms. Firms providing no mileage information were noted as exceptions and set aside. Table 6 indicates the results using a combination of the correctly reported miles and 85% of the total miles of the remaining firms. Thus, in the analysis, firms reporting correctly are calculated at 100% of their reported Oregon miles, while firms reporting incorrectly are calculated at 85% of their total reported miles. The sum of these two calculations is intended to provide the most realistic set of findings for analyzing revenue neutrality for logs.

TABLE 6 Sensitivity Analysis Using Combined Miles for Logs for 2023*

	Combination Miles
Miles	49,269,997
Taxes Liability	$9,238,009.91
50% loaded	$6,074,888.61
50% empty	$2,586,674.86
Total	$8,661,563.47
Difference	$576,446.44
% over/(under)	6.66%
45% loaded	$5,467,399.75
55% empty	$2,845,342.34
Total	$8,312,742.09
Difference	$925,267.82
% over/(under)	11.13%
40% loaded	$4,859,910.89
60% empty	$3,104,009.83
Total	$7,963,920.72
Difference	$1,274,089.19
% over/(under)	16.00%
30% loaded	$3,644,933.16
70% empty	$3,621,344.80
Total	$7,266,277.96
Difference	$1,971,731.95
% over/(under)	27.14%

*Rounded

FINDINGS:

Using the 2022 rates with axle adjustments and a combination of 2023 Oregon taxable miles, based on a reporting practices analysis, and the assumption of 45% loaded/55% empty operating practices, this total would have been $8,312,742.09 under a mileage basis. Under the flat fee method, $925,267.82 more was paid than under a mileage basis. This represents an overpayment of approximately 11.13%.

APPENDICES

APPENDIX A: Variables Used in Wood Chips Simulation

Variable Name	Source	Description
ID	ODOT	Unique number for record line
Authority Number	ODOT	Unique identification number for carrier
Reporting Period	ODOT	Month of operation tax is being reported
Plate Number	ODOT	License plate of truck, blank if trucks reported together as fleet
Axle Count	ODOT	Number of axles reported
State	ODOT	State where firm resides
Declared Weight	ODOT	Weight category declared by firm
WMT_rate_axles	Report	Rate from Table 1 Mileage Rates by Weight Group
Tax Liability	ODOT	Tax paid, number field
Commodity	ODOT	Wood Chips
Oregon miles	ODOT	Miles driven in Oregon during reporting period
Bg Odom	ODOT	Beginning odometer (if available electronically)
End Odom	ODOT	Ending odometer (if available electronically
Calc Or Miles	Report	Ending odometer – beginning odometer
WMT_SIM	Calculation	WMT_rate * **Oregon miles**
DIFF	Calculation	**Tax Liability** – WMT_SIM
Comment	ODOT	Information provided by ODOT staff

Characteristics of data

	Reported Miles	Reported Weight	Tax Liability
Total	0	*	0
Average	0	0	0
Median	0	0	0
Standard Deviation	0	0	0

* Not applicable

APPENDIX B: Variables Used in Sand and Gravel Simulation

Variable Name	Source	Description
ID	ODOT	Unique number for record line
Authority Number	ODOT	Unique identification number for carrier
Reporting Period	ODOT	Month of operation tax is being reported
Plate	ODOT	License plate of truck, blank if trucks reported together as fleet
Axle Count	ODOT	Number of axles reported
State	ODOT	State where firm resides
Declared Weight	ODOT	Weight category declared by firm
WMT_rate_axles	Report	Rate from Table 1 Mileage Rates by Weight Group
Tax Liability	ODOT	Tax paid, number field
Commodity	ODOT	Sand & Gravel
Oregon miles	ODOT	Miles driven in Oregon during reporting period
Bg Odom	ODOT	Beginning odometer (if available electronically)
End Odom	ODOT	Ending odometer (if available electronically
Calc Or Miles	Report	Ending odometer – beginning odometer
WMT_SIM	Calculation	WMT_rate * **Oregon miles**
DIFF	Calculation	**Tax Liability** – WMT_SIM
97%_M	Calculation	(**Oregon miles** * .97)*WMT_rate
97%_D	Calculation	**Tax Liability –** 97%_M
95%_M	Calculation	(**Oregon miles** * .95)*WMT_rate
95%_D	Calculation	**Tax Liability –** 95%_M
Comment	ODOT	Information provided by ODOT staff

Characteristics of data based on 406 lines of data from 31 firms

	Reported Miles	Reported Weight	Tax Liability
Total	2,407,496	*	$389,394.59
Average	5,257	93,600	$850.21
Median	3,946	103,000	$935.58
Standard Deviation	4,889	15,400	$139.52

* Not applicable

,

APPENDIX C: Variables Used in Logs Simulation
100% of Reported Miles

Variable Name	Source	Description
ID	ODOT	Unique number for record line
Authority Number	ODOT	Unique identification number for carrier
Reporting Practice	Report	Recorded Oregon miles properly = O; total miles = T; total miles reported as Oregon miles = OT
Reporting Period	ODOT	Month of operation tax is being reported
Plate	ODOT	License plate of truck, blank if trucks reported together as fleet
Axle Count	ODOT	Number of axles reported
State	ODOT	State where firm resides
Declared Weight	ODOT	Weight category declared by firm
rate_load	Report	Rate from Table 1 Mileage Rates by Weight Group
rate_empty	Report	Rate from Table 1 Mileage Rates for 46,000
Tax Liability	ODOT	Tax paid, number field
Commodity	ODOT	Logs
Oregon miles	ODOT	Miles driven in Oregon during reporting period
Bg Odom	ODOT	Beginning odometer (if available electronically)
End Odom	ODOT	Ending odometer (if available electronically
Calc Or Miles	Report	Ending odometer – beginning odometer
load_sim	Calculation	(rate_load) *.5 * **Oregon miles**
empty_sim	Calculation	(rate_empty) * .5 * **Oregon miles**
total_sim	Calculation	(load_sim) + (empty_sim)
Diff	Calculation	**Tax Liability** – total_sim
load_45	Calculation	(rate_load) *.45 * **Oregon miles**
empty_55	Calculation	(rate_empty) * .55 * **Oregon miles**
total_45	Calculation	(load_45) + (empty_55)
Diff_45	Calculation	**Tax Liability** – total_45
load_4	Calculation	(rate_load) *.4 * **Oregon miles**
empty_6	Calculation	(rate_empty) * .6 * **Oregon miles**
total_4	Calculation	(load_4) + (empty_6)
Diff_4	Calculation	**Tax Liability** – total_4
load_3	Calculation	(rate_load) *.3 * **Oregon miles**
empty_7	Calculation	(rate_empty) * .7 * **Oregon miles**
total_3	Calculation	(load_3) + (empty_7)
Diff_3	Calculation	**Tax Liability** – total_3
Comment	ODOT	Information provided by ODOT staff

95% of Reported Miles

Variable Name	Source	Description
ID	ODOT	Unique number for record line
Authority Number	ODOT	Unique identification number for carrier
Reporting Practice	Report	Recorded Oregon miles properly = 1; all else zero
Reporting Period	ODOT	Month of operation tax is being reported
Plate	ODOT	License plate of truck, blank if trucks reported together as fleet
Axle Count	ODOT	Number of axles reported
State	ODOT	State where firm resides
Declared Weight	ODOT	Weight category declared by firm
rate_load	Report	Rate from Table 1 Mileage Rates by Weight Group
rate_empty	Report	Rate from Table 1 Mileage Rates for 46,000
Tax Liability	ODOT	Tax paid, number field
Commodity	ODOT	Logs
95%_Oregon miles	Calculation	Miles driven in Oregon during reporting period * .95
Bg Odom	ODOT	Beginning odometer (if available electronically)
End Odom	ODOT	Ending odometer (if available electronically
Calc Or Miles	Report	Ending odometer – beginning odometer
load_sim	Calculation	(rate_load) *.5 * **95%_Oregon miles**
empty_sim	Calculation	(rate_empty) * .5 * **95%_Oregon miles**
total_sim	Calculation	(load_sim) + (empty_sim)
Diff	Calculation	**Tax Liability** – total_sim
load_45	Calculation	(rate_load) *.45 * **95%_Oregon miles**
empty_55	Calculation	(rate_empty) * .55 * **95%_Oregon miles**
total_45	Calculation	(load_45) + (empty_55)
Diff_45	Calculation	**Tax Liability** – total_45
load_4	Calculation	(rate_load) *.4 * **95%_Oregon miles**
empty_6	Calculation	(rate_empty) * .6 * **95%_Oregon miles**
total_4	Calculation	(load_4) + (empty_6)
Diff_4	Calculation	**Tax Liability** – total_4
load_3	Calculation	(rate_load) *.3 * **95%_Oregon miles**
empty_7	Calculation	(rate_empty) * .7 * **95%_Oregon miles**
total_3	Calculation	(load_3) + (empty_7)
Diff_3	Calculation	**Tax Liability** – total_3
Comment	ODOT	Information provided by ODOT staff

90% of Reported Miles

Variable Name	Source	Description
ID	ODOT	Unique number for record line
Authority Number	ODOT	Unique identification number for carrier
Reporting Practice	Report	Recorded Oregon miles properly = 1; all else zero
Reporting Period	ODOT	Month of operation tax is being reported
Plate	ODOT	License plate of truck, blank if trucks reported together as fleet
Axle Count	ODOT	Number of axles reported
State	ODOT	State where firm resides
Declared Weight	ODOT	Weight category declared by firm
rate_load	Report	Rate from Table 1 Mileage Rates by Weight Group
rate_empty	Report	Rate from Table 1 Mileage Rates for 46,000
Tax Liability	ODOT	Tax paid, number field
Commodity	ODOT	Logs
90%_Oregon miles	Calculation	Miles driven in Oregon during reporting period * .90
Bg Odom	ODOT	Beginning odometer (if available electronically)
End Odom	ODOT	Ending odometer (if available electronically
Calc Or Miles	Report	Ending odometer – beginning odometer
load_sim	Calculation	(rate_load) *.5 * **90%_Oregon miles**
empty_sim	Calculation	(rate_empty) * .5 * **90%_Oregon miles**
total_sim	Calculation	(load_sim) + (empty_sim)
Diff	Calculation	**Tax Liability** – total_sim
load_45	Calculation	(rate_load) *.45 * **90%_Oregon miles**
empty_55	Calculation	(rate_empty) * .55 * **90%_Oregon miles**
total_45	Calculation	(load_45) + (empty_55)
Diff_45	Calculation	**Tax Liability** – total_45
load_4	Calculation	(rate_load) *.4 * **90%_Oregon miles**
empty_6	Calculation	(rate_empty) * .6 * **90%_Oregon miles**
total_4	Calculation	(load_4) + (empty_6)
Diff_4	Calculation	**Tax Liability** – total_4
load_3	Calculation	(rate_load) *.3 * **90%_Oregon miles**
empty_7	Calculation	(rate_empty) * .7 * **90%_Oregon miles**
total_3	Calculation	(load_3) + (empty_7)
Diff_3	Calculation	**Tax Liability** – total_3
Comment	ODOT	Information provided by ODOT staff

85% of Reported Miles

Variable Name	Source	Description
ID	ODOT	Unique number for record line
Authority Number	ODOT	Unique identification number for carrier
Reporting Practice	Report	Recorded Oregon miles properly = 1; all else zero
Reporting Period	ODOT	Month of operation tax is being reported
Plate	ODOT	License plate of truck, blank if trucks reported together as fleet
Axle Count	ODOT	Number of axles reported
State	ODOT	State where firm resides
Declared Weight	ODOT	Weight category declared by firm
rate_load	Report	Rate from Table 1 Mileage Rates by Weight Group
rate_empty	Report	Rate from Table 1 Mileage Rates for 46,000
Tax Liability	ODOT	Tax paid, number field
Commodity	ODOT	Logs
85%_Oregon miles	Calculation	Miles driven in Oregon during reporting period * .85
Bg Odom	ODOT	Beginning odometer (if available electronically)
End Odom	ODOT	Ending odometer (if available electronically
Calc Or Miles	Report	Ending odometer – beginning odometer
load_sim	Calculation	(rate_load) *.5 * **85%_Oregon miles**
empty_sim	Calculation	(rate_empty) * .5 * **85%_Oregon miles**
total_sim	Calculation	(load_sim) + (empty_sim)
Diff	Calculation	**Tax Liability** – total_sim
load_45	Calculation	(rate_load) *.45 * **85%_Oregon miles**
empty_55	Calculation	(rate_empty) * .55 * **85%_Oregon miles**
total_45	Calculation	(load_45) + (empty_55)
Diff_45	Calculation	**Tax Liability** – total_45
load_4	Calculation	(rate_load) *.4 * **85%_Oregon miles**
empty_6	Calculation	(rate_empty) * .6 * **85%_Oregon miles**
total_4	Calculation	(load_4) + (empty_6)
Diff_4	Calculation	**Tax Liability** – total_4
load_3	Calculation	(rate_load) *.3 * **85%_Oregon miles**
empty_7	Calculation	(rate_empty) * .7 * **85%_Oregon miles**
total_3	Calculation	(load_3) + (empty_7)
Diff_3	Calculation	**Tax Liability** – total_3
Comment	ODOT	Information provided by ODOT staff

80% of Reported Miles

Variable Name	Source	Description
ID	ODOT	Unique number for record line
Authority Number	ODOT	Unique identification number for carrier
Reporting Practice	Report	Recorded Oregon miles properly = 1; all else zero
Reporting Period	ODOT	Month of operation tax is being reported
Plate	ODOT	License plate of truck, blank if trucks reported together as fleet
Axle Count	ODOT	Number of axles reported
State	ODOT	State where firm resides
Declared Weight	ODOT	Weight category declared by firm
rate_load	Report	Rate from Table 1 Mileage Rates by Weight Group
rate_empty	Report	Rate from Table 1 Mileage Rates for 46,000
Tax Liability	ODOT	Tax paid, number field
Commodity	ODOT	Logs
80%_Oregon miles	Calculation	Miles driven in Oregon during reporting period * .80
Bg Odom	ODOT	Beginning odometer (if available electronically)
End Odom	ODOT	Ending odometer (if available electronically
Calc Or Miles	Report	Ending odometer – beginning odometer
load_sim	Calculation	(rate_load) *.5 * **80%_Oregon miles**
empty_sim	Calculation	(rate_empty) * .5 * **80%_Oregon miles**
total_sim	Calculation	(load_sim) + (empty_sim)
Diff	Calculation	**Tax Liability** – total_sim
load_45	Calculation	(rate_load) *.45 * **80%_Oregon miles**
empty_55	Calculation	(rate_empty) * .55 * **80%_Oregon miles**
total_45	Calculation	(load_45) + (empty_55)
Diff_45	Calculation	**Tax Liability** – total_45
load_4	Calculation	(rate_load) *.4 * **80%_Oregon miles**
empty_6	Calculation	(rate_empty) * .6 * **80%_Oregon miles**
total_4	Calculation	(load_4) + (empty_6)
Diff_4	Calculation	**Tax Liability** – total_4
load_3	Calculation	(rate_load) *.3 * **80%_Oregon miles**
empty_7	Calculation	(rate_empty) * .7 * **80%_Oregon miles**
total_3	Calculation	(load_3) + (empty_7)
Diff_3	Calculation	**Tax Liability** – total_3
Comment	ODOT	Information provided by ODOT staff

Combination of Miles

Variable Name	Source	Description
ID	ODOT	Unique number for record line
Authority Number	ODOT	Unique identification number for carrier
Reporting Practice	Report	Recorded Oregon miles properly = 1; all else zero
Reporting Period	ODOT	Month of operation tax is being reported
Plate	ODOT	License plate of truck, blank if trucks reported together as fleet
Axle Count	ODOT	Number of axles reported
State	ODOT	State where firm resides
Declared Weight	ODOT	Weight category declared by firm
rate_load	Report	Rate from Table 1 Mileage Rates by Weight Group
rate_empty	Report	Rate from Table 1 Mileage Rates for 46,000
Tax Liability	ODOT	Tax paid, number field
Commodity	ODOT	Logs
OM&85%	Calculation	Oregon miles or 85% of total reported miles
Bg Odom	ODOT	Beginning odometer (if available electronically)
End Odom	ODOT	Ending odometer (if available electronically
Calc Or Miles	Report	Ending odometer – beginning odometer
load_sim	Calculation	(rate_load) *.5 * **OM&85% miles**
empty_sim	Calculation	(rate_empty) * .5 * **OM&85% miles**
total_sim	Calculation	(load_sim) + (empty_sim)
Diff	Calculation	**Tax Liability** – total_sim
load_45	Calculation	(rate_load) *.45 * **OM&85% miles**
empty_55	Calculation	(rate_empty) * .55 * **OM&85% miles**
total_45	Calculation	(load_45) + (empty_55)
Diff_45	Calculation	**Tax Liability** – total_45
load_4	Calculation	(rate_load) *.4 * **OM&85% miles**
empty_6	Calculation	(rate_empty) * .6 * **OM&85% miles**
total_4	Calculation	(load_4) + (empty_6)
Diff_4	Calculation	**Tax Liability** – total_4
load_3	Calculation	(rate_load) *.3 * **OM&85% miles**
empty_7	Calculation	(rate_empty) * .7 * **OM&85% miles**
total_3	Calculation	(load_3) + (empty_7)
Diff_3	Calculation	**Tax Liability** – total_3
Comment	ODOT	Information provided by ODOT staff

Characteristics of data based on 11,139 lines of combined data from 455 firms

	Reported Miles	Reported Weight	Tax Liability
Total	49,269,997	*	$9,238,009.91
Average	4,423	90,500	$829.34
Median	4,389	90,000	$825.00
Standard Deviation	1,948	8,000	$73.99

* Not applicable