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Oregon Medium and Heavy-Duty Vehicle Fleet Reporting Data Summary



This document was prepared by
Oregon Department of Environmental Quality
Transportation Strategies Section
700 NE Multnomah Street, Portland Oregon, 97232

Contact: Rachel Sakata
Phone: 503-863-4271
www.oregon.gov/deq



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800-452-4011 | TTY: 711 | deqinfo@deq.oregon.gov

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Executive summary

The transportation sector contributes 35% of Oregon's greenhouse gas emissions, with medium- and heavy-duty vehicles accounting for approximately 34% of transportation-related emissions. These vehicles also emit localized pollutants such as fine particulate matter and nitrogen oxides, posing health risks to communities near major roadways.

In November 2021, Oregon's Environmental Quality Commission adopted the Advanced Clean Trucks regulation, mandating a one-time reporting requirement for fleets and entities operating or dispatching five or more vehicles over 8,500 lbs. Gross Vehicle Weight Rating. This rule applied to businesses, government agencies, and other entities. The objective of this reporting was to better understand the composition of Oregon's fleet. Accurate data on fleet composition, domicile locations, and fuel types is critical for Oregon's emission reduction efforts. These entities (fleet owners, businesses, government agencies, municipalities, brokers, etc.) had to report information about their vehicles if, in 2021, they operated a facility in Oregon.

Entities were required to submit vehicle data, including organizational information, domiciled locations, vehicle types, and fuel use. The Department of Environmental Quality processed 991 entity reports covering 2,615 facilities and a total of 47,844 vehicles. Where data gaps existed, missing information was categorized accordingly, and follow-ups were conducted where possible.



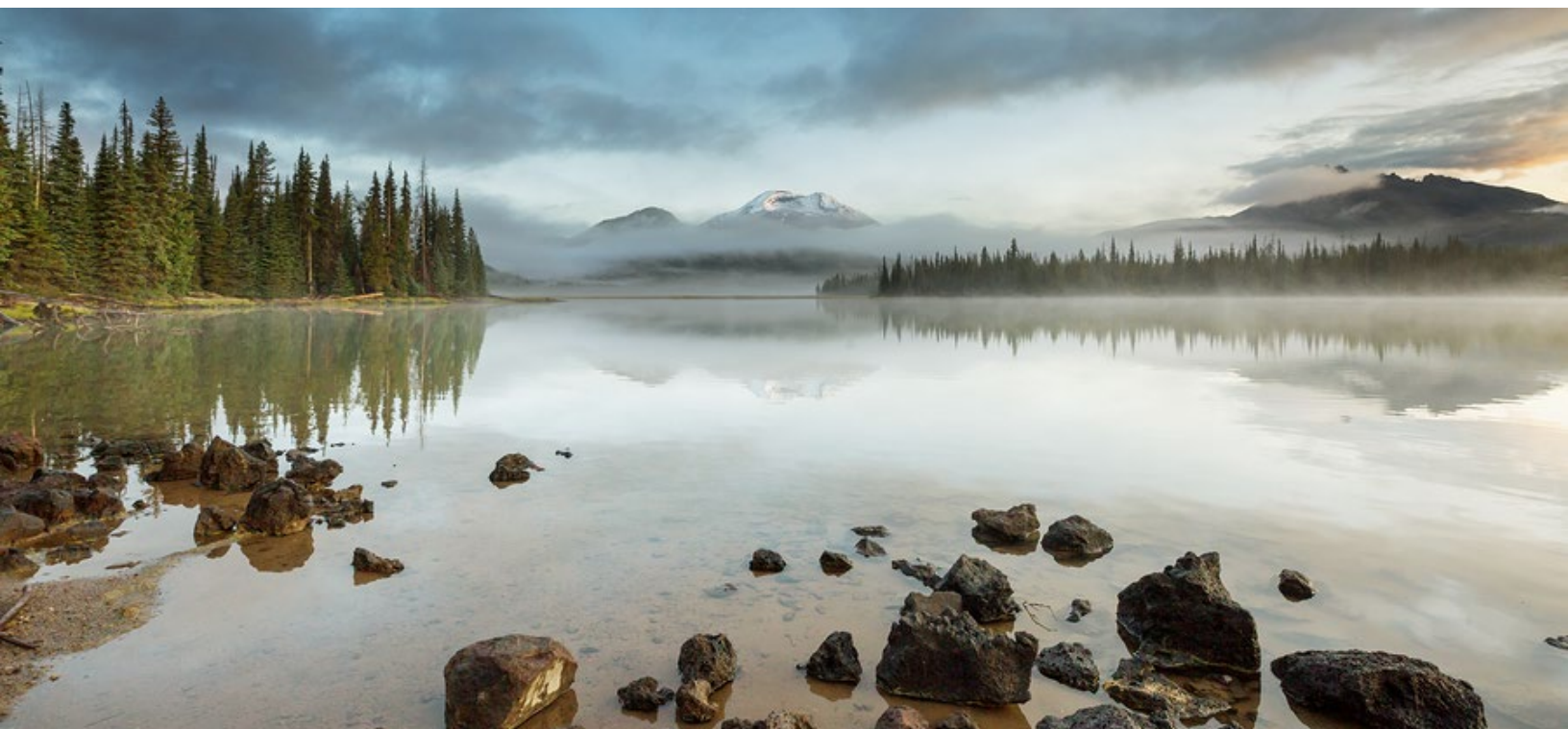
Key findings

General information

- 991 entities submitted data, covering 2,615 facilities and over 143,000 vehicles.
- Most entities were private (82%), followed by government agencies (12%).
- The largest category of vehicles was pickup beds (13.5%), followed by tractor day cabs (11.1%), box dry vans (9.1%), and dump trucks (8%).

Facility information

- Truck/equipment yards (21%) and distribution centers (17%) were the most common facility types.



- 49% of facilities are owned and 42% leased, with 60% of owned facilities having refueling infrastructure.
- Fuel infrastructure is dominated by diesel (38%) and gasoline (22%), with limited availability of electric vehicle charging (6%)

Vehicle fuel type

- Vehicles are mostly diesel-powered (57%), followed by gasoline (30%). Alternative fuel usage is limited:
 - Electric (0.04%), biodiesel (4%), and renewable diesel (2%).
- Vehicle weight classes:
 - Class 2b-3: 31%
 - Class 7-8 (non-tractor): 27%
 - Class 7-8 Tractors: 15%

Vehicle usage and mileage

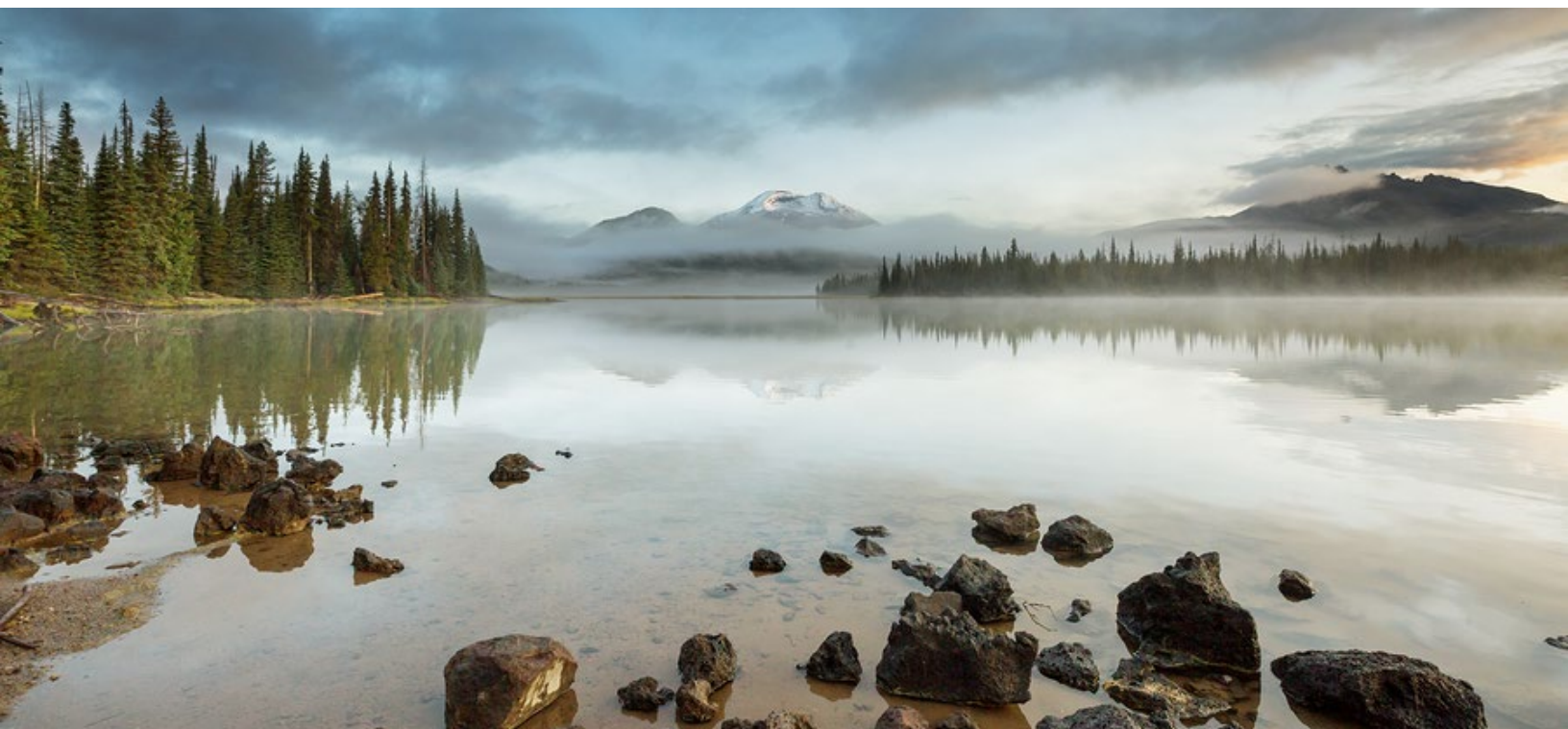
- Most vehicles travel under 100 miles daily, though long-haul trucks (e.g., sleeper cabs) log more miles.
- Majority of vehicles return to home base daily, except sleeper cab tractors.
- Only 45% of vehicles refuel at their home base, underscoring the need for offsite fueling or public infrastructure.
- Around 66% of vehicles have predictable usage patterns, making them strong candidates for fleet electrification.
- Half of the vehicles operate within 50 miles of their home base—significant for planning local EV infrastructure.

Parking and dwell times

- Most vehicles are parked at home base for over 8 hours a day, allowing sufficient time for overnight EV charging.
- Garbage trucks, buses, and service vehicles are especially well-positioned for depot-based charging infrastructure.

Fleet age

- The majority of vehicles are kept between 5 to 20 years, providing a clear planning horizon for vehicle replacement programs and incentives



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Background

Oregon's Environmental Quality Commission adopted the Advanced Clean Trucks regulation in November 2021 which had a one-time reporting requirement for fleets and entities operating or dispatching five or more vehicles with a manufacturer's gross vehicle weight rating greater than 8,500 lbs. These vehicles include medium-duty vehicles like vans and ¾-ton pickups such as the F250 or Ram 2500 and heavier vehicles of all fuel types. These entities (fleet owners, businesses, government agencies, municipalities, brokers, etc.) had to report information about their vehicles if, in 2021, they operated a facility in Oregon and met any of the following criteria:

- Had more than \$50 million in revenues in the 2021 tax year from all related subsidiaries, subdivisions, or branches, and have at least one vehicle; or
- Owned 5 or more vehicles in 2019; or
- Dispatched 5 or more vehicles into or throughout Oregon in 2021; or
- Government agencies (federal, state, local, and municipalities) with five or more vehicles in 2021.

The transportation sector is the leading source of greenhouse gases in Oregon, contributing 35% of the overall emissions. Medium- and heavy-duty vehicles are currently responsible for an estimated 7.4 million metric tons of GHGs annually or approximately 34% of all transportation GHGs. Additionally, these vehicles also contribute to high levels of localized criteria pollutants such as fine particulate matter and nitrogen oxides and toxic air pollutants such as diesel particulate matter that represent an on-going public health challenge for communities nearest to roadways.

Understanding the makeup of Oregon's fleet helps Oregon assess what types of trucks are operating in Oregon, where they are domiciled, and what fuel they use will provide crucial information as Oregon takes actions to decarbonize the transportation sector.

Defining medium- and heavy-duty vehicles

For reporting purposes, the Oregon Department of Environmental Quality requested the reporting entities classify their vehicles according to the categories in Table 1. These categories are consistent with those defined in the Advanced Clean Trucks rule (Oregon Administrative Rule 340-257).

Table 1: Medium and heavy-duty vehicle categories and corresponding weight ranges

| Category | Gross Vehicle Weight Range |
|--|----------------------------------|
| Class 2b and 3 Trucks (Light-/Medium-) | 8,500 lbs. < GVWR ≤ 14,000 lbs. |
| Class 4 and 5 Trucks (Medium-/Heavy-) | 14,000 lbs. < GVWR ≤ 19,500 lbs. |
| Class 6 and 7 Trucks (Medium-/Heavy-) | 19,500 lbs. < GVWR ≤ 33,000 lbs. |
| Class 8a and 8b Trucks (Heavy-) | GVWR > 33,000 lbs. |
| Class 7-8 Tractors | GVWR 26,001+ |

Reporting methodology

While all regulated entities were required to complete the full reporting form, not all entities submitted reports, and among those that did, not every data field was fully completed. In cases where data were missing or unavailable, responses were categorized as “did not specify.” Where possible, DEQ staff reviewed submitted data to identify discrepancies, clarify conflicting information, and follow up with respondents to improve data quality.

The aggregated results presented in this report reflect the full set of data submitted by 991 entities, encompassing 2,615 home base facilities and 47,844 vehicles. The tables and figures in the report summarize the responses provided, including cases where multiple responses were allowed for certain questions.

Data limitations and considerations for use

The information presented in this report reflects only the data submitted by reporting entities and does not capture the full population of fleets subject to the reporting requirement. Additionally, within submitted reports, some data fields were incomplete or omitted. While this dataset offers valuable insights into the characteristics, distribution, and operation of medium- and heavy-duty vehicles in Oregon, it has not been independently verified or subjected to statistical adjustments for reporting gaps or inconsistencies. As such, the information can help identify general trends and inform preliminary policy development and infrastructure planning.

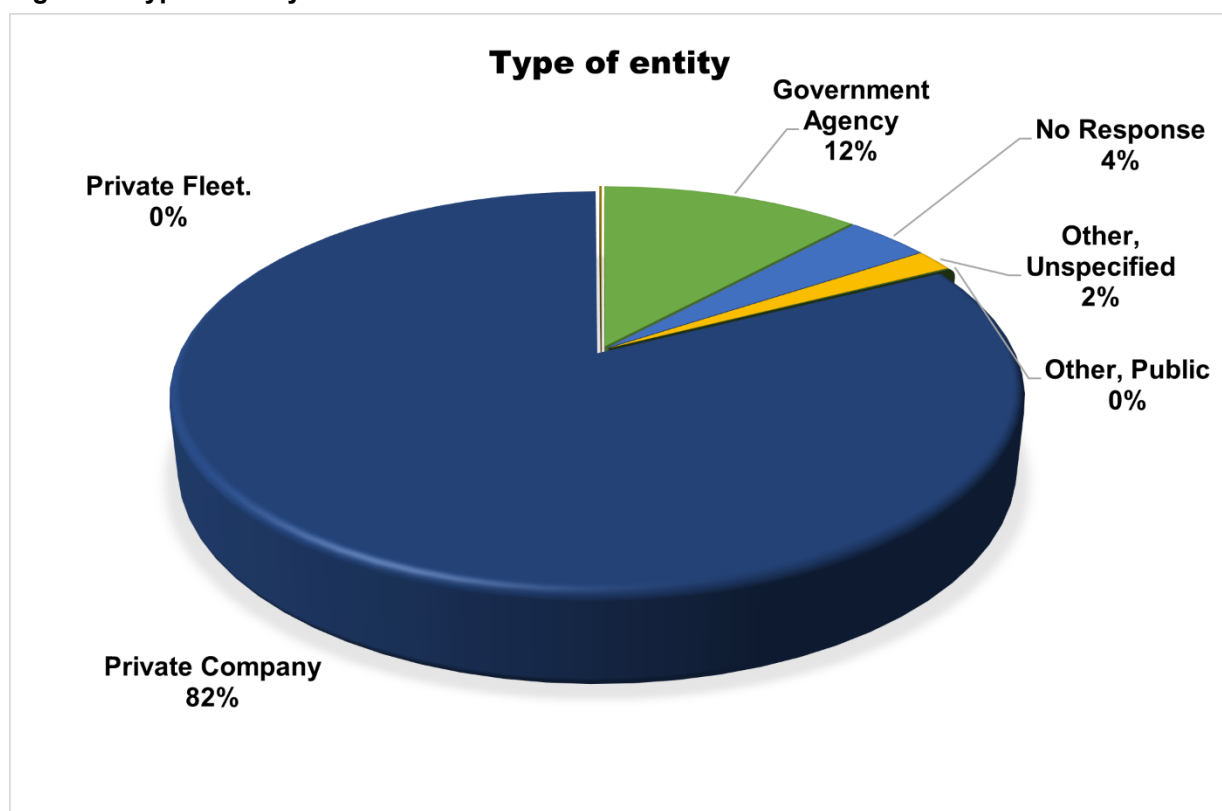
General entity information

This section focused on information and questions about the reporting entity. This part of the reporting included information like the entity name, contact person information, and fleet owner. This section includes information on motor carriers and brokers who had to provide information such as the number of subhaulers and vehicles operated by subhaulers. Table 2 shows the types of entities, how many of them reported and the vehicles associated with each type of entity. Figure 1 shows the percentage of entities who reported.

Table 2: Types of entities reporting

| Category | Number of entities | Percent of total entities | Number of associated vehicles | Percent total associated vehicles |
|---------------------------|--------------------|---------------------------|-------------------------------|-----------------------------------|
| Government Agency | 114 | 12% | 8,976 | 19% |
| Private | 793 | 82% | 36,469 | 76% |
| Other (Non-profit, co-op) | 17 | 2% | 286 | 1% |
| No Response | 37 | 4% | 2,044 | 4% |
| Total | 963 | 100% | 47,844 | 100% |

Figure 1: Type of entity



3D pie chart titled "Type of entity" showing the distribution of reporting entities in the fleet reporting dataset. The largest portion (82%) is labeled "Private Company." Other categories include: Government Agency (12%), No Response (4%), Other, Unspecified (2%), and very small or negligible portions labeled Private Fleet (0%) and Other, Public (0%).

Home base facility information

This section is about the vehicle home base facility and the information to be reported about that facility. The "home base" is the location where a vehicle is domiciled, or a business location where a vehicle is typically kept when not in use.

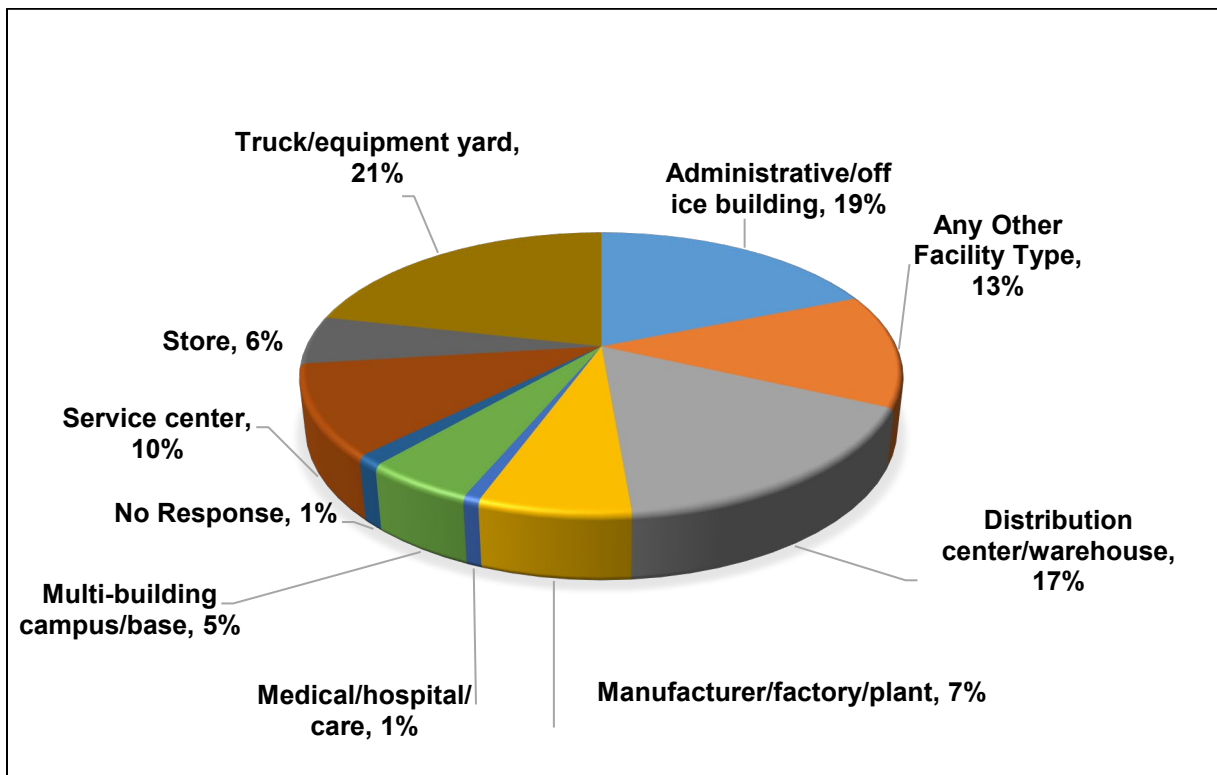
What is the type of facility for each home base facility location?

This question asked about the type of facility was selected from a predetermined list shown in Table 3. Most of the facilities represented are truck/equipment yards, distribution center/warehouse, and administrative/office buildings. However, the majority of vehicles accounted for in the responses did not have a facility associated with them. Figure 2 shows the percentage of the types of facilities reported.

Table 3: Type of facility

| Type or Facility | Number of Home Base Facilities | Percent total | Associated Number of Vehicles | Percent Total Vehicles |
|--------------------------------|--------------------------------|---------------|-------------------------------|------------------------|
| Administrative office/building | 478 | 19% | 7250 | 16% |
| Bakery | 7 | 0% | 1085 | 2% |
| Distribution center/warehouse | 426 | 17% | 7951 | 17% |
| Hotel/motel/resort | 1 | 0% | 34 | 0% |
| Manufacturer/factory/plant | 176 | 7% | 1933 | 4% |
| Medical/hospital | 19 | 1% | 252 | 1% |
| Multi-building campus/base | 128 | 5% | 2704 | 6% |
| Restaurant | 0 | | 0 | 0 |
| Service center | 266 | 10% | 5048 | 11% |
| Store | 141 | 6% | 1590 | 3% |
| Truck/equipment yard | 545 | 21% | 13062 | 28% |
| Any other facility type | 333 | 13% | 5369 | 12% |
| No response | 30 | 1.2% | 373 | 1% |
| Total | 2615 | | 46651 | |

Figure 2: Types of facilities



Is the facility leased or owned by the reporting entity?

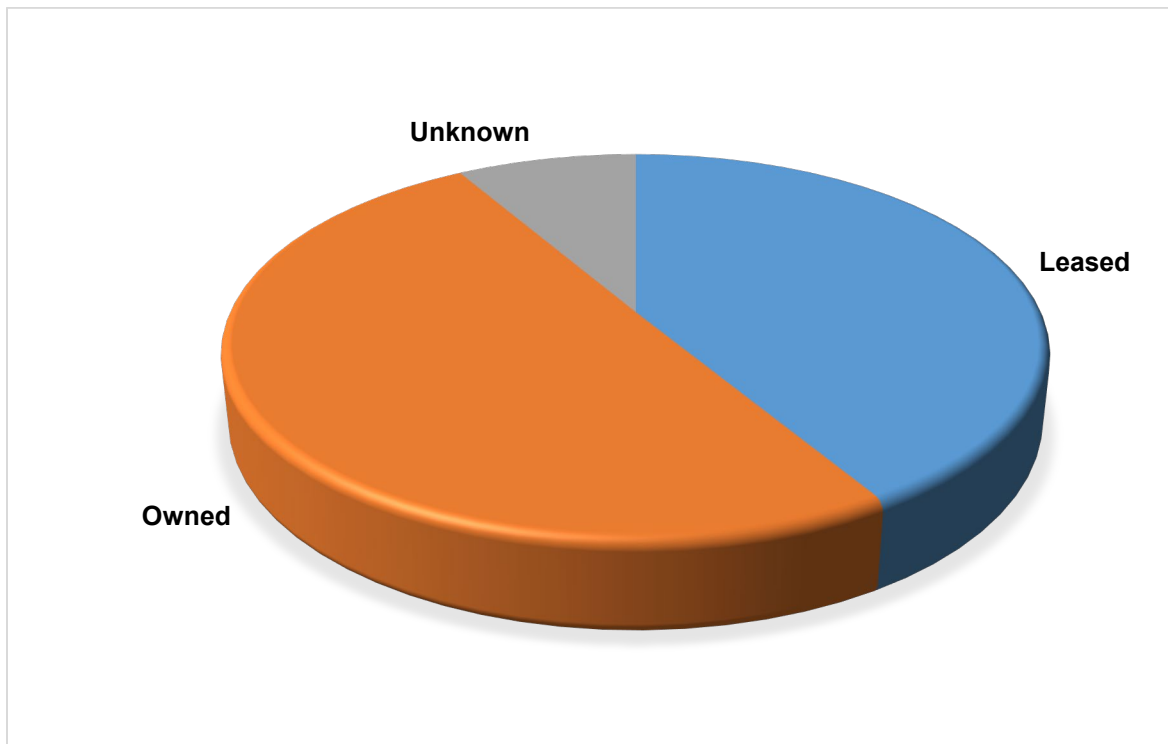
About half of the fleets' home bases are owned by the reporting entity and a little less than half of the home bases are leased. For the home base facilities, over half (60%) have existing refueling infrastructure, allowing the fleets to refuel at their facility. Table 4 shows the number of home base facilities leased or owned.

Table 4: Facility leased or owned by the reporting entity

| Leased or Owned | Total Home Base Facility Count | Percent total home base facilities | Home Base facilities with existing refueling infrastructure | Percent |
|------------------|--------------------------------|------------------------------------|---|---------|
| Leased | 1098 | 42% | 679 | 35% |
| Owned | 1299 | 49% | 1148 | 60% |
| No response | 218 | 9% | 70 | 4% |
| Total facilities | 2615 | | 1897 | |

Figure 3 shows the distribution of home base facility ownership or lease, with over half of the fleet facilities owned by the fleet.

Figure 3: Facility leased or owned



*Pie chart titled "Fleet Facility Ownership" showing the proportion of fleet home base facilities by ownership type. The chart is divided into three segments:

- Owned: approximately half of the chart (shown in orange)
- Leased: slightly less than half of the chart (shown in blue)

- Unknown: a small portion of the chart (shown in gray)

Is there infrastructure installed at the facility?

For this question, more than one option could be chosen for each facility. Therefore, the line-item percentages are calculated dividing the “Facility Count” by 2,615 home base facilities and the facility counts are not totaled at the bottom of this table. Table 5 shows the distribution of fueling infrastructure at the home base facilities. Almost 40% of the facilities with refueling infrastructure have diesel and 22% have gasoline at their facility.

Table 5: Infrastructure type at home base facility

| Refueling Infrastructure Fuel Type | Home Base Facility Count | Percent of Total Home Base Facilities |
|------------------------------------|--------------------------|---------------------------------------|
| Diesel | 1,005 | 38% |
| Gasoline | 583 | 22% |
| Natural gas | 57 | 2% |
| Electricity for charging | 155 | 6% |
| Hydrogen | 4 | .15% |
| Other | 72 | 3% |

Figure 4 shows the distribution of fueling infrastructure for facilities owned with over half of the fuel infrastructure as diesel, and a quarter from gasoline. Figure 5 shows the distribution of fueling infrastructure for leased facilities.

Figure 4: Facilities owned – type of fuel infrastructure

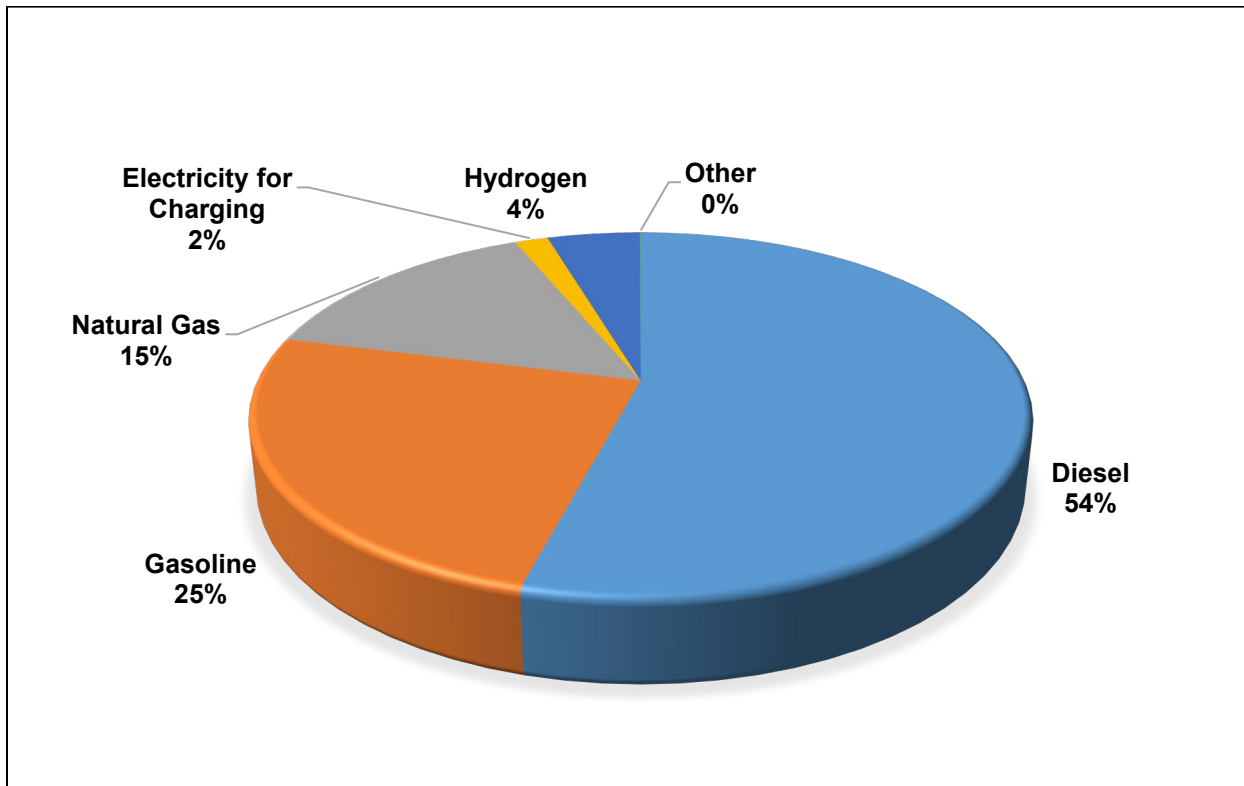
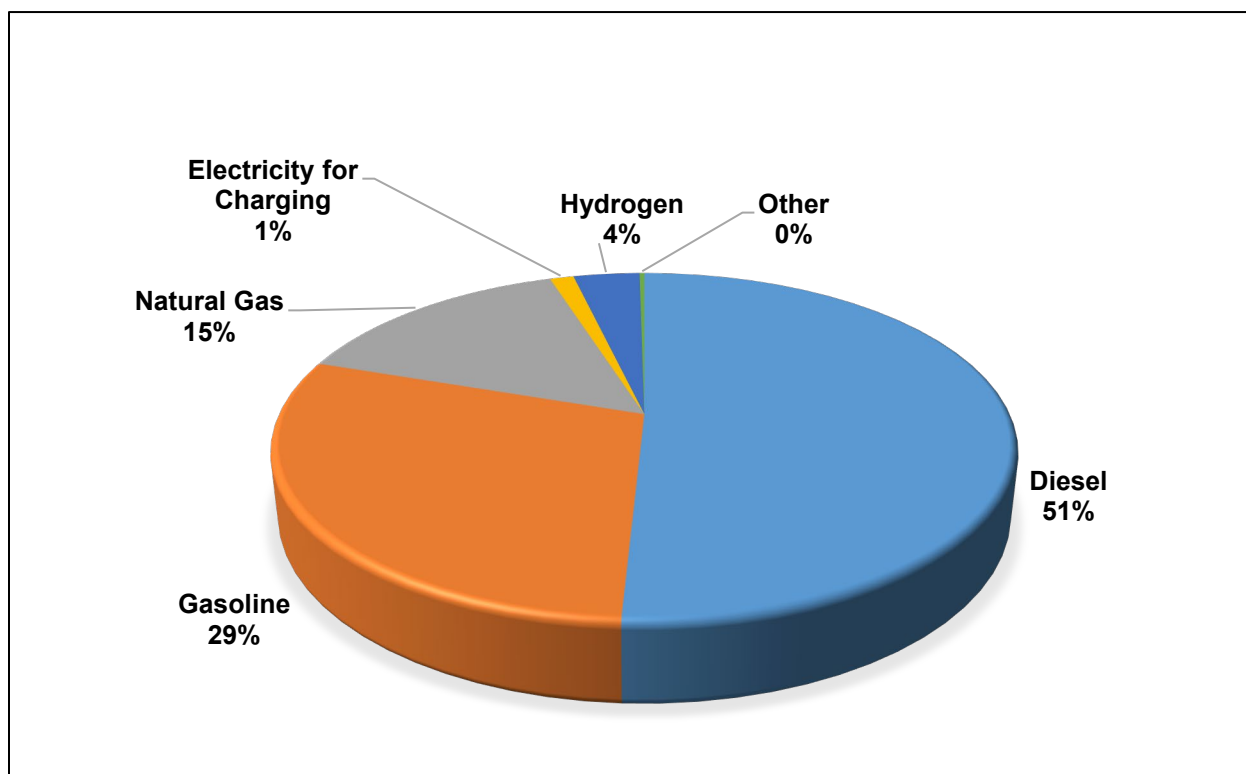


Figure 5: Facilities leased with fuel infrastructure – type of fuel



Location of facilities

The maps below show the location of reported facilities across the state, based on fleet size. Overall, the majority of facilities are located in or near major cities and roadways. Figures 6-9 shows the location of fleets based on their fleet size. Figure 6 shows fleets of more than 5 but less than 25 vehicles, Figure 7 shows fleets with 25-79 vehicles, Figure 8 shows fleets with 80-222 vehicles, and Figure 9 shows fleets with 223-1241 vehicles.

Figure 6: Location of fleets with less than 25 vehicles

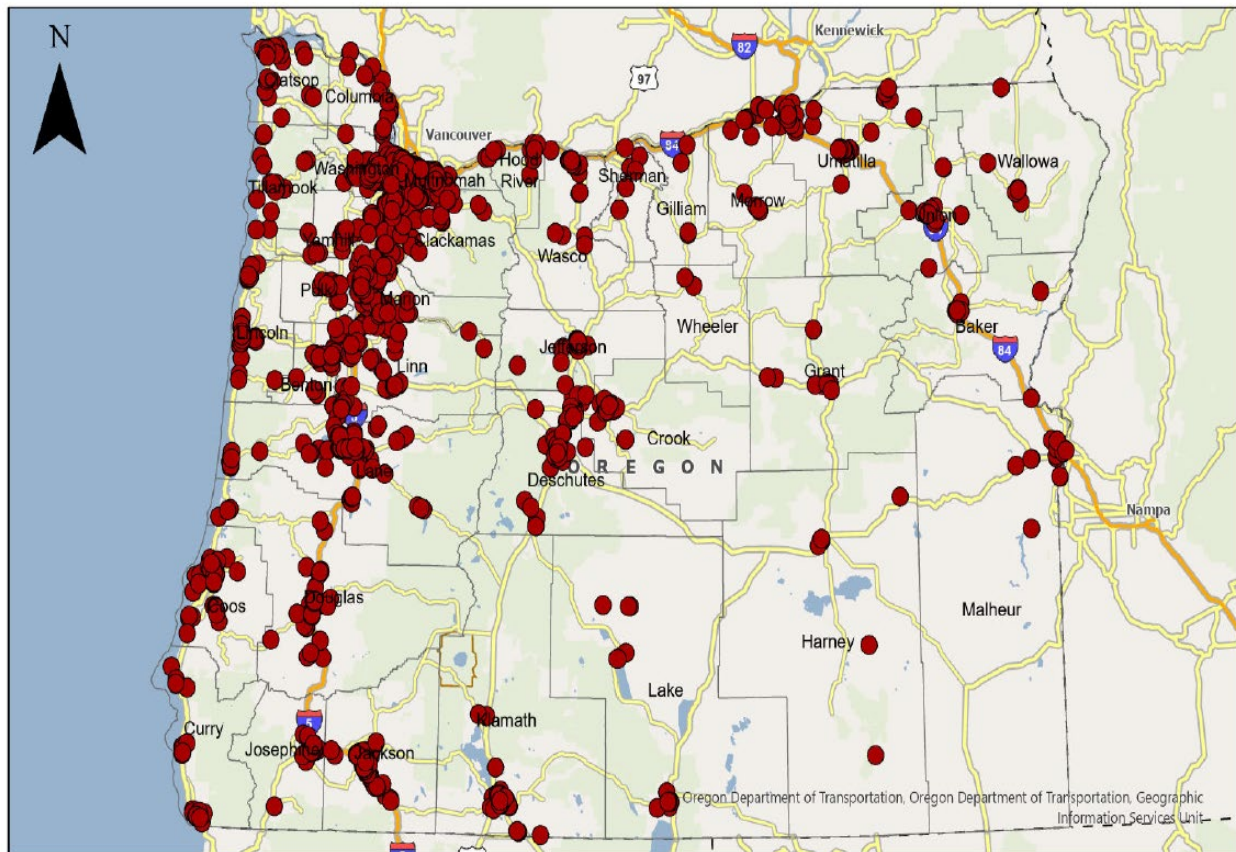


Figure 7: Location of fleets with 25-79 vehicles

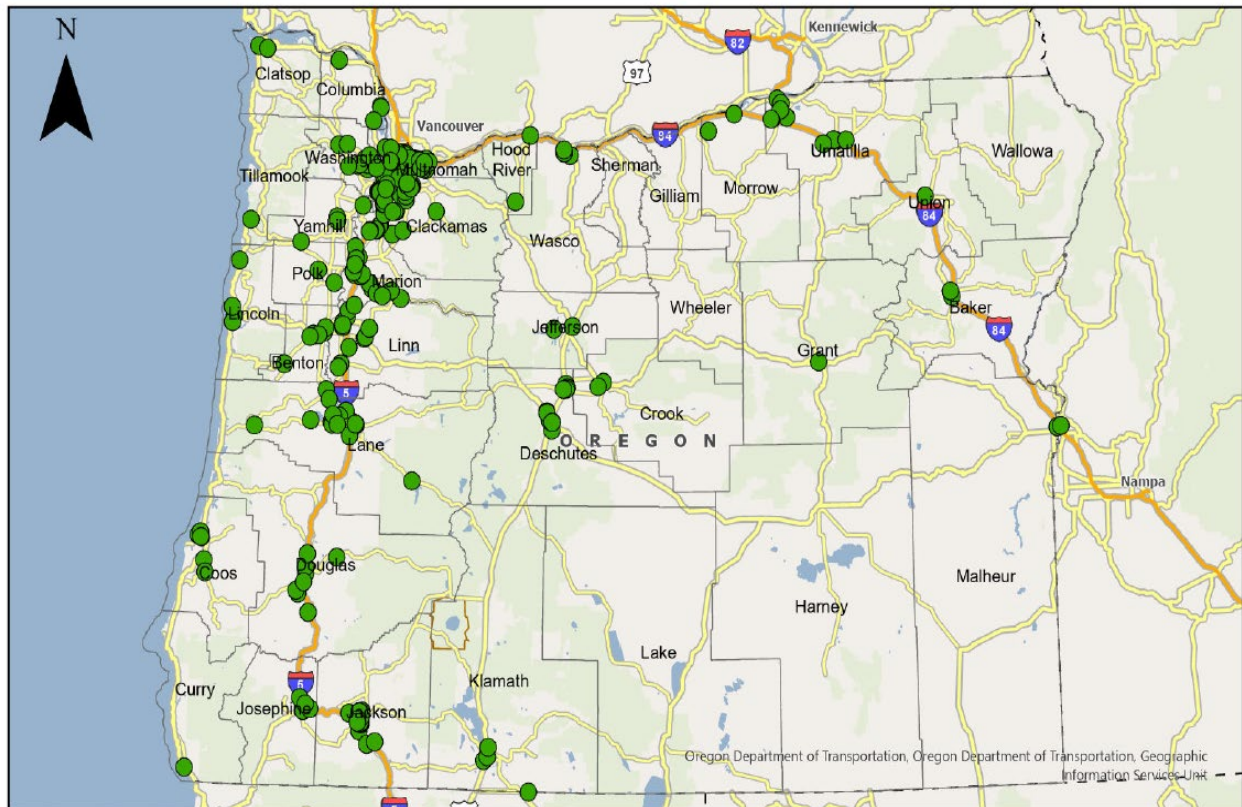


Figure 8: Location of fleets with 80-222 vehicles

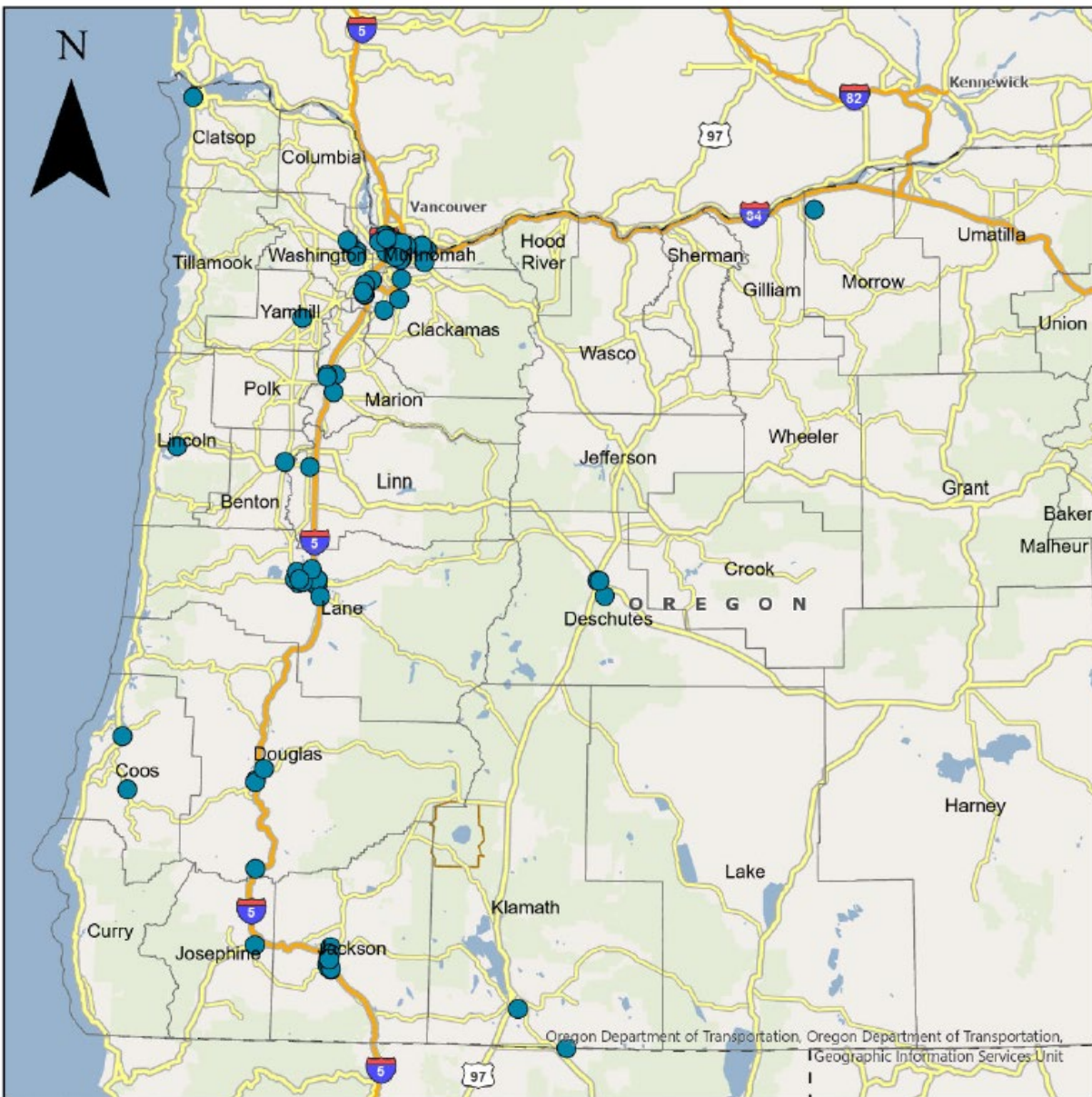
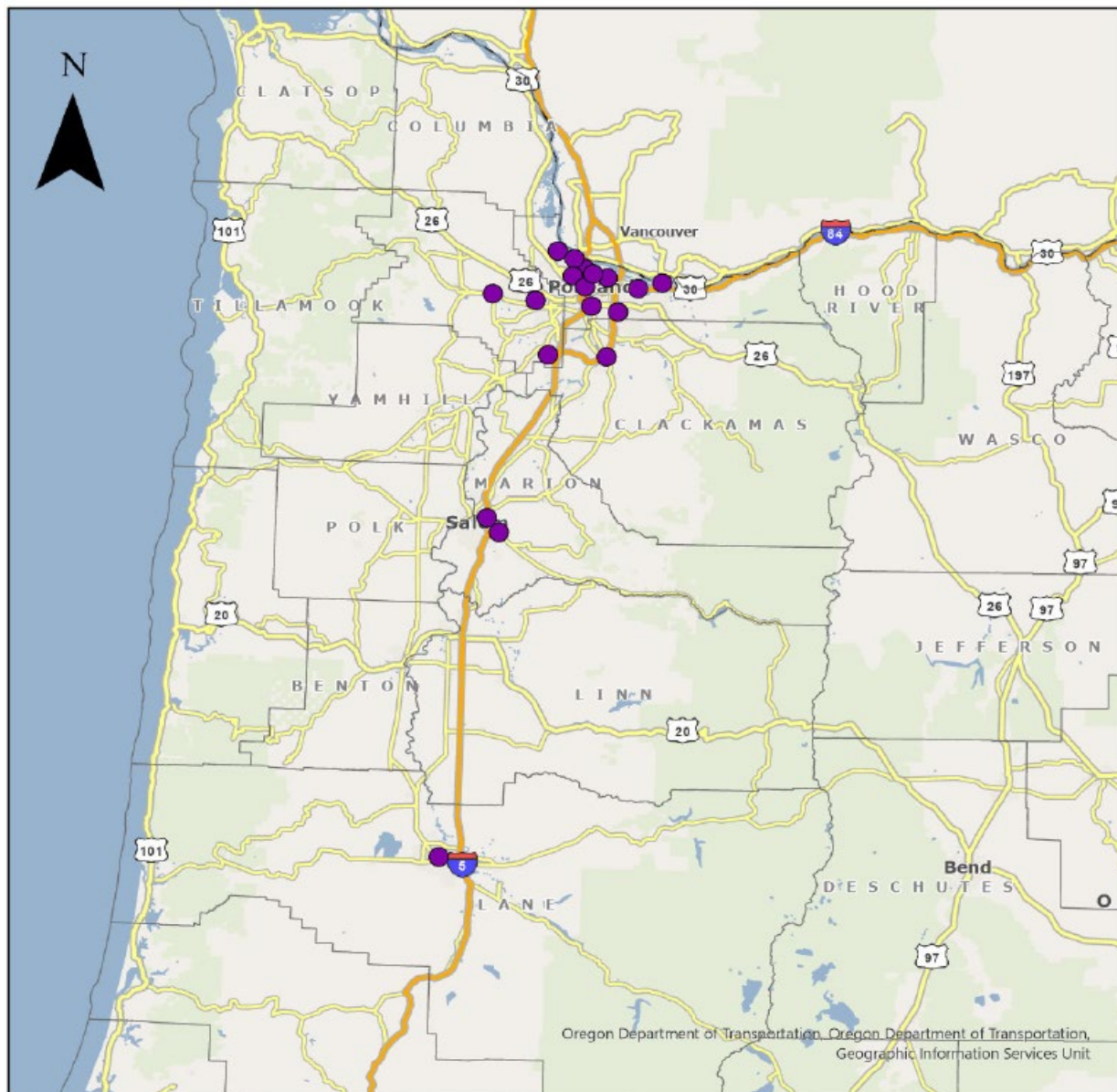


Figure 9: Location of fleets with 223-1,241 vehicles



The next set of maps (Figures 10-12) shows the location of all fleets relative to vulnerable populations in the state. For the purposes of this map, vulnerable populations are defined as people under the age of 14 and over the age of 64, Black, indigenous, and people of color, people with a household income that is less than or equal to twice the federal poverty level, people who are linguistically isolated, and people age 25 or older who have not earned a high school diploma or passed a General Educational Equivalent test. Figure 10 shows the location of fleets relative to Western Oregon vulnerable populations.

Figure 10: Fleet location relative to Western Oregon vulnerable populations

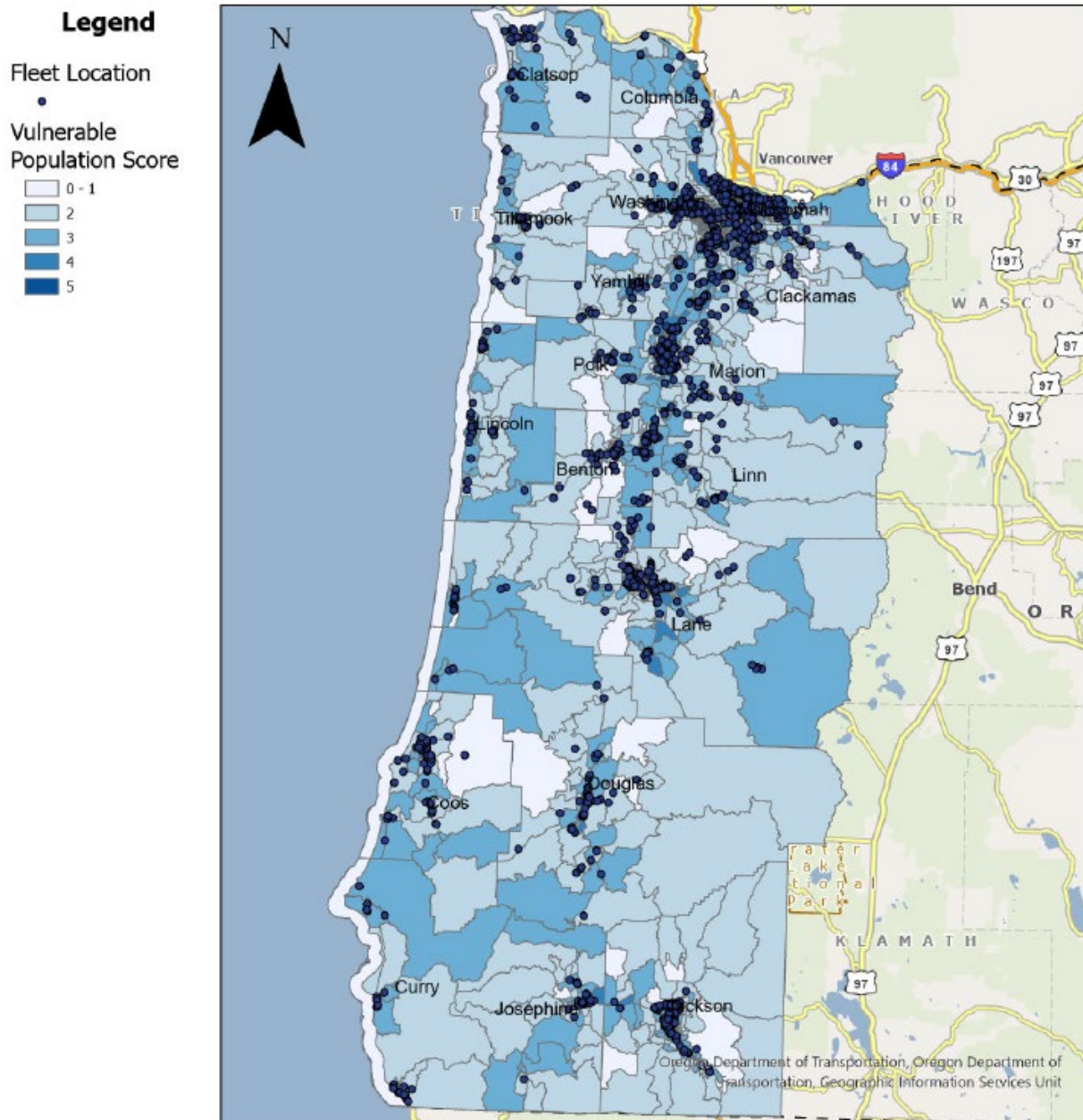


Figure 11 shows the location of fleets relative to Central Oregon vulnerable populations.

Figure 11: Fleet location relative to Central Oregon vulnerable populations

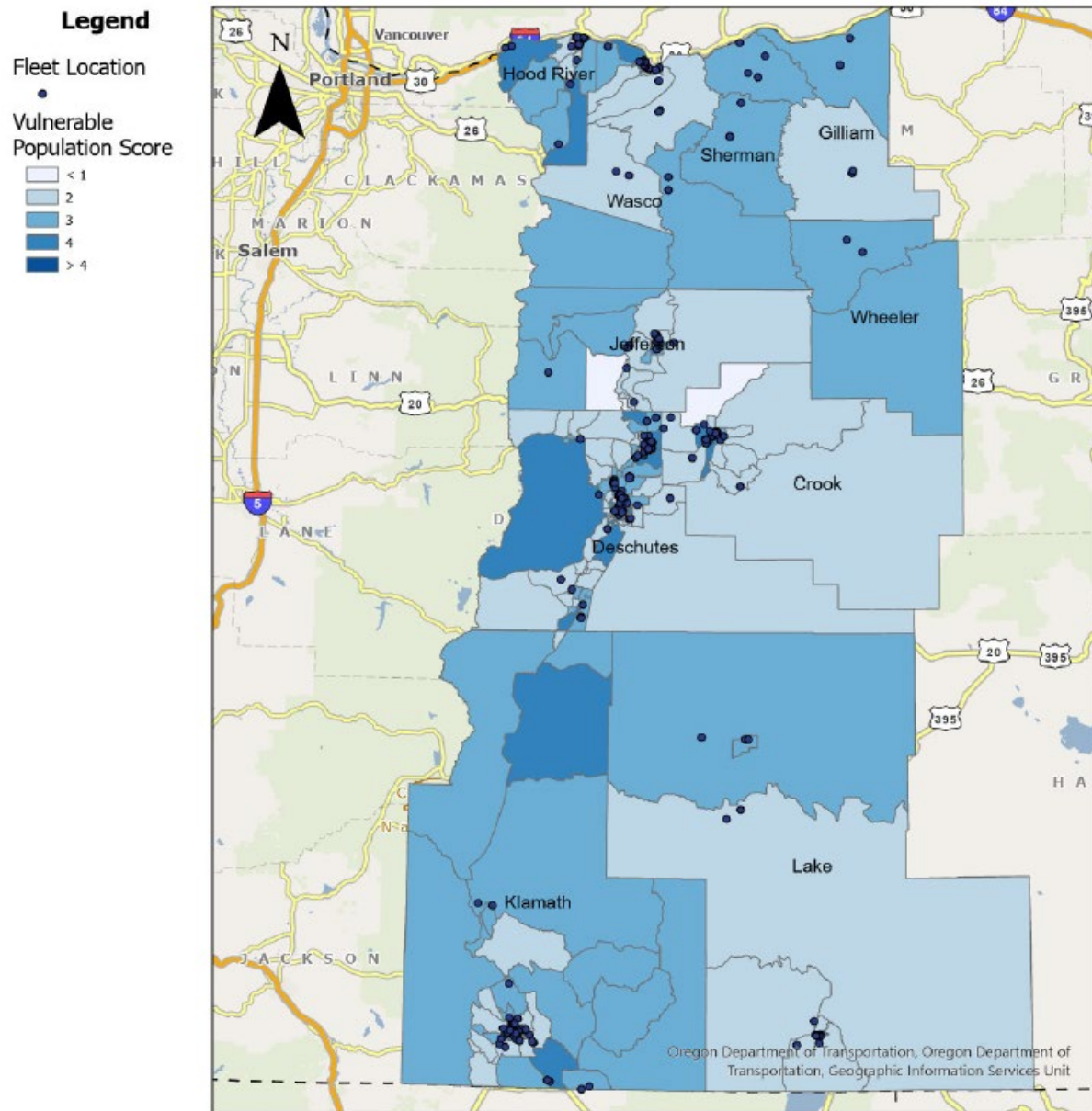
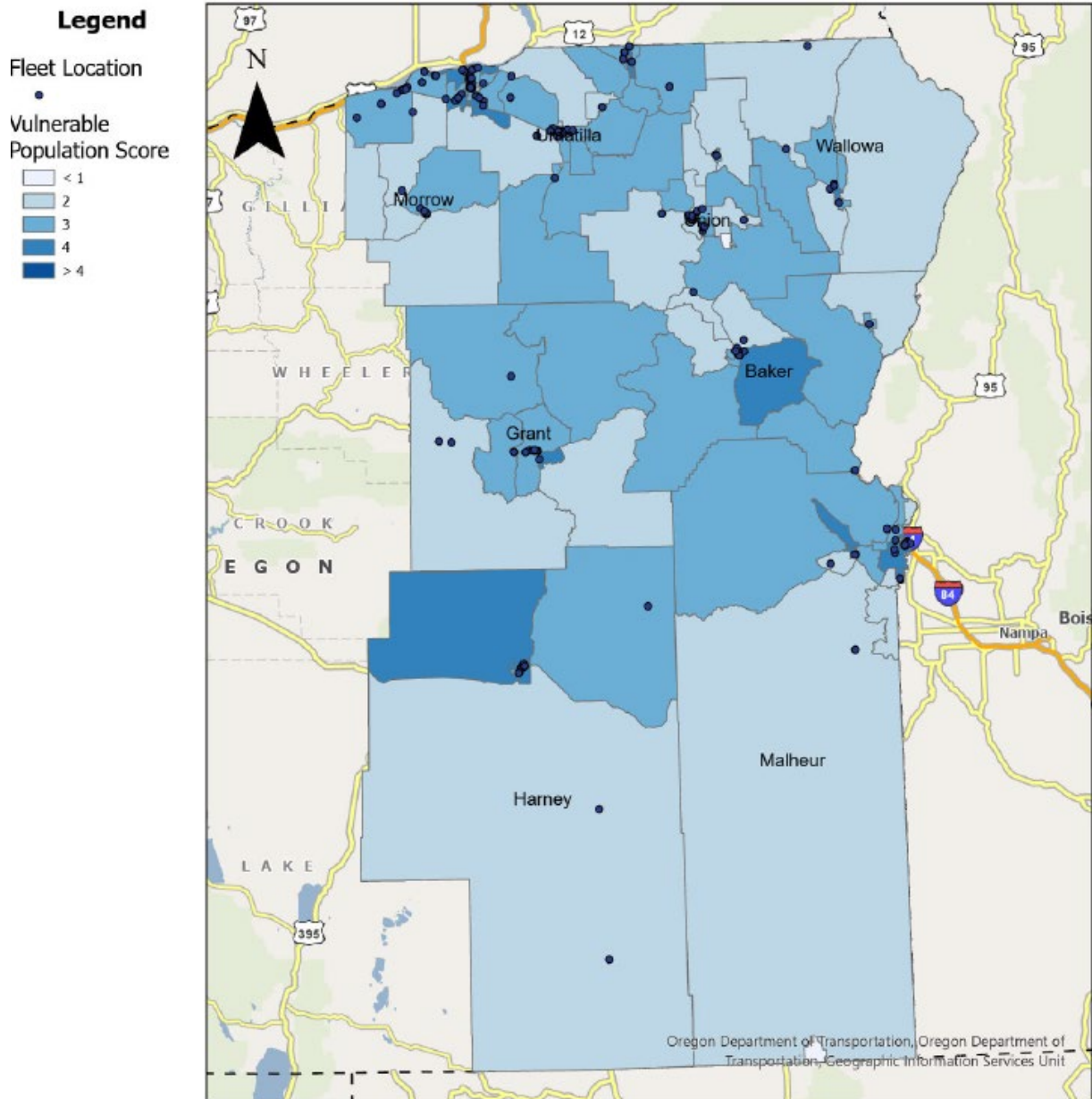


Figure 12 shows the location of fleets relative to Eastern Oregon vulnerable populations.

Figure 12: Fleet location relative to Eastern Oregon vulnerable populations



Vehicle information

This section is about the vehicles associated with each home base facility and how they are used. All on-road vehicles with a GVWR >8,500 lbs. and off-road yard trucks regardless of fuel type or use were included in this section. Vehicles were grouped by body type, fuel type, and weight class bin for each home base location.

What is the body type for each vehicle reported?

This question asked about the body type for each vehicle, which was selected from a predetermined list. Table 6 lists all the different body types and number of vehicles associated with each type. Most of the vehicles reported are represented by box dry van, dump trucks, pickup beds, tractor day cabs, buses and cargo vans.

Table 6: Vehicle body type of the fleets

| Body Type | Number of Vehicles (owned) | Number of Vehicles (Dispatched) | Did Not Specify | Total Vehicle Count | Percent Total Vehicles |
|----------------------|----------------------------|---------------------------------|-----------------|---------------------|------------------------|
| Beverage Truck | 500 | 1041 | 6 | 1547 | 3.37% |
| Boom / Bucket | 992 | 1 | 57 | 1050 | 2.29% |
| Box Dry Van | 2535 | 1513 | 118 | 4166 | 9.08% |
| Box Reefer | 495 | 0 | 20 | 515 | 1.12% |
| Box Truck | 334 | 0 | 0 | 334 | 0.73% |
| Box Van | 1 | 0 | 0 | 1 | 0.00% |
| Bus - Other | 3131 | 0 | 200 | 3331 | 7.26% |
| Bus – Shuttle | 1295 | 0 | 0 | 1295 | 2.82% |
| Cab Chassis | 1 | 0 | 0 | 1 | 0.00% |
| Cab Truck w/Dump Bed | 1 | 0 | 0 | 1 | 0.00% |
| Cab Truck w/Loader | 0 | 0 | 9 | 9 | 0.02% |
| Car Carrier | 55 | 21 | 0 | 76 | 0.17% |
| Car/SUV | 721 | 62 | 15 | 798 | 1.74% |
| Concrete Mixer | 453 | 0 | 0 | 453 | 0.99% |
| Concrete Pump | 15 | 0 | 0 | 15 | 0.03% |
| Crane | 117 | 0 | 23 | 140 | 0.31% |
| Crew Box | 16 | 0 | 0 | 16 | 0.03% |
| Delivery Truck | 109 | 0 | 0 | 109 | 0.24% |
| Drill Rig | 59 | 0 | 0 | 59 | 0.13% |
| Dump | 3494 | 5 | 162 | 3661 | 7.98% |
| Flatbed or Stake Bed | 2133 | 157 | 76 | 2366 | 5.16% |
| Garbage Front Loader | 205 | 0 | 4 | 209 | 0.46% |
| Garbage Packer | 131 | 0 | 0 | 131 | 0.29% |
| Garbage Roll Off | 5 | 0 | 0 | 5 | 0.01% |

| Body Type | Number of Vehicles (owned) | Number of Vehicles (Dispatched) | Did Not Specify | Total Vehicle Count | Percent Total Vehicles |
|-----------------------------|----------------------------|---------------------------------|-----------------|---------------------|------------------------|
| Garbage Side Loader | 327 | 1 | 8 | 336 | 0.73% |
| Garbage Truck – unspecified | 587 | 0 | 9 | 596 | 1.30% |
| Garbage/Recycle Truck | 34 | 1 | 0 | 35 | 0.08% |
| Log Truck | 177 | 0 | 23 | 200 | 0.44% |
| Lowboy Truck | 9 | 0 | 0 | 9 | 0.02% |
| Off-Road Yard Tractor | 2 | 0 | 0 | 162 | 0.35% |
| On-Road Yard Tractor | 151 | 2 | 9 | 56 | 0.12% |
| Pickup Bed | 5,940 | 2 | 276 | 6218 | 13.55% |
| Route Truck | 713 | 0 | 0 | 713 | 1.55% |
| Service Body | 2085 | 23 | 105 | 2213 | 4.82% |
| Sweeper | 173 | 2 | 2 | 177 | 0.39% |
| Tank | 758 | 1 | 24 | 783 | 1.71% |
| Tow | 195 | 2 | 0 | 197 | 0.43% |
| Tractor Day Cab | 4,570 | 142 | 384 | 5096 | 11.11% |
| Tractor Sleeper Cab | 1,185 | 606 | 236 | 2027 | 4.42% |
| Vacuum | 246 | 0 | 21 | 267 | 0.58% |
| Van – Cargo | 3,147 | 296 | 38 | 3481 | 7.59% |
| Van – Passenger | 592 | 7 | 5 | 604 | 1.32% |
| Van – Step | 1,818 | 0 | 0 | 1818 | 3.96% |
| Water | 280 | 0 | 22 | 302 | 0.66% |
| Other | 265 | 28 | 10 | 303 | 0.66% |
| Invalid Response | 2 | 0 | 0 | 2 | 0.00% |
| Total | 40054 | 3913 | 1862 | 45883 | 100% |

The next set of questions explored the fuel type of vehicles in the fleets. DEQ aggregated the data to represent the vehicles most represented in Oregon or those that have already been making the transition to alternatively fueled technologies. In the Table 7 and Figures 13-20, these are categorized by tractor and sleeper cabs, buses, garbage trucks, and all other vehicles.

What fuel type is associated with each vehicle body type?

Table 7 shows the vehicle fuel type associated with each vehicle body type.

Table 7: Vehicle fuel type

| Fuel Type | Number Tractor Day Cab | Number Sleeper Cab Tractor | Number of Bus | Number of Garbage | Number All other vehicles | Total | Percent total |
|---------------------|---------------------------------------|---|--------------------------|----------------------------------|--|--------------|--------------------------|
| Diesel | 4,644 | 1427 | 2,935 | 728 | 16991 | 26725 | 57% |
| Gasoline | 3 | 0 | 811 | 0 | 13163 | 13977 | 30% |
| Natural gas | 3 | 0 | 74 | 112 | 4 | 193 | 0% |
| Electricity | 4 | 0 | 11 | 0 | 4 | 19 | 0% |
| Hydrogen | 0 | 0 | 0 | 0 | 0 | | 0 |
| Biodiesel | 225 | 0 | 325 | 378 | 1125 | 2053 | 4% |
| Renewable Diesel | 91 | 0 | 11 | 60 | 855 | 1017 | 2% |
| Propane | 0 | 0 | 454 | 0 | 34 | 488 | 0% |
| Other | 15 (B5) | 0 | 5 | 0 | 233 | 253 | 1% |
| Unspecified | 111 | 566 | 0 | 0 | 1215 | 1892 | 4% |
| Total | 5096 | 2027 | 4626 | 1278 | 33624 | 46651 | 100% |

Figure 13 shows the distribution of gasoline delivery vehicles primarily along the Interstate 5 corridor.

Figure 13: Fleet location of gasoline fueled delivery vehicles

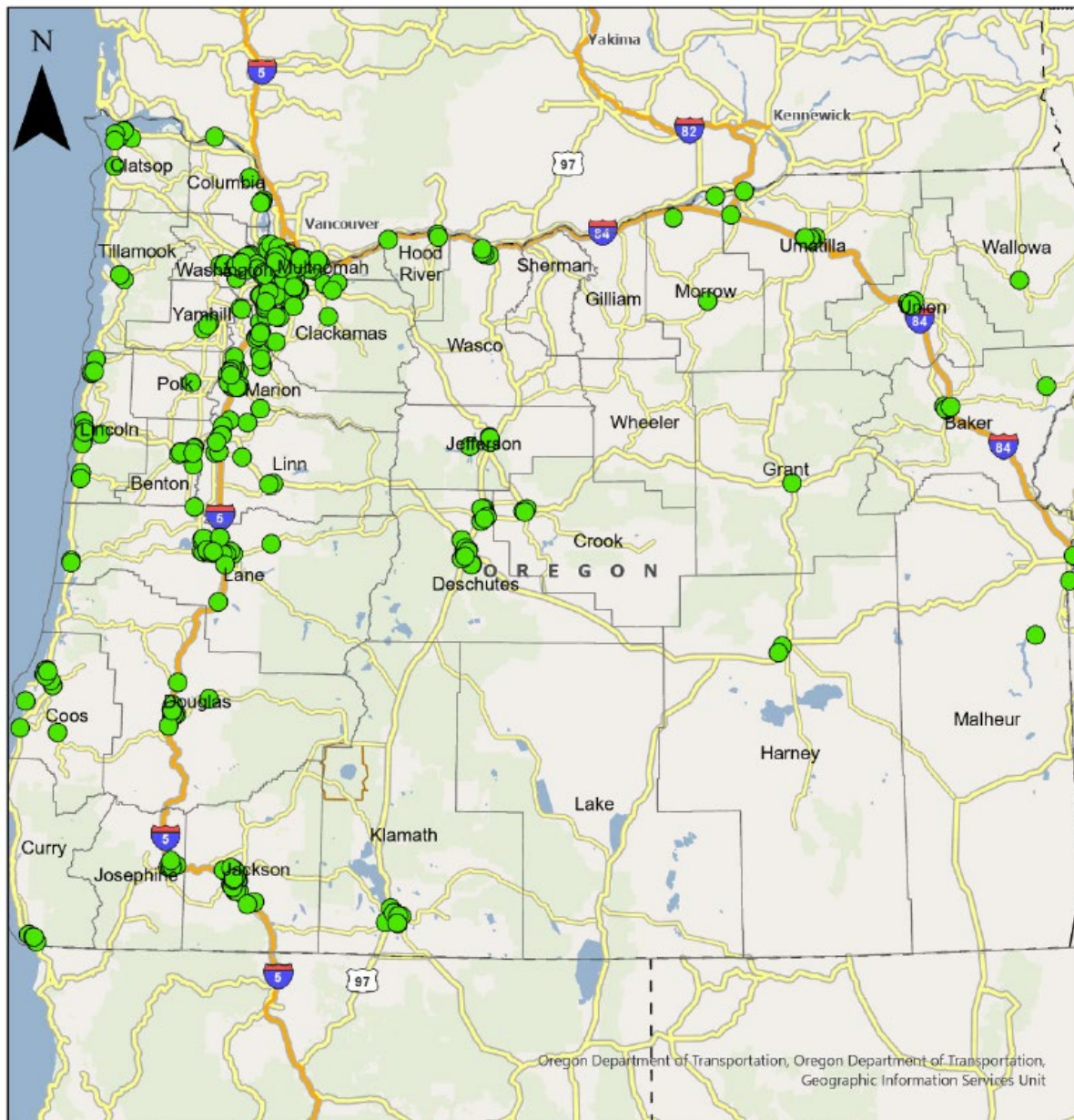


Figure 14 shows the distribution of gasoline buses, primarily along the Interstate 5 corridor.

Figure 14: Fleet location of gasoline fueled buses

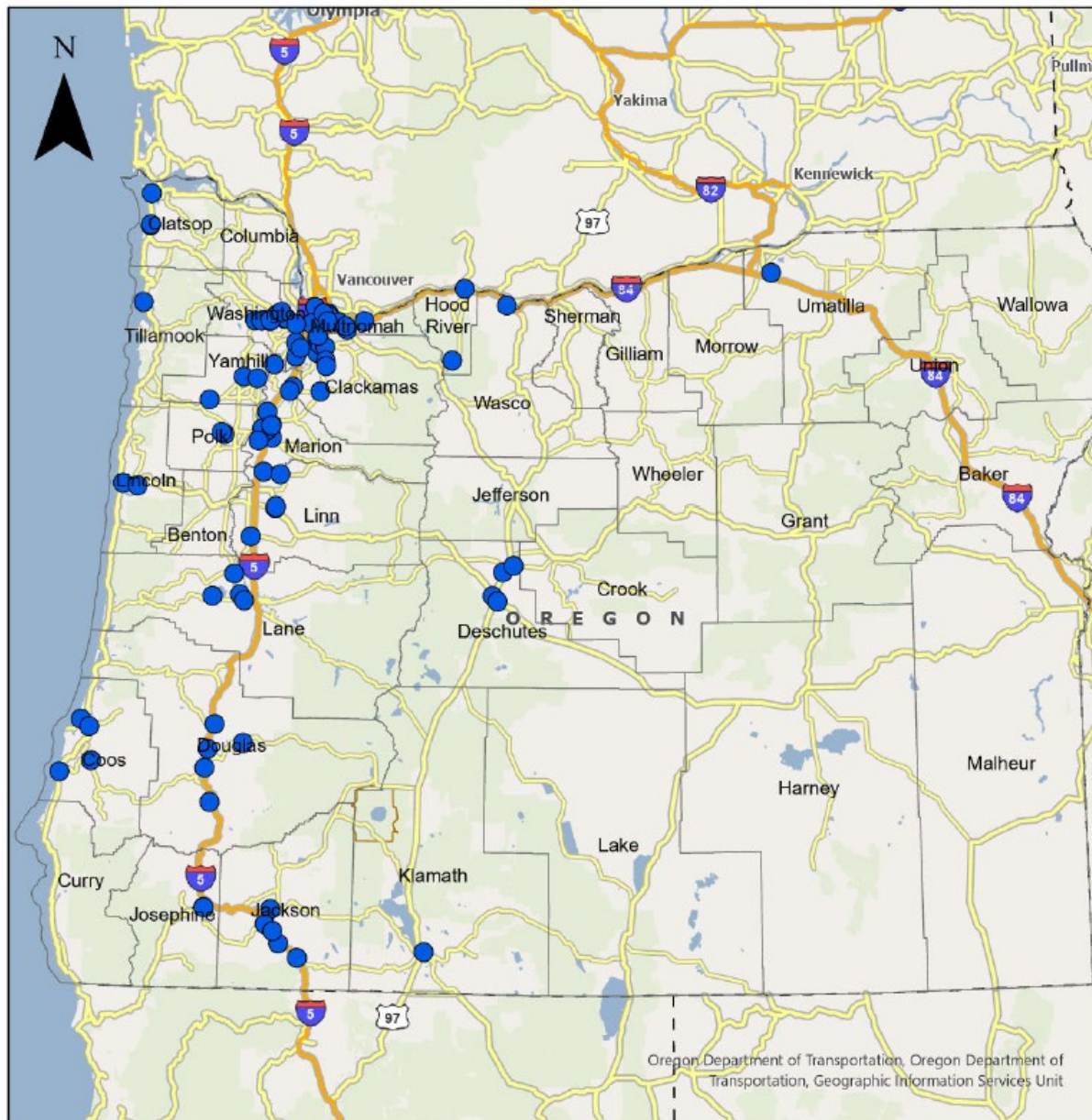


Figure 15 shows the distribution of all other gasoline fueled vehicles, located primarily along the Interstate 5 corridor but also along the coastal region, I-84 and in Central Oregon.

Figure 15: Fleet location of all other gasoline fueled vehicles

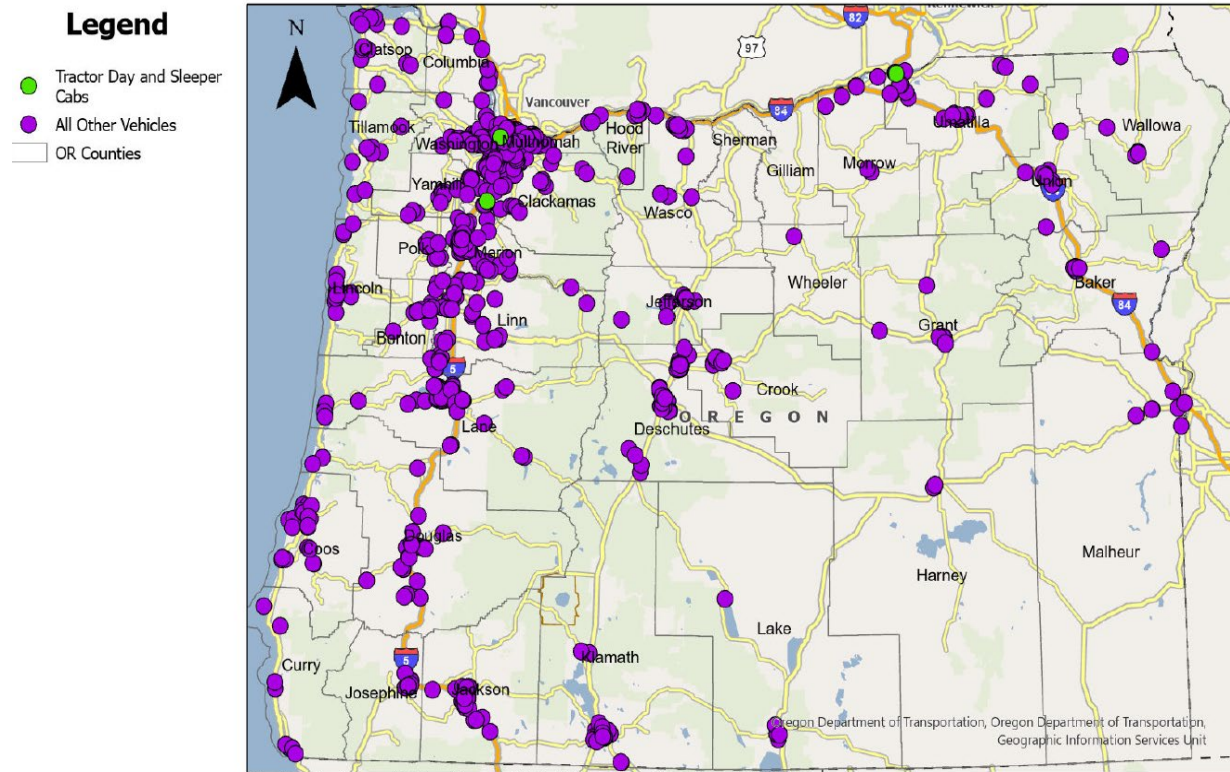


Figure 16 shows the fleet location of diesel tractor day and sleeper cabs, predominantly located along I-5 and concentrated from Eugene to Portland, as well as along the I-84 corridor.

Figure 16: Fleet location of diesel fueled tractor day cab and sleeper cab vehicles

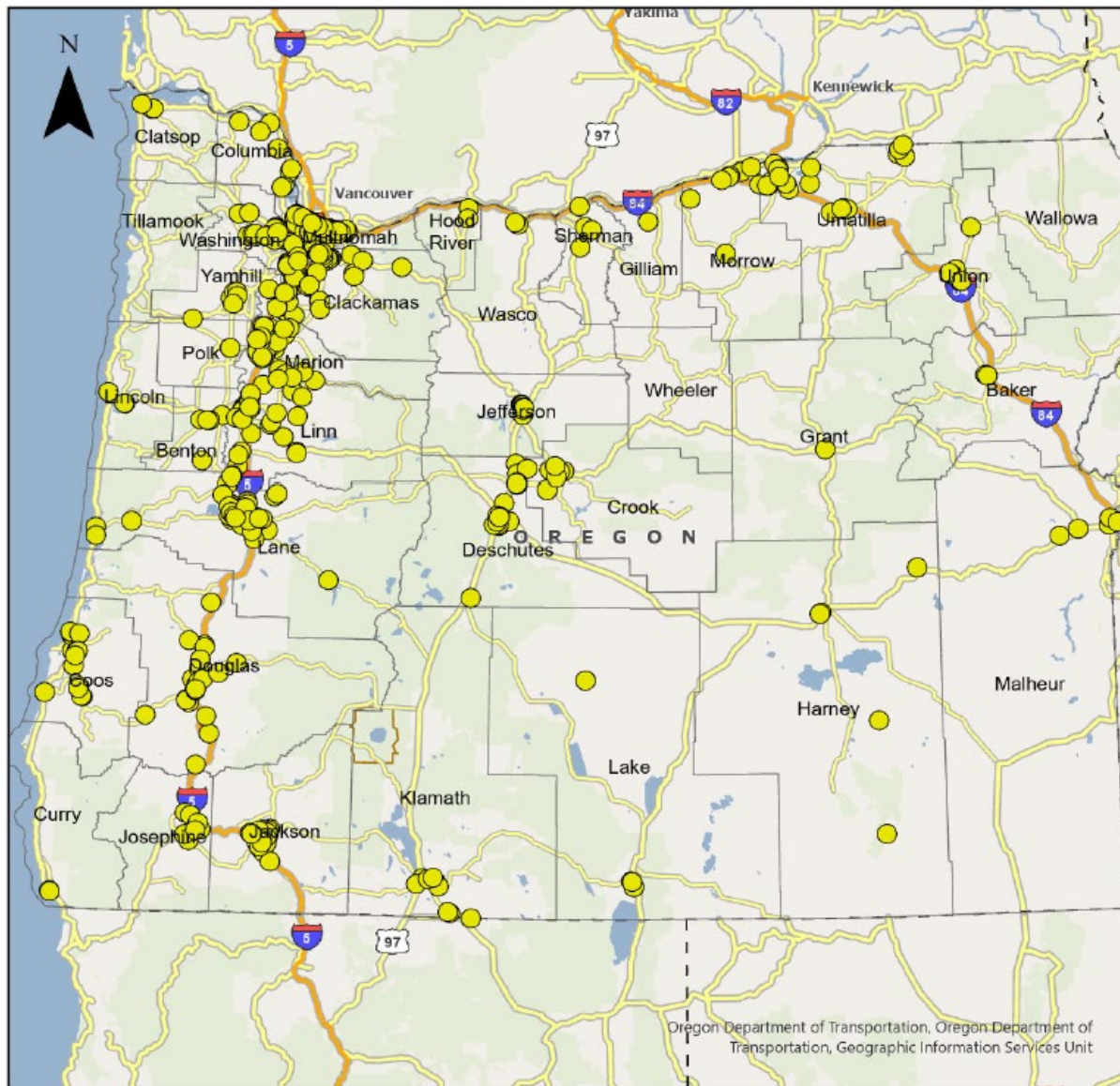


Figure 17 shows the location of diesel fueled buses, primarily located along the I-5 corridor and between Portland and Eugene.

Figure 17: Fleet location of diesel fueled buses

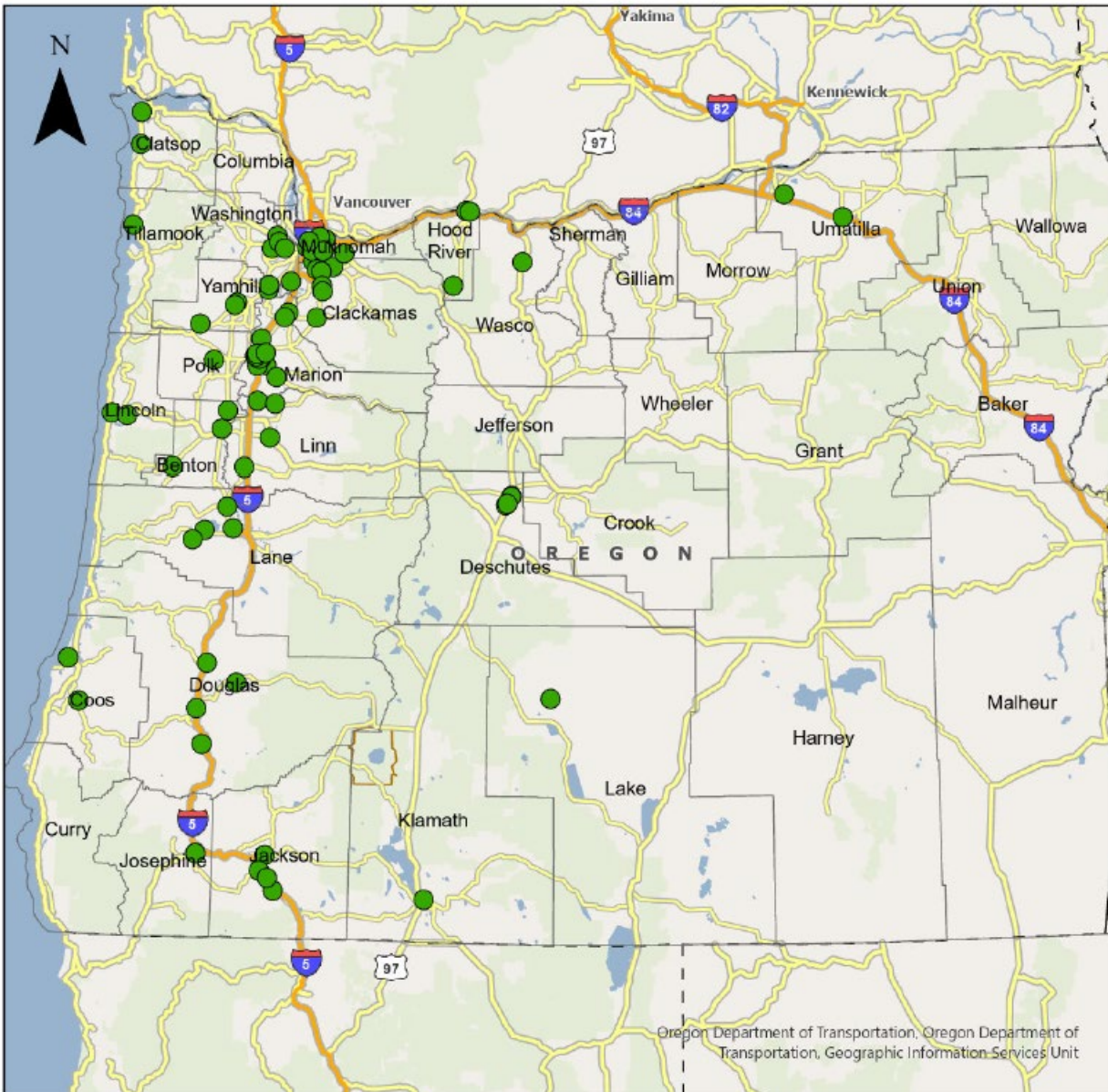


Figure 18 shows the location of diesel fueled garbage trucks, primarily located along the I-5 corridor and between Portland and Eugene.

Figure 18: Fleet location of diesel fueled garbage trucks

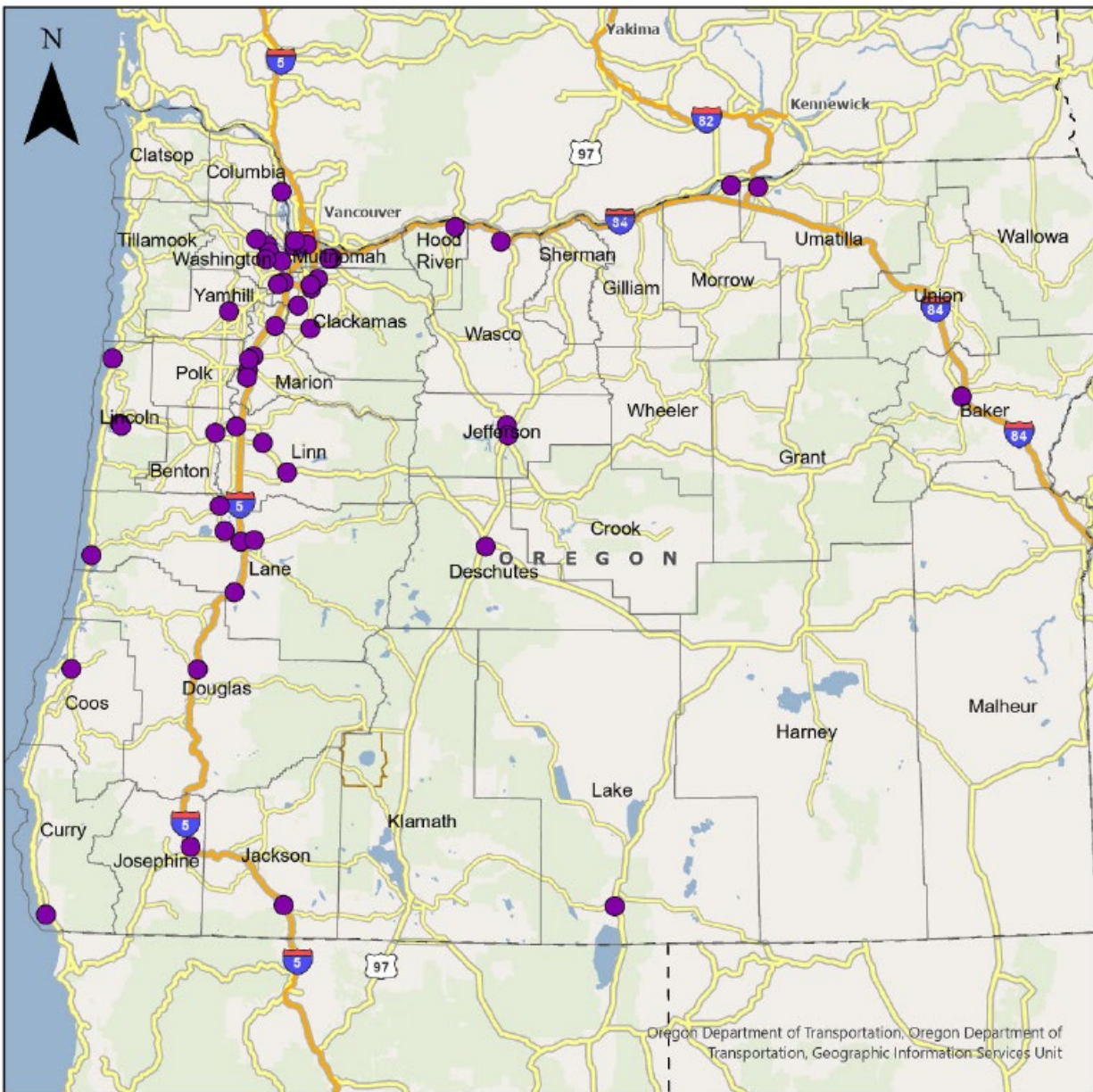


Figure 19 shows the location of all other diesel fueled vehicles, located along the I-5 and I-84 corridors and along the coastal region.

Figure 19: Fleet location of all other diesel fueled vehicles

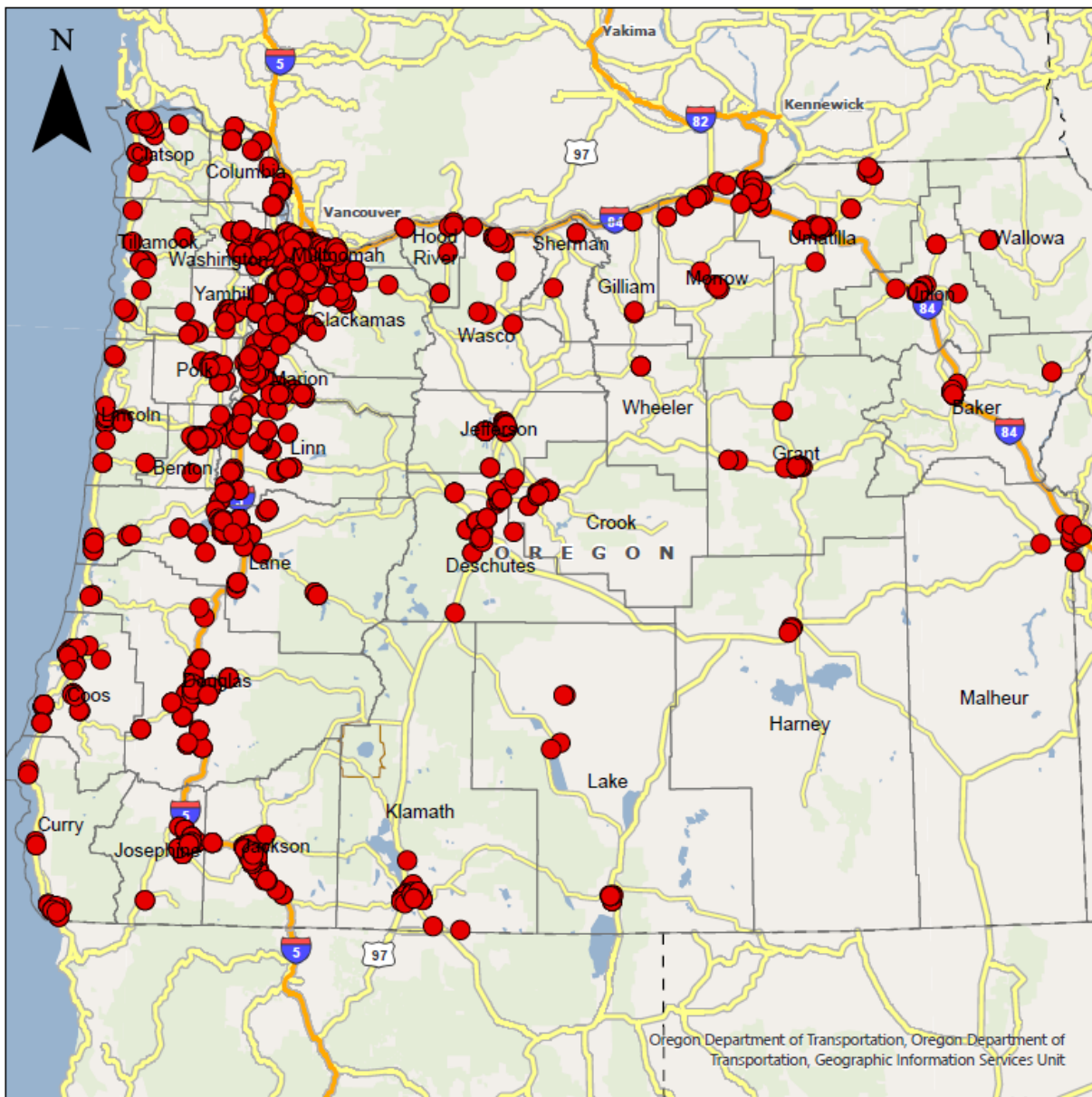
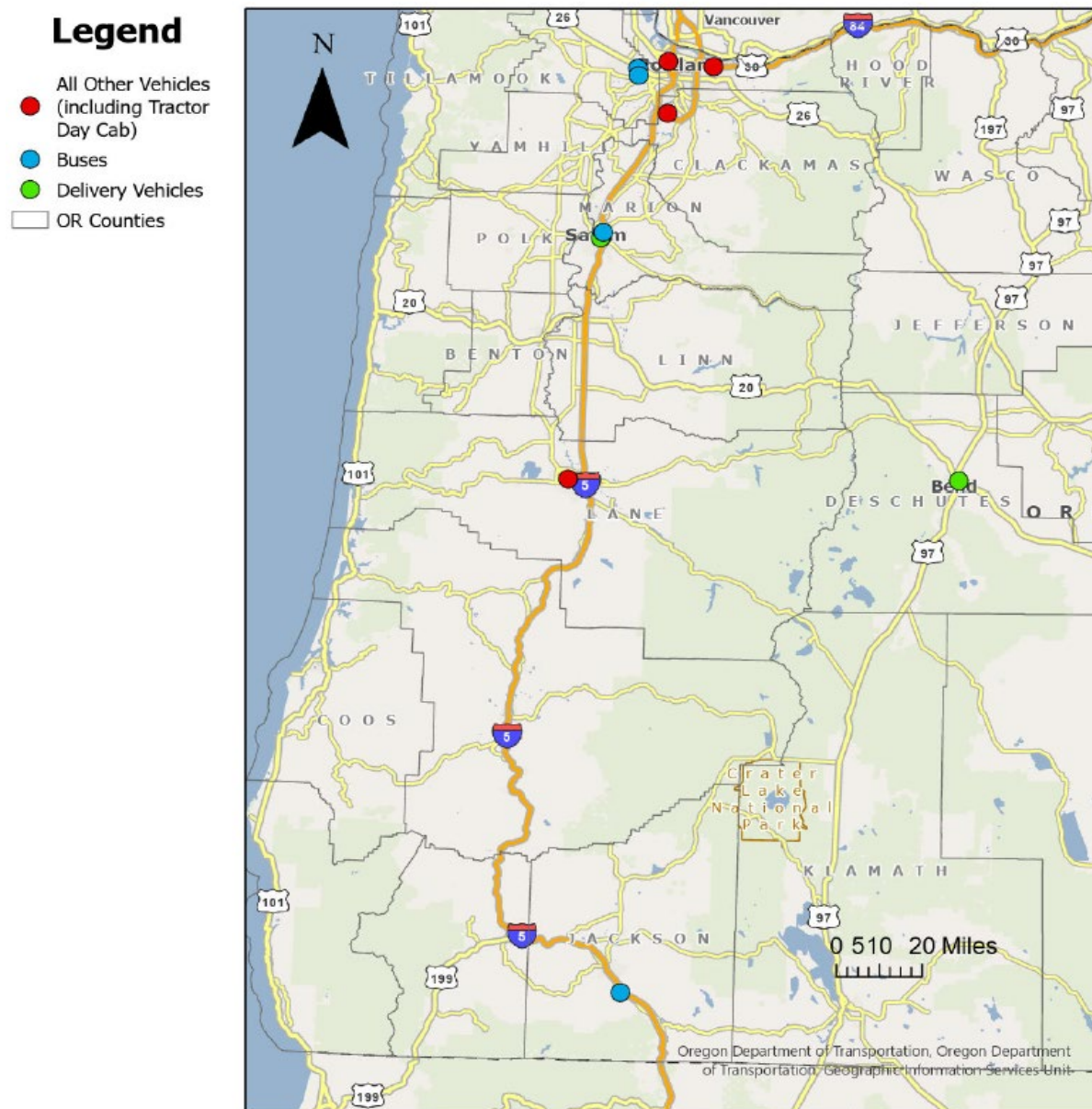


Figure 20 shows the location of electric charging facilities at the fleet location for medium and heavy duty vehicles.

Figure 20: Fleet location of electric vehicles (all types)



The next set of questions requested information on the weight class of the vehicle. The majority of vehicles are Class 7-8 tractors, such as tractor day and sleeper cabs. The other vehicles are separated out by vehicle classes with the next highest number of vehicles in Class 2b-3 category, followed by Class 4-5 and Class 6-7.

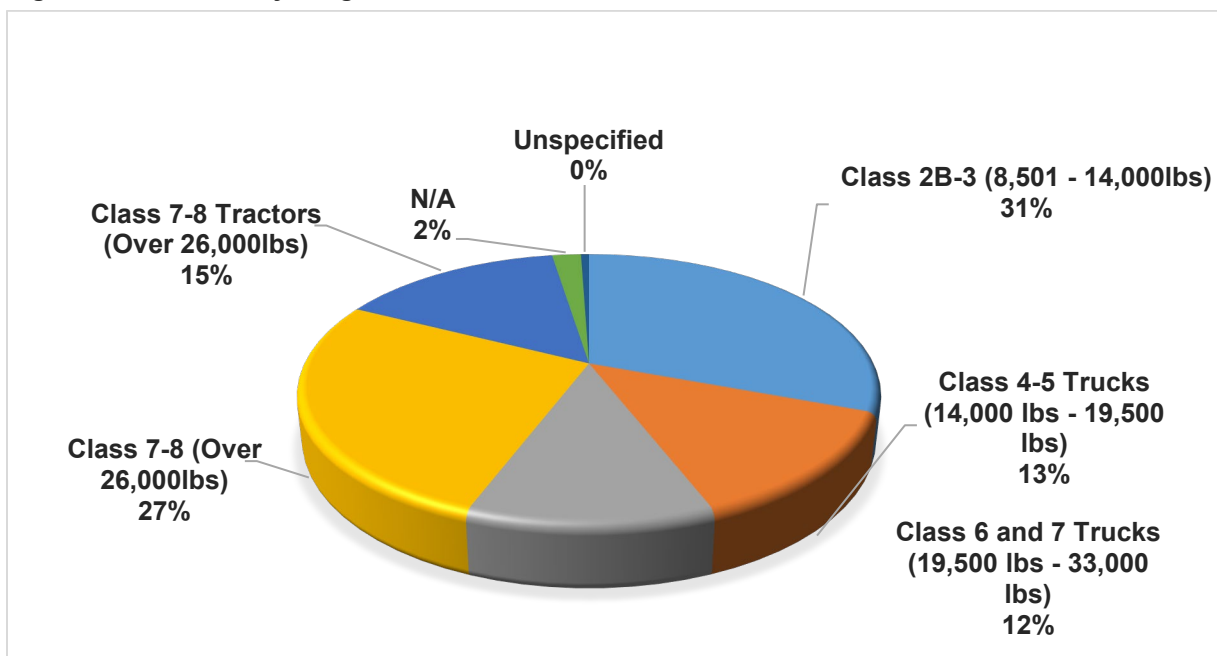
What is the weight class of the vehicle?

Table 8 provides a distribution of the vehicle weight classes for trucks reported to DEQ. Approximately 33% of vehicles are in the Class 2b-3 category followed by Class 7-8 nontractor trucks. Figure 21 shows the distribution of vehicles by weight class.

Table 8: Weight class of the vehicle

| Weight Class | Total number of vehicles | Percent of all vehicles |
|------------------------|--------------------------|-------------------------|
| Class 2b-3 | 14,321 | 31% |
| Class 4-5 | 6,238 | 13% |
| Class 6-7 | 5,467 | 12% |
| Class 7-8 (nontractor) | 12,454 | 27% |
| Class 7-8 tractor | 7,016 | 15% |
| No response | 904 | 2% |
| Unspecified | 251 | 1% |
| Total | 142,326 | 100% |

Figure 21: Vehicles by weight class



What is the estimated daily mileage of your vehicle?

Table 9 provides numbers for the estimated daily mileage of owned vehicles, as this question did not apply to brokers that do not own the vehicles being dispatched. Responses are reported to the nearest 10 percent for each mileage bin.

Table 9: Estimated daily mileage of vehicles (aggregated)

| Body Type | Operate up to 100 miles | 101-150 miles | 151-200 miles | 201-300 miles | Over 300 miles |
|---|-------------------------|---------------|---------------|---------------|----------------|
| Tractor day cab | 13,206 | 11,100 | 8,289 | 11,298 | 20,369 |
| Tractor sleeper cab | 1,383 | 1,908 | 2,430 | 5,654 | 19,786 |
| Bus (other & shuttle) | 5,013 | 1,051 | 727 | 227 | 47 |
| Box dry van, box reefer, box truck, beverage truck, van – cargo, van – step, service body | 57,399 | 11,760 | 5,693 | 2,348 | 3,784 |

| Body Type | Operate up to 100 miles | 101-150 miles | 151-200 miles | 201-300 miles | Over 300 miles |
|---|-------------------------|---------------|---------------|---------------|----------------|
| Garbage (all categories within garbage) | 6,842 | 2,645 | 762 | 121 | 33 |
| All other vehicles | 110,024 | 23,930 | 11,744 | 7,620 | 15,561 |
| Total | 193,867 | 52,396 | 29,646 | 27,268 | 59,580 |

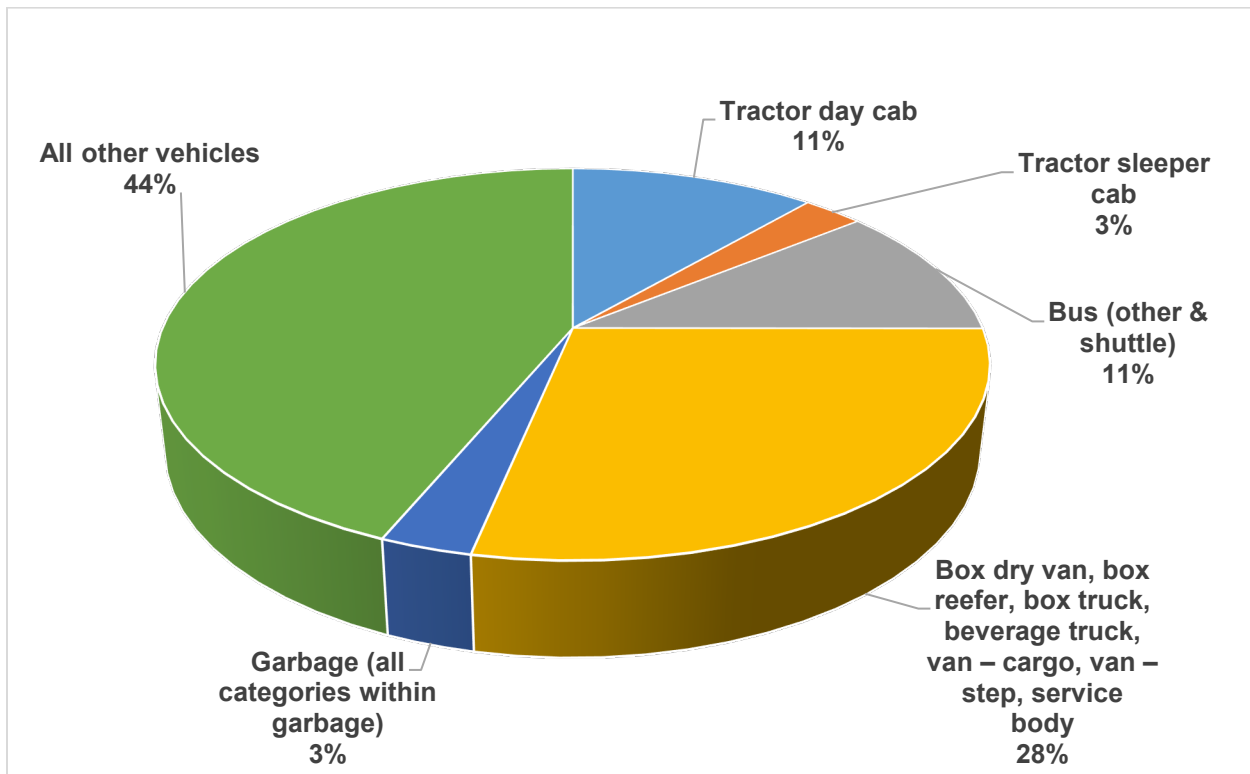
Do vehicles typically return to home base on a daily basis?

Based on survey responses, all vehicle types, with the exception of sleeper cab tractors typically return to their home base of operations on a daily basis. Approximately 13% of box dry vans, box trucks, and other types of delivery and service vehicles do not return to their home base, indicating they may remain out at the work site during the week. Sleeper cab tractors do not typically return to their home base. Table 10 shows how many vehicles typically return or do not return to home base on a daily basis. Figure 28 shows the percentage of those vehicles that return to home base.

Table 10: Vehicles (aggregated) that typically return to home base on a daily basis

| Vehicles typically return on daily basis | Yes | No | Percent Return Home | Percent Do Not Return |
|---|--------------|-------------|---------------------|-----------------------|
| Tractor Day Cab | 4778 | 318 | 11% | 7% |
| Tractor Sleeper Cab | 1182 | 845 | 3% | 19% |
| Bus (shuttle and other) | 4600 | 26 | 11% | 1% |
| Box dry van, box reefer, box truck, beverage truck, van – cargo, van – step, service body | 11903 | 1794 | 28% | 40% |
| Garbage (and all categories within garbage) | 1278 | 0 | 3% | 0% |
| All other vehicles | 18438 | 1489 | 44% | 33% |
| Total | 42179 | 4472 | 100% | 100% |

Figure 22. Percent of vehicles that return home



The responses are reported to the nearest 10 percent for each vehicle group for owned vehicles. It did not apply to brokers that do not own the vehicles they dispatch. The yes or no categories below were determined by multiplying the percent bin by the total number of vehicles in that category. The tables below do not include invalid responses provided for this question.

Vehicles fueled at home base

Survey responses indicated a small percentage of tractor day cabs, buses, box dry vans and similar box trucks, fuel at their home base of operations. Table 11 shows the number and types of vehicles that typically fuel at the home base. The majority of tractor sleeper cabs do not fuel at their home base and are fueled at other locations. Overall, the vast majority of trucks do not fuel at home.

Table 11: Vehicles (aggregated) that fuel at their home base

| Vehicles typically fueled at home base | Yes | No | Percent fueled at home | Percent not fueled at home |
|---|------|------|------------------------|----------------------------|
| Tractor Day Cab | 3047 | 1928 | 15% | 9% |
| Tractor Sleeper Cab | 703 | 757 | 3% | 4% |
| Bus (shuttle and other) | 2993 | 1552 | 14% | 8% |
| Box dry van, box reefer, box truck, beverage truck, van – cargo, van – step, service body | 4445 | 5661 | 21% | 28% |

| Vehicles typically fueled at home base | Yes | No | Percent fueled at home | Percent not fueled at home |
|---|--------------|--------------|------------------------|----------------------------|
| Garbage (and all categories within garbage) | 1015 | 261 | 5% | 1% |
| All other vehicles | 8665 | 10351 | 42% | 50% |
| Total | 20868 | 20510 | 100% | 100% |

These responses are reported to the nearest 10 percent for each vehicle group for owned vehicles. It did not apply to brokers that do not own the vehicles they dispatch. The number of vehicles in the yes or no categories below were determined by multiplying the percent bin by the total number of vehicles in that category.

While the majority of trucks do not refuel at their home base, those that do are represented in the following maps, giving an indication where future fueling needs are needed. Figures 29-33 shows where certain vehicle sectors primarily fueled at the home base reside.

Figure 23: Distribution of tractor day and sleeper cabs - fueled at home base

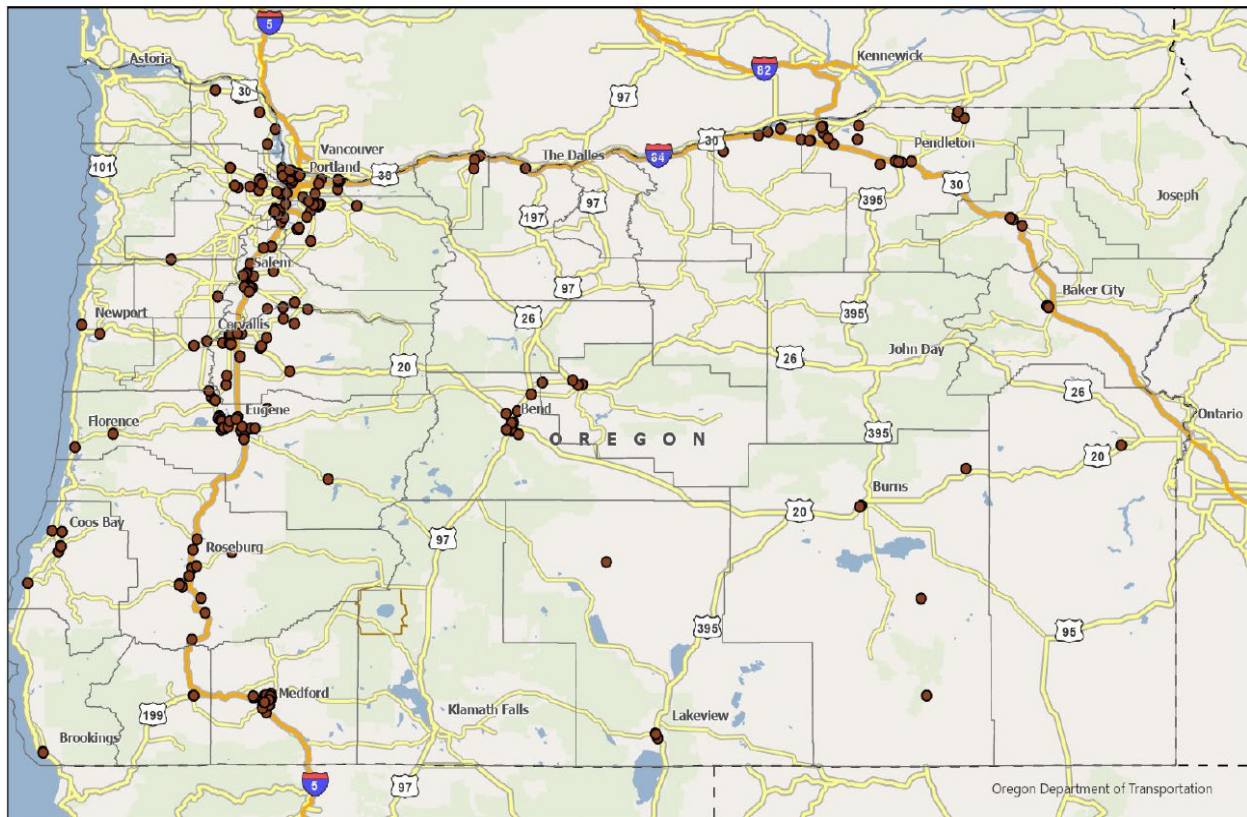


Figure 24: Distribution of garbage vehicles - fueled at home base

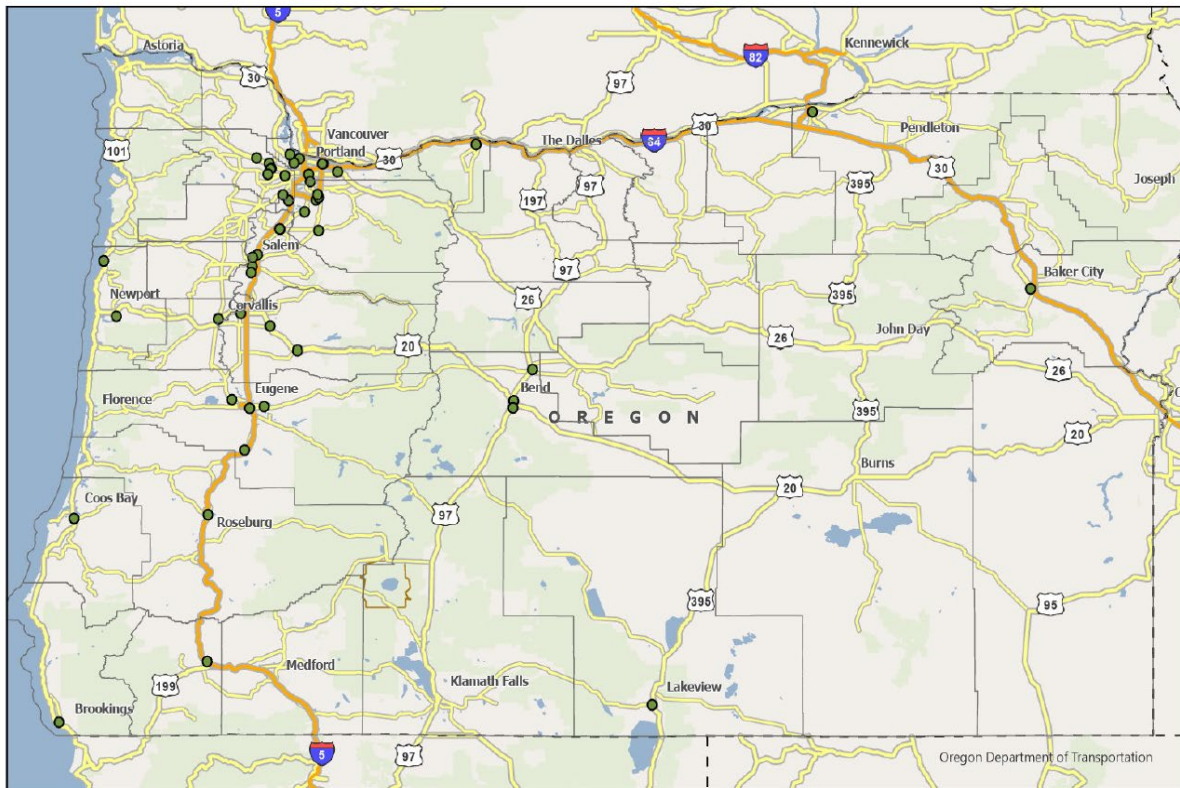


Figure 25: Distribution of buses - fueled at home base

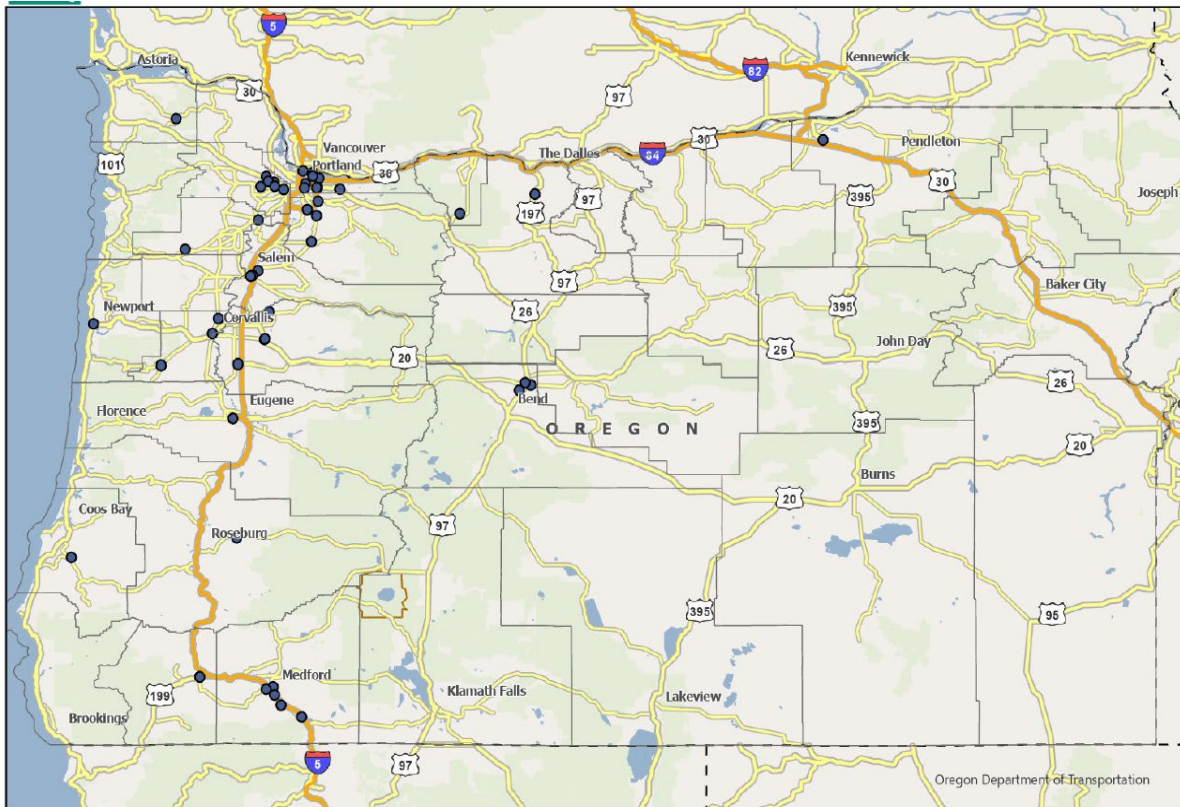


Figure 26: Distribution of box, beverage, van, service body trucks - fueled at home base

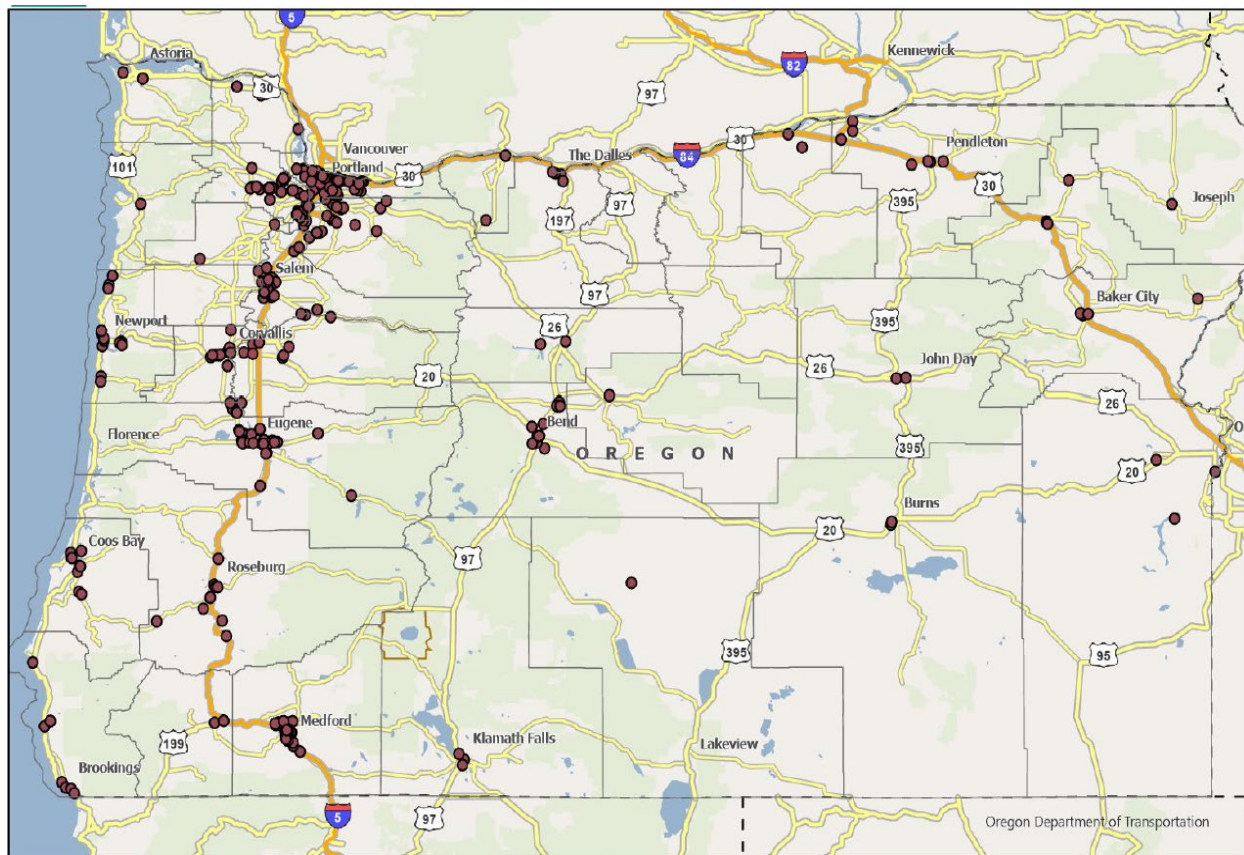
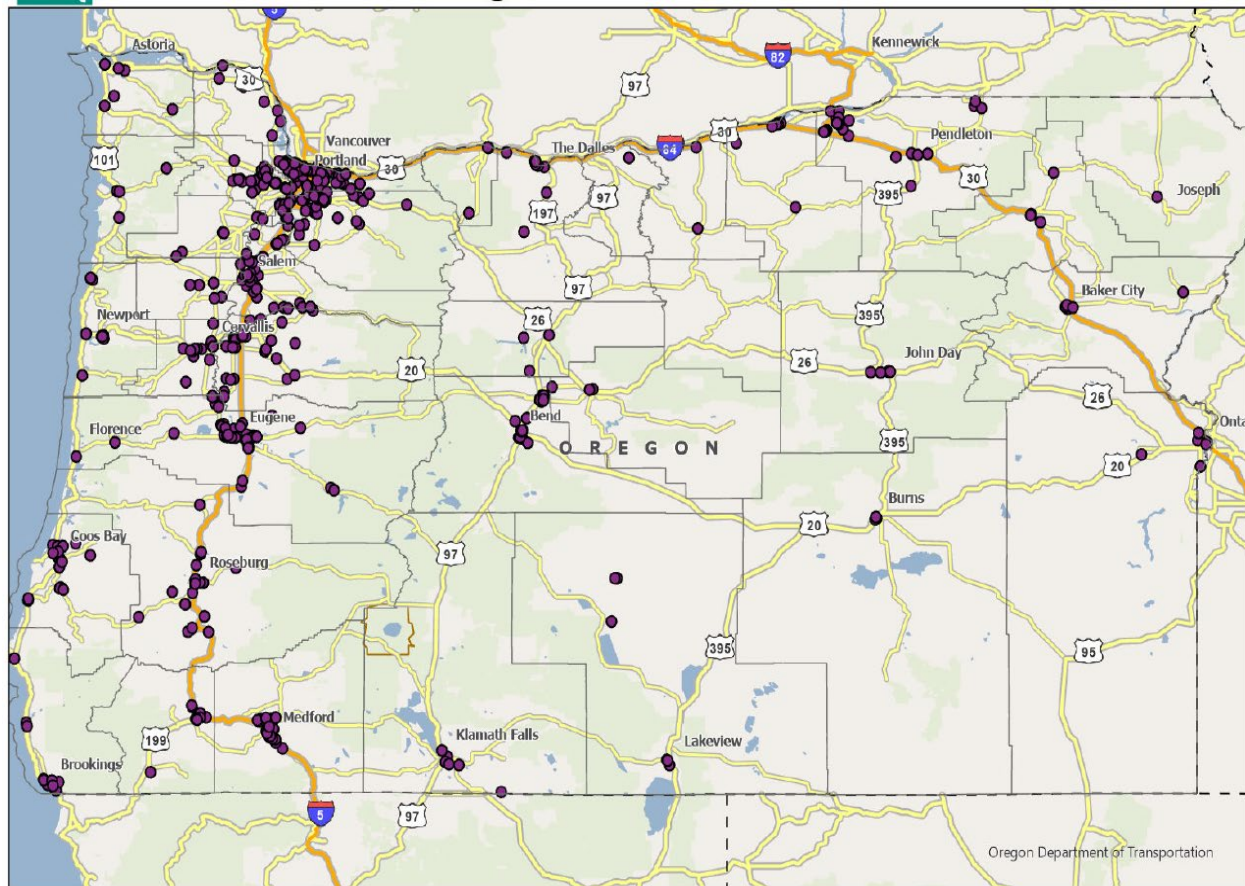


Figure 27: Distribution of other vehicles - fueled at home base



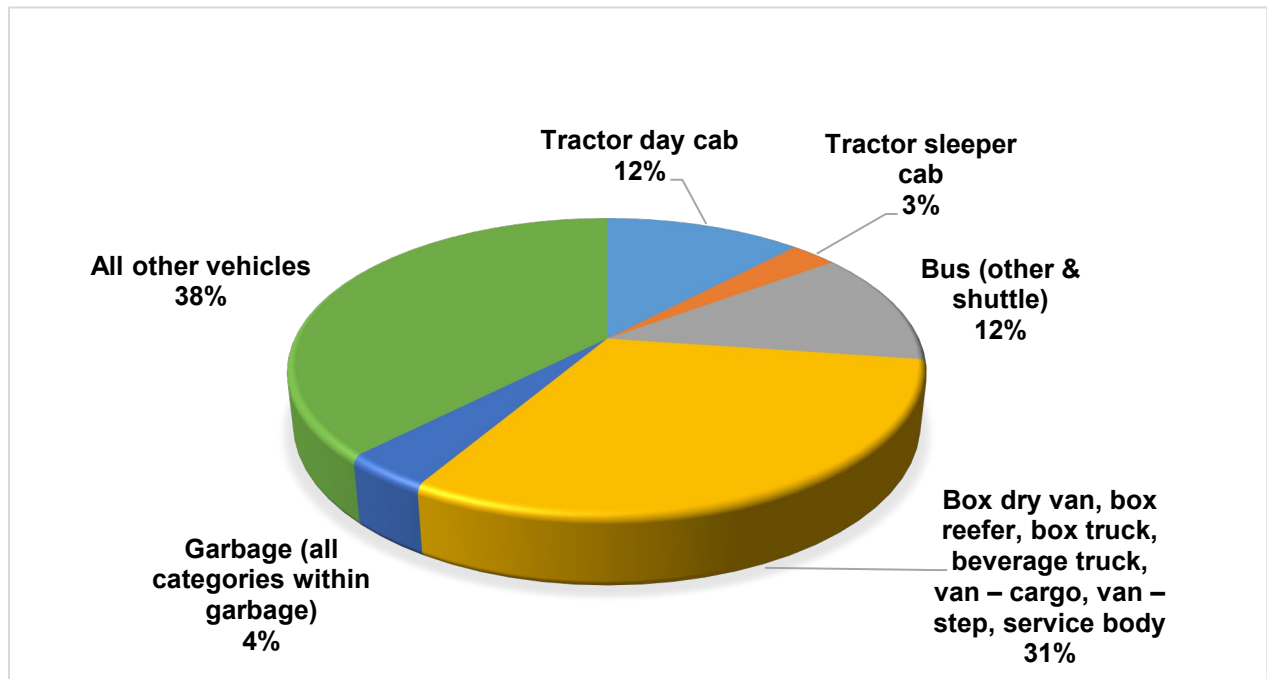
Do vehicles have predictable usage pattern?

Overall, the majority of tractor day cabs and other vehicles have a predictable usage pattern. Table 12 shows the types of trucks, aggregated, whether they return to home base on a daily basis. Sleeper cab tractors do not exhibit a typical usage pattern. Figure 34 shows the percentage of vehicles with a predictable usage pattern. Figures 35-36 provide locations of certain vehicle sectors where there is a predictable usage pattern of at least 50% or more.

Table 12: Vehicles (aggregated) that have a predictable usage pattern

| Vehicles typically return on daily basis | Yes | No | Unspecified |
|---|--------------|--------------|--------------------|
| Tractor Day Cab | 3715 | 1268 | 113 |
| Tractor Sleeper Cab | 881 | 580 | 566 |
| Bus (shuttle and other) | 3818 | 783 | 25 |
| Box dry van, box reefer, box truck, beverage truck, van – cargo, van – step, service body | 9644 | 2923 | 1130 |
| Garbage (and all categories within garbage) | 1195 | 83 | 0 |
| All other vehicles | 11629 | 7595 | 703 |
| Total | 30882 | 13232 | 2537 |

Figure 28: Vehicles with predictable usage patterns



The responses are reported to the nearest 10 percent for each vehicle group for owned vehicles. It did not apply to brokers that do not own the vehicles they dispatch. The yes or no categories below were determined by multiplying the percent bin by the total number of vehicles in that category.

Figure 29: Location of garbage trucks with a predictable usage pattern

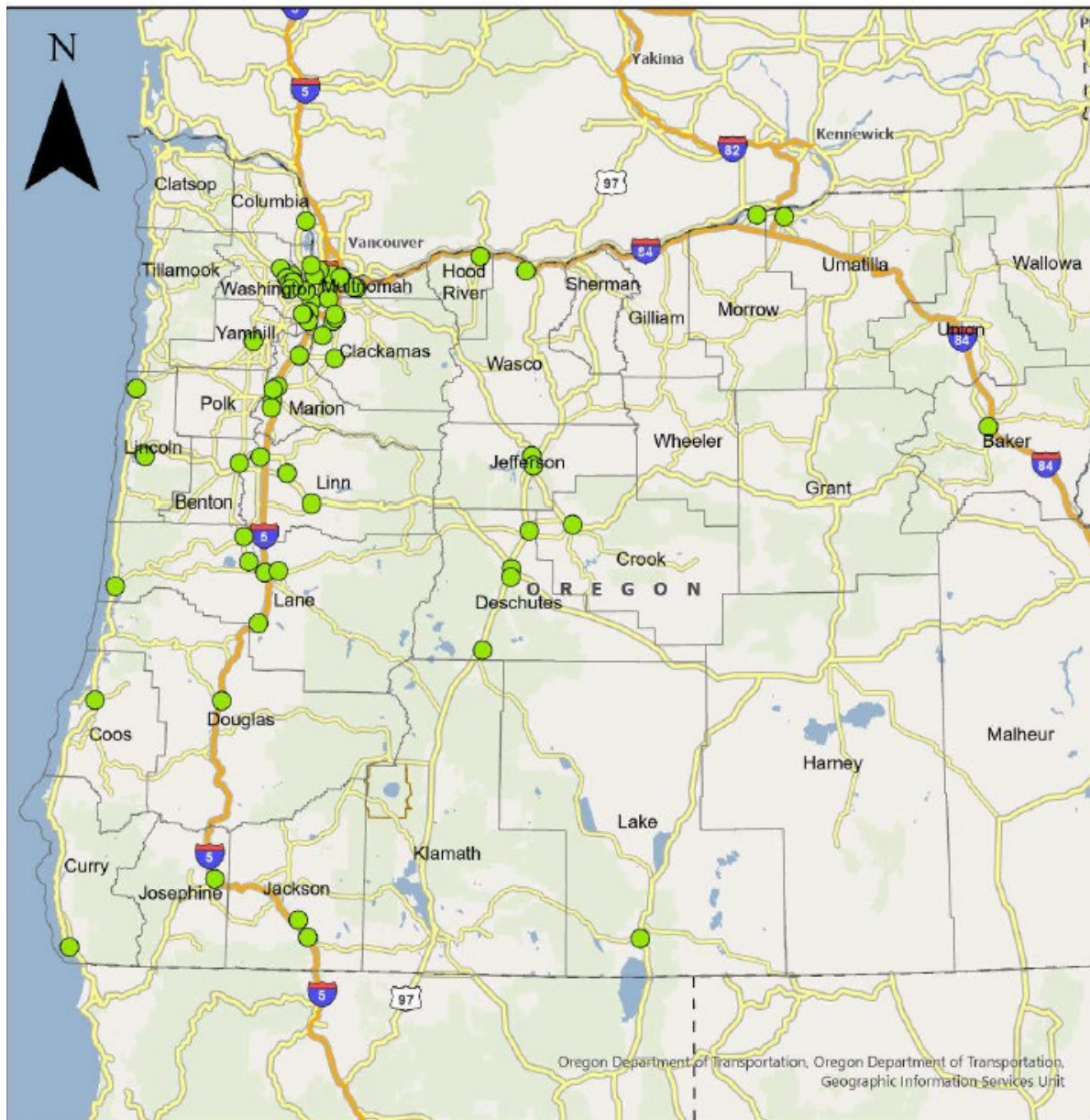
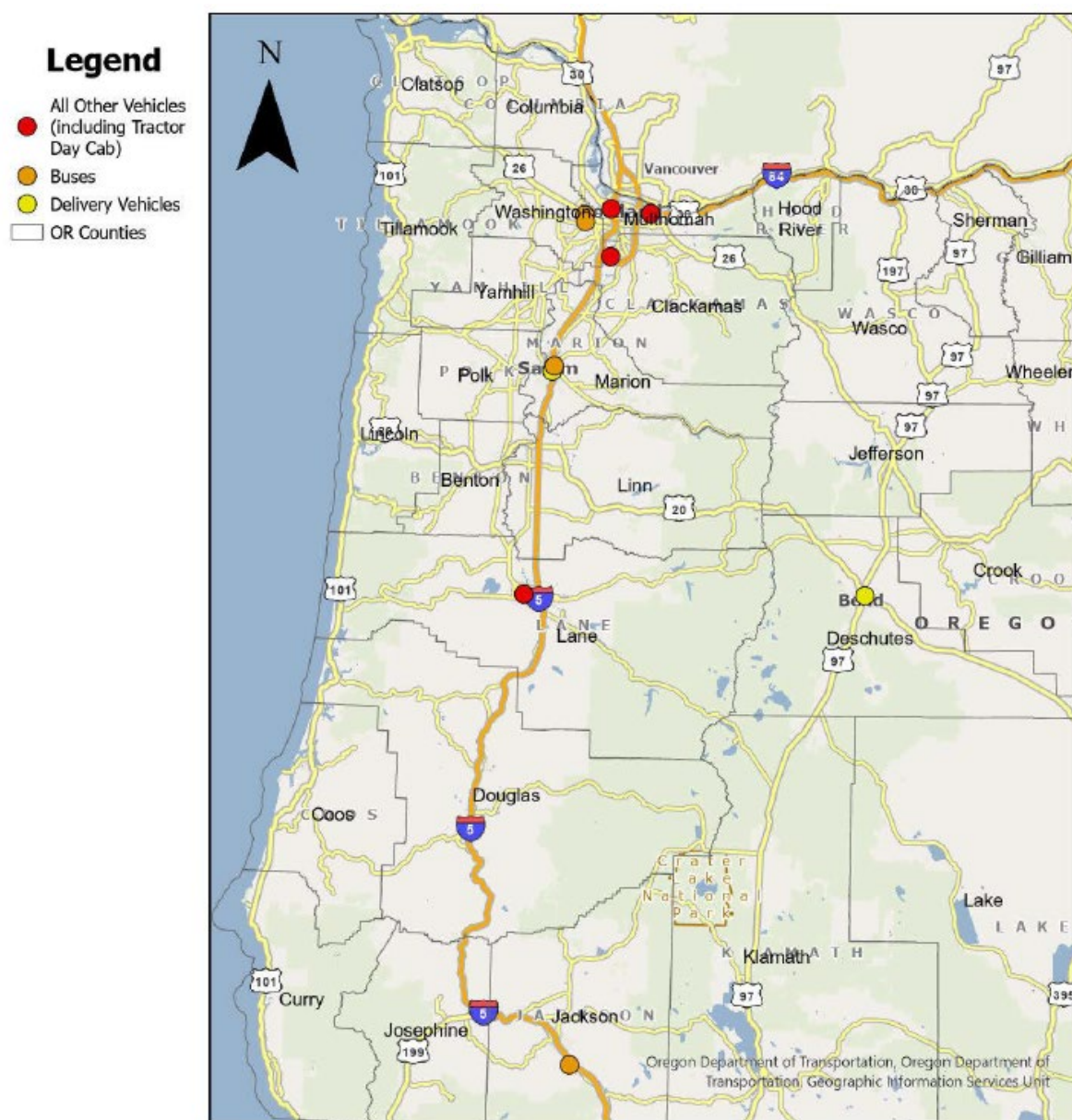


Figure 30: Location of other vehicles with a predictable usage pattern



The next set of questions asked whether the vehicles stay close to the home base.

Do the vehicles within the group stay within approximately 50 miles of home base on a typical day?

Overall, the majority of vehicles do not stay within approximately 50 miles of home base on a typical day. Table 13 shows the types and numbers of vehicles that stay within a 50-mile radius of their home base on a typical day. Many of those vehicles are tractor sleeper cabs which

typically spend many days on the road before returning to their home base. If tractor sleeper cabs are removed from the vehicle mix, then approximately half of the vehicles do return to home base and the other half do not return.

Table 13: Vehicles that stay within a 50 mile radius of their home base on a typical day

| Body type | Vehicles that stay within 50 miles | Vehicles that don't stay within 50 miles | N/A |
|---|---|---|-------------|
| Tractor day cab | 1,277 | 3,809 | 49 |
| Tractor sleeper cab | 152 | 1,851 | 19 |
| Bus (other and shuttle) | 3,712 | 195 | 25 |
| Box dry van, box reefer, box truck, beverage truck, van – cargo, van – step, service body | 6,067 | 5,820 | 3,007 |
| Garbage (all categories within garbage) | 757 | 2313 | 0 |
| All other vehicles | 10,897 | 8,888 | 561 |
| Total | 22,862 | 22,876 | 3661 |

Responses in this table is the number of owned vehicles in the category for which a “yes” answer was provided. It did not apply to brokers that do not own the vehicles they dispatch.

Are vehicles parked at home base more than 8 hours a day?

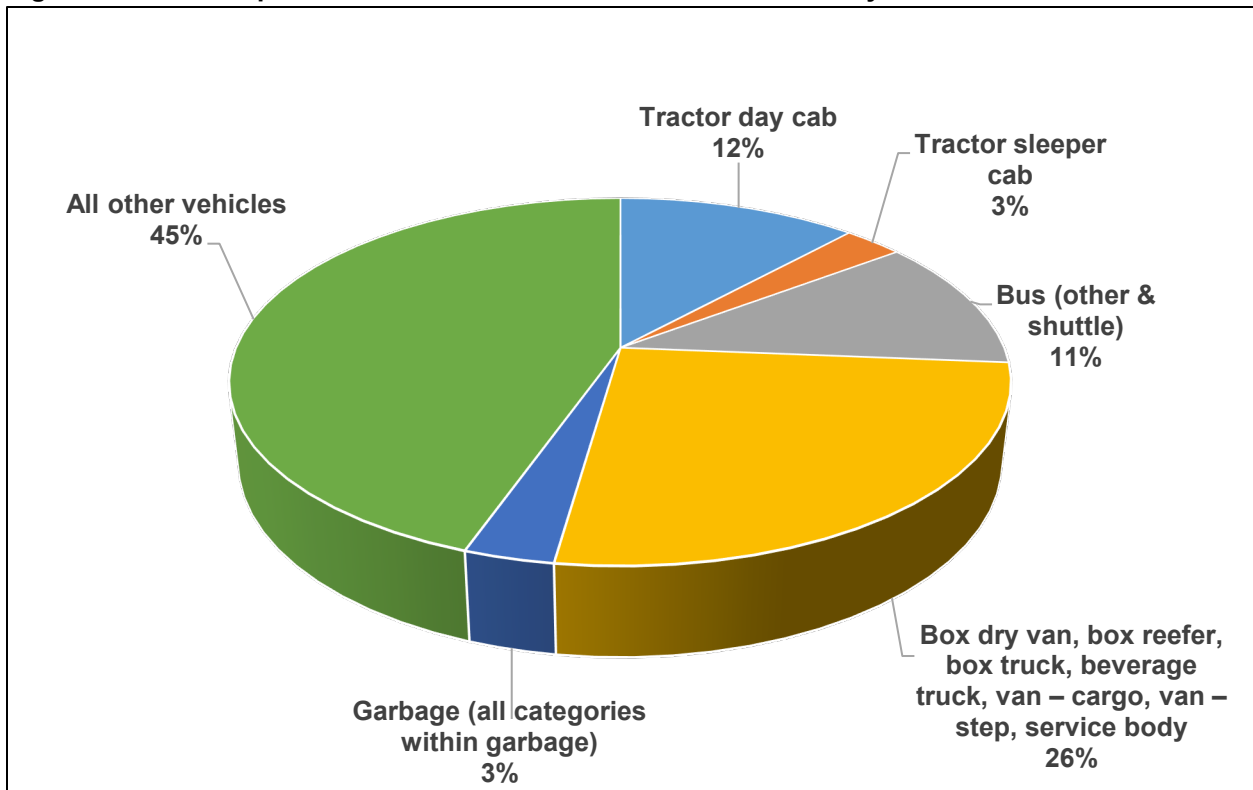
Table 14 shows the vehicles (aggregated) parked at their home base more than 8 hours a day. Survey responses indicate both the majority of tractor day cabs and all other vehicles are parked at the home base more than 8 hours a day. Sleeper cab tractors are not parked at their home base.

Table 14: Vehicles (aggregated) parked at their home base more than 8 hours a day

| Vehicles parked at home base more than 8 hours a day | Yes | No | Unspecified |
|---|---------------|--------------|--------------------|
| Tractor Day Cab | 4,694 | 235 | 167 |
| Tractor Sleeper Cab | 1,163 | 298 | 566 |
| Bus (shuttle and other) | 4,587 | 14 | 25 |
| Box dry van, box reefer, box truck, beverage truck, van – cargo, van – step, service body | 10,308 | 848 | 2,541 |
| Garbage (and all categories within garbage) | 1,255 | 23 | 0 |
| All other vehicles | 17,707 | 1,340 | 880 |
| Total | 39,714 | 2,758 | 4,179 |

The responses are reported to the nearest 10 percent for owned vehicles in each vehicle group. It did not apply to brokers that do not own the vehicles they dispatch. The yes or no categories below were determined by multiplying the percent bin by the total number of vehicles in that category. Figure 38 shows the percentage breakdown of vehicles parked at the home base for more than 8 hours a day.

Figure 31: Vehicles parked at home base for more than 8 hours a day



Figures 39-43 shows where certain vehicle sectors are parked more than 8 hours a day.

Figure 32: Location of tractor day and sleeper cabs parked at home base more than 8 hours a day

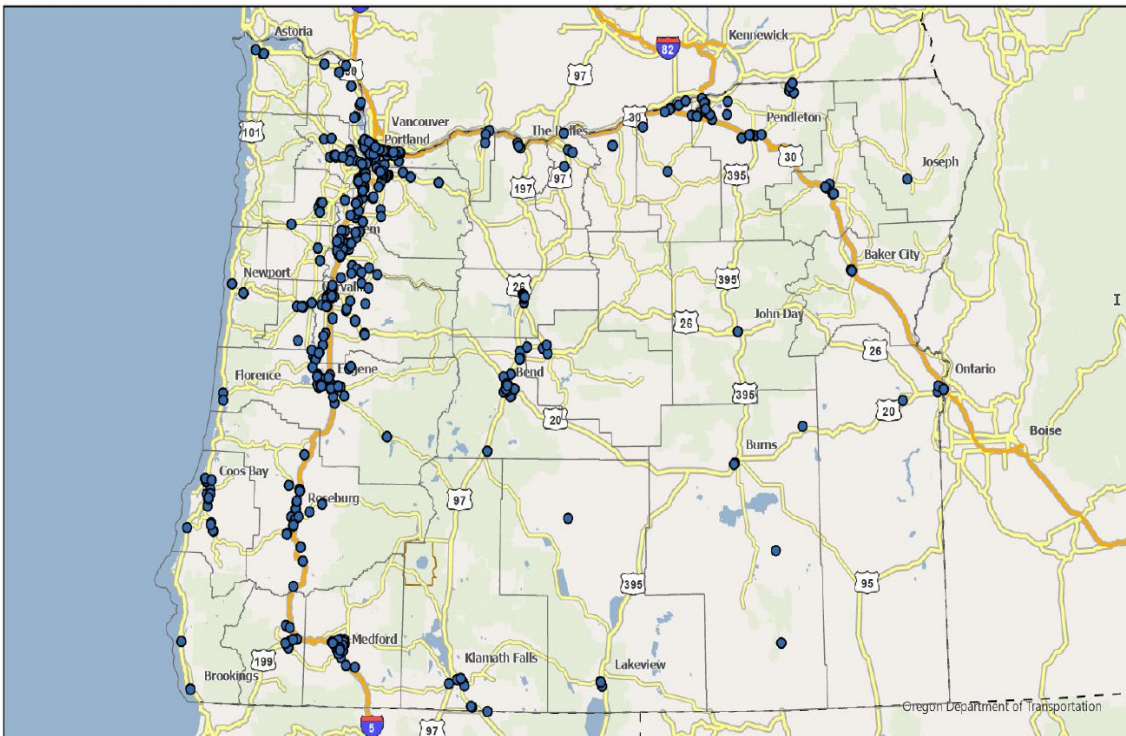


Figure 33: Location of garbage trucks parked at home base more than 8 hours a day

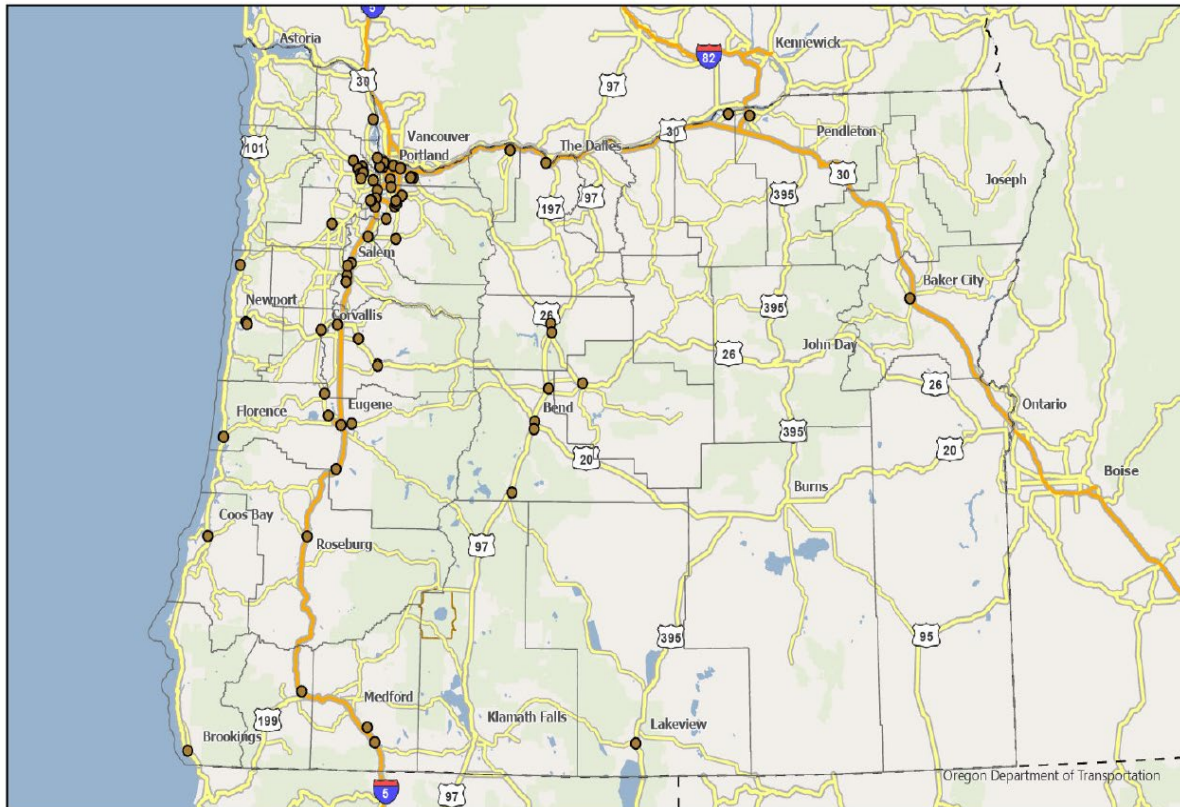


Figure 34: Location of buses parked at home base more than 8 hours a day

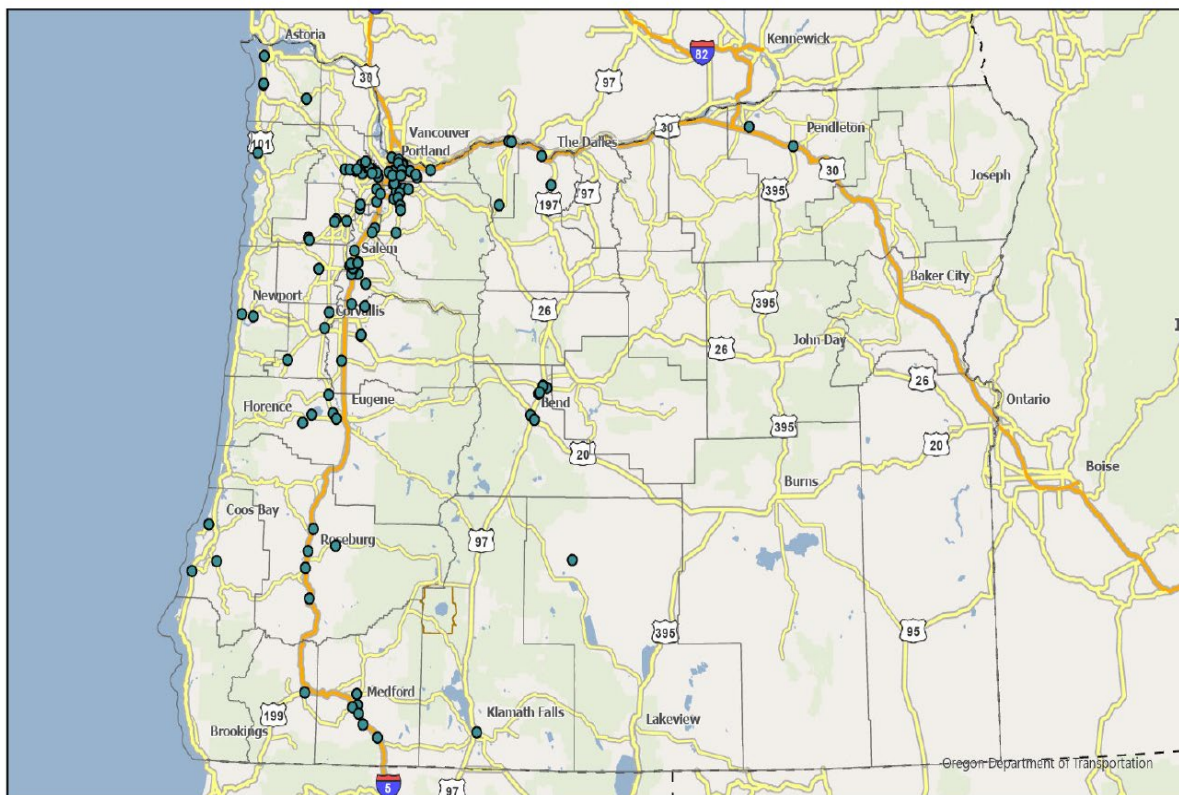


Figure 35: Location of box, beverage, van, service body vehicles parked at home base more than 8 hours a day

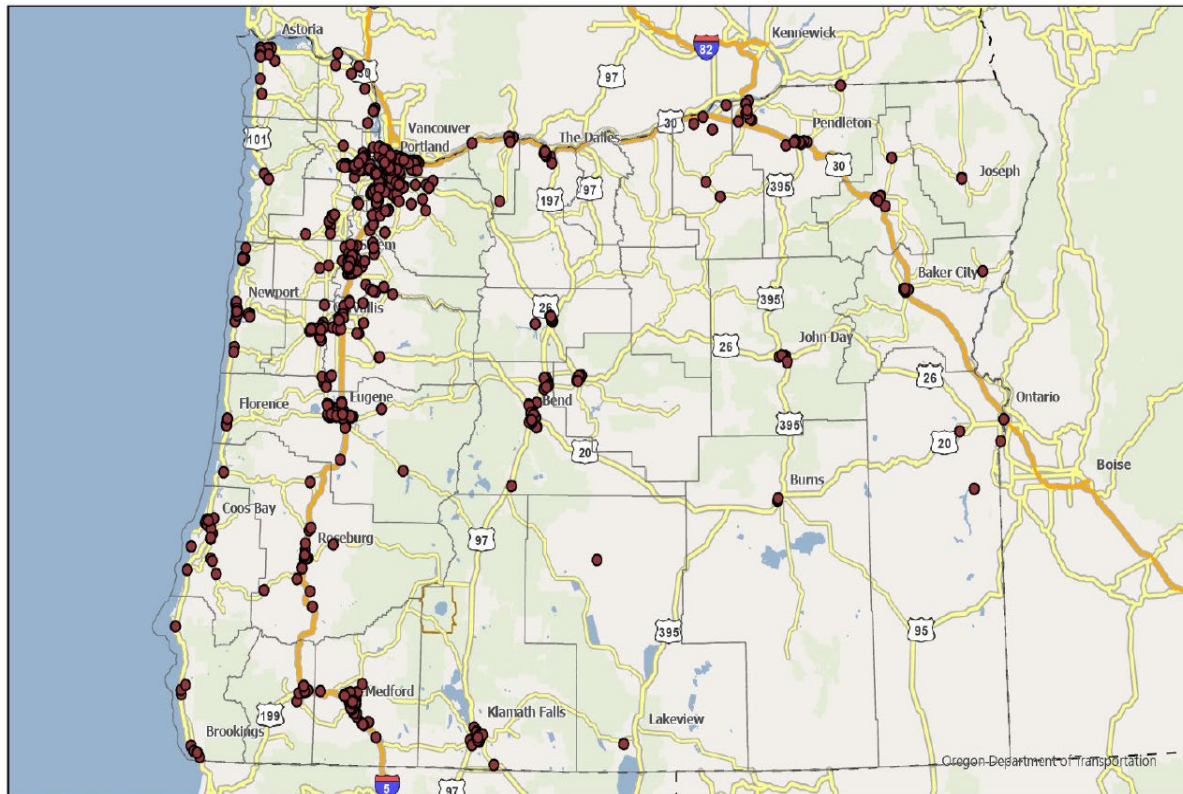
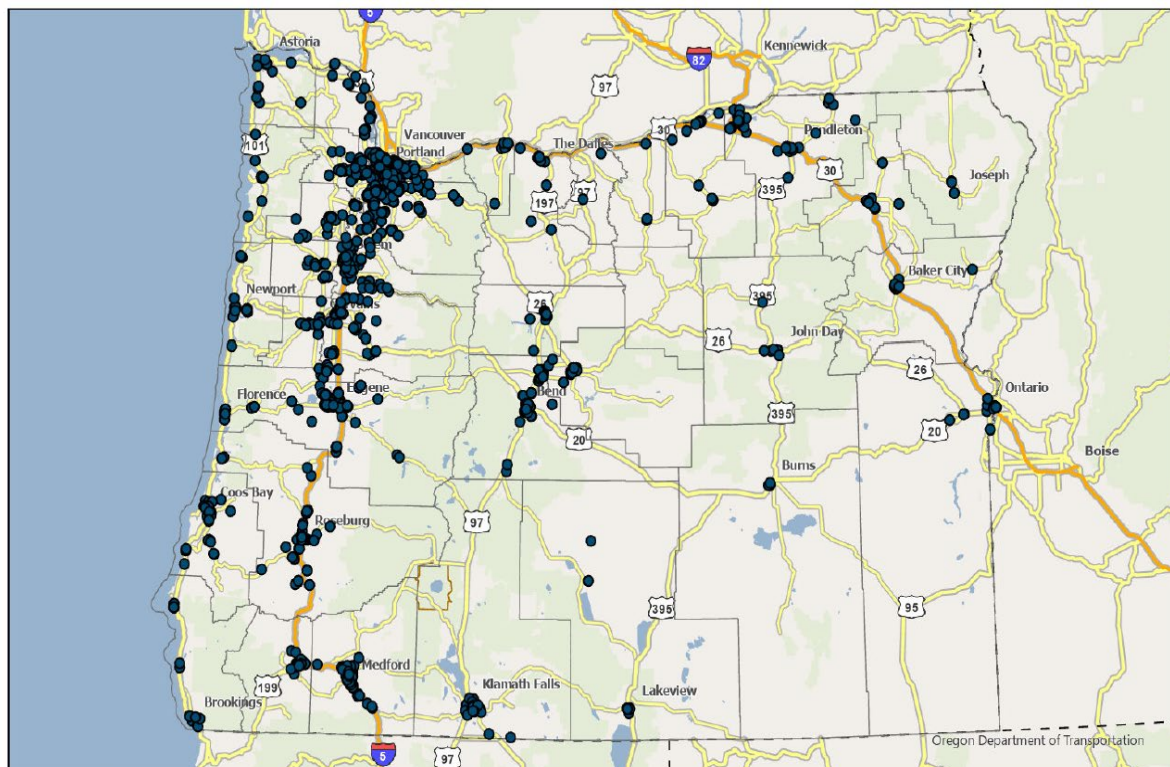


Figure 36: Location of all other vehicles parked at home base more than 8 hours a day



How long are vehicles kept?

Table 15 provides numbers for how long fleets retain their vehicles. It did not apply to brokers that do not own vehicles they dispatch. The majority of vehicles are owned for less than 20 years, with the majority of all vehicles (with the exception of tractor sleeper cabs) being owned between 5-20 years.

Table 15: Average age of vehicles kept in the fleets (aggregated)

| Average years vehicles are kept | Tractor day cab | Tractor sleeper cab | Bus (shuttle and other) | Box dry van, box reefer, box truck, beverage truck, van – cargo, van – step, service body | Garbage (and all categories within garbage) | Number all other vehicles |
|--|------------------------|----------------------------|--------------------------------|--|--|----------------------------------|
| Less than 4 | 877 | 722 | 271 | 4,262 | 74 | 1,440 |
| 5 to 20 | 3,927 | 1,252 | 4,342 | 9,151 | 1,195 | 17,351 |
| More than 20 | 292 | 53 | 13 | 284 | 9 | 1,136 |
| Total | 5,007 | 2,027 | 4,626 | 13,697 | 1,278 | 19,927 |