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8113 W. GRANDRIDGE BLVD., KENNEWICK, WASHINGTON 99336-7166  
TELEPHONE 509-734-4500 FACSIMILE 509-737-7166  
www.cngc.com

November 30, 2021

Oregon Public Utility Commission  
Attn: Records Center  
P.O. Box 1088  
Salem, Oregon 97308-1088

**Re: RG-7, Cascade Natural Gas Corporation Oregon Low-Income Energy Conservation (OLIEC) and Conservation Achievement Tariff (CAT) Annual Report for Program Year 2020-2021.**

In accordance with Schedule 33 in Cascade Natural Gas Corporation's (Cascade) Tariff P.U.C. OR. 10, Cascade files its Oregon Low-Income Energy Conservation and Conservation Achievement Tariff programs annual report for the 2020-2021 program year.

Please contact Alyn Spector at (206) 310-1120 with any questions or concerns you may have.

Sincerely,

*/s/ Lori Blattner*

Lori Blattner  
Director, Regulatory Affairs  
Cascade Natural Gas Corporation  
8113 W. Grandridge Blvd.  
Kennewick, WA 99336-7166  
lori.blattner@intgas.com

Attachments

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## **Cascade Natural Gas Corporation's Oregon Low Income Energy Conservation Program** Annual Report for Program Year October 1, 2020 through September 30, 2021

This annual report covers both the Oregon Low Income Energy Conservation (OLIEC or Weatherization) program and the Conservation Achievement Tariff (CAT). The OLIEC program is Cascade's long-standing Oregon low-income weatherization program. The CAT bridges the gap between rebates derived from the avoided cost of natural gas and the total installed cost of eligible weatherization work.

### **Public Purpose Charge**

Since May 2006, Cascade Natural Gas Corporation (Cascade or the Company) has collected public purpose funds to reduce the energy burden of low-income homeowners and renters in its Oregon service territory by providing them weatherization and bill assistance services. The funding is collected through a Public Purpose Charge (PPC) applied to residential, commercial, and core industrial customers' bills. As part of a settlement agreement adopted in Docket UG 287, effective February 1, 2016, all program funding comes from the PPC.

PPC monies are collected monthly to fund the weatherization efforts of the Community Action Agencies serving qualified low-income households. Interest accruals to the PPC account were discontinued in January of 2019 and the account was modified to a balancing account versus a pure deferral account (UM 1980). This helps prevent funds from accruing at a rate that exceeded monthly Agency expenditures. This change was made to Agencies (CAAs or Agencies) in Cascade's service area. All monies are held in a dedicated account and are provided to the CAAs upon completion of rebate-qualified energy efficiency improvements.

During PY 2020-21, the Company continued to follow Staff's recommendation to collect and expend a maximum of **0.625%** of gross revenues on an annual basis for the low-income weatherization programs. This cap has been in place since the implementation of a permanent CAT program in PY 2016-17. The limit was chosen as a close equivalent to the electric utilities' collections for low-income weatherization plus a 0.025% premium for the higher costs of serving rural areas.

The PUC-approved funding methodology resulted in a combined PY 2020-21 OLIEC and CAT budget of **\$416,741**. Due to an excess of funds in the OLIEC/CAT account for the program year, annual PPC collections were switched to "negative deposits" in the amount of **-\$54,180.68**. Funds resulting from these deposits were transferred to Cascade's OR low-income bill assistance account. The OLIEC/CAT account ended PY 2020-21 with a balance of **\$433,031**, which included a **\$10,830** admin adjustment to balance a previously recorded payment for Project 19-02 to NeighborImpact.

The Company anticipates a combined PY 2021-22 budget of **\$433,567**, reflecting the formula recommended by Staff.

### **Overview of the 2020-2021 Program Year**

Cascade has completed the fifteenth year of its Oregon Low Income Energy Conservation program. OLIEC is designed to increase energy efficiency in low-income households within Cascade's Oregon service area by providing rebates for the installation of select weatherization and conservation

**Cascade Natural Gas Corporation's Oregon Low Income Energy Conservation Program**  
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measures following the completion of a home energy evaluation performed by a qualifying Low-Income, 501c3 organization or a CAA. The rebates are based on the Company's most recently acknowledged avoided cost of natural gas. The OLIEC program provides incentives for ten specific measures. In addition to the OLIEC rebates, agencies receive an additional \$225 for administrative and direct program costs incurred.

The CAT overlay provides a complementary mechanism for the total rebate for installing each measure to cover 100 percent of the cost of each measure. In total, agencies can receive rebates of up to 100 percent of the cost of installing OLIEC-qualified measures plus \$225 for their associated administrative and direct program costs. The program also provides a flat fee of \$550 for an audit and \$300 for an inspection of a dwelling treated under the CAT. Total funds per an OLIEC and CAT project are capped at \$10,000.

Under the OLIEC Program, CAAs installing qualifying energy efficiency measures for Cascade's Oregon low-income customers are reimbursed according to a schedule of incentive payments based on Cascade's avoided costs as stated in Schedule 33, Oregon Low-Income Energy Conservation Program. Cascade's participating agencies include:

- NeighborImpact, serving Cascade customers in the Bend/Redmond/Prineville Area
- Community Action Program East Central Oregon (CAPECO), serving Cascade customers in the Pendleton/Umatilla Area
- Community Connection of NE Oregon (CCNO), serving Cascade customers in Baker City
- Community In Action (CINA) serving Cascade customers in Malheur County; and
- Oregon Human Development Corporation (OHDC) serving Cascade customers in Northern Klamath County.

The OLIEC (non-CAT) portion of the Company's weatherization program is designed to provide reimbursements scaled to the current avoided costs of natural gas. However, the rebates associated with the OLIEC program are not intended to meet the Agency's entire cost of installing approved energy efficiency measures. This differs from Cascade's Enhanced Weatherization Incentive Program (EWIP) in Washington State, which is designed to cover the total installed cost of weatherization work performed on behalf of Cascade customers, including a program coordination fee of 15% of total project cost billed to the Company, and an additional agency indirect rate of 10% of the total project cost billed to the Company.

Cascade worked with the Agencies, Staff, and other key stakeholders to develop the CAT mechanism as a means of meeting the unique challenges of low-income natural gas weatherization. The CAT was introduced to bridge the gap between what could be covered under the parameters of the traditional OLIEC program, and the full cost incurred by the Agency delivering weatherization services to natural gas customers of Cascade Natural Gas. However, barriers to full program participation remain significant and the Company will explore alternative delivery methods for OLIEC/CAT monies in PY 21-22.

In program year **PY 2020-21**, **zero** households received weatherization services through OLIEC/CAT. In the previous program year, only a single home was served, resulting in a total savings of **346** therms. The ending balance for **PY 2020-21** was **\$433,031**. This reflects redirected funding to bill

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assistance, along with a second adjustment associated with Project 19-02 in the amount of **\$10,830**, accounting for an over-correction from the previous year.

Cascade and PUC Staff have reached out to the agencies and representatives serving low-income communities in Oregon to determine barriers to participation. Feedback from Agencies indicated that there may not be weatherization-qualified natural gas homes in need of service. In order to better understand the population of income-qualified natural gas households, the Company partnered with AEG in Summer of 2021 to conduct analysis on low and near-low income customers in Cascade's Oregon service area. The resultant data and reporting from AEG's analysis can be found as attachments to this report.

For the purpose of the analysis conducted by AEG, low-income was defined as 200% of federal poverty level (FPL). This income qualification is compatible with the qualifying income level of Oregon's Low Income Weatherization Assistance Program. Moderate income was defined as above 200% of FPL, but below median state income. To determine where these households were located, address data from Cascade residential accounts was mapped to corresponding geographic blocks in the census data. Each block was then processed to analyze average household size and income, producing a distribution of households into income categories where Cascade customers reside.

Low-income households were calculated as representing 18% of all Cascade customers in Oregon. Moderate income households represented an additional 36% of Cascade's residential customer base in the state. In total, this means that over half of Cascade's customers are below median income. This significant finding suggests an existing base of customers that could benefit from Weatherization or other low and near low-income energy efficiency services. Understanding how to serve these households begins with an assessment of the building stock these customers occupy.

Low income households in Cascade's service area were identified as having the oldest housing stock, with the average year of construction being 1958. Moderate income households appeared to reside in the newest housing stock, with the average construction year being 1969. Households above median income resided, on average, in homes built in 1961. Interestingly, low-income customers were also identified as having the lowest therm usage within Cascade's service area, followed by moderate income, then households above median income.

AEG anticipates that differences in gas use per household correlate with differences in average home size. However, home size and building shell alone do not account for all the intensity differences. It was also noted that overall insulation and infiltration levels appear similar between income levels. This suggests that there could be additional factors at play such as lower income households heating less of their home, or otherwise limiting their energy consumption below comfortable levels in order to manage household expenses.

In addition to gaining a better understanding of energy intensity and building stock by income, AEG also was able to develop a heat map of low and near-low income populations by concentration across Cascade's service area. Findings indicate varied distribution between the more and less rural areas served by the Company. These maps are available as Exhibit D to this report. Cascade intends to utilize the low and near-low income data identified by AEG to better understand how to reach both low and moderate income customers in need of energy efficiency services.

## **Cascade Natural Gas Corporation's Oregon Low Income Energy Conservation Program**

### **Annual Report for Program Year October 1, 2020 through September 30, 2021**

As of Fall 2021, the Company has held preliminary meetings with the Energy Trust of Oregon, and has shared AEG's findings as part of a discussion on how near-low income customers can be reached by existing Energy Trust services. The Company also intends to meet with PUC Staff, the Energy Trust, and its Low Income agencies to discuss tariff revisions that allow more flexible delivery of energy efficiency services to economically vulnerable households. Cascade may also consider aligning the OLIEC program closer to the Company's E-WIP program if deemed appropriate by Oregon regulators. Other options may include adjusting the tariff to allow funding for non-weatherization projects that increase the energy efficiency of natural gas households on a pre-approved basis.

Whole-home weatherization remains a priority, and the low-income agencies that currently qualify under the tariff would retain first right of refusal to OLIEC/CAT monies. However, due to program inactivity over the last several years, the Company believes opening the program to other forms of efficiency activities and additional non-profits delivering energy efficiency services to low-income households is essential to ensuring the accruing OLIEC/CAT funds are invested in communities, rather than sitting unspent in an account.

#### **Customer Eligibility**

The agencies performing weatherization services use the same income eligibility requirements as the Low-Income Home Energy Assistance Program (LIHEAP). Customers are eligible for assistance through the OLIEC program if they are owners or renters of a single-family home that uses natural gas as the primary space heating fuel and if their household income does not exceed 60% of Oregon's median income, or other income threshold guidelines followed by federal low-income weatherization programs. Duplexes, triplexes and four-plex apartments qualify for OLIEC if residents of at least half the units in the structure meet the income qualification test.

The OLIEC/CAT program provides additional funding to supplement existing funding provided by low-income weatherization programs governed by federal and state authorities. These existing programs give preference to homes occupied by the elderly, the disabled and to low-income households with children ages 6-years and younger. Under its current structure, the CAT also enables the Company to fund weatherization efforts performed by CAPs and other low-income 501c3 agencies (described below) at 100% of their cost up to the cost-effective limit. This adaptation of the CAT has proven essential to clearing a path forward to ensure low-income households in Cascade's service area receive essential weatherization services and allows greater programmatic flexibility while ensuring stringent standards of safety and quality are maintained.

#### **Dispersal of Funding and Participation by Agency**

Participating Agencies have access to weatherization monies that accrue in a Cascade-held account which is funded based on the total funding provided by Oregon Housing and Community Services (OHCS) under the LIHEAP program within Cascade's service territory. Cascade has the discretion to revise the allocation during the year if the Company believes an alternative allocation is a more effective and efficient use of the available funds. The program also has the discretion to transfer funds between agencies, as needed. The PY 2020-21 allocations were:

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NeighborImpact	30.6%
CCNO	19.4%
CAPECO	29.0%
CINA	19.0%
OHDC	2.0%

Actual Agency accomplishments for PY 2020-21 were 0 homes served, so no additional breakout by agency has been provided in this year's report.

**Payment Process**

Each Agency completes and returns Cascade's rebate application forms. The rebate amounts are calculated based on the deemed savings per measure published in the Company's Tariff Sheet No. 33. Additional measure funding is covered through the CAT mechanism in accordance with Schedule 33 in the Company's Tariff. The rebate form is initially signed by the Agency representative and sent to Cascade along with all the receipts, invoices, and the energy savings analysis. The Energy Efficiency and Community Outreach department next reviews each rebate application form to ensure all paperwork is correct and valid. Finally, the approved form goes to the Accounting department for payment to the appropriate Agency at which time the Agency's fund balance is reduced.

With the introduction of CAT, the Company initiated an electronic funds transfer mechanism which provides funds much more quickly to the Agencies. The intent of this modification, developed at agency request, is to enable the Agencies to have the funds in hand prior to paying the contractor's invoice on each qualified OLIEC job.

**Designated Fund for Additional CAP Agency and Other 501c3 Agencies Energy Efficiency Efforts**

As included in the OLIEC tariff effective on January 20, 2010, Cascade was allowed to designate \$25,000 of the OLIEC program funds for use by CAAs and 501c3 non-profit agencies for reimbursement of the installation costs of selected energy efficiency measures (high efficiency gas furnaces and water heaters and construction to ENERGY STAR<sup>®</sup> standards) and custom low-income energy efficiency projects (where preference would be given to measures that would qualify for rebate in similar projects offered through Energy Trust of Oregon (Energy Trust)).

To date, no reimbursements have been made from this designated fund. The primary problem Cascade has encountered with the utilization of these funds is that Agencies performing this type of work are already connected to the Energy Trust. In the same sense that low-income households would qualify for either the standard incentives available to all customers on a qualified rate schedule or the income-specific rebates designed to facilitate more substantial conservation services; the 501c3 agencies also have the choice of participating through the low-income specific program with higher reimbursement levels or receiving a rebate from Energy Trust. It should be noted the funds for both programs are provided through the same source: Cascade customers. Since either program enables Cascade to count therm savings toward annual goals, the Company is neutral as to which source of funding the low-income agencies pursue. That being said, the low-income program was specifically designed as an opportunity to provide *greater* funding to best serve Cascade's vulnerable populations.

## Cascade Natural Gas Corporation's Oregon Low Income Energy Conservation Program Annual Report for Program Year October 1, 2020 through September 30, 2021

The Company has discussed these challenges with PUC Staff and the Energy Trust and looks forward to continuing discussions in PY 21-22 on how to reconcile their new construction program serving non-profit entities with the language in Cascade's tariff. It's likely that the compatibility of these programs can be resolved as part of the tariff changes and coordination efforts discussed earlier in this report.

### Program Results

The OLIEC program received no uptake from qualified weatherization agencies in 2020-21, and only 1 household was served the previous year.

Based on the anticipated PY 2021-22 funding level of **\$433,567**, and the current per-project measure cost average of **~\$8,000**, the Company estimates that approximately **54** homes could be served this coming year. However, it's unlikely the Agencies will utilize these funds unless significant changes are made to the design of the weatherization program. As stated earlier, Cascade plans to meet with PUC Staff and other key stakeholders to determine how to best reach low-income customers in light of continued barriers to participation.

Accompanying this report are the following four exhibits that will provide further insights into program performance for both OLIEC and CAT:

- Exhibit A summarizes the results of the program for each year of the OLIEC program beginning with Program Year 18-19.
- Exhibit B displays the monthly financial metrics for the OLIEC / CAT program beginning with Program Year 18-19, and reflects the cumulative non-PPC admin adjustment of \$40,945.47 for program-related administrative expenses charged to general Cascade admin as described on page 9 of the PY 18-19 annual report.
- Exhibit C displays data relating to the numbers of measures installed through the OLIEC/ CAT program and the resulting predicted therm savings for each measure and each year of operation.
- Exhibit D shares the AEG findings regarding low and near-low income populations in Cascade's Oregon service area.

The format of the first three exhibits to this report have been refreshed for PY 2021. All previous reporting data is available as part of previous years' reports and has also been archived by the Company for PUC review. However, as of the PY 2020-21 report, the Company has narrowed the scope of reporting to the last 3 program years.

### Year-End Balance

At the end of PY 2020-21, the program account had a balance of **\$433,030.64** as opposed to **\$476,380.94** at the end of PY 2019-20. If funds remain unspent in the coming program year, the



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Company will continue to redirect weatherization monies to bill assistance, or return surplus funds beyond those designated for weatherization back to Cascade customers.

**Program Outreach**

Ongoing emails and discussion took place in Program Year 2020-21. The Company intends to engage with its Agencies, the Energy Trust and PUC staff in the coming PY to explore how to restructure the program to better direct funds to benefit energy efficiency in low-income gas households.

**Conclusion**

PY 2020-21 has demonstrated the resounding need for new approaches to serving low-income gas households. Cascade will begin by revisiting the tariff design and limitations to program funding per-project which may be inhibiting participation in more rural areas. The Company will also look towards alternative models to direct funds on a per-project basis for non-weatherization services that reduce energy consumption in income-qualified natural gas households.

**Cascade Natural Gas Corporation**  
**OLIEC Annual Report for 2020-21 Program Year**  
**Exhibit A**  
**Summary of Annual Program Results**  
**Oregon Low Income Conservation Program including Conservation Achievement Tariff**

	2018 to 2021	2020-21	2019-20	2018-19
<b>Number of Customers Served</b>	4	0	1	3
<b>Average Rebate per Project (excluding Admin and Prog Delivery)</b>	\$ 8,031.43	\$0.00	\$ 8,095	\$ 8,010
<b>Revenues</b>				
Balance from Prior Year		\$ 476,381	\$ 415,110	\$ 58,195
Prior Period Adjustments				\$ 40,945
Program Revenue	\$ 368,171	\$ (54,181)	\$ 81,271	\$ 341,080
Accrued Interest	\$ 2,696	\$ -	\$ -	\$ 2,696
<b>Total Available Funds</b>	<b>\$ 370,866</b>	<b>\$ 422,200</b>	<b>\$ 496,381</b>	<b>\$ 442,916</b>
<b>Payments to Agencies</b>				
For Weatherization Measures	\$ 32,126	\$ -	\$ 8,094.62	\$ 24,031
For Administration*	\$ 900	\$ -	\$ 225	\$ 675
For CAT Program Delivery **	\$ 3,400	\$ -	\$ 850	\$ 2,550
CNGC Administration ***	\$ 550	\$ (10,830)	\$ 10,830	\$ 550
Adjustment for \$10k Cap	\$ -	\$ -	\$ -	\$ -
<b>Total Payments</b>	<b>\$ 36,976</b>	<b>\$ (10,830)</b>	<b>\$ 20,000</b>	<b>\$ 27,806</b>
<b>Ending Balance in OLIEC Account</b>		<b>\$ 433,031</b>	<b>\$ 476,381</b>	<b>\$ 415,110</b>

\*Administration includes \$225 OLIEC administration

\*\* CAT Program Delivery includes audit and inspection fees; \$10,830 in 2019-20, and removal in 2020-21 reflects accounting adjustment on payment for Project 19-02 to NeighborImpact

\*\*\* May represent admin expenses that cleared in GL in the current PY, but were incurred in the prior PY. In PY 19-20, this also represents an overpayment which hit the Company's GL in Feb 2020. Agency repayment will be represented in Exhibits A & B in the PY 20-21 report.

**Cascade Natural Gas Corporation**

Exhibit B

OLIEC Annual Report 2020-2021 Program Year

Monthly Program Revenue and Expenses, 2018-2021

Oregon Low Income Energy Conservation Program - Including Conservation Achievement Tariff

<b>Current Year Start Balance</b>
\$ 476,380.94
<b>Current Year End Balance</b>
433,030.64

CY 20-21 Rebate Payments	CY 20-21 Agency Admin.	CY 20-21 CNGC Admin.	CY 20-21 Adjustments for \$10k Cap	CY 20-21 Total PPC Funded Payment + Admin	Total Revenues CY 20-21
\$ -	\$ 10,830.38	\$ -	\$ -	\$ 10,830.38	\$ (54,180.68)

Total Rebate Payments 18-21	Total Agency Admin.	Total CNGC Admin.	Total Adjustments for \$10k Cap	Total PPC Funded Payment + Admin	Total Revenues 2018-21
\$ (24,031.28)	\$ 7,605.38	\$ 19,450.00	\$ -	\$ 3,024.10	\$ 368,170.57

2020-2021 Program Year					REVENUES						EXPENDITURES					
Month	Beginning Balance	Program Revenues	Interest Income	Total Revenue Balance	Rebates For Installed Measures	Total Agency Admin and P.D. Payments	CNG Admin	Adjustment for \$10K Cap	Total Expenditures	Ending Balance						
Oct-20	\$ 476,380.94	\$ (3,551.18)	\$ -	\$ 472,829.76	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 472,829.76						
Nov-20	\$ 472,829.76	\$ (6,397.68)	\$ -	\$ 466,432.08	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 466,432.08						
Dec-20	\$ 466,432.08	\$ (7,525.37)	\$ -	\$ 458,906.71	\$ -	\$ (10,830.38)	\$ -	\$ -	\$ (10,830.38)	\$ 469,737.09						
Jan-21	\$ 469,737.09	\$ (7,780.13)	\$ -	\$ 461,956.96	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 461,956.96						
Feb-21	\$ 461,956.96	\$ (8,226.88)	\$ -	\$ 453,730.08	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 453,730.08						
Mar-21	\$ 453,730.08	\$ (5,612.49)	\$ -	\$ 448,117.59	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 448,117.59						
Apr-21	\$ 448,117.59	\$ (3,667.55)	\$ -	\$ 444,450.04	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 444,450.04						
May-21	\$ 444,450.04	\$ (3,024.88)	\$ -	\$ 441,425.16	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 441,425.16						
Jun-21	\$ 441,425.16	\$ (1,852.94)	\$ -	\$ 439,572.22	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 439,572.22						
Jul-21	\$ 439,572.22	\$ (2,295.49)	\$ -	\$ 437,276.73	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 437,276.73						
Aug-21	\$ 437,276.73	\$ (1,776.58)	\$ -	\$ 435,500.15	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 435,500.15						
Sep-21	\$ 435,500.15	\$ (2,469.51)	\$ -	\$ 433,030.64	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 433,030.64						
program year activity		\$ -54,180.68	\$ 0.00		\$ -	\$ (10,830.38)	\$ -	\$ -	\$ (10,830.38)	\$ 433,030.64						

2019-2020 Program Year					REVENUES						EXPENDITURES					
Month	Beginning Balance	Program Revenues	Interest Income	Total Revenue Balance	Rebates For Installed Measures	Total Agency Admin and P.D. Payments	CNG Admin	Adjustment for \$10K Cap	Total Expenditures	Ending Balance						
Oct-19	\$ 415,109.58	\$ 28,951.90	\$ -	\$ 444,061.48	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 444,061.48						
Nov-19	\$ 444,061.48	\$ 37,090.11	\$ -	\$ 481,151.59	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 481,151.59						
Dec-19	\$ 481,151.59	\$ 45,344.87	\$ -	\$ 526,496.46	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 526,496.46						
Jan-20	\$ 526,496.46	\$ (8,000.28)	\$ -	\$ 518,496.18	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 518,496.18						
Feb-20	\$ 518,496.18	\$ (5,563.68)	\$ -	\$ 512,932.50	\$ -	\$ -	\$ 20,000.00	\$ -	\$ 20,000.00	\$ 492,932.50						
Mar-20	\$ 492,932.50	\$ (4,974.56)	\$ -	\$ 487,957.94	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 487,957.94						
Apr-20	\$ 487,957.94	\$ (2,903.81)	\$ -	\$ 485,054.13	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 485,054.13						
May-20	\$ 485,054.13	\$ (2,124.00)	\$ -	\$ 482,930.13	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 482,930.13						
Jun-20	\$ 482,930.13	\$ (1,780.99)	\$ -	\$ 481,149.14	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 481,149.14						
Jul-20	\$ 481,149.14	\$ (1,491.64)	\$ -	\$ 479,657.50	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 479,657.50						
Aug-20	\$ 479,657.50	\$ (1,557.19)	\$ -	\$ 478,100.31	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 478,100.31						
Sep-20	\$ 478,100.31	\$ (1,719.37)	\$ -	\$ 476,380.94	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 476,380.94						
program year activity		\$ 81,271.36	\$ 0.00		\$ -	\$ -	\$ 20,000.00	\$ -	\$ 20,000.00	\$ 476,380.94						

2018-2019 Program Year					REVENUES						EXPENDITURES					
Month	Beginning Balance	Program Revenues	Interest Income	Total Revenue Balance	Rebates For Installed Measures	Total Agency Admin and P.D. Payments	CNG Admin	Adjustment for \$10K Cap	Total Expenditures	Ending Balance						
Oct-18	\$ 58,194.91	\$ 31,641.56	\$ 737.11	\$ 90,573.58	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 131,519.05						
Nov-18	\$ 131,519.05	\$ 50,453.65	\$ 843.19	\$ 182,815.89	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 182,815.89						
Dec-18	\$ 182,815.89	\$ 63,230.01	\$ 1,004.54	\$ 247,050.44	\$ -	\$ -	\$ (400.00)	\$ -	\$ (400.00)	\$ 246,650.44						
Jan-19	\$ 246,650.44	\$ 42,584.12	\$ 1,010.75	\$ 290,245.31	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 290,245.31						
Feb-19	\$ 290,245.31	\$ 43,107.50	\$ (900.00)	\$ 332,452.81	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 332,452.81						
Mar-19	\$ 332,452.81	\$ 35,169.82	\$ -	\$ 367,622.63	\$ (5,667.90)	\$ (1,075.00)	\$ -	\$ -	\$ (6,742.90)	\$ 360,879.73						
Apr-19	\$ 360,879.73	\$ 23,950.85	\$ -	\$ 384,830.58	\$ (9,755.38)	\$ (1,075.00)	\$ -	\$ -	\$ (10,830.38)	\$ 374,000.20						
May-19	\$ 374,000.20	\$ 11,169.89	\$ -	\$ 385,170.09	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 385,170.09						
Jun-19	\$ 385,170.09	\$ 11,504.75	\$ -	\$ 396,674.84	\$ (8,608.00)	\$ (1,075.00)	\$ -	\$ -	\$ (9,683.00)	\$ 386,991.84						
Jul-19	\$ 386,991.84	\$ 9,265.83	\$ -	\$ 396,257.67	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 396,257.67						
Aug-19	\$ 396,257.67	\$ 6,832.01	\$ -	\$ 403,089.68	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 403,089.68						
Sep-19	\$ 403,089.68	\$ 12,169.90	\$ -	\$ 415,259.58	\$ -	\$ -	\$ (150.00)	\$ -	\$ (150.00)	\$ 415,109.58						
program year activity		\$ 341,079.89	\$ 2,695.59		\$ (24,031.28)	\$ (3,225.00)	\$ (550.00)	\$ -	\$ (27,806.28)	\$ 415,109.58						

Cumulative non-PPC admin adjustment  
40,945.47

Cascade Natural Gas Corporation  
OLIEC Annual Report for 2020-21 Program Year  
Exhibit C  
Program Summary  
Oregon Low Income Energy Conservation Program including Conservation Achievement Tariff

Homes Served  
Rebates & Agency Admin Per Home  
Therms Saved Per Home

					0
					NA
					NA
<b>2020-2021 Totals</b>					
# of Jobs	Therm Savings	OLIEC Dollars	CAT Dollars	Total Program	
0	-	\$ -	\$ -	\$ -	-
0	-	\$ -	\$ -	\$ -	-
0	-	\$ -	\$ -	\$ -	-
0	-	\$ -	\$ -	\$ -	-
0	-	\$ -	\$ -	\$ -	-
0	-	\$ -	\$ -	\$ -	-
0	-	\$ -	\$ -	\$ -	-
0	-	\$ -	\$ -	\$ -	-
0	-	\$ -	\$ -	\$ -	-
0	-	\$ -	\$ -	\$ -	-
0	-	\$ -	\$ -	\$ -	-
0	-	\$ -	\$ -	\$ -	-
<b>Total Measures</b>	0	-	\$ -	\$ -	(10,830)
CAP Admin & Prog. Del.				\$ -	-
Adjustment for \$10 Cap				\$ -	-
Payment Adjustment/Correction		(10,830)	\$ -	\$ -	(10,830)

					1
					\$ 9,170
					346
<b>2019-2020 Totals</b>					
# of Jobs	Therm Savings	OLIEC Dollars	CAT Dollars	Total Program	
1		32	\$ 376	\$ 2,161	\$ 2,536
1		49	\$ 575	\$ 2,340	\$ 2,914
1		76	\$ 884	\$ 2,171	\$ 3,055
1		27	\$ 251	\$ 319	\$ 570
1		77	\$ 730	\$ -	\$ 730
1		13	\$ 120	\$ 580	\$ 700
1		71	\$ 690	\$ 5,590	\$ 6,280
0		-	\$ -	\$ -	\$ -
0		-	\$ -	\$ -	\$ -
0		-	\$ -	\$ -	\$ -
0		-	\$ -	\$ -	\$ -
	7	346	\$ 3,625	\$ 13,161	\$ 9,170
		1,075		\$ -	\$ -
		-7860.55		\$ -	\$ -
		(830)	\$ 4,700	\$ 13,161	\$ 9,170

					3
					\$ 9,085
					206
<b>2018-2019 Totals</b>					
# of Jobs	Therm Savings	OLIEC Dollars	CAT Dollars	Total Program	
2		72	\$ 836	\$ 4,869	\$ 5,705
3		173	\$ 2,017	\$ 7,105	\$ 9,122
2		128	\$ 1,491	\$ 3,257	\$ 4,748
2		37	\$ 344	\$ 1,533	\$ 1,877
1		77	\$ 810	\$ 45	\$ 855
3		39	\$ 353	\$ 442	\$ 794
1		71	\$ 690	\$ 145	\$ 835
1		21	\$ 65	\$ 30	\$ 95
0		-	\$ -	\$ -	\$ -
0		-	\$ -	\$ -	\$ -
	15	618	\$ 6,606	\$ 17,425	\$ 24,031
			\$ 675	\$ 2,550	\$ 3,225
				\$ -	\$ -
			\$ 7,281	\$ 19,975	\$ 27,256

**Measures**  
Ceiling  
Floor  
Wall  
Duct Ins.  
Duct Seal  
Air Infiltration  
H-E Furnace  
Furnace Tune Up  
H-E Space Heater  
H-E Water Heater

**Total Measures**  
CAP Admin & Prog. Del.  
Adjustment for \$10 Cap  
Payment Adjustment/Correction



# CNGC Oregon Low Income Customer Analysis



Date: June 30, 2021

Prepared For: Oregon Public Utilities Commission Staff



# Background

- ✔ In order to better serve all customers, and glean additional insights into Cascade's financially disadvantaged customers, Cascade requested analysis to identify and characterize low-income communities in their service territory.
- ✔ AEG developed the approach described below to leverage secondary data sources to provide deeper insight into Cascade's Oregon customer base by income level.
- ✔ AEG worked with Cascade to develop the definitions for low-income and moderate-income households used in this analysis:

HH Size	Low Income Threshold	Moderate Income Threshold
1	\$25,520	\$25,027
2	\$34,480	\$50,054
3	\$43,440	\$75,081
4	\$52,400	\$100,108
5	\$61,360	\$125,135
6	\$70,320	\$150,163
7	\$79,280	\$175,190
8	\$88,240	\$200,217

*Low income is based on 200% FPL;*

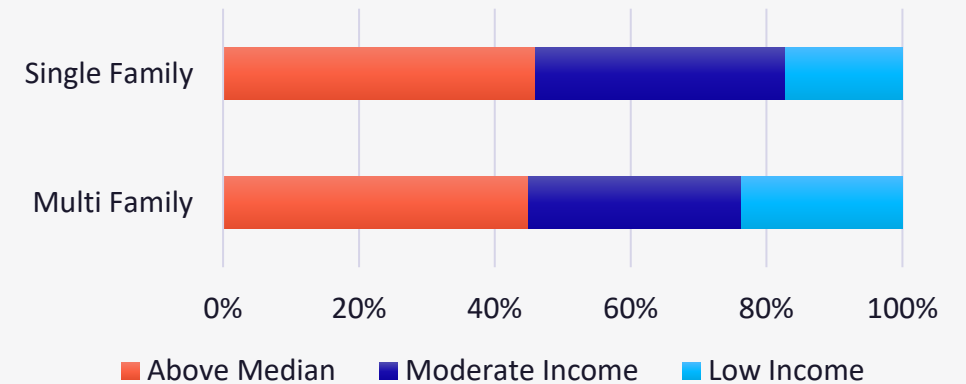
*Moderate income are customers > 200% FPL up to state median income*



# Part 1: US Census Analysis

- ✔ Address data from CNGC residential accounts was mapped back to corresponding geographic "blocks" in the census data.
- Each of these blocks was then processed to analyze average household size and income, producing a distribution of households into income buckets for places **where CNGC customers reside**. (see next slide)

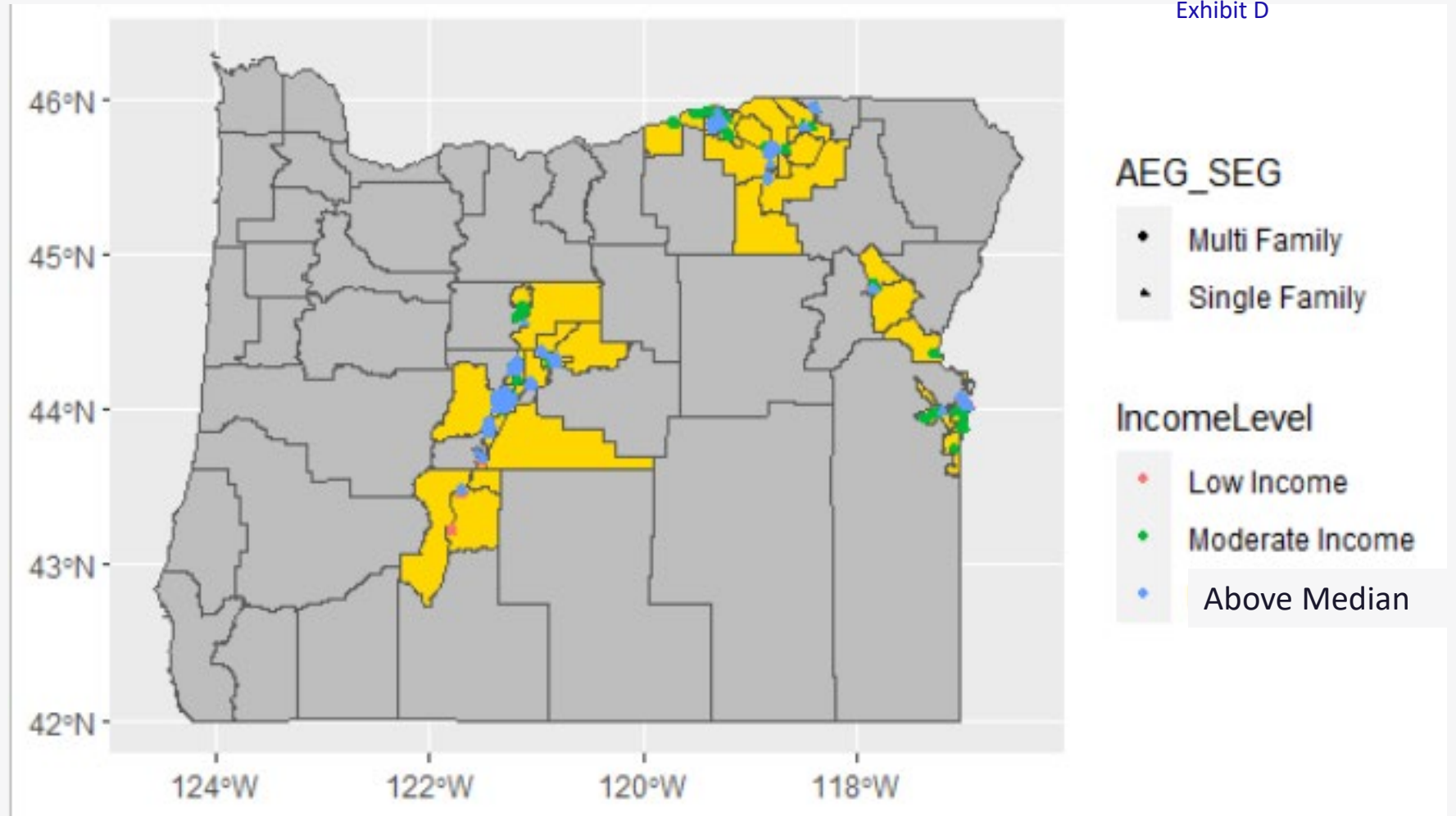
### Cascade Oregon Household: Distribution by Income



Housing Type	Income Group	Accounts	Oregon	
			% of SF or MF	% of All HH
Single Family	Above Median	35,417	46%	43%
	Moderate Income	28,434	37%	34%
	Low Income	13,251	17%	16%
Multi Family	Above Median	2,605	45%	3%
	Moderate Income	1,819	31%	2%
	Low Income	1,369	24%	2%
<b>Total</b>		<b>82,895</b>		<b>100%</b>



## Map – Cascade OR Residential Customers



- ✓ Yellow areas are counties where CNGC customers reside. The colored dots show the average income group assignment for a census geo-block.





## Part 2: RBSA Analysis

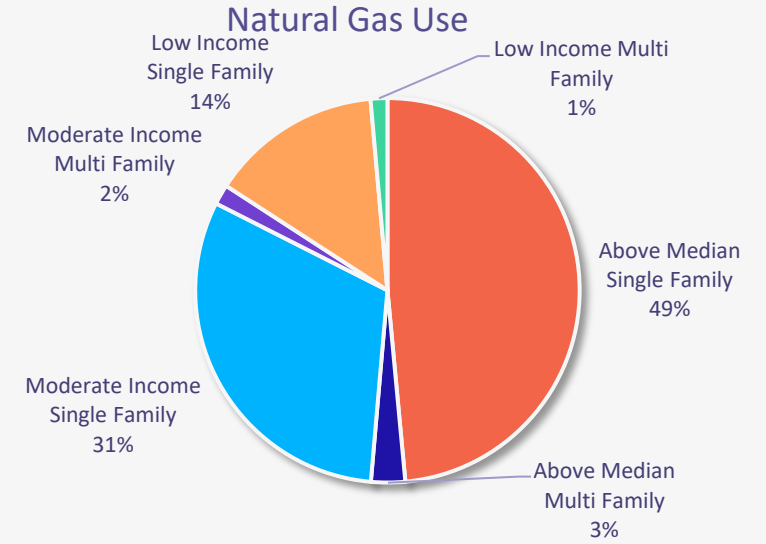
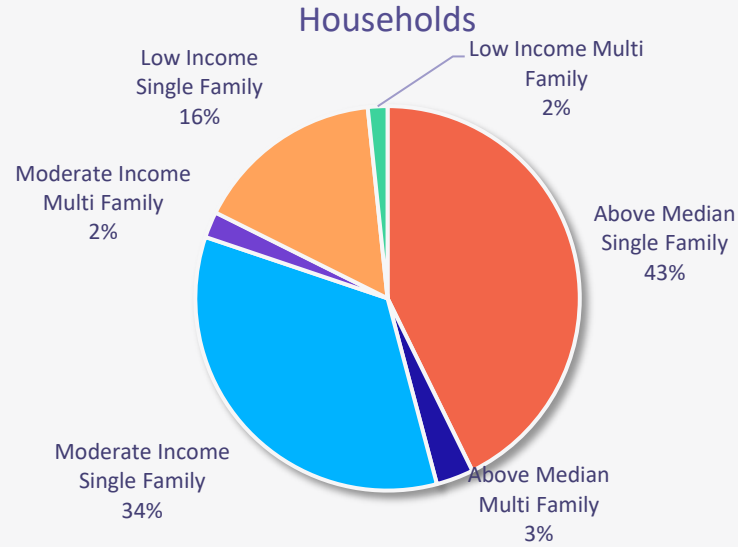
- ✔ The NEEA Residential Building Stock Assessment II (2016) includes household income and many usage characteristics, which allows insight into household energy use in different income groups.
- ✔ Differences in gas use per household correlate with differences in average home size, but home size and building shell alone do not account for *all* the intensity difference
- ✔ Overall insulation and infiltration levels are similar between income levels, in contrast to Cascade's WA territory.
  - R-values for roof/attic, walls, and floors are within +/- 1
  - Average low/moderate income air infiltration is actually lower (better) than above-median income homes, which may be the effect of targeted programs

Oregon Gas Customer Characteristics by Income Level – RBSA II

Income Class	Responses	Avg. Therms /HH	Δ	Gas Space Heat	Gas Water Heat	Age of Home (Avg)
Above Median	153	648	n/a	61%	80%	1961
Moderate Income	27	638	-2%	61%	89%	1969
Low Income	55	547	-16%	67%	65%	1958



# Results Summary



Row Labels	Households	% of Households	Therms	% of Therms	Therms per HH
<b>Above Median</b>					
Single Family	35,417	42.73%	32,031,069	48.51%	904
Multi Family	2,605	3.14%	1,891,766	2.87%	726
<b>Moderate Income</b>					
Single Family	28,434	34.30%	20,525,481	31.09%	722
Multi Family	1,819	2.19%	1,113,780	1.69%	612
<b>Low Income</b>					
Single Family	13,251	15.99%	9,534,721	14.44%	720
Multi Family	1,369	1.65%	929,208	1.41%	679
<b>Grand Total</b>	<b>82,895</b>	<b>100.00%</b>	<b>66,026,026</b>	<b>100.00%</b>	<b>797</b>

# Thank You.

Eli Morris, Managing Director  
emorris@appliedenergygroup.com

Ken Walter, Project Manager  
kwalter@appliedenergygroup.com

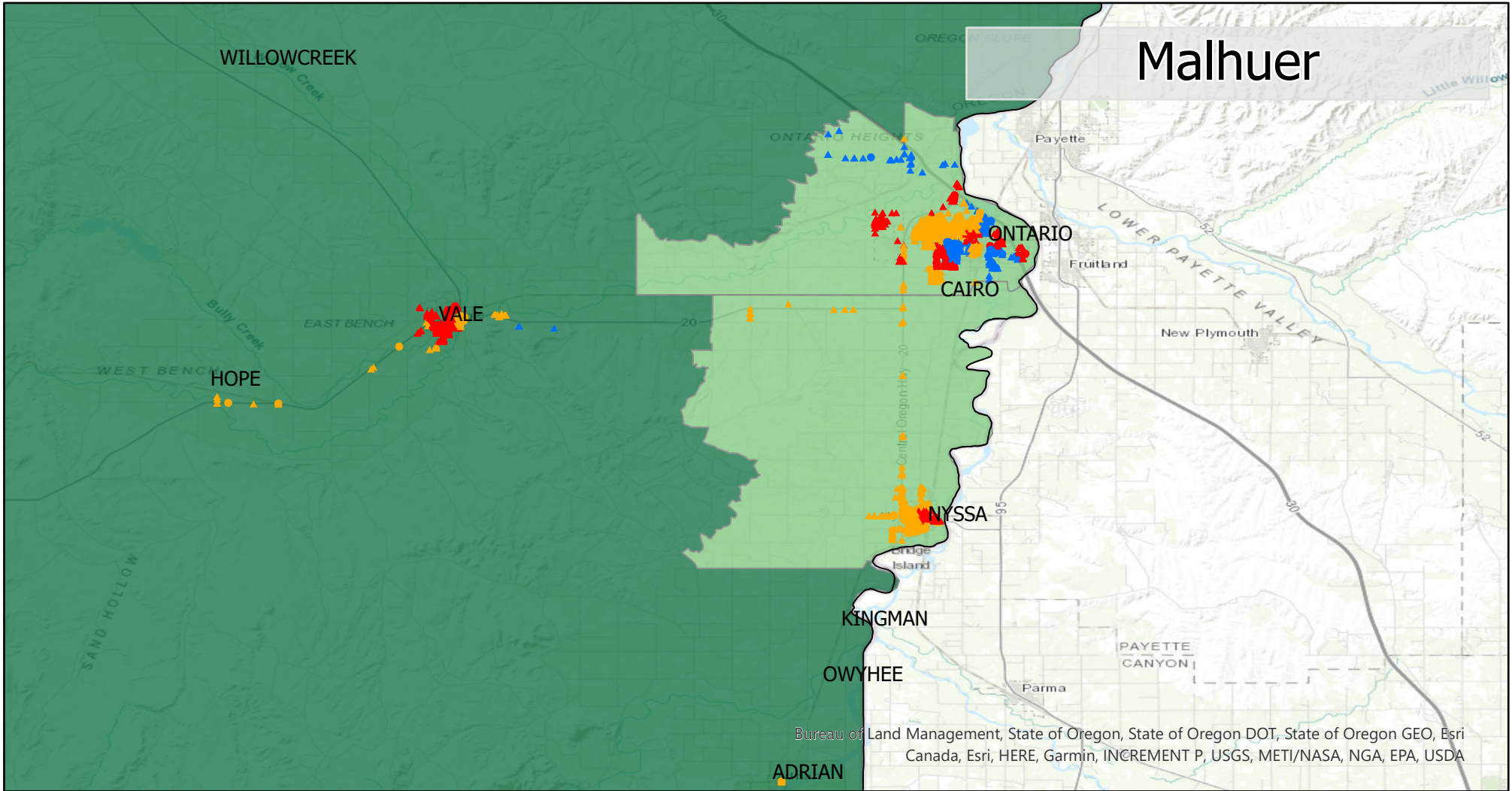
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Phone 510-982-3530

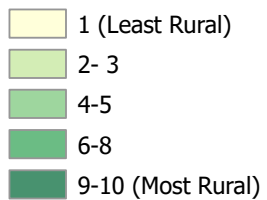


# Income by Structure Type and Urban/Rural Areas

Exhibit D

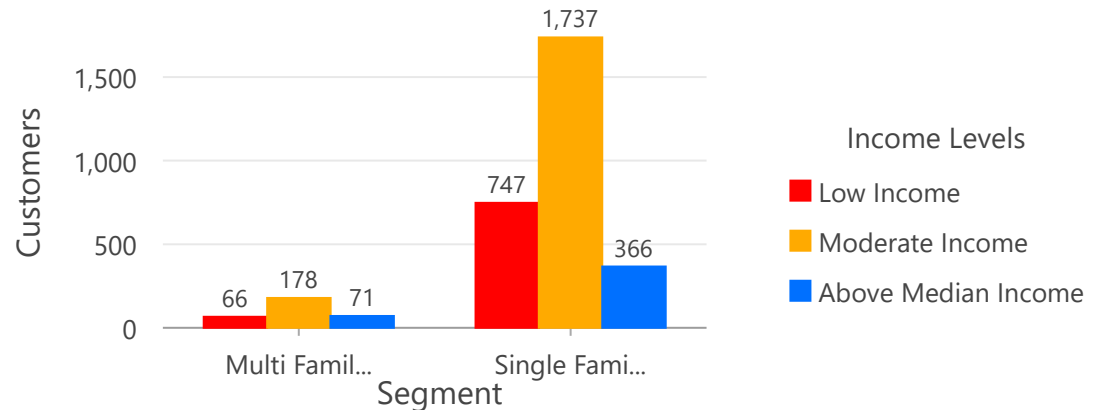


## Rural Urban Commuting Areas



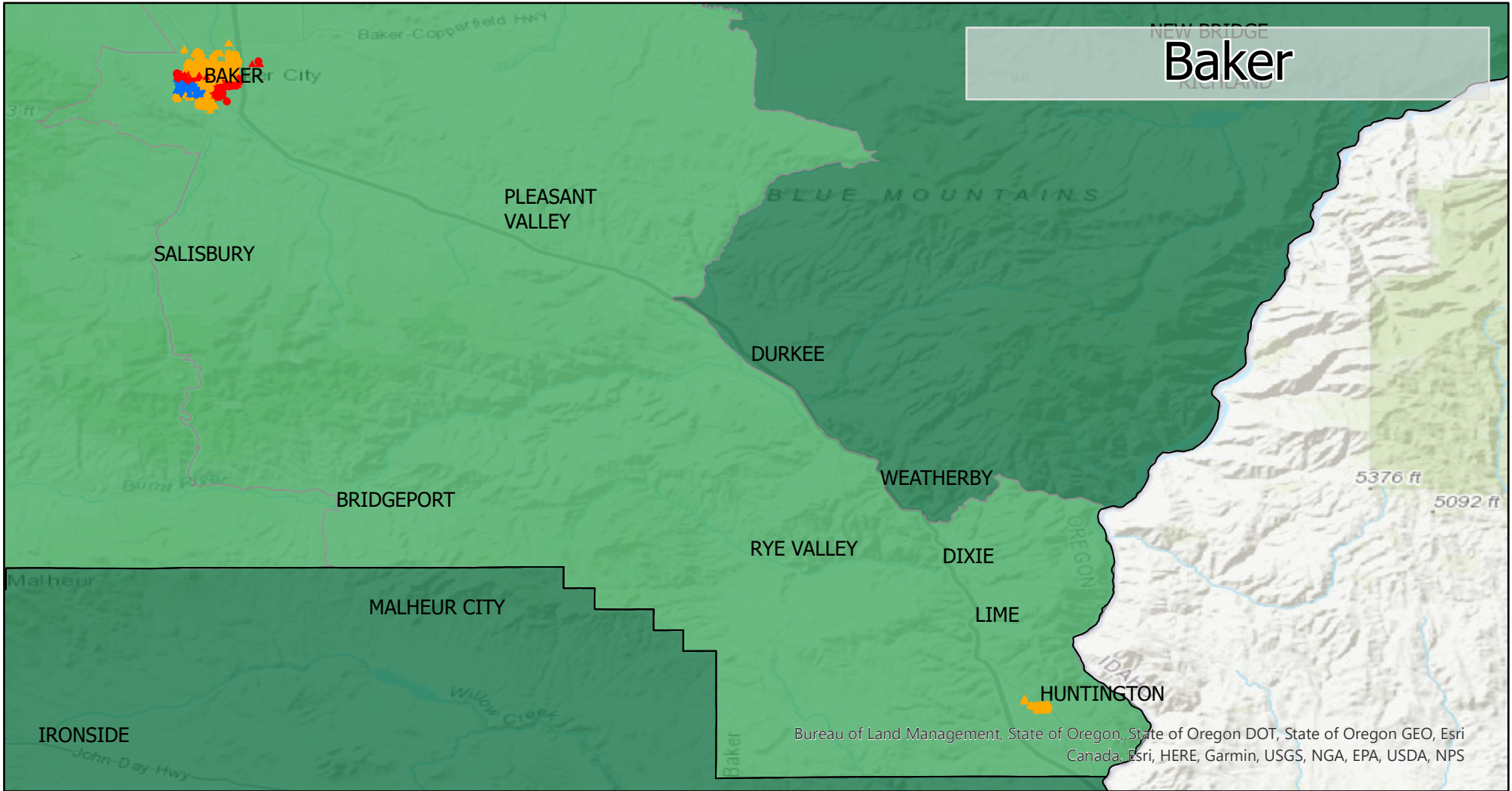
## Residential Segmentation

- Multi Family, Low Income
- ▲ Single Family, Low Income
- Multi Family, Moderate Income
- ▲ Single Family, Moderate Income
- Multi Family, Above Median Income
- ▲ Single Family, Above Median Income

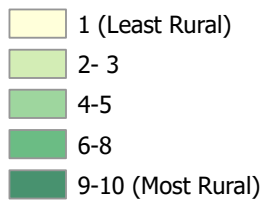


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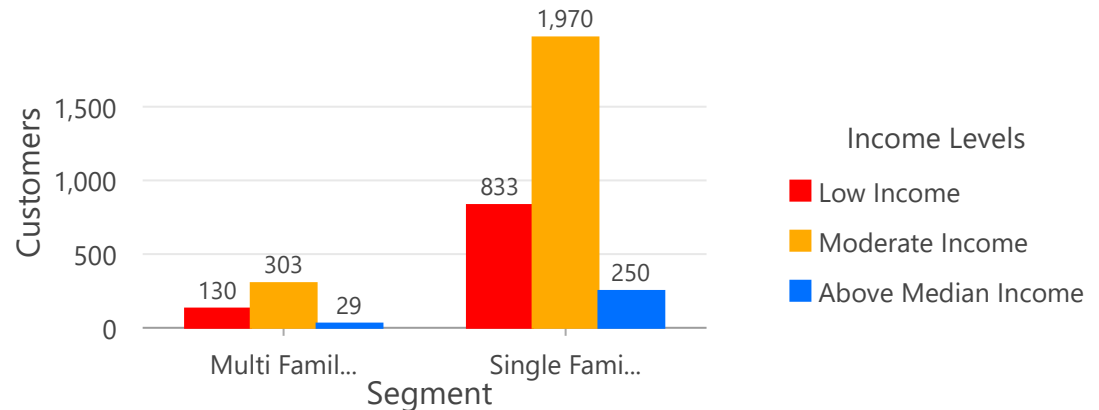


## Rural Urban Commuting Areas



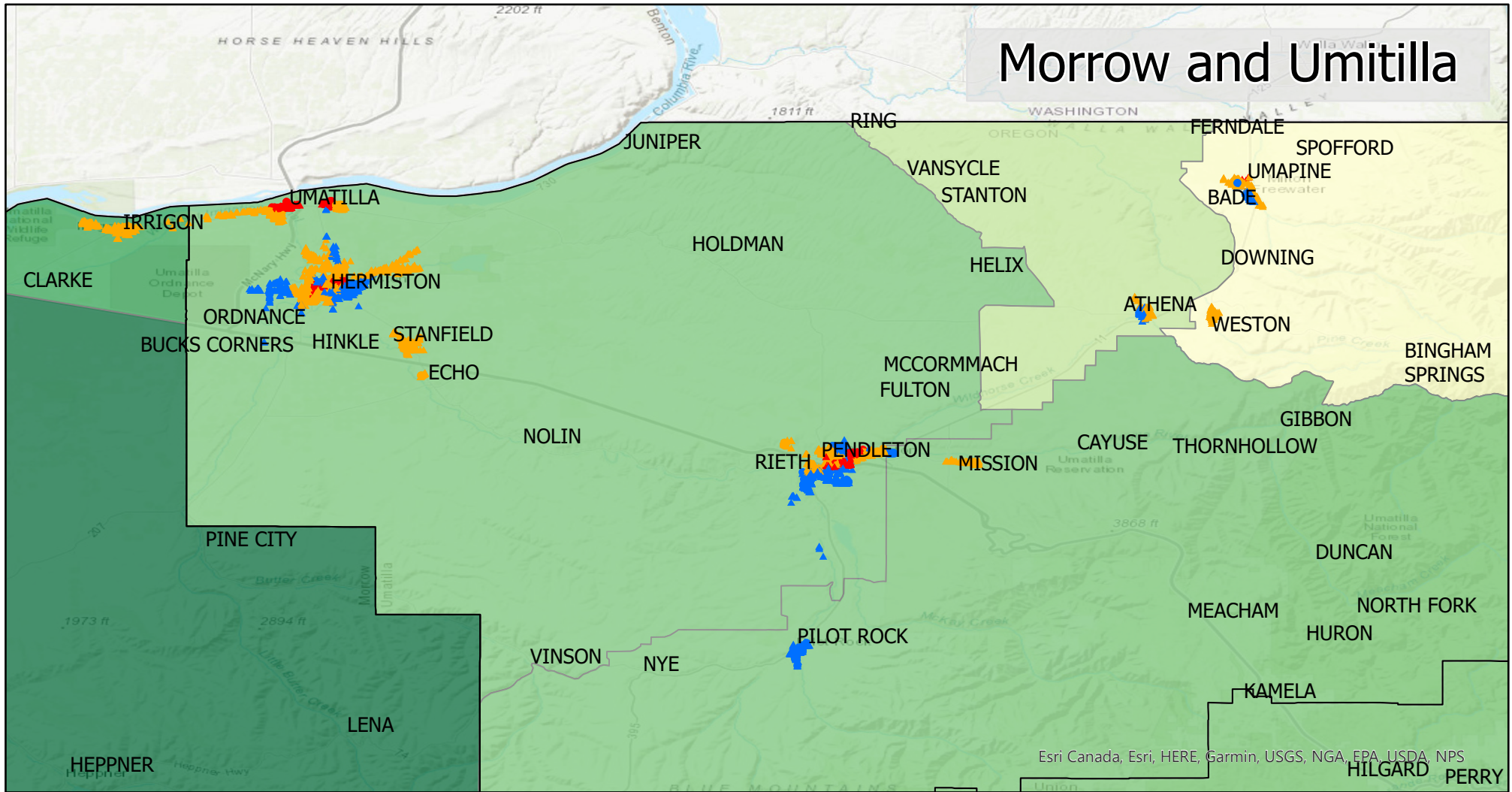
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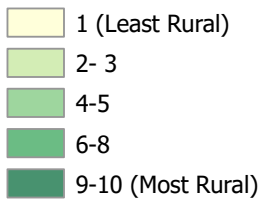


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Exhibit D

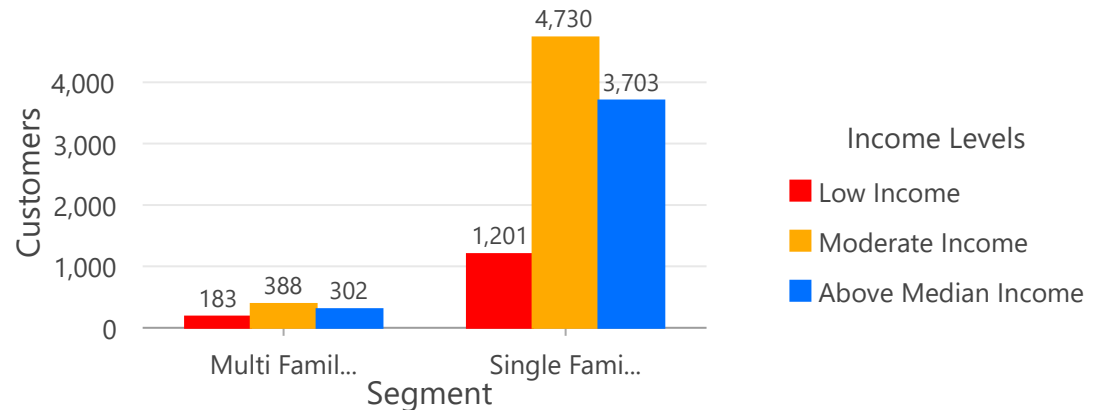


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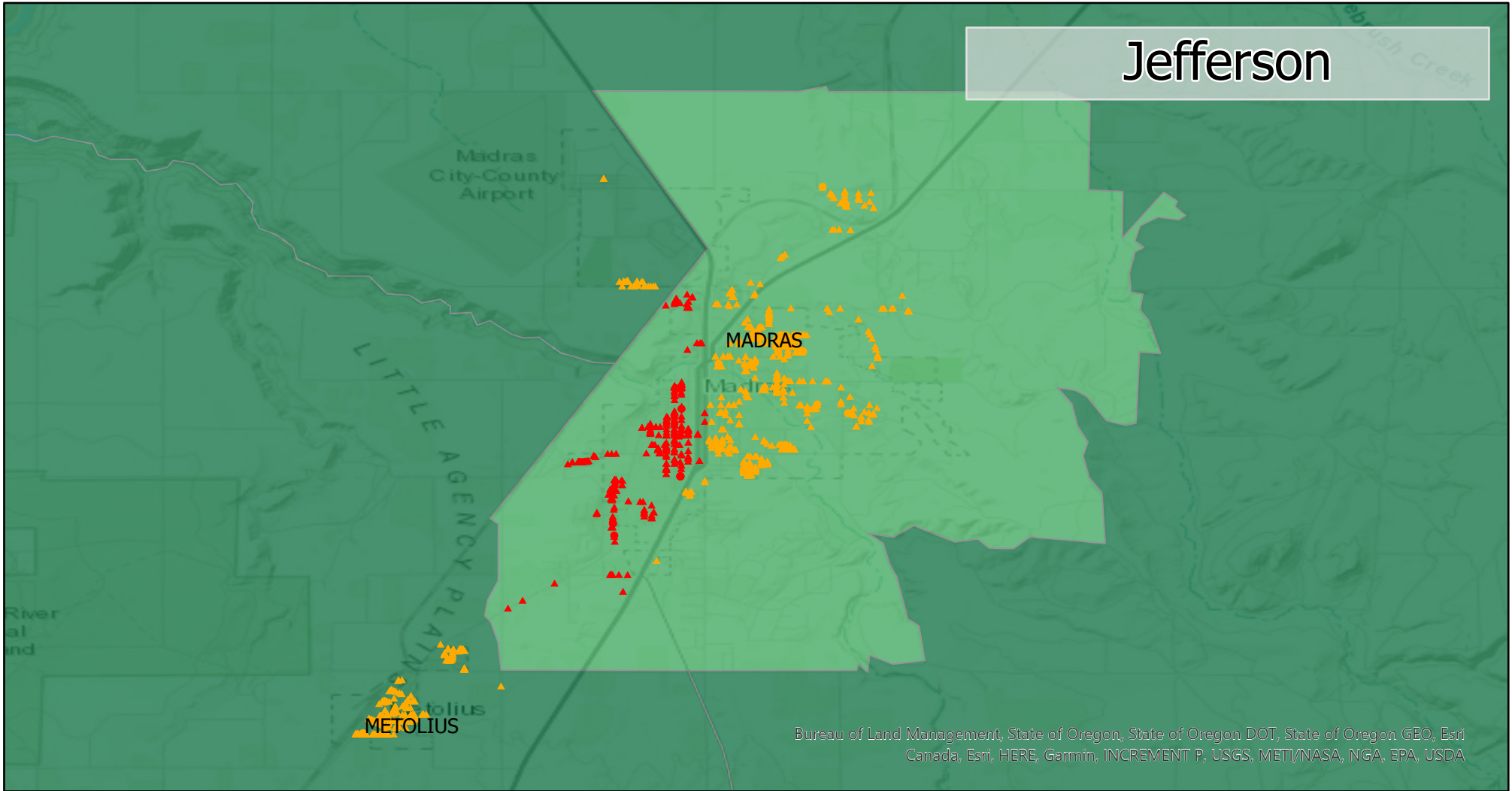
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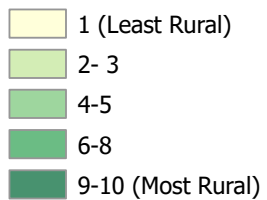


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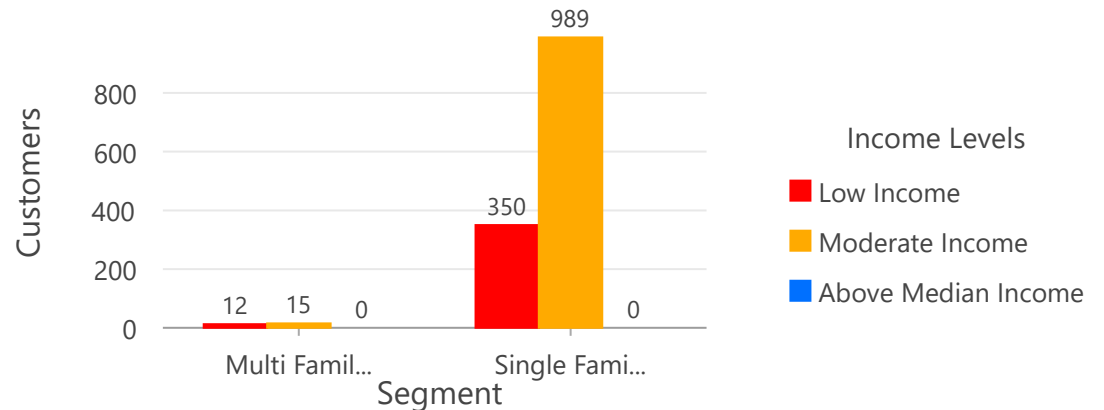


## Rural Urban Commuting Areas



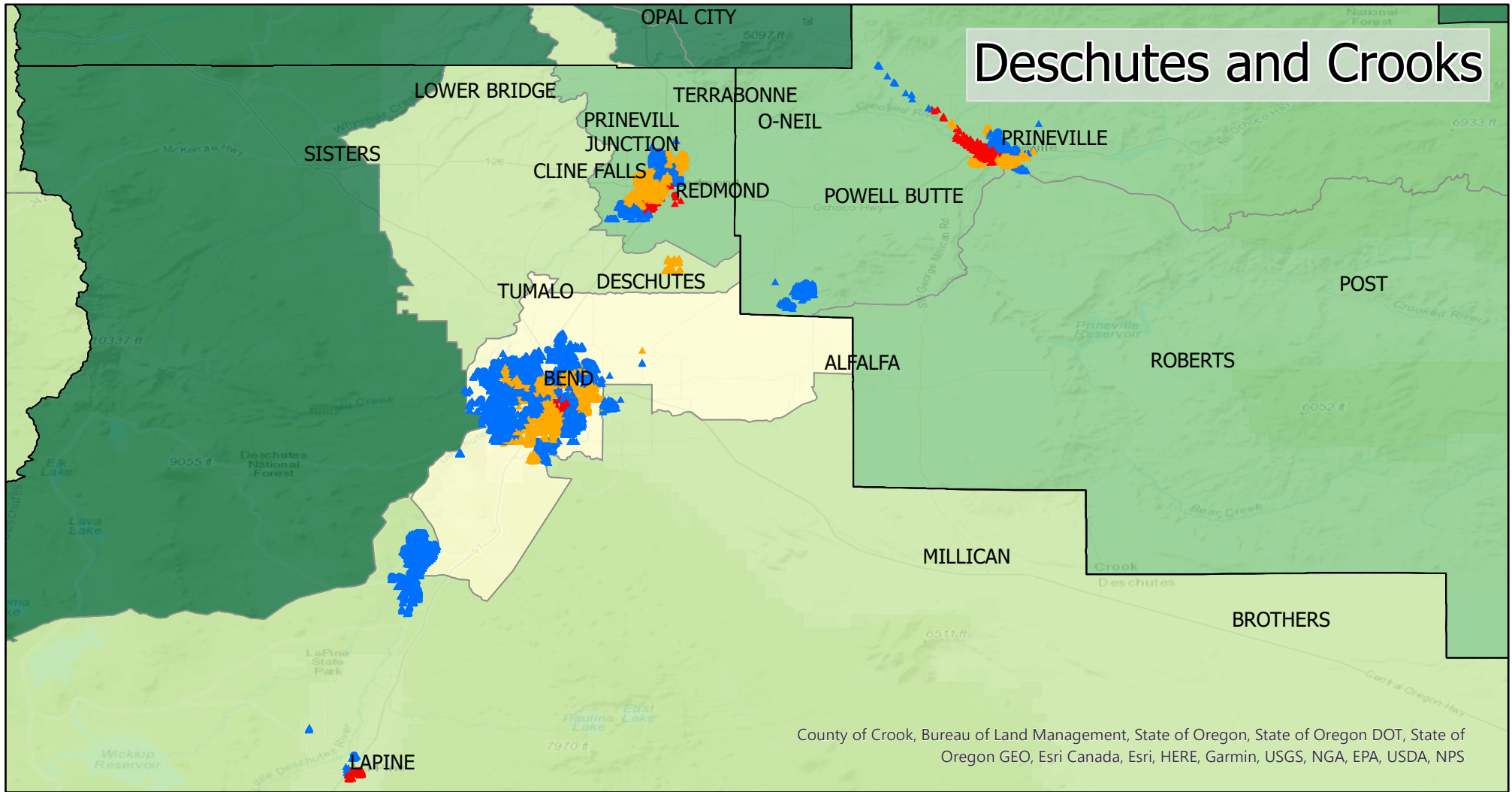
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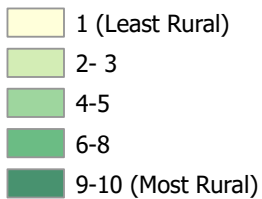


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Exhibit D

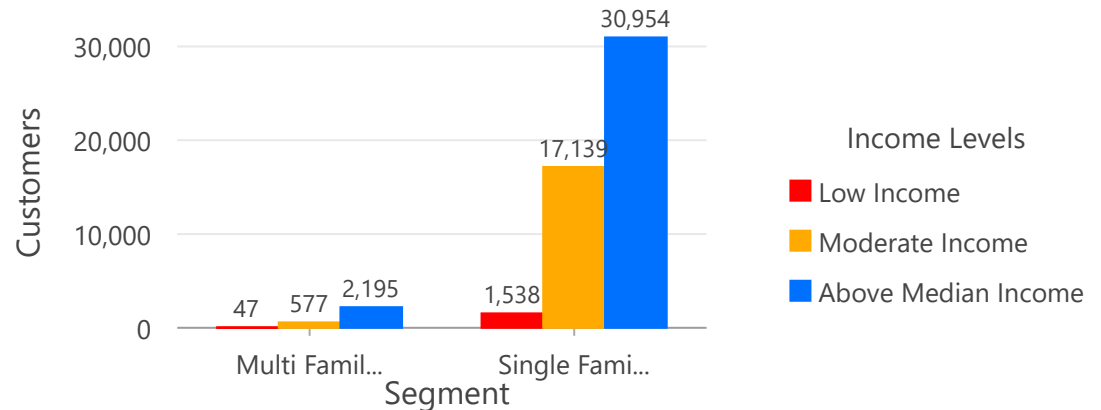


## Rural Urban Commuting Areas



## Residential Segmentation

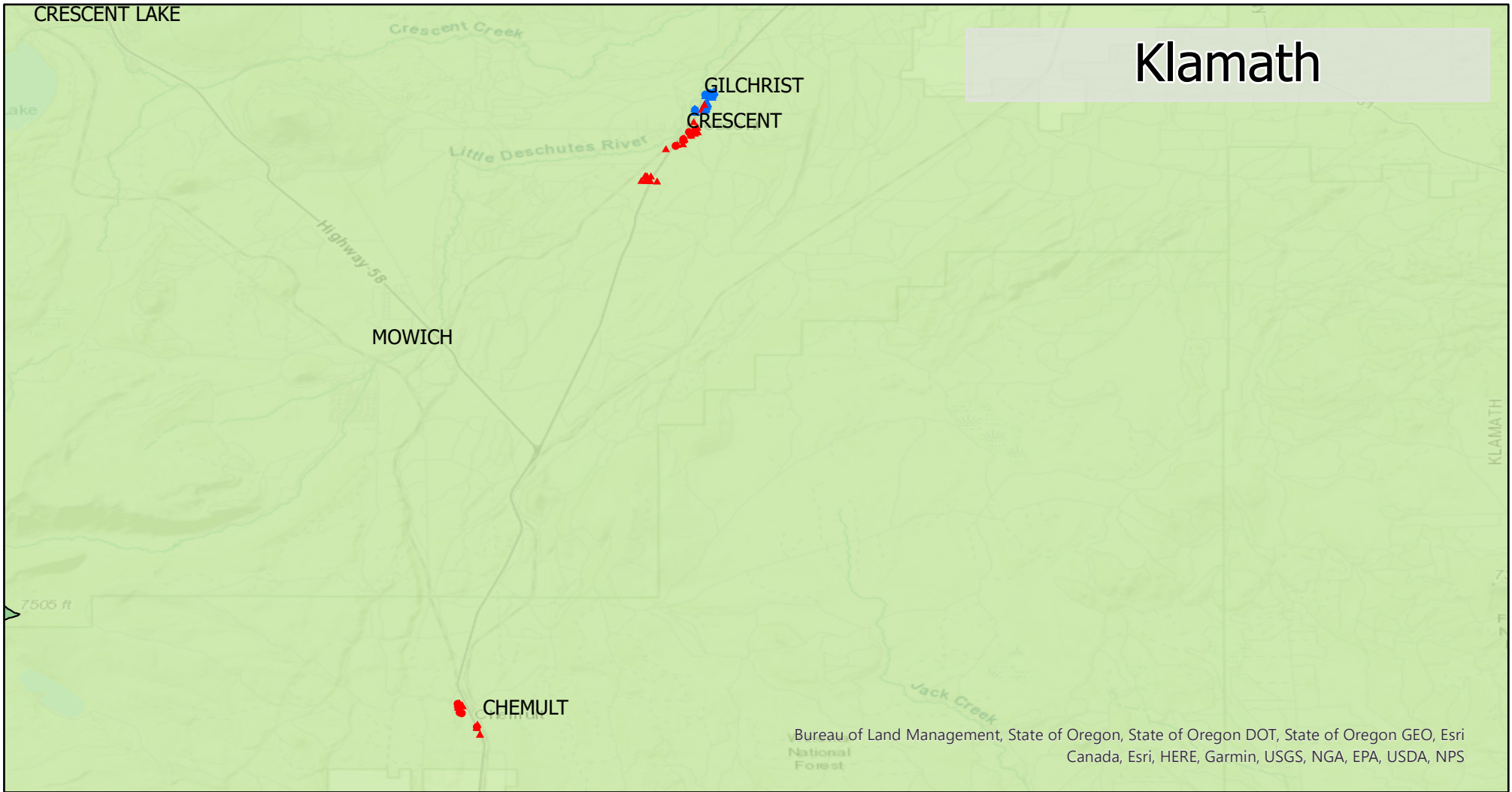
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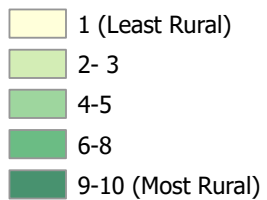


# Income by Structure Type and Urban/Rural Areas

Exhibit D



## Rural Urban Commuting Areas



## Residential Segmentation

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