



Developing Built Environment Indicators for Urban Oregon



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What is the built environment?

The built environment encompasses spaces and places created or modified by people:

- It is structured by urban design, economics, and land use rules
- It includes buildings, venues for physical activity, and the transportation system

Why is considering the built environment important?

Built environment affects...

- active transportation / physical activity levels
- recreation
- public transit
- accessibility of resources
- affordable housing
- food access / healthy diet
- water quality
- air quality
- noise
- traffic safety
- pedestrian and bicyclist safety
- exposure to environmental hazards

Which have impacts on health...

- obesity
- cardiovascular disease
- hypertension
- cancer
- respiratory illness
- mental health
- stress
- injuries
- well-being

Oregon EPHT BE Indicators Overview

Goal: Develop useful built environment indicators for the urban areas of Oregon that have been linked to health outcomes and track over time.

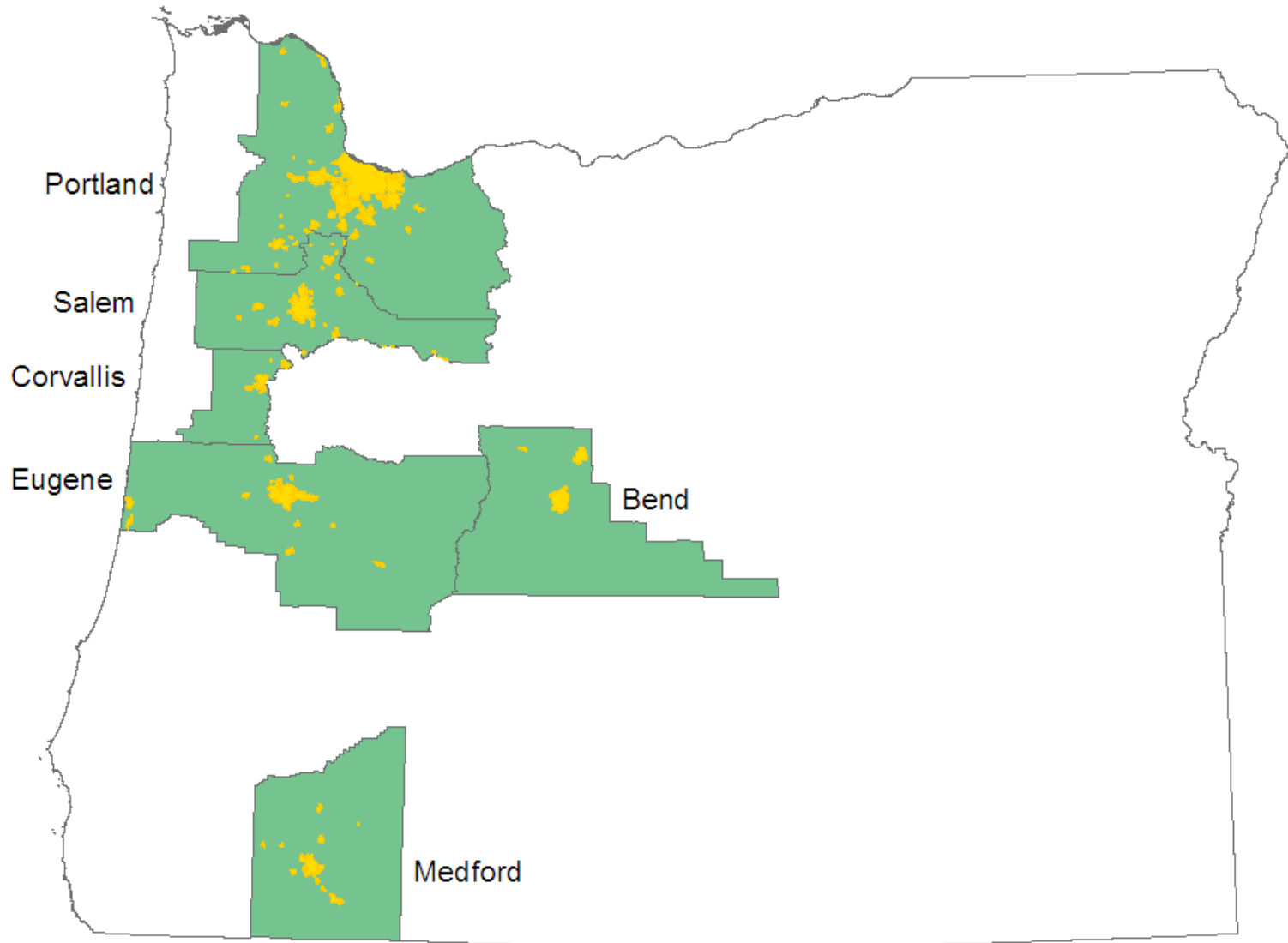
Selection Criteria:

1. There is empirical evidence linking the indicator to human health.
2. The indicator can be shown to affect health on a local scale.
3. The indicator is within the scope of the built environment.
4. Existing data are available to measure the indicator.

Potential Applications

- Inform public health practice & decisions
- Inform planners in creating healthier neighborhoods
- Empower communities with data
- DEQ pollution reduction efforts
- Baseline for research & grant writing
- Quick, reliable information for HIA
- Inform local and state-level policy

Just the urban areas (for now)



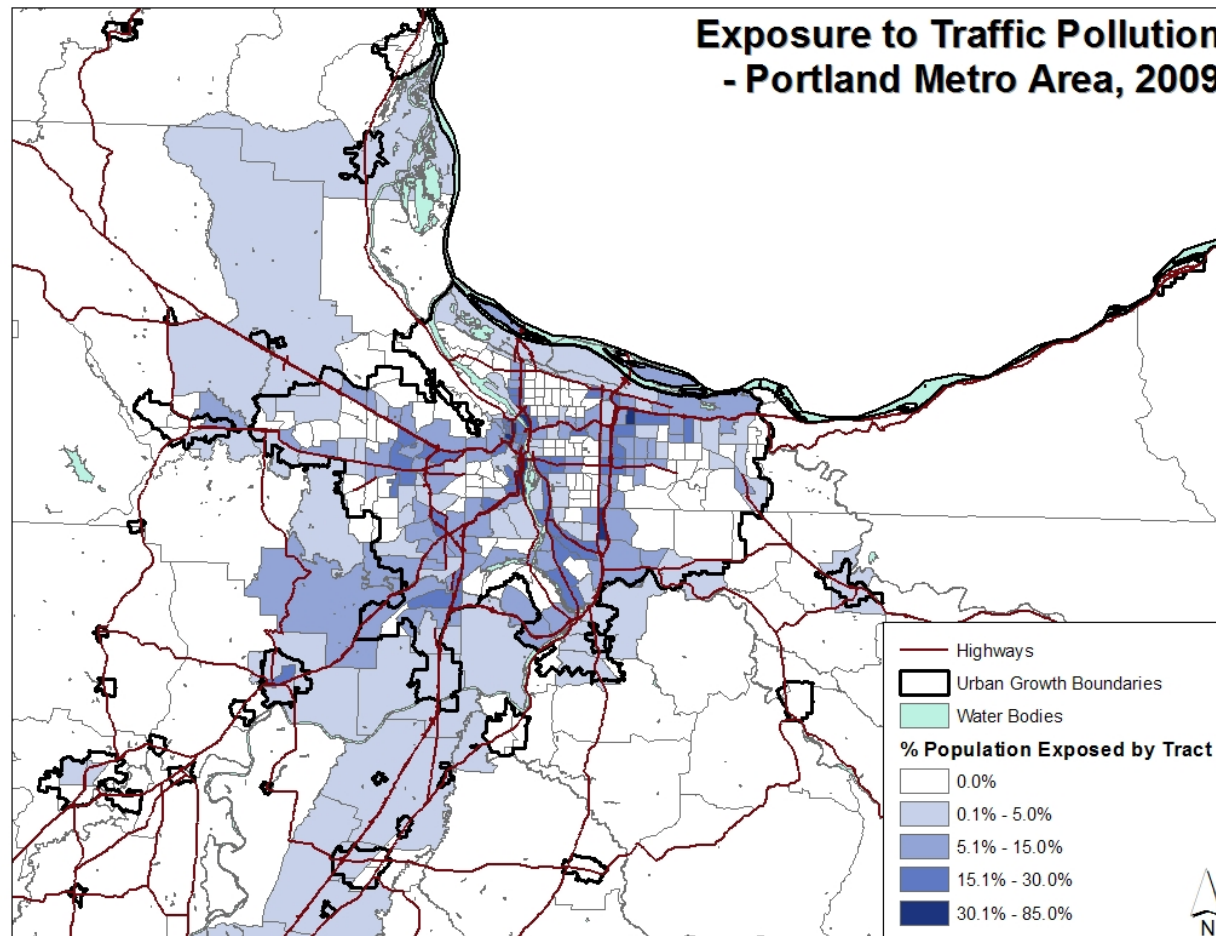
Indicator: Roadway air pollution exposure

Domain: Air quality

Measure: % of population within 500 feet of roadways with $\geq 30,000$ veh/day

Data Sources: ODOT traffic counts, Census geography and population

Geographic level of analysis: Census tract



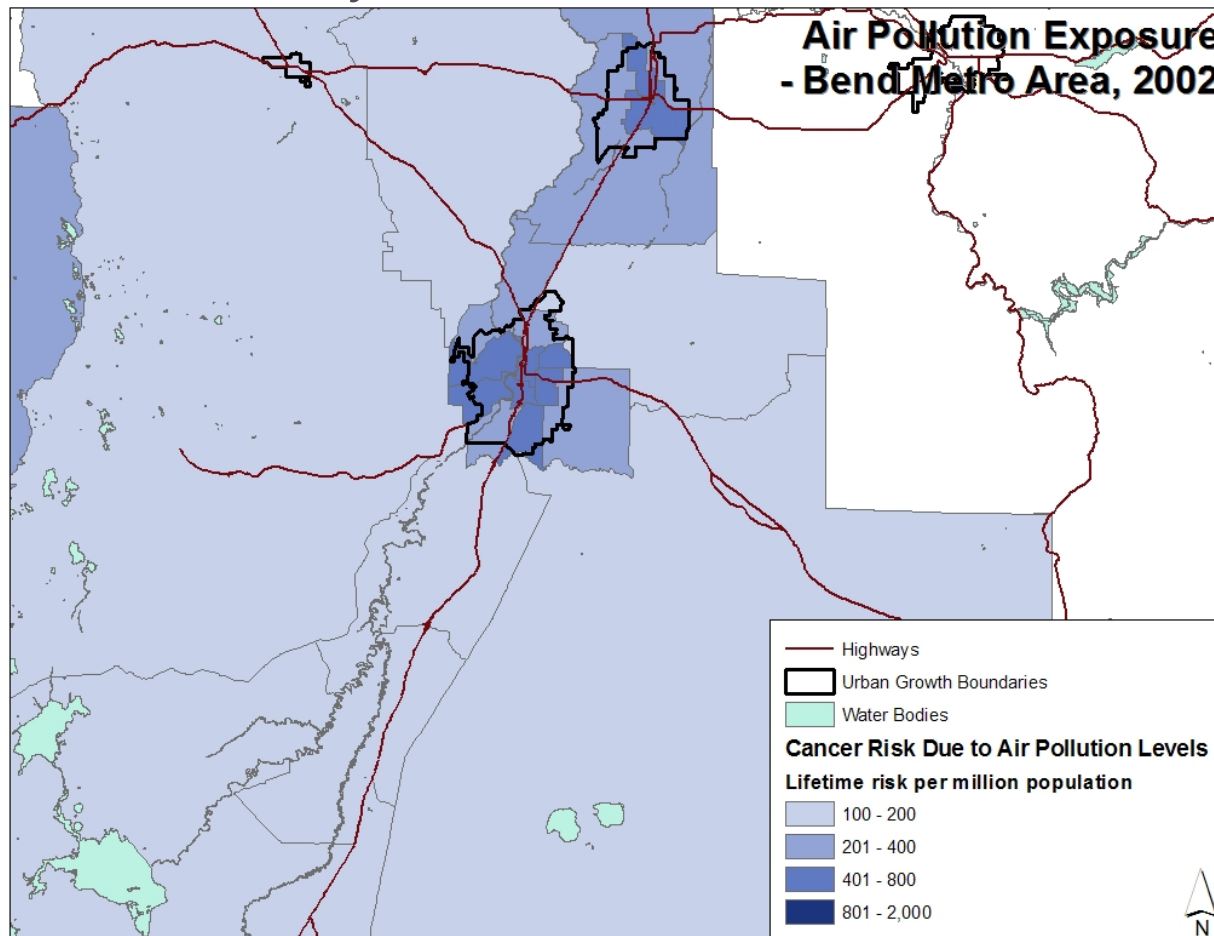
Indicator: Cancer risk attributable to air pollution

Domain: Air Quality

Measure: Excess lifetime cancer risk attributable to air pollution per 1,000,000 population

Data Sources: EPA NATA, Census geography

Geographic level of analysis: Census tract



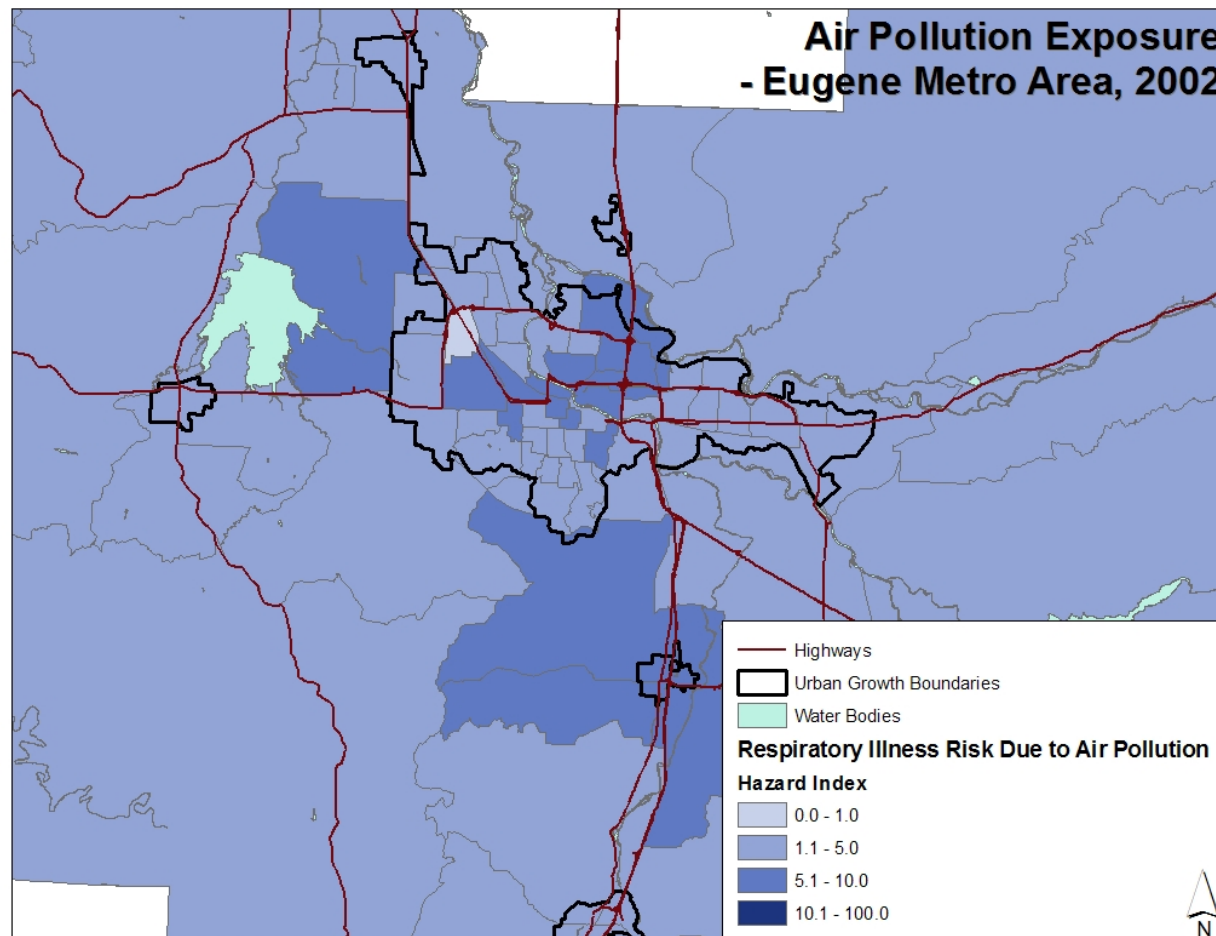
Indicator: Respiratory illness risk attributable to air pollution

Domain: Air quality

Measure: Hazard index for respiratory illness due to air pollution

Data Sources: EPA National Air Toxics Assessment, Census geography

Geographic level of analysis: Census tract



Indicator: Travel mode

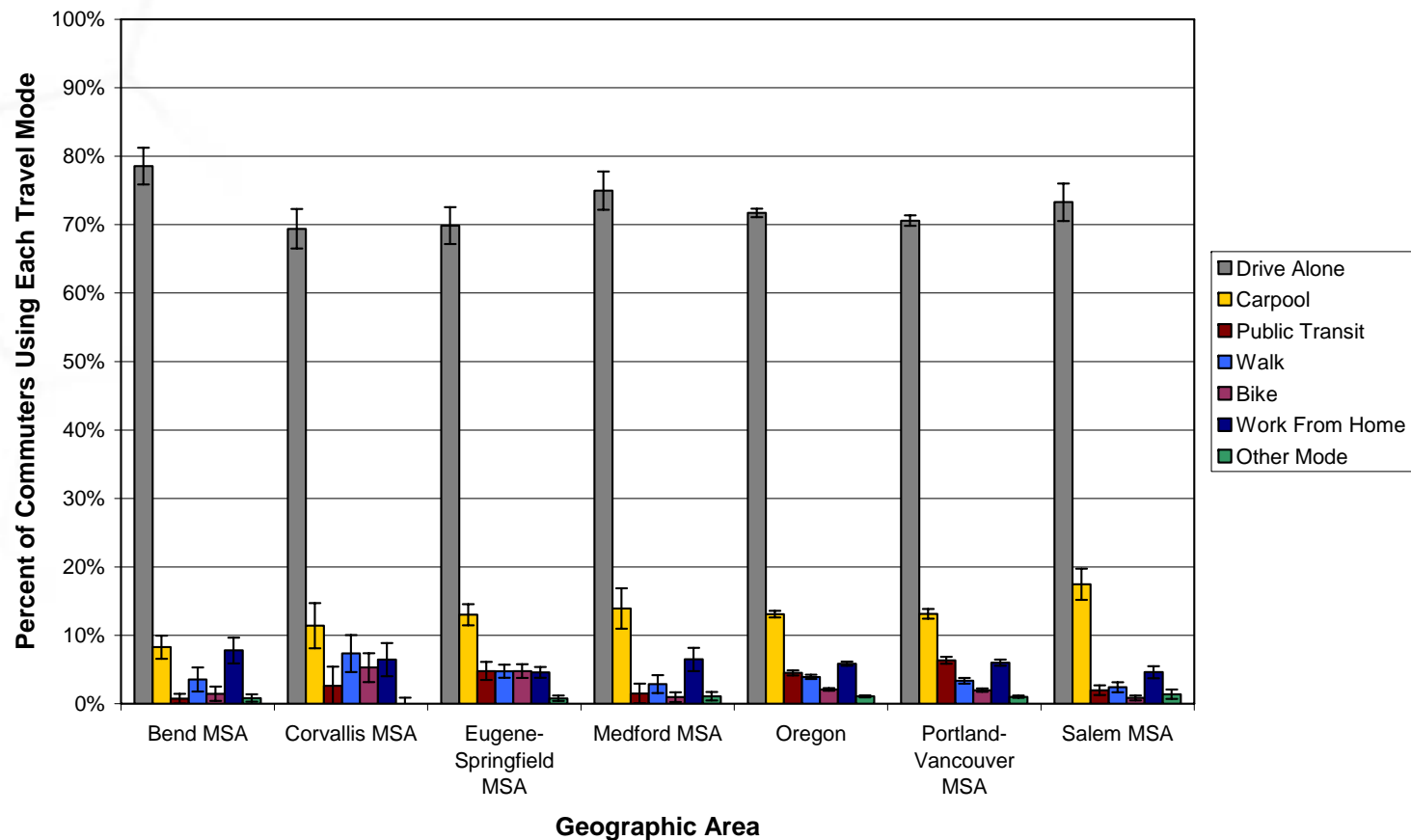
Domain: Active Transportation

Measure: % of commuters that drive alone to work

Data Sources: American Community Survey

Geographic level of analysis: County

Travel Mode by MSA, 2008



Indicator: Housing affordability

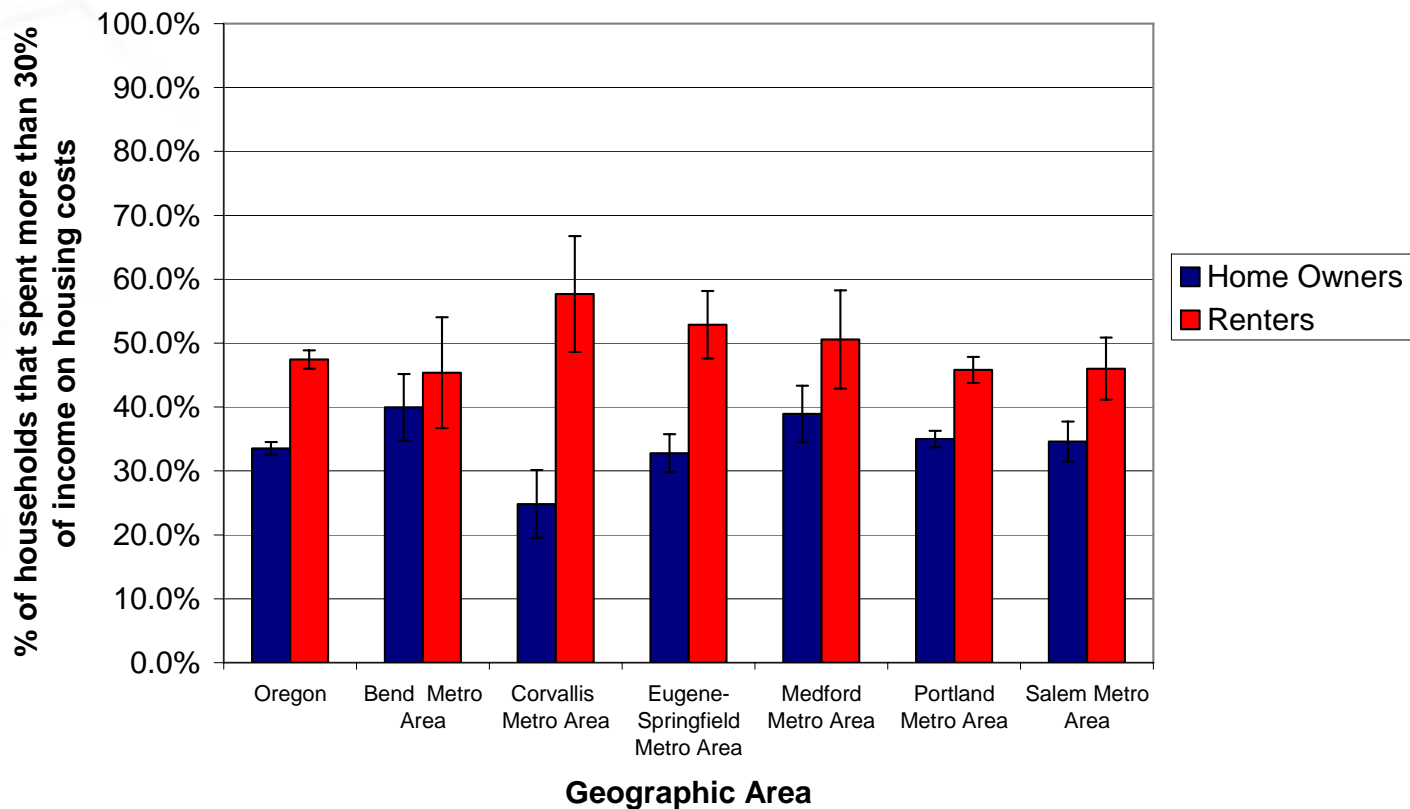
Domain: Affordable housing

Measure: % of households spending $\geq 30\%$ income on housing costs

Data Sources: American Community Survey

Geographic level of analysis: County

Percent of all households burdened by housing costs, by MSA, 2008



Indicator: Housing overcrowding

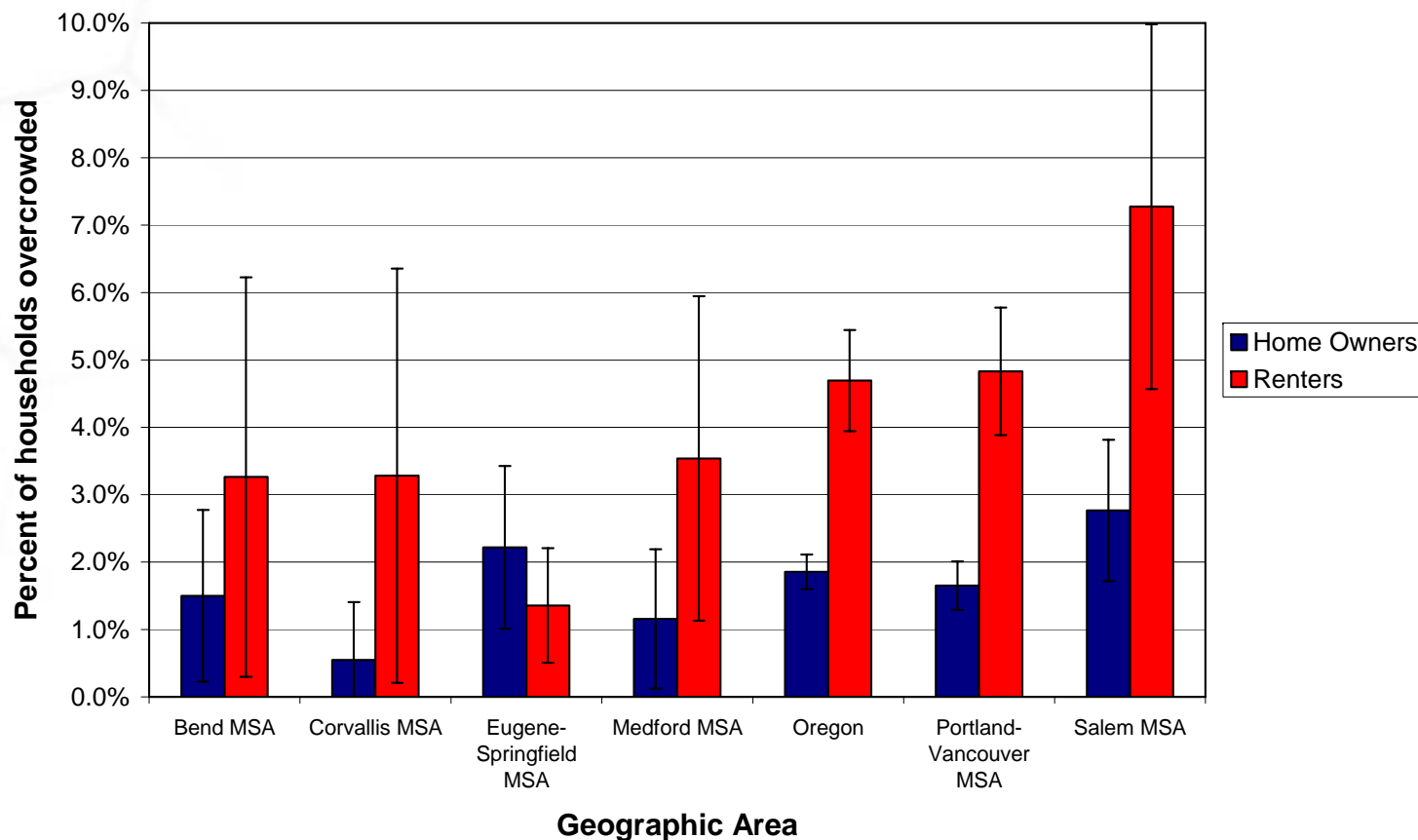
Domain: Affordable housing

Measure: % of households that are overcrowded (people/room >1)

Data Sources: American Community Survey

Geographic level of analysis: County

Overcrowding in Oregon Households by Tenure, 2008



Indicator: Crime rates

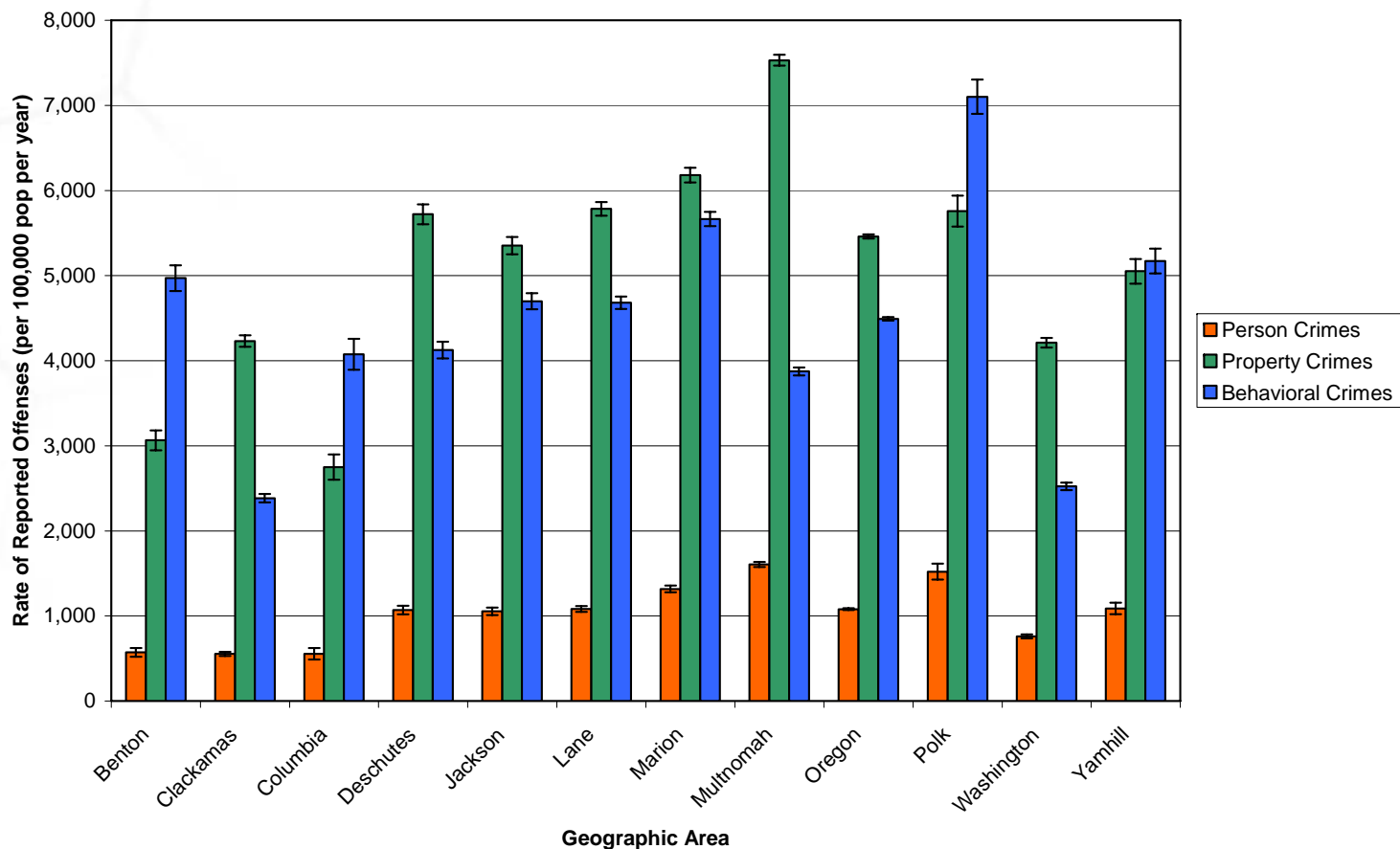
Domain: Crime & public safety

Measure: Rate of reported offenses by crime category

Data Sources: Oregon Criminal Justice Council

Geographic level of analysis: County

Oregon Crime Rate by Type of Crime and County, 2007



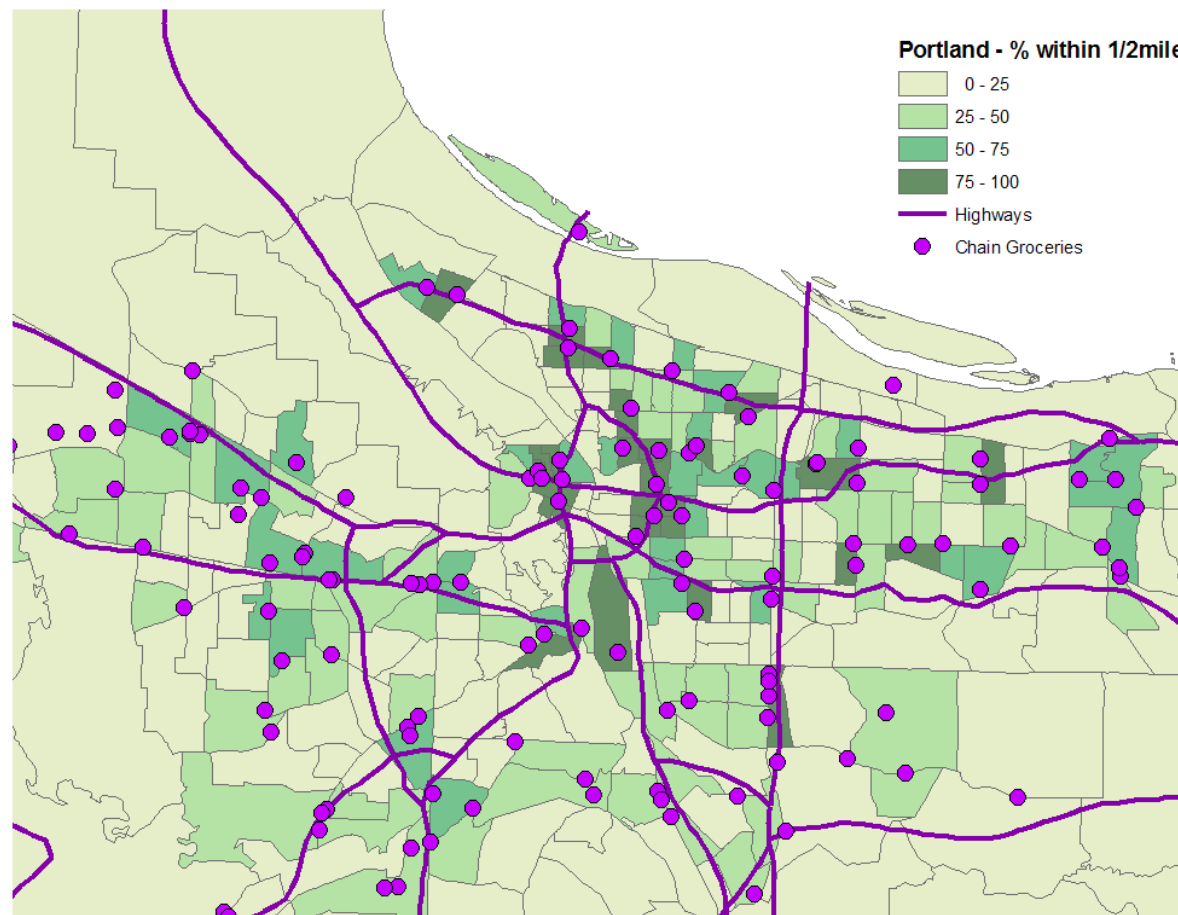
Indicator: Access to healthy food

Domain: Healthy food environments

Measure: % of population within 1/2 mile of a healthy food retailer

Data Sources: Oregon Dept of Employment, Oregon Farmers Market Assoc.

Geographic level of analysis: Census tract

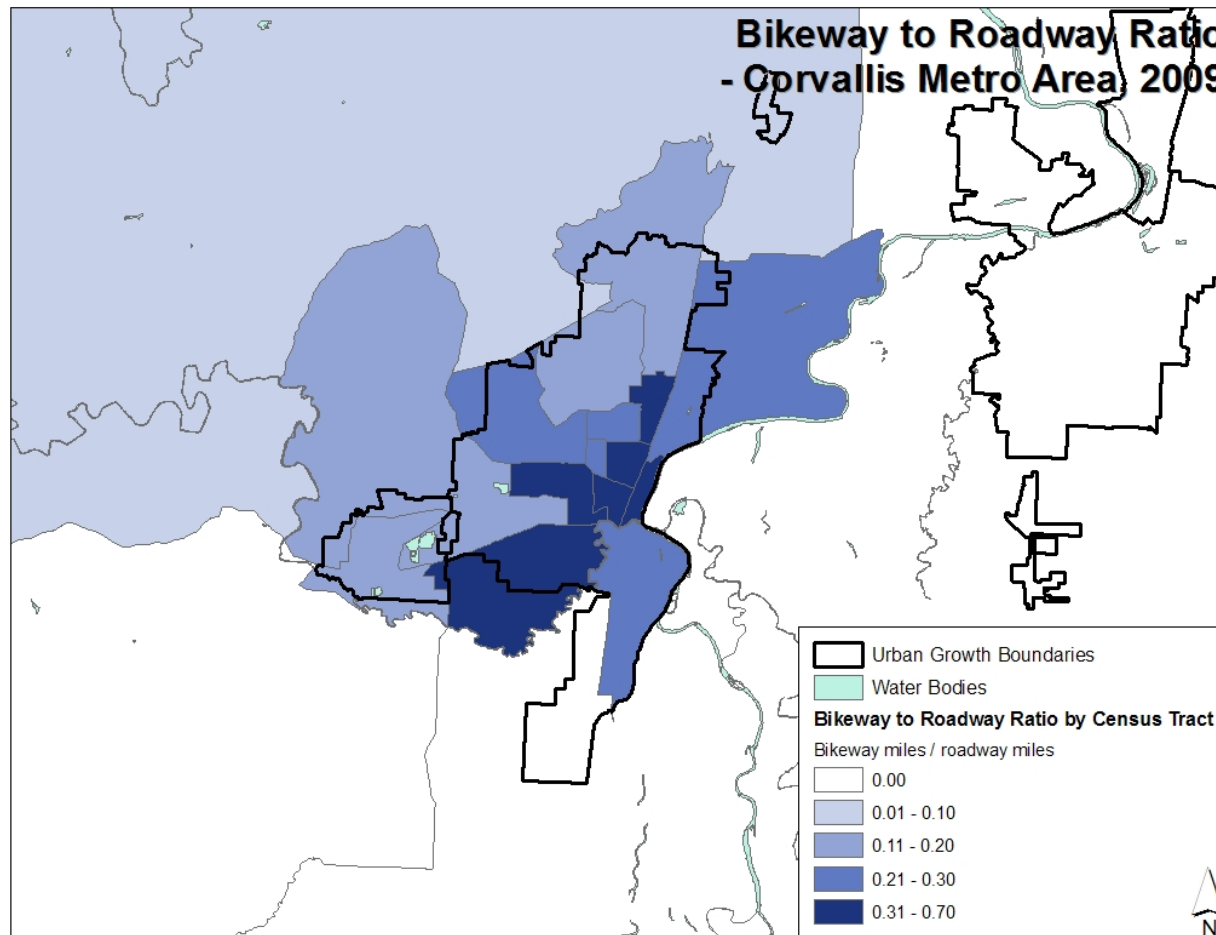


Indicator: Bikeway density

Domain: Active transportation

Measure: Ratio of miles of bikeways to miles of roadways

Data Sources: Metro, MWVCOG, RVCOG, LCOG, Benton County, Census
Geographic level of analysis: Census tract



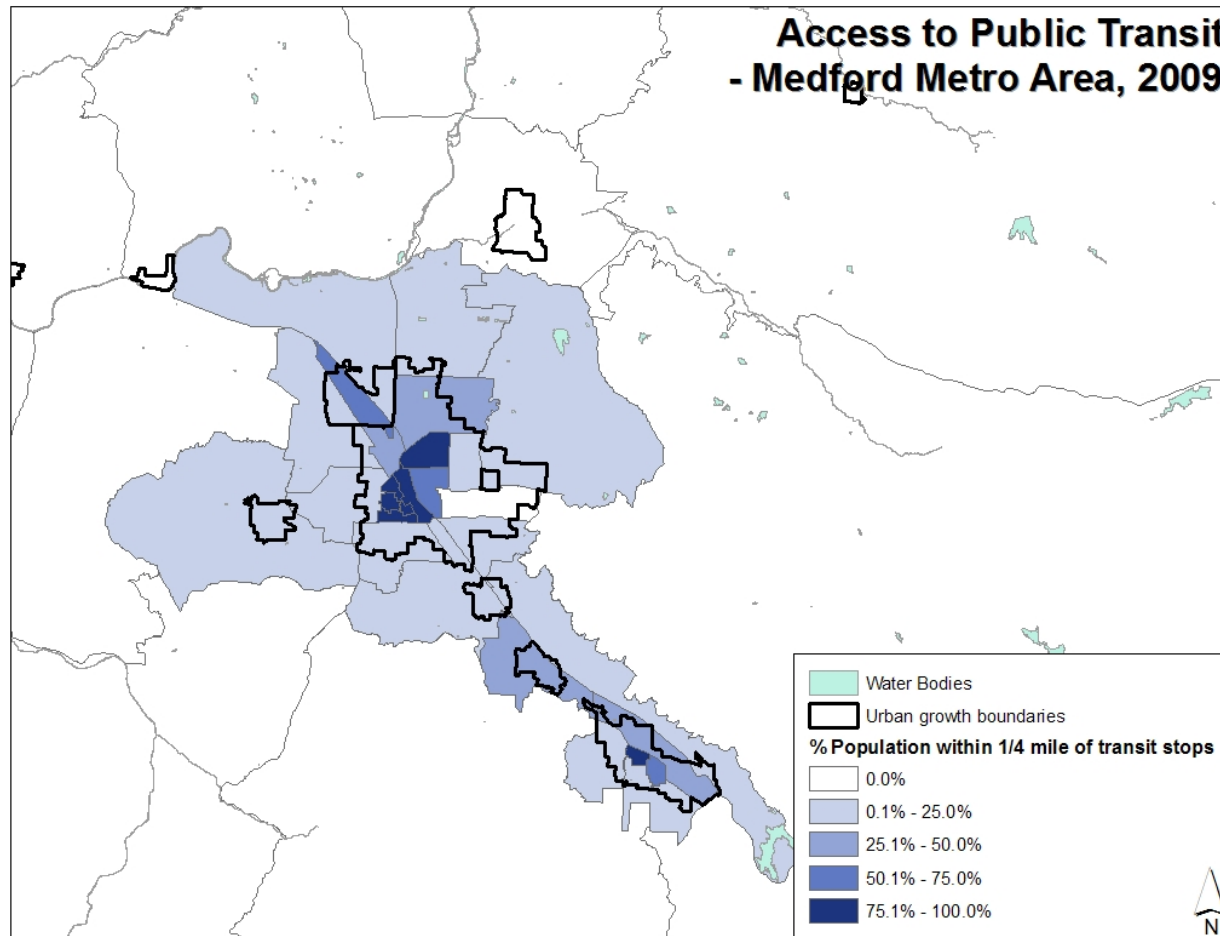
Indicator: Public transit access

Domain: Active transportation

Measure: % of population within ¼ mile of transit stops and stations

Data Sources: Metro, MWVCOG, LCOG, Counties, Bend, Census

Geographic level of analysis: Census tract



Indicators in Development

Indicator: Access to recreation facilities

Domain: Physical activity

Measure: % of population within ¼ mile of recreation facilities

Data Sources: Unknown, Local GIS offices?, Census

Geographic level of analysis: Census tract

Indicator: Walkability

Domain: Active Transportation

Measure: % of population within 1/4 mile of ≥3 potential walking destinations

Data Sources: Dept of Employment NAICS data

Geographic level of analysis: Census tract

Indicator: Retail food environment index

Domain: Healthy food environment

Measure: Ratio: # of fast food restaurants and convenience stores to # of full service grocery stores and farmers markets

Data Sources: Dept of Employment NAICS data

Geographic level of analysis: Census tract

Indicators in Development

Indicator: Pedestrian and bicycle traffic injuries

Domain: Crime and public safety

Measure: Rate of pedestrian and bicycle traffic injuries

Data Sources: ODOT traffic crash data, Census geography and population

Geographic level of analysis: Census tract

Indicator: Access to schools

Domain: School environment

Measure: % of students within ¼ mile of schools

Data Sources: School district pupil transportation data, Census

Geographic level of analysis: Census tract

Indicator: Liquor store density

Domain: Substance use environment

Measure: # of state operated liquor stores per 1000 population

Data Sources: Oregon Liquor Control Commission, Census geography and population

Geographic level of analysis: Census tract

Accessing Indicator Data

- Indicators will be available on EPHT website in the future:
www.oregon.gov/dhs/ph/epht
- Indicator data layers will be available as an internet map service for easier use in spatial analysis

Feedback? Questions?



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