

Oregon Population Forecast Program **Clackamas County**

Regional Forecast Meeting – September 19, 2016

Presentation by

Population Forecast Program Team

Oregon Population Forecast Program Project Team

Sheila Martin,

Population Research Center Director

Jason Jurjevich,

Population Research Center Assistant Director

Risa S. Proehl,

Population Estimates and Population Forecast Programs Manager

Kevin Rancik,

GIS and Research Analyst

Charles Rynerson,

Research Associate

Nick Chun,

Research Analyst

Randy Morris,

GIS Analyst

Julia Michel,

Graduate Research Assistant

Agenda

- Population Research Center (PRC)
- Forecast Program overview
 - Forecast regions
 - Schedule
 - Deliverables
 - Forecasting methods and data sources
 - Process for local input
- Demographic and economic trends
- Discussion

PRC Research areas:

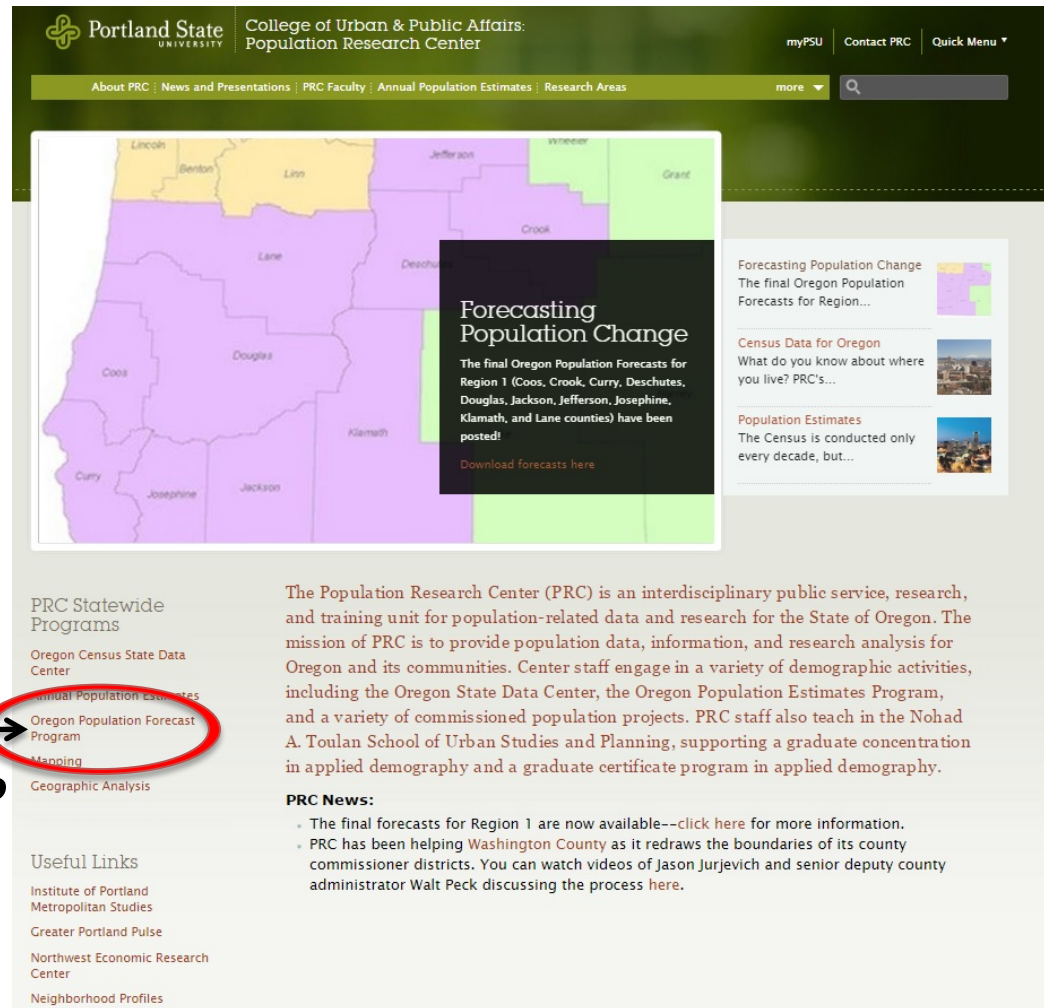
- Oregon Census State Data Center (SDC)
- Demographic Research and Advisory Services
- Demography Instruction
- Oregon Population Estimates Program
- **Oregon Population Forecast Program (OPFP)**

Forecast Program Overview

PRC Website:

<http://www.pdx.edu/prc>

Click here for  more information on OPFP



The screenshot shows the website of the Portland State University Population Research Center. The header includes the university logo, the center's name, and navigation links like 'myPSU', 'Contact PRC', and 'Quick Menu'. A main banner features a map of Oregon counties with a text box titled 'Forecasting Population Change' that states: 'The final Oregon Population Forecasts for Region 1 (Coos, Crook, Curry, Deschutes, Douglas, Jackson, Jefferson, Josephine, Klamath, and Lane counties) have been posted!' and includes a 'Download forecasts here' link. To the right of the map are three featured articles: 'Forecasting Population Change', 'Census Data for Oregon', and 'Population Estimates'. A sidebar on the left lists 'PRC Statewide Programs' including 'Oregon Census State Data Center', 'Annual Population Estimates', 'Oregon Population Forecast Program' (which is circled in red), 'Mapping', and 'Geographic Analysis'. Below this is a 'Useful Links' section with links to the 'Institute of Portland Metropolitan Studies', 'Greater Portland Pulse', 'Northwest Economic Research Center', and 'Neighborhood Profiles'. A main text block on the right describes the PRC's mission and lists recent news items.

PRC Statewide Programs

- Oregon Census State Data Center
- Annual Population Estimates
- Oregon Population Forecast Program**
- Mapping
- Geographic Analysis

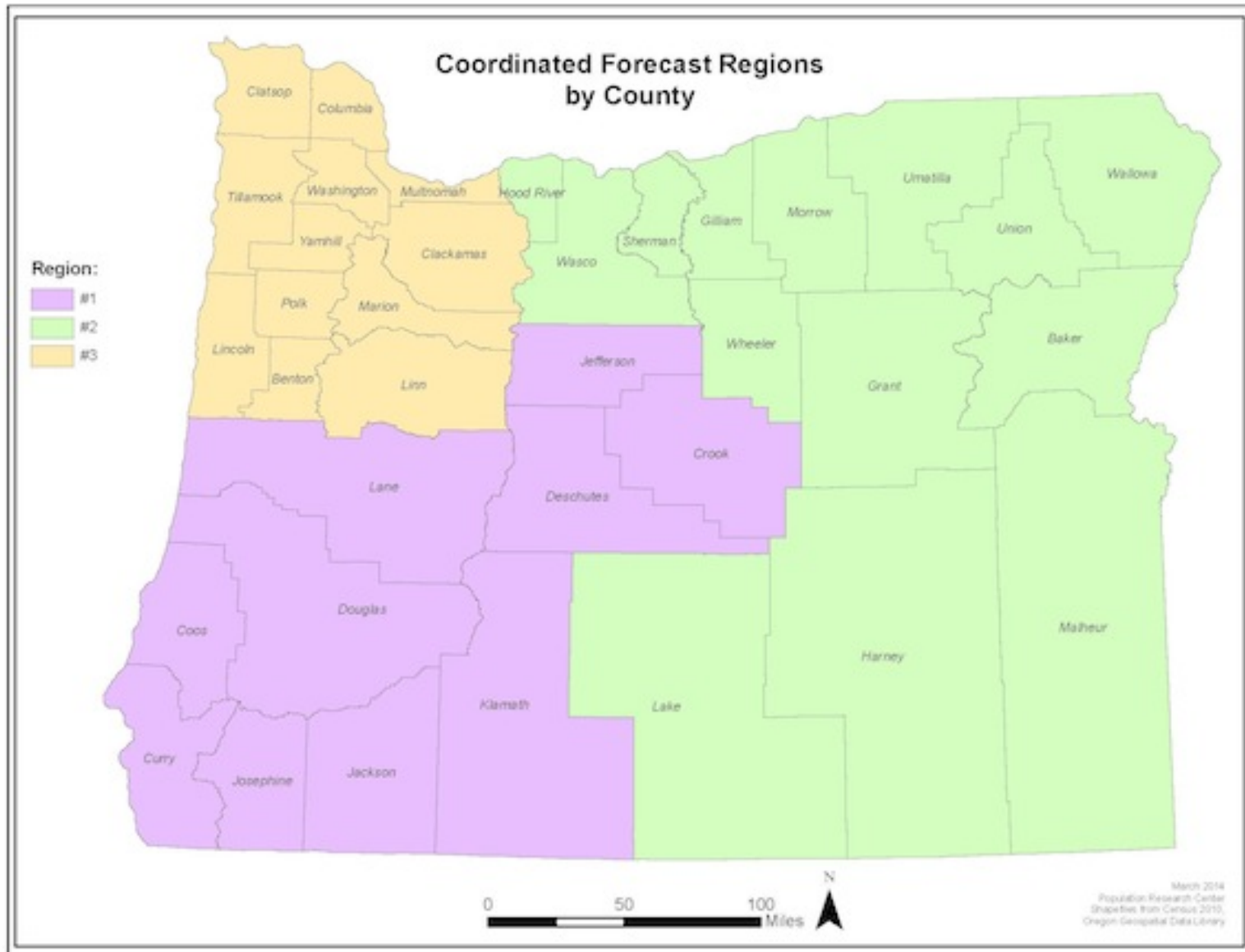
Useful Links

- Institute of Portland Metropolitan Studies
- Greater Portland Pulse
- Northwest Economic Research Center
- Neighborhood Profiles

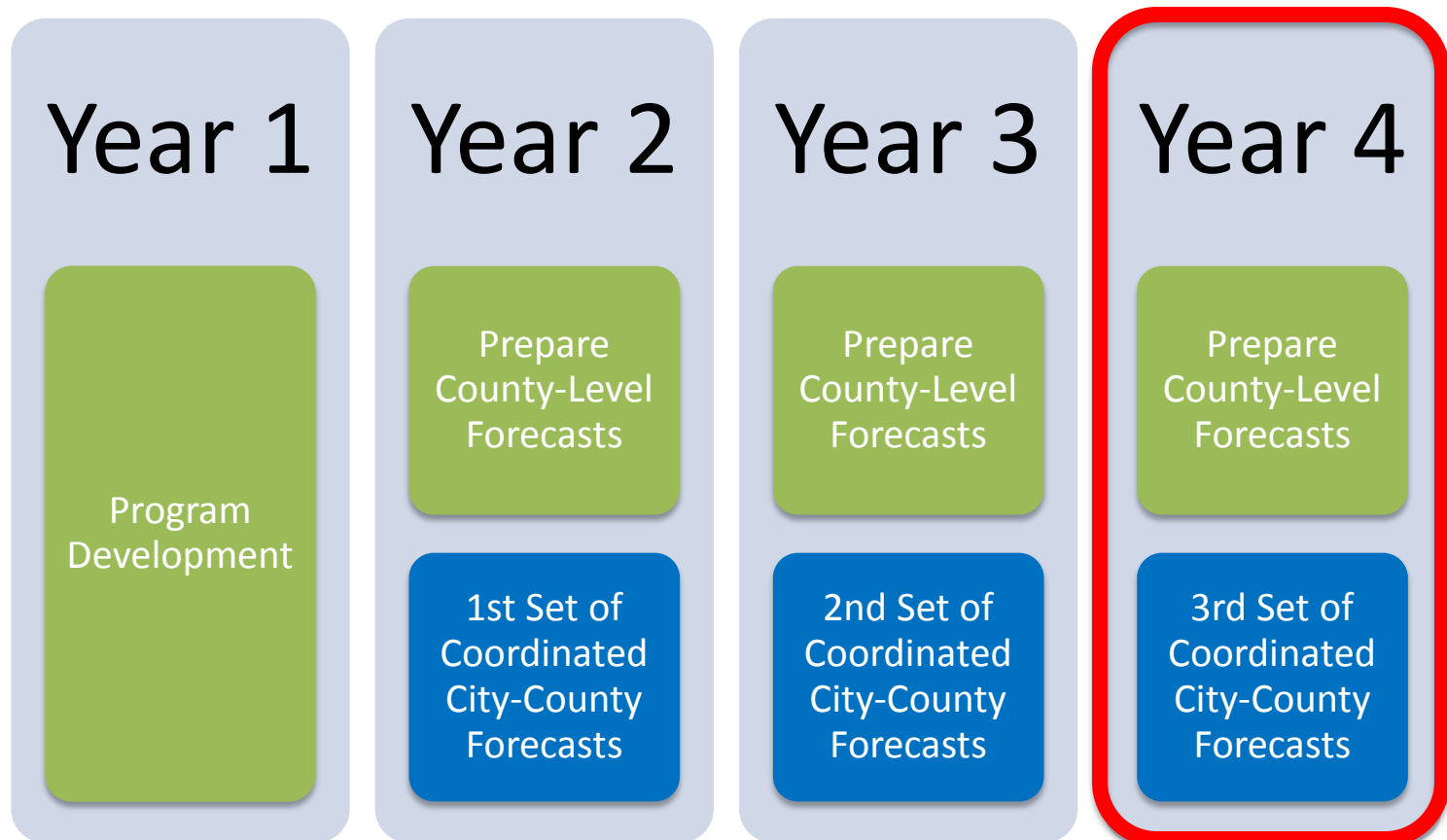
PRC News:

- The final forecasts for Region 1 are now available--[click here](#) for more information.
- PRC has been helping Washington County as it redraws the boundaries of its county commissioner districts. You can watch videos of Jason Jurjevich and senior deputy county administrator Walt Peck discussing the process [here](#).

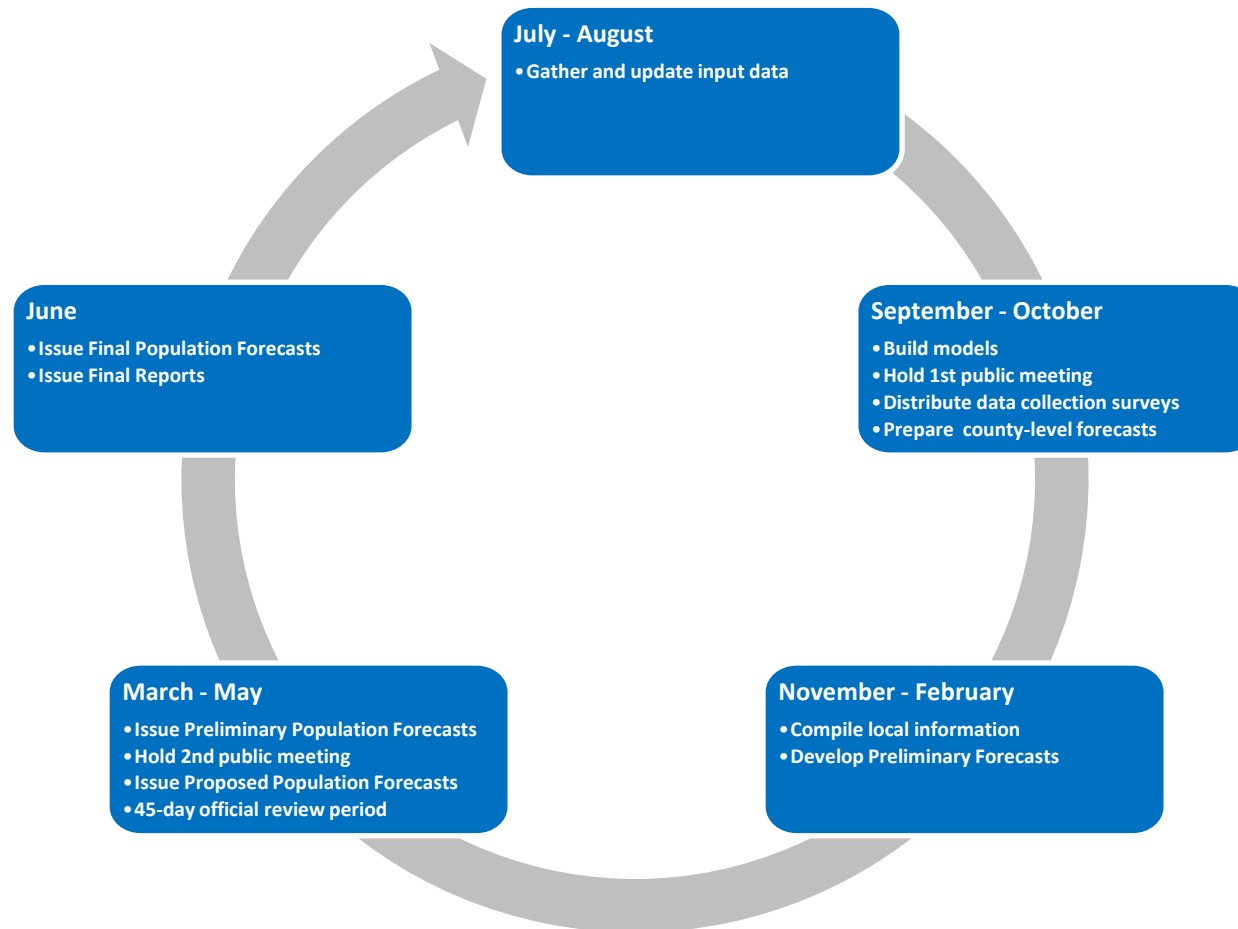
Forecast Program Overview



Forecast Program: 4-Year Schedule



Coordinated Forecast: Annual Schedule



Deliverables

- Forecasts (50 year horizon, 5-year time intervals)
 - County-level forecasts (5-year age groups)
 - Coordinated UGB-level forecasts (Total population)
- Report containing:
 - Summaries of historic and future demographic trends, assumptions about future growth, and a compilation of information collected from city and county officials and the public
 - Short technical description of methods employed to produce the forecast

Process for Population Forecasts

- Develop demographic models using historic and recent data
- Analyze past and current population trends
 - Reasons for change, continuous or short-term?
- Gather information about existing and planned future housing, and about population change
 - Housing developments
 - Construction of new group quarters facilities
 - New employers
- Make assumptions about future housing and population change
- Revise forecasts on a regular basis

Population Forecast Methods

Primary Models for this Forecast

- Cohort-Component Method
 - Based on age-sex structure
 - Survival rates – Fairly constant over time
 - Fertility – Slightly more variable than survival rates
 - Migration Rates – Subject to greater fluctuation than mortality and fertility and more unpredictable
 - Generally works better for areas with larger populations

Population Forecast Methods

Primary Models for this Forecast

- Housing Unit Method
 - Generally works better for areas with smaller populations
 - Housing unit growth
 - Housing unit type
 - Persons Per Household (PPH)
 - Occupancy Rates
 - Add Group Quarters Population

Population Forecast Methods Other Models/Methods to Consider

- For comparison and to serve as a check
- Ratio Methods
- Trend Extrapolation
- Employment Conversion Model

Population Forecast Data Sources

Primary Sources:

- U.S. Census Bureau, Decennial Censuses
- Population Research Center (PRC), Oregon Population Estimates Program
- Oregon Health Authority, Center for Health Statistics
- Counties, Assessors Office
- Incorporated cities, Community Development/Planning Department
- Oregon Geospatial Enterprise Office (GEO), Spatial Data Library

Secondary Sources:

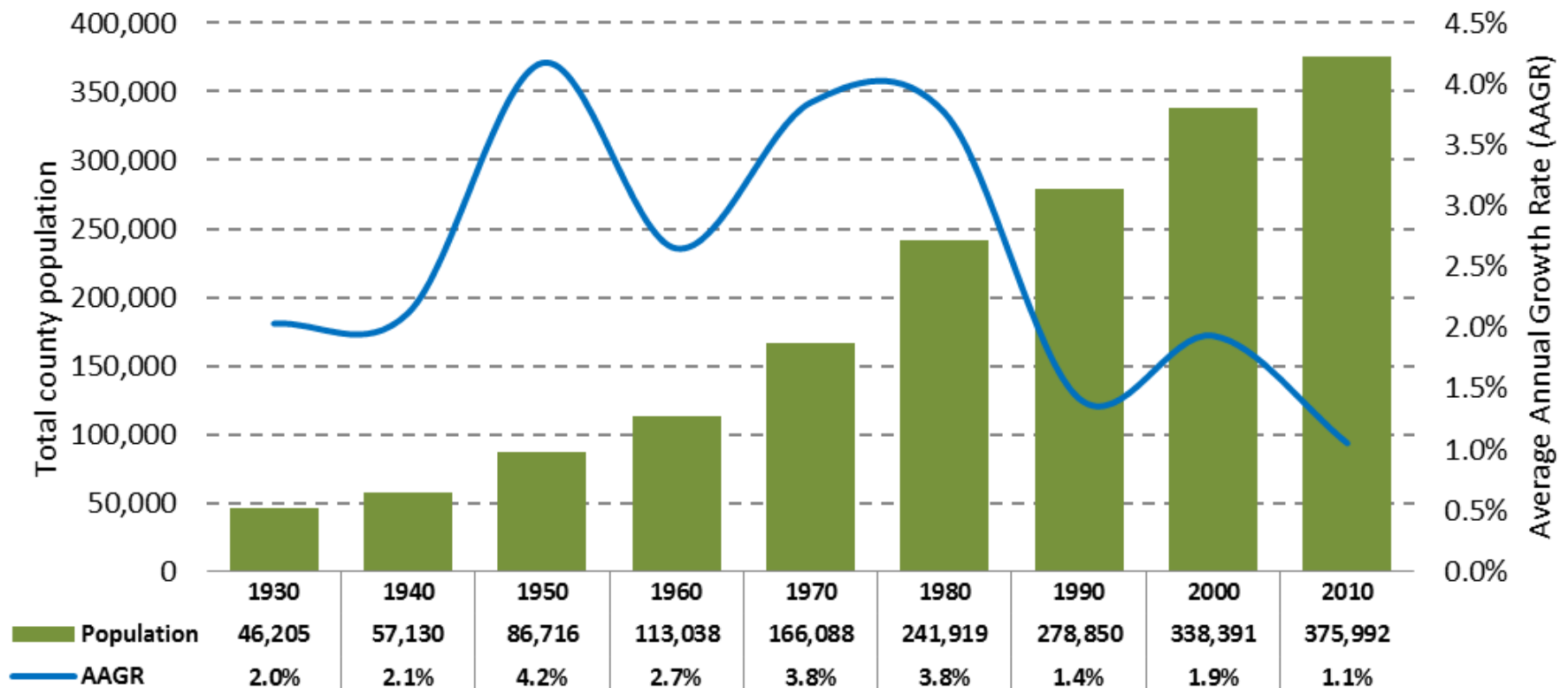
- State of Oregon, Office of Economic Analysis
- U.S. Census Bureau, American Community Survey (ACS)
- U.S., Internal Revenue Service
- State of Oregon, Department of Revenue
- Oregon Department of Education
- U.S., Centers for Medicare and Medicaid Services
- State of Oregon, Employment Department

Process for Local Input

- Hold regional meetings
 - Receive input on:
 - Historical and current demographic and economic trends
 - Plans for future growth
 - Receive feed back on Preliminary Forecasts
- Local survey
 - Collect local observations
 - Population composition; recent change
 - Planned housing development plus group quarters facilities
 - Future employers
 - Infrastructure
 - Anything that might promote or hinder population growth
 - Survey will be posted on website and emailed to each jurisdiction
 - Issued in October, 2016
- Official review period for Proposed Forecasts

Clackamas County

Clackamas County—Total Population by Ten-year Intervals (1930-2010)

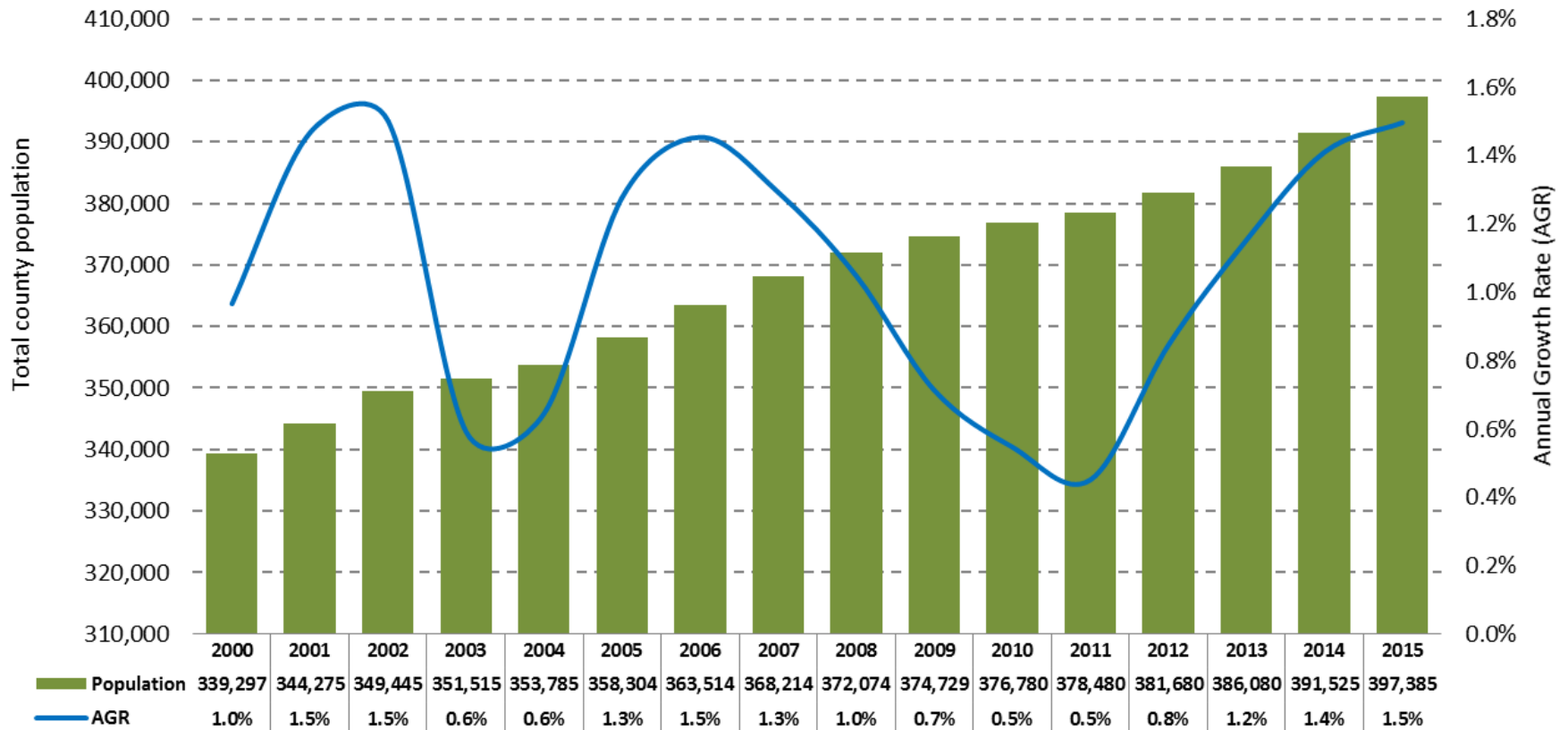


Sources: U.S. Census Bureau, 1930 to 2010 Censuses. Calculated by Population Research Center (PRC).

Note 1: Average annual growth rate is used for simplicity. In actuality the rate is an annualized rate calculated with this formula: $[LN(Year1/Year2)/10]$

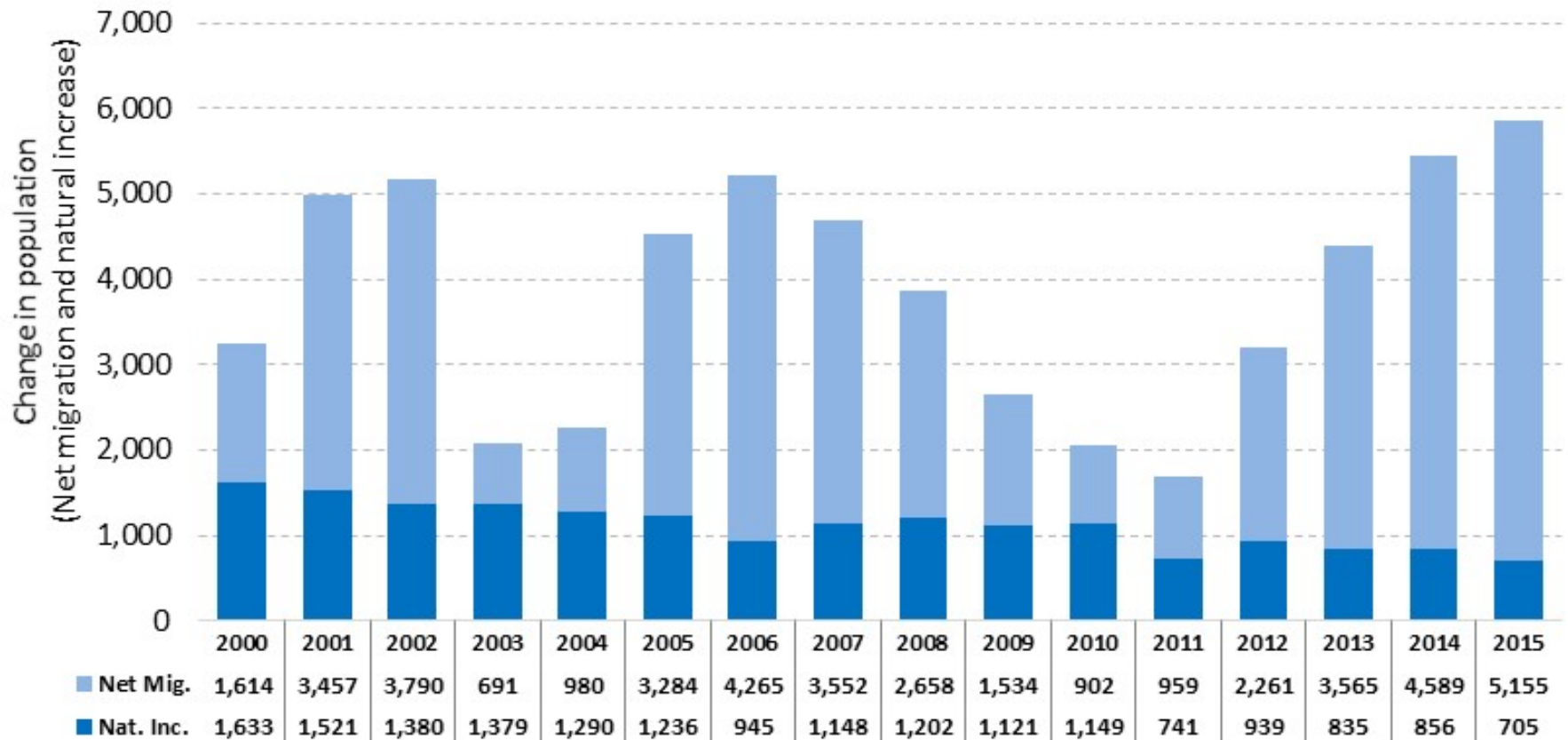
Note 2: The 2000 total population does not reflect Count Question Resolution (CQR) revisions made by the U.S. Census Bureau. Revised total population numbers are used for the "County and Incorporated City Population" table.

Clackamas County—Annual Total Population Trend (2000-2015)



Sources: Population Research Center (PRC), July 1st Annual Estimates 2000 to 2015.

Clackamas County—Components of Population Change (2000-2015)



Sources: Population Research Center, July 1st Annual Estimates 2000-2015. Oregon Health Authority, Center for Health Statistics. Calculated by Population Research Center (PRC).

Clackamas County and Incorporated Cities—Population and Average Annual Growth Rate (AAGR) (2000-2010 and 2010-2015)

	2000	2010	2015	AAGR (2000-2010)	AAGR (2010-2015)	Share of County 2000	Share of County 2010	Share of County 2015
<i>Clackamas County</i>	338,391	375,992	397,385	1.1%	1.1%	100.0%	100.0%	100.0%
Barlow	140	135	135	-0.4%	0.0%	0.0%	0.0%	0.0%
Canby	12,790	15,829	16,010	2.1%	0.2%	3.8%	4.2%	4.0%
Estacada	2,371	2,695	3,085	1.3%	2.7%	0.7%	0.7%	0.8%
Molalla	5,647	8,108	8,940	3.6%	2.0%	1.7%	2.2%	2.2%
Sandy	5,385	9,570	10,395	5.8%	1.7%	1.6%	2.5%	2.6%
Metro Cities	135,770	169,064	179,545	2.2%	1.2%	40.1%	45.0%	45.2%
Unincorporated	176,288	170,591	179,275	-0.3%	1.0%	52.1%	45.4%	45.1%

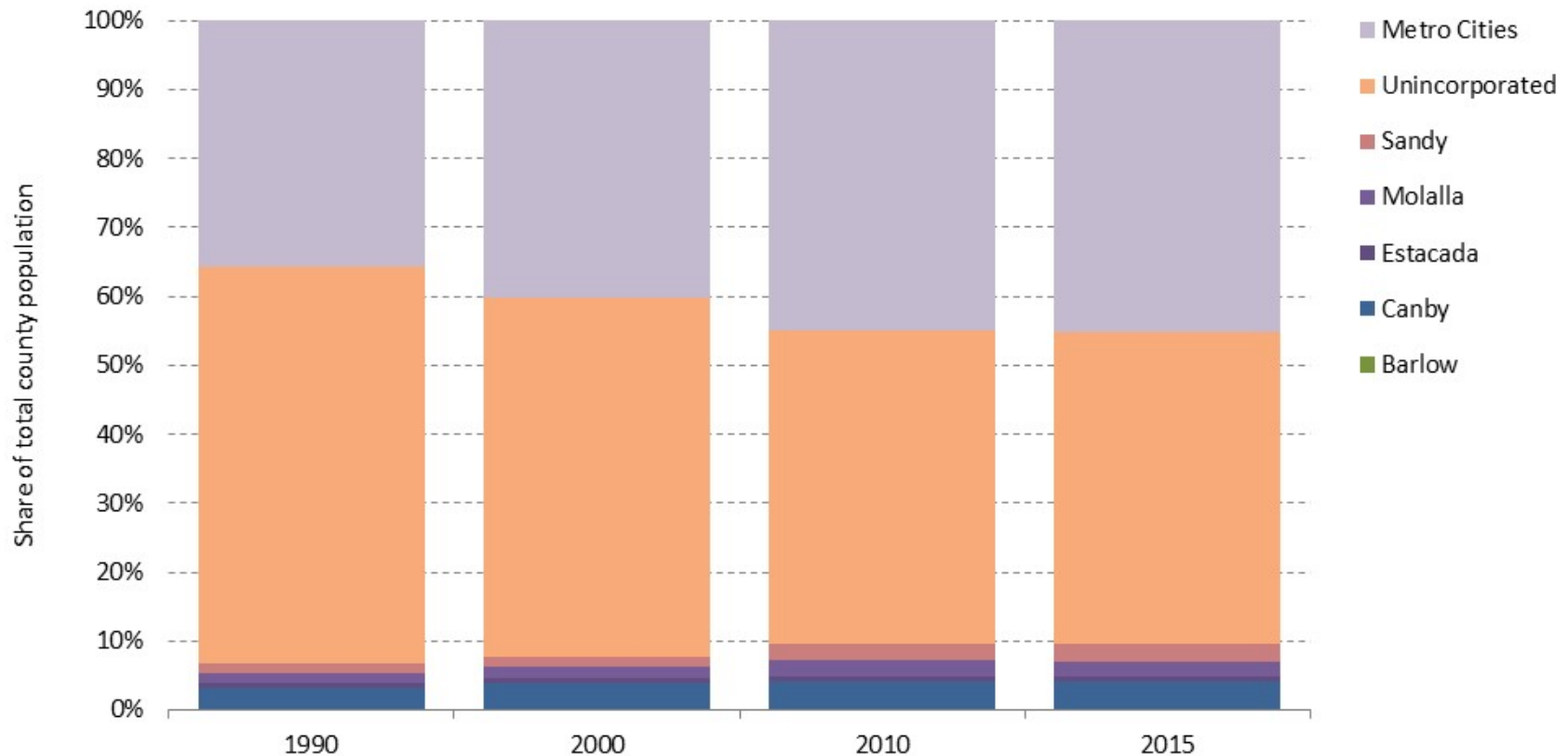
Sources: U.S. Census Bureau, April 1, 2000 and 2010 Censuses. Population Research Center, July 1, 2015 Annual Intercensal Estimate. Calculated by Population Research Center (PRC).

Note: The 2000 total population reflects Count Question Resolution (CQR) revisions made by the U.S. Census Bureau.

Note: Metro Cities are not included in PRC's population forecast.

Note: Parts of Clackamas' unincorporated area is within the Metro boundary.

Clackamas County—City Share of Population

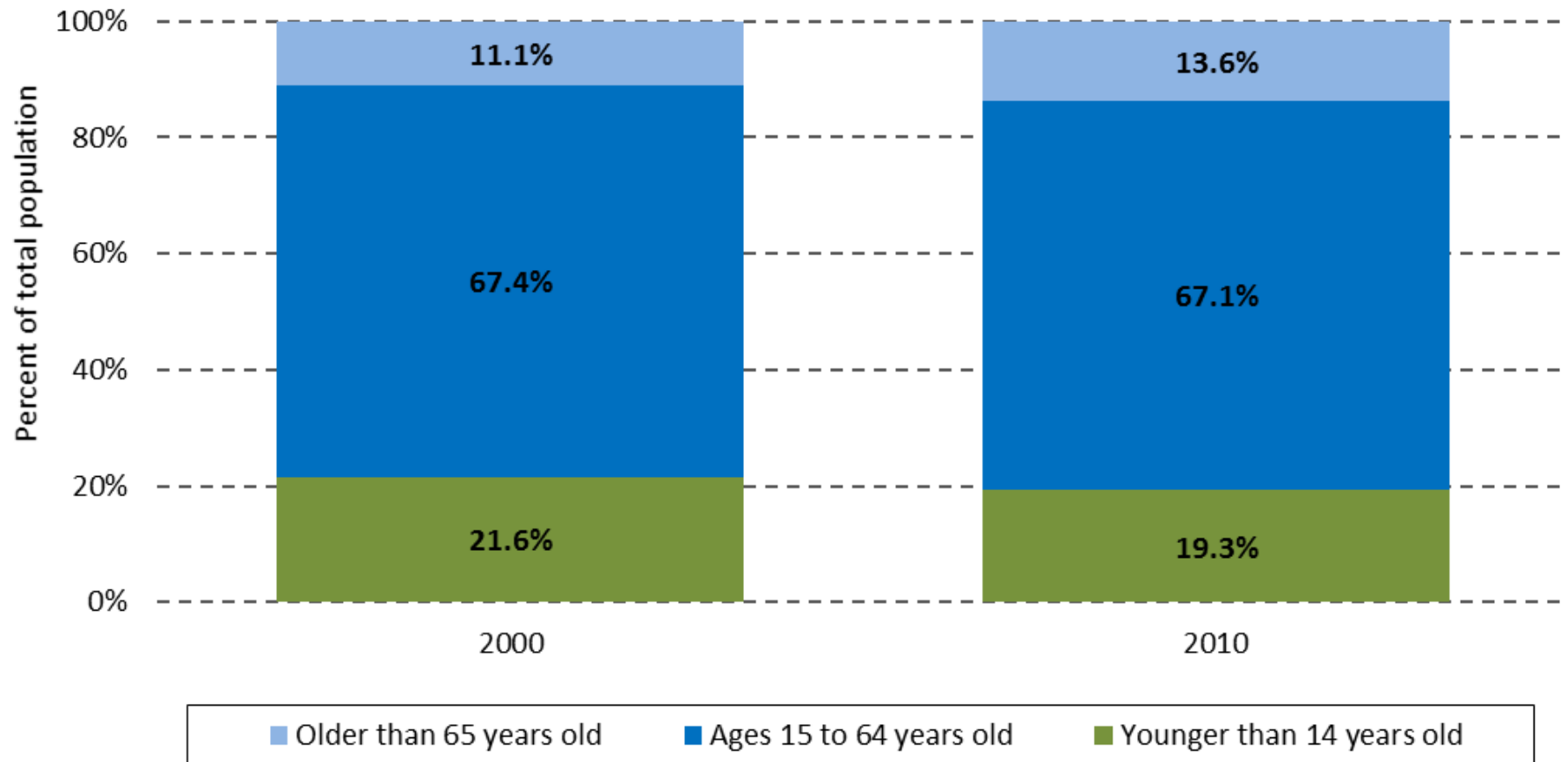


Sources: U.S. Census Bureau, April 1, 1990, 2000, and 2010 Decennial Censuses. Population Research Center, July 1, 2015 Annual Certified Population Estimate. Calculated by Population Research Center (PRC).

Note: Metro Cities are not included in PRC's population forecast.

Note: Parts of Clackamas' unincorporated area is within the Metro boundary.

Clackamas County—Age Structure of the Population (2000 and 2010)



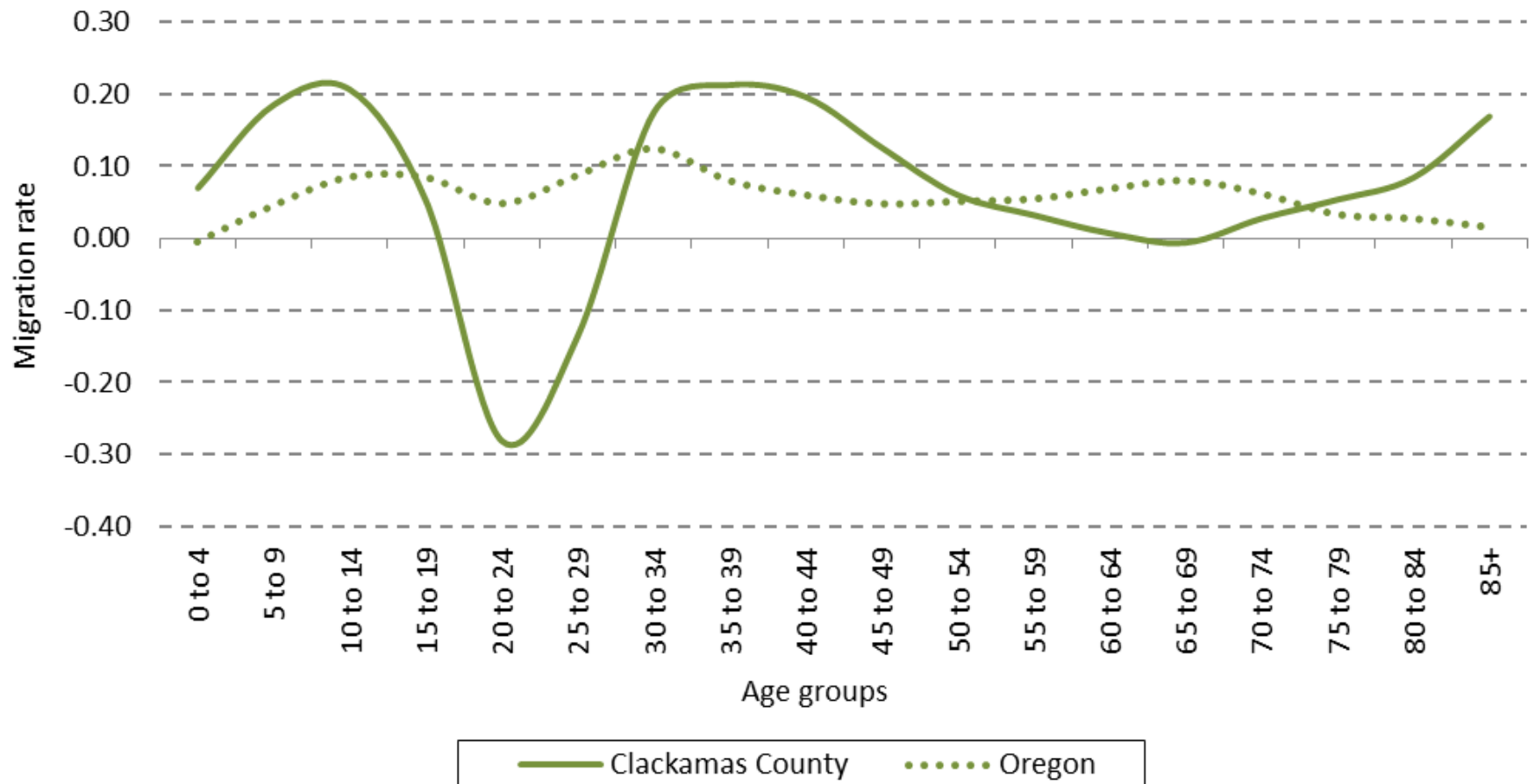
Sources: U.S. Census Bureau, 2000 and 2010 Censuses. Calculated by Population Research Center (PRC).

Clackamas County—Age Structure of the Population (2000 and 2010)



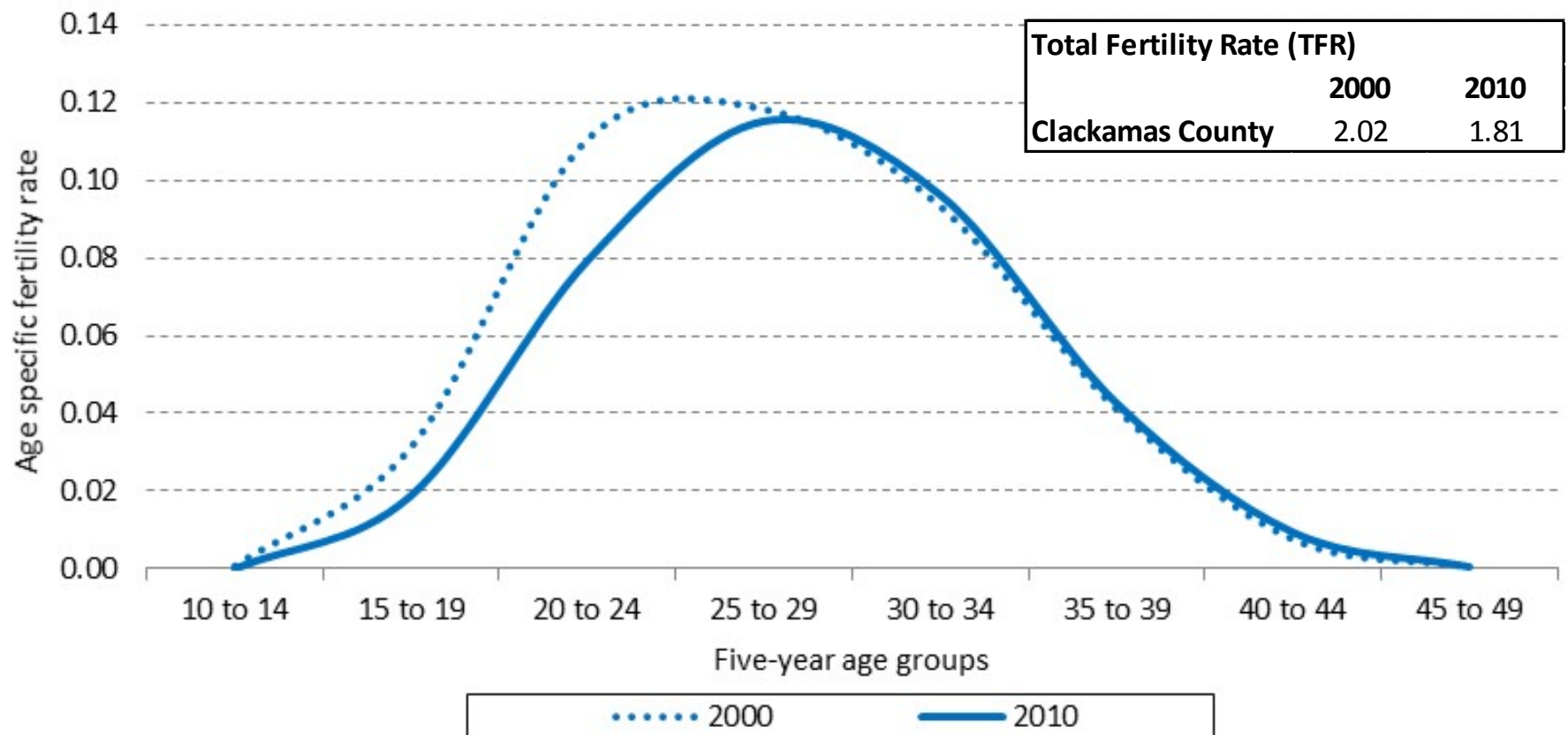
Sources: U.S. Census Bureau, 2000 and 2010 Censuses. Calculated by Population Research Center (PRC).

Clackamas County and Oregon—Age Specific Migration Rates (2000 to 2010)



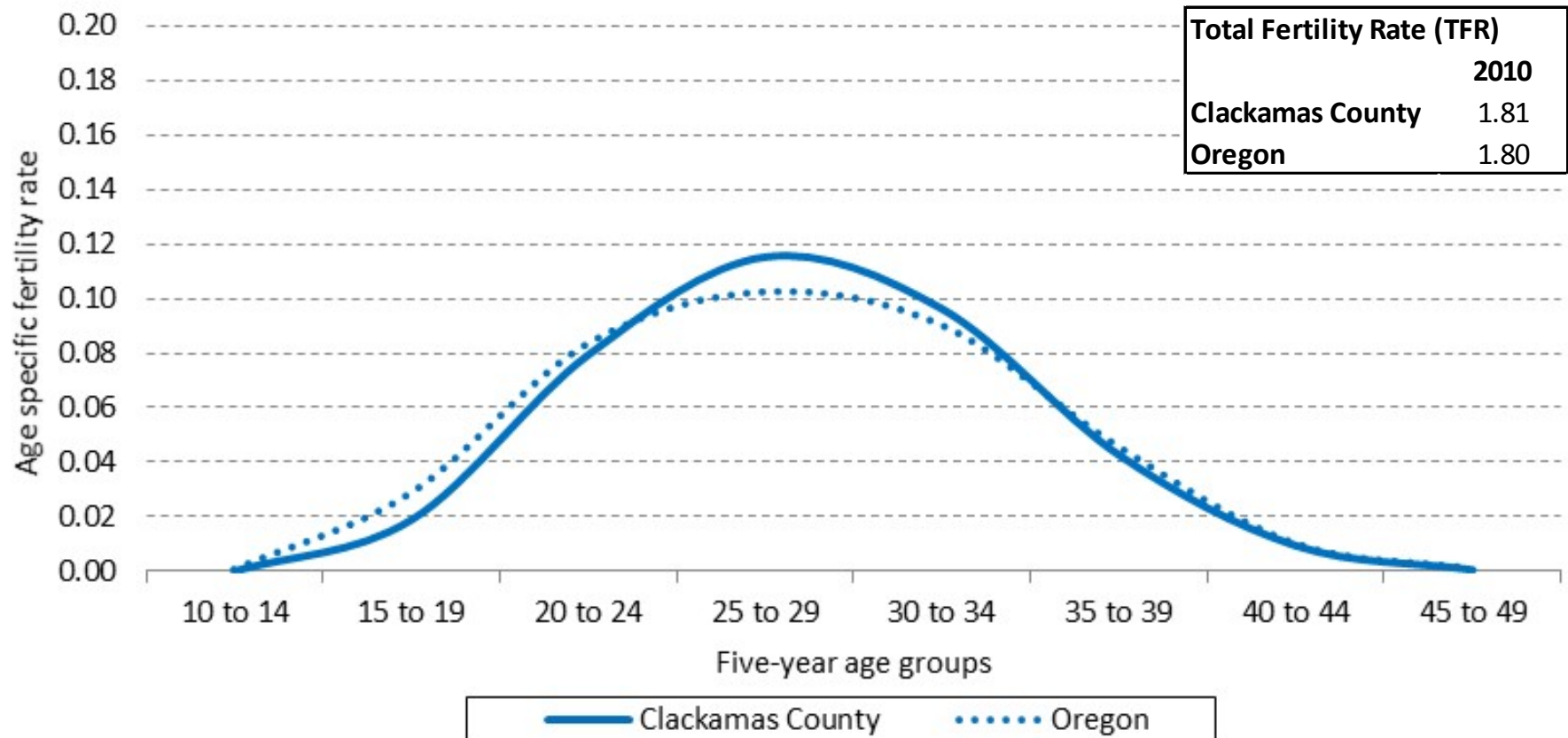
Sources: U.S. Census Bureau, 2000 and 2010 Censuses. Calculated by Population Research Center (PRC).

Clackamas County—Age Specific Fertility Rates (2000 and 2010)



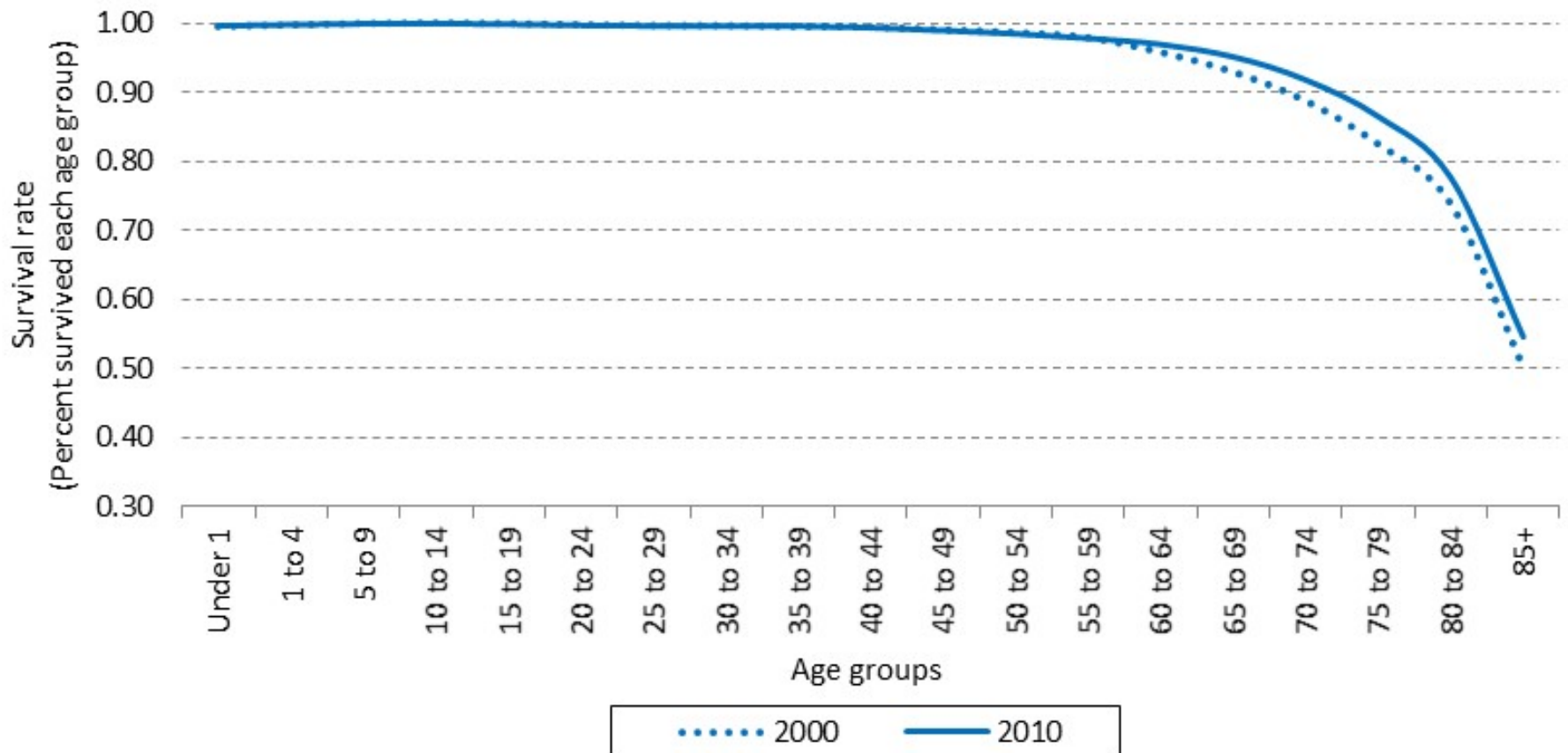
Sources: U.S. Census Bureau, 2000 and 2010 Censuses . Oregon Health Authority, Center for Health Statistics. Calculated by Population Research Center (PRC).

Clackamas County and Oregon—Age Specific Fertility Rates (2010)



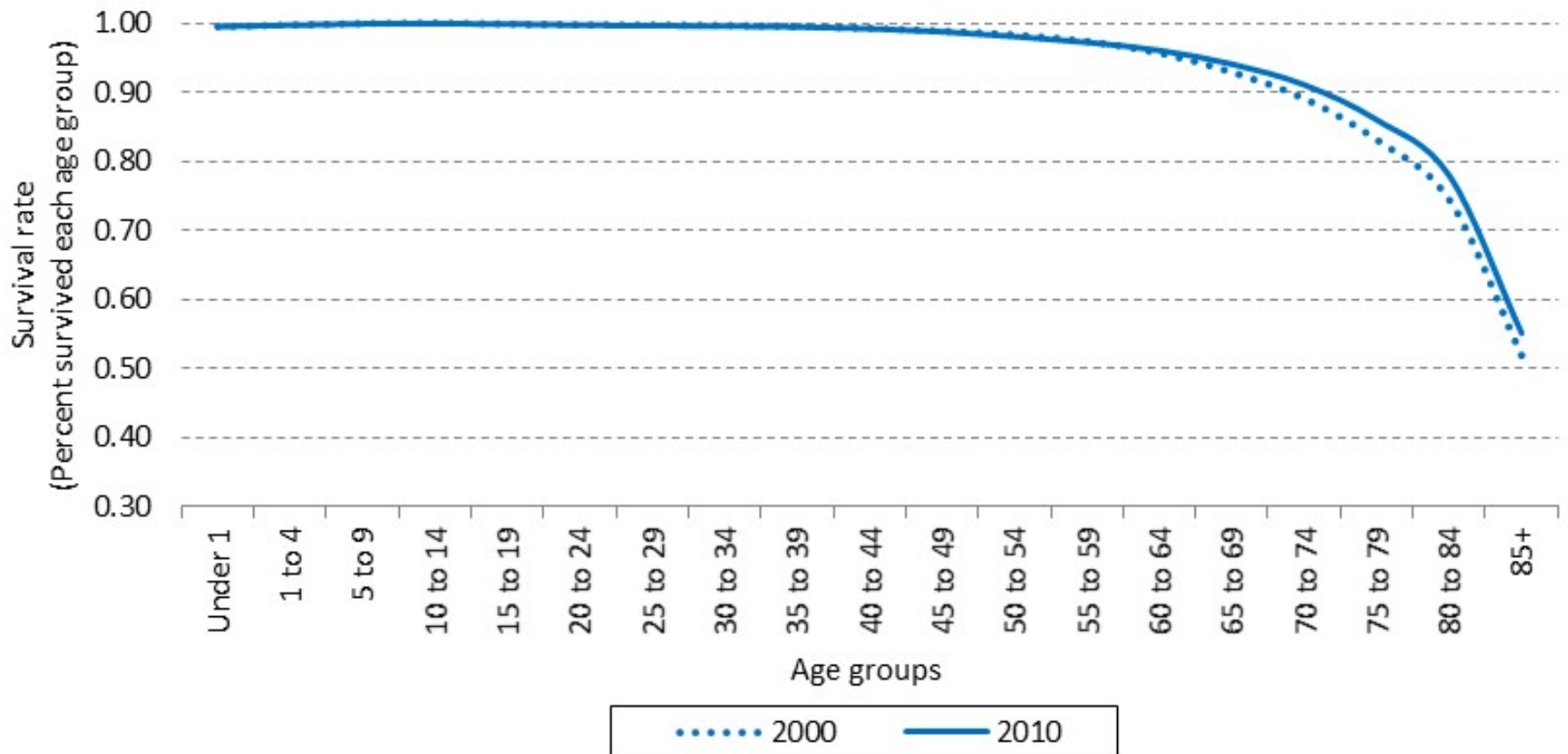
Sources: U.S. Census Bureau, 2010 Census. Oregon Health Authority, Center for Health Statistics. Calculated by Population Research Center (PRC).

Clackamas County—Age Specific Survival Rates (2000 to 2010)



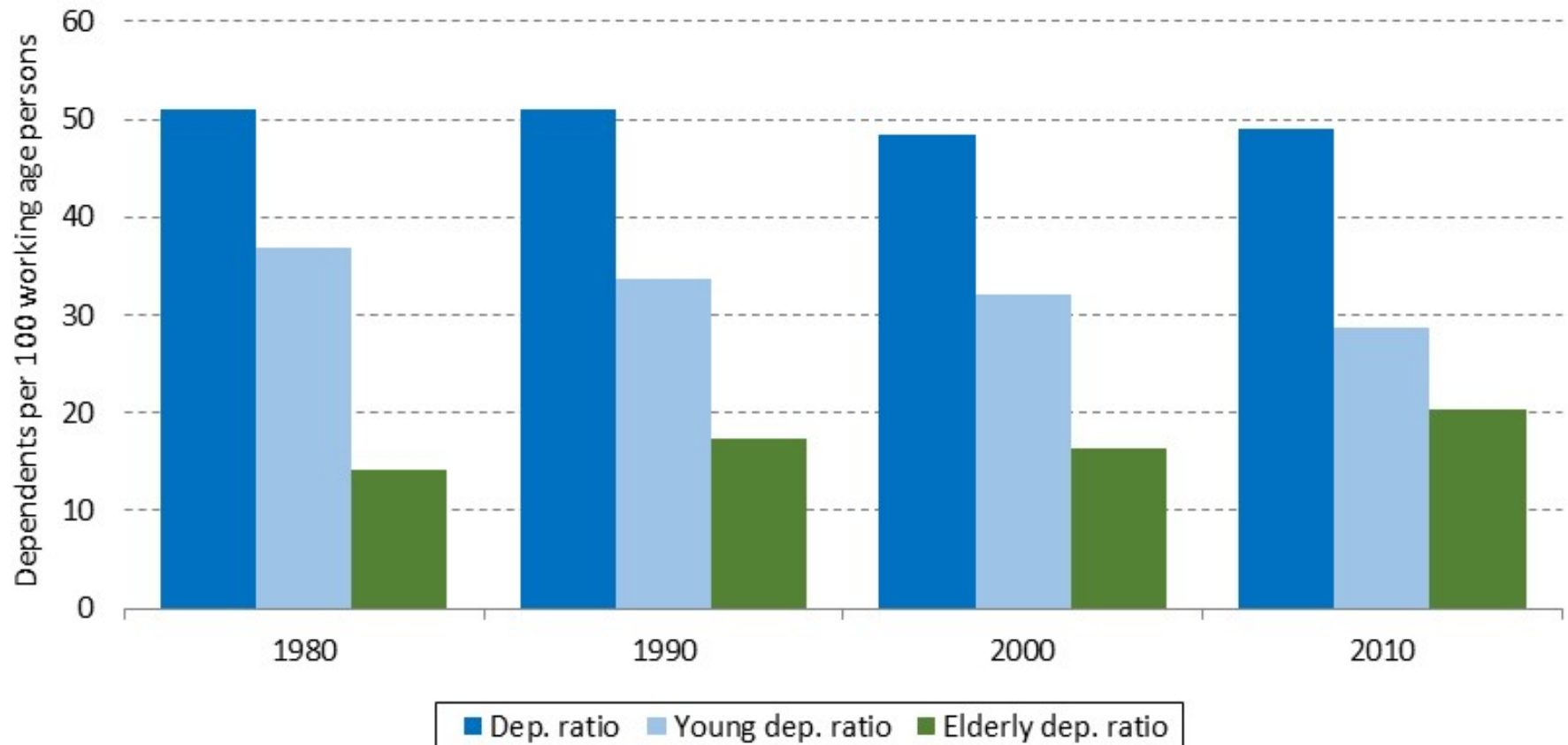
Sources: U.S. Census Bureau, 2000 and 2010 Censuses. Calculated by Population Research Center (PRC).

Oregon—Age Specific Survival Rates (2000 to 2010)



Sources: U.S. Census Bureau, 2000 and 2010 Censuses. Calculated by Population Research Center (PRC).

Clackamas County—Dependency Ratio



Sources: U.S. Census Bureau, 1980, 1990, 2000, and 2010 Censuses. Calculated by Population Research Center (PRC).

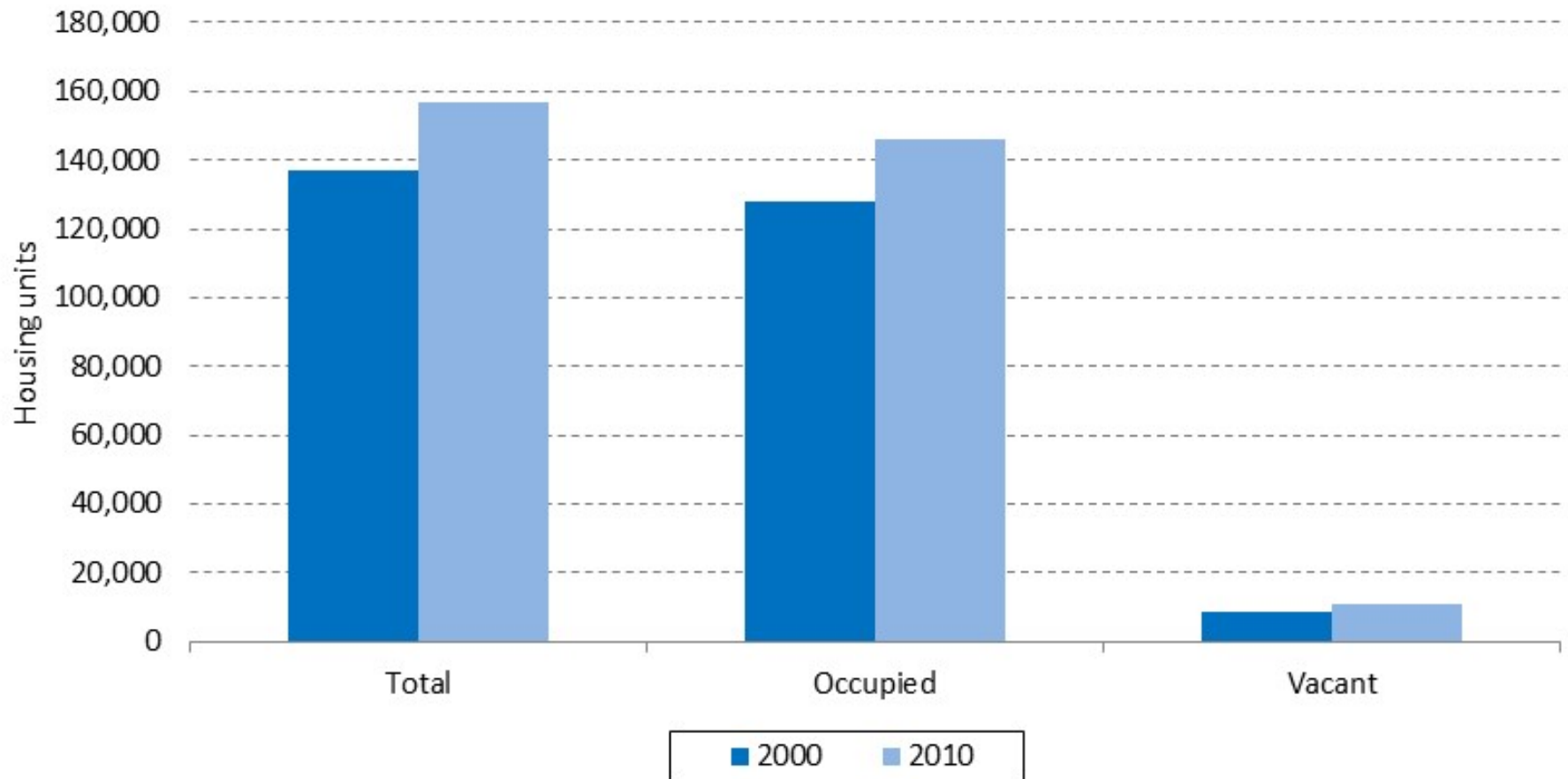
Note: Dependency Ratio = $\frac{[(\text{Population Age 0-14}) + (\text{Population Age 65 or older})]}{(\text{Population Age 15-64})} \times 100$

Clackamas County—Hispanic or Latino and Race (2000 and 2010)

Hispanic or Latino and Race	2000		2010		Absolute Change	Relative Change
<i>Total population</i>	338,391	100.0%	375,992	100.0%	37,601	11.1%
Hispanic or Latino	16,744	4.9%	29,138	7.7%	12,394	74.0%
Not Hispanic or Latino	321,647	95.1%	346,854	92.3%	25,207	7.8%
White alone	301,548	89.1%	317,648	84.5%	16,100	5.3%
Black or African American alone	2,056	0.6%	2,761	0.7%	705	34.3%
American Indian and Alaska Native alone	2,090	0.6%	2,340	0.6%	250	12.0%
Asian alone	8,216	2.4%	13,575	3.6%	5,359	65.2%
Native Hawaiian and Other Pacific Islander alone	521	0.2%	815	0.2%	294	56.4%
Some Other Race alone	317	0.1%	438	0.1%	121	38.2%
Two or More Races	6,899	2.0%	9,277	2.5%	2,378	34.5%

Sources: U.S. Census Bureau, 2000 and 2010 Censuses.

Clackamas County—Housing Units (2000 and 2010)



Sources: U.S. Census Bureau, 2000 and 2010 Censuses.

Clackamas and Incorporated Cities—Persons Per Household (PPH), Occupancy Rate, Percent Group Quarters, and Percent Seasonal Housing (2000 and 2010)

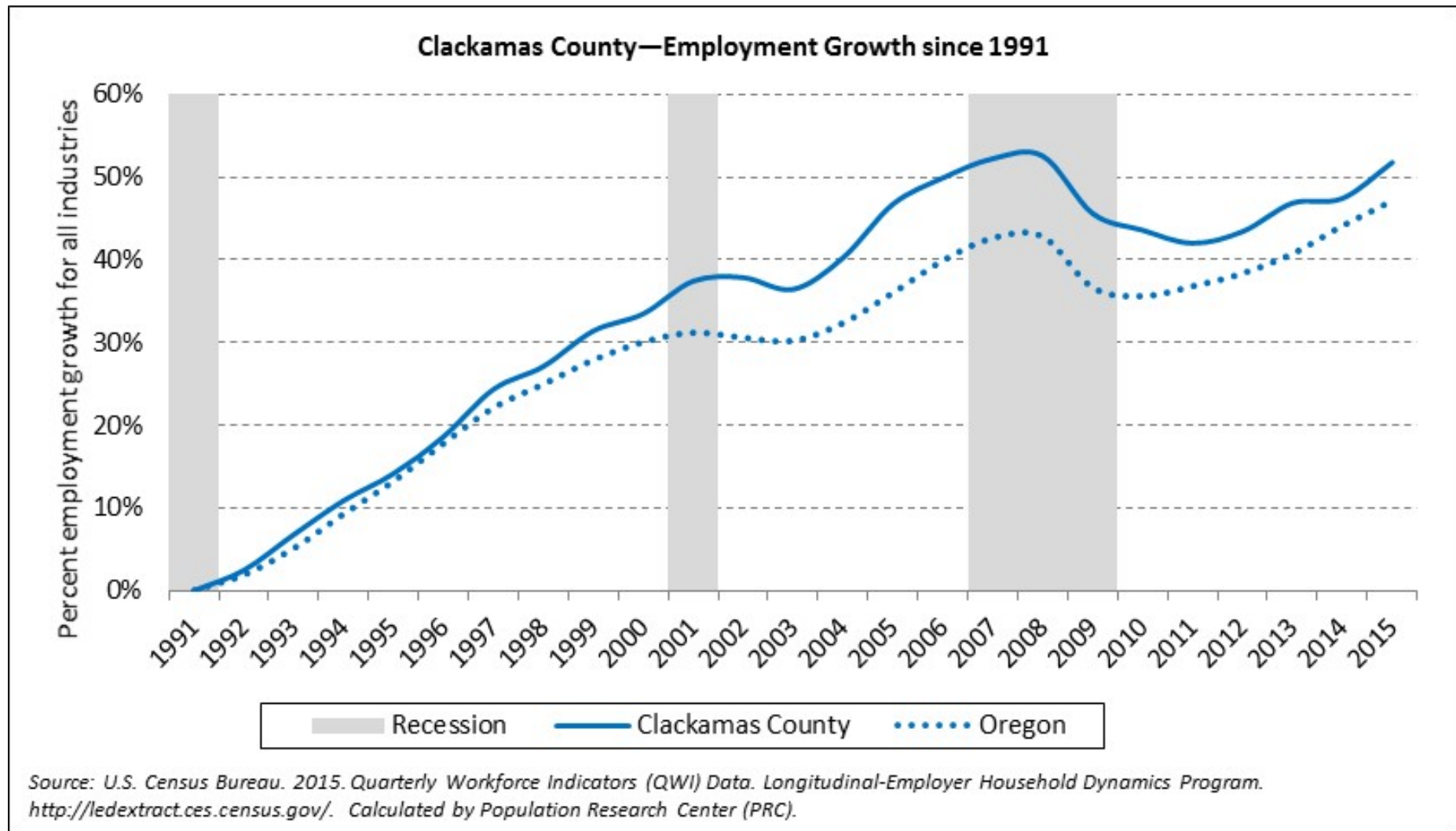
	Persons Per Household (PPH)		Occupancy Rate		Percent Seasonal Housing		Percent Group Quarters	
	2000	2010	2000	2010	2000	2010	2000	2010
<i>Clackamas County</i>	2.6	2.6	93.6%	92.9%	1.4%	1.8%	0.9%	0.7%
Barlow city	3.5	3.1	97.6%	97.8%	0.0%	0.0%	0.0%	0.0%
Canby city	2.8	2.8	94.6%	95.9%	0.2%	0.3%	0.7%	0.6%
Estacada city	2.8	2.5	95.9%	91.9%	0.2%	0.2%	0.5%	0.3%
Molalla city	2.8	2.8	96.1%	94.7%	0.2%	0.1%	2.1%	0.7%
Sandy city	2.7	2.7	94.0%	94.7%	0.0%	0.2%	0.4%	0.1%
Unincorporated	2.7	2.6	93.2%	92.2%	1.8%	2.4%	0.8%	0.8%

Sources: U.S. Census Bureau, 2000 and 2010 Censuses. Calculated by Population Research Center (PRC).

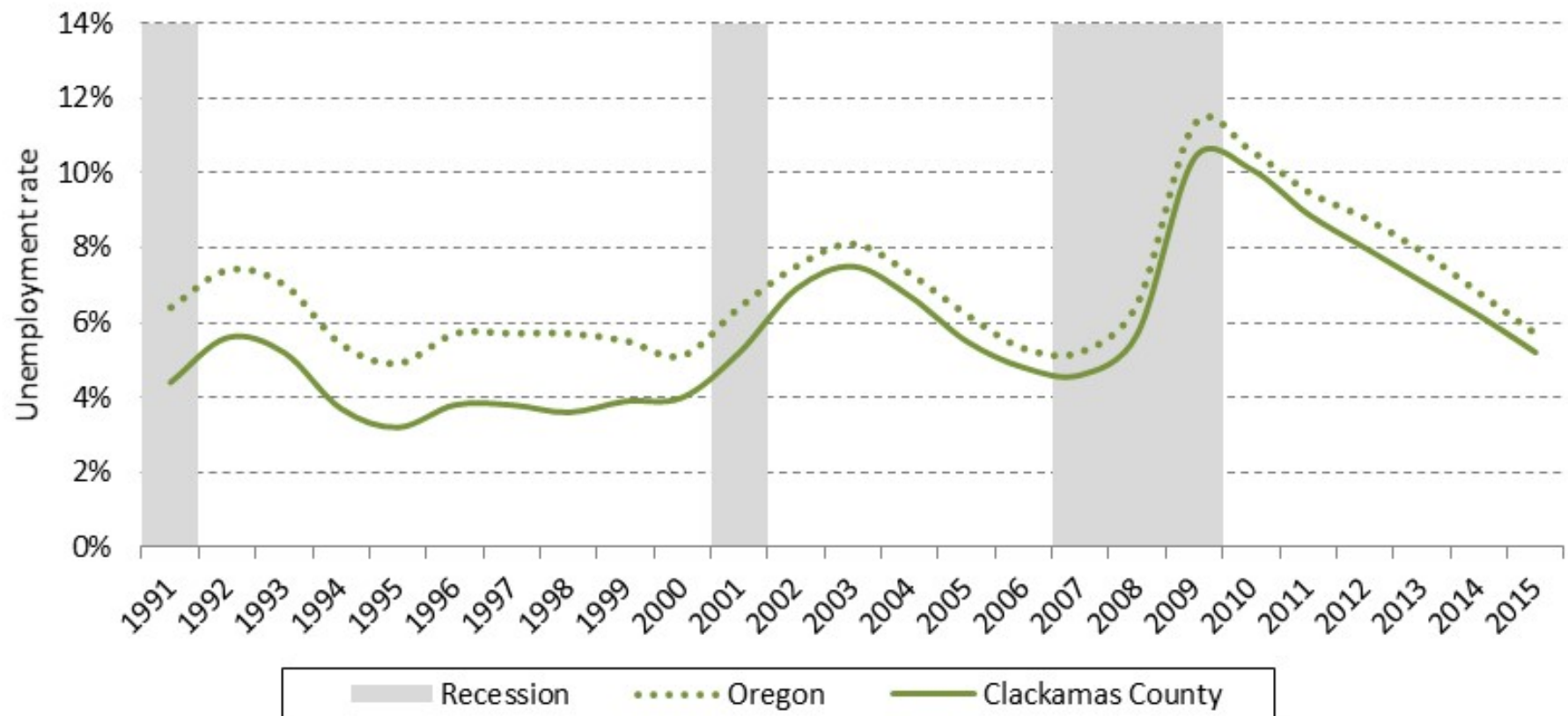
Note: Percent Seasonal Housing is the proportion of total housing units in 2000 and 2010 that are identified as vacant “for seasonal, recreational, or occasional use.”

Note: Cities within the METRO boundary are not included in the forecast.

Note: Parts of Clackamas' unincorporated area is within the Metro boundary.

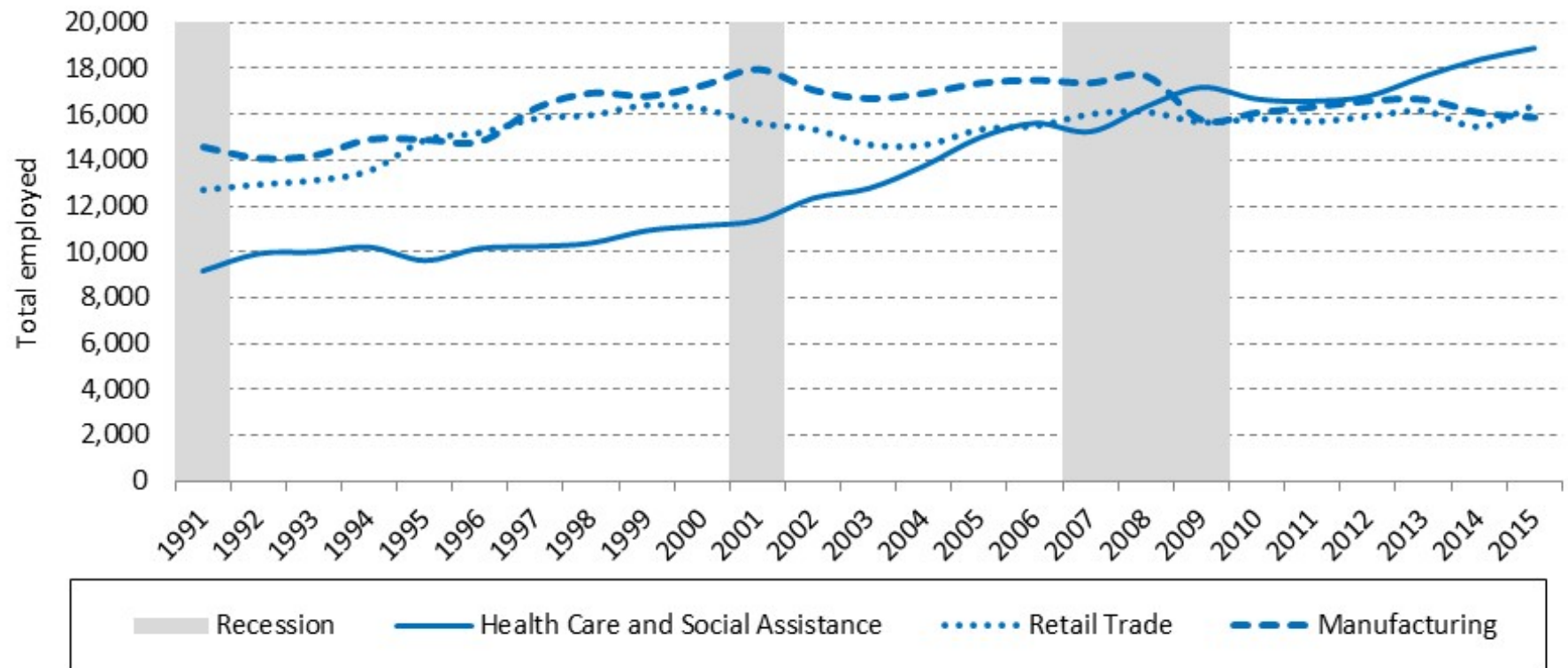


Clackamas County and Oregon—Annual Unemployment Rate (1991 to 2015)



Source: Oregon Employment Department. Local Area Unemployment Statistics (LAUS).
<https://www.qualityinfo.org/ed-uesti/?at=1&t1=4101000000~unemprate~y~2000~2015>.
Note: The rate represents the percent of the labor force seeking work but not employed.

Clackamas County—Top Three Industries by Employment in First Quarter of 2015



Source: U.S. Census Bureau. 2015. Quarterly Workforce Indicators (QWI) Data. Longitudinal-Employer Household Dynamics Program.

<http://ledextract.ces.census.gov/>. Calculated by Population Research Center (PRC).

Note: The quarterly employment data used in this chart is not seasonally adjusted.

Local Input and Additional Information

- Questions?
- Discussion time

Clackamas County UGBs

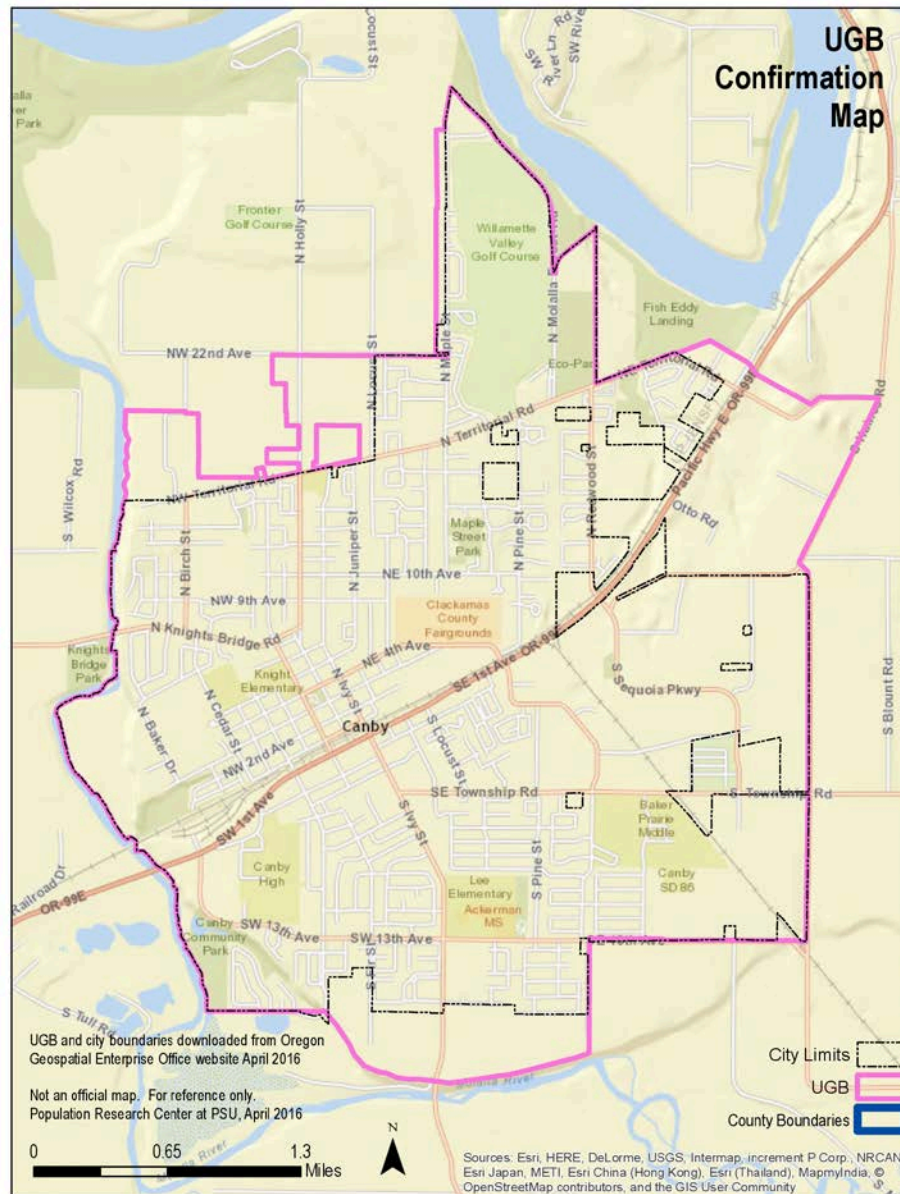
(outside METRO boundary)

BARLOW



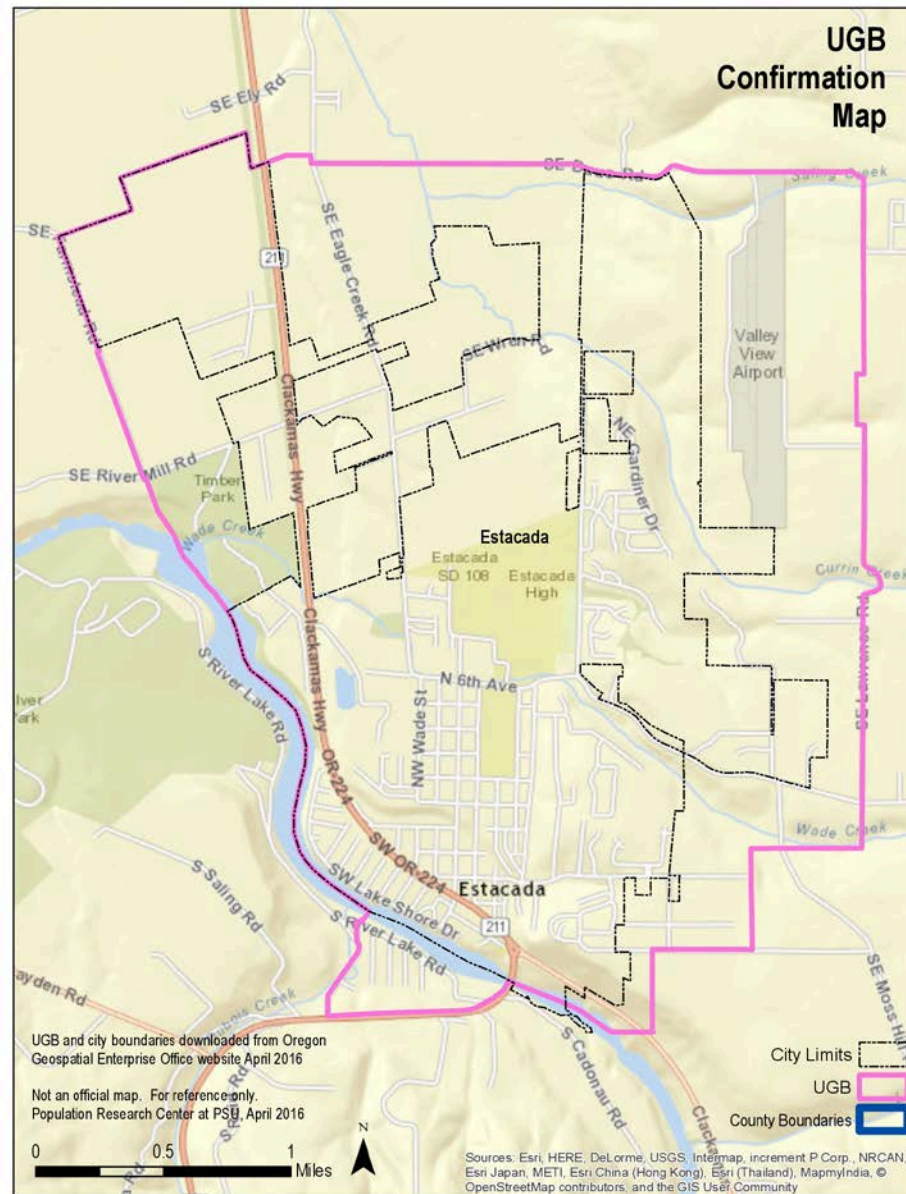
Confirmed

CANBY



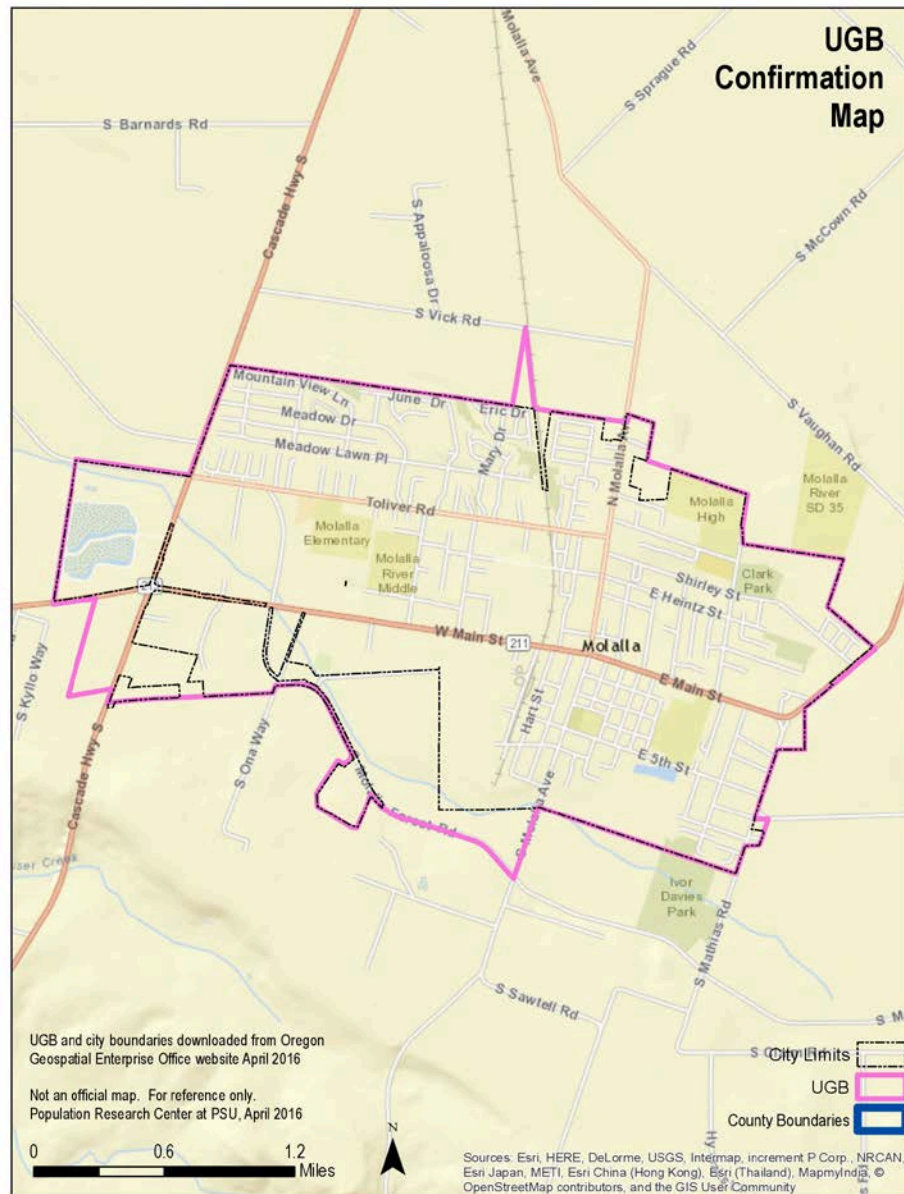
Confirmed

ESTACADA



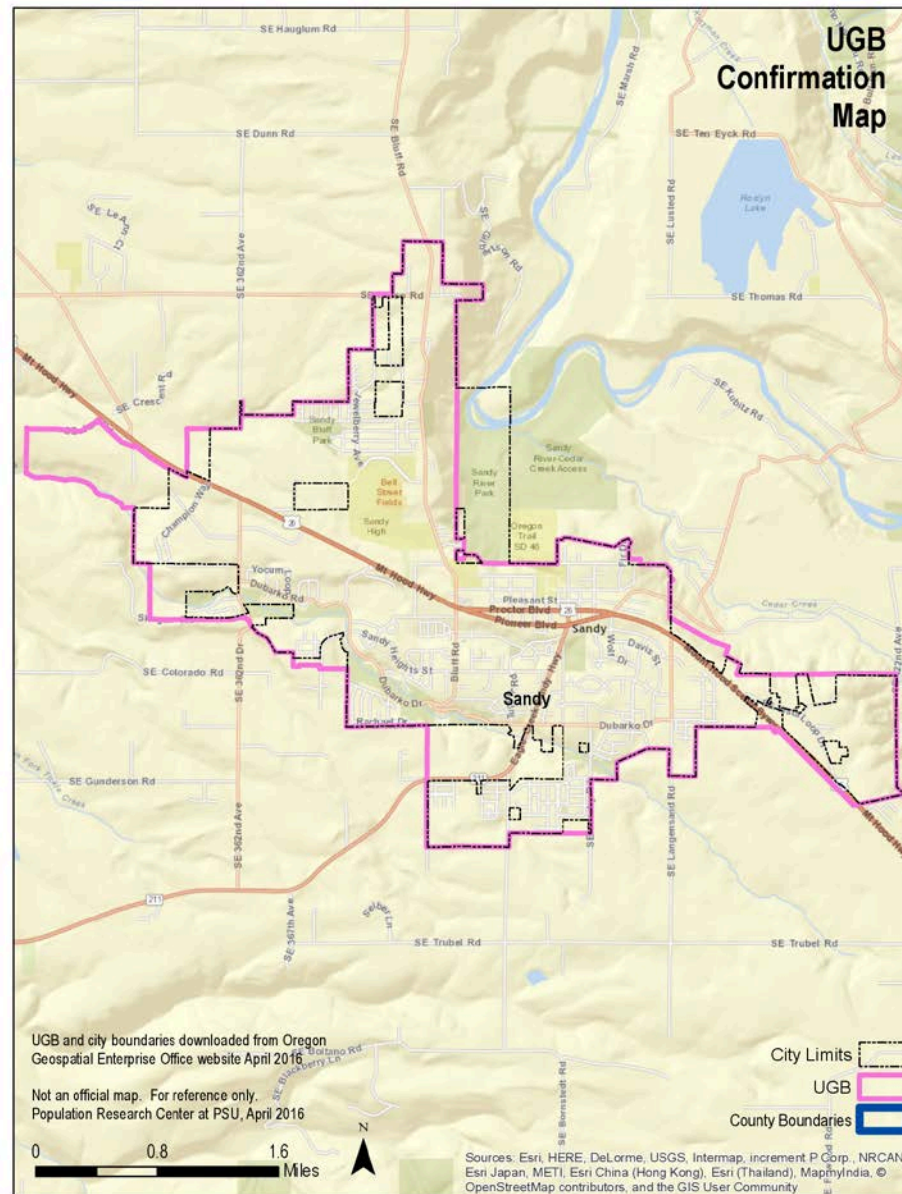
Confirmed

MOLALLA



Confirmed

SANDY



Confirmed

“Parking Lot”

Selection of Forecast Regions

- Looked at regions used by other agencies
 - Workforce
 - Small City Network
 - Etc.
- Counted counties and cities in each region
 - Balance workload
- Prioritized certain jurisdictions based on preference

Population Estimates vs. Forecasts

- Population Estimates
 - Refers to a point in time estimate of population in the present or in the past
- Population Forecasts
 - An estimation of future population based on historic and current trends, and assumptions about likely future events