Oregon
Theodore R. Kulongoski, Governor

Department of Land Conservation and Development
635 Capitol Street, Suite 150
Salem, OR 97301-2540
(503) 373-0050
Fax (503) 378-5518
www.lcd.state.or.us

NOTICE OF ADOPTED AMENDMENT

10/22/2009

TO: Subscribers to Notice of Adopted Plan or Land Use Regulation Amendments

FROM: Plan Amendment Program Specialist

SUBJECT: Klamath County Plan Amendment
DLCD File Number 014-08

The Department of Land Conservation and Development (DLCD) received the attached notice of adoption. A Copy of the adopted plan amendment is available for review at the DLCD office in Salem and the local government office.

Appeal Procedures*

DLCD ACKNOWLEDGMENT or DEADLINE TO APPEAL: Monday, November 02, 2009

This amendment was submitted to DLCD for review prior to adoption. Pursuant to ORS 197.830(2)(b) only persons who participated in the local government proceedings leading to adoption of the amendment are eligible to appeal this decision to the Land Use Board of Appeals (LUBA).

If you wish to appeal, you must file a notice of intent to appeal with the Land Use Board of Appeals (LUBA) no later than 21 days from the date the decision was mailed to you by the local government. If you have questions, check with the local government to determine the appeal deadline. Copies of the notice of intent to appeal must be served upon the local government and others who received written notice of the final decision from the local government. The notice of intent to appeal must be served and filed in the form and manner prescribed by LUBA, (OAR Chapter 661, Division 10). Please call LUBA at 503-373-1265, if you have questions about appeal procedures.

*NOTE: THE APPEAL DEADLINE IS BASED UPON THE DATE THE DECISION WAS MAILED BY LOCAL GOVERNMENT. A DECISION MAY HAVE BEEN MAILED TO YOU ON A DIFFERENT DATE THAT IT WAS MAILED TO DLCD. AS A RESULT, YOUR APPEAL DEADLINE MAY BE EARLIER THAN THE ABOVE DATE SPECIFIED.

Cc: Leslie Wilson, Klamath County
Gloria Gardiner, DLCD Urban Planning Specialist
Mark Radabaugh, DLCD Regional Representative
Jon Jinings, DLCD Regional Representative

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FORM 2

DLCD
Notice of Adoption

THIS FORM **MUST BE MAILED** TO DLCD
WITHIN 5 WORKING DAYS AFTER THE FINAL DECISION
PER ORS 197.610, OAR CHAPTER 660 - DIVISION 18

DATE STAMP
☐ In person ☐ electronic ☐ mailed
DEPT OF
OCT 15 2009
LAND CONSERVATION AND DEVELOPMENT
For DLCD Use Only

Jurisdiction: **KLAMATH**
Local file number: **CLUP 17-08**
Date of Adoption: **6/23/2009**
Date Mailed: **10/12/2009**
Was a Notice of Proposed Amendment (Form 1) mailed to DLCD? **Yes** Date: 8/1/2008

☒ Comprehensive Plan Text Amendment
☐ Comprehensive Plan Map Amendment
☐ Land Use Regulation Amendment
☐ Zoning Map Amendment
☐ New Land Use Regulation
☐ Other:

Summarize the adopted amendment. Do not use technical terms. Do not write "See Attached".

Update city/county Coordinated Population Forecast, per ORS and incorporate into County Comprehensive Plan for Goal 2, Goal 9 Economic Opportunity Analysis and Goal 14.

Does the Adoption differ from proposal? No, no explaination is necessary

Plan Map Changed from: **n/a** to: **n/a**
Zone Map Changed from: **n/a** to: **n/a**
Location: **Countywide** Acres Involved: **0**
Specify Density: Previous: **n/a** New: **n/a**
Applicable statewide planning goals:

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
☐	☒	☐	☐	☐	☐	☐	☐	☒	☐	☐	☐	☐	☒	☐	☐	☐	☐	☐

Was an Exception Adopted? ☐ YES ☒ NO
Did DLCD receive a Notice of Proposed Amendment...

45-days prior to first evidentiary hearing?	☒ **Yes**	☐ **No**
If no, do the statewide planning goals apply?	☐ **Yes**	☐ **No**
If no, did Emergency Circumstances require immediate adoption?	☐ **Yes**	☐ **No**

DLCD file No. _____

Please list all affected State or Federal Agencies, Local Governments or Special Districts:

Klamath County, City of Klamath Falls, City of Bonanza, City of Chiloquin, City of Malin, City of Merrill, ODOT, Klamath Falls County School District, all county fire & taxing districts

Local Contact: **LESLIE WILSON** Phone: **(541) 883-5121** Extension: **3079**

Address: **305 MAIN STREET** Fax Number: **541-885-3644**

City: **KLAMATH FALLS** Zip: **97601-** E-mail Address: **lwilson@co.klamath.or.us**

ADOPTION SUBMITTAL REQUIREMENTS

This form **must be mailed** to DLCD **within 5 working days after the final decision**
per ORS 197.610, OAR Chapter 660 - Division 18.

1. Send this Form and **TWO Complete Copies** (documents and maps) of the Adopted Amendment to:

   ATTENTION: PLAN AMENDMENT SPECIALIST
   DEPARTMENT OF LAND CONSERVATION AND DEVELOPMENT
   635 CAPITOL STREET NE, SUITE 150
   SALEM, OREGON 97301-2540

2. Electronic Submittals: At least **one** hard copy must be sent by mail or in person, but you may also submit an electronic copy, by either email or FTP. You may connect to this address to FTP proposals and adoptions: **webserver.lcd.state.or.us**. To obtain our Username and password for FTP, call Mara Ulloa at 503-373-0050 extension 238, or by emailing **mara.ulloa@state.or.us**.

3. Please Note: Adopted materials must be sent to DLCD not later than **FIVE (5) working days** following the date of the final decision on the amendment.

4. Submittal of this Notice of Adoption must include the text of the amendment plus adopted findings and supplementary information.

5. The deadline to appeal will not be extended if you submit this notice of adoption within five working days of the final decision. Appeals to LUBA may be filed within **TWENTY-ONE (21) days** of the date, the Notice of Adoption is sent to DLCD.

6. In addition to sending the Notice of Adoption to DLCD, you must notify persons who participated in the local hearing and requested notice of the final decision.

7. **Need More Copies?** You can now access these forms online at **http://www.lcd.state.or.us/**. Please print on **8-1/2x11 green paper only**. You may also call the DLCD Office at (503) 373-0050; or Fax your request to: (503) 378-5518; or Email your request to **mara.ulloa@state.or.us** - ATTENTION: PLAN AMENDMENT SPECIALIST.

Plan

BOARD OF COUNTY COMMISSIONERS

KLAMATH COUNTY, OREGON

COPY

IN THE MATTER OF AMENDING THE KLAMATH COUNTY COMPREHENSIVE PLAN GOAL 2 – COORDINATED POPULATION FORECAST (ORS 195.036)	)))))	**ORDINANCE 44.40.1**

WHEREAS, the Klamath County Board of Commissioners has the authority to create, amend, modify, or repeal county law, code, or plan by Ordinance; and

WHEREAS, the Klamath County Board of Commissioners desires to amend the Comprehensive Plan (Comp Plan) to meet requirements of ORS 195.036 (Area population forecast: *The coordinating body under ORS 195.025 (1) shall establish and maintain a population forecast for the entire area within its boundary for use in maintaining and updating comprehensive plans, and shall coordinate the forecast with the local governments within its boundary*); and

WHEREAS, the Klamath County Planning Director requested a legislative hearing and provided written notice of the public hearing format consistent with ORS 215.060 and 215.223; and

WHEREAS, a legislative public hearing was held on February 24, 2009; and, a Staff Report and a Population Study (Johnson & Gardner) was provided (Exhibit B); and, public testimony was considered before the Klamath County Planning Commission; and

WHEREAS, on February 24, 2009, based on testimony entered and in consideration of the whole record, the Klamath County Planning Commission recommended approval of the Planning Director's legislative request to amend Comp Plan Goal 2 Atlas and adopt Scenario #2 (Medium Growth); and, said recommendation was forwarded to the Klamath County Board of Commissioners; and

WHEREAS, the Klamath County Board of Commissioners have held said required public hearing and has determined that it is in the best interest of Klamath County to amend the Comp Plan Goal 2 Atlas by an Ordinance approved by the Klamath County Board of Commissioners.

NOW, THEREFORE, THE BOARD OF COMMISSONERS OF KLAMATH COUNTY ORDERS AS FOLLOWS:

1. *The Klamath County Coordinated Population Forecast, as required by ORS 195.036, attached hereto marked Exhibit "A" and supporting analysis, marked Exhibit "B" is now hereby incorporated into the Comprehensive Plan Atlas, supplementing planning Goal 2 text and thereby adopted.*

DATED this 23 day of June, 2009.

FOR THE BOARD OF COMMISSIONERS

Chairman

Commissioner

Commissioner

County Counsel
Approved as to form

NOTICE OF APPEAL RIGHTS

This decision may be appealed to the Oregon Land Use Board of Appeals (LUBA) within 21-days following the date of the mailing of this order. Contact LUBA for information as how to file this appeal (LUBA by phone 1-503-373-1265 or by mail at 550 Capitol Street NE, Suite 235, Salem Oregon 97301-2552). Failure to do so in a timely manner may affect your rights.

Exhibit A – ORD. 44.40.1

KLAMATH COUNTY COMPREHENSIVE PLAN Goal 2
(2009 Amendment)

POPULATION FORECAST BY YEAR									
Area	**2007**	**2010**	**2015**	**2020**	**2025**	**2030**	**2040**	**2050**	**2060**
Klamath County	65,981	67,425	69,432	71,440	73,449	75,457			
Bonanza	446	480	524	569	613	657			
Chiloquin	722	745	764	784	803	822			
Klamath Falls (UGB)	44,321	45,851	48,072	49,791	51,500	53,197	59,252	63,960	67,822
Malin	802	842	889	935	982	1,028			
Merrill	917	931	948	965	982	999			
Unincorporated Areas	42,000	42,927	43,741	44,554	45,367	46,181			

Source: Johnson & Gardner Coordinated Population Forecast for Klamath County – DLCD City/County Grant FY 2008-09

JOHNSON
GARDNER

DRAFT

MEMORANDUM

DATE: October 8, 2008

TO: Mr. Jeff Ball
CITY OF KLAMATH FALLS

Mr. Les Wilson
KLAMATH COUNTY

FROM: JOHNSON GARDNER, LLC

SUBJECT: Draft Coordinated Population Forecast for Klamath County and its Urban Areas through the Year 2030 and the Klamath Falls Urban Area Through 2060

BACKGROUND

The land use planning system in Oregon is based in part on forecasts of future local population. In accordance with state statue, Urban Growth Boundary population projections are required to be coordinated within counties over a 20-year planning horizon. Specifically, ORS 195.036 states:

> *"The coordinating body under ORS 195.036 (1) shall establish and maintain a population forecast for the entire area within its boundary for use in maintaining and updating comprehensive plans, and shall coordinate the forecast with the local governments within its boundary."*

Section 0030 of OAR 660-024 outlines that the methodology for developing coordinated forecasts must:

> *"...use commonly accepted practices and standards for population forecasting used by professional practitioners in the field of demography or economics, and must be based on current, reliable and objective sources and verifiable factual information, such as the most recent long-range forecast for the county published by the Oregon Office of Economic Analysis (OEA)."*

This is not to suggest that the forecast must be limited by county level OEA predications, as the rule further states:

> *"The forecast must take into account documented long-term demographic trends as well as recent events that have a reasonable likelihood of changing historical trends. The population forecast is an estimate which, although based on the best available information and methodology, should not be held to an unreasonably high level of precision."*

319 SW WASHINGTON STREET, SUITE 1020 PORTLAND, OR 97204 503/295-7832 503/295-1107 (FAX)

EXHIBIT B
FILE # 44.40.1

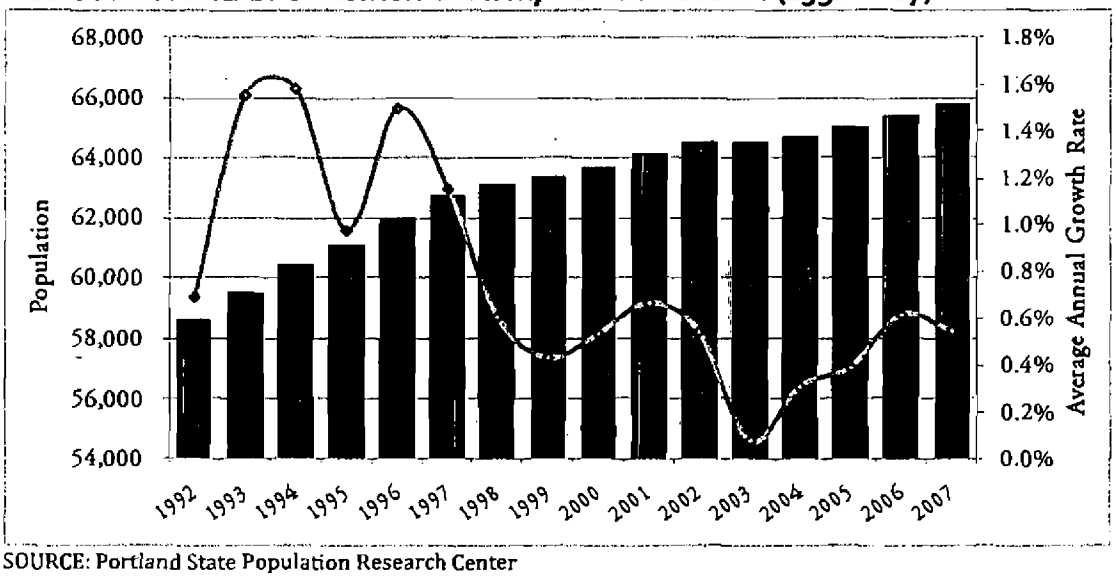
This section of our analysis is intended to produce population forecasts through the year 2030 for Klamath County and allocated across the urban areas of its incorporated jurisdictions, which include the cities of Bonanza, Chiloquin, Malin, Merrill, and Klamath Falls. This analysis will begin with a critical overview of historical trends to identify current and anticipated paths of growth, and subsequently produce coordinated forecasts. In addition to 20-year coordinated forecasts, our scope also requires 50-year population forecasts to coordinate with long-range urban reserves analysis in the Klamath Falls Urban Area. However, because long-range 50-year forecasts do not fall under ORS 197.036 and subject to the coordinated methodology outline in Section 0030, this component will be evaluated in an exclusive section of this analysis.

HISTORICAL TRENDS:

Klamath County Growth

According to the Population Research Center at Portland State University, Klamath County has grown at an average annual rate of 0.8% over the past fifteen years. Over this interval, the county has added 7,129 new residents. The most robust period of growth occurred in the early to mid 1990's when the county population grew by over 7% between 1992 and 1997. In contrast, between 2002 and 2007 county population grew by a more modest 2%.

FIGURE 1: HISTORICAL POPULATION GROWTH, KLAMATH COUNTY (1992-2007)



SOURCE: Portland State Population Research Center

Surprisingly, this most recent 15-year trend is consistent with long-term growth over the previous half century. U.S. Census data dating back to 1960 indicates an average annual growth rate of 0.7% over a 47 year period.

EXHIBIT B
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Jurisdictional Growth:

Over the last fifteen years the coordinated balance of the county population within jurisdictions has remained fairly stable. Between 1992 and 2007, only Klamath Falls has seen a significant change in its distribution of county population—growing from a low of 29.5% of county population in 1997 to its current high of 32%. Figure 2 demonstrates the trend of urbanization in Klamath County, indicating we can reasonably expect a greater share of population growth to occur in urban areas moving forward.

FIGURE 2: HISTORICAL POPULATION AND JURISDICTIONAL SHARE OF COUNTY POPULATION (1992-2007)

County/ City	Population Level				Share of County Population			
	1992	1997	2002	2007	1992	1997	2002	2007
Klamath County	*58,686*	*62,779*	*64,550*	*65,815*	*100.0%*	*100.0%*	*100.0%*	*100.0%*
Bonanza	319	350	420	445	0.5%	0.6%	0.7%	0.7%
Chiloquin	660	685	720	720	1.1%	1.1%	1.1%	1.1%
Klamath Falls	17,843	18,541	19,680	21,040	30.4%	29.5%	30.5%	32.0%
Malin	677	717	800	800	1.2%	1.1%	1.2%	1.2%
Merrill	855	885	910	915	1.5%	1.4%	1.4%	1.4%
Unincorporated	37,927	40,882	42,020	41,895	64.6%	65.1%	65.1%	63.7%

SOURCE: Portland State Population Research Center

The Klamath Falls Urban Area:

The City of Klamath Falls is unique in Oregon in the sense that over half the residents in the urban area live outside the city limits. For example, in 2000 only 47% of residents within the Klamath Falls Urban Growth Boundary (UGB) lived within the city limits of Klamath Falls. This complicates the process of estimating the urban area population, as annual population estimates are generally reported along jurisdictional boundaries. Our only data point for the UGB is from the 2000 census—which must be derived from GIS data at the census block level, where the urban area population measured 41,344 residents across a 47:53 city/county ratio. To begin our coordinated forecast we must create a 2007 estimate for the Klamath Falls Urban Area.

FIGURE 3: ESTIMATE OF 2007 URBAN AREA POPULATION

Area	2000 Population	2000 UGB Share	2007 Population	2007 UGB Share	AAGR '00-'07
Klamath County Population:	*63,775*		*65,815*		*0.45%*
Klamath Falls UGB Population	41,344		44,321		1.00%
City of Klamath Falls Population:	*19,460*	*47.1%*	*21,040*	*47.5%*	*1.12%*
Unincorporated UGB Population:	*21,884*	*52.9%*	*23,281*	*52.5%*	*0.89%*

SOURCE: US Census Bureau, City of Klamath Falls, Population Research Center, and JOHNSON GARDNER

Between 2000 and 2007, Klamath County population grew by 2,040 residents. The City of Klamath Falls individually attracted 1,481 new residents, capturing 72% of countywide growth. Over the same interval, all of Unincorporated Klamath County grew by only 247

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residents. Unfortunately, there is insufficient data from typical population estimate sources to determine with certainty the flow of residents moving from unincorporated areas outside the Klamath Falls UGB to unincorporated areas *within* the UGB. As a result JOHNSON GARDNER evaluated the flow of new residential water/sewer service hookups within both the city limits and the unincorporated urban area between 2000 and 2007. The ratio of new water/sewer hookups served as a proxy for the ratio of realized growth. Over the last seven years, we determined that 53% of growth took place within the city limits with the remaining 47% in the unincorporated UGB. When applied to our known estimate for the city population (21,040 in 2007) we can extrapolate with greater certainty an estimate for the UGB population in 2007, roughly 44,321 residents.

2030 POPULATION FORECASTS:

Population forecasts, particularly in Oregon, can be inherently self-fulfilling in the sense that land-use and infrastructure plans are tailored to accommodate the adopted forecast—whether those policies are constricting or encouraging growth. Because policy decisions can impact realized outcomes, we will present three forecasts using substitute methodologies described below. The purpose of three forecasts is to provide local decision makers some discretion with respect to the direction they feel their goals and policies will take the county. Note however, that the rule does not allow the adoption of a range of populations, and scenarios are presented merely as a choice of preferred methodologies.

Our methodology begins by outlining a forecast range for countywide growth to be allocated across incorporated urban areas within the county. To produce the countywide population forecast, existing sources of population projections were used. Specifically, the basis for our countywide forecast is the official estimates produced by the Oregon Office of Economic Analysis (OEA). While the use of OEA estimates is not required by any state law or administrative rule, this analysis assumes that countywide population, regardless of methodological approach, will fall within a +/- 5% margin of the official OEA estimate. This assumption method is consistent with recent coordinated forecasts in Lane and Jackson Counties. Under this assumption we estimate that Klamath County can expect average annual growth of 0.34% to 0.78% through 2030, adding between 5,363 and 12,856 new residents.

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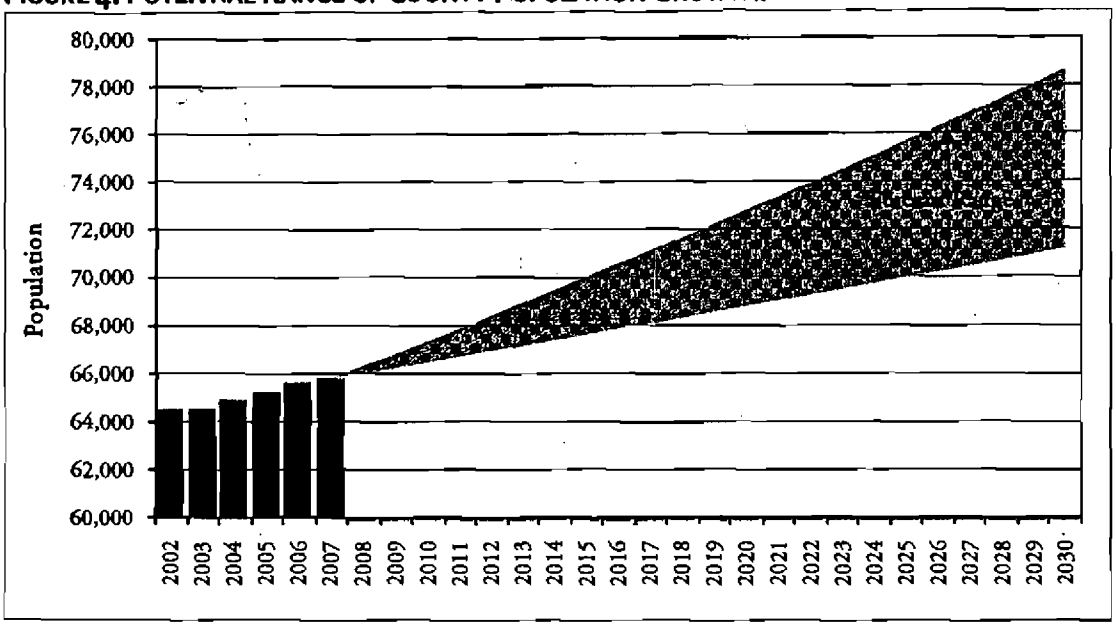
FIGURE 4: POTENTIAL RANGE OF COUNTY POPULATION GROWTH:



SOURCE: Oregon Office of Economic Analysis (OEA) and JOHNSON GARDNER

Scenario 1: Static Share Baseline Approach (2030):

Our static share baseline methodology is a simple approach to population forecasting. It is based on the premise of that historical trends are a relatively good indicator of future outcomes.

1) *The approach assumes the mid-range OEA population forecast for Klamath County through 2030; and*
2) *The approach assumes a static distribution of population across urban areas within Klamath County based on the 2007 estimates from the Population Research Center at Portland State University.*

If we recall from Figure 2, this approach is supported by the historical record whereas there has been little change in population distributions over the previous fifteen years. In aggregate it does not deviate from the State's official long-range population forecast for Klamath County. Results from the static share approach are below.

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SCENARIO 1: STATIC SHARE BASELINE APPROACH								
	Estimation Year						2007-2030 Growth	
Area	2007	2010	2015	2020	2025	2030	#	AAGR
Klamath County	*65,981*	*66,968*	*68,851*	*70,595*	*72,631*	*74,924*	*8,944*	*0.55%*
Bonanza	446	453	466	477	491	507	60	0.55%
Chiloquin	722	733	753	772	795	820	98	0.55%
Klamath Falls (UGB)	44,321	44,984	46,249	47,420	48,788	50,328	6,008	0.55%
Malin	802	814	837	858	883	911	109	0.55%
Merrill	917	931	957	981	1,010	1,042	124	0.55%
Unincorporated*	42,000	42,629	43,828	44,938	46,234	47,694	5,693	0.55%

* Includes unincorporated area in the Klamath UGB

- The long-term Klamath County forecast estimates growth of 8,944 new residents through 2030 with an average annual growth rate of 0.55%.
- As a fixed share of county growth, the Klamath Falls UGB is projected to add 6,008 new residents over the forecast period.
- All remaining urban areas are expected to add a combined 391 new residents through 2030.

While this approach produces aggregate estimates consistent with the historical realization and official state forecast, the disadvantage of this approach is that long-term growth rates among urban areas are presented as a fixed proportion of county growth, and variance in local growth rates are normalized. This approach does not reflect the varying policies, trends, advantages, and disadvantages observed by each jurisdiction, nor does this approach reflect economic development efforts and potential success that would significantly change historical population growth patterns. In other words, this would be a preferred forecast option for policy objectives that are not intended to deviate significantly from the status quo.

Scenario 2: 15-year Shift-Regression Approach (2030):

This approach required the computation of a 15-year time series regression analysis with an observation period between 1992 and 2007. Observations were derived from official estimates from the Portland State Center for Population Research. A five-year regression forecast was also conducted for contextual purposes, to better reflect recent housing trends in the region. Because historical values for the Klamath Falls Urban Area are not available, the methodology for that geography utilized a combination of the 15-year regression analysis for the City of Klamath Falls and a shift-share analysis of UGB population as a percentage of county population. The degree of shift was determined by the historical trend between 1990 -2000 and then from 2000-2007. Results are expressed below.

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SCENARIO 2: 15-YEAR SHIFT-REGRESSION APPROACH								
	Estimation Year						2007-2030 Growth	
Area	2007	2010	2015	2020	2025	2030	#	AAGR
Klamath County	*65,981*	*67,423*	*69,432*	*71,440*	*73,449*	*75,457*	*9,476*	*0.59%*
Bonanza	446	480	524	569	613	657	211	1.70%
Chiloquin	722	745	764	784	803	822	100	0.57%
Klamath Falls (UGB)	44,321	45,851	48,072	49,791	51,500	53,197	8,876	0.80%
Malin	802	842	889	935	982	1,028	226	1.09%
Merrill	917	931	948	965	982	999	81	0.37%
Unincorporated*	42,000	42,927	43,741	44,554	45,367	46,181	4,180	0.41%

* Includes unincorporated area in the Klamath UGB

- The long-term Klamath County forecast estimates growth of 9,476 new residents through 2030 with an average annual growth rate of 0.59%, slightly higher than the official OEA estimates.

- Population *within* the Klamath Falls UGB is expected to grow from 44,321 in 2007 to 53,197 in 2030, an increase of 8,876 residents or 20%. This growth rate reflects a change in the UGB's share of county population from 67.3% to 70.5% over the same interval.

- All remaining urban areas are expected to add a combined 619 new residents through 2030.

While still a simple forecasting tool, the benefit of regression analysis is that many of the determinants of realized growth patterns are inherently embedded in the historical trend. For example, variables such as demographics, birth-rates, migration rates, employment trends etc. are in effect included in the aggregate data upon which the regression trend is based. Considering anecdotal analysis such as political constraints/opportunities and land availability, regression trend analysis is a useful tool in forecasting population across a series of geographies.

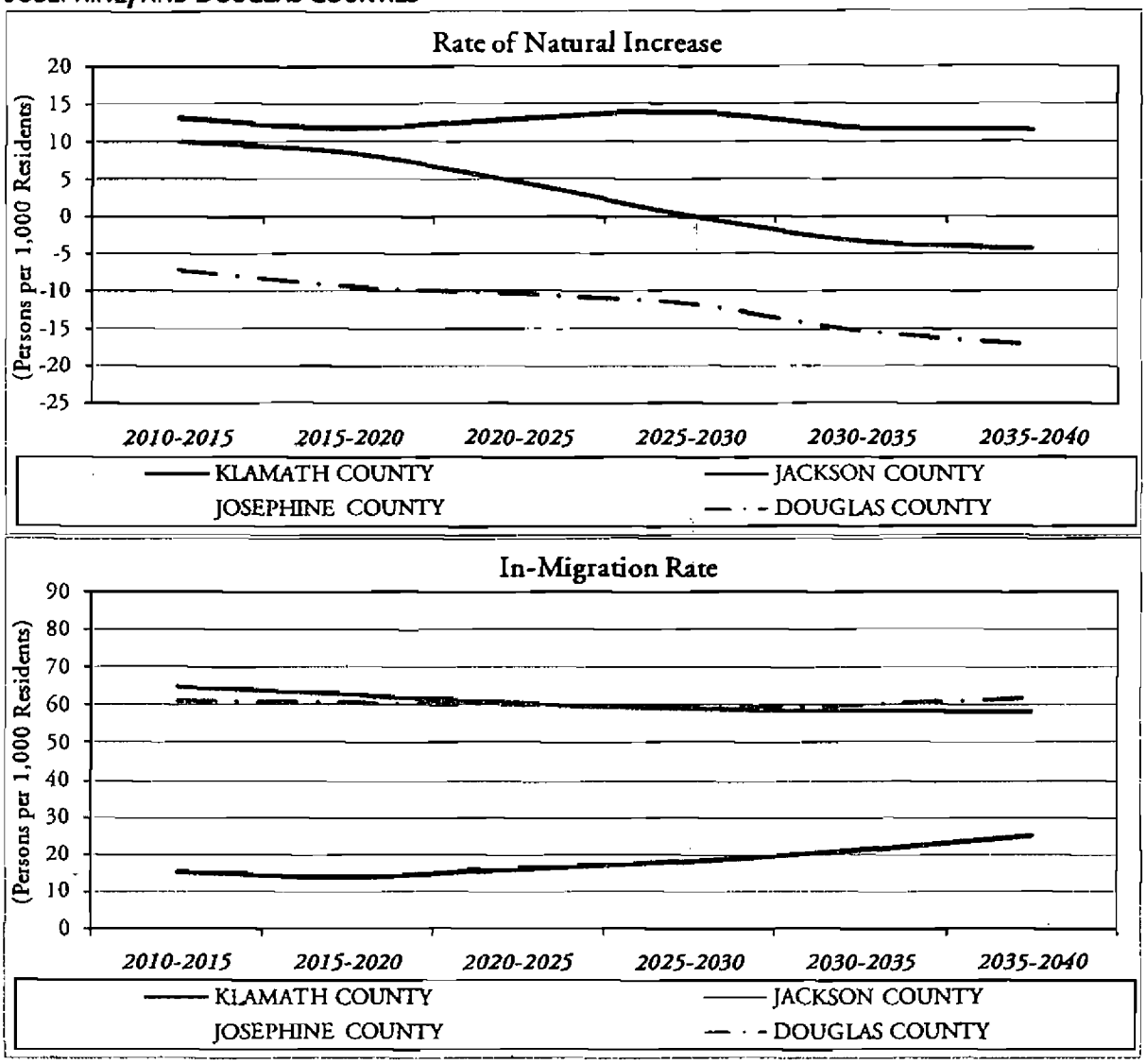
Scenario 3: Economic Target Approach

This approach is based on the premise that a correlation exists between jobs and population; that is, population tends to increase in some relation to jobs, as new residents are needed to fill employment positions. This approach was employed given that Klamath County is in a unique position regionally to have its population forecast affected by its realized economic development pattern. For example, The OEA forecast for Klamath County indicates that a much larger share of projected growth will be derived from the natural increase[1] of the population relative to other Southern Oregon counties. In other

[1] The rate of "natural increase" is a technical term for demographically driven growth in population levels. It is calculated as the spread between birth rates and death rates. In other words, a positive rate of natural increase would indicate that a greater number of babies are being born than residents passing away.

words, the OEA forecast for Klamath County is demographically driven, and does not necessarily reflect changing economic conditions or policy targets. This is also exemplified by the OEA's forecast of in-migration in Klamath County—which is projected to be three times lower than the regional average.

FIGURE 5: OEA FORECAST OF NATURAL INCREASE AND IN-MIGRATION, KLAMATH, JACKSON, JOSEPHINE, AND DOUGLAS COUNTIES



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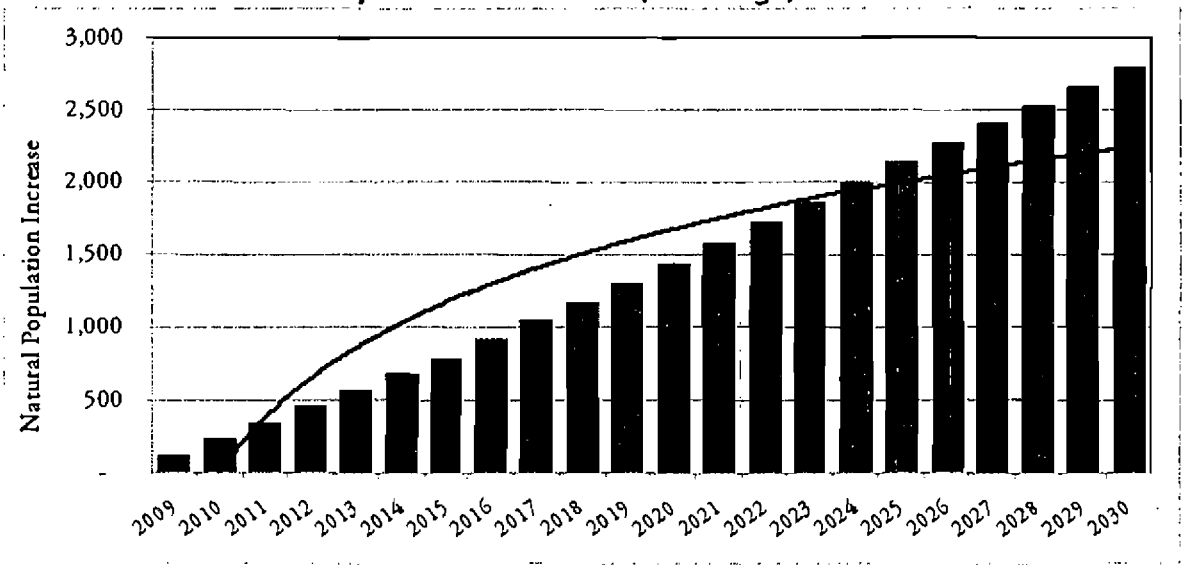
As a result, we produced this third scenario that closely considers anticipated economic growth over the planning period. Because Klamath Falls is the major economic driver of the county, we produced an economically correlated forecast for the Klamath Falls Urban Area only. Estimates for Bonanza, Chiloquin, Malin, and Merrrill remain consistent with their 15-year regression estimates.

This approach begins with the calculation of the expected natural increase in the Klamath Falls Urban Area. This is simply a combination of the OEA's rate of natural increase estimates from Figure 5 and the existing population level in the urban area. This process yields an estimated 2,766 new residents in the urban area through 2030.

FIGURE 6: NATURAL INCREASE, KLAMATH FALLS UGB (2008-2030)



The second step in this approach is to identify the expected population increase resulting from economic growth in the urban area over the forecast period. Our assumption of job growth through 2030 is taken from our Economic Opportunities Analysis. Traditionally, regional economic hubs such as Klamath Falls have a greater degree of economic activity than residential growth, as residents do not always live in the community they work. For example, in the Klamath Falls UGB nearly 42% of employees commute from outside the area[2]. In other words, we should expected jobs to grow at a somewhat accelerated pace relative to population. In 2008 we calculated an existing population to jobs ratio of 1.82 in Klamath Falls. That is, on average there are 1.82 persons living in the urban area for every 1.00 jobs. This ratio is a relatively high figure in the region—for example Medford's ratio is roughly 1.04 to 1.00. Therefore, we further assume that as the region matures, the ratio of population to employment will converge toward a regional status quo, reaching 1.40 by 2030.

[2] See Technical Appendix

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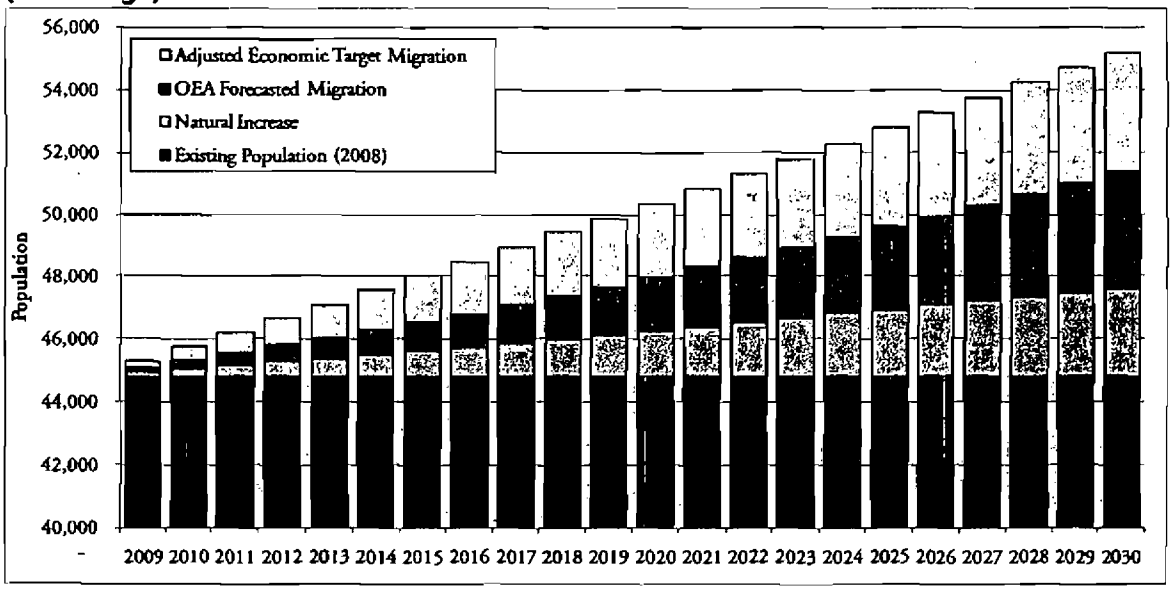
Naturally, a share of new economic growth will be filled by the aging of the existing demographic base with the remainder filled by net-migration. Recall from our review of regional and local trends that Klamath County is particularly young demographically, with over a third of population under the age of 24 years. In light of the current and anticipated demographic composition of the region, over the course of the planning period we assume 40% to 60% of new job creation will be filled by accelerated workforce retention in the region. The remained of anticipated growth will be filled by in-migration, or new resident population. When combined with in-migration forecasts from the OEA, we are left an economically driven population increase of 7,560 new residents through 2030. This estimate results in an average annual total in-migration rate of 6.0 persons per 1,000 residents. In contrast, this rate remains roughly half the OEA's forecasted rate for entire Southern Oregon Region. Figure 7 outlines our forecast of population growth in the Klamath Falls Urban Area and calculated components of change.

FIGURE 7: POPULATION FORECAST FOR THE KLAMATH FALLS UGB, AND COMPONENTS OF CHANGE (2008-2030)



When combined with regression forecasts from other Klamath County urban areas, Scenario 3: "The Economic Target Approach" yields a countywide forecast of 10,957 new residents through 2030.

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SCENARIO 3: ECONOMIC TARGET APPROACH								
	Estimation Year						2007-2030 Growth	
Area	2007	2010	2015	2020	2025	2030	#	AAGR
Klamath County	*65,981*	*66,882*	*68,790*	*71,147*	*73,904*	*76,937*	*10,957*	*0.67%*
Bonanza	446	480	524	569	613	657	211	1.70%
Chiloquin	722	745	764	784	803	822	100	0.57%
Klamath Falls (UGB)	44,321	45,765	48,011	50,343	52,773	55,210	10,889	0.96%
Malin	802	842	889	935	982	1,028	226	1.09%
Merrill	917	931	948	965	982	999	81	0.37%
Unincorporated*	42,000	42,426	43,128	43,999	45,212	46,686	4,685	0.46%

* Includes unincorporated area in the Klamath UGB

- At 0.67% AAGR[3], the countywide forecast in Scenario 3 represents the most aggressive estimate in of the three scenarios.

- The population within the Klamath Falls UGB is expected to grow from 44,312 in 2007 to 55,210 in 2030, an increase of 10,889 residents, an annual rate of 0.96%.

The Economic Target Approach acknowledges the interconnectedness of economic growth and housing demand. Additionally, the approach more explicitly incorporates the State's demographic analysis of the region. In effect, this approach does not produce a population forecast in a "vacuum". Rather, its benefit is regional coordination of respective economic and demographic planning efforts. The approach is likely to best reflect trends within the County's major urban area, Klamath Falls.

Scenario Comparisons:

Figure 8 outlines each forecast approach at the county level as it relates to the official OEA forecast range first presented in Figure 4. The figure demonstrates that each approach falls well within a 5% simple margin of the OEA forecast. At the county level, the three methodologies differ less than 3%. The principal difference in approach outcomes lies in the allocation of population by urban area. The Shift-Regression and Economic Target approaches capture the urbanization process that has been in effect over the previous two decades, allocating a smaller share of future population to rural unincorporated areas.

[3] AAGR = Average Annual Growth Rate

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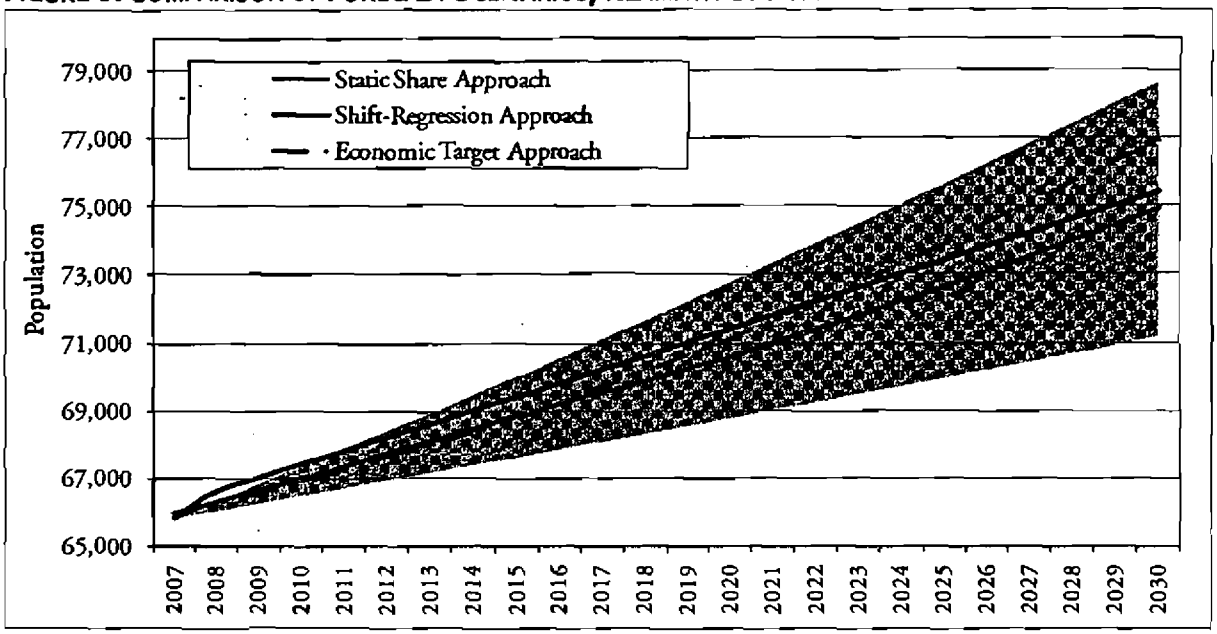
FIGURE 8: COMPARISON OF FORECAST SCENARIOS, KLAMATH COUNTY



SOURCE: Johnson Gardner

2060 POPULATION FORECASTS:

This section of our analysis outlines long range population forecasts for the Klamath Falls Urban Area in coordination with OAR 660-021—Urban Reserves. Specifically, section 0030 states:

> *"Urban reserves shall include an amount of land estimated to be at least a 10-year supply and no more than a 30-year supply of developable land beyond the 20-year time frame used to establish the urban growth boundary. Local governments designating urban reserves shall adopt findings specifying the particular number of years over which designated urban reserves are intended to provide a supply of land."*

The number of years set forth by local governments—The City of Klamath Falls and Klamath County—is 30-years beyond the 20-year planning period.

Approach:

To project long-term population in the Klamath Falls Urban Area, JOHNSON GARDNER employed a Log-Linear forecasting model to approximate future population. Log-Linear models are particularly well suited for long-rage forecasts as they project future rates of change at a steadily declining rate, consistent with average changes in natural populations.

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While short-term and interval data will obviously exhibit more variation, long-term population data typically follows a log-linear trend.

Specifically, the model uses historic population to forecast future population along a logarithmic curve. Mathematically, the model reads:

$$Y = \alpha + \beta \ln(x)$$

Where:

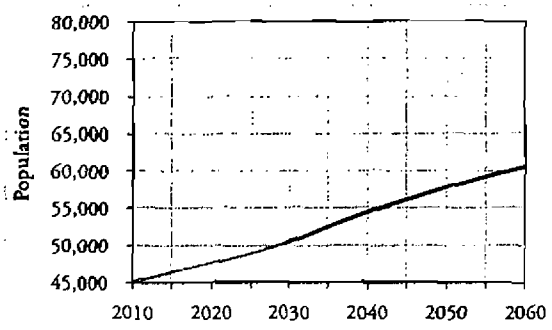
Y = Forecasted Population
α = Population Intercept at Time ln(x) = 0
β = Slope of the Natural Logarithm of X
X = Time in Years (or index value)

The model begins with a process of indexing the independent variable X, or years, for the calculation of the natural logs of X (Log transformation). For example, our first observation period in the year 2000 is indexed to 2000=1 and 2001=2, and so on. The model uses a simple regression on the observed historic population and the natural log of the indexed years to produced future population estimates.

This process was repeated using each of the previously identified 20-year Klamath Falls UGB population forecasts scenarios as a basis. Because the methodology for the log-range 2060 forecast is the same across each scenario, the adopted 2060 forecast will simply be an extension of the methodology decision adopted for the 2030 forecast. 2060 results of each scenario are summarized below:

Scenario 1:

- Between 2030 and 2060 the population in the Klamath Falls Urban Area will increase by over 10,000 residents, an increase of 20%
- Projected growth represents a rate of 0.61% AAGR over the 30-year period.
- Over the entire 50-year forecast Scenario 1 will yield an addition of 16,040 residents (0.58% AAGR) in the urban area.



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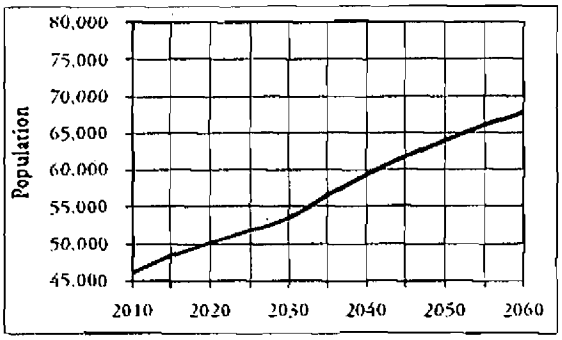
Scenario 2:

- The extension of Scenario 2 over a 50-year horizon will yield an additional 14,624 residents beyond the 20-year planning period in the Klamath Falls UGB.
- Projected growth represents a rate of 0.85% AAGR over the 30-year period.
- Over the entire 50-year forecast Scenario 2 will yield an addition of 23,501 residents (0.80% AAGR) in the urban area.



Scenario 3:

- The extension of Scenario 3 over a 50-year horizon will yield an additional 18,331 residents beyond the 20-year planning period in the Klamath Falls UGB.
- Projected growth represents a rate of 1.04% AAGR over the 30-year period.
- Over the entire 50-year forecast Scenario 3 will yield an addition of 29,220 residents (0.95% AAGR) in the urban area.

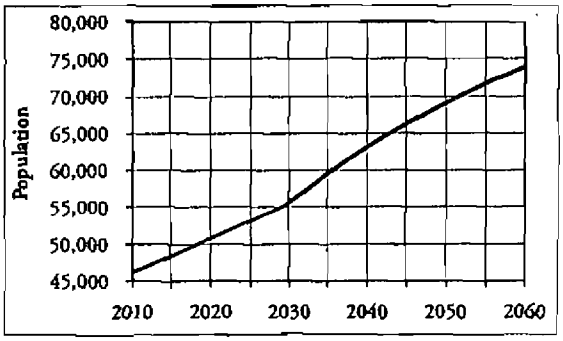


FIGURE 9: SUMMARY OF 2060 POPULATION FORECASTS, KLAMATH FALLS UGB

	Year				2030-2060 Change		
Scenario	2030	2040	2050	2060	#	%	AAGR
Scenario 1:	50,328	54,320	57,638	60,360	10,032	19.9%	0.6%
Scenario 2:	53,197	59,252	63,960	67,822	14,624	27.5%	0.8%
Scenario 3:	55,210	62,787	68,694	73,541	18,331	33.2%	1.0%

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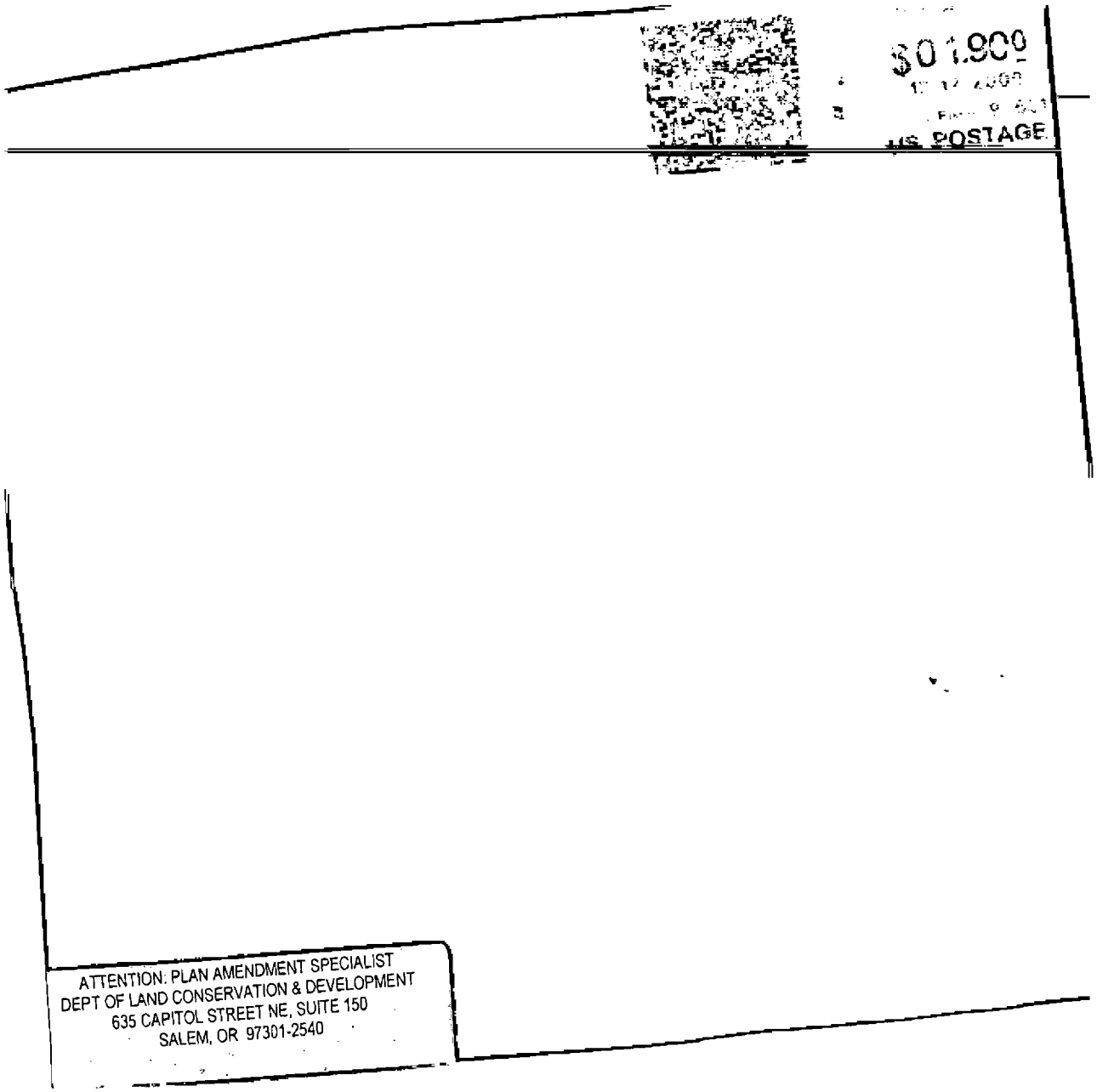
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