2012 Growth Management Act Population Projection Overview

Presented at the Planning Association of Washington Annual Meeting
Chelan, Washington
Office of Financial Management
May 2nd, 2012

We would like to thank the Commerce Department staff, the Planning Association of Washington, and local governments for this opportunity.

Office of Financial Management (OFM) is committed to providing leadership, direction, and better information to support and improve government.

This opportunity allows us a chance to enhance local understanding of OFM Growth Management Act (GMA) county population projections, which will greatly help the GMA review and planning process.

GMA 2012 Release Details

- On April 23rd , 2012 OFM sent out the GMA 2012 provisional population projections to each county's planning director and the chair of commissioners for review.
- The closing date for comments is May 11th, 2012.
- The final release is scheduled for May 30th, 2012.
- The projections numbers used in this presentation are provisional and subject to change.

Topics in Today's Presentation

- General discussion of GMA projections
- GMA county population projection model
- Economic and demographic changes since 2008 and their impact on 2012 GMA projections
- Overview of 2012 GMA state and county projections
- GMA projections and documentation online

General Discussion

- As directed by RCW 43.62.035, OFM will:
    - Produce a range of possible 20 year population projections for all Washington counties every five years. And review the projections with local authorities before final adoption.
- OFM believes it is important to seek local knowledge and comments from local experts while developing assumptions.
- OFM also believes it is important to make the projection transparent. The better jurisdictions understand the model, the better the projections can serve GMA needs.

General Discussion

- What is a projection? It is a numerical outcome of a particular set of assumptions regarding future population trends.
- The medium series is considered the most likely because it is the best foreseeable future based on set of assumptions that have been validated based on today’s information.
- However, assumptions may not hold true if factors influencing population growth should change.
- Thus, uncertainty should be considered while planning for schools, roads, housing developments, etc.

General Discussion

- Planners should allow long term projections time to “play out” before changing them.
- If significant changes such as the current great recession occur, adjustment should be considered.

2012 GMA Projections Procedures and Processes

- GMA county population projections are developed with a “top down” procedure.
- Both state and county level projections are produced with the “cohort component” model.
- The cohort component model projects the changes in each one of the three demographic components: births, age specific deaths and net migration.

2012 GMA Projections Model

The Model:

- $P_1 = P_0 + B_0 – D_0 + M_0$
- Where P_t is population at time *t*, B_t is births during time *t*. D_t is deaths, and M_t is migration during time *t .*

Definitions:

- Natural increase = births minus deaths.
- Net migration = in-migration minus out-migration.
- Natural increase and net migration can be either positive or negative.

Inputs for 2012 GMA Projections

The following data inputs have been updated and used to project future births, deaths and net migration:

- Total fertility rate (TFR): a measure of average number of births per woman during her childbearing age, usually 15-49 . TFR has been updated with vintage 2010 birth data.
- Life expectancy (LifeExp): a measure of average years a person might live from age 0. LifeExp has been updated based on 2010 national life table. Life expectancies are linked to survival rates, which are used to calculate the population that are likely to survive to the next projection cycle.
- Net migration rate: new rates have been calculated based on age specific residual net migration between 2000 and 2010.

What is New in 2012 GMA Projections?

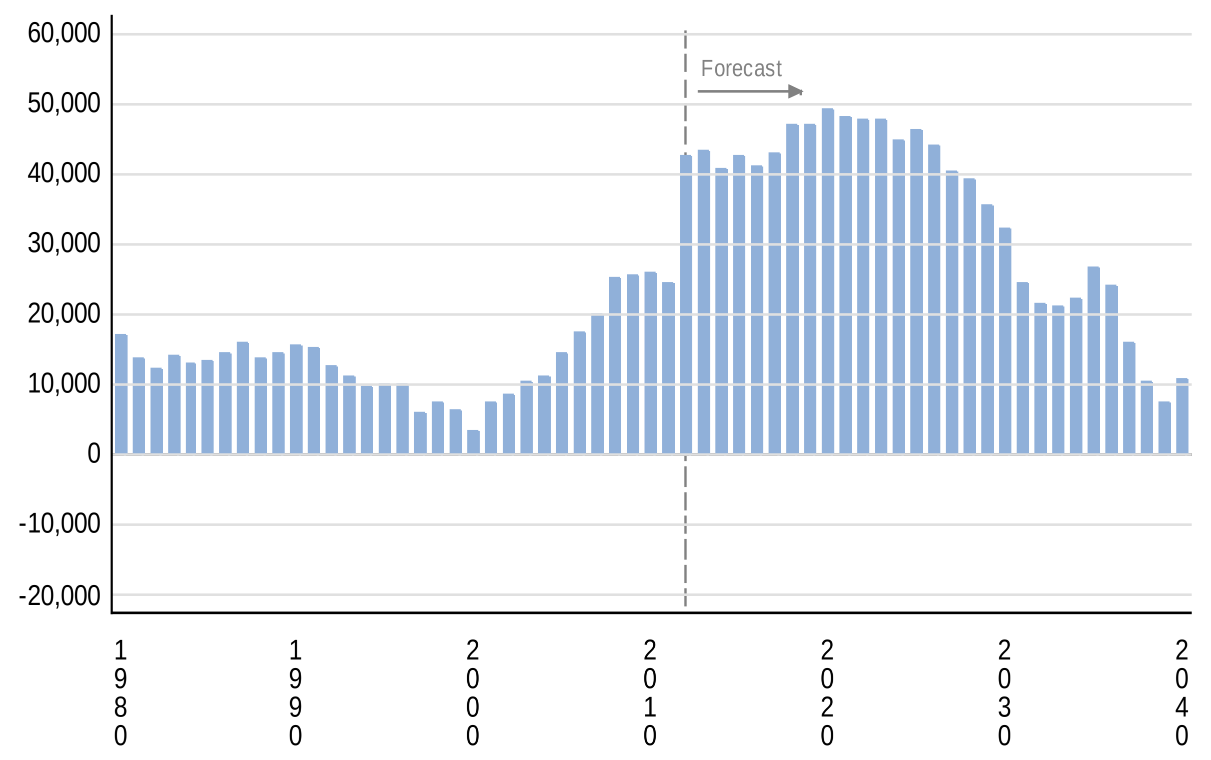
- New state forecast
- Benchmarked to 2010 Census
- New TFR, LifeExp and migration rates are computed using 2010 vintage demographic data.
- Existing assumptions have been evaluated and adjusted if necessary.

2012 GMA State Forecast

State Forecast Update and Its Impacts

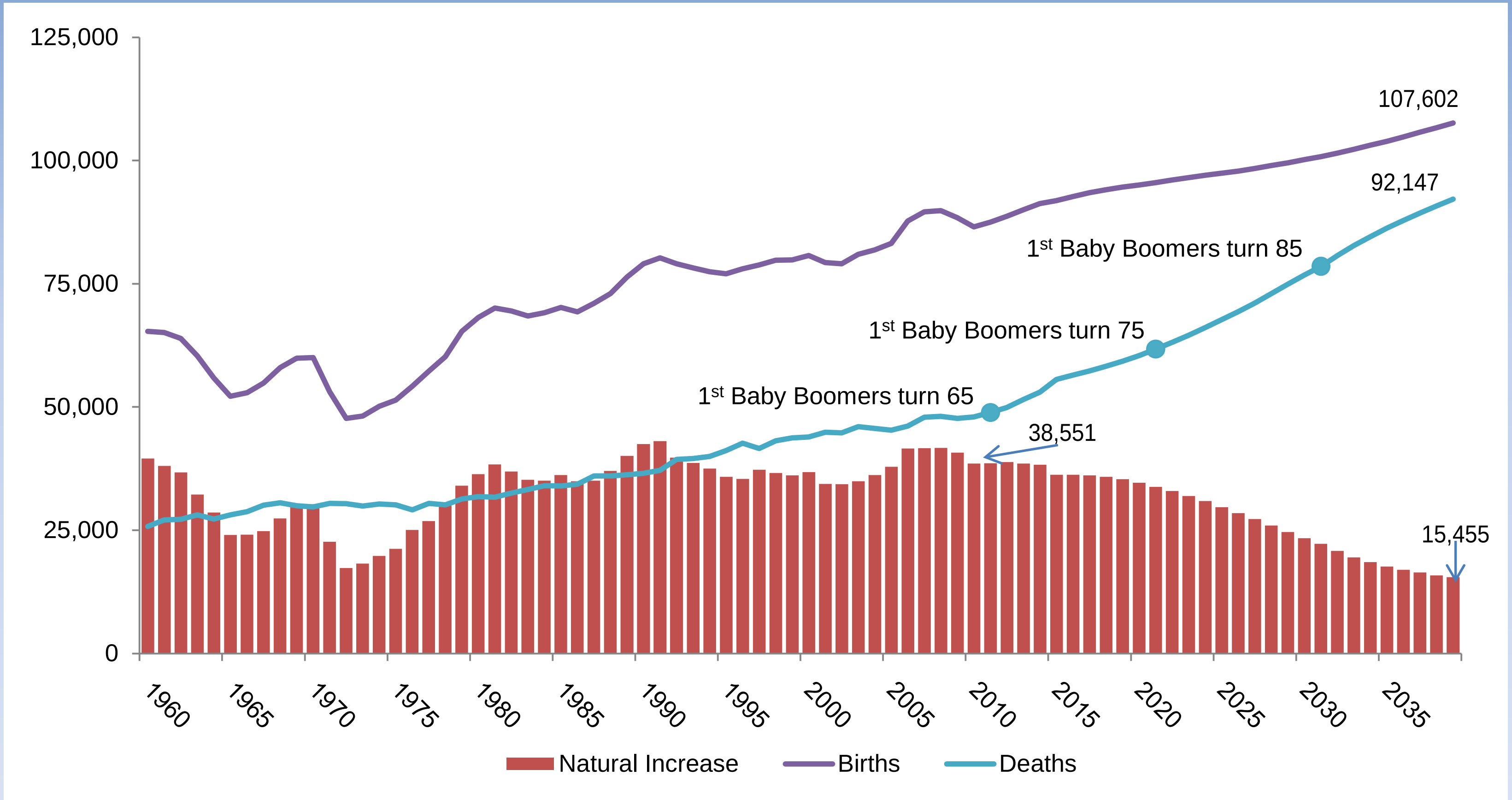
- A new state forecast was developed in Nov. 2011. documentation can be found at: http://www.ofm.wa.gov/pop/stfc/default.asp
- The aging population impacts level of natural increase.

Population Aging Due to Boomers



Forecasted annual change of the population 65 and over

Projected Natural Increase



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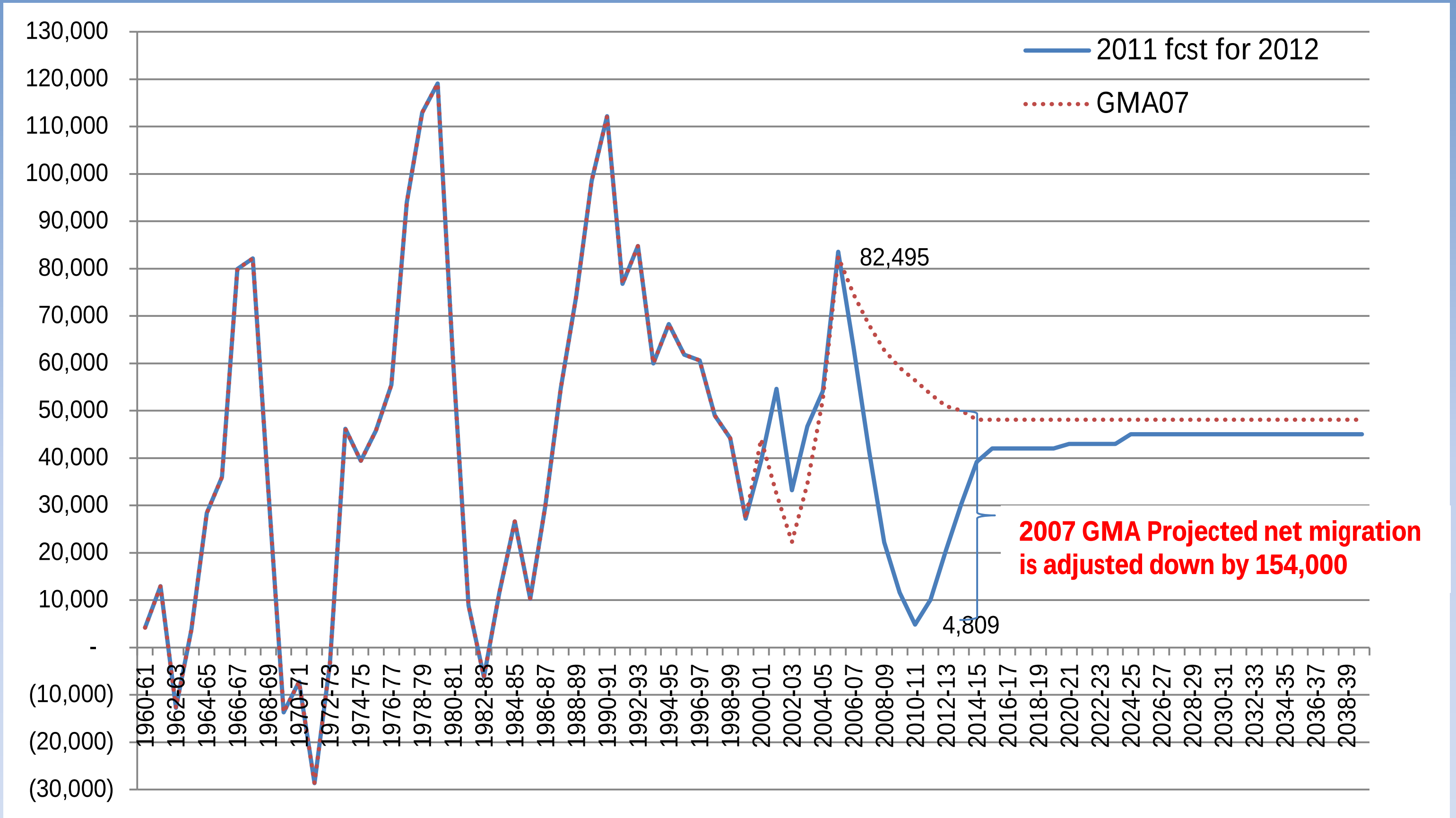
State Forecast Update and Its Impacts

- Significant changes were made in migration assumptions due to:
    - The “Great Recession” effects
    - Aging population may be less mobile
    - U.S immigration policy and the economic improvement in sending countries may decrease in-migration
    - Recent decline in fertility rates in Mexico

Migration Adjustments and Impacts



2007 GMA Projected net migration is adjusted down by 154,000

Migration adjustment is significant and has the biggest impact on changes in 2012 GMA projections.

Comparison of 2007 and 2012 GMA State Forecasts

	2007GMA	2012GMA	Difference	% Difference
2010	6,792,318	6,724,540	67,778	1.00
2020	7,698,939	7,411,977	286,962	3.73
2030	8,509,161	8,154,193	354,968	4.17

The majority of counties are affected by decline in the state forecast

2012 GMA County Projections

2010 Census Impact on 2012 GMA Projections

- Changing the base year population in the forecast impacts everything in the county projections, even if other expectations remain the same.
- The updated age distribution, 65+ in particular, impacts the base population used to calculate the survived population, and consequently the projected number of deaths and natural increase. Retirement counties are expected to receive larger impacts from population aging.

2007 GMA Projected 2010 Population Compared to Census 2010 Counts

	GMA07	Census2010	Diff #	Diff %
Benton	168,839	175,177	6,338	3.62%
Franklin	70,038	78,163	8,125	10.39%
Pierce	836,688	795,225	(41,463)	-5.21%
Snohomish	725,963	713,335	(12,628)	-1.77%
State	6,792,318	6,724,540	(67,778)	-1.01%

Fertility ---Base Year Updates And Future Assumptions

- TFR 2010 updated with new data.
- Future assumptions derived by considering:
    - % Hispanic
    - % Foreign born Hispanic
    - Education and women’s labor force participation

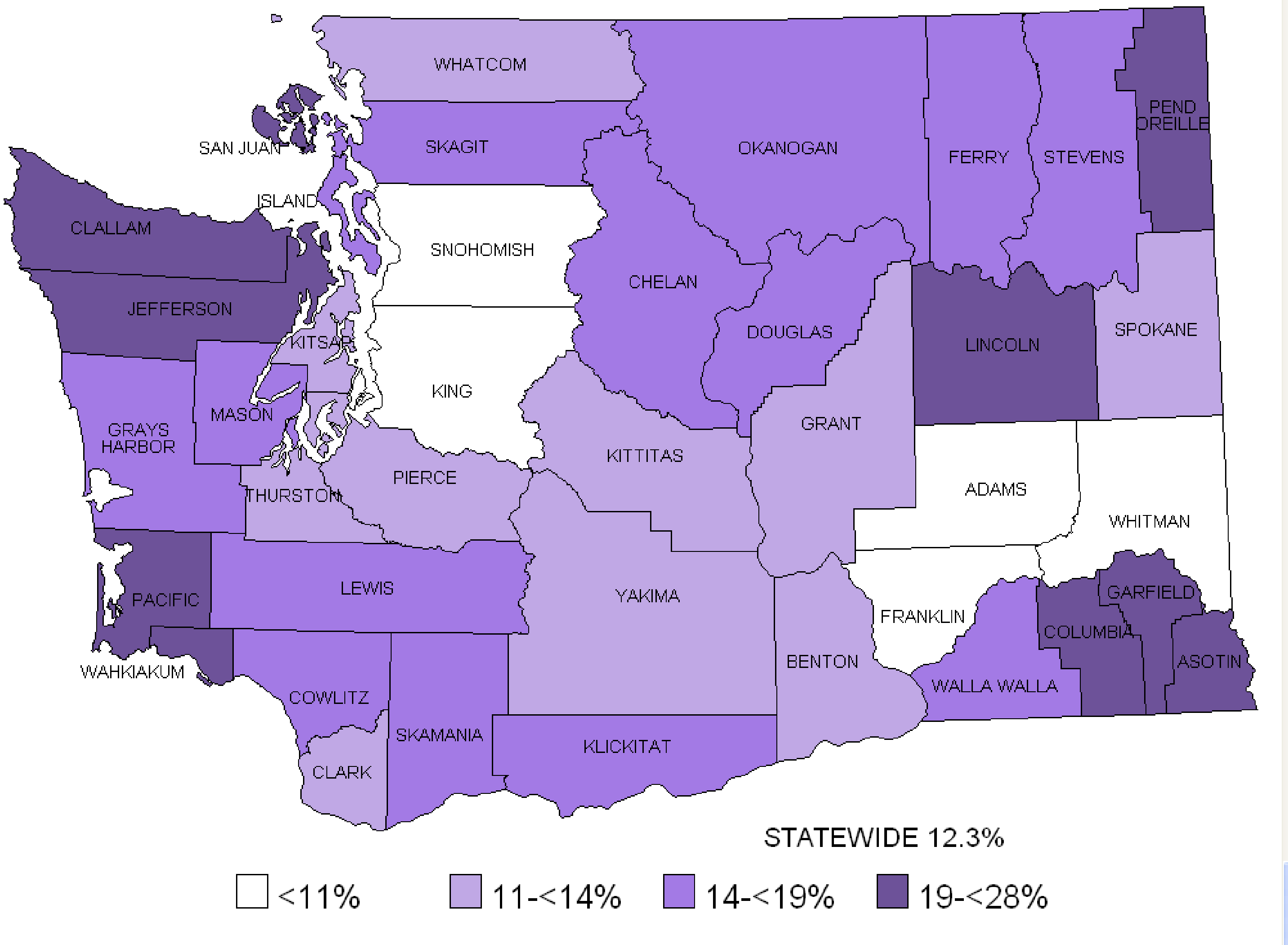
Mortality --- Base Year Updates And Future Assumptions

- Life expectancy has been updated with the most recent information. Washington life expectancy is higher than national average.
- Adjustments are made based on ethnicity and educational attainment.

Aging Effects on Natural Increase

- An aging population:
  - leads to fewer births even though the TFRs are same or even higher for some counties
  - leads to more deaths even though life expectancies increase for some counties.
- As a result, Washington state as a whole, and some retirement counties in particular, are expected to have decline in natural increase. A few counties will even see natural decline.

Percent 65+ in 2010



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DOUGLAS
LINCOLN
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MASON
GRAYS HARBOR
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PIERCE
THURSTON
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LEWIS
YAKIMA
PACIFIC
GARFIELD
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WALLA WALLA
COWLITZ
SKAMANIA
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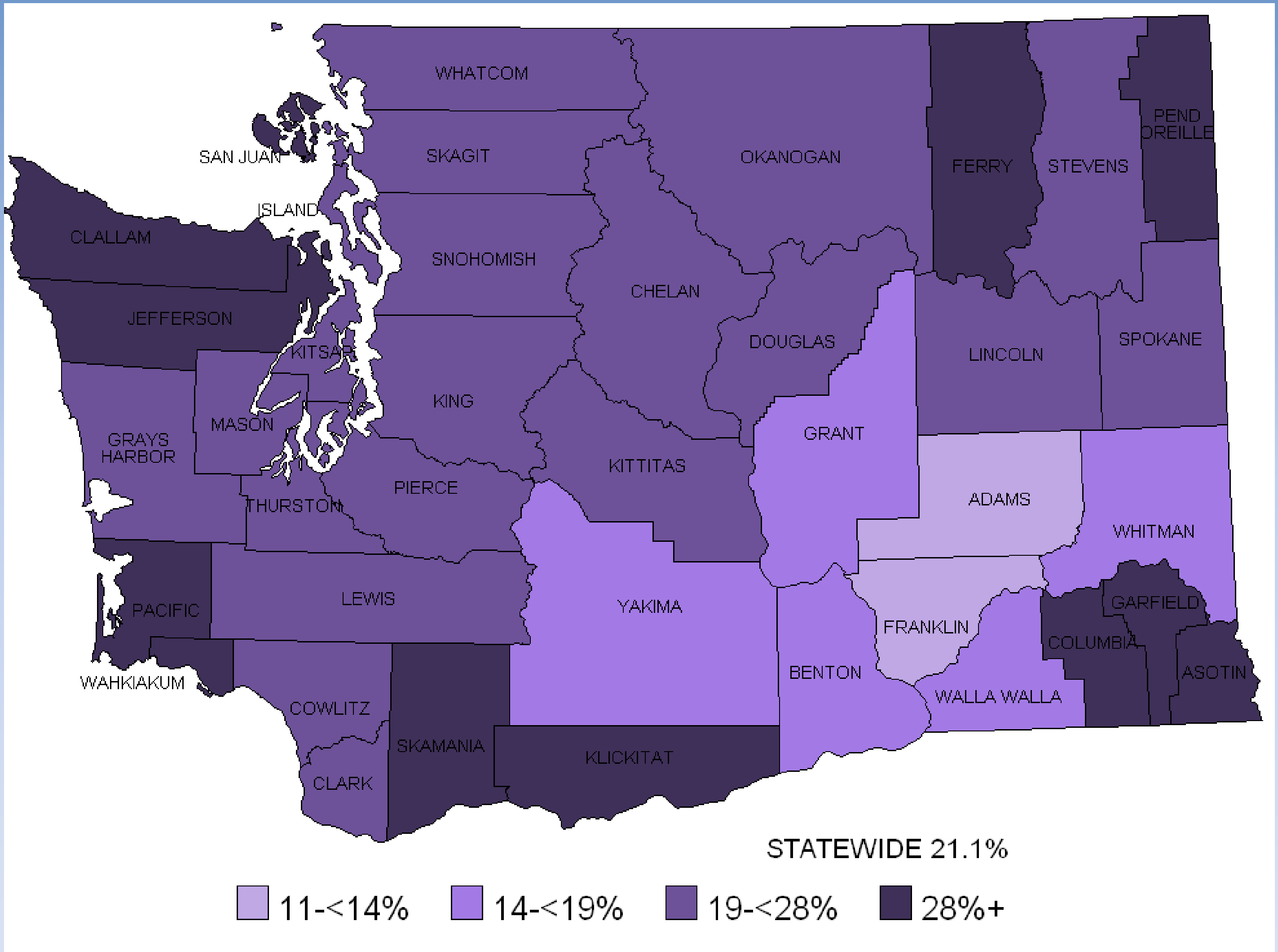
STATEWIDE 12.3%
☐ <11%
▨ 11-<14%
▨ 14-<19%
■ 19-<28%

Percent 65+ in 2040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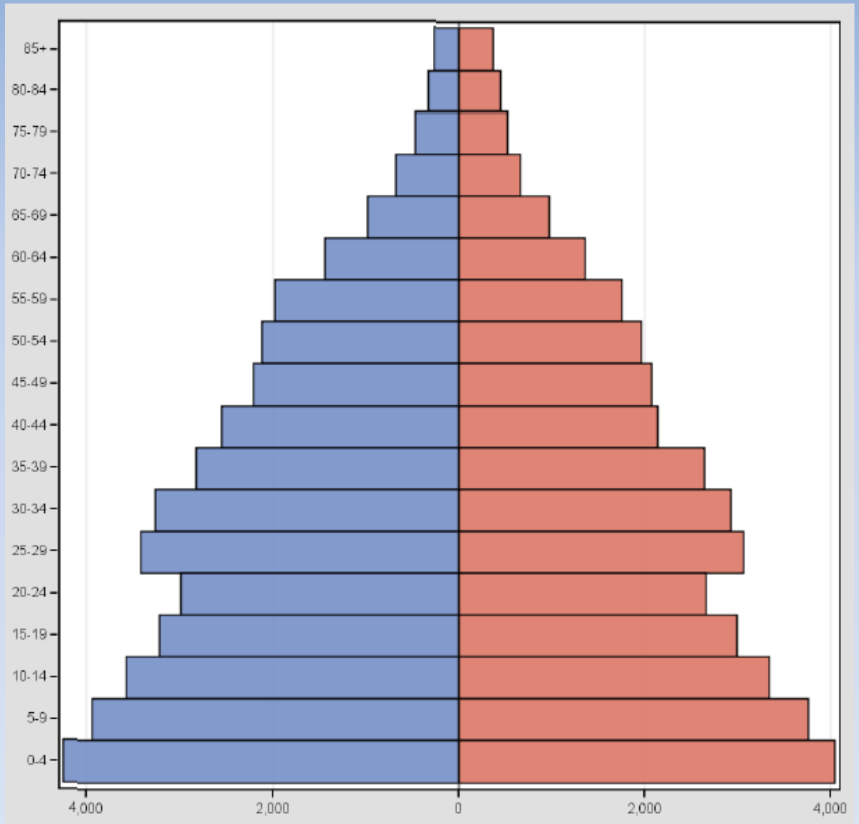
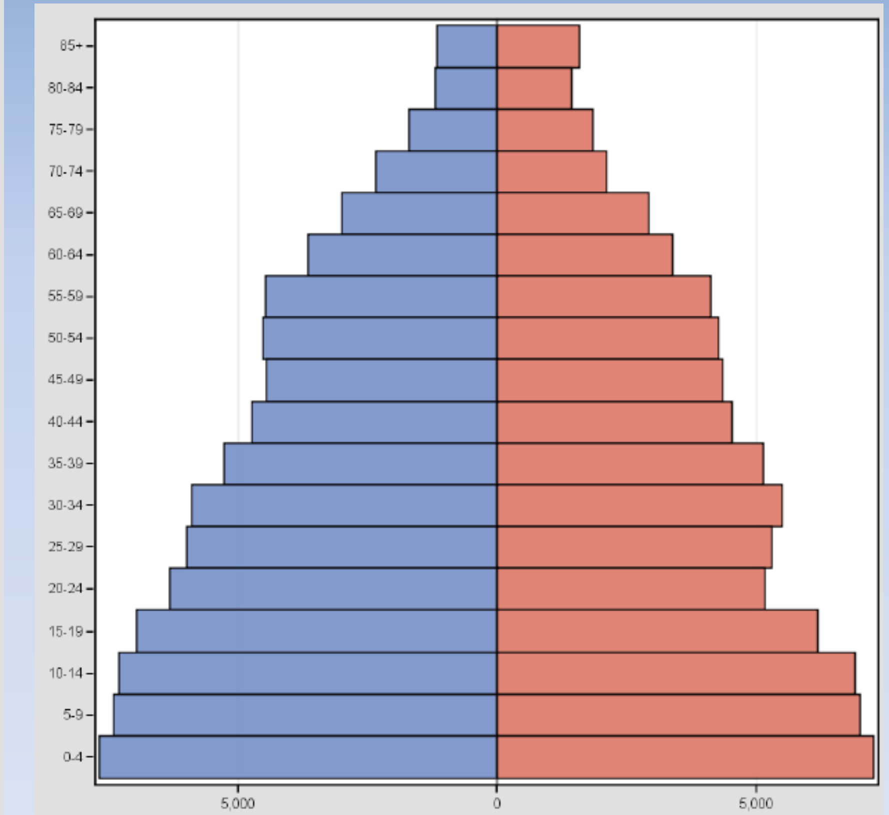
BENTON
ASOTIN
WALLA WALLA
COWLITZ
SKAMANIA
KLICKITAT
CLARK
STATEWIDE 21.1%
11-<14%
14-<19%
19-<28%
28%+

Franklin County---Minimal Aging Effects

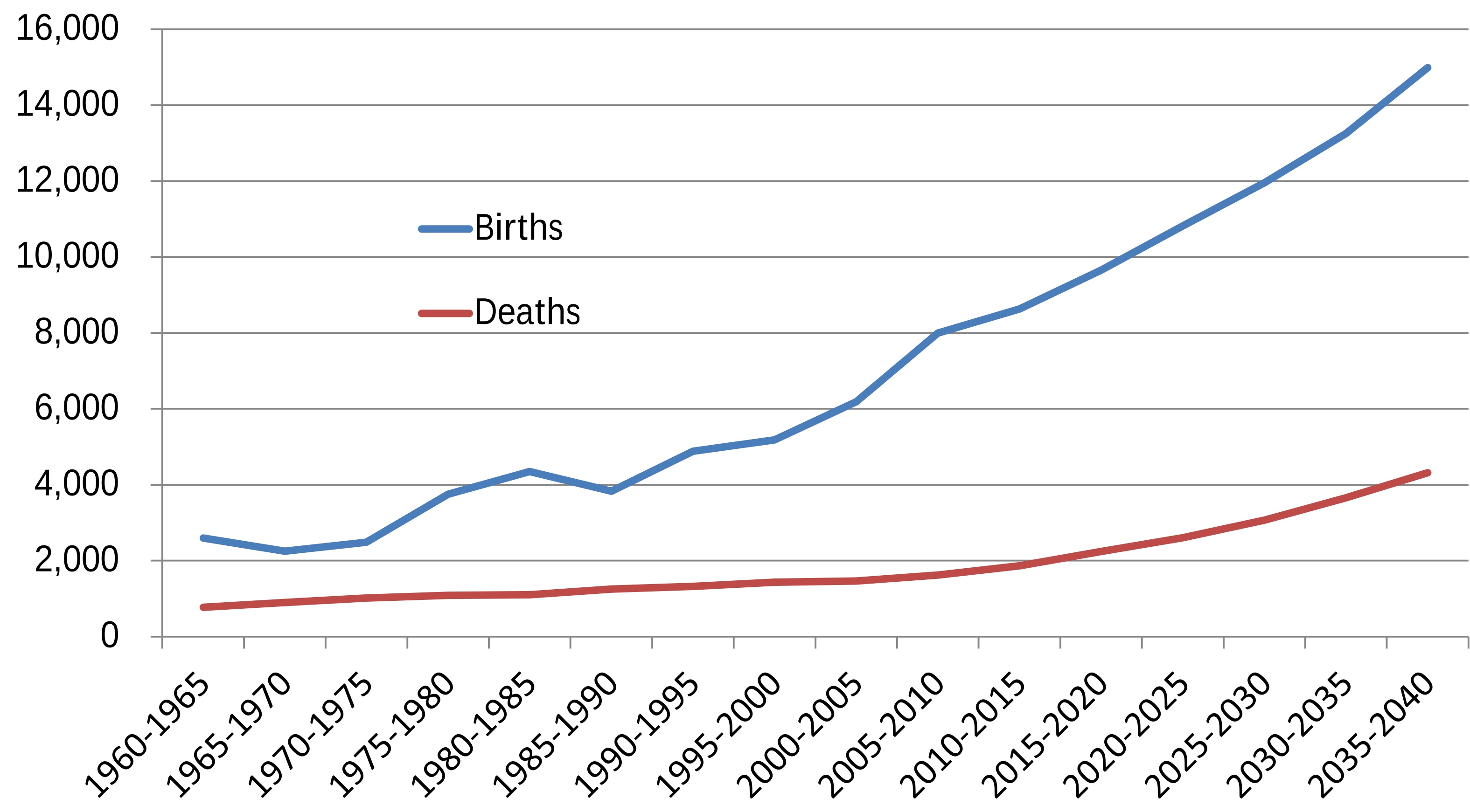
2010



2040

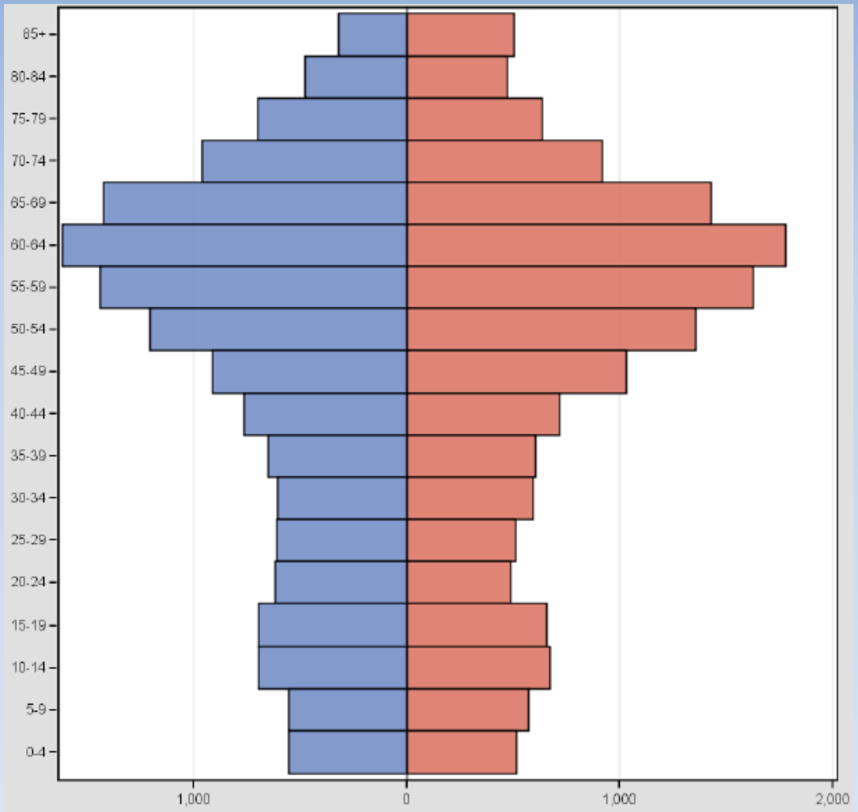


Franklin County---Minimal Aging Effects

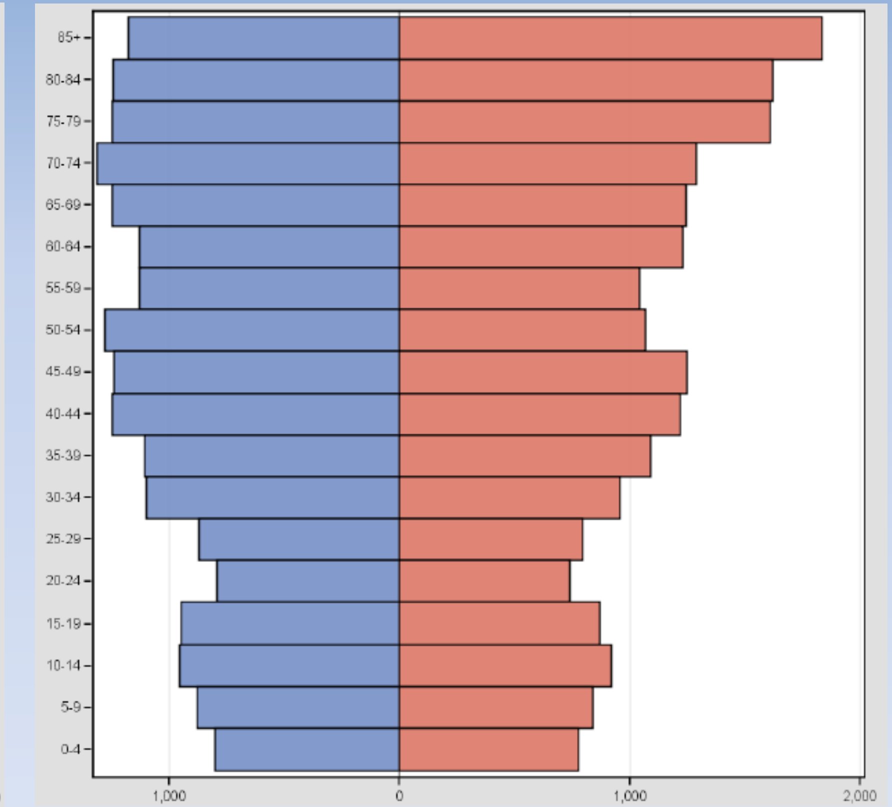


Jefferson County---Huge Aging Effects

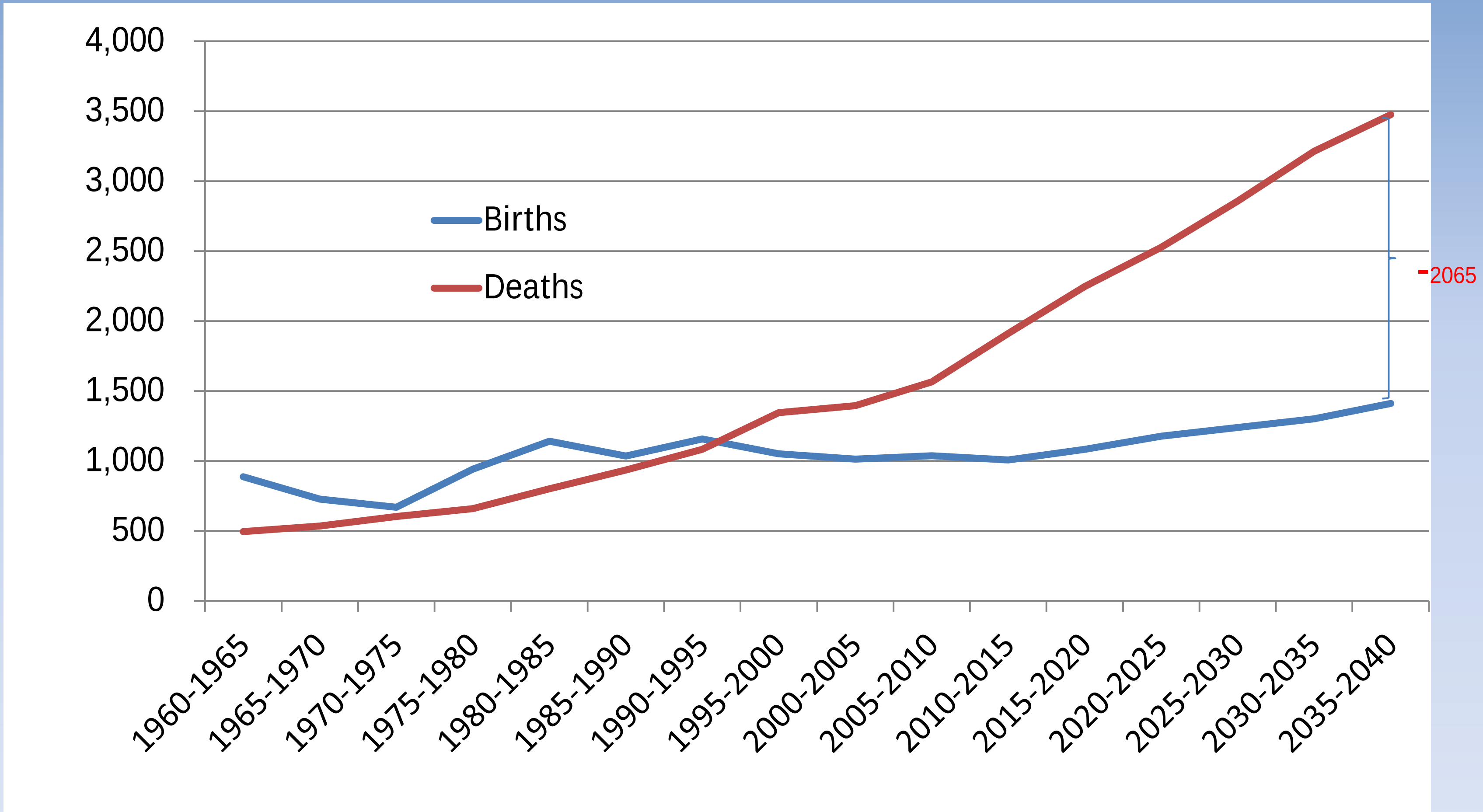
2010



2040



Jefferson County---Huge Aging Effects



Migration --- Base Year Updates And Future Assumptions

- 2000-2010 age specific migration patterns are included in the latest model inputs.
- Urban areas and areas with transportation links to employment centers will continue to draw migration.
- Areas that have had recent sustained growth due to retirees and telecommuters will continue to attract such migrants.
- Over the last two decades, about 70% of Washington’s net migration came from abroad, with the majority of these immigrants authorized through the family reunification program and settling in counties where their families were located. This trend is expected to continue.
- We add 2,500 to Pierce and 1,000 to Kitsap and Thurston counties each five year period between 2010-2020 due to military expansion plans.

Migration Uncertainties

- Uncertainty regarding the economy and baby boomers’ retirement behavior make long term forecasts for migration difficult.
- OFM will continue to monitor and gather information on migration changes.

Migration: Allocation Process

- Three things are considered in the initial allocation process:
    - County shares of the state three decade average migration are considered for long term migration.
    - County shares of the state 2006-2010 migration influence the nearest period.
    - County migration attractiveness is used to assess long term change in county shares.

Summary of 2012 GMA Projections

- The overall level of growth declines due to the recession and the loss is shared by all counties.
- Retirement counties are likely to experience negative natural increase. Depending on each county's migration patterns, these counties' populations may stay flat or decline.
- Counties serving as employment centers with easy accessibility will have higher migration rates than less accessible counties.

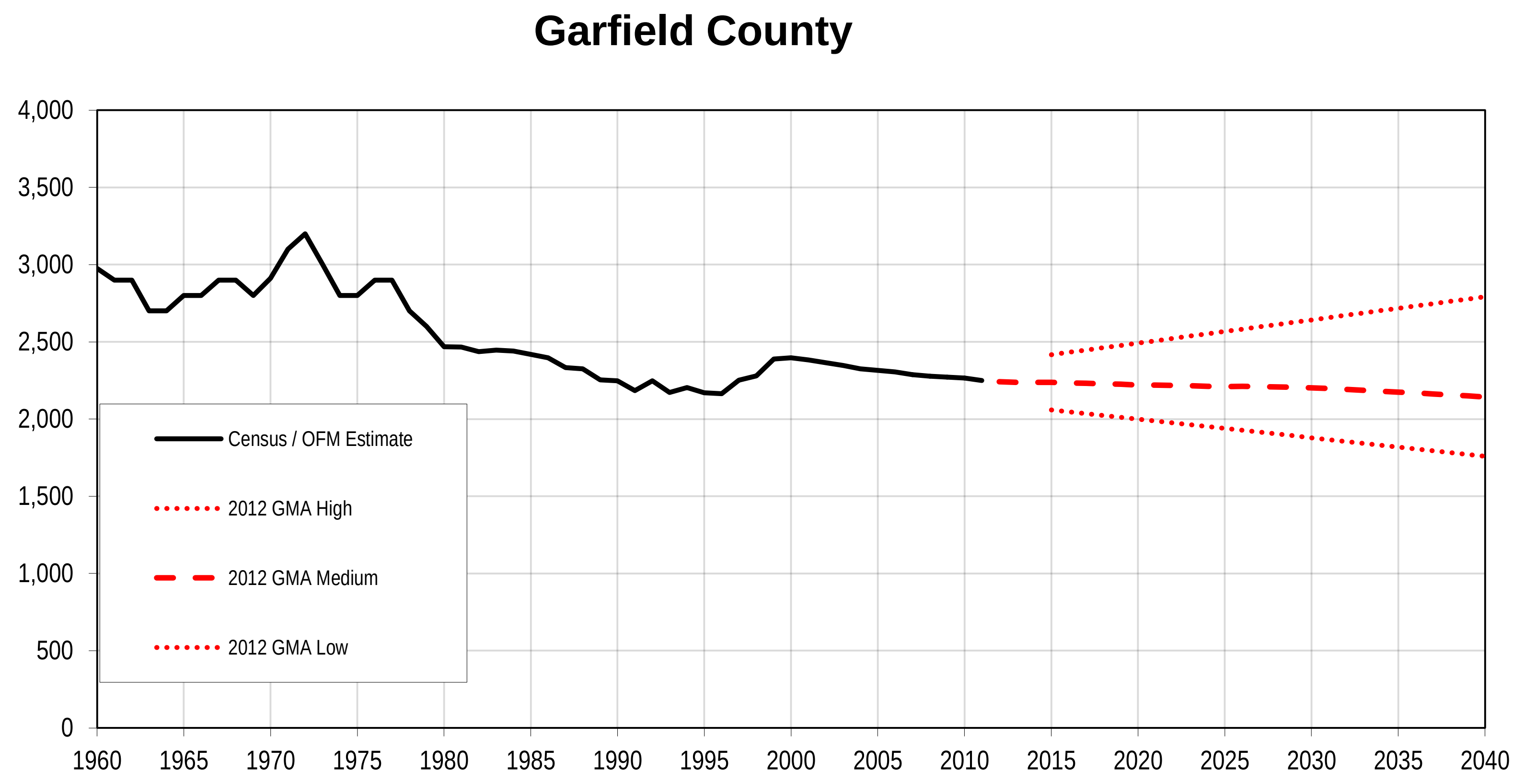
County High and Low Series

- The high and low bands allow planners the flexibility to adopt a population projection that makes sense to the county
- Uncertainty bands do not represent alternative scenarios and are not to be confused with standard error surrounding the middle series.

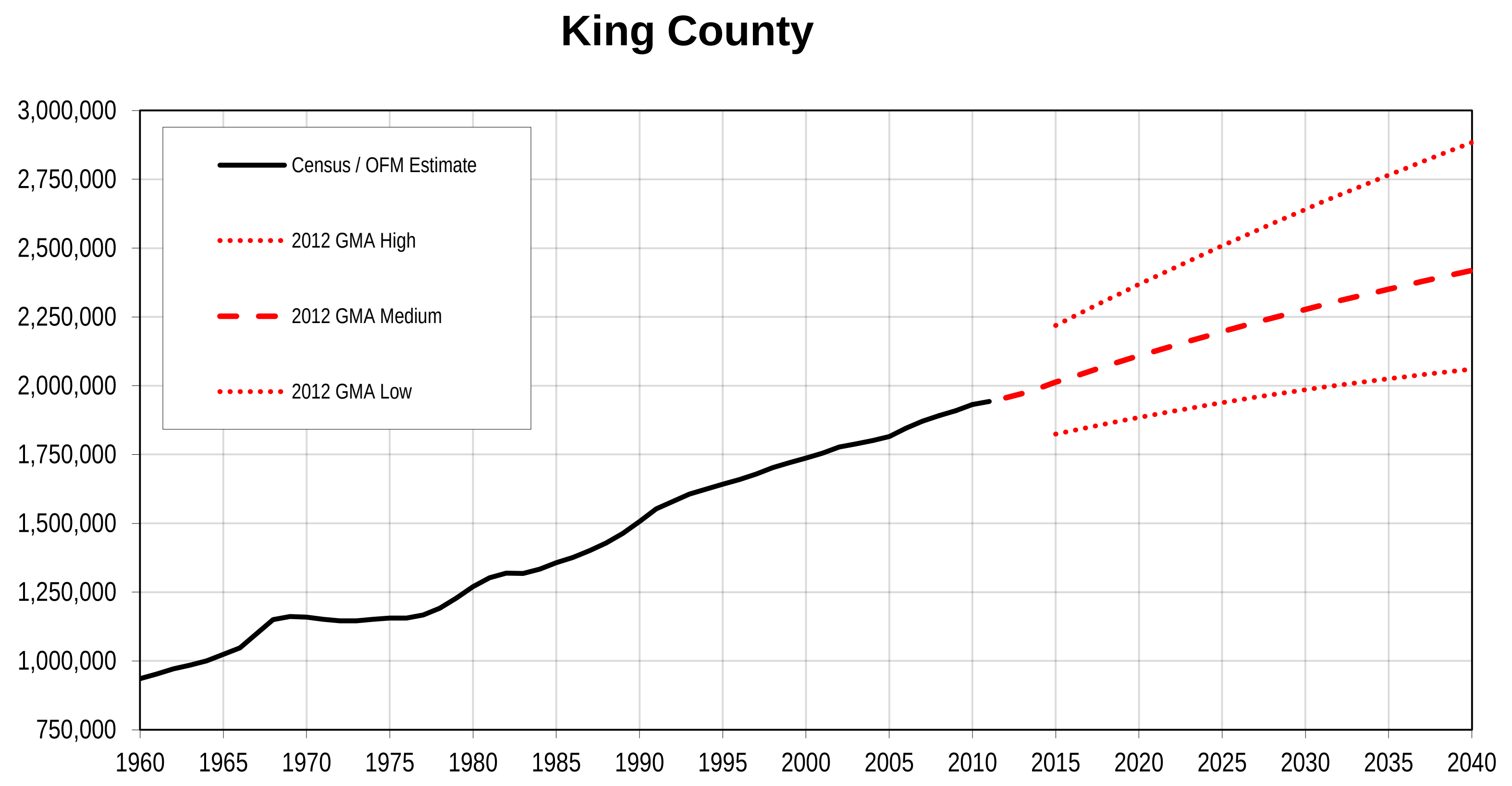
High and Low Series (cont’d)

- The high and low growth trends over the last three decades are considered.
- Counties with highly variable growth patterns receive broader bands.
- Counties with special populations tied to federal or state programs or policy (e.g. counties with military, college, or high concentrations of immigrants) also receive broader bands.
- Counties that consistently show steady growth patterns have narrower bands.

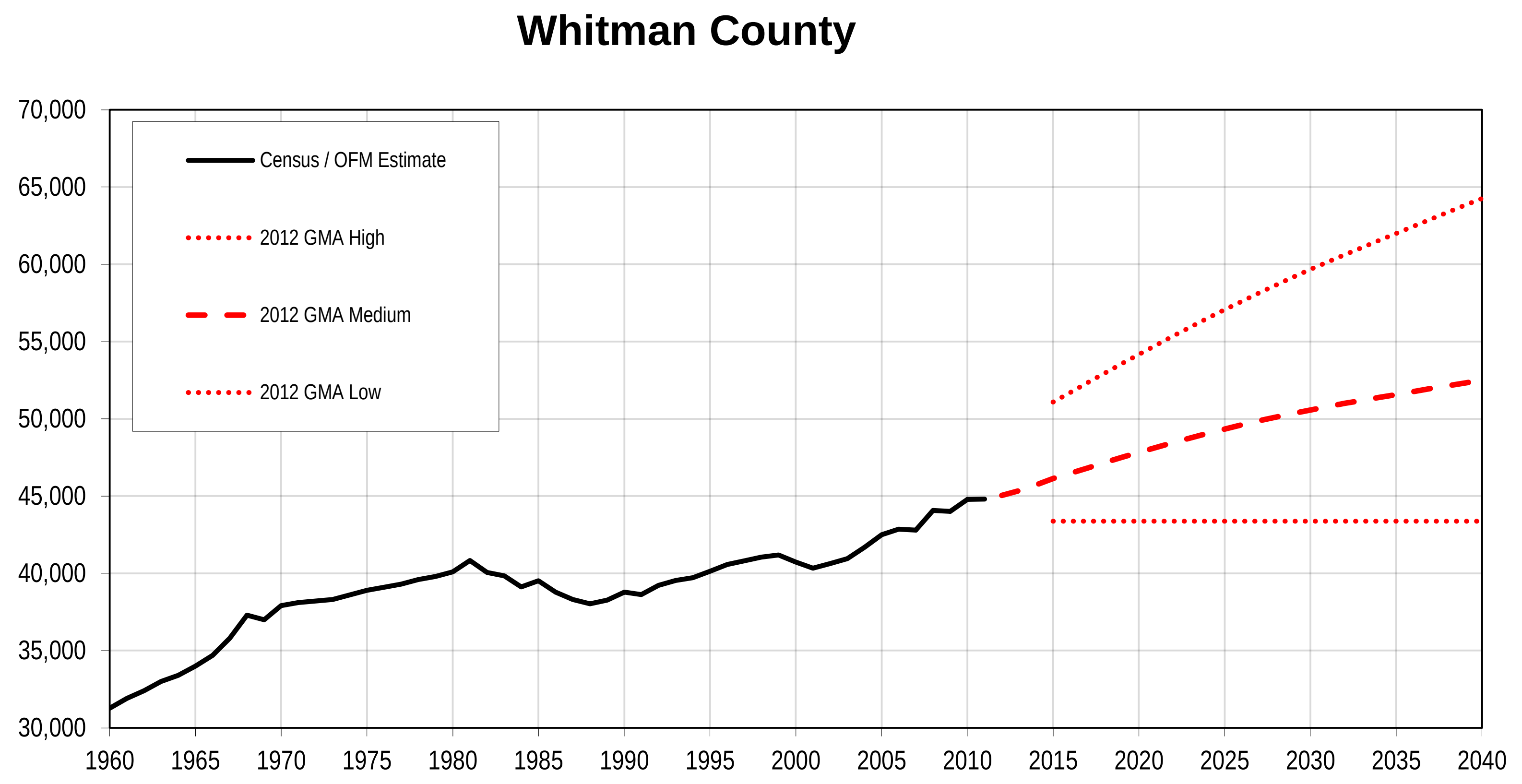
Relatively Stable Population



Consistently Growing Population



College Based Population



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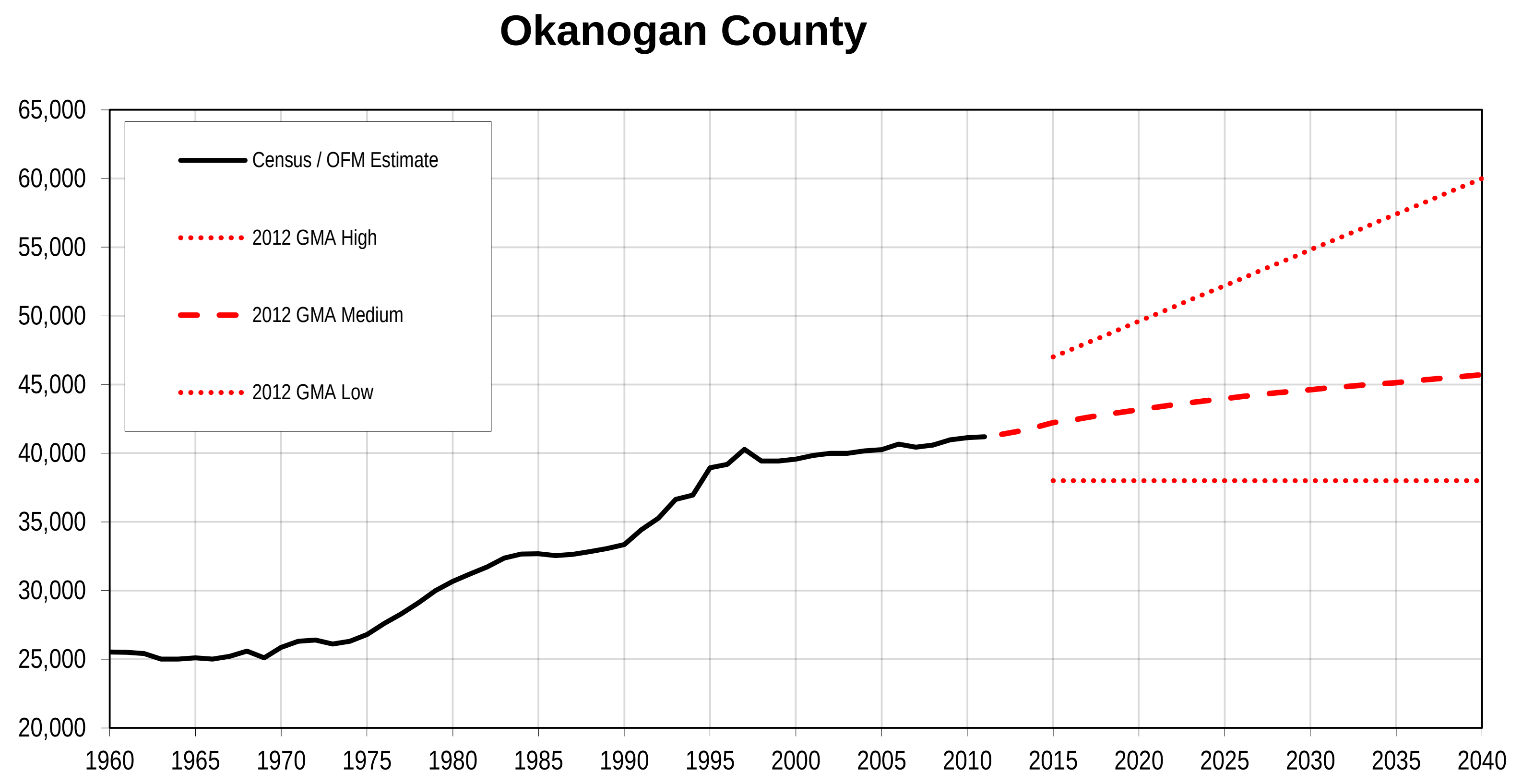
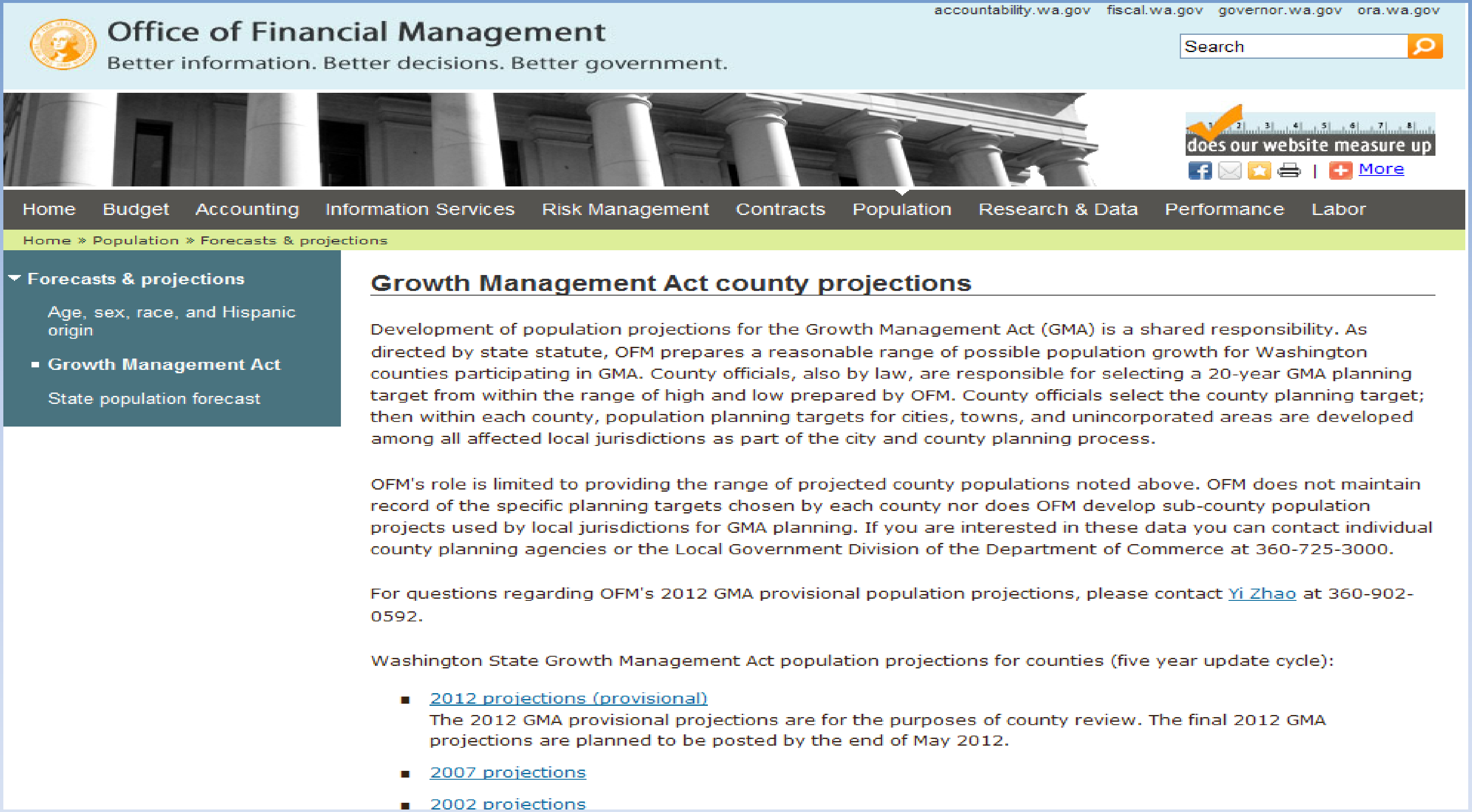
Highly Variable Population



GMA Information Online

- All data related to the 2012 GMA process is online.
- Lots of other population data is available, too.

GMA Main Page



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State population forecast

Growth Management Act county projections

Development of population projections for the Growth Management Act (GMA) is a shared responsibility. As directed by state statute, OFM prepares a reasonable range of possible population growth for Washington counties participating in GMA. County officials, also by law, are responsible for selecting a 20-year GMA planning target from within the range of high and low prepared by OFM. County officials select the county planning target; then within each county, population planning targets for cities, towns, and unincorporated areas are developed among all affected local jurisdictions as part of the city and county planning process.

OFM's role is limited to providing the range of projected county populations noted above. OFM does not maintain record of the specific planning targets chosen by each county nor does OFM develop sub-county population projects used by local jurisdictions for GMA planning. If you are interested in these data you can contact individual county planning agencies or the Local Government Division of the Department of Commerce at 360-725-3000.

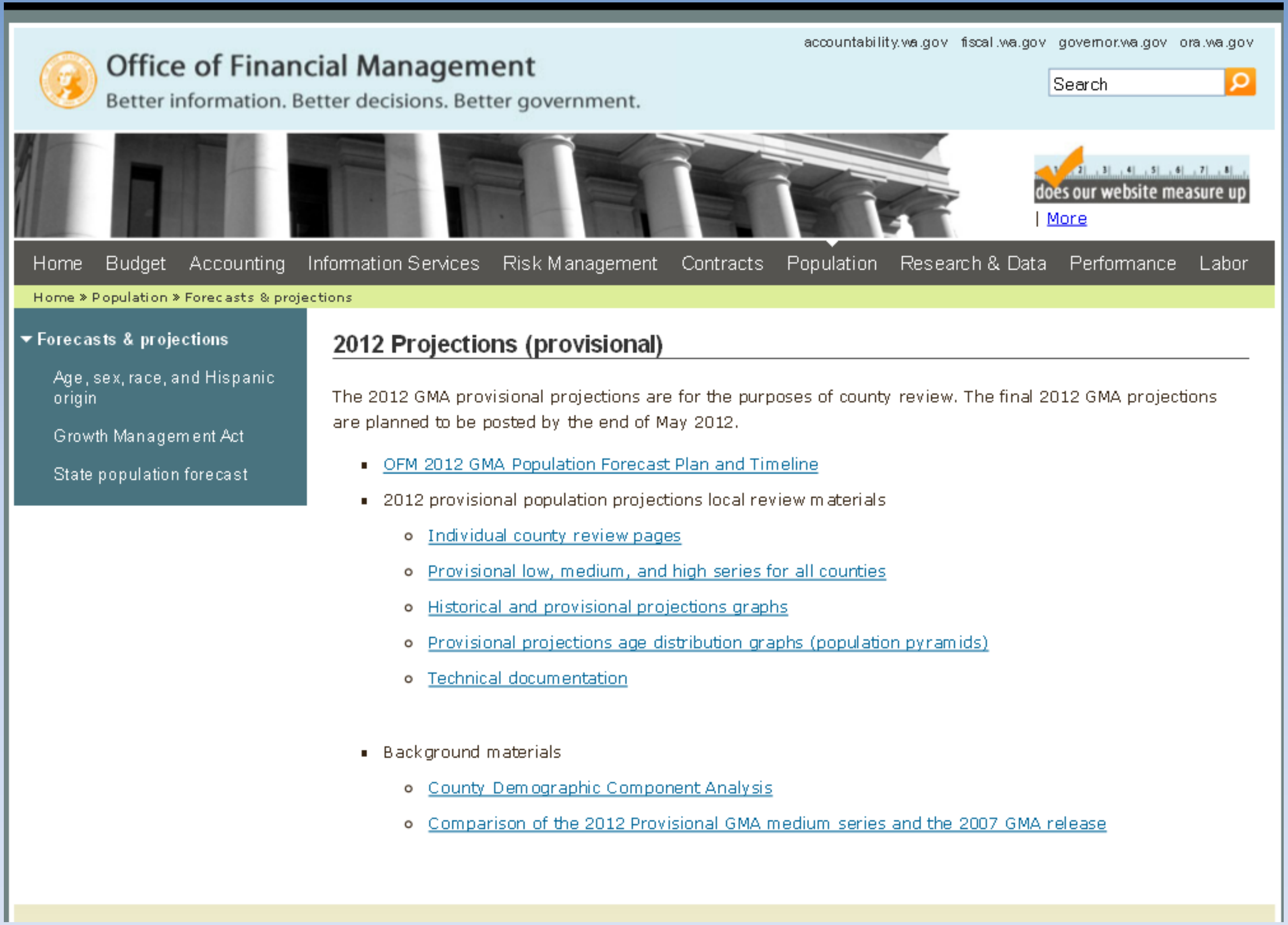
For questions regarding OFM's 2012 GMA provisional population projections, please contact Yi Zhao at 360-902-0592.

Washington State Growth Management Act population projections for counties (five year update cycle):

- 2012 projections (provisional)
  The 2012 GMA provisional projections are for the purposes of county review. The final 2012 GMA projections are planned to be posted by the end of May 2012.
- 2007 projections
- 2002 projections

http://www.ofm.wa.gov/pop/gma/default.asp

2012 GMA Page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State population forecast

2012 Projections (provisional)

The 2012 GMA provisional projections are for the purposes of county review. The final 2012 GMA projections are planned to be posted by the end of May 2012.

- OFM 2012 GMA Population Forecast Plan and Timeline
- 2012 provisional population projections local review materials
  - Individual county review pages
  - Provisional low, medium, and high series for all counties
  - Historical and provisional projections graphs
  - Provisional projections age distribution graphs (population pyramids)
  - Technical documentation
- Background materials
  - County Demographic Component Analysis
  - Comparison of the 2012 Provisional GMA medium series and the 2007 GMA release

http://www.ofm.wa.gov/pop/gma/projections2012.asp

That’s a lot of documents!

- “OFM 2012 GMA Population Forecast Plan and Timeline” – This is a document with both the timeline and some other technical information.

Section: “2012 provisional population projections local review materials”

- “Individual county review pages” – Links to single page PDFs for each county with the 2012 provisional GMA projection and a graph.
- “Provisional low, medium, and high series for all counties” – Spreadsheet with high, medium, and low 2012 provisional GMA projections for all counties.
- “Historical and provisional projections graphs” – A PDF with graphs of all 2012 provisional GMA projections.
- “Provisional projections age distribution graphs (population pyramids)” – A PDF with Age pyramids for each county at 2010 (actual), 2030 (projected), and 2040 (projected).
- “Technical documentation” – A PDF with more technical detail.

Section: “Background materials”

- “County Demographic Component Analysis” – Plots of the interactions between birth, death, and migration (“components”). Also graphs of the 2007 GMA projections.
- “Comparison of the 2012 Provisional GMA medium series and the 2007 GMA release” – Graphs comparing 2007 GMA forecasts to 2012 provisional GMA forecasts.

Items Available after Final Release

- Final publication: technical documentation, projections, and graphs (PDF)
- High, Low and Medium series (Excel)
- Projected 65+ population (Excel)
- County total population for single projection years (Excel)
- Components of change (Excel)

Questions?

Contact Information

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