**FACT:** Clackamas County, along with all Oregon cities and counties that create transportation system plans, is required to use a coordinated population forecast for its' planning. Because part of Clackamas County is inside the Metro Boundary, the County has two options for what population and employment forecast data is used:

1. Use the population and employment forecasts that Metro uses in the Regional Transportation Plan (RTP), **or**

2. Develop an alternative forecast, coordinated with Metro, to account for changes to comprehensive plans or land use regulations that were adopted locally after the RTP was adopted by Metro.

**BACKGROUND:** The State of Oregon has required that land use and transportation plans be based on a coordinated population forecast since the mid 1970's. Coordinated population forecasts are the responsibility of counties (ORS 195.036) with the exception of the area within the Metro urban growth boundary (UGB).

- The area of Clackamas County inside the Metro urban growth boundary is included in Metro's forecast that is used for state land use and transportation planning.

- Clackamas County has not conducted a separate coordinated population forecast for the area outside the Metro boundary for more than two decades. The County is currently working with rural cities to develop a coordinated forecast in conjunction with the update of the Metro forecast.

- Metro, a Metropolitan Planning Organization (MPO), is also responsible for population and employment forecasting for use in regional transportation planning (federal) in the Portland-Beaverton-Vancouver Oregon-Washington Primary Metropolitan Statistical Area (PMSA). This PMSA consists of seven counties – Clackamas, Washington, Multnomah, Yamhill and Columbia in Oregon, and Clark and Skamania in Washington. This forecast, which is updated every five years, covers all of Clackamas County.

The current Clackamas County TSP Update process must be consistent with Metro's current household and employment forecast through 2035. (The population forecast is developed from the household forecast.) This forecast (see below) is expected to be adopted by Metro by the end of 2012 and then forwarded to the State Land Conservation and Development Commission for review.

| Most Recent Metro Forecast | 2010 Households | 2035 Households | 2010 – 2035 Change | 2010 Employment | 2035 Employment | 2010 – 2035 Change |
|---|---|---|---|---|---|---|
| Clackamas County | 146,324 | 205,369 | 59,045 | 137,946 | 210,340 | 72,394 |
| Multnomah County | 304,649 | 442,778 | 138,129 | 419,164 | 597,532 | 178,368 |
| Washington County | 202,647 | 294,174 | 93,527 | 232,019 | 382,310 | 150,291 |
| Clark County | 158,110 | 228,392 | 70,282 | 127,267 | 222,029 | 94,762 |
| TOTAL | 811,730 | 1,170,713 | 358,983 | 916,396 | 1,412,211 | 495,815 |

# Metro Household and Employment Forecast Model Components

(For more information on the components reviewed below, go to:
http://www.oregonmetro.gov/index.cfm/go/by.web/id=39026.)

**1. The Metro Regional Population Forecast** uses a standard population cohort survival methodology. This methodology estimates future populations using basic demographic data broken down into *cohorts* – age and gender specific groups. The forecasts use the size of each age group in the base year population, and the expected deaths rates and expected migration for each age cohort during the forecast period, plus the estimated number of new births, to estimate the future population.

- The mortality rates are age-specific, based on the U.S. Census middle series assumptions and further calibrated to base year vital statistics for the region as a whole.
- New birth cohorts are generated by applying age-specific fertility assumptions to the female population of child-bearing age (assumed to be 10 to 49 years old), based on the U.S. Census middle series assumptions and further calibrated to base year vital statistics for the region as a whole.
- Net migration is projected from an econometric equation and disaggregated into age groups based on census distributions.

**2. The Metro Regional Employment Forecast** is based on an econometric forecasting model that describes regional economic behavior. It Includes equations for employment sectors, wage sectors, income components, population and migration, productivity, inter-industry demand variables and a number of identity equations.

**3. The Regional Land Supply Model** is a recently-updated GIS-based model that estimates the available land supply for residential and employment land uses at the parcel level for the Portland Region.

**4. The Metroscope Model** allocates the forecast household and employment growth to the available land supply in the region.
- It uses output from the **Regional Travel Demand Model** (see below) in the allocation process.
- It uses two internal real estate location models, one for residential location and one for nonresidential location, that
  o predict the locations of households and employment respectively,
  o measure the amount of land consumed by development,
  o measure the amount of built space produced, and
  o measure the prices of land and built space by zone in each forecast time period.

**5. The Regional Travel Demand Model:**
- Predicts travel activity levels by mode (bus, rail, car, walk or bike) and road segment;
- Estimates travel times between transportation analysis zones (TAZs) by time of day, and
- Produces a measure of the cost perceived by travelers in getting from any one TAZ to any other.

**Metro Economic and Land Use Forecasting** (see graphic, below)

The following graphic shows the relationship between the various measures, models and reports used by Metro for economic and land use forecasting. The forecasting is done by the Metro Research Center that is made up of three divisions: Data Resource Center, Transportation Research and Modeling Services, and Economic and Land Use Forecasting (ELF).

*Economic and Land Use Forecasting*
*How ELF and the Research Center Inform 2040 Policy*

## Measure

**ELF Projects**
- Residential refill
- Nonresidential refill
- Housing price studies
- Capacity analysis

- UGR data on density by housing type and lot size trends
- Regional economic performance assessment – jobs, prices, income and growth

**DRC & TDM Projects**
- Regional Indicators
- Buildable lands analysis
- Transit usage
- Bike usage
- Pedestrian shares
- Regional performance measures
- Comparison to "peer regions"
- VMT, traffic counts and highway capacity analysis

For more information:
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## Model

**Regional Econometric Model**
- High growth scenarios
- Medium growth scenarios
- Low growth scenarios
- Risk assessments
- Confidence limits

**MetroScope Scenario Modeling**
- Amount and timing of UGB expansion
- Urban renewal capacity and affordable housing subsidy assumptions
- Transportation investment and network configuration
- Zoning and capacity of Metro Region
- Zoning and capacity of surrounding jurisdictions

**Travel Demand Alternatives Modeling**
- Level of transit and non auto mode investment and support
- Level of roads and bridges investment
- Special traffic management programs such as tolling and usage based financing
- Assumptions about gas price and auto ownership costs

## Report

**2040 Plan: Regional Goals and Objectives for Urban Area**
- Housing and transportation choice and access for all of region's households
- Growing economy and family wage jobs
- Protection of the natural environment and minimum consumption of rural lands
- Efficient use of land

**Scenario Evaluation and Feedback**
- Risk assessment
- Housing and transportation costs
- Residential and job densities
- Centers and corridors growth
- Efficient land use
- Per capita vehicle miles traveled
- Travel times
- Social equity

**UGR Policy Choices – The Road Ahead**
- 20 year land need for jobs and housing
- Vacant land available
- Refill capacity and assumed refill rate
- Housing and transportation costs by household income, size and age
- Transportation improvements by mode type
- Transportation network usage by mode type
- VMT and air quality assessment
- Density by location and land use
- Infrastructure costs

Scenario results

Scenario evaluation and refinement

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