

**Thurston Regional Planning Council
Small Area Population and Dwelling Unit Estimates**

Technical Documentation - 2003

Previous Estimates

Thurston Regional Planning Council (TRPC) has developed small area population and dwelling unit estimates since the release of the 1998/1999 Population and Employment Forecast in 1999. These estimates were calibrated to Intercensal Estimates of Cities, Towns, and Thurston County, provided by the Washington State Office of Financial Management (OFM) on an annual basis, and the 1990 Census dwelling unit count.

Estimates are used by local governments and businesses for budgeting and planning purposes. In the past, estimates have been made available by the 1999 Forecast Analysis Zone (FAZ) structure. This data structure contained imbedded information by various geographies, including: jurisdictions, urban growth areas, planning areas, forecast areas, watersheds, basins, census tracts, block groups, and blocks, fire districts, school districts, and elementary school boundaries (where available).

The final release of these estimates was the first quarter 2002. In the summer of 2002, the U.S. Bureau of Census released a count of housing units by type. This allowed for an overhaul of the small area population and dwelling unit estimate methodology.

Current Estimates

For the years 2003 and forward, TRPC will release population and dwelling unit estimates annually in July for the *first quarter* of the current calendar year. TRPC's data release is dependent on the availability of the State Office of Financial Management population estimates at the city/town and county level.

Consistency with Existing Estimates

In the years 2001-2002, many new data sets were made available by Federal and State sources that precipitated the overhaul of the small area population and dwelling unit estimates at TRPC. At the same time, the 2002-2004 update of TRPC's Population and Employment Forecast allowed for the development of a revised data structure.

The revised estimates will be compatible with the following:

- 2000 Census Summary File 1 (SF1) Population at the City, Town, and County level.
- 2000 Census Summary File 3 (SF3) Dwelling Unit Estimates, by type, at the Block Group level.
- 2000 Census SF3 Group Quarter Estimates at the Block Group level.

- 2000 Census SF3 Occupancy and Household Size rates by Census Tract, adjusted slightly to calibrate at the City, Town and County level.
- 1994-1999 Office of Financial Management (OFM) Intercensal Population estimates at the City, Town, and County level.
- 2001-current year OFM Intercensal Population and Total Dwelling Unit Estimates at the City, Town, and County level.

The revised estimates will **not** be compatible with:

- Census yearly estimates of county population *unless* this information is incorporated into OFM estimates.

Methodology

TRPC's Small Area Estimates are developed in an ACCESS database through a Visual Basic for Application (VBA) and Sequel-server (SQL) based program.

The estimates rely on a five-step process.

Step 1: Update Population and Dwelling Unit Totals from OFM

Tables are opened for manual updates. The population totals are generally available from OFM by June. The dwelling unit totals are generally available with the release of the OFM document Population Trends. Population estimates will be updated on a preliminary basis until such a time as the dwelling unit estimates are released.

Step 2: Update Building Permits

Residential building permits are tracked by TRPC at the tax-parcel or site address level. By April of each year, all permits from the previous calendar year have been collected from individual jurisdictions, entered into TRPC's database, and geocoded through the geographic information system. Two data files result from this process, one that contains information from the original permits, titled tblResidentialPermits, and a location file that contains supplemental information added by TRPC titled tblResidentialGIS. These files must be imported into the Small Area Database prior to running the small area estimates for the current year.

Step 3: 1994-2000 Dwelling Estimate

Dwelling units for the year 2000 were collected from Thurston County Assessor Files and an aerial photograph analysis at the tax-parcel level during the data collection phase of the Buildable Lands Program. The dwelling unit estimate was calibrated to the 2000 Census dwelling unit count at the Census Block Group Level.

Dwelling unit estimates for the years preceding Census 2000 were developed after the year 2000 count was calibrated to Census files.

Rather than relying solely on building permit information, a more comprehensive look at development trends was completed at the tax-parcel level. This evaluation includes isolating activity in mobile home parks – where units are removed and replaced periodically, demolitions, conversions, and permits for units that were never built. This type of evaluation is only possible at the end of the development period. The dwelling unit estimates were not adjusted to OFM estimates.

Dwellings are estimated by type, for single-family, multifamily, and manufactured homes. It is not anticipated that there will be any further updates to these estimates.

Step 4: Post Census 2000 Dwelling Estimate

Residential building activity provides the basis of small area dwelling unit estimates for post Census 2000. New dwelling units are located by address or tax-parcel number to the individual tax-parcel. The completion date of residential dwellings is estimated based on the permit issue date, type of dwelling unit, and type of jurisdiction. Each dwelling permitted during a given year adds to the total dwelling unit estimate. Each dwelling unit demolished during a given year is removed from the total dwelling unit estimate.

Annexations: Annexations are tracked by TRPC in a GIS coverage that can be related to the tax-parcel data layer. Annexations are coded with a pre-annexation jurisdiction (generally Thurston County or an unincorporated urban growth area) and date the annexation was approved by OFM. The approval date of annexation may vary by several years from the date of submission to OFM.

Calibration: OFM generates dwelling unit estimates at the city/town and county level annually. The TRPC estimates are calibrated to OFM control totals for the post Census 2000 years. There is a time lag between release of population and dwelling unit estimates by OFM, so the initial dwelling unit estimates are considered preliminary.

Step 5: Population Estimate

Household population is estimated by multiplying the number of dwelling units (by type) by a household size factor.

Household size for 2000 is derived from Census counts of dwellings and population by type at the Census Tract level. It is then adjusted slightly to calibrate to Census Population counts at the City/Town and County level.

Household size for pre- and post-Census 2000 years is adjusted slightly at the City/Town and County level to account for decreasing household size over time. This adjustment is applied at the tax-parcel level.

Group Quarters counts were available from Census 2000, and located to specific tax-parcels. Intercensal Group Quarters estimates were provided by OFM for pre-Census

years. Until further information on group quarters is released by OFM for post-Census 2000 years, group quarters will not be adjusted.

Availability

Small Area Population and Dwelling Unit Estimates are available for the years 1994 and on, by single-family, multifamily, and manufactured homes, by the following geographies:

- Jurisdictions including Tribal Land, Cities, Towns, and Unincorporated Urban Growth Areas
- 1990 Traffic Analysis Zone Structure
- 1995 Traffic Analysis Zone Structure
- 1998 Traffic Analysis Zone Structure
- 2001 Traffic Analysis Zone Structure
- 1998 Planning Areas
- 2000 Planning Areas
- 1990 Census Tracts
- 1990 Census Block Groups
- 1990 Census Blocks
- 2000 Census Tracts
- 2000 Census Block Groups
- 2000 Census Blocks
- WRIA
- Watersheds
- Basins
- Sub-basins (where available)
- School Districts
- High Schools (where available)
- Middle Schools (where available)
- Elementary Schools (where available)
- Fire Districts
- LOTT planning areas
- 2000 Zoning Districts
- Townships, sections, ranges