

January 2012

GEOGRAPHIC SCOPE OF ANALYSIS

Regional districts

Metropolitan GreenSTEP runs using 20 districts (see Figure 2) and provides a comparable structure to the State GreenSTEP model, which runs using the 36 Oregon counties. Because GreenSTEP calculates greenhouse gas (GHG) emissions from household VMT estimates, Metro adapted the region's 18-district transportation analysis zone (TAZ) map in an effort to define sub-regional geographies with similar travel behavior and land use characteristics. The original 18-district map used TAZs as the base geographic unit. However, in order to have the regional districts nest within county geographies, these boundaries were adjusted to Census tract geographies. A number of the original 18 districts were adjusted in an effort to keep Regional Centers within a single district when possible (most Regional Centers are intact with only a few being intersected by neighboring districts). In addition, two districts were added in order to better account for local land use and travel characteristics.

1. In Washington County, District 2 was subdivided and District 19 was created to isolate Hillsboro, Forest Grove and Cornelius from the rest of rural Washington County.
2. In Multnomah County, District 13 was subdivided and District 20 was created to isolate Gresham and Troutdale from the rest of Multnomah County.

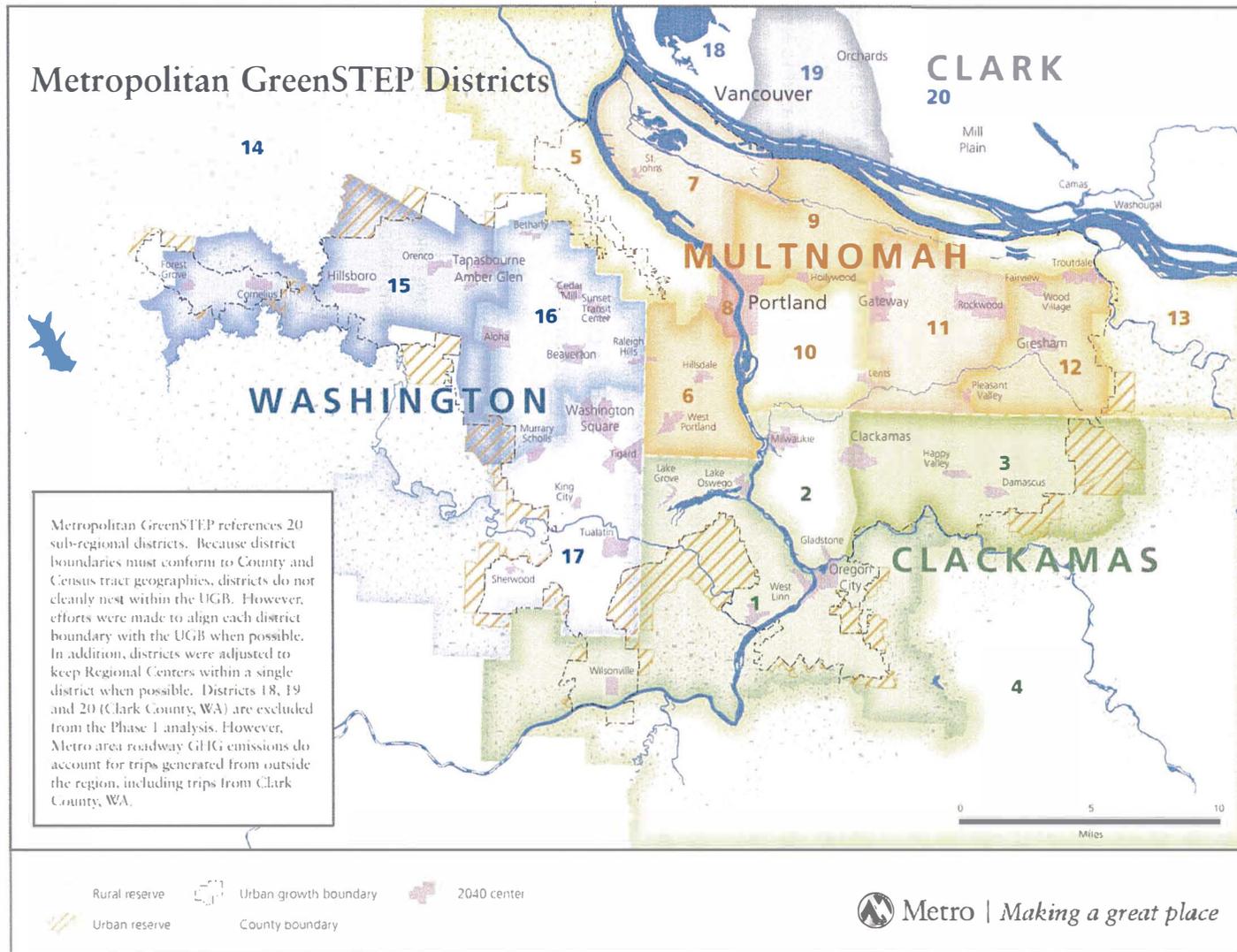
The land use characteristics of the 20 districts influence a number of factors used to estimate household vehicle ownership and vehicle travel. These include the land use characteristics of the area where a household resides, population density and urban form characteristics. Land use characteristics are assigned to households using the following method (from ODOT's GreenSTEP documentation report)³:

1. Each household in each county is assigned to one of three land use types - metropolitan, other urban, or rural.
2. The geographic extent of urban growth in metropolitan and other urban areas in each county is calculated.
3. Overall metropolitan, other urban and rural densities are calculated.
4. Households are assigned a Census tract population density based on the overall metropolitan, urban or rural area where it is located.
5. Households in metropolitan areas are designated as being in an urban mixed-use community/neighborhood or not, based on Census tract density and metropolitan goals for urban mixed-use development.

³ Gregor, Brian, ODOT Transportation Planning Analysis Unit, Greenhouse Gas Statewide Transportation Emissions Planning Model (GreenSTEP Model) Documentation, September 2010.

January 2012

Figure 2: Metropolitan GreenSTEP 20 districts map



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01/11/2012

13439

January 2012

Because the district geographies will be used to calculate the above mentioned background conditions – which in combination with the UGB expansion rates affects the proportion of households in mixed use areas – it is important to net out the land areas that are not designated as developable by 2035 (the planning time horizon of the scenarios project).

Therefore, after establishing the new district boundaries the following steps were taken to create a net acreage for each district:

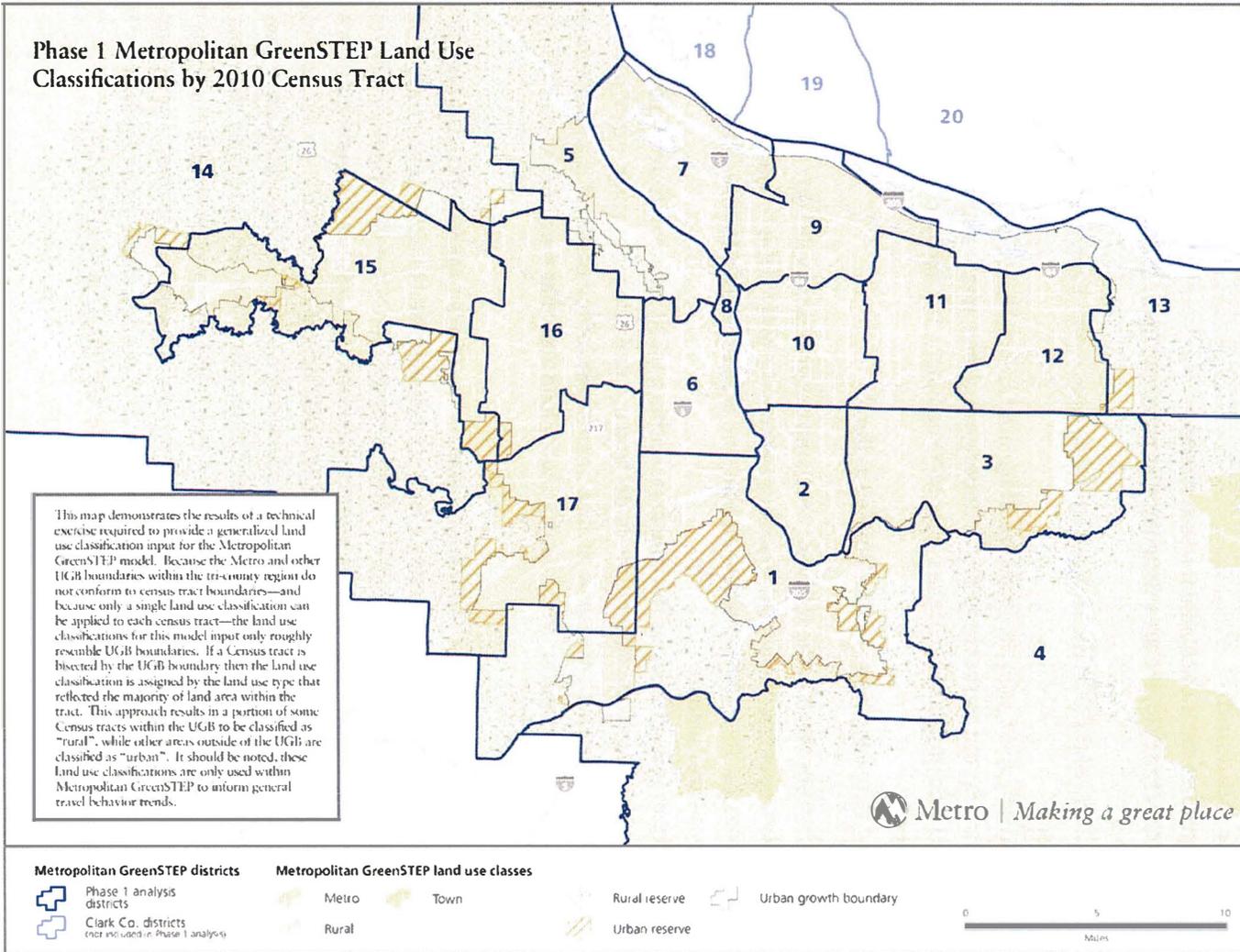
1. Total acreage is calculated for each district.
2. Within the UGB, the area designated as parks and rivers is subtracted from the total UGB land area.
3. Outside of the UGB the land area designated as Urban Reserves is added to the net land area in step 2.
4. Outside of the UGB the land area designated as Rural Reserves is subtracted.
5. Similarly, outside of the UGB the Undesignated land area is also subtracted.
6. The land area outside of the Metro MPO boundary, but within a UGB is designated as a “other urban.”
7. The remaining land area is identified as Rural.

These seven steps result in the following land area designations by district:

- **“Metropolitan”** includes the land area within the Metro UGB (minus parks and rivers) plus Urban Reserves. This land is the developable land area to be used for the “metropolitan” population density calculation.
- **“Other urban”** includes the land areas within a UGB that are outside of the MPO boundary (conforming to the GreenSTEP model land use definition for “other urban”).
- **“Rural”** designations include all land area outside of the UGB that is a Rural Reserve, Undesignated and/or all remaining county land area that is not included as “metropolitan” or “other urban.”

Figure 3 includes the land use designations used for the Phase 1 Metropolitan GreenSTEP scenario runs. It should be noted that assigning a single land use characteristic to each Census tract results in a generalized land use map that does NOT reflect adopted land use policy. Figure 3 only reflects a technical exercise required to provide a generalized land use classification input into the Metropolitan GreenSTEP model. Because the Metro and other UGB boundaries within the tri-county region do not conform to census tract boundaries—and because only a single land use classification can be applied to each census tract—the land use classifications for this model input only roughly resemble UGB boundaries. When a Census tract was bisected by a UGB boundary the classification was designated with the land use type that reflected the majority of the land area within the tract. For example, a tract with two thirds of its land area inside the UGB and one third outside would be designated as “Metropolitan”, while if the opposite ratio were to be true, the tract was designated as “Rural”.

Figure 3: Phase 1 Metropolitan GreenSTEP land use



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01/11/2012