

From: Susan Payne
To: TPC
Date: 14 Dec 2010
Subject: Modeling work for TSPs and RTSP

The following work is anticipated by LCOG to be needed for developing and exercising the regional travel model for use in the Eugene, Springfield and Coburg Transportation System Plans (TSPs), and for the Regional Transportation System Plan (RTSP). This work program must mesh with the work for the Regional Transportation Plan (RTP) if the region is to maintain its federal funding. Further, it must be consistent with the work required by LTD for a West Eugene EMX grant application submittal, and a NEPA submittal. Refer to the attached diagram for an outline of the process anticipated.

1. Forecast Years, UGBs, and Performance Metrics: LCOG will work with cities and LTD to identify the target years for forecasts. Already identified are year 2017 (based on LTD requirements for a BRT Small Starts application, and on Air Quality Conformity Determination (AQCD) requirements), and year 2035 (based on RTP and LTD NEPA requirements). Based on these two years, another interim year for which a forecast is known to be required for AQCD purposes is 2026.

LCOG will work with cities to define an acceptable single geographic boundary for each forecast year within which a base regional forecast (land use + travel) will be made. Variations on these UGB boundaries must be identified within each city's alternatives analysis (see below).

LCOG and the cities and consultants will decide upon a list of transportation performance measures that can be reasonably provided by the regional travel model. These performance measures will ideally be applicable across the entire MPO area, and are anticipated to include volumes on each link, and intersection turn volumes.

2. 2008 Base Year: LCOG will develop the regional 2008 base year land use and transportation network. LCOG will validate the model against daily seasonally-adjusted traffic counts provided by the cities concentrating on district to district flows. LCOG will review peak hour counts and adjust the regional travel model *if possible* (based on available data sources) to validate forecast flows to peak hour counts. (Note – model is not suitable for intersection analyses – this requires an operational model and is outside the scope of this task).

This task uses existing data available at LCOG for land use: housing and employment by various classes are collected into 642 transportation analysis zones. LCOG will prepare the networks for all modes on roadways of functional class *collector and higher*. LCOG will produce maps and the cities, ODOT and LTD will review networks to ensure all links are present, and that lanes, capacity, speed, and turn restrictions are correctly represented. LTD will provide information on routes, service schedules, and will provide passenger count (APC) data as needed to validate ridership by route.

3. 2017 Interim Year and Land Use Pipeline Development Catch-up: The 2017 scenario is assumed to consist of 2008 land use plus the pipeline projects plus the growth increment to meet the coordinated population. Each city will provide LCOG with a list of all 'pipeline' development projects that have occurred since 2008 and those that are virtually certain to be

developed. This list will describe the number of housing units to be built (by structure type) and the commercial/industrial floor space to be added by industrial sector type.

LCOG will amend the 2008 base land use description by incorporating these additions and will adjust the required growth increment for housing and employment through 2017 and 2035. Growth will be allocated throughout the defined 2017 UGB boundaries of each City, as agreed to by each city.

4. Regional Land Use Forecasts for 2035: LCOG will work with cities to obtain a single land use forecast for the horizon year of 2035. This forecast will be assembled to constitute the base regional land use description upon which individual city alternative scenarios may be built. In particular, the regional forecast will be used to estimate flows *across* UGB boundaries into each city. All cities will spatially define the UGB and the comp plan that is to be used for the forecast year. All forecasts must be consistent with adopted plans or with plans that each city identifies as approved. The latest 2035 coordinated population for each jurisdiction must be met. Each city will identify the TransPlan nodes that are to be considered in the forecasts, and will provide a description of residential and employment growth expected in these nodes by each forecast year.

a. Coburg – LCOG will work with city staff to develop a single future land use forecast that is consistent with the Coburg Urbanization Study Plan. LCOG will provide maps and tables of the land use forecast, and City will approve the forecast.

b. Springfield – LCOG will work with city staff and their consultants to develop a future land use forecast that is consistent with Springfield’s latest buildable lands inventory, economic opportunities analysis, and downtown plans within the identified UGB and comp plan designations. This forecast must be spatially described across the Springfield UGB in TAZs. LCOG will provide maps and tables of the land use forecasts and City will approve the forecast.

c. Eugene – LCOG will work with city staff and their consultants to develop a future land use forecast that is consistent with the ECLA inventory, with identified efficiency measures, and with other Envision Eugene planning documents. LCOG will provide the City with the definitions of the land use categories required for the regional model and the TAZ geometry. City will provide LCOG with TAZ level forecast of residential household development by structure type such that household socioeconomic characteristics are consistent with the Census data and trends, and that total UGB population is that of the coordinated 2035 County forecast. City will provide LCOG with TAZ level forecasts of employment by sector such that the total employment by sector is consistent with the city’s economic forecast for 2035.

4. 2035 Networks: LCOG will prepare the No-Build road and transit networks for 2035. These will comprise of the current networks amended by transportation projects that have occurred since the base year of 2008 and that are ‘in the pipeline’ by virtue of having identified funding in the CIPs and TIP (aka the “2017 network”). Cities and LTD will provide information on these projects to LCOG including alignment, lane changes, speed changes, functional class changes, capacity changes, turn restrictions. LTD will provide route-specific operating characteristics of all transit types to LCOG for 2035. This will include BRT, BRT Progressive Corridor, and local

bus service. LTD will indicate which components are to be assumed for the “no build” TSP scenario.

LCOG will also prepare the projects that are to be incorporated in the 2035 RTP Fiscally Constrained network so that subsets can be put together to incorporate into each city’s alternative transportation network, and can be used for LTD’s NEPA project.

5. Alternative Scenarios: Each city, working from the 2035 regional land use scenario, shall provide LCOG with adjustments in residential households by structure type and in employment by sector such that the resultant scenario represents the city’s desired alternative land use scenario. Due to the inter-relationships of travel within the MPO area, a common forecast year is highly desirable. If cities have different forecast years, the travel flows between cities will not be consistently represented. This issue is addressed in Item 1. above.

Each city will also provide LCOG with a list of proposed build projects that are to be added to the No-build network for analysis. LCOG will update the No-build network to create the Build network; LCOG shall adjust the Land Use description; and LCOG shall run the regional model to obtain travel estimates. The model will provide estimates for peak AM and PM periods as well as daily values.

6. Outputs: LCOG shall use the various modeled scenarios to produce the performance metrics desired by the cities and LTD. These will include maps and tables.

7. RTSP: LCOG maintains only one regional network --it contains all roads above local functional class. This practice is continued for the adopted forecast year. Thus, LCOG will prepare the RTSP No-Build network from the “2017 network” (also known as the TSP No-Build network). The RTSP Landuse scenario will be the 2035 Regional land use forecast, consistent with the 2017 No-Build network.

Following City adoption or approval of their preferred alternative scenario, the preferred regional land use forecast will be assembled by LCOG, mapped, and tables produced. The RTSP Build Network will consist of the cities preferred alternative networks.

8. Model Upgrades. Due to the lack of recent data (Census 2010 results in particular will not be available until 2012) to support new upgrades to the model, it is not expected that the regional model will be significantly updated. Also, the 2008 modeling needs to start very soon, and thus there is likely no time for analysis to be completed and included in any updates to the model. Once Metro updates their model for dynamic traffic assignment and also advances to an activity-based model, LCOG intends to work with Metro to begin the update to this regional model. The dynamic assignment work is anticipated to begin in January 2012 and will take approximately 1 year to complete.

Jan 4, 2011

