Strategies for Sub-Aarea Modeling using Regional Travel Demand Models

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One challengeM many small and medium-sized communities are confronted with isthe challenge of forecasting traffic in order to better plan for future needs. Typically this forecasting process is facilitated using travel demand models. While some small and medium-sized communities have create their own local travel demand models created solely for their communities, many communities are within larger urban regions that can utilize regional travel demand models. The focus ofT this paper will befocuses on strategies for applying regional models at the small and medium-sized level in the form of sub-area models. A sub-area model, in this application, is defined — defined here as a stand-alone or refined travel demand model that focuses on a particular area within a larger region.

When developing a sub-area model for a small or medium-sized community, there is not a universal or industry-wide approach to move beyond the regional model level to the sub-area model level. This presentation will present highlight four strategies communities can consider for preparing a sub-area model, along with the circumstances in which a particular strategy might be used. These strategies include:

1. Refining – — Refining network and TAZs within the full regional model structure
2. Clipping – — Extracting the sub-area from the regional model
3. Cloning – — Creating a new standalone model using regional model settings
4. Post-Processing — — Manually disaggregating regional model results

There areCommunities need to consider many factors that should be considered when developing a sub-area model in order to achieve so that is has maximum utility from their investment. These factors include but are not limited to:

- Type of desired analysis
- Structure and complexity of regional model
- Size/area of regional model
- Size/area of sub-area
- Vintage of regional model

We The presentation will discuss some of these considerations and help guide communities on for a reasonable approach to developing a sub-area model. We The presentationwill also includespresent the results of an informal survey with communities and MPOs on how sub-area models are applied in those areas. Finally, we the presenter also will also demonstrate several case studies that utilize different sub-area modeling techniques, and the rationale behind why the sub-area models were applied in the fashion that they were, including the Towns of Cary, NC, Mooresville, NC, and Leesburg, VA.