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March 28, 2011

TO: Mayor and Council
FROM: Daryl Cole, Director, El Paso Department of Transportation
SUBJECT: Metropolitan Transportation Plan Modeling

Daryl Cole
3/28/11

During Council discussions regarding Transmountain West (Loop 375) widening, Council members have asked questions about the updated MPO's transportation modeling and resulting traffic projections used in the development of the Mission 2035 Metropolitan Transportation Plan (MTP). Specifically, Mission 2035 projected traffic volumes have decreased when compared to the Transborder MTP projections and these variances have not been addressed. El Paso Department of Transportation (EPDOT) staff met with MPO staff to understand the different methodologies used in the two plans and the effects of these differences in the updated Mission 2035 MTP as well as the impact on the City's Traffic Impact Analysis (TIA) of Transmountain.

An overview of the model's purpose may be helpful in situating the results and uses. MPO's nationwide model the operations of existing and proposed transportation projects that address capacity over the life of the MTP. This model is used to determine the plan's overall conformity with air quality standards for each of the MPO's. That is, the existing and proposed transportation projects that either add lanes to current roadways or that build roadways in new locations cannot degrade the overall air quality of the MPO's study areas. The model provides an analytical tool for long-range transportation planning of the region as a whole. Regional models are not intended to substitute for individual project traffic analyses nor are they always the most current information for project implementation decisions. They are planning tools that serve as the starting point for project implementation studies and are usually refined to arrive at project-specific information.

Models have a useful life of approximately ten years. After that period of time, state and federal transportation agencies require a model update. MTP's, the long-range regional transportation plans, are updated every two or three years and utilize an

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DEPARTMENT OF TRANSPORTATION
DARYL W. COLE, DIRECTOR



approved modeling algorithm to determine the updated transportation project listing's conformity with air quality standards.

During the development of the Mission 2035 MTP, the El Paso MPO was required to develop a new model since the previous model was outdated. The MPO followed guidance from its consultative group, a committee made up of state and federal environmental and transportation agencies, and from the state to utilize the Texas state demographer's projections for growth, employment and concepts of infill development. While these projections are standardized statewide and therefore comply with the state's more stringent requirements for verifiable assumptions and models, they are not calibrated for the local border region's economic conditions. In contrast, the Transborder MTP utilized economic and growth projections based on the Bureau of Economic Analysis (BEA) which calculates and projects both full-time and part-time employment and UTEP's border regional model. This shift in assumptions resulted in a decrease in employment of approximately 100,000 jobs over the life of the MTP. Employment data is one of the factors that drives calculations of estimated number of trips and network use.

Land use and planned development of vacant land also impact traffic generation estimates. The Transborder MTP assumed full build-out of the Verde Group property in Santa Teresa and of the Northeast and Northwest Master Plans developed by the El Paso Water Utilities during the life of that plan. Given the economic recession in effect during the summer of 2009, when the MPO was finalizing assumptions and developing its modeling scenarios, these three major developments were completely excluded from the growth assumptions for the Mission 2035 MTP. No interim or phased build-out was projected.

Thus, at the network level, the Mission 2035 MTP deviated from past MPO practice to calibrate the model to local economic and growth indicators and excluded significant developments from projected trips. With regard to Transmountain, these deviations decreased the projected number of trips by approximately 30,000 in 2035 on this facility. Using the state demographer's assumptions and projections facilitated the state's acceptance of the model because state staff was familiar with the methodology employed. But, precisely because of its general acceptance, the model is less sensitive to local conditions and the confidence level of its projections is less than the confidence level the MPO had in the Transborder MTP.

In developing the Transmountain TIA commissioned by the City, Walter P. Moore used both the Transborder and Mission 2035 projections. But, as is the required practice for a project analysis, the consultant drilled from overall network estimates to updated projections that enrich and detail traffic volumes that match current economic indicators and planned development in the project impact area. Trip generation for the TIA included the broader employment information used in the BEA and also build-out of the two EPWU master plans. Further, Walter P. Moore assumed the northwest master plan land area would be developed following Smart

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Growth principles and reduced the number of trips generated within the NW planned area by 20%. This reduction is to the area only, not to the through-traffic utilizing Transmountain. However, the adjustment accounts for both a different development scheme and the resulting change in trips generated due to a mix of uses within the NW area.

The Transmountain TIA utilized more recent and more specific and detailed information than the Mission 2035 MTP. This is the accepted practice, to utilize general, network information to establish the basic parameters for a transportation project and then further refine and calibrate assumptions for traffic generation based on project specific information and information available at the time the project study is being conducted.

I hope this provides a more full explanation of the modeling processes used at the regional planning level, the differences between the two MTP's and the methodology for the Transmountain TIA.

Should you require further information I can be reached at 621-6750.

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