

Summary: Demand Reduction Assumptions Used For Travel Demand Analysis in the Salem River Crossing EIS

TO: Project Management Team
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This memorandum summarizes the travel demand reduction assumptions used in the Salem River Crossing EIS analysis. The full description of this approach is described in two other technical memoranda: "Demand Reduction Assumptions Used For Travel Demand Analysis of EIS Alternatives" (February 6, 2009) and "Approach to Analysis of Transit/TSM/TDM Options Memorandum" (October 14, 2008).

Background

ODOT policy supports strategies and programs to reduce traveler demand on State facilities. In order to validate the need for additional highway capacity even with improved transit service and Transportation System Management (TSM) and Transportation Demand Management (TDM) options, the Salem River Crossing EIS alternative designs will be based on reduced travel demand forecasts that assume successful implementation of a more aggressive transit and TSM/TDM program than are reflected in the baseline SKATS model.

The project team reviewed results from the SKATS model and considered previous analysis in order to recommend that the EIS alternatives be analyzed assuming a demand reduction of approximately 8% in the AM and PM peak periods. This reduction is in addition to what is already assumed and forecast in the SKATS model. While the analysis was conducted in terms of peak period reductions, in reality these measures would reduce demand during the entire peak period, not just for a single hour.

In the eyes of the travel demand model, bridge demand is composed of two components: internal and external travel. These terms are defined in relation to the SKATS district boundary, illustrated in Figure 1.

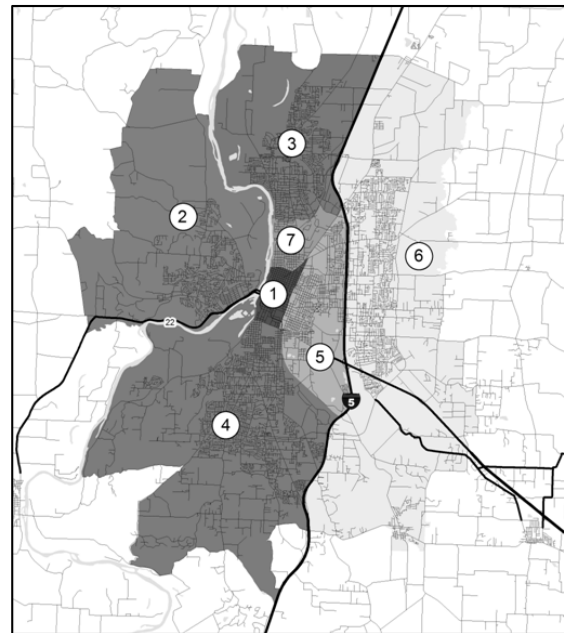


Figure 1 - SKATS Model Area District Boundaries

Internal trips are those that start and end within the SKATS model area. External trips are trips that pass entirely through the region without stopping or have one trip leg (start or end) either inside or outside the area. As illustrated in Figure 2, internal trips represent approximately two-thirds of peak period bridge demand and external trips account for the remaining one-third of peak period bridge demand.

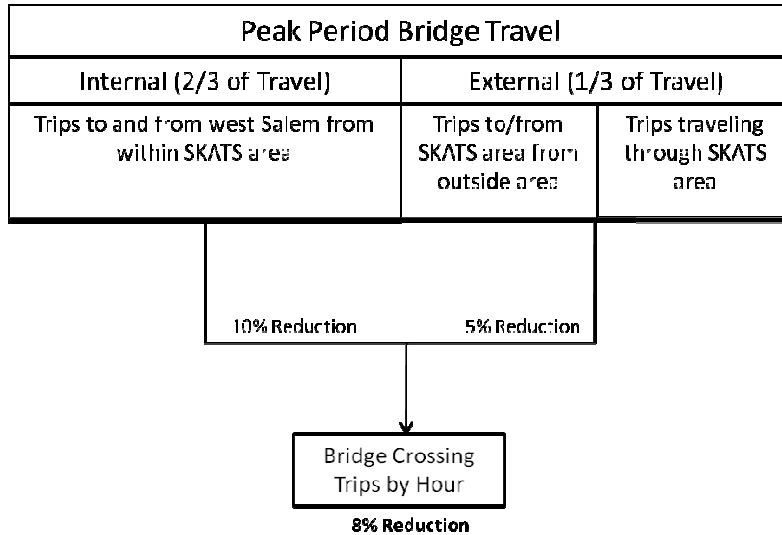


Figure 2 - Internal and External Bridge Travel

As shown in Figure 2, the number of vehicle trips making peak period bridge crossings will be reduced by 10% for internal travel and 5% for external travel in the peak hours. These reductions reflect shifts in travel mode and in travel time of day that would be associated with better transit and improved TSM/TDM programs. The smaller percentage reduction for external trips recognizes that these trips are harder to influence with traditional transit, TSM/TDM program measures because, for example, some of these trips are passing through the region without stopping. Given the split between internal and external trips, the net result of the corresponding 10% and 5% trip reductions is approximately an 8% total peak period demand reduction.

The transit and TSM/TDM program reductions are assumed to target and have the highest impact on peak period (AM and PM) travel, with a smaller impact on overall daily travel. Because TSM/TDM benefits do not only cause mode shifts, but also influence departure time and choice for travel, the net daily result (reduction) is assumed to be less than that experienced in the peak periods. As a result, analysis that considers daily traffic from the model will assume only a 3% reduction in the average weekday daily traffic forecast for bridge crossing travel.