TIER I METHODOLOGY FOR EVALUATING LITP OPTIONS

PERFORMANCE MEASURES

There are 14 performance measures to determine the effectiveness of the LITP Options. Of the 14 performance measures, 3 are qualitative and 11 are "quantifiable" at the Tier I evaluation stage. The LITP2000 travel demand and transportation system models were used to calculate the 11 quantifiable performance measures for each option.

CHANGES IN PERFORMANCE MEASURES

Year 2020 forecasts for the 11 quantifiable performance measures for each build Option were compared to the year 2020 forecast for the No-Build Option. The percentage changes for each of the quantifiable measures were calculated and each option was given 11 quantified scores, one score for each of the performance measures depending on the magnitude of the changes. For each option, its 11 quantified scores were combined with its 3 qualitative scores to establish the level of effectiveness for the option.

DETERMINING THE 11 QUANTIFIED SCORES FOR EACH OPTION

- If the performance of an option was in the “wrong” direction (i.e., decreased mobility or increased congestion), the performance measure was given the score of zero for the particular performance measure. For example, if it increased auto miles traveled when compared to the "No-Build" forecast, then it was scored zero for the first performance measure.

- If the performance of an option was in the "right" direction (i.e., increased mobility or decreased congestion), it was scored according to how much "positive" change it produced for the given performance measure. The scoring was done on a 4-point scale with "1" representing "marginal performance" and "4" representing "excellent performance." Each score was assigned statistically.

  The statistical scoring was done as follows: First, for a particular measure, the range of performance across all options was divided into four equal parts. Second, if the change produced by an option fell into the first (lower) part of the range, the option was given the score of "1" (least amount of change in the right direction) for the performance measure. If the change fell into the fourth (highest) part of the range, the option was given the score of "4" (greatest amount of change in the right direction) for the performance measure. This was done separately for each quantifiable performance measure.

QUALITATIVE PERFORMANCE MEASURES

Three of the performance measures are qualitative measures:

- Assessment of Potential to Reduce Long-haul Goods Movement by Truck
- Assessment of Potential to Increase Non-motorized Travel
- Assessment of Potential to Reduce Accidents

PERFORMANCE MEASURE WEIGHTS

Technical Advisory Committee (TAC) members assigned a weight to each of the 14 performance measures to establish their relative importance using the following scale:

4	Most Important
3	Important
2	Somewhat Important
1	Least Important

The weights were averaged to established a “final weight” for each performance measure. Final weights ranged from 2.4 to 3.4, see attached table.

EFFECTIVENESS

The score of each performance measure was multiplied by its assigned weight to arrive at a value of effectiveness. These values were added for the performance measures under each Option to obtain the effectiveness of that particular Option. Effectiveness values for the build Options could range from “0” (0 lowest score x 2.4 lowest weight x 14 performance measures) to “190” (4 highest score x 3.4 highest weight x 14 performance measures).