City of Lakewood WSDOT transpoGROUP WHAT TRANSPORTATION CAN BE.

MEMORANDUM

Date:	March 19, 2010	**TG:**	08301.00
To:	Technical Review Committee (TRC) Members		
From:	Project Team		
Subject:	Level 3 Screening – Revised Results		

This memorandum presents the revised results of the Level 3 screening evaluation for three concept groupings which incorporate various interchange improvements as well as system (mainline) improvements. At the February TRC meeting several modifications to the screening and scoring were discussed. In addition to the modifications to the screening process, the analysis assumptions as it related to the Thorne Lane interchange were reviewed. The modifications to the initial screening criteria developed by the project team, as presented at the February TRC meeting includes the following:

- **Tier III Category Weighting**. The general consensus of the TRC members was that the weighting should be directed more to the mobility/operations rather than the other items. The project team indicated that the weighting would be changed to provide 60 percent to the operations criteria and the remaining split evenly between the other categories.

- **Scoring.** In addition to the weighting, the "score" would be changed to be based on a total points possible of 100 rather than the 20 that was used in the original scoring. This would provide a greater separation between the concept groupings and further identify the differences.

- **Benefit/Cost**. The benefit/cost category would be relabeled to **Project Costs** as the title and individual scoring implied a b/c ratio that was actually the scoring, not the calculated b/c ratio. The category will be changed to reflect the construction costs only, as the mobility benefits are highlighted in a separate category. The final report will address the respective b/c ratios as a separate discussion point.

- **Thorne Lane Interchange Project Costs**. Project costs as outlined in the Cross Base Highway project for the Thorne Lane interchange were further researched. Modifications to the overall project costs have been adjusted to reflect these figures.

In addition to the modifications to the screening criteria, the operations analysis for Concept Grouping 1 was updated to include the operational benefits of the Thorne Lane interchange as planned with the Cross-Base Highway project. The traffic forecasts developed for the project had included the impacts of the Cross-Base Highway, but for purposes of the operational analysis, only short-term improvements were considered. This assumption has been changed in order to provide consistency between the forecast and operational analysis assumptions.

The primary quantitative measurements are summarized in Table 1. Relative to information previously presented, those areas that changed included the following:

- Average interchange delay (Concept Grouping 1)
- Average military route travel speed
- Impervious surface totals (Concept Grouping 1)
- Change in project costs

Table 1. Level 3 Screening – Quantitative Results

Category[1]	2030 Baseline[2]	Concept Group (Change from 2030 Baseline) 1	2a SPUI	2b Diverging Diamond	3a SPUI	3b Diverging Diamond
Mobility / Operations						
Change in Mainline Delay (total vehicle hours per PM peak hour)	1,660	0	-270	-270	-1,135	-1,135
Change in Average Interchange Delay (seconds per vehicle per PM peak hour)	124	-112	-103	-107	-103	-107
Change in Freight / Transit / Vehicle Mobility (mainline mph)	31	0	+2	+2	+15	+15
Change in Average Military Route Travel Speed (mph)	23	+5	+8	+9	+18	+19
Environment						
Impacted Sensitive Areas (# of locations)	0	0	0	0	0	0
Amount of Additional Impervious Surface (1,000 sq ft)	0	+409	+1,404	+958	+3,609	+3,163
Change in Vehicle Miles Travelled (from baseline)	0	0	+1,000	+1,000	+3,000	+3,000
Impacted Historical / Cultural Resources (# of locations)	0	0	0	0	1	1
Impact on JBLM Property (# of locations)	0	1	3	1	3	2
Project Costs[3]						
Estimated Construction Costs (in $1,000)	$0	$348,500	$496,500	$396,900	$1,075,900	$976,400

1. Only includes categories and metrics where quantifiable numbers are available and which can be easily understood.
2. Values for the 2030 baseline are actual amounts and are shown to understand how each concept group compares.
3. Includes Thorne Lane interchange costs of 246 million as identified by the Cross Base Highway project team

Table 2 provides the final summary scoring of each category. As shown, weighting factors were applied to the categories in the screening process. More weight was given to the mobility/operations category as the purpose and need of the project is to improve access and mobility for the area related to the JBLM growth. A column is also shown that illustrates the maximum number of points that could be received for each category to provide context and comparison between each of the concepts.

With the incorporation of the Thorne Lane interchange improvements into Concept Grouping 1, the scoring difference between Concepts 1 and 2 are minimal. This is primarily due to the marginal operational benefits between the two concepts further impacted by the higher weighting of that evaluation criteria. When compared to Concept Group 3 however, the overall ranking is approximately 15 points higher.

Table 2. Level 3 Screening – Resulting Score

Category	Concept Group					Scoring Weight	Maximum Possible Points
	1	2a SPUI	2b Diverging Diamond	3a SPUI	3b Diverging Diamond		
Design Feasibility	6.5	5.5	5.0	6.0	5.5	10%	10
Safety	2.8	6.7	6.7	7.7	7.7	10 %	10
Mobility / Operations	17.1	21.4	22.2	42.3	43.5	60 %	60
Environment	7.8	5.1	7.3	3.8	4.0	10%	10
Project Costs	7.5	7.5	7.5	2.5	2.5	10%	10
Total	**41.7**	**46.1**	**48.7**	**62.3**	**64.2**	**100%**	**100**

As noted at the TRC meeting, the project team is in the process of developing a prioritization of the improvements based on the factors previously identified in the Level I screening. The recommendations of the project team will be the focus of the next TRC meeting. In addition, further information regarding the approval process and requirements for advancing these improvements will be discussed.