

MEMORANDUM

TO: John McDonald, ODOT Region 3

FROM: Bob Schulte

DATE: July 3rd, 2012

SUBJECT: US 101 CORRIDOR PLAN
Technical Memorandum #2 – Goals and Objectives

P# 09042-024

INTRODUCTION

This memorandum describes a proposed set of goals, objectives, and evaluation criteria that will guide the development of improvements for the US 101 corridor. A proposed screening procedure is also defined for the evaluation of improvement alternatives. The hierarchy and internal consistency of these study components will help ensure that the recommended improvements address the identified corridor needs. The proposed goals, objectives, evaluation criteria, and screening procedure will be reviewed by the TAC and CAC and revised based on the input received.

CORRIDOR NEEDS

A preliminary assessment of corridor needs served as the basis for the development of the proposed goals and objectives. An additional needs assessment will be performed in Task 4.2 of the study. The goals and objectives may be revised based on the results of this task.

The primary corridor need identified was improved safety. Within the study area, there were four fatal crashes for the five-year period between 2006 and 2010. All of the crashes occurred between the Chetco River Bridge (M.P. 357.98) and Benham Ln. (M.P. 359.32), with two of the crashes at the US 101/Benham Ln. intersection. Two of the crashes involved pedestrians and two were head-on and turning-type collisions. Since 2010, another fatal crash occurred near the weigh station at M.P. 361, where the highway transitions from four lanes to two lanes.

There was one SPIS site (top 5%) for the 2007 – 2009 period, located between Sherwood Ln. (M.P. 359.21) and Benham Ln. (M.P. 359.32). In 2010, the segment between Robin Ln. (M.P. 359.99) and the state line (M.P. 363.11) was also designated as a Safety Investment Program



Category 3 segment. This designation is based on the criterion of three to five fatal or Injury A crashes occurring within the previous three years.

The crash frequency and crash rate by corridor segment for the 2006 - 2010 period is shown below:

**Table 1
Crash History**

From	To	Beg. MP	End MP	Crashes	Crash Rate	Statewide Avg. Crash Rate	Percent of Avg.
Chetco River Bridge	Hoffeldt Ln.	357.98	358.76	26	1.18	1.192	99%
Hoffeldt Ln.	Benham Ln.	358.76	359.32	21	1.45	1.192	121%
Benham Ln.	Weigh Station	359.32	360.48	25	1.09	1.192	92%
Weigh Station	State Line	360.48	363.11	16	0.33	0.672	49%

The statewide average crash rate is exceeded for the segment between Hoffeldt Ln. (M.P. 358.76) and Benham Ln. (M.P. 359.32).

Overall within the study area, a high percentage of the crashes (70%) were rear-end or turning-type crashes. Roughly half of the total crashes involved fatalities or injuries.

Substandard geometrics exist at the intersections of US 101/Hoffeldt Ln. (M.P. 357.98) and US 101/Benham Ln. (M.P. 359.32) due to a roughly 45-degree skew angle at both locations.

The existing access spacing exceeds the ODOT standard along the entire corridor, with the highest densities (driveways per mile) in the area to the north of the weigh station at M.P. 360.48.

**Table 2
Access Density**

From	To	AADT	Speed Limit	West Side		East Side		ODOT Std.
				Dwys.	Density	Dwys.	Density	
Chetco River Bridge	Hoffeldt Ln.	15,850	45	8	14	11	18	5
Hoffeldt Ln.	Benham Ln.	14,200	45	9	18	16	32	5
Benham Ln.	Weigh Station	10,800	45/55	26	32	22	28	4
Weigh Station	State Line	10,200	55	21	17	8	6	4



There are no designated bicycle facilities or sidewalks within the study area. Shoulders for bicycle use are less than ODOT's standard of six feet along roughly 0.4 miles of the corridor (total length, both sides of the highway).

Based on the existing volumes and roadway capacity, there does not appear to be a general mobility need within the study area.

GOALS, OBJECTIVES, AND EVALUATION CRITERIA

A proposed set of goals, objectives, and evaluation criteria was defined consistent with the preliminary needs assessment. The goals describe the desired outcomes of future improvements in the corridor. The objectives identify actions to be taken to accomplish the goals. The evaluation criteria are measures used in determining the extent to which the improvement alternatives will meet the goals and objectives.

Goal I: Improve Transportation Safety

Objective 1: Reduce crashes

Evaluation Criteria:

- Potential reduction in crash rate/severity

Objective 2: Improve roadway geometrics

Evaluation Criteria:

- Type/level of improvement¹

Objective 3: Provide adequate bicycle and pedestrian facilities

Evaluation Criteria:

- Type/level of improvement

Goal II: Maintain Traffic Operations

Objective 1: Reduce traffic conflicts

Evaluation Criteria:

- Potential reduction in traffic conflicts

Objective 2: Maintain mobility²

¹ The type of improvement represents the potential effectiveness of one improvement compared to another. The level of improvement represents the extent and degree of improvement, compared to the standards.



Evaluation Criteria:

- Potential reduction in congestion and delay³

Objective 3: Improve access conditions

Evaluation Criteria:

- Reduction in number of access points⁴
- Improvement in access design

Goal III: Maximize Constructability of Transportation Improvements

Objective 1: Minimize cost

Evaluation Criteria:

- Construction cost
- Right-of-way requirement

Objective 2: Construct improvements in phases

Evaluation Criteria:

- Number and size of project phases

Objective 3: Minimize environmental impacts

Evaluation Criteria:

- Impacts by level of significance (low/medium/high) to environmentally sensitive areas, including biological, historic, cultural, and archeological resources

Objective 4: Minimize land use impacts

Evaluation Criteria:

- Impacts to EFU-zoned parcels (rural areas) and developed parcels (urban areas)

Objective 5: Recognize related plans and policies

Evaluation Criteria:

- Consistency with ODOT standards (including practical design principles) and local plans and policies

² Although there does not appear to be a current mobility need, this objective is included to address potential future mobility needs.

³ Will be measured by v/c ratio, where applicable.

⁴ In areas not meeting spacing standards.

SCREENING PROCEDURE

For locations along the corridor where more than one improvement alternative is identified, it will be necessary to compare the alternatives. Therefore, the following screening procedure is proposed, incorporating the evaluation criteria listed above.

The improvement alternatives will be evaluated by developing scores for the evaluation criteria. For each alternative, point scores of between zero and ten will be assigned to each of the criteria. Based on professional judgment, the point scores will reflect the degree to which the improvement alternative satisfies the criteria. The construction cost criterion will be scored based on planning level cost estimates for the alternatives.

Not all of the criteria will apply to each alternative. For example, the criterion for improved roadway geometrics would not apply to an alternative that does not change the existing geometrics.

The score for each criterion will be multiplied by an associated weight. The weights shown below are proposed values and will be revised based on input received from the TAC and CAC. The weighted scores will be summed to produce a total weighted score for each alternative.

Table 3
Proposed Weights for Evaluation Criteria

Criterion	Weight
1. Potential reduction in crash rate/severity	14
2. Type/level of geometric improvement	9
3. Type/level of bicycle/pedestrian facility improvement	6
4. Potential reduction in traffic conflicts	10
5. Potential reduction in congestion and delay	5
6. Reduction in number of access points	9
7. Improvement in access design	8
8. Minimization of construction cost	13
9. Minimization of required right-of-way	4
10. Number and size of project phases	11
11. Minimization of impacts to environmentally sensitive areas	5
12. Minimization of impacts to EFU-zoned and developed parcels	4
13. Consistency with ODOT standards and local plans, policies	2
Total	100