

PROJECT EVALUATION PROCESS

Date: August 22, 2012 Project #: 11732

To: Project Management Team

Cc: Technical Advisory Committee, Public Advisory Committee

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Project: Clackamas County Transportation System Plan Update

Subject: Technical Memorandum 7.1 –Project Evaluation Process

This memo reviews how Transportation System Plan (TSP) Update projects were identified and how the initial project evaluations were conducted. The memo includes the following sections:

1. Background
2. Development of Project Lists
3. Identification of New Projects
4. Project Evaluation
5. Next Steps

1. Background

The TSP Public Advisory Committee (PAC), Technical Advisory Committee (TAC) and Project Management Team (PMT) developed the vision, goals and objectives for the future transportation system¹ and then developed evaluation measures and criteria to assess progress toward TSP goals and objectives.²

The draft *Existing and Future Base Conditions Analysis Report*, completed in June 2012, contains:

- Inventories of existing transportation facilities and services (e.g., transit service) and their current performance with regards to elements such as safety and traffic operations, and

¹ Technical Memorandum 5.1 – Vision, Goals and Objectives

² Technical Memorandum 6.1 – Measures, Evaluation Criteria and Methodology for Implementation

- Identification of gaps and deficiencies in the existing transportation system and the currently planned future transportation system.

Two different scenarios for the future transportation system were evaluated using the same population and employment growth projections but assuming different planned transportation improvements:

- 2035 Low Build Scenario -- includes planned transportation projects that are currently funded.
- 2035 Full Build Scenario -- includes all planned transportation projects identified to occur by 2035 regardless of whether those projects are funded.

The comparison of the existing and two future scenarios helped identify existing and future gaps and deficiencies in the transportation system.

2. Development of Project Lists

PROJECTS FOR EVALUATION

Clackamas County compiled three lists of transportation projects that will be considered for inclusion in the TSP Update Master Project List.

- **Previously Planned Projects:** This list was compiled based on a variety of documents, including the County's Comprehensive Plan, Capital Improvement Program, Pedestrian Master Plan and Bicycle Master Plan. For each project, the County noted the geographic sub-area, jurisdictional area, location, description, and whether the project is inside a city and/or rural community. (Projects inside cities will not be evaluated as part of the TSP update process and will likely be removed from the County's TSP and documented solely in the respective city TSPs.)
- **Public Suggested Projects:** This list was developed based on public input at regional meetings, county-wide meetings, postings on the TSP Virtual Workshop and other sources of public comments. All public comments and suggestions were compiled, reviewed and classified into one of the following groups:
 - General comments that did not directly translate into a specific project -- these were noted, but not included in the *Public Suggested Projects* list.
 - Comments that identified a needed project that was already on the *Previously Planned Projects* list -- these were not included on the *Public Suggested Projects* list to avoid duplication.

- Comments that suggested a project not already identified -- these were incorporated into the *Public Suggested Projects* list, and a project location and description were developed for each comment in a format consistent with the *Previously Planned Projects*. For example, if a public comment expressed the need for a safe route for bicyclists between a residential and commercial area, a project was developed to install bike lanes or shoulder on the appropriate sections of roadway.
- **New Identified Projects:** This list identifies projects needed to address existing transportation system gaps or deficiencies that were not addressed in either of the other two project lists.

3. Identification of New Projects

The following methodology used to identify new transportation projects needed to address the remaining transportation system gaps and deficiencies.

IDENTIFYING REMAINING GAPS AND DEFICIENCIES

To identify remaining gaps and deficiencies, the *Previously Planned Projects* and *Public Suggested Projects* were overlaid on maps of the gaps and deficiencies projected for the transportation system in 2035. This revealed gaps and deficiencies that were not addressed by projects. Projects were then developed to address the gaps and deficiencies and added to the *New Projects* list.

Transit Gaps and Deficiencies

Transit gaps are:

- Areas with sufficient density to support transit, are not currently served by transit, and are more than ½ mile away from transit service, and
- Rural centers without park and ride locations that are currently served by transit.

Safety Deficiencies

The safety deficiencies identified and mapped as part of the *Existing and Future Conditions* report were identified and compared with the TSP project lists. If these deficiencies were not addressed by any projects in the *Previously Planned Projects* and *Public Suggested Projects* lists, three types of new projects or programs were identified to address the remaining deficiencies:

- Projects added to perform a road safety audit or transportation safety review at each Candidate Road Safety Audit Corridor;

- Programs added to study Safety Focus Intersections and County Safety Priority Index System (SPIS) sites more closely to identify improvements;
- Programs added for the County to work with ODOT to identify and implement improvements at ODOT SPIS sites. (Some sites are already included as part of a Candidate Road Safety Audit Corridor.)

Intersection Deficiencies

The *Existing and Future Conditions* report analyzed the operations of 125 study intersections under existing and future Low Build conditions. Forty-four of those were operationally deficient under 2035 Low Build conditions, and thirty-one were also operationally deficient under the Full Build conditions. *Previously Planned Projects* and *Public Suggested Projects* effectively address operational deficiencies at several of these intersections. Some additional intersections have projects planned that improve operations, but do not bring the intersection up to standards, so they are still considered a deficiency.

Projects were generated for each remaining intersection deficiency to bring the intersection up to standards while supporting the TSP objectives and goals.

Roadway Deficiencies

Remaining roadway deficiencies were identified by determining which roadway segments were anticipated to have very congested or congested conditions in the Full Build scenario after overlaying *Previously Planned Projects* and *Public Suggested Projects*. (Note: Congestion on I-5, I-205 and within city limits was not addressed, consistent with the scope of the TSP. However, areas of congestion identified on I-5 and I-205 will be shared with ODOT.)

Bike Gaps and Deficiencies

The Bicycle Master Plan outlines high priority proposed bikeways and multi-use trails, and the Planned Bikeway Network in urban and rural areas. County standards require bikeways on arterials, collectors and connectors if right-of-way allows. (A bikeway is defined as a bike lane in urban areas and a six-foot shoulder in rural areas.)

Gaps in the bicycle system are portions of the Planned Bikeway Network without bicycle facilities or roadways that do not meet County standards. Deficiencies are defined as bicycle facilities that do not meet standards, such as a shoulder that is too narrow. Bikeway Network gaps and deficiencies identified in the *Existing and Future Conditions* report were mapped with *Previously Planned Projects* and *Public Suggested Projects* to identify remaining gaps and deficiencies.

Projects to fill gaps in the bicycle network were selected based on high-priority needs. Several factors were considered to identify projects, including:

- Connectivity: Projects that connect existing bicycle facilities or key areas (e.g., residential and commercial areas)
- Gaps: Projects that fill gaps in the existing bicycle network (e.g., segments of roadway missing bicycle lanes)
- Proximity to schools, public buildings and parks
- Proximity to bus stops and routes
- Proximity to rural centers or urban activity centers
- Roadway volumes: As a general rule of thumb, bikeways are recommended on roadways with Annual Average Daily Traffic (AADTs) over 3,000

Pedestrian Gaps and Deficiencies

The *Existing and Future Conditions* report includes the Essential Pedestrian Network identified in the County's Pedestrian Master Plan, which provides guidance on local roadways that are critical parts of the pedestrian network. County standards require sidewalks or pathways on all local roads, connectors, collectors and arterials in urban areas. Within unincorporated communities, sidewalks or walkways are to be provided adjacent to or within areas of development, such as schools, businesses or employment centers. Shoulders are also important for rural pedestrians. Existing gaps are defined as roadways identified on the Essential Pedestrian Network that do not have a sidewalk and roadways that do not meet the County's standards for pedestrian facilities.

Projects to fill gaps in the pedestrian network were selected based on high-priority needs. Several factors were considered to identify projects, including:

- Connectivity: Projects that connect existing pedestrian facilities or key areas (i.e. residential and commercial areas)
- Gaps: Projects that fill gaps in the Essential Pedestrian Network
- Proximity to schools, public buildings and parks
- Proximity to bus stops and routes
- Proximity to rural centers or urban activity centers
- Roadway volumes

Planned or identified projects to add shoulders/bikeways also benefit to rural pedestrians and were considered when identifying new pedestrian projects.

4. Project Evaluation

The evaluation measures and criteria developed as part of the vision, goals and objectives were used to assess projects and place them in one of three categories:

- Projects to include in the TSP Update Master Project List;
- Projects that need refinement; and
- Projects that should not be carried forward for additional evaluation.

Each project on the project lists show the results of the initial evaluation in the columns described below:

Addresses a Gap? (Yes or No)

A gap is defined as missing facilities or connections in the sidewalk system, the bicycle network or roadway connections, and densely populated areas without transit service. The following figures from the *Existing and Future Conditions* report will guide this determination of whether a gap exists:

- Figure 10 (Roadway Functional Classifications),
- Figure 18 (Essential Pedestrian Network),
- Figure 19 (Planned Bikeway network),
- Figure 21 (Existing Transit Supportive Areas), and
- Figure 22 (Future Transit Supportive Areas).

Addresses a Deficiency? (Yes or No)

A deficiency is defined as facilities that do not perform up to defined standards, such as an intersection with too much delay and congestion, a sidewalk or bicycle lane that is too narrow, or a roadway with a poor safety history. The following figures from the *Existing and Future Conditions* report will guide this determination of whether a deficiency exists:

- Figures 15, 35 and 40 (Existing and Future Low Build and Full Build Intersection Operations),
- Figures 17, 37 and 42 (Existing and Future Low Build and Full Build Roadway Segment Congestion),
- Figure 18 (Essential Pedestrian Network),
- Figure 19 (Planned Bikeway network),

- Figure 25 (Candidate Safety Corridors), and
- Figure 32 (Safety Focus Intersection).

Projects that may not fully address a deficiency, such as an intersection improvement that does not bring operations up to standard, will be noted.

Impact on Transportation System

Description of how a project fills a gap or addresses a deficiency, if relevant.

TSP Goal Assessment of Project

These columns contain an initial assessment of whether the project supports the TSP goals. Much of the data used to make this assessment was generated as part of the *Existing and Future Conditions* report. The results of this evaluation will be reported using the following symbols:

- = does not support goal,
- ◐ = somewhat supports goal
- = definitely supports goal.

An explanation of how the evaluation was conducted is described below in “Sample Application of the Evaluation Measures.”

Action

The recommended action for the project, based on the evaluation. There are three possible actions:

- **Advance in evaluation process:** If a project successfully addresses a gap or deficiency, or definitely supports at least four of the six TSP goals, it will be carried into the next stage of the TSP update with no changes.
- **Advance in evaluation process but revise:** If a project attempts to address a gap or deficiency, but does not seem to do so successfully, or if it fully or somewhat supports three of the six TSP goals, it will be carried into the alternatives analysis to consider potential changes or enhancements.
- **Consider removing:** If a project does not address a gap or deficiency and does not fully or somewhat support at least three of the six TSP goals, it will be considered for removal from the TSP.

SAMPLE APPLICATION OF THE EVALUATION MEASURES

The information in *Attachment 1: Evaluation Measures* has been used to evaluate each transportation project and assess its progress toward the TSP vision, goals and objectives. The following example shows how to apply the criteria and measures for a project in the County’s Pedestrian Master Plan.

The project characteristics are:

- **Project Name/Street Name:** Bell Ave / Alberta St / 72nd Ave
- **Segment/Locations:** King Rd to County line
- **Project Description:** Add pedways and bikeways
- **Geographic Sub Area:** Clackamas Regional Center/Industrial Area

The project will first be assessed in terms of Objective 1.1.1, *Identify, maintain, and improve networks of facilities for motorized and non-motorized travel*. The criteria, base information and additional data needed associated with this objective are shown in Table 2.

Table 2 Base Information and Data Needs for Evaluation Criteria, Objective 1.1.1

Objectives	Measure	Project Level - Helps to determine if a project implements the goal	Base Information	Additional Data Needed
Goal 1: Sustainable - Provide a transportation system that balances benefits to the environment, the economy and the community.				
Objective 1.1: Reduce energy consumption associated with transportation:				
1.1.1 Identify, maintain, and improve networks of facilities for motorized and non-motorized travel.	Bike and Pedestrian Facility Inventory	Project increases miles of bicycle and pedestrian facilities such as sidewalks, bicycle lanes, multiuse paths and sufficiently wide shoulders (i.e., four feet in width or greater)? (Y/N)	Existing and Future Conditions Report, Sections 4-8, Figures 18 and 19	
	Pedestrian and Bike Facility Gap Inventory	Project completes an existing gap in the bicycle and/or pedestrian facilities network? (Y/N)	Existing and Future Conditions Report, Sections 4-8, Figures 18 and 19	
	Multimodal Level of Service Analysis (MMLOS) for pedestrians and bicyclists at selected intersections	Project improves quality of service experienced by pedestrian or bicyclist as measured by HCM 2010 MMLOS methodology? Y/N		MMLOS Analysis, or data related to factors that influence MMLOS (i.e. bike/ped facility width, buffer from street, traffic volumes, traffic speeds)

The project is located in the Clackamas Regional Center/Industrial Area, which is analyzed in Section 7 of the *Existing and Future Conditions* report. Figure C 18 illustrates the Essential Pedestrian Network

for the area. Based on the figure, the sidewalks on SE Bell Avenue, Alberta Street, and 72nd Avenue between SE King Road and the County line are not complete. The project would increase the miles of pedestrian facilities and fill a gap in the pedestrian network, and therefore supports Objective 1.1.1 and TSP Goal 1.

Some objectives may not be applicable to a project. For example, Objective 5.3: *Explore and encourage carpooling, vanpooling, rideshare, transit pass programs, telecommuting, and other transportation demand management strategies*, is not related to the sidewalk project on Bell Avenue. In this case, the project's assessment using the other objectives under TSP Goal 5 will help determine if the project supports TSP Goal 5.

Table 3 summarizes the Bell Avenue pedestrian and bicycle project evaluation and the degree to which the project supports each TSP goal.

Table 3 Project Evaluation Matrix

TSP Update ID	Street/ Location	Segment /Location	Description	Geographi c Sub Area	Addresse s a Gap?	Addresses a Deficiency?	Impact on Transportation System	TSP Goal Assessment of Project						Action
								Goal 1	Goal 2	Goal 3	Goal 4	Goal 5	Goal 6	
U792	Bell Ave / Alberta St / 72nd Ave	King Rd to County line	Add pedways and bikeways	CRC	Yes	No	Improves pedestrian and bicycle network connectivity	●	◐	●	●	●	◐	Advance in Evaluation Process

Goal 1 = Sustainable, Goal 2 = Local Businesses and Jobs, Goal 3 = Livable and Local, Goal 4 = Safety and Health, Goal 5 = Equity, Goal 6 = Fiscally Responsible

- = does not support goal
- ◐ = somewhat supports goal
- = definitely supports goal

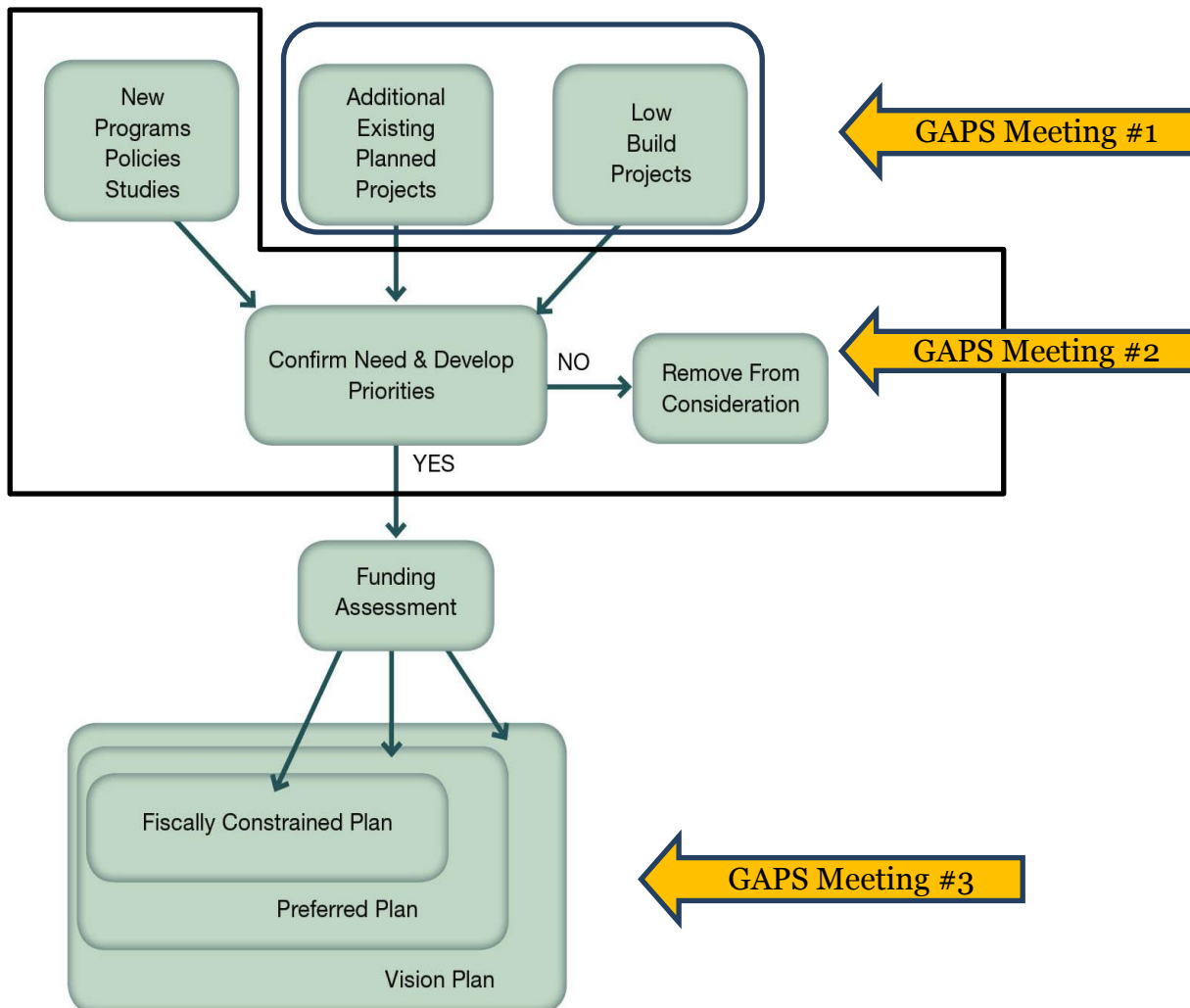
5. Next Steps

The process described above was used to evaluate projects in the TSP project lists. These lists will be reviewed by the TSP TAC and at Geographic Area Meetings (GAPS) in September. The result of this process will be forwarded to the TSP PAC for additional review.

The product of this process will be a single **TSP Update Master Project List** that combines all the projects on the three project lists that are recommend for further evaluation. These projects will be prioritized and identified as either part of the TSP Fiscally Constrained Plan, Preferred Plan or Vision Plan.

Figure 1 illustrates the overall project evaluation process including upcoming activities and how the GAPS meetings inform the process.

Figure 1 Project Evaluation Process



Attachment 1 - Evaluation Criteria

Attachment 2 – Public Suggested Projects

Attachment 3 – New Identified Projects

Attachment 4 – Previously Planned Projects

Maps