

April 19, 2006

TO: Task Force Members  
FROM: Doug Ficco and John Osborn  
SUBJECT: Initial Examples of Alternative Packages

At the March 22 Task Force meeting some questions surfaced about how the river crossing and transit components would be combined with other project components such as transportation demand management measures. We are working toward presenting draft alternative packages to you at the May 17 meeting, but thought it would be helpful to provide a few examples at the April meeting. The examples are intended to illustrate how the packaging will work, as well as to provide some initial examples of alternatives that we believe will need to be studied over the next several months.

### **Context**

As you will recall from our discussions about the evaluation framework, the initial packaging step is intended to bring together all of the various components that pass through our Step A process for further development and evaluation. The alternatives that result will be considered in more detail over the next several months. By fall 2006 we will be discussing the results of the analyses, including the application of the evaluation criteria to allow us to compare and contrast each alternative.

An important consideration at this step is that the packaged alternatives are developed primarily to test individual components. We expect that the alternatives selected for consideration in the Draft Environmental Impact Statement will include hybrids of the alternatives that are evaluated this spring and summer.

### **Packaging Principles**

Ideas from each of the eight component categories are combined to form project alternatives. The principles used to form the alternatives include:

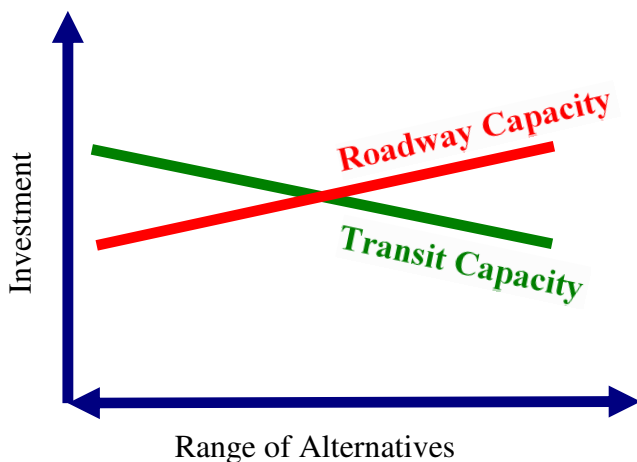
- 1) All components that pass Step A will be considered for inclusion in one or more alternatives.
- 2) Alternatives should be organized by theme – what is (are) the key feature(s)?
- 3) Alternatives should represent a full range of potential transportation solutions within the limits of the components that have passed Step A (those that have been determined to address the Purpose and Need).
- 4) Complementary components should be packaged together where feasible.

- 5) Alternatives should be structured to identify strengths and weaknesses of individual components.
- 6) Well-performing components may be re-packaged with other alternatives for the DEIS.

### **Range of Alternatives**

Under the National Environmental Policy Act (NEPA), one of the alternatives considered must be a no-build alternative. Although this does not meet the project Purpose and Need, it establishes a baseline for comparison with other alternatives. It will include only existing facilities and services, as well as projects that can be reasonably anticipated for construction in the Metro and Southwest Washington regional transportation plans. Another alternative that will be considered will focus on transportation demand management (TDM) policies and techniques, without major capital investments for either roadway or transit capacity (although this would include additional bus service).

Beyond those initial two alternatives, others will focus on a mix of investments in transit, roadway capacity, and components from each of the other groups (river crossing, freight, etc.). As an organizing principle, the alternatives will represent a range of investment scenarios – from those with a transit-intensive focus, to a more balanced approach, to a roadway capacity focus – as shown in the illustration below.



A couple of points to note: First, all alternatives (other than No-Build and TDM, as noted above) will include a mix of transit and roadway capacity improvements. Second, the range of scenarios is structured to inform the decision process, rather than to produce specific DEIS alternatives. Thus, the goal will be to identify the benefits of varying investments in transit as well as varying levels of roadway capacity.

### **Initial Examples of Alternatives**

The following table illustrates how the list of components was used to develop three alternatives that we will be proposing for evaluation. These alternatives include the No-Build and transportation system management (TSM) alternatives as noted above, and a “super-TDM and arterial” alternative. More detail about each of the three alternatives is provided in the following pages.

Note that the table also shows the alternatives falling within one of three broad categories:

- 1) Alternatives that do not create a new crossing (existing bridges only),
- 2) Alternatives that supplement the existing bridges, and
- 3) Alternatives that replace the existing bridges.

The blank columns under the supplemental and replacement categories represent those alternatives that have not yet been developed, but will be prepared for the May 17 meeting.

			Example Alternative Packages				
			Existing Bridges Only		Supplemental Bridge with Existing Bridges		Replacement Bridges
			#1	#2	#3	#4 to #__	#__ to #__
<b>Alternative Focus</b>			No Build	TDM/ TSM	Super TDM/TSM With Arterial		
<b>RC Components</b>	RC-1	Repl/Down/Low/Mov					
	RC-2	Repl/Up/Low/Mov					
	RC-3	Repl/Down/Mid					
	RC-4	Repl/Up/Mid					
	RC-7	Supl/Down/Low/Mov					
	RC-8	Supl/Up/Low/Mov					
	RC-9	Supl/Down/Mid					
	RC-13	Supplemental Tunnel					
	RC-23	Arterial			•		
<b>Roadways North/South</b>	RNS-1	Interchange Improvements					
	RNS-2	Arterial improvements			•		
	RNS-3	I-5 Safety Improvements		•	•		
<b>Transit Components</b>	TR-1	Express Bus in GP *	•	•	•		
	TR-2	Express Bus in Managed Lanes					
	TR-3	BRT-Lite			?		
	TR-4	BRT-Full			?		
	TR-5	LRT			?		
	TR-6	Streetcar					
<b>Bicycle/ Pedestrian Components</b>	B/P-1	Enhance Existing		•			
	B/P-2	Path on New Bridge			•		
	B/P-3	Path-only Bridge			•		
	B/P-4	Vanc. Connectivity		•	•		
	B/P-5	Hayden Is. Conn.		•	•		
	B/P-6	N. Portland Pathway		•	•		
<b>Freight Components</b>	F-1	Freight in Managed Lanes					
	F-2	Fr. Bypass Lanes			•		
	F-3	Freight Restrictions					
	F-4	Inc. Truck Size					
	F-5	Fr. DA Ramps					
<b>TSM/TDM Components</b>	TM-1	N. I-5 Managed		•	•		
	TM-2	N. Transit-only					
	TM-3	BIA Managed Lane					
	TM-4	BIA Transit-only					
	TM-5	Reversible Managed Lane					
	TM-6	DA Ramps					
	TM-7	Pref. Mngd. Merge		•	•		
	TM-8	Ramp Queue Jump		•	•		
	TM-9	Increased Bus		•	•		
	TM-10	Add'l Park-and-Rides	•	•	•		
	TM-11	ITS	•	•	•		
	TM-12	TDM Policies	•	•	•		
	TM-13	Reduce LRT Time		•	•		
	TM-14	Transit Priority		•	•		
	TM-15	Congestion Pricing			•		
	TM-16	On-Ramp Metering	•	•	•		
	TM-17	Arterial Managed		•	•		
	TM-18	Ramp Terminal Improvements		•	•		

Either BRT or LRT, but not both

Alternatives Under Construction

Alternatives Under Construction

\* Includes use of existing northbound HOV lane in Portland.

## **ALTERNATIVE #1: 2030 No-Build Alternative**

### **Overview**

This alternative includes planned improvements to the year 2030 for which the need, commitment, and financing are identified and can reasonably be expected to be implemented. All transportation improvements included in the No-Build Alternative are included in either Metro's 2025 Regional Transportation Plan (including amendments) or the Regional Transportation Council's 2030 Metropolitan Transportation Plan.

### **River Crossing**

Under this alternative, the existing I-5 bridges would be retained, with three general-purpose traffic lanes in each direction.

### **Roadways North and South**

With the exception of widening I-5 to six lanes from Lombard Street to Victory Boulevard, the No-Build Alternative does not assume any major capacity projects on Interstate 5 through the Bridge Influence Area. Outside the Bridge Influence Area, there are some minor I-5 capacity enhancements and several major maintenance projects specifically identified in the financially constrained regional transportation plans of both Portland's Metro and Southwest Washington's Regional Transportation Council (RTC).

### **Transit**

Bi-state transit service would consist of C-TRAN express buses, and TriMet local service. Transit service growth and/or reductions to the year 2030 will be allocated system-wide among both transit properties, unless specifically identified in either regional plan. In addition, neither the RTP nor the MTP anticipate significant new funding for new bi-state transit services.

### **Bicycle/Pedestrian**

No significant projects are currently planned, nor has funding been secured for either bicycle or pedestrian improvements within the Bridge Influence Area.

### **Freight**

No freight-specific improvements are included in this alternative.

### **TDM/TSM**

This alternative consists of four major sets of TSM and TDM measures:

- Additional Park-&-Ride lots;
- Enhanced Intelligent Transportation Systems (ITS);
- A package of TDM/TSM policy measures; and
- Additional ramp meters in Washington.

A package of TDM/TSM policy measures included in both Metro's 2025 Regional Transportation Plan (including amendments) or the Regional Transportation Council's 2030 Metropolitan Transportation Plan will reduce travel demand, and improve transportation system performance.

## **ALTERNATIVE #2: 2030 TDM/TSM Alternative**

### **Overview**

This alternative represents the “best that can be done” to manage overall transportation demand and improve the performance of the I-5 transportation system without building a new Columbia River crossing or making major capital investments in the Bridge Influence Area.

### **River Crossing**

Under this alternative, the existing I-5 bridges would be retained, with three general-purpose traffic lanes in each direction.

### **Roadways North and South**

With the exception of widening I-5 to six lanes from Lombard Street to Victory Boulevard, the TDM/TSM Alternative does not assume any major capacity projects on I-5 through the Bridge Influence Area. Some minor I-5 safety projects would be undertaken within the Bridge Influence Area. Outside the Bridge Influence Area, there are some minor I-5 safety improvements and several major maintenance projects, specifically identified in the financially constrained regional transportation plans of both Portland’s Metro and Southwest Washington’s RTC. This alternative assumes that I-5 would be re-striped wherever possible to provide for managed lanes.

### **Transit**

Bi-state transit services will consist of C-TRAN express buses, C-TRAN local buses, and TriMet local service. Existing transit services would grow substantially to the year 2030 in order to better manage demand. Park-and-ride facilities would be improved along the I-5 corridor, and other transit passenger facilities would be constructed to make transit accessible to more residents.

### **Bicycle/Pedestrian**

Bicycle and pedestrian improvements would be made on the existing I-5 bridge(s) where possible in an effort to enhance the current bike/pedestrian area. There would also be increased connections into downtown Vancouver, Hayden Island, and Metro’s 40-mile loop pathway.

### **Freight**

Freight vehicles would benefit from enhanced Intelligent Transportation Systems (ITS) in the corridor, TDM measures, and arterial street improvements. However, no freight specific improvements are included in this alternative.

### **TDM/TSM**

This alternative consists of 11 major sets of TSM and TDM measures:

- North I-5 managed lanes (134<sup>th</sup> to SR 500);
- A preferred managed lane merge location;
- Increased bus service for express buses traveling to downtown Portland and local bus connections to light rail trains operating from the Expo Center in Portland;
- A package of TDM policy measures;
- Additional park-&-ride lots;

- I-5 ramp queue jump lanes;
- Reduction of Interstate MAX run-time to downtown Portland, if possible;
- Transit signal priority;
- On-ramp meters;
- Arterial managed lanes; and
- Ramp terminal improvements.

The managed lane system would include a re-striping of I-5 north of SR 500. The managed lane system would include preferential managed lane merges north and south. In addition, this alternative would include selected ramp queue jumps for transit vehicles.

An enhanced package of TDM/TSM policy measures would be included to reduce travel demand and improve transportation system performance.

## **ALTERNATIVE #3: New Supplemental Arterial Bridge with High Capacity Transit and Enhanced TDM/TSM**

### **Overview**

This alternative includes construction of a new downstream arterial bridge which would carry arterial traffic between Oregon and Washington, coupled with a high capacity transit (HCT) option (which will be further defined prior to the May Task Force meeting). I-5 freeway traffic would remain on the existing I-5 bridges in general purpose lanes. The alternative includes congestion pricing to maintain a consistent level of service for the new facilities, and an enhanced set of TDM/TSM measures to manage travel demand.

### **River Crossing**

The new supplemental arterial bridge would be located immediately downstream of the existing I-5 freeway bridges and would either be a low- or mid-level structure. The Hayden Island interchange on the existing I-5 bridges would be removed. Improvements to the existing I-5 bridges to address seismic deficiencies would be included (assuming improvements are determined to be feasible).

### **Roadways North and South**

This alternative includes improvements both north and south of the river. The improvements would include arterial street connections to the new crossing. On I-5 within the Bridge Influence Area, safety improvements would significantly address critical existing non-standard design and safety features. Outside the Bridge Influence Area, there would be some minor I-5 safety improvements and several major maintenance projects, specifically identified in the financially constrained regional transportation plans of both Portland's Metro and Southwest Washington's RTC. This alternative assumes that I-5 would be re-striped to add lanes wherever possible to provide for managed lanes.

### **Transit**

HCT would be provided on the new arterial bridge and would serve local and regional transit travel. Local bus connections to HCT stations would also be increased. Express buses carrying passengers from existing and/or new Clark County park-and-rides to downtown Portland would operate in general-purpose lanes on the existing I-5 freeway bridge. Additional bi-state transit services will consist of C-TRAN local buses and TriMet local service. Existing transit services would grow substantially to the year 2030 in order to better manage demand. Park-and-ride facilities would be improved along the I-5 corridor, and other transit passenger facilities would be constructed to make transit accessible to more residents.

### **Bicycle/Pedestrian**

A new bicycle and pedestrian path would be provided on the new arterial bridge, and connections would be improved to North Portland, Hayden Island, and downtown Vancouver.

### **Freight**

Freight vehicles could potentially benefit from arterial street improvements, and also potentially from increased mobility on I-5. In addition, this alternative would include freight bypass lanes on congested on-ramps where trucks have difficulty entering I-5.

**TDM/TSM**

This alternative consists of 11 major sets of TSM and TDM measures:

- North I-5 managed lanes;
- A preferred managed lane merge location;
- Increased bus service for express buses traveling to downtown Portland and local bus connections to HCT;
- A package of TDM policy measures;
- Additional park-&-ride lots;
- I-5 ramp queue jump lanes;
- Reduction of Interstate MAX run-time to downtown Portland, if possible;
- Transit signal priority;
- On-ramp meters;
- Arterial managed lanes; and
- Ramp terminal improvements.

The managed lane system would include a re-striping of I-5 north of SR 500 to add a lane in each direction. The managed lane system would include preferential managed lane merges north and south.

An enhanced package of TDM/TSM policy measures would be included to reduce travel demand and improve transportation system performance. This alternative would include ramp queue jumps for transit vehicles, managed lanes on arterial streets for transit use, and transit priority signal systems. Congestion pricing would be implemented for all travel lanes on the new arterial bridge and existing I-5 freeway bridge to maintain an appropriate and consistent level of service.