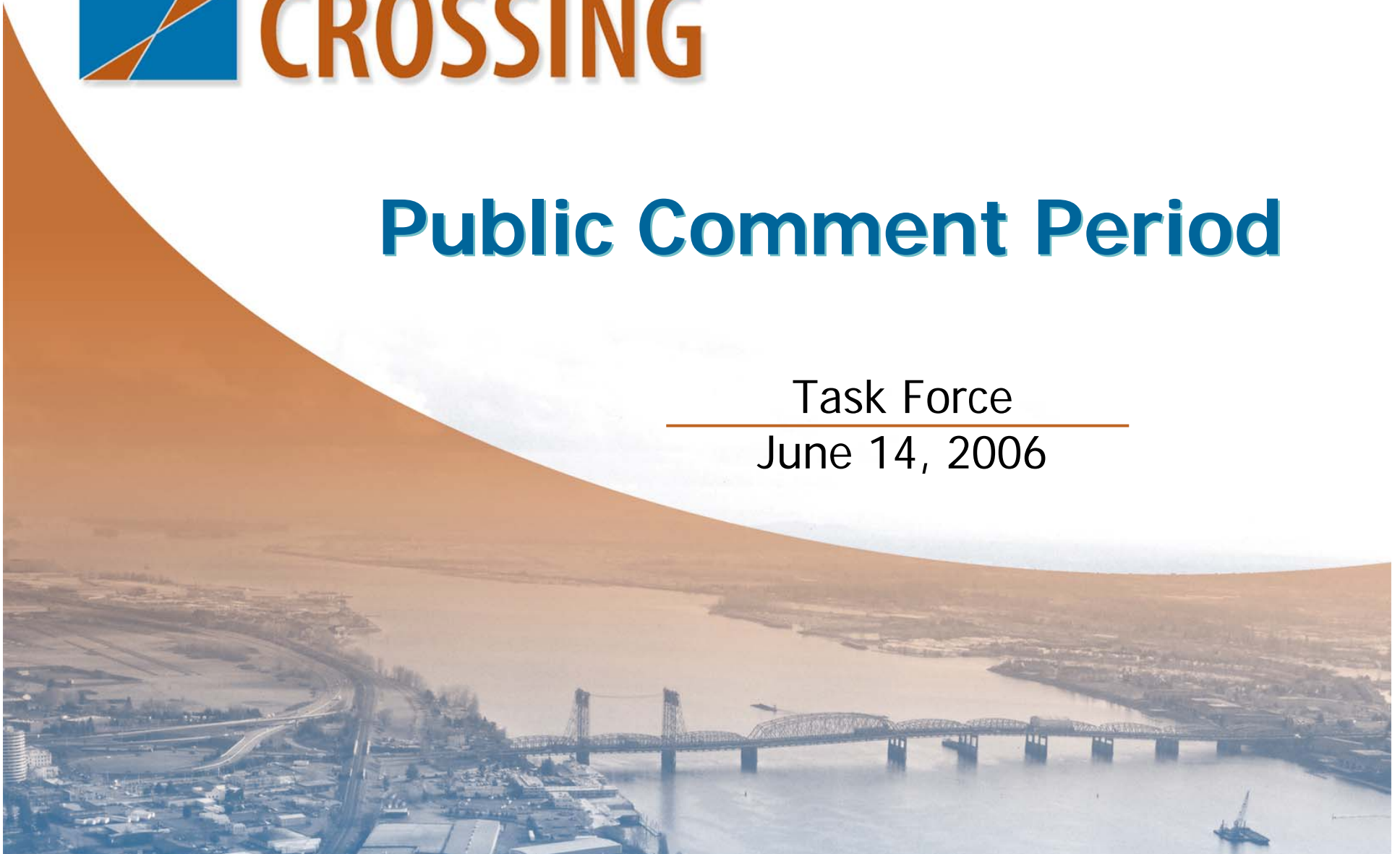


Columbia River **CROSSING**

Public Comment Period

Task Force

June 14, 2006



Columbia River **CROSSING**

Components Proposed to Not Carry Forward

Task Force

June 14, 2006



Components Proposed to Not Carry Forward

1. F-3 Time of Day Freight Restrictions
2. F4 Increase Truck Size
3. B/P-3 Bicycle/Pedestrian Path-Only Bridge
4. RC-1, RC-2, RC-7, and RC-8 Movable Span Options
5. RC-13 Supplemental Tunnel
6. TR-6 Streetcar
7. TR-11 Commuter Rail

Columbia River **CROSSING**

Approach to Packaging Alternatives

Task Force

June 14, 2006



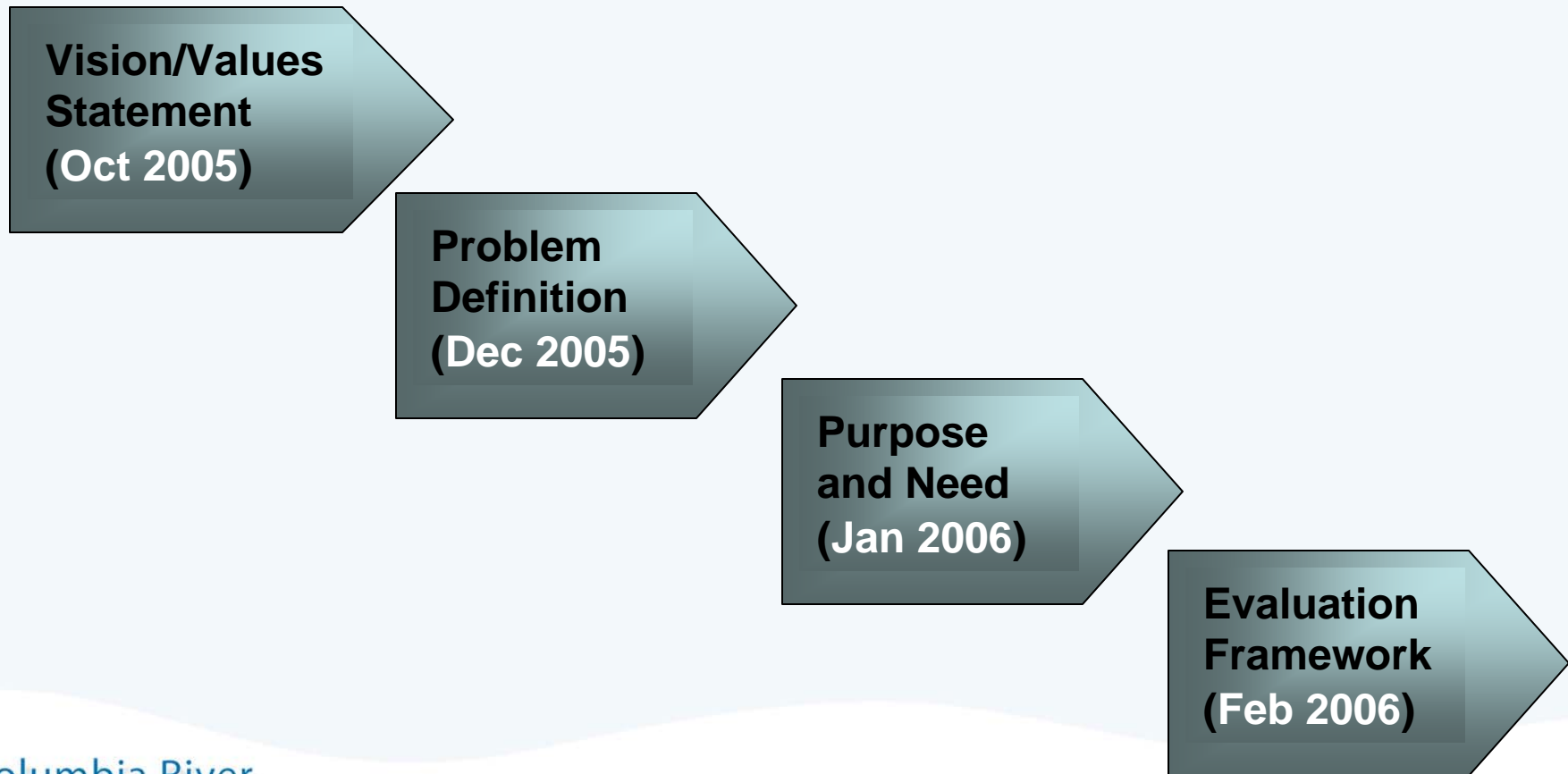
Agenda

1. Steps to Alternatives Packaging- a recap
2. Why Alternative Packages?
3. Context for Developing Alternative Packages
4. Staff-Recommended Alternative Packages
5. Evaluating Alternative Packages
6. What follows Alternative Packaging?
7. Q&A

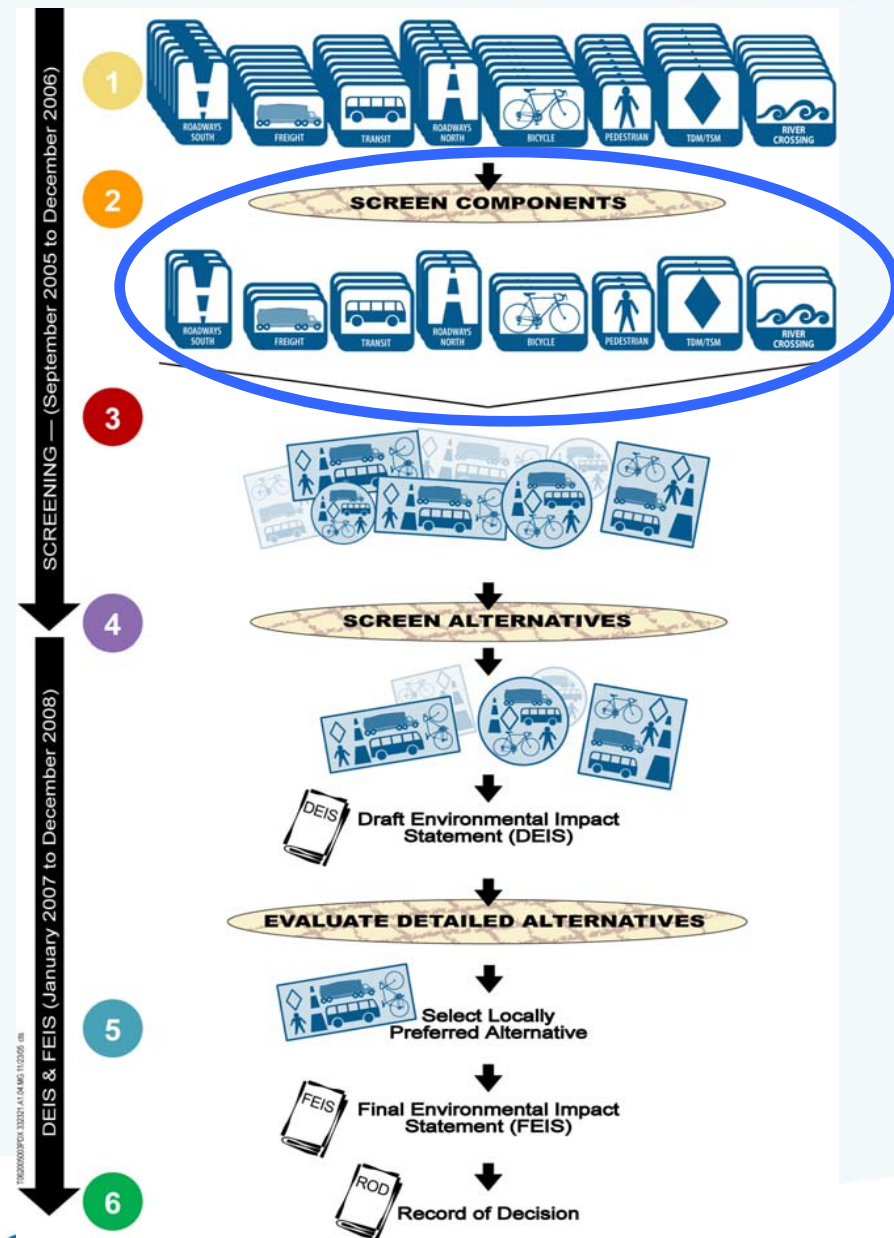


1. Road to Alternative Packages

- During project scoping, the Task Force adopted a set of framework documents to guide project development:



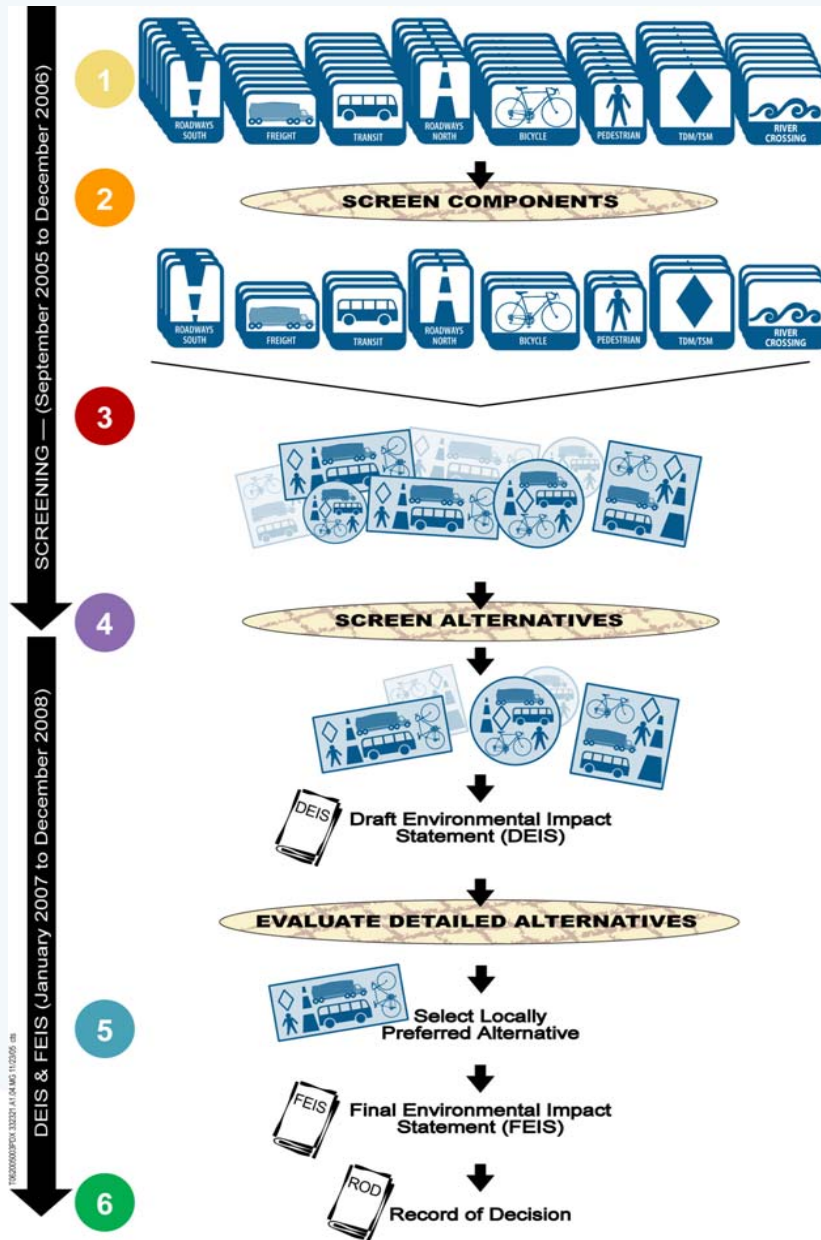
2. Why Alternative Packages



2 Component Screening:

1. Step A Pass/Fail screening applied to River Crossing (RC) and Transit components only
2. Task Force recommendation at 4/06 and 5/06 meetings to narrow components:
 - 23 RC components to 9
 - 14 Transit to 7 (deferred action on comm. rail)
3. Per new information, staff recommending tonight to screen additional RC and transit components under Step A

Road to Alternative Packages



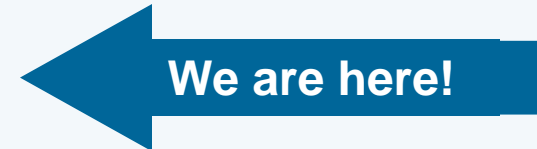
Major Steps in 2006:



Oct '05



May '06



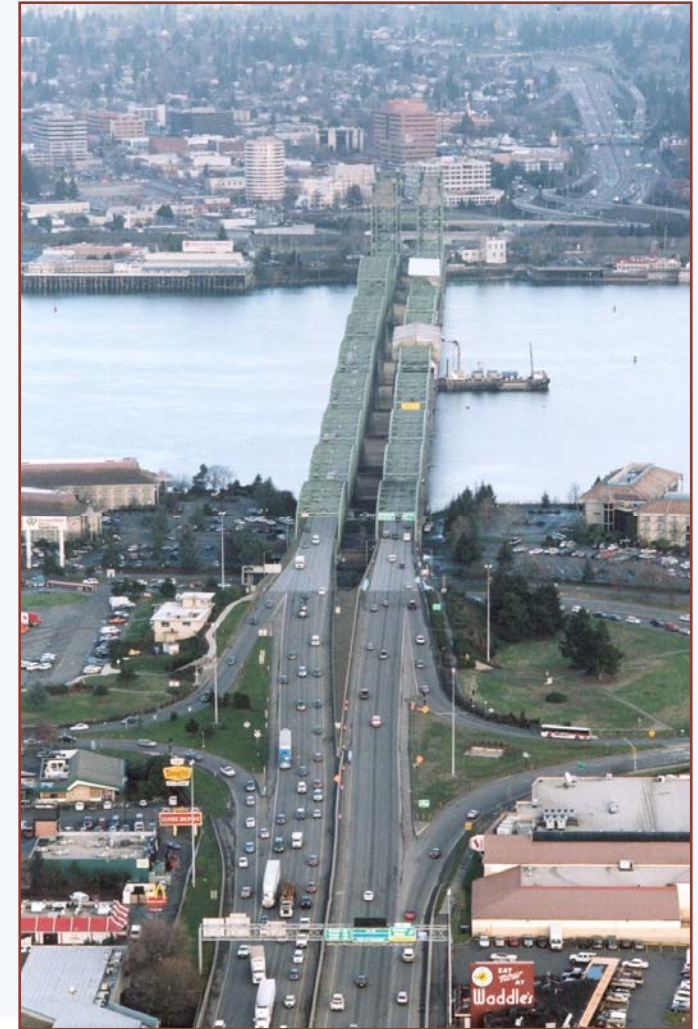
Assemble Packages
May–July, 2006



Screen Packages
fall/winter, 2006

2. Why alternative Packages?

- Identify promising combinations of highway and transit improvements
- Understand how components perform together within BIA
- Inform major decisions, such as:
 - Transit mode (narrow to one or two modes for DEIS)
 - Supplemental or replacement bridge
 - Arterial lanes
 - Managed lanes
- Further narrow and shape the range of alternatives to be considered in the DEIS



3. Context for Developing Alternative Packages

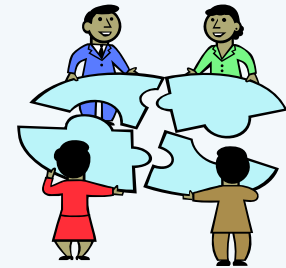
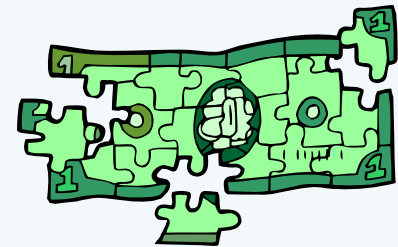
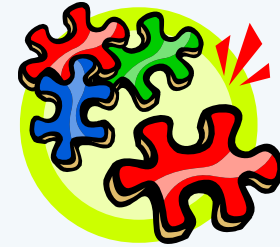
- Present the approach used by staff team
- Show how underlying principles are applied in the alternatives
- Describe the basic elements featured in the alternatives



3. Packaging Context

Draft Packaging Principles

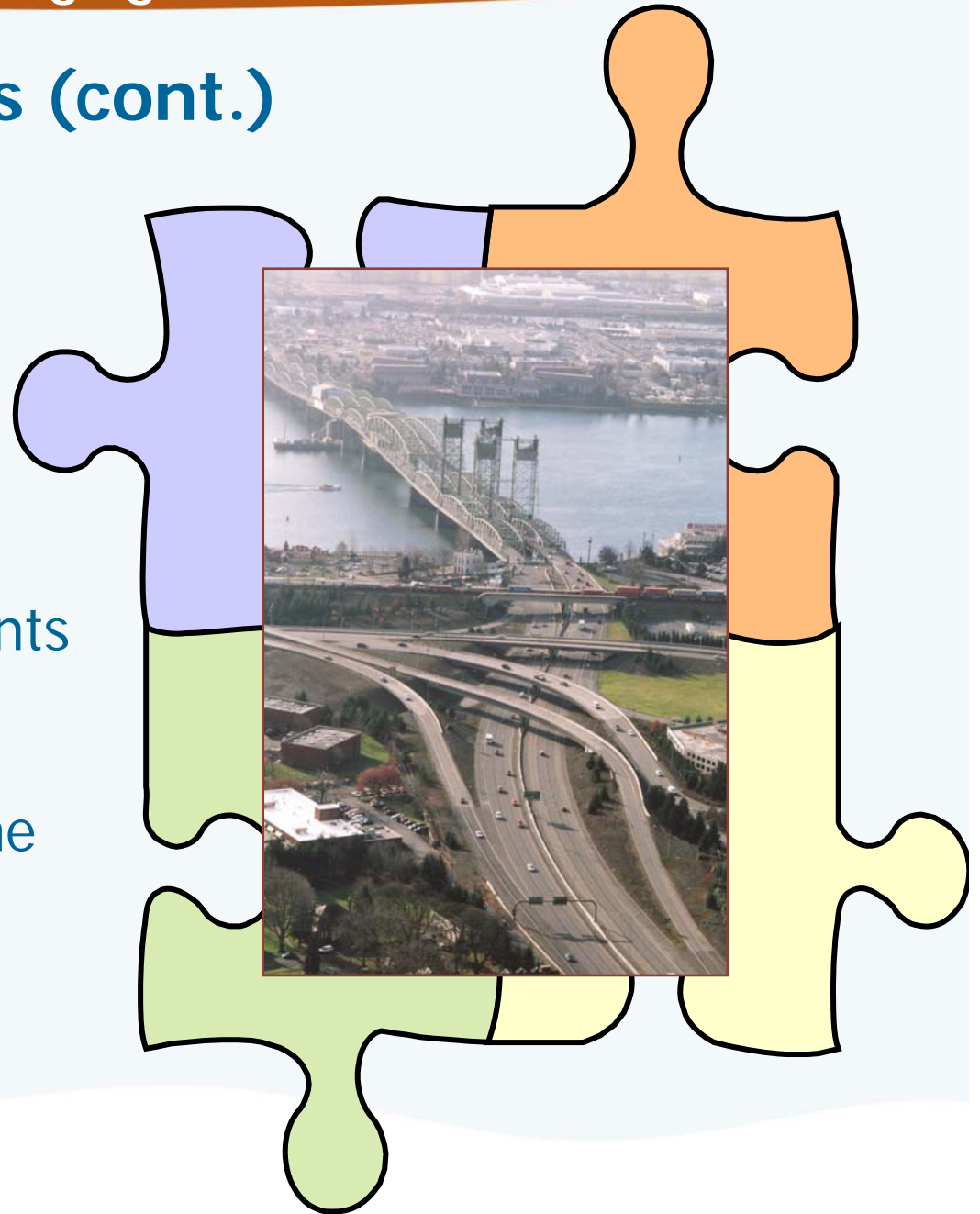
- Consider all components that pass Step A
- Organized by theme around key features
- Represent a full range of potential transportation solutions (within the limits of components that have passed Step A)
- Package complementary components together



3. Packaging Context

Packaging Principles (cont.)

- Use alternative packages to identify strengths and weaknesses of individual components.
- High-performing components may be refined and/or re-packaged with other alternative packages for the DEIS.



3. Packaging Context

Understanding the Pieces of the Packaging Puzzle

- A. Bridge options to cross the river
- B. Alternative packaging themes expressed by Task Force
- C. High capacity transit mode(s) across river
- D. Function of existing and new bridges
- E. Location and use of I-5 managed lanes
- F. Arterial crossing options
- G. Other components (bike, ped, freight, roadways, TDM/TSM)

3. Packaging Context

Organization Tool- Alternative Package Matrix



Table 3-1. Draft Alternative Packaging Matrix

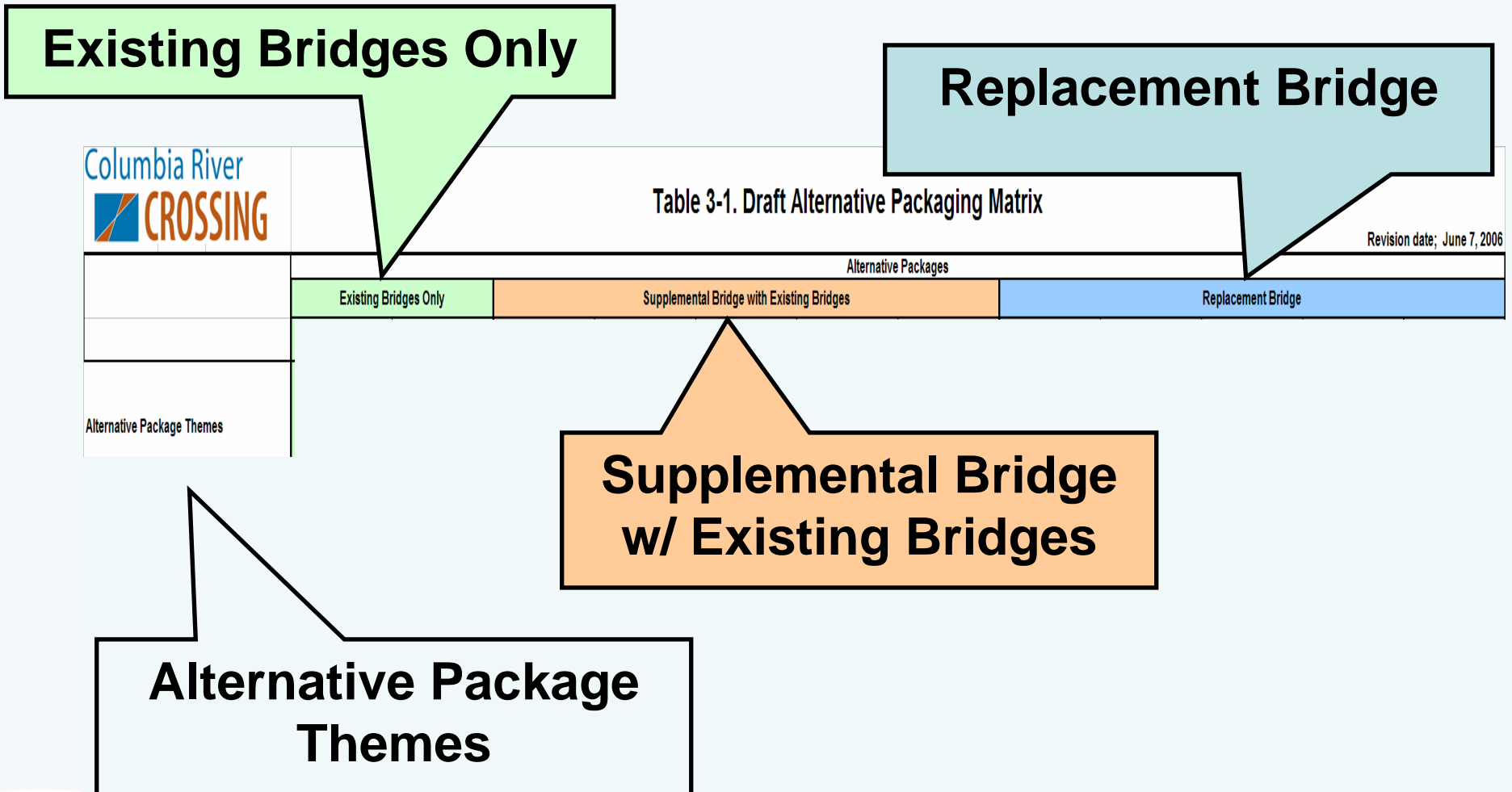
Revision date; June 7, 2006

	Alternative Packages											
	Existing Bridges Only		Supplemental Bridge with Existing Bridges					Replacement Bridge				
	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12
Alternative Package Themes	No Action	Minimum Investment TDM/ TSM Emphasis	Maximum Transit Ridership, Minimum I-5 improvements	Balanced Transit/Highway Improvements with LRT	Balanced Transit/Highway Improvements with BRT-Full	Balanced Transit/Highway Improvements with BRT-Lite	Maximum Vehicle Capacity	Balanced Transit/Highway Improvements with LRT	Balanced Transit/Highway Improvements with LRT	Balanced Transit/Highway Improvements with BRT-Full	Balanced Transit/Highway Improvements with BRT-Lite	Maximum Vehicle Capacity
High Capacity Transit Mode across Col. River	None	None	LRT	LRT	BRT-full	None	None	LRT	LRT	BRT-full	None	None
Other Transit Mode(s) across bridge	Express bus, local bus	Express bus, local bus	Express bus, local bus	Local bus	Local bus	BRT-Lite	Express bus	Express bus, local bus	Local bus	Local bus	BRT-Lite	Express Bus, local bus
Function of Existing Bridges	I-5 (GP lanes)	I-5 (GP lanes)	I-5 (GP lanes)	Arterial+LRT	Arterial+BRT	Arterial + BRT	Arterial	N/A	N/A	N/A	N/A	N/A
Function of New Bridge	N/A	N/A	Arterial + LRT	I-5 NB & SB (w/ ML)	I-5 NB & SB (w/ ML)	I-5 NB & SB (w/ ML)	I-5 NB & SB (all GP)	I-5 NB & SB (w/ ML) & LRT	I-5 NB & SB (w/ ML) & LRT	I-5 NB & SB (w/ ML) & BRT	I-5 NB & SB (w/ ML) & BRT	I-5 w GP lanes & Express Bus



3. Packaging Context

A. Bridge Options to Cross the River



3. Packaging Context

Packaged River Crossing Components

- RC-1: Replacement Bridge/Downstream/Low-Level/Movable
 - RC-2: Replacement Bridge/Upstream/Low-Level/Movable
 - RC-3: Replacement Bridge/Downstream/Mid-Level
 - RC-4: Replacement Bridge/Upstream/Mid-Level
- RC-7: Supplemental Bridge/Downstream/Low-Level/Movable
 - RC-8: Supplemental Bridge/Upstream/Low-Level/Movable
 - RC-9: Supplemental Bridge/Downstream/Mid-Level
 - RC-13: Tunnel to Supplement I-5
 - RC-23: Arterial Crossing with I-5 Improvements

3. Packaging Context

B. Packaging Themes Expressed by Task Force

What we heard at the May 22, 2006 Task Force Meeting as themes to build packages around:

1. Minimize project investment
2. Maximize transit ridership
3. Maximize vehicle capacity
4. Balance transit/highway investment (provide for phased implementation)
5. Remove short-distance trips from I-5

3. Packaging Context

B. Packaging Themes

Minimize Investment

- #1. Planned future improvements only
- #2. TDM/TSM emphasis
- #3. Min. I-5 investment

- #8-11. Balance Hwy and transit
- #12. Maximum vehicle capacity

	Existing Bridges Only		Supplemental Bridge with Existing Bridges					Replacement Bridge				
	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12
Alternative Package Themes	No Action	Minimum Investment: TDM/ TSM Emphasis	Maximum Transit Ridership, Minimum I-5 improvements	Balanced Transit/Highway Improvements with LRT	Balanced Transit/Highway Improvements with BRT-Full	Balanced Transit/Highway Improvements with BRT-Lite	Maximum Vehicle Capacity	Balanced Transit/Highway Improvements with LRT	Balanced Transit/Highway Improvements with LRT	Balanced Transit/Highway Improvements with BRT-Full	Balanced Transit/Highway Improvements with BRT-Lite	Maximum Vehicle Capacity

- #3. Maximum transit ridership
- #7. Maximum vehicle capacity
- #4-6. Balance Hwy and transit

3. Packaging Context

C. High Capacity Transit Modes Across River

Transit modes advanced through Step A Screening:

- TR-1: Express Bus in General Purpose (GP) Lanes
- TR-2: Express Bus in Managed Lanes
- TR-3: Bus Rapid Transit (BRT)- Lite
- TR-4: Bus Rapid Transit (BRT)- Full
- TR-5: Light Rail Transit (LRT)

Transit modes recommended to screen from further review

- TR-6: Streetcar
- TR-11: Commuter Rail on BNSF Track (staff recommending to screen this component)

3. Packaging Context

C. High Capacity Transit Modes Across River

- Service characteristics associated with High Capacity Transit are provided by LRT and BRT-Full

	Alternative Packages											
	Existing Bridges Only		Supplemental Bridge with Existing Bridges					Replacement Bridge				
	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12
Alternative Package Themes	No Action	Minimum Investment, TDM/TSM Emphasis	Maximum Transit Ridership, Minimum 5 improvements	Balanced Transit/Highway Improvements with LRT	Balanced Transit/Highway Improvements with BRT-Full	Balanced Transit/Highway Improvements with BRT-Lite	Maximum Vehicle Capacity	Balanced Transit/Highway Improvements with LRT	Balanced Transit/Highway Improvements with LRT	Balanced Transit/Highway Improvements with BRT-Full	Balanced Transit/Highway Improvements with BRT-Lite	Maximum Vehicle Capacity
High Capacity Transit Mode across Col. River	None	None	LRT	LRT	BRT-Full	None	None	LRT	LRT	BRT-Full	None	None

#3. LRT

#4. LRT

#5. BRT-Full

#8. LRT

#9. LRT

#10. BRT-Full

3. Packaging Context

C. Other Transit Modes Across River cont.

- BRT-Lite, express buses in GP or managed lanes, and local buses

	Alternative Packages											
	Existing Bridges Only		Supplemental Bridge with Existing Bridges					Replacement Bridge				
	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12
Alternative Package Themes	No Action	Minimum Investment TDM/TSM Emphasis	Maximum Transit Ridership, Minimum 5 improvements	Balanced Transit/Highway Improvements with LRT	Balanced Transit/Highway Improvements with BRT-Full	Balanced Transit/Highway Improvements with BRT-Lite	Maximum Vehicle Capacity	Balanced Transit/Highway Improvements with LRT	Balanced Transit/Highway Improvements with LRT	Balanced Transit/Highway Improvements with BRT-Full	Balanced Transit/Highway Improvements with BRT-Lite	Maximum Vehicle Capacity
High Capacity Transit Mode across Col. River	None	None	LRT	LRT	BRT-full	None	None	LRT	LRT	BRT-full	None	None
Other Transit Mode(s) across bridge	Express bus, local bus	Express bus, local bus	Express bus, local bus	Local bus	Local bus	BRT-Lite	Express bus	Express bus, local bus	Local bus	Local bus	BRT-Lite	Express Bus, local bus

3. Packaging Context

D. Function of existing and new bridges

- Previously, focus has been on ways to cross the river (e.g., up/downstream, etc.)
- For operational and safety reasons, staff believes I-5 traffic should be carried on a new supplemental or replacement bridge wherever provided.
- Existing I-5 bridges suitable for:
 - local arterial general purpose auto/bus travel lanes
 - bike/pedestrian use
 - LRT?
- Alternative #3 created to assess a minimal I-5 investment solution while providing a transit corridor. Serious feasibility concerns persist (e.g., design/safety issues).

3. Packaging Context

E. Location and use of I-5 managed lanes

- Gives preference to some users (freight, HOV, transit, etc.);
- Provided only with supplemental or replacement I-5 bridge;
- Managed lanes would be created as follows:
 - A single I-5 managed lane in each direction within project area;
 - Re-stripe I-5 wherever possible between 139th Street in Clark County and approximately Alberta Street;
 - No current I-5 general lanes converted for managed use;
 - Freight, HOV, and/or transit vehicles can bypass ramp meters.

F. Arterial Crossing Options

- Interest exists in exploring arterial connections between Vancouver and Portland;
 - Removes some short-distance trips from I-5
 - Arterial extending south of Hayden Island allows potential removal of the I-5 interchange at Hayden Island.
- Arterial crossing options exist only when a supplemental bridge is provided (alternatives #3 through #7);
- Project staff believes I-5 traffic should be carried on a new supplemental or replacement bridge wherever provided.
 - So, arterial function provided by existing I-5 bridges only as shown in alternatives #4 - #7.

3. Packaging Context

G. Other components (bike, ped, freight, roadways, TDM/TSM)

- Alternatives are primarily formed with consideration to linking river crossing and transit components.
- Other components are predicated on the river crossing/transit combination and chosen to be complimentary to the different alternatives.

4. Recommended Alternative Packages

- Project team believes these 12 alternatives allow appropriate and sufficient performance testing of the components.

5. Evaluating Alternative Packages

- Alternative packages to undergo the following study during summer 2006:
 - Travel demand forecast modeling;
 - Conceptual design refinement;
 - Staff evaluation among design, traffic, transit, and environmental teams using adopted screening criteria
 - For criteria previously deferred to the packaging step, performance measures will be developed. Other previously qualitative measures will become as quantitative as possible.
 - Staff will begin to report study results in fall 2006.

6. What follows Alternative Packaging

- Selection of range of alternatives
- New round of modeling and evaluation during EIS
- Task Force opportunities during summer 2006 to participate in review/comment of roadway and transit designs being presented to the public

Q&A



Full Matrix- zoomable pdf

Note: The 12 staff-recommended alternative packages represented in this matrix sufficiently represent, and support technical work to test, the range of component combinations. As needed, results can be used to assess other possible component combinations not expressly represented in the list of 12. Best performing elements of each alternative package will be available for repackaging and/or refining within the range of alternatives advanced into the Draft EIS.



Table 3-1. Draft Alternative Packaging Matrix

Revision date: June 7, 2006

Alternative Package Themes	Alternative Packages											
	Existing Bridges Only		Supplemental Bridge with Existing Bridges						Replacement Bridge			
	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10	#11	#12
	No Action	Minimum Investment TDM/TSM Enhancements	Maximum Transit Ridership, Minimum I-5 Improvements	Balanced Transit/Highway Improvements with LRT	Balanced Transit/Highway Improvements with BRT-Full	Balanced Transit/Highway Improvements with BRT-Lite	Maximum Vehicle Capacity	Balanced Transit/Highway Improvements with LRT	Balanced Transit/Highway Improvements with LRT	Balanced Transit/Highway Improvements with BRT-Full	Balanced Transit/Highway Improvements with BRT-Lite	Maximum Vehicle Capacity
High Capacity Transit Mode across Col. River	None	None	LRT	LRT	BRT-Full	None	None	LRT	LRT	BRT-Full	None	None
Other Transit Mode(s) across bridge	Express bus, local bus	Express bus, local bus	Express bus, local bus	Local bus	Local bus	BRT-Lite	Express bus	Express bus, local bus	Local bus	Local bus	BRT-Lite	Express Bus, local bus
Function of Existing Bridges	I-5 (GP lanes)	I-5 (GP lanes)	I-5 (GP lanes)	Arterial+LRT	Arterial+BRT	Arterial + BRT	Arterial	N/A	N/A	N/A	N/A	N/A
Function of New Bridge	N/A	N/A	Arterial + LRT	I-5 NB & SB (w/ ML)	I-5 NB & SB (w/ ML)	I-5 NB & SB (w/ ML)	I-5 NB & SB (all GP)	I-5 NB & SB (w/ ML) & LRT	I-5 NB & SB (w/ ML) & LRT	I-5 NB & SB (w/ ML) & BRT	I-5 NB & SB (w/ ML) & BRT	I-5 w GP lanes & Express Bus
RC Components	RC-1	ReckDownLowMov										
	RC-2	ReckUpLowMov										
	RC-3	ReckDownMkI										
	RC-4	ReckUpMkI										
	RC-5	SuprDownLowMov										
	RC-6	SuprUpLowMov										
	RC-8	SuprDownMkI										
	RC-9	SuprUpMkI										
	RC-13	Tunnel										
Roadways North/South	RS-23	Arterial (New Bridge)										
	RNS-1	Interchange Improvements										
	RNS-2	Arterial Improvements										
	RNS-3	I-5 Safety Improvements										
Transit Components	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	Stowbar										
Bicycle/Pedestrian Components	TR-11	Commuter Rail										
	BIP-1	Enhance Existing										
	BIP-2	Path on New Bridge										
	BIP-3	Path-only Bridge										
	BIP-4	Vanc. Connectivity										
Freight Components	BIP-5	Hayden Is. Conn.										
	BIP-6	N. Portland Pathway										
	F-1	Freight in Managed Lanes										
	F-2	Fr. Bypass Lanes										
	F-3	Freight Restrictions										
TSM/TDM Components	F-4	Loc. Truck Size										
	F-5	Fr. DA Ramps										
	T-B	Basic										
	T-M	Moderate										
	T-A	Aggressive										

1. Assumes no managed lane beyond the existing northbound I-5 HOV lane in Portland.
2. Includes use of existing northbound HOV lane in Portland.

Components that may be screened out by analyses during or after the packaging process.



Columbia River **CROSSING**

Next Steps

Task Force

June 14, 2006



Upcoming Task Force Meetings

- July: Recommendations on Packaging
- August/September: Introduce Package Design Concepts
- October/November/December: Review evaluation results; adopt recommendations for DEIS alternatives