

I-5 Columbia River Crossing Partnership

Inventory of Work Completed

October 13, 2004



KITTELSON & ASSOCIATES, INC.
TRANSPORTATION PLANNING/TRAFFIC ENGINEERING

Principle Questions

- What has been done?
- Are there any fatal flaws?
- What are the critical risks at this point?
- Is there more we should do before we start the NEPA process?



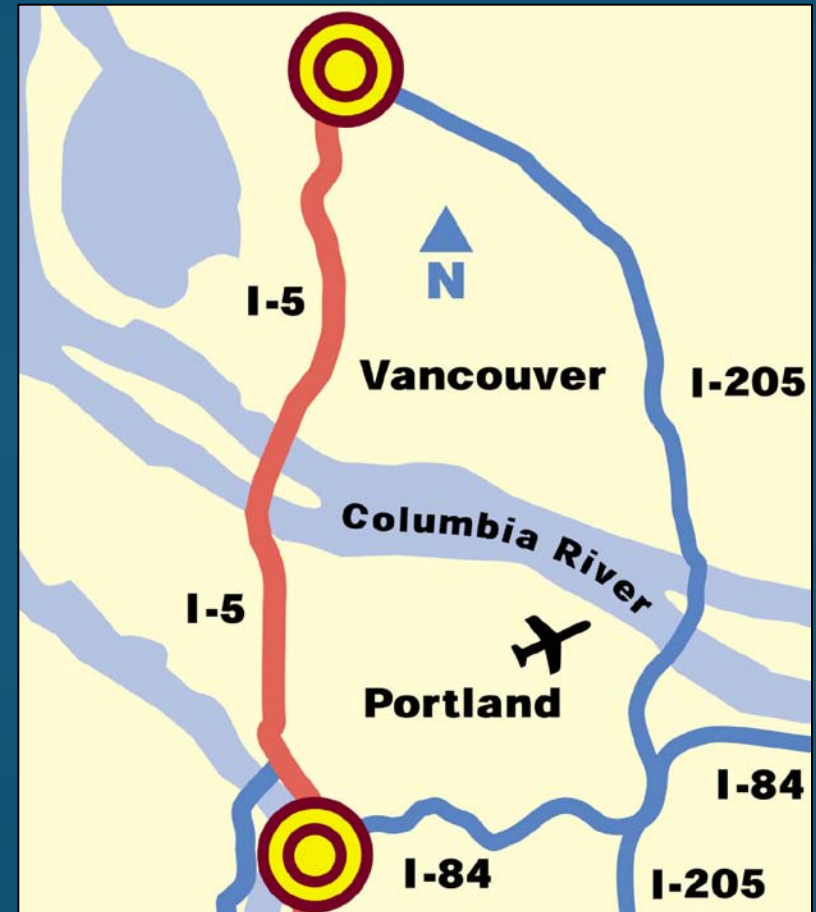
Tasks

- Review WSDOT, ODOT, and Federal design guidelines identify and document critical similarities and distinctions (Task 1.5)
- Develop a web-integrated database as a warehouse for current and future work (Task 1.7)
- Inventory and review work completed to date, identify critical risks (Tasks 2.3 and 2.4)



What did we look at?

- Data review and summary for all concepts
 - Full corridor (20 and 9)
 - Bridge Influence Area (8 and 4)



How did we do it?

- **Data request to ODOT and WSDOT**
 - DEA CD
 - Standalone Documents (ie. RTC Commuter Rail Study; Additional North-South Arterial; Freight Study; Separate Light Rail Bridge - North/South EIS, Commuter Rail Tech Memo)
- **Meetings**
 - ODOT Design
 - WSDOT Design
 - DEA, PB, ODOT, WSDOT
- **Reviewed documents**
 - Traffic volumes
 - Travel performance measures
 - Design considerations
 - Environmental considerations
 - Cost estimates
 - Structural analysis



Findings - The 20 Full Corridor Concepts

- Forecast volumes for the Baseline Option
- No travel performance measures
- Schematic depiction of some concepts
 - Planning level alignment, cross-section and profile



Findings - The 9 Full Corridor Concepts

- More detailed analysis conducted for these
- 2020 forecast and emme/2 modeling
- Travel performance measures for all (emme/2)
 - Vehicle miles traveled
 - Vehicle hours of delay
 - Truck Delay
 - Congested lane miles
 - Link capacity analysis
 - Vehicle user cost savings
- Planning level alignments for all
- Schematic cross-section for LRT plus three freeway lanes, and express bus plus four freeway lanes



Findings - Bridge Influence Area (BIA) Concepts

- Forecast Volumes - emme/2 Travel Demand Model
- Traffic Operations - VISSIM Model
 - Freeway operations
 - Vehicle hours of delay
 - Average speed
 - Assumed HOV lanes
- CAD-base Functional Layouts
 - Cross-section: New structures will follow standards
 - Detailed horizontal alignments
 - No profiles (reference different structures)
- Conceptual Air and Marine Navigation
- Cost Estimating (+/- \$1.2 billion - 2002)
- Conceptual Natural and /Cultural/Historic Resources



Identified for Further Study in EIS

- HOV throughout the I-5 corridor
- Structural Studies
 - Joint Use or Separate Bridge(s)
 - Supplemental or Replacement Bridge
 - Conversion of existing bridge for LRT use
- Cost Estimating
 - Need life cycle cost of existing bridges and seismic retrofit costs
- Natural and Cultural/Historic Resources
 - Actual impacts to be determined
- Merging at SR-14
- Tunnels



Detailed Findings - The 20 Concepts

Concept	Findings
Baseline	2020 Forecast, Travel Performance,
Major Transit Improvements	Description only
Commuter Rail	Schematic of alignment
Other Transit Modes	Description only
Enhanced Town Centers	Description, conceptual mapping
Freight Arterials	Schematic of alignment
Extended Westside Freight Corridor	Schematic of alignment
Three Through Lanes	Schematic of alignment and cross-section
Three Through Lanes with LRT	Schematic of alignment



Detailed Findings - The 20 Concepts (cont.)

Concept	Findings
Three Through Lanes with Express Bus	Schematic of alignment
Columbia River Crossing with Supplemental Bridge (No New HCT)	Schematic of cross-section and alignment
Columbia River Crossing with Supplemental Bridge (With LRT)	Schematic of cross-section and alignment
Columbia River Crossing with New Freeway Bridge or Tunnel	Schematic of cross-section alignment, and profile
Freight Freeway	Schematic of alignment and profile



Detailed Findings - The 20 Concepts (cont.)

Concept	Findings
Widen Freeway for Reversible Express Lanes including LRT	Schematic of cross-section and alignment
Widen Freeway for HOV Lanes including LRT (Supplemental Columbia River Bridge)	Schematic of cross-section and alignment
Widen Freeway for HOV Lanes including LRT (New Columbia River Bridge)	Schematic of cross-section and alignment
Widen Freeway for HOV Lanes plus Express Bus (New Columbia River Bridge)	Schematic of cross-section and alignment
New Freeway Parallel to Existing Freeway	Schematic of cross-section and alignment



Detailed Findings - The 9 Concepts

Concept	Findings
Baseline	2020 Forecast, Travel Performance
Express Bus/3 Lanes	2020 Forecast, Travel Performance, Schematic horizontal alignment
Light Rail/3 Lanes	2020 Forecast, Travel Performance, Schematic horizontal alignment and cross-section
Commuter Rail/3 Lanes	2020 Ridership Estimate, Schematic horizontal alignment, \$1.5 to \$1.7 Billion capital plus 8.7 million annual operating
Planned Regional Bus System/4 Lanes - Analysed with Express Bus/ 4 Lanes	Integrated into Express Bus/4 Lanes
Express Bus/4 Lanes	2020 Forecast, Travel Performance, Schematic horizontal alignment and cross-section



Detailed Findings - The 9 Concepts (cont.)

Concept	Findings
Light Rail/4 Lanes	2020 Forecast, Travel Performance, Schematic horizontal alignment
West Arterial Road	2020 Forecast, Travel Performance, Schematic horizontal alignment
New Freeway Corridor	Schematic of alignment



BIA - Summary by Concept

Concept	Findings
Concept 1: 5-lane SB Supplemental Bridge for Freeway Traffic w/ LRT	2020 Forecast, VISSIM Model, CAD layouts, \$1.2 billion (2002)
Concept 2:	None
Concept 3:	None
Concept 4: 10-lane Double Deck, Replacement Bridge, plus LRT on Separate New Bridge	2020 Forecast, VISSIM Model, CAD layouts, \$1.175 billion (2002)
Concept 5:	None
Concept 6: 4-lane Supplemental C-D Bridge w/ LRT, plus 6-lane Freeway	2020 Forecast, VISSIM Model, CAD layouts
Concept 7: 8-lane Freeway Concept plus new LRT Bridge w/ 2-lane Arterial	2020 Forecast, VISSIM Model, CAD layouts, \$1.161 billion (2002)
Concept 8:	None



Did we miss anything?



End of October 13 Presentation



Are there other concepts we should consider?

- This slide would be the end of the discussion on the 13th



Are there any fatal flaws?

- We would use the previous slides to begin the discussions on the 18th/19th
- Summarize our findings on these next few slides and present them at whatever final meetings we have,
- write them up in bullet paragraphs in our memo



What are the major risks at this point?



Is there anything that must be done prior to NEPA?

