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April 2001

Options for
corridor improvements
B2/B3
EXISTING
I-5 Tech
RPT <0.

Staff Recommendations to the Task Force on the Corridor Improvement Packages

Introduction

This document contains the staff recommendations for the nine corridor improvement packages currently under consideration in the I-5 Partnership process. A staff evaluation of the packages was undertaken to identify:

- Packages that are most likely to warrant detailed analysis later in the study,
- Packages that most likely do not require detailed analysis because they are less likely to meet the objectives of the study and/or substantial information already exists from previous studies, and
- Packages and package elements (e.g., specific improvements) that are likely to require refinement or repackaging with other options in order to warrant further study.

Project staff are seeking direction from the Task Force regarding which packages to carry forward to the next public workshop scheduled for May 10th.

Please note, this evaluation does not directly incorporate public comments gathered at the I-5 Options Open House and Workshop held on April 11. Public feedback from the Open House will be distributed as a separate document.

Methodology

Descriptions of the 9 packages (including maps) were mailed to over 20 professionals in the region who are recognized experts in the fields of transportation, land use, freight and environmental planning. Included were staff from partner agencies in Washington and Oregon and consultants familiar with the I-5 corridor.

These professionals were also mailed a copy of the Evaluation Factors that have been developed to date, and asked to give relative ratings for the 9 packages on particular study objectives (i.e., environmental staff were asked to rate environmental impacts) drawing upon their own professional judgment, knowledge of the corridor, and previous related studies (including Phase I reports). The purpose of this exercise was not to develop precise cumulative "scores" for each package, but rather to learn if particular packages consistently perform better or worse than other packages on multiple objectives, focusing on relative ranking differences.

The results of the technical evaluation were then compiled and presented at a workshop attended by the technical professionals (the "raters"), the Project Advisory Group

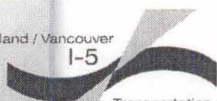
(PAG), project staff and members of the consulting team (over 30 attendees). The general purpose of the first part of the workshop was to present the compiled technical evaluations, give raters an opportunity to explain their assessments, collectively discuss the packages, and identify packages that consistently received higher or lower ratings.

The workshop began with a survey of all workshop attendees to capture their thinking about how well each of the 9 packages meets the 7 general evaluation objectives of the study (e.g., improve transportation performance, freight/goods movement, quality of life, etc.). Second, two polls were conducted whereby attendees identified packages “most likely to require further study”, “least likely to require further study”, and packages falling somewhere in between. The first poll asked attendees to only consider the technical merits of the different packages based on their own professional judgment and the previous group discussion and technical evaluation. A second poll was conducted asking attendees to consider non-technical issues including perception of the options packages.

At the conclusion of the workshop, the facilitators synthesized findings from:

1. The mailed survey and subsequent workshop discussion,
2. The “intuitive” survey among workshop attendees, and
3. The two workshop polls

This synthesis produced generally consistent, or “stable” results. That is, the various surveys and polls yielded a pattern of information in which several packages consistently warranted further analysis because of their anticipated performance against the set of study objectives. Other packages consistently performed relatively poorly against these objectives, while a third group fell in between the two.



Recommendations

The following table summarizes staff's recommendations for the 9 packages based on the preliminary evaluation and other information.

<u>Package</u>	<u>Recommendation</u>
1. <i>Baseline(no new bridge)</i>	<i>Study further</i>
2. <i>Express Bus on New Arterial Bridge, Without Additional Freeway Corridor Capacity</i>	<i>Study further</i>
3. <i>Light Rail Without Additional Freeway Corridor Capacity (LRT bridge, with or without new road capacity)</i>	<i>Study further</i>
4. <i>Commuter Rail Without Additional Freeway Capacity</i>	<i>Defer further study until results from Rail Capacity Analysis are available</i>
5. <i>Planned Regional Bus With Additional Freeway Capacity</i>	<i>Do not study – combine with Package 6</i>
6. <i>Express Bus to Downtown Portland With Corridor-Wide Freeway Capacity Increase (includes new Columbia River crossing)</i>	<i>Study further; modify package to provide express bus service to downtown Portland</i>
7. <i>Light Rail Transit With Corridor-Wide Freeway Capacity increase (includes new Columbia River Crossing)</i>	<i>Study further</i>
8. <i>New Arterial Corridor/Columbia River Crossing</i>	<i>Continue to study “port-to-port” bridge, Mill Plain to Columbia Boulevard.</i>
9. <i>New Freeway Corridor</i>	<i>Do not study</i>

The remainder of this section describes in more detail some of the primary reasons that these recommendations are offered. Importantly, these evaluations/recommendations do not consider specific improvements that could be made in the two Special Analysis Areas (the Rose Quarter area, and Lombard St. to SR 500). Improvements in these areas, for instance, could include interchange improvements, ramps, and bridges, and are likely to improve freight mobility in particular. Thus far the analysis has focused on more general corridor-level improvements.

Please note, land use effects of the various option packages will be studied in detail in the Land Use Analysis, and reported to the Task Force along with the evaluation of the option packages this fall.

Package 1 – Baseline (no new bridge)

Staff recommendation: Study further.

This package must be studied to evaluate the effects planned improvements without major improvements in the I-5 Corridor. This option package also establishes a standard by which to measure the other packages.

This option only includes planned regional improvements and represents a “No-Build” scenario relative to the other packages. While it would require the least amount of expenditure, it does the least to improve transportation for commuters and freight in the corridor and does not adequately address future bi-state travel demand. This package would least disrupt cultural, institutional, and environmental resources, although traffic conditions could deteriorate due to increased congestion levels.

From a land use perspective, it is difficult at this point in the process to predict how this package will affect regional population and jobs distributions. Constrained transportation access in the corridor will affect growth patterns and could encourage desirable growth in new areas that have historically been passed over, or cause travelers to make shorter trips. Conversely, increased congestion may hinder growth in important established job centers in the corridor, and it will direct more traffic to residential neighborhoods. As noted above, these issues will be studied in detail in the Land Use Analysis, and reported to the Task Force along with the evaluation of the Option Packages this fall.

Package 2 – Express Bus on New Arterial Bridge, Without Additional Freeway Corridor Capacity

Staff recommendation: Study further.

This option package will evaluate what can be achieved without developing light rail, commuter rail and/or major highway improvements. It offers modest transportation benefits, and the degree to which express bus improvements support adopted land use plans is unclear at this point. Package 2 is likely to be less costly than other packages. This package includes new bridges over the Columbia River and North Portland Harbor to connect the HOV lane in Vancouver to the Expo light rail station. These bridges could also provide local arterial access to Hayden Island.

Express bus service from Clark County (using HOV lanes on I-5) would improve peak period transportation performance, especially with a new river crossing, but would be constrained by operating in congested traffic on SR 500 and I-205. Under this option,

bus transit performance could be improved by system management techniques such as ramp meter bypass lanes, arterial signal preemption, and queue jumper lanes. The greatest potential benefits to freight and general-purpose traffic would result from decoupling I-5 traffic from traffic accessing Hayden Island, which could be accessed instead via new bus / arterial bridges, and from on and off ramp improvements in the Special Analysis Areas.

This option begins to address the growth in travel demand resulting from adopted land use plans, but the benefits largely accrue to one mode of travel. Construction of a new river crossing is likely to impact water quality and historic, cultural, and/or institutional resources.

Package 3 - Light Rail Without Additional Freeway Corridor Capacity (LRT bridge, with or without new road capacity)

Staff recommendation: Study further.

Expanded light rail service without corridor capacity improvements is similar to Package 2; and peak period transportation performance would largely be improved for one mode (e.g., increased travel reliability via exclusive right-of-way). Extending light rail to Clark College would not substantially reduce traffic on I-5 in Clark County, whereas extensions to 134th St. or Westfield Shopping Town would have greater travel benefits. Bridge area congestion may or may not be reduced, and would depend on how light rail stations are accessed (feeder bus or park and ride) and whether the new light rail bridge also carries local traffic to Hayden Island. Freight goods movement is not substantially improved, unless this bridge does carry local traffic, or if on and off ramps are improved in the Special Analysis Areas.

This option begins to address projected growth in travel demand, and the technical survey results indicate that this package may be more supportive of regional land use plans (compared to package 2). Construction of a new river crossing is likely to impact water quality and historic, cultural, and/or institutional resources.

Package 4 – Commuter Rail Without Additional Freeway Capacity

Staff recommendation: Staff recommends that further study be deferred until the Rail Capacity Analysis is completed. If the Rail Capacity Analysis subsequently recommends major freight rail capacity improvements, this package can be revisited to determine if freight rail improvements can be configured to accommodate commuter rail also.

Because existing freight rail facilities in North Portland are currently operating near full capacity, this package would require construction of a new main line and tunnel and

would provide transit service that would be largely duplicative of light rail. This package is likely to have environmental and noise impacts, and it does relatively little to support regional land use plans.

This package offers no direct benefits for truck freight movement on I-5, and few indirect benefits, as few projected riders would be diverted from other highways and arterials in the corridor. It could improve freight rail operation by eliminating passenger trains from the freight lines if Amtrak routes also moved to the new commuter rail alignment.

The Commuter Rail Feasibility Study (1999) completed by the Southwest Washington Regional Transportation Council (RTC) analyzed commuter rail alternatives in a similar corridor and estimated daily peak period ridership of 1,000 to 1,200 in 2003, growing to 2,400 daily riders in 2017, resulting in much lower ridership than other commuter rail systems around the country. In comparison, daily light rail ridership from Clark College to downtown Portland was estimated to be 16,000 in the South/North Draft Environmental Impact Statement.

Primary reasons cited for the low commuter rail ridership estimates include: substantial out-of-direction travel for most commuters (i.e., uncompetitive total travel times with autos and buses) and service to only one station in downtown Portland, requiring most travelers to transfer modes. These ridership estimates were also developed without consideration of competing light rail service on Interstate Avenue.

In addition, results of the 1999 study lead staff to conclude that this package is not likely to be cost effective due to its high cost and relatively few benefits.

Package 5 – Planned Regional Bus With Additional Freeway Capacity

Staff recommendation: Do not study – combine with Package 6.

This package includes no major increase in transit capacity (relative to the Baseline), but would add a fourth travel lane on I-5 from 134th St. to Going St. which could be used as a reversible express lane, HOV lane, or general-purpose lane.

From an analysis perspective, the effects of adding only major highway capacity can be tested by modeling package 6, which includes the aforementioned highway improvements and the express bus improvements in package 2 (the results of which can be looked at separately to discern differences between the highway and bus transit improvements).

Package 6 – Express Bus to Downtown Portland With Corridor-Wide Freeway Capacity Increase (includes new Columbia River crossing)

Staff recommendation: Study further.

This package is likely to produce substantial benefits, but also incur high monetary, social, and environmental costs. Staff recommends that this package be modified to evaluate the benefits and costs of extending express bus service in Clark County to downtown Portland via a new HOV lane to Going St. (this package currently has express bus service connecting to light rail at Portland International Raceway).

By adding substantial transit and highway capacity, this package is very likely to improve overall transportation performance and freight and goods movement relative to most other packages. In doing so, this package would incur greater capital and operating costs, and is likely to cause impacts to the natural and built environments relative to the baseline (package 1). Right-of-way acquisition could adversely affect adjacent neighborhoods and several historic and institutional resources.

Compared to most other options, this package offers more transportation choices, potential congestion reduction, reduced spillover traffic into neighborhoods, and capacity to accommodate bi-state people and goods movement. Improved access to regional employment and residential centers is consistent with regional plans, although growth may also be induced to less central locations (impacts on regional land use goals, in the aggregate, are unclear).

Package 7 – Light Rail Transit With Corridor-Wide Freeway Capacity Increase (includes new Columbia River Crossing)

Staff recommendation: Study further.

This package is likely to perform similar to Package 6 by adding substantial multimodal capacity in the corridor. Overall travel times and congestion would be reduced for all modes (including freight) in the corridor, spillover impacts would decrease, and transportation choices would be improved. This package is also likely to be relatively expensive, particularly if a more extensive light rail network were developed in Clark County.

This package, and the previous one would likely do the most to accommodate projected travel demand in the corridor. Like package 6, this package is likely to produce substantial benefits, but also incur high monetary, social, and environmental costs. Compared to Package 6, this package may be similar or more consistent with local and regional land use plans, although aggregate impacts remain difficult to predict

(concentrated development may occur in the vicinity of light rail stations, while other growth is simultaneously deflected to more dispersed locations).

Package 8 – New Arterial Corridor/Columbia River Crossing

Staff recommendation: Staff recommends refining this package to focus on the “port-to-port” connection linking Columbia Boulevard Drive to Mill Plain Boulevard.

Relative to the other packages, this alternative is likely to provide more direct benefits for freight and goods movement and port access by connecting the region's two major ports with each other and other important industrial lands. This package does not improve freight movement in the I-5 corridor in general, except for local improvements in the Special Analysis Areas.

The Regional Industrial Lands Strategy Phase 2 report identifies substantial vacant land owned by the Port of Vancouver as an important part of the region's industrial land inventory. Enhanced transportation access could make this land more attractive for warehousing, distribution, and other industrial activities that support the regional economy.

Because the proposed corridor does not directly connect the primary travel origins and destinations in the corridor (e.g., downtown Vancouver and Portland), however, it is not likely to reduce traffic congestion or reduce spillover traffic into neighborhoods, and does not increase transportation (mode) choices (see also findings for Package 9). In addition, neither the City of Vancouver nor the City of Portland have transportation or land use plans to develop a new primary corridor in the west part of the I-5 corridor. This package (with the optional extensions) is also likely to have high capital and operating costs compared to other packages.

Package 9 – New Freeway Corridor

Staff recommendation: Do not study.

This package consists of a fully access controlled highway facility that is likely to follow a route near Vancouver Lake, crossing Sauvie Island, and climbing through the Tualatin Mountains to connect with Highway 26. The specialists who participated in the evaluation process rated the package lowest on five of the seven evaluation criteria and the Project Advisory Group ranked it last overall based on suitability for further study. Staff recommends not studying Package 9 further based on the substantial

conflicts with Oregon and Washington environmental and land use goals. A summary of the evaluation for each major study goal follows.

1. Transportation Performance

A study by Southwest Washington Regional Transportation Council (RTC) in 1995-96 led the Clark County Futures Committee to conclude that “a third auto bridge and highway corridor is not an acceptable solution to bi-state congestion”. The study prompted Metro’s Joint Policy Advisory Committee on Transportation (JPACT) to adopt a resolution (No. 96-2316) stating that “the two Columbia River crossing concepts under consideration by the Clark County Futures Committee are inconsistent with long-range planning efforts in the Oregon portion of the Metropolitan area, would not provide significant transportation benefits to residents of the region and should not be studied further.”

2. Freight and Goods Movement

The new highway would do little to improve freight mobility in the I-5 corridor, as the route would serve primarily as a bypass to important employment and industrial centers currently served by I-5 and would carry relatively low traffic volumes. Over 95% of regional truck trips have either an origin or destination in the region. Thus the vast majority of truck trips would not be served, or served as well, by a facility at the western edge of the region. For example, an access controlled freeway in this corridor would offer no benefits to freight with either an origin or a destination in the Central Eastside, most of the Columbia Corridor, and a number of the Port of Portland’s key terminals. At the same time, this package would provide an advantage to out of town freight carriers seeking to bypass the Portland-Vancouver region altogether.

3. Quality of Life

As measured by all criteria, this package offers little to enhance quality of life. It offers little traffic relief to North Portland neighborhoods. To the extent that it lengthens average vehicle trips, it adds to air pollution. It introduces substantial noise pollution to a relatively undisturbed corridor.

4. Environment

In addition to the environmental impacts identified above, there would be substantial visual impact on rural landscapes, and potential for impacts on Native American cultural sites. By crossing at or near several wetlands and riparian areas (Vancouver Lake lowland, Sauvie Island) it threatens migratory habitat for waterfowl. The Tualatin Mountains are a major regional scenic and recreational resource and serve as a wildlife corridor connecting the Portland west hills and the Coast Range. It would be difficult to demonstrate for Federal statutory purposes (National Environmental Policy Act) that

there is “no feasible and prudent” alternative to implementing this package. In comparison with the other packages, Package 9 would potentially have the most impact on the natural environment.

5. Regional Land Use

Southwest Washington local and regional land use plans do not anticipate any development patterns in this corridor that would be consistent with a freeway. Oregon land use plans identify almost all of the corridor as farm and forest land, thus requiring that an exception to State land use goals be given for the freeway. The facility is inconsistent with state, regional, and local land use policies in Oregon and would increase pressure to expand the Urban Growth Boundary (the facility itself would be located outside of the UGB). It could also exacerbate growth pressures on satellite communities in the Highway 30 Corridor such as Sauvie Island, Scappoose and St. Helens.

6. Equity

While the facility offers the benefit to urban neighborhoods of taking a small amount of traffic off I-5, it offers little benefit to the residents of rural areas through which it passes, who are not likely to be users of the facility.

7. Costs

The 1996 study for RTC included an estimate of capital costs for the facility of \$1.1 billion (\$1996). This does not include any portion of the facility south of US Highway 30.

Option Package Recommendations

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The following table summarizes the draft set of Option Packages adopted by the Governors' Task Force on April 24th. A final set of packages will be adopted on May 22nd, based on comments received at the public open house on May 10th. ~~staff's recommendations for the options packages, based on the preliminary evaluation and other information.~~

<u>Package</u>	<u>Recommendation</u>
1. Baseline (no new Columbia River Crossing)	Study further
2. Express Bus on New Arterial Bridge, Without Additional Freeway Corridor Capacity	Study further
3. Light Rail Without Additional Freeway Corridor Capacity (new LRT bridge)	Study further
4. Commuter Rail Without Additional Freeway Corridor Capacity	Defer further study until results from Rail Capacity Analysis are available
5. Planned Regional Bus With Additional Freeway Capacity	Do not study – refine as an option in Package 6
6. Express Bus to Downtown Portland With Corridor-Wide Freeway Capacity Increase (includes new Columbia River crossing)	Study further
7. Light Rail Transit With Corridor-Wide Freeway Capacity increase (includes new Columbia River Crossing)	Study further
8. New Arterial Road with Columbia River Crossing	Continue to study "port-to-port" bridge, Mill Plain to Columbia Boulevard.
9. New Freeway Corridor	Do not study



Transportation and Trade
Partnership

~~Descriptions of each of the Option Packages follow. Where staff recommend changes to the Option Packages, the changes are noted in italics and red text.~~

Overview:

This option includes only the existing transportation system plus improvements included in the adopted transportation plans for Clark County and the Portland metropolitan area.

Package Elements:

Transit Improvements:

- Light rail transit (LRT) from Rose Quarter to Expo Center (Oregon), with express bus service from Clark County park and ride lots to the Portland International Raceway LRT station. *Express bus on I-5 will use existing lanes across the Columbia River.*
- Planned growth in transit service based on adopted regional transportation plans. Includes 2-3 times more transit service in the corridor.

I-5 Improvements:

- Provide a third lane in each direction in Vancouver from 134th to Main St. In the morning rush hour, the southbound lane will be for high occupancy vehicles (HOV)
- System management, including ramp metering, reader boards, and other measures to maintain traffic flow
- ~~Widening to three lanes at Delta-Lombard.~~
- ~~Widening to three lanes and ramp improvements at Rose Quarter (to be further refined based on results of current City of Portland study of Rose Quarter transportation improvements)~~



Arterial Road Improvements:

- **All Option Packages have a common set of arterial road improvements based on adopted regional transportation plans.**
- **Arterial improvements in all packages include:**
 - **Widen Marine Drive to 5 lanes from Terminal 6 to Portland Road**
 - ~~New 4 lane bridge to Hayden Island from Marine Drive~~
 - **Improve Columbia/Killingsworth intersection and connection to I-205**
 - **North Lombard overcrossing into Rivergate**



Demand Management:

- **All Option Packages have a common set of demand management measures based on adopted regional transportation plans.**
- **Demand management measures in all packages include:**
 - **Increase funding for carpool and vanpool programs**
 - **Increase funding for employer outreach encouraging flex hours and telecommuting**
 - **Expand employer sponsored transit passes to reduce transit fares for commuters**
 - **Increase mixed use development to reduce vehicle trips**
 - **Increase parking pricing and parking management**

**Option Package No. 2:
Express Bus on New Arterial
Bridge, Without
Corridor-Wide Freeway
Capacity Increase**

Overview:

This Option Package includes development of express bus service linking destinations within Clark County, including service to the light rail station at *Expo Center*.

Package Elements:

Baseline improvements, plus...

Transit Improvements:

- Express bus in high occupancy vehicle lane from 134th to light rail station at *Expo Center*
- Options for possible extensions of express bus include, express bus from:
 - Parkrose light rail station to 134th Street on I-205
 - I-5 to I-205 on SR 500

I-5 Improvements:

- New Columbia River bridge to support express bus. *Local arterial connecting Vancouver, Hayden Island, and Marine Drive would be added to the express bus bridge.*
- Potential *freight and other* improvements in the Special Analysis Areas:
 - 1) Rose Quarter and 2) Lombard to SR 500

Overview:

This Option Package includes an extension of the light rail transit (LRT) system to Clark County without a corridor-wide I-5 capacity increase.

Package Elements:

Baseline improvements, plus...

Transit Improvements:

- Three options for extending light rail to Clark County will be studied: 1) Extending Interstate Max to downtown Vancouver; 2) Extending Airport Max along I-205 from the Parkrose station to SR 500 (???); and 3) a loop system within a corridor generally defined as along I-5 from Expo Center to SR 500, along SR 500 from I-5 to I-205, and along I-205 from SR 500 to the Parkrose LRT station. ~~Extend light rail system from Expo Center to Clark College, including a new light rail bridge across the Columbia River~~
- ~~Options for possible extensions of light rail include, light rail from:~~
 - Clark College to 134th Street in the I-5 corridor
 - Portland airport to 134th Street in the I-205 corridor
 - I-5 to I-205 at approximately SR 500/4th Plain
- Establish feeder bus service to light rail stations

I-5 Improvements:

- *This option package will be studied as 1) Light Rail only bridge, and 2) as a vehicle traffic.*
- *Potential freight and other improvements in Special Analysis Areas: 1) Rose Quarter and 2) Lombard to SR 500*

**Option Package No. 4:
Commuter Rail Without
Corridor-Wide Freeway
Capacity Increase**

Overview:

This Option Package focuses on development of commuter rail between downtown Portland and Clark County without an increase in corridor-wide freeway capacity.

Package Elements:

Baseline improvements, plus...

Transit Improvements:

- Establish commuter rail service on new rail alignment including tunnel under North Portland, new stations in Portland and Vancouver, and a new rail bridge across the Columbia River and North Portland Harbor
- Establish feeder bus service to rail stations

I-5 Improvements:

- Potential improvements in the Special Analysis Areas:
1) Rose Quarter and 2) Lombard to SR 500

**Option Package No. 5:
Planned Regional Bus
System with Corridor-Wide
Freeway Capacity Increase**

Overview:

This Option Package involves a major increase in I-5 roadway capacity with no major increase in high capacity transit.

Package Elements:

Baseline improvements, plus...

I-5 Improvements:

- Add a fourth lane in each direction. The fourth lane could be:
 - A reversible express lane, or
 - A high occupancy vehicle (HOV) lane, or
 - A general purpose lane for all freeway traffic
- Build new I-5 Columbia River Bridge
- Potential improvements in the Special Analysis Areas:
1) Rose Quarter and 2) Lombard to SR 500

**Option Package No. 6:
Express Bus to Downtown
Portland with Corridor-Wide
Freeway Capacity Increase
(includes new Columbia River
crossing)**

Overview:

This Option Package includes development of express bus service linking destinations within Clark County, including service to *downtown Portland*. It also includes the addition of a fourth lane in each direction along I-5 to be used for high occupancy vehicles, express lanes, or *freight* use.

Objective:

Baseline improvements, plus...

Transit Improvements:

- Express bus *service from Clark County to downtown Portland*
- Options for possible extensions of express bus include, express bus from:
 - Parkrose light rail station to 134th Street on I-205
 - I-5 to I-205 on SR 500



I-5 Improvements:

- Add a fourth lane in each direction. The fourth lane could be:
 - A reversible express lane, or
 - A high occupancy vehicle (HOV) lane, or
 - *Freight traffic*
- As part of the freeway widening project, incorporate enhancement to support planned redevelopment around LRT stations in North Portland, and to improve connectivity between neighborhoods on either side of I-5.
- Build new I-5 Columbia River Crossing
- Potential *freight and/or mixed-use* improvements in the Special Analysis Areas:
 - 1) Rose Quarter and 2) Lombard to SR 500

**Option Package No. 7:
Light Rail Transit with
Corridor-Wide Freeway
Capacity Increase (includes
new Columbia River crossing)**

Overview:

This Option Package includes a major expansion of the light rail transit (LRT) system to Clark County with a major corridor-wide I-5 capacity increase.

Package Elements:

Baseline improvements, plus...

Transit Improvements:

- Extend light rail system from the Expo Center to Clark College
- Package also has optional extensions of light rail from:
 - Clark College to 134th Street in the I-5 corridor
 - Portland airport to 134th Street in the I-205 corridor
 - I-5 to I-205 at approximately SR 500/4th Plain
- Establish feeder bus service to light rail stations



I-5 Improvements:

- Add a fourth lane in each direction. The fourth lane could be:
 - A reversible express lane, or
 - A high occupancy vehicle (HOV) lane, or
 - *Freight traffic*
 - As part of the freeway widening project, incorporate enhancement to support planned redevelopment around LRT stations in North Portland, and to improve connectivity between neighborhoods on either side of I-5.

- Build new I-5 Columbia River Crossing

- Potential *freight and other* improvements in the Special Analysis Areas:
 - 1) Rose Quarter and 2) Lombard to SR 500

**Option Package No. 8:
New Arterial Road with
Columbia River Crossing**

Overview:

This Option Package involves a new arterial road between Columbia Boulevard in Portland and Mill Plain Blvd. in Vancouver.

Package Elements:

Baseline improvements, plus...

I-5 Improvements:

- Potential *freight and other* improvements in the Special Analysis Areas:
1) Rose Quarter and 2) Lombard to SR 500

Arterial System Improvements:

- Provide “port-to-port” bridge linking *Columbia Boulevard in Portland* to Mill Plain in Vancouver near existing rail corridor across Hayden Island

Overview:

This Option Package involves construction of a new westside freeway corridor. A specific alignment has not been established.

Package Elements:

Baseline improvements, plus...

New Freeway Corridor:

- **New freeway and bridge west of the existing I-5 bridge connecting Clark County, Washington and Washington County, Oregon**

I-5 Corridor:

- **Potential improvements in the Special Analysis Areas:
1) Rose Quarter and 2) Lombard to SR 500**

I-5 Corridor: Special Analysis Areas

Overview

- **Two areas within the I-5 corridor require special consideration:**
 - Lombard Street to SR 500 and
 - Rose Quarter (I-84 to I-405).
- **These two areas have many physical constraints and operational problems, and there are a wide range of possible solutions to the problems.**
- **Problems within each area are inter-related and need to be looked at together.**
- **Design and evaluation of options in these two area will occur this summer, concurrently with evaluation of the option packages.**

I-5 Corridor: Special Analysis Areas (continued)

Lombard Street to SR 500

Existing Physical and Operational Constraints:

Problems in this area include:

In Vancouver:

- Two major highways intersect with I-5: SR 14 and SR 500
- Closely spaced interchanges makes it difficult for vehicles to merge on and off the freeway

At the Columbia River Crossing:

- The SR 14 and Hayden Island ramps are very close to the bridge which makes it difficult for vehicles to merge on and off the freeway, and results in back-ups
- There is inadequate capacity for freight at Marine Drive and Columbia Boulevard interchanges, which are critical links to port and industrial areas.

In Portland:

- *Columbia Boulevard Interchange only has ramps to and from the south. Northbound traffic from Columbia Boulevard travels through the Kenton neighborhood to access I-5.*
- *I-5 is only two lanes southbound between the Delta Park and Lombard Street interchanges.*

I-5 Corridor: Special Analysis Areas (continued)

Potential Improvements

- **Collector-distributor (CD) roads - Improve access between the freeway and arterials to provide alternatives for short distance trips that would otherwise use the freeway**
- **Interchange reconfiguration - Improved freeway entrance and exit ramps, including the potential of freight-only lanes (Columbia Boulevard, Marine Drive, downtown Vancouver)**
- **Freeway widening - Provides third lane where two lanes now exist between Delta Park and Lombard interchanges**
- ***New I-5 Columbia River crossing – For Option Packages that include a new crossing, alternative designs will be considered to support multi-modal local or corridor-wide capacity increase and may include HOV, reversible express lanes, freight, and/or general purpose use.***



I-5 Corridor: Special Analysis Areas (continued)

Rose Quarter: I-84 to I-405

Existing Physical and Operational Constraints

Problems include:

- **Closely spaced interchanges make it difficult to merge on and off the freeway**
- **Problems on freeway ramps back up traffic on local streets, likewise... problems on local streets back up traffic on freeway ramps**
- **Freeway drops to two lanes in this area**

Potential Improvements

- **Interchange reconfiguration - Improve freeway entrance and exit ramps**
- **Freeway widening - Provide a third lane where two now exist. *The third through lane would be considered for general purpose traffic or for use as an HOV lane.***
- **Regional arterial improvements**