

Transportation Elements and Options

Highway

- A. Address localized freeway issues only — no major corridor-wide capacity increase
- B. Add a fourth lane in each direction throughout the corridor
- C. Add a new corridor

Transit

- A. Transit Service based on adopted regional transportation plans
- B. Express Bus
- C. Light Rail
- D. Commuter Rail
- E. Other: Personal Rapid Transit, Water Taxi, Helicopter, Jitney

Arterials

- Common set of improvements for all Option Packages based on adopted regional transportation plans

Demand Management

- Common set of improvements for all Option Packages based on adopted regional transportation plans

Freight Rail

- Options to improve the capacity of the freight rail system in the Portland/Vancouver area are being studied concurrently, and will be considered as part of overall recommendations for improvements to the corridor.

Land Use

- Potential changes to the capacity of the I-5 corridor will be assessed to determine impacts to regional growth patterns, and whether projected changes are consistent with adopted Comprehensive Plans for the region. The assessment of land use impacts will be considered as part of the evaluation and recommendation of corridor improvements.

This document is a Discussion Draft for use of the Task Force. It is a “Work in Progress” and does not reflect final recommendations. It was prepared by the Facilitator or staff as a discussion aid and does not necessarily reflect the individual views of any Task Force member.

Option Package Matrix

Of the nine total Option Packages, the following matrix identifies seven that are concentrated within the existing I-5 corridor.

Option Package Numbers

<i>Transit</i>	<i>I-5 Freeway</i>	
	<i>No Major Corridor-wide Capacity Increase</i>	<i>Major Corridor-wide Freeway Capacity Increase</i>
Adopted Regional Priority Transit System	1	5
Express Bus	2	6
Light Rail	3	7
Commuter Rail	4	

Option Packages Focused on Development of a New Corridor

Two additional Option Packages have been identified that involve improvements principally outside of the I-5 corridor. These Option Packages include:

Option Package No. 8: New arterial corridor/Columbia River crossing

Option Package No. 9: New freeway corridor.

Freight Rail and Land Use Options

As noted previously, concurrent studies are being undertaken to evaluate options for improvements to the Portland/Vancouver freight rail system, and to consider impacts to regional growth and development resulting from changes to the I-5 corridor.

I-5 Corridor Special Study Areas (SSAs)

Overview

Two sub-areas within the I-5 corridor will require special consideration due to the complexity of existing physical constraints and operational problems and the wide range of potential improvements identified to address them. The two special study areas (SSAs) include (1) Lombard Street to SR 500 and (2) Rose Quarter (I-84 to I-405).

Why Establish SSAs?

Options to address the current and projected operational problems affecting the two SSAs must be considered under all option packages. Moreover, potential improvements to address problems within the SSAs will be similar under all option packages, whether or not a decision is made to increase freeway capacity corridor-wide. By breaking out the two SSAs, we can evaluate design options to address problems within those segments of the corridor, and then apply those design-level options to any or all of the option packages.

Lombard Street to SR 500 — Existing Physical and Operational Constraints

This portion of the I-5 study corridor may be the most problematic for a variety of reasons including the following:

- Connection of two major highways to I-5 at SR 14 and SR 500
- Closely spaced interchanges with associated weaving and ramp merge/diverge constraints
- Columbia R. crossing capacity constraints and proximity to SR 14 and Hayden Island ramps
- Concentrated freight movement near Marine Drive
- Access/capacity constraints associated with a partial interchange at Columbia Blvd.
- The highest concentration of traffic volumes in the study area

Because of the physical and operational inter-relationship of these constraints, improvements at one location will likely alter the nature of needed improvements at adjacent locations within this SSA. The need to better isolate and understand the interaction of potential improvements and associated impacts led to the identification of this portion of the corridor as an SSA.

Potential Improvements

The constraints noted in this SSA can be addressed under any of the Option Packages being considered, drawing from a wide range of potential improvements. A brief listing of some of the potential SSA improvements and the intended benefits follows.

Lombard Street to SR 500 — Potential Improvements (cont.)

- **Collector-distributor (CD) roads** — Improved access between the freeway and arterials and providing alternatives for short distance trips that would otherwise use the freeway
- **Interchange reconfiguration** — Improved merging, diverging, reduced/improved weaving
- **Freeway widening** — Provides additional capacity in an area with heavy volumes of weaving and merging traffic.
- **New I-5 bridge** — Supports multi-modal local or corridor-wide capacity increase and may include HOV, reversible express lanes, and/or general purpose use

Rose Quarter: I-84 to I-405 — Existing Physical and Operational Constraints

This portion of the I-5 study corridor is less problematic than the Columbia Blvd. to SR 500 segment but also requires special consideration for the following reasons:

- Existing close spacing and configuration of freeway ramps
- Operations within freeway weave sections and freeway ramp merge and diverge areas
- Freeway ramp terminal connections to/from arterials
- Mainline freeway capacity down to two lanes at certain locations

Potential Improvements

The constraints noted in this SSA can again be addressed under any of the Option Packages being considered drawing from a wide range of potential improvements. A brief listing of some of the sub-area improvements and the intended benefits follows.

- **Interchange reconfiguration** — Improved merging, diverging, reduced/improved weaving
- **Freeway widening** — Provides additional capacity in an area with heavy volumes of weaving and merging traffic. Also could provide for additional (third) through lane in the only segment of the corridor that is not three lanes now or committed to be in the future.
- **Regional arterial improvements** — Supports improved regional arterial access to/from I-5

Option Packages

A total of nine (9) Option Packages have been developed. Seven of the Option Packages are based on identified highway and transit investments within the I-5 corridor. The other two Option Packages are based on capacity increases outside the I-5 corridor. The Option Packages include the following:

Option Package No. 1: Baseline 2020

Option Package No. 2: Express bus *without* corridor-wide freeway capacity increase

Option Package No. 3: Light rail transit *without* corridor-wide freeway capacity increase

Option Package No. 4: Commuter rail *without* corridor-wide freeway capacity increase

Option Package No. 5: Planned regional bus system *with* corridor-wide freeway capacity increase

Option Package No. 6: Express bus *with* corridor-wide freeway capacity increase

Option Package No. 7: Light rail transit *with* corridor-wide freeway capacity increase

Option Package No. 8: New arterial corridor/Columbia River crossing

Option Package No. 9: New freeway corridor.

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Option Package No. 1: Baseline

Overview

This option is the bare-bones approach because it includes only the existing transportation system plus improvements included in the adopted transportation plans for Clark County and the metropolitan Portland area. The existing capacity of I-5 would be enhanced through projects to provide for three through lanes in each direction from Main Street (in Vancouver) to 99th Street and from 99th to 134th in Clark County.

Objective

I-5 Improvements

- System management including ramp metering, reader boards and other intelligent transportation system measures
- Additional travel lane each direction in Vancouver from Main St. to 134th

Arterial System Improvements

- Planned regional improvements

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 (PIR) LRT station
- Planned growth in service based on adopted regional transportation plans

Demand Elements

- Common set of improvements for all Option Packages based on adopted regional transportation plans

Option Package No. 2: Express bus 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 LRT station at Portland International Raceway (PIR). While this Option Package would not include a corridor-wide capacity increase along I-5, it would require improvements to support express bus service across the Columbia River (within the Lombard Street to SR 500 Special Study Area (SSA)).

Objective

Range of I-5 Improvements

- New Columbia River crossing to support express bus
- Other compatible SSA improvements

Arterial System Improvements

- Planned regional improvements

Range of Transit Improvements

- Clark County express bus system linking to the LRT station at PIR
- Express bus in HOV lane from 99th to PIR
- Common set of improvements for all Option Packages based on adopted regional transportation plans

Demand Elements

- Common set of improvements for all Option Packages based on adopted regional transportation plans

Option Package No. 3: Light rail transit without corridor-wide freeway capacity increase

Overview

This Option Package includes a major expansion of the light rail transit (LRT) system to Clark County without a corridor-wide I-5 capacity increase. The LRT system can be expanded as a stand-alone project or in association with targeted I-5 capacity improvements within two corridor special study areas (SSA) located (1) within the Rose Quarter area and (2) extending from Lombard Street to SR 500.

Objective

I-5 Improvements

- Planned regional improvements
- Other compatible SSA improvements

Arterial System Improvements

- Planned regional improvements only

Range of Transit Improvements

- Expand LRT system from Expo Center to 134th Street, and from Portland airport to 134th Street; LRT from I-5 to I-205 at approximately SR 500
- Establish feeder bus service to LRT and/or rail stations
- Increase bus transit service levels
- Common set of improvements for all Option Packages based on adopted regional transportation plans

Demand Elements

- Common set of improvements for all Option Packages based on adopted regional transportation plans

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. It also includes light rail transit (LRT) expansion to Clark County and feeder bus service to the rail stations.

Objective

Range of I-5 Improvements

- Common improvements only
- Other compatible improvements in the two Special Study Areas

Range of Arterial System Improvements

- Construct a new arterial between Marine Drive and Mill Plain Blvd. including shared auto/rail bridges over north Portland Harbor and the Columbia River
- Other planned regional improvements

Range of 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
- New bridge for commuter rail across the Columbia River could be used to extend Interstate Max to Clark County
- Establish feeder bus service to rail stations
- Common set of improvements for all Option Packages based on adopted regional transportation plans

Demand Elements

- Common set of improvements for all Option Packages based on adopted regional transportation plans

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.

Objective

Range of I-5 Improvements

- Add reversible express lanes from 99th to I-405, with a fourth lane in each direction between 99th and 134th, *or*:
- Provide HOV lanes between 134th Street and Going Street, *or*;
- Provide one additional mixed-flow lane in each direction, 134th to Going Street.
- Build new I-5 Columbia River Bridge
- Add queue jump ramps
- Other improvements in the two Special Study Areas

Range of Arterial System Improvements

- Planned regional improvements only
- Potential use of existing I-5 Columbia River Bridges for arterial and LRT connection from Vancouver to Hayden Island, if new freeway bridge replaces existing bridges

Transit Improvements

- Common set of improvements for all Option Packages based on adopted regional transportation plans

Demand Elements

- Common set of improvements for all Option Packages based on adopted regional transportation plans

Option Package No. 6: Express bus with 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 transit (LRT) station at Portland International Raceway (PIR). It also includes the addition of a fourth lane in each direction along I-5 to be used for HOV, express, or mixed-flow use.

Objective

Range of I-5 Improvements

- Add reversible express lanes from 99th to 1-405, with a fourth lane in each direction between 99th and 134th, *or*:
- Provide HOV lanes between 134th Street and Going Street, *or*:
- Provide one additional mixed-flow lane in each direction, 134th to Going Street.
- Build new I-5 Columbia River Bridge
- Add queue jump ramps for bus
- Other improvements in the two Special Study Areas

Arterial System Improvements

- Potential use of existing I-5 Columbia River Bridges for arterial and LRT connection to Hayden Island, if new freeway bridge replaces existing bridges

Range of Transit Improvements

- Clark County express bus system linking to LRT system at Portland International Raceway (PIR)
- Common set of improvements for all Option Packages based on adopted regional transportation plans

Demand Elements

- Common set of improvements for all Option Packages based on adopted regional transportation plans

Option Package No. 7: Light rail transit with corridor-wide freeway capacity increase

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.

Objective

Range of I-5 Improvements

- Add reversible express lanes from 99th to I-405, with a fourth lane in each direction between 99th and 134th, *or*:
- Provide HOV lanes between 134th Street and Going Street, *or*:
- Provide one additional mixed-flow lane in each direction, 134th to Going Street.
- Build new I-5 Columbia River Bridge
- Add Queue jump ramps
- Other improvements in the two Special Study Areas

Range of Arterial System Improvements

- Planned regional improvements only
- Potential use of existing I-5 Columbia River Bridges for arterial and LRT connection from Vancouver to Hayden Island, if new freeway bridge replaces existing bridges

Range of Transit Improvements

- Expand LRT system from Expo Center to 134th Street, and from Portland airport to 134th Street; LRT from I-5 to I-205 at approximately SR 500
- Establish feeder bus service to LRT and/or rail stations
- Increase bus transit service levels
- Common set of improvements for all Option Packages based on adopted regional transportation plans

Demand Elements

- Common set of improvements for all Option Packages based on adopted regional transportation plans

Option Package No. 8: New arterial corridor/Columbia River crossing

Overview

This Option Package involves a new arterial corridor between Marine Drive and Mill Plain Blvd., with options to extend the new arterial corridor south to US 30 and north to I-5 at 179th. This Option Package involves no major increase in high capacity transit.

Objective

I-5 Improvements

- Improvements to I-5 in the two Special Study Areas

Range of Arterial System Improvements

- Provide “port-to-port” bridge linking Marine Drive to Mill Plain in Vancouver near existing rail corridor across Hayden Island
- Option for south extension: Construct new arterial connecting US 30 to new arterial bridge via North Portland Road
- Option for north extension: link SR 501 to I-5 at 179th interchange via NW 36th and NW 41st

Transit Improvements

- Common set of improvements for all Option Packages based on adopted regional transportation plans

Demand Elements

- Common set of improvements for all Option Packages based on adopted regional transportation plans

Option Package No. 9: New freeway corridor

Overview

This Option Package involves construction of a new freeway corridor west of the study area, connecting Clark County with Washington County, Oregon. A specific alignment has not been established.

Objective

I-5 Improvements

- Planned regional improvements only

Arterial System Improvements

- Planned regional improvements only

Transit Improvements

- Common set of improvements for all Option Packages based on adopted regional transportation plans

Demand Elements

- Common set of improvements for all Option Packages based on adopted regional transportation plans