



## **I-205 Corridor HCT Discussion Paper for Task Force**

This presents the context and data for comparing HCT options in the I-205 corridor. The HCT options could be considered either with or without express bus service in the corridor. The question about whether to maintain express bus service is fundamental in understanding how HCT might serve this corridor. If express bus service is a key element of serving bi-state trips, that could change the role and function of providing HCT service in the corridor.

At the back are policy questions that will help frame the discussion regarding the future role of HCT service in the I-205 corridor.

### **Corridor Transportation Function**

- I-205
  - Longer-distance, higher speed trips
  - Large proportion of trips destined for Oregon
  - Interstate freight by-pass corridor
  - Access to Portland International Airport

### **Corridor Land Use Context**

- I-205
  - Auto-oriented commercial uses concentrated near Mill Plain and Fourth Plain interchanges and at Salmon Creek
  - Mix of single-family, multi-family between interchanges

### **Corridor Transit Markets**

- Long-distance, high-speed service along I-205
  - Park-and-ride lots at Evergreen and Fishers Landing providing express service to downtown Vancouver and downtown Portland (Routes 164, 177)
  - 70% of 2030 work transit trips in corridor destined for Oregon locations
- Local connections to commercial uses and major activity centers
  - Service on east/west arterials serving commercial/residential uses along Fourth Plain, Mill Plain and Burton Road (Routes 4, 30 and 37)
  - No all day north/south service along I-205

**Express Bus Service in the I-205 Corridor and Interaction with Fourth Plain**

Existing express bus service in the I-205 corridor is concentrated in the southern portion of the corridor with most of the express service provided from the Fishers Landing Park-and-Ride on 164<sup>th</sup> just north of SR-14. While this service would compete with HCT in the I-205 corridor, most of the market for I-205 HCT would be from Mill Plain to the north.

The quality of HCT service in the Fourth Plain corridor can influence the attractiveness of HCT in the I-205 corridor. With LRT on Fourth Plain providing a through-routed trip to downtown Portland, the majority of bi-state trips would choose to use Fourth Plain LRT. However, if HCT in the Fourth Plain corridor is BRT, I-205 HCT service would be more competitive.

**I-205 Corridor HCT Strategy Options**

This presents the two HCT mode concepts that were tested in this corridor, each was analyzed without express bus service.

**Summary Data for I-205 HCT Concepts**

	Daily Boardings on HCT Line (2030)	Annual Boardings on HCT Line (2030)	Capital Cost per Mile <sup>1</sup> (2008\$)	Annualized Capital Cost <sup>1</sup> (2008\$)	Annual Operating Cost <sup>2</sup> (2008\$) (change from CRC Base)	PM Peak Travel Time (2030 - from Portland CBD to Van Mall)
I-205 BRT	10,220 -13,560 (Scen. 3, 4, & 5)	3.2 - 4.3 million	\$16.2 M	\$9.3 M	+\$2.9 M	48 min
I-205 LRT	7,280 - 9,370 <sup>3</sup> (Scen. 2a & 2b)	2.4 - 3.1 million <sup>3</sup>	\$49.4 M	\$29.0 M	+\$4.6 M	50 min

<sup>1</sup>Capital cost includes only I-205 Corridor HCT costs north of SR-14. It does not include cost to construct a new bridge or guideway across the Columbia River.

<sup>2</sup>Difference in systemwide operating costs from CRC Base. Assumes addition of I-205 HCT line to CRC Base transit network and removes competing express bus service.

<sup>3</sup>I-205 LRT was modeled in combination with Fourth Plain LRT. If Fourth Plain LRT were not included, I-205 LRT would likely have higher boardings.

**Ability to Compete for FTA New Starts Funding**

This is an initial, general assessment of the ability to compete for New Starts/Small Starts funding based on the system-level analysis prepared for the HCT System Study. The measures used here are not as detailed or accurate as required by FTA for a New Starts/Small Starts submittal nor are the HCT concepts optimized as they would be in a more detailed corridor analysis such as an Alternatives Analysis or EIS.

The data presented here can provide information on general trends but should only be considered to be representative of how an HCT concept might perform.

***Cost-effectiveness – annual cost per boarding ride***

(annual operating cost + annualized capital cost / annual boardings)

I-205 BRT	\$2.87 - \$3.83
I-205 LRT	\$10.88 - \$14.00

*Note: I-205 LRT was analyzed with LRT on Fourth Plain. If BRT were on Fourth Plain rather than LRT, the I-205 LRT ridership would be higher and the cost-effectiveness would be better (but likely still relatively poor).*

**Land Use**

**I-205 Alignment**

- Population density
  - Existing population density 2,800
  - 2030 GMA population density 4,600
  - FTA threshold for medium ranking **6,667**
  - Additional pop/households needed 2,067 pop/768 HH
- Number of jobs
  - Existing 18,300
  - 2030 GMA 20,600
  - FTA threshold for medium ranking **125,000**
  - Additional jobs needed 104,400

*Note: The number of jobs measure usually includes the major city CBD (i.e. Portland). Including downtown Portland and the Yellow Line corridor would put the overall corridor above the threshold. Clark County HCT options that are through-routed to downtown Portland would have a strong case to include downtown Portland and the Yellow Line corridor, however for HCT options that require a transfer to access downtown Portland, FTA would need to be convinced that jobs in Portland should be counted.*

**Ability to compete for FTA New Starts funding – Ranking**

**Description of Preliminary Generalized Rankings**

- Very Good – Highly likely to qualify and be competitive for funding
- Good – Strong possibility that it could qualify and be competitive
- Average – Some possibility to qualify and be competitive
- Poor – Outside chance to qualify and be competitive
- Very Poor – Little chance to qualify and be competitive

**I-205 BRT:**

- Moderate to poor cost-effectiveness
- Moderate capital cost
- High operating cost due to minimal bus service replacement
- FTA land use measure would likely be poor
- Poor rating in initial assessment for FTA funding (with or without express buses)

**I-205 LRT:**

- Very poor cost-effectiveness
- High capital cost
- High operating cost due to minimal bus service replacement

- FTA land use measure would likely be poor
- Very Poor rating in initial assessment for FTA funding (with or without express buses)

### **Policy Questions**

1. **HCT Service Viability** - HCT service in the I-205 corridor would not be able to provide through-routed service to downtown Portland or direct service to the airport. Given this context, should HCT options continue to be considered in this corridor?

- Pros
  - a. I-205 HCT would open up new transit markets
  - b. Exclusive guideway operations
  - c. Connections to TriMet system at Gateway
  - d. Provides for multi-destination transit service
- Cons
  - a. LRT in I-205 corridor (with new bridge) is the most expensive Clark County HCT option
  - b. I-205 HCT would require transfer to access airport of downtown Portland
  - c. Serves few intra-Clark County trips
  - d. Unlikely to meet criteria for federal funding

2. **Serving Bi-State Trips** - If HCT service was to be developed in the I-205 corridor, should express bus service in the corridor be eliminated?

- Pros
  - a. Express bus would duplicate HCT service
  - b. Lower operating cost by eliminating express service
- Cons
  - a. Express bus provides one-seat ride to downtown Portland
  - b. Fishers Landing park-and-ride function depends on connection to Portland

**Light Rail Viability** - Is light rail a viable HCT mode in this corridor given the ridership and cost findings?

- Pros
  - a. Integration with Portland system
  - b. Ease of transfer to access airport
  - c. Direct service south along I-205 to Clackamas Town Center
- Cons
  - a. Most expensive Clark County HCT option
  - b. Very likely to require a new light rail bridge over Columbia River
  - c. Would require a transfer to access downtown Portland
  - d. Trips from Van Mall/Orchards area can be served along Fourth Plain