



## **Fourth Plain Corridor HCT Discussion Paper for Task Force**

This presents the context and data for comparing HCT options in the Fourth Plain corridor. The scenario analysis found that the quality of HCT service in the I-205 corridor could have an impact on how various HCT concepts perform in the Fourth Plain corridor.

At the back are four policy questions that will help frame the discussion regarding the future role of HCT service in the Fourth Plain corridor.

### **Corridor Transportation Function**

- Fourth Plain Boulevard
  - Access to commercial uses
  - Access to adjacent neighborhoods
  - Trips within and between adjacent neighborhoods

### **Corridor Land Use Context**

- Fourth Plain Boulevard
  - Auto-oriented commercial uses east of Ft Vancouver Way
  - Surface parking lots serving most existing commercial uses
  - Good redevelopment opportunities based on underutilized parking and age of structures
  - City of Vancouver's Fourth Plain plan moving in direction of significant redevelopment

### **Corridor Transit Markets**

- Long-distance, high-speed service to Oregon
  - Fourth Plain Limited bus (Route 44) from Ward Road to Delta Park MAX Station
  - K-Mart park-and-ride lot serving the Marquam Hill Express (Route 190)
  - 47% of 2030 transit trips in corridor destined for Oregon locations
- Local connections to commercial uses and major activity centers
  - Service on Fourth Plain Boulevard serving commercial/residential uses from Ward Road to downtown Vancouver (Route 4)

## **Interaction Between I-205 HCT and Fourth Plain HCT**

The technical analysis found that the quality of HCT service in the I-205 corridor can have an impact on how effectively HCT performs in the Fourth Plain corridor. With LRT on Fourth Plain through-routed to downtown Portland, travel times from the Van Mall area to downtown Portland are slightly better via Fourth Plain. However, with BRT in Fourth Plain, with a transfer required to access downtown Portland, the I-205 travel time via BRT and a transfer at Gateway is slightly faster.

Either route could effectively serve bi-state trips from the east county areas. A Fourth Plain route would also serve the largest number of intra-county trips. As with the I-5 corridor, a key policy question is whether HCT on Fourth Plain should be designed to primarily meet the needs of intra-county trips with more frequent stops and slower speeds or try to provide a balance by meeting intra-county needs as well as maintaining quality service for bi-state trips.

If HCT service is provided in the I-205 corridor, this could allow HCT on Fourth Plain to focus on serving intra-county trips, however this would tend to reduce ridership on Fourth Plain and make it less cost-effective.

## **Fourth Plain Corridor HCT Strategy Options**

This presents summary data for the three HCT mode concepts that were tested in this corridor.

**Summary Data for Fourth Plain 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)
Fourth Plain BRT-Hybrid	8,500-10,550 (Scen. 1, 4 & 5)	2.7 - 3.3 million	\$16.0 M	\$6.4 M	+\$0.7 M	53 min
Fourth Plain Streetcar	6,360 (Scen. 3)	2.1 million	\$32.9 M	\$11.5 M	+\$0.6 M	58 min
Fourth Plain LRT	15,800-16,320 (Scen. 2A & 2B)	5.2 - 5.4 million	\$60.5 M	\$19.7 M	+\$1.9 M	48 min

<sup>1</sup>Capital cost includes only Fourth Plain Corridor HCT costs.

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

## **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.

Separate land use data is presented for the Fourth Plain streetcar because its alignment turns north from Fourth Plain up Andresen and provides service to a cluster of multi-family housing units.

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)

Fourth Plain BRT-Hybrid	\$2.16 - \$2.64
Fourth Plain Streetcar	\$5.76
Fourth Plain LRT	\$4.00 - \$4.15

### ***Land Use***

#### Fourth Plain BRT or LRT Corridor

- Population density
  - Existing population density 3,700
  - 2030 GMA population density 6,100
  - FTA threshold for medium ranking **6,667**
  - Additional pop/households needed 567 pop/210 HH
- Number of jobs
  - Existing 44,700
  - 2030 GMA 55,200
  - FTA threshold for medium ranking **125,000**
  - Additional jobs needed 69,800

#### Fourth Plain Streetcar Corridor

- Population density
  - Existing population density 5,200
  - 2030 GMA population density 8,300
  - FTA threshold for medium ranking **6,667**
  - Additional pop/households needed 0
- Number of jobs
  - Existing 41,900
  - 2030 GMA 46,300
  - FTA threshold for medium ranking **125,000**
  - Additional jobs needed 78,700

*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 - Preliminary Generalized 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

#### Fourth Plain BRT-Hybrid:

- Moderate to poor cost-effectiveness
- Land use could meet FTA threshold with implementation of Fourth Plain redevelopment strategies
- With no HCT in I-205 need larger park-and-ride facilities to capture bi-state market
- Average rating in initial assessment for FTA funding

#### Fourth Plain Streetcar

- Poor cost-effectiveness
- Land use meets FTA threshold in 2030 with streetcar routing north of SR 500
- With no HCT in I-205 need larger park-and-ride facilities to capture bi-state market
- Very Poor rating in initial assessment for FTA funding

#### Fourth Plain LRT (w/o I-205 HCT)

- High capital cost
- Major transit mode serving east county
- Moderate to poor cost-effectiveness
- With no HCT in I-205 need larger park-and-ride facilities to capture bi-state market
- Poor rating in initial assessment for FTA funding

### **Policy Questions**

1. **Serving Bi-State Trips** - Should HCT service in the Fourth Plain corridor be designed to serve a significant share of bi-state trips?
  - Pros
    - a. Maximize ridership, cost-effectiveness and federal competitiveness

- b. Ability to serve multiple transit destinations (Van Mall, Clark College, downtown Vancouver, good connections to Portland)
  - Cons
    - a. Bi-state trips could be served via I-205
    - b. More park-and-ride capacity along Fourth Plain would need to be developed
    - c. Focus on serving intra-county trips could limit federal competitiveness
2. **Van Mall Access** - Should HCT on Fourth Plain include a structure to cross over SR 500 and provide access to Van Mall?
- Pros
    - Would better serve a major trip generator
    - Opportunity to tie into bus transit center
  - Cons
    - Slower travel time
    - Higher capital cost
3. **Light Rail Viability** - Is light rail a viable HCT mode in this corridor given the ridership and cost findings?
- Pros
    - One-seat ride service
    - Good travel times
    - Highest ridership mode in corridor
    - Reliable service – exclusive guideway
    - Economic development opportunities along Fourth Plain
  - Cons
    - Very high cost
    - Traffic impacts along Fourth Plain
4. **Streetcar Viability** - Is streetcar a viable HCT mode in this corridor given the ridership and cost findings?
- Pros
    - Economic development opportunities along Fourth Plain
    - Ability to operate jointly on CRC LRT tracks in downtown Vancouver
  - Cons
    - Higher cost than BRT-Hybrid with similar ridership