

NOTEBOOK 3

TAB L: PUBLIC ENGAGEMENT AND COMMUNITY ADVISORY GROUPS (2005 – 2010)

ONGOING PUBLIC ENGAGEMENT

Since October 2005, CRC staff has had more than 22,000 face-to-face conversations at more than 750 events on evenings, weekends and work days. Outreach and public involvement activities are highlighted below:

- 131 public meetings with community advisory groups
- 81 community meetings and events on Hayden Island
- 57 informational booths at community fairs, festivals and farmers markets
- 35 open houses, workshops and drop-in events
- Hundreds of copies of the Draft EIS were distributed, two public hearings were held, and 1,600 comments were received during the public comment period.

Public open houses and design workshops are held for the general public and special interest groups in coordination with key project milestones. For the convenience of the public, these events are held in both Vancouver and Portland. Input from these events, in combination with advisory group recommendations and technical analysis help develop the CRC project.

A list of public outreach events is included in this section of the notebook.

COMMUNITY ADVISORY GROUPS

CRC receives advice from several citizen groups that represent local and regional community, business, and environmental interests. Input from these groups continues to inform project decision-making. Groups meet regularly to review information and provide feedback to CRC staff and the PSC. All advisory group meetings are open to the public. Each of the following groups is described in this section of the notebook.

- Community and Environmental Justice Group
- Freight Working Group
- Marine Drive Working Group
- Pedestrian and Bicycle Advisory Committee
- Portland Working Group
- Urban Design Advisory Group
- Vancouver Working Group

Public Outreach Activities February 2005 – April 27, 2010

Public involvement is essential for effective decision making. Below is a list of public outreach events conducted by Columbia River Crossing (CRC) project staff. From February 2005 to April 1, 2010, project staff has engaged over 22,000 community members in conversation about the project at over 750 events. Below is a chronological list, including meeting currently scheduled.

Note: Completed individual event summaries are available upon request. Some events, usually jurisdictional briefings, list “n/a” under number of public participants because those groups have been counted before or because there were no members of the general public attending.

DATE	ACTIVITY / ORGANIZATION	LOCATION	STATE	# OF PUBLIC PARTICIPANTS
2/3/2005	CRC Task Force meeting	ODOT- Region 1, 123 NW Flanders St., Portland	OR	n/a
5/4/2005	CRC Task Force meeting	Clark County Public Service Center, 1300 Franklin St., Vancouver	WA	n/a
9/12/2005	CRC Task Force meeting	Oregon Association of Minority Entrepreneurs (OAME), 4134 N Vancouver Ave., Portland	OR	n/a
9/30 – 11/20 2005	Columbia River Crossing Web-based survey	www.columbiarivercrossing.org Print copies were at CRC public open houses and were mailed, when requested	OR/WA	620 surveys completed
10/12/2005	CRC Task Force meeting	WSDOT – SW Region, 11018 NE 51 st Circle, Vancouver	WA	n/a
10/22/2005	CRC Open House	Jantzen Beach SuperCenter, 1405 Jantzen Center Dr., Portland	OR	58
10/25/2005	CRC Open House	Clark College, 1933 Fort Vancouver Way, Vancouver	WA	61
10/27/2005	CRC Open House	Oregon Association of Minority Entrepreneurs, 4134 N Vancouver Ave., Portland	OR	38
11/30/2005	CRC Task Force meeting	Oregon Association of Minority Entrepreneurs, 4134 N Vancouver Ave., Portland	OR	n/a
1/4/2006	CRC Task Force meeting	WSDOT – SW Region, 11018 NE 51 st Circle, Vancouver	WA	n/a
2/1/2006	CRC Task Force meeting	Oregon Association of Minority Entrepreneurs, 4134 N Vancouver Ave., Portland	OR	n/a
3/2006	Rotary Club - Camas	Parker House Restaurant, 56 S 1 st St., Camas	WA	40
3/2006	Portland Business Alliance Transportation Committee	200 SW Market St., Portland	OR	15
3/2006	Multnomah County Commission	501 SE Hawthorne, Portland	OR	17
3/13/2006	Neighborhood Associations Council of Clark County	Clark County Public Works, 4700 NE 78 th , Vancouver	WA	20
3/21/2006	Columbia Corridor Association open house	Sheraton Portland Airport, 8235 NE Airport Way, Portland	OR	25

COLUMBIA RIVER CROSSING
PUBLIC OUTREACH ACTIVITIES, FEB. 2005 – APR. 27, 2010

3/22/2006	CRC Task Force meeting	WSDOT – SW Region, 11018 NE 51 st Circle, Vancouver	WA	n/a
4/3/2006	North Portland Neighborhood Services	Kenton Firehouse, 2209 N Schofield St., Portland	OR	15
4/11/2006	Portland Business Alliance Transportation Committee	200 SW Market St., Portland	OR	12
4/12/2006	CRC Open House	Hudson's Bay High School, 1206 E Reserve St., Vancouver	WA	103
4/13/2006	CRC Open House	Red Lion Hotel on the River, 909 N Hayden Island Dr, Portland	OR	100
4/18/2006	Overlook Neighborhood Association	Kaiser Town Hall, 3704 N Interstate Ave., Portland	OR	25
4/26/2006	CRC Task Force meeting	Oregon Association of Minority Entrepreneurs, 4134 N Vancouver Ave., Portland	OR	n/a
5/4/2006	Shumway Neighborhood Association	3101 Main St., Vancouver School of Arts and Academics, Vancouver	WA	22
5/5/2006	Laurelhurst Elementary School, third grade class	Laurelhurst Elementary School, 840 NE 41 st Ave., Portland	OR	25
5/10/2006	Kenton Neighborhood Association	Kenton Firehouse, 8105 N Brandon St, Portland	OR	20
5/11/2006	WSDOT I-205 Mill Plain Blvd. Open House	WSDOT – SW Region, 11018 NE 51 st Circle, Vancouver	WA	5
5/11/2006	Say Hey, Northwest! Partners in Diversity	Wieden & Kennedy, 224 NW 13 th Ave., Portland	OR	10
5/11/2006	Hayden Island Neighborhood Association (HINooN)	Former Hayden Island Yacht Club, 12050 N. Jantzen Dr., Portland	OR	12
5/11/2006	Arnada Neighborhood Association	Vancouver Housing Authority, 2500 Main St., Vancouver	WA	12
5/16/2006	Esther Short Neighborhood Association	Smith Tower, 515 Washington St., Vancouver	WA	30
5/16/2006	Portland Pedestrian Advisory Committee	Portland City Hall, 1221 SW 4 th Ave., Portland	OR	14
5/16/2006	PROPER Community Forum	Fridays Espresso Café, 4131 N Denver Ave, Portland	OR	21
5/17/2006	CRC Task Force meeting	WSDOT – SW Region, 11018 NE 51 st Circle, Vancouver	WA	n/a
5/23/2006	Rose Village Neighborhood Association	Washington Elementary, 2908 S St., Vancouver	WA	13
6/1/2006	Lloyd District Transportation Management Association	700 NE Multnomah St., Portland	OR	25
6/1/2006	Shumway Neighborhood Association	Vancouver School of Arts and Academics, 3101 Main St., Vancouver	WA	14
6/2/2006	Rose Festival	Tom McCall Waterfront Park, Portland	OR	99
6/2/2006	St. Johns Business Boosters	7325 N Alta, Portland	OR	8
6/2/2006	Association of General Contractors	Salem	OR	16
6/6/2006	Central Eastside Industrial Council	Goodwill Industries, SE 7 th Ave., Portland	OR	24
6/8/2006	Hudson's Bay Neighborhood Association	McLoughlin Heights Church of God, 903 Winchell Ave., Vancouver	WA	10
6/8/2006	Portland Community College	Cascade Campus, 705 N Killingsworth, Portland	OR	2
6/8/2006	Association of Building Owners and Managers	1211 SW 5 th St., Portland	OR	25
6/9/2006	Kenton Neighborhood Association	Kenton Lodge, 8130 N Denver Ave., Portland	OR	50
6/10/2006	Vancouver Farmers Market	Esther Short Park, W Columbia St. and 8th St., Vancouver	WA	46

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PUBLIC OUTREACH ACTIVITIES, FEB. 2005 – APR. 27, 2010

6/14/2006	CRC Task Force meeting	Oregon Association of Minority Entrepreneurs, 4134 N Vancouver Ave., Portland	OR	n/a
6/15/2006	Associated Oregon Industries	1149 Court NE, Salem	OR	4
6/17/06 to 6/18/06	Juneteenth festival	Peninsula Park, 700 N Portland Blvd., Portland	OR	60
6/19/2006	North Clackamas Chamber of Commerce	North Clackamas Chamber of Commerce, 7740 SE Harmony Rd., Milwaukie	OR	19
6/19/2006	Kenton Business Association	Kenton Firehouse, 8105 N Brandon St, Portland	OR	15
6/20/2006	Meadow Homes Neighborhood Association	Jim Parsley Center, 2901 Falk Rd., Vancouver	WA	12
6/20/2006	Rosemere neighborhood group	International Air Academy, 2901 E Mill Plain Blvd., Vancouver	WA	18
6/21/2006	Uptown Village Association	Vancouver Housing Authority, 2500 Main St., Vancouver	WA	11
6/21/2006	Association of Oregon Counties	Salem	OR	6
6/21/2006	Bridgeton Neighborhood Association	Columbia School, 716 NE Marine Dr., Portland	OR	39
6/25/2006	Good in the 'Hood festival	King School Park 4815 NE 7 th Ave., Portland	OR	5
6/27/2006	Vancouver Planning Commission	Vancouver City Hall, 210 E 13 th St., Vancouver	WA	8
6/29/2006	Yost Grube Hall	1211 SW 5th Ave., Portland	OR	48
7/6/2006	Hayden Island forum	Former Hayden Island Yacht Club, 12050 N. Jantzen Dr., Portland	OR	40
7/6/2006	Metro	Metro, 600 NE Grand Ave, Portland	OR	2
7/7/2006	Columbia Bi-State Bicycle Ride	Esther Short Park, W Columbia St. and 8 th St., Vancouver	WA	15
7/8/2006	Vancouver Farmers Market	Esther Short Park, W Columbia St. and 8 th St., Vancouver	WA	52
7/10/2006	Albina Community Bank	2002 NE Martin Luther King Blvd., Portland	OR	1
7/11/2006	City of Gresham Brownbag	Gresham City Hall, 1333 NW Eastman Pkwy, Gresham	OR	12
7/12/2006	CRC Task Force meeting	WSDOT – SW Region, 11018 NE 51 st Circle, Vancouver	WA	n/a
7/12/2006	Hazel Dell / Salmon Creek Business Association	Felida Fire Station 11600 NW Lakeshore Ave., Vancouver	WA	30
7/12/2006	Swan Island Business Association and TMA	Freightliner Headquarters, 6936 N Fathom St., Portland	OR	18
7/15 - 7/16/2006	Battle Ground Harvest Days	Battle Ground Fairgrounds	WA	90
7/18/2006	Oakbrook Neighborhood Association	Oakbrook Park, 3103 NE 99 th St., Vancouver	WA	36
7/18/2006	Hough Neighborhood Association	Hough Elementary School, 1900 Daniels St., Vancouver	WA	29
7/19/2006	West Hazel Dell Neighborhood Association	Clearwater Springs Assisted Living Center, 201 NW 78 th St., Vancouver	WA	3
7/19/2006	Noon Concert Series in the Park	Esther Short Park, W Columbia St. and 8 th St., Vancouver	WA	17
7/20/2006	African-American Alliance Community Unity Breakfast	Irvington Village, 420 NE Mason St, Portland	OR	50
7/20/2006	Heart District	Divine Consign, 904 Main St., Vancouver	WA	7
7/20/2006	Carter Park Neighborhood Association	Vancouver Housing Authority, 2500 Main St., Vancouver	WA	14
7/22/2006	City of Vancouver and Clark County Transportation Open House	Vancouver Mall, 8700 N.E. Vancouver Mall Dr., Vancouver	WA	5

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7/25/2006	Columbia Pacific Building Trades	Kirkland Union Manor, 3535 SE 86 th Ave., Portland	OR	27
7/26/2006	Noon Concert Series in the Park	Esther Short Park, W Columbia St. and 8 th St., Vancouver	WA	20
7/26/2006	Beaverton Chamber of Commerce	Kingstad Center, 15450 SW Millikan Way, Beaverton	OR	28
7/27/2006	C-TRAN Citizens' Advisory Committee	C-TRAN Administrative Building, 2425 NE 65 th Ave., Vancouver	WA	15
7/28/2006	Oregon Association of Minority Entrepreneurs Coffee and Issues Forum	Oregon Association of Minority Entrepreneurs, 4134 N Vancouver Ave., Portland	OR	10
7/29/2006	Hawaiian Festival	Esther Short Park, W Columbia St. and 8 th St., Vancouver	WA	132
7/31/2006	At Home At School Elementary School Event	Silver Star Elementary, 10500 NE 86 th St., Vancouver	WA	26
8/2/2006	Noon Concert Series in the Park	Esther Short Park, W Columbia St. and 8 th St., Vancouver	WA	10
8/3/2006	Lloyd District Community Association	Oregon Square Building, 710 NE Holladay St., Portland	OR	27
8/7/2006	North/Northeast Business Association	Albina Community Bank, 2002 NE MLK Jr. Blvd., Portland	OR	19
8/8/2006	Rotary Club - North Portland	Columbia Edgewater Country Club, 2220 NE Marine Dr., Portland	OR	9
8/8/2006	Pacific Northwest International Trade Association	Port of Portland Terminal 6, 7201 N Marine Dr., Portland	OR	27
8/8/2006	Women's Transportation Seminar, Downtown Vancouver Tour	CRC project office, 700 Washington St., Vancouver	WA	20
8/8/2006	Waterfront Organizations of Oregon	Tyee Yacht Club, 2929 Marine Drive, Portland	OR	11
8/9/2006	Identity Clark County Board of Directors	Murdock Building, 703 Broadway St., Vancouver	WA	24
8/9/2006	Noon Concert Series in the Park	Esther Short Park, W Columbia St. and 8 th St., Vancouver	WA	11
8/10/2006	Say Hey, Northwest! Partners in Diversity	Oregon Convention Center, 777 NE MLK Blvd., Portland	OR	50
8/10/2006	Design Concepts Workshop, Vancouver -- Columbia River Crossing	Fort Vancouver Historic Reserve, 605 Barnes St., Vancouver	WA	18
8/13/2006	Vancouver Farmers Market	Esther Short Park, W Columbia St. and 8 th St., Vancouver	WA	24
8/15/2006	Humboldt Neighborhood Association	PCC Cascade Campus 705 N. Killingsworth, Portland	OR	16
8/16/2006	CRC Task Force meeting	WSDOT – SW Region, 11018 NE 51 st Circle, Vancouver	WA	n/a
8/17/2006	Kiwanis - Cascade Park	International House of Pancakes, 2600 SE 164 th Ave., Vancouver	WA	8
8/17/2006	Lake Oswego Chamber of Commerce	242 B Avenue, Lake Oswego	OR	18
8/17/2006	Arbor Lodge Community Fair	Peace Lutheran Church 2201 N Portland Blvd.	OR	37
8/18/2006	Lions Club - Vancouver	Washington State School for the Deaf, 611 Grand Blvd., Vancouver	WA	18
8/17/06-8/20/06	Taste of Vancouver	Esther Short Park, W Columbia St. and 8 th St., Vancouver	WA	93
8/19/06-8/20/06	Uptown Village Street Festival	Main & 13 th St., Vancouver	WA	187
8/21/2006	Vancouver City Council	Vancouver City Hall, 210 E 13 th St., Vancouver	WA	7
9/7/2006	Hayden Island Neighborhood Network Board of Directors	Former Hayden Island Yacht Club, 12050 N Jantzen Dr., Portland	OR	11
9/7/2006	Fern Prairie Grange	1816 NE 267 th Ave., Camas, WA	WA	8

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9/9/2006	PROPER Festival	Kenton Park, 8417 N Brandon Ave., Portland	OR	32
9/9/2006	Friends of Clark County	NW 61 st Ave and NW 165 th Way, Ridgefield	WA	35
9/10/2006	SeptemberFest	Holy Cross Catholic Church, 5227 N. Bowdoin St., Portland	OR	35
9/11/2006	Northwest Regional Right of Way Conference	Vancouver Hilton, 301 W 6 th St., Vancouver	WA	180
9/14/2006	Hayden Island Neighborhood Network	Former Hayden Island Yacht Club, 12050 N. Jantzen Dr., Portland	OR	60
9/16/2006	Alberta Co-Op Farmers Market and Alberta Street Fair	NE 15th Ave and NE Alberta St. Portland	OR	13
9/19/2006	Jantzen Beach Moorage, Inc.	Holiday Inn Express, 2300 N Hayden Island Dr., Portland	OR	20
9/21/2006	US Coast Guard Open House and Public Meeting	Red Lion Hotel on the River, 909 N Hayden Island Dr, Portland	OR	60
9/23/2006	6th Annual Open House	Clark County Fairgrounds, 505 NW 179 th St., Ridgefield	WA	20
9/25/2006	CRC Design Concepts Workshop	Oregon Association of Minority Entrepreneurs, 4134 N. Vancouver Ave, Portland	OR	28
9/26/2006	Vancouver National Historic Reserve Trust	Pearson Field, 1115 E 5 th , Vancouver	WA	20
9/27/2006	CRC Task Force meeting	WSDOT – SW Region, 11018 NE 51 st Circle, Vancouver	WA	n/a
9/27/2006	Piedmont Neighborhood Association	Holy Redeemer School, 127 N Portland Blvd., Portland	OR	20
9/28/2006	Vancouver Heights Neighborhood Association	105 Lieser Rd, Vancouver	WA	15
9/28/2006	Fairway/164th Neighborhood Association	Fairway Village, 15509 SE Fernwood Dr., Vancouver	WA	13
9/30/2006	Environmental Justice Training	Fort Vancouver Historic Reserve, 605 Barnes St., Vancouver	WA	13
10/3/2006	Metro Council	Metro, 600 NE Grand Ave, Portland	OR	7
10/5/2006	Shumway Neighborhood Association	Vancouver School of Arts and Academics Media Center, 3101 Main Street, Vancouver	WA	41
10/10/2006	Slavic Coalition	Immigrant and Refugee Community Organization, 10301 NE Glisan, Portland	OR	9
10/17/2006	The Oregon Chapter of the Air & Waste Management Association	World Trade Center, 121 SW Salmon St., Portland	OR	27
10/17/2006	Meadow Homes Neighborhood Association	Jim Parsley Center, 2901 Falk Rd., Vancouver	WA	13
10/18/2006	The Economic Roundtable	University Club, 1225 SW 6 th Ave., Portland	OR	20
10/18/2006	Washington Grange	7701 NE Ward Rd., Vancouver	WA	8
10/19/2006	Senior Studies Institute	Capital Center, 18640 NW Walker Rd., Beaverton	OR	8
10/19/2006	City Center Redevelopment Authority	Vancouver City Hall, 210 E. 13 th St., Vancouver	WA	8
10/24/2006	Kiwanis Club - Boulevard chapter	Elmer's Restaurant, 7105 NE 40 th St., Vancouver	WA	22
10/25/2006	CRC Task Force meeting	Oregon Association of Minority Entrepreneurs, 4134 N Vancouver Ave., Portland	OR	n/a
10/25/2006	Piedmont Neighborhood Association	Holy Redeemer School, 127 N. Portland Blvd, Portland	OR	10
10/30/2006	Opus Northwest	1500 SW 1st Ave, Portland	OR	11
10/31/2006	SW Washington Agency Design Workshop	VancouverCenter, 700 Washington St., Vancouver	WA	13

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11/1/2006	Harney Heights Neighborhood Association	King Elementary, 4801 Idaho St., Vancouver	WA	18
11/2/2006	Portland Freight Committee	Portland City Hall, 1221 SW 4 th Ave., Portland	OR	26
11/2/2006	Hayden Island Mobile Home Owners and Renters Association	12221 N. South Shore Dr., Portland	OR	41
11/2/2006	Shumway Neighborhood Association	Vancouver School of Arts and Academics, 3101 Main St., Vancouver	WA	20
11/4/2006	Felida Neighborhood Park Dedication	Raspberry Fields Park, NW 114th Street and NW 36th Avenue, Felida	WA	16
11/8/2006	Identity Clark County Board of Directors	Riverview Community Bank, 900 Washington St., Vancouver	WA	15
11/9/2006	Say Hey, Northwest! Partners in Diversity	Self-Enhancement Inc., 3920 N Kerby Avenue, Portland	OR	15
11/10/2006	Oregon Highway Users Alliance	Cannery Pier Hotel, No. 10 Basin St., Astoria	OR	19
11/14/2006	Wyeast Middle School eighth graders	Wyeast Middle School, 1112 SE 136 th Ave., Vancouver	WA	250
11/14/2006	East Columbia Neighborhood Association	East Columbia Bible Church, 420 NE Marine Drive	OR	25
11/14/2006	Bennington Neighborhood Association	Fire Station 89, 17408 SE 15 th St., Vancouver	WA	15
11/15/2006	Washington State Transportation Commission	Transportation Building, 310 Maple Park Ave. SE, Olympia	WA	7
11/16/2006	Youth Town Hall, Clark County	Clark County Public Service Center, 1300 Franklin St., Vancouver	WA	9
11/16/2006	WSDOT SR-14 Widening Open House	Camas Police Station, 2100 NE 3 rd Ave., Camas	WA	41
11/16/2006	Arbor Lodge Neighborhood Association	Chief Joseph Elementary School, 2409 N Saratoga St., Portland	OR	15
11/17/2006	Columbia Corridor Association	700 NE Multnomah St., Portland	OR	15
11/21/2006	Division/Clinton Business Association	Edward Jones, 4111 SE Division Street, Portland	OR	13
11/21/2006	Rosemere neighborhood group	Washington Elementary School, 2908 S St., Vancouver	WA	13
11/29/2006	CRC Task Force meeting	WSDOT – SW Region, 11018 NE 51 st Circle, Vancouver	WA	n/a
11/30/2006	Kiwanis Club of Cascade Park	International House of Pancakes, 2600 SE 164 th Ave., Vancouver	WA	22
12/5/2006	Metro Council work session	Metro, 600 NE Grand Ave., Portland	OR	7
12/5/2006	Southwest Washington Regional Transportation Council Board of Directors	Clark County Public Service Center, 1300 Franklin St., Vancouver	WA	25
12/6/2006	Kiwanis - Downtown Portland	Benson Hotel, 309 SW Broadway, Portland	OR	25
12/12/2006	Portland Planning Commission	1900 SW Fourth Ave, Portland	OR	8
12/12/2006	Hayden Island Neighborhood Network	Former Hayden Island Yacht Club, 12050 N. Jantzen Dr., Portland	OR	67
12/14/2006	Jantzen Beach SuperCenter employee meeting	Jantzen Beach SuperCenter, 1405 Jantzen Center Dr., Portland	OR	25
12/14/2006	Portland Transport Blog	Wynne's Bar, 2002 SE Division St., Portland	OR	13
12/20/2006	Regional Policy Advisory Committee on Transportation	Cowlitz County Administration Building, 207 4 th Ave. N., Kelso	WA	20
1/4/2007	Coalition for a Livable Future - Forum on Columbia River Crossing	New Columbia, 4605 N. Trenton, Portland	OR	65

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1/2/2007	SW Washington Regional Transportation Council Board of Directors	Clark County Public Service Center, 1300 Franklin St., Vancouver	WA	n/a
1/4/2007	Shumway Neighborhood Association	Vancouver School of Arts and Academics, 3101 Main St., Vancouver	WA	25
1/8/2007	Neighborhood Associations Council of Clark County	Clark County Public Works, 4700 NE 78th, Vancouver	WA	16
1/9/2007	Portland Planning Commission	1900 SW Fourth Ave., Portland	OR	n/a
1/9/2007	East Columbia Neighborhood Association	East Columbia Bible Church, 420 NE Marine Dr., Portland	OR	8
1/11/2007	Jantzen Beach SuperCenter employee meeting	Jantzen Beach SuperCenter, 1405 Jantzen Center Dr., Portland	OR	5
1/11/2007	Esther Short Neighborhood Association	Indoor Farmers Market at Esther Short Park, W Columbia St. and 8th St., Vancouver	WA	47
1/11/2007	Arnada Neighborhood Association	Vancouver Housing Authority, 2500 Main St., Vancouver	WA	25
1/18/2007	City Center Redevelopment Authority	Vancouver City Hall, 210 E. 13 th St., Vancouver	WA	n/a
1/18/2007	WSDOT Open House	Cowlitz Public Utilities District, 961 12th Avenue, Longview	WA	7
1/20/2007	CRC Open House	Lincoln Elementary 4200 NW Daniels St., Vancouver	WA	137
1/23/2007	CRC Task Force meeting	WSDOT – SW Region, 11018 NE 51 st Circle, Vancouver	WA	n/a
1/23/2007	Rose Village Neighborhood Association	Memorial Lutheran Church, 2700 E. 28th St., Vancouver	WA	24
1/25/2007	African-American Alliance Community Unity Breakfast	Irvington Village ALF, 420 NE Mason St., Portland	OR	45
1/25/2007	CRC Open House	Oregon Association of Minority Entrepreneurs, 4134 N Vancouver Ave, Portland	OR	59
1/30/2007	CRC Open House	Former Hayden Island Yacht Club, 12050 N Jantzen Dr., Portland	OR	111
1/31/2007	Piedmont Neighborhood Association	Holy Redeemer School, 127 N Portland Blvd, Portland	OR	12
2/1/2007	Lions Club – Vancouver chapter	Bill's Chicken & Steak House, 2200 St Johns Blvd., Vancouver	WA	18
2/1/2007	Shumway Neighborhood Association	Vancouver School of Arts and Academics, 3101 Main St., Vancouver	WA	14
2/5/2007	CRC Open House	WSDOT – SW Region, 11018 NE 51 st Circle, Vancouver	WA	51
2/5/2007	Citizen Transportation Summit	Former Hayden Island Yacht Club, 12050 N Jantzen Dr., Portland	OR	n/a
2/6/2007	Southwest Washington Regional Transportation Council	Clark County Public Service Center, 1300 Franklin St., Vancouver	WA	n/a
2/6/2007	City of Portland Community Fair on Budget Priorities	8427 N Central Street, Portland	OR	10
2/7/2007	Bridgeton Neighborhood Association	Columbia School, 716 NE Marine Dr. Portland	OR	35
2/8/2007	Joint Policy Advisory Committee on Transportation	Metro, 600 NE Grand Ave, Portland	OR	n/a
2/8/2007	WSDOT 2007 Design/Construction training sessions	WSDOT – SW Region, 11018 NE 51 st Circle, Vancouver	WA	n/a (but 105 attended)
2/8/2007	Arnada Neighborhood Association	Vancouver Housing Authority 2500 Main St., Vancouver	WA	21

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2/8/2007	Hayden Island Neighborhood Network Board of Directors	Former Hayden Island Yacht Club, 12050 N Jantzen Dr., Portland	OR	16
2/12/2007	City of Vancouver Council work session	Vancouver City Hall, 210 E. 13 th St., Vancouver	WA	n/a
2/12/2007	West Minnehaha Neighborhood Association	1500 NE 49 th St, Vancouver	WA	7
2/12/2007	Neighborhood Associations Council of Clark County	Clark County Public Works Maintenance Center, 4700 NE 78 th Ave., Vancouver	WA	25
2/12/2007	Multnomah County Republican Party, Central Committee Meeting	NE 57 th Ave. and Sandy Blvd., Portland	OR	68
2/12/2007	Retired Carpenter's Union	JJ North Restaurant, NE 105th and Halsey St., Portland	OR	32
2/13/2007	Metro Council	Metro, 600 NE Grand Ave, Portland	OR	n/a
2/13/2007	Washington State Senate Transportation Committee	Cherberg Building, 304 15th Ave., Olympia	WA	n/a
2/14/2007	Federal Highway Administration - Western Federal Lands Division	610 E 5 th St., Vancouver	WA	63
2/14/2007	Rotary Club - Vancouver	Red Lion Hotel at the Quay, 100 Columbia St., Vancouver	WA	190
2/14/2007	Kenton Neighborhood Association	Kenton Firehouse, 2209 N Schofield, Portland	OR	10
2/15/2007	Retired Public Employees of Clark County	Luepke Community Center, 1009 E McLoughlin Blvd., Vancouver	WA	19
2/15/2007	Oregon Senate ~ Business, Transportation, and Workforce Development Committee	Oregon State Capitol, Salem	OR	n/a
2/16/2007	Joint Meeting of the Washington Senate Transportation Committee and the Oregon Senate Business, Transportation and Workforce Development Committee	Port of Portland, 121 NW Everett St., Portland	OR	n/a
2/16/2007	Bus tour for Oregon and Washington legislators	Tour of Bridge Influence Area	OR/WA	n/a
2/20/2007	Kiwanis Club - Boulevard chapter	Elmer's Restaurant, 7105 NE 40 th St., Vancouver	WA	16
2/20/2007	Multnomah County Commission	Multnomah County Building, 501 SE Hawthorne Blvd., Portland	OR	n/a
2/20/2007	Neighborhood Traffic Safety Alliance	Glenwood Place Senior Living, 5320 NE 81st Avenue, Vancouver	WA	22
2/20/2007	Hough Neighborhood Association	Hough Elementary School, 1900 Daniels St, Vancouver	WA	26
2/22/2007	Metro Council public hearing	Metro, 600 NE Grand Ave, Portland	OR	n/a
2/22/2007	WSDOT SR 502 open house	Battle Ground High School, 500 W Main St., Battle Ground	WA	25
2/22/2007	C-TRAN Citizens' Advisory Committee	C-TRAN, 2425 NE 65 th Ave., Vancouver	WA	20
2/22/2007	Pleasant Highlands Neighborhood Association	Pleasant Valley Middle School, 14320 NE 50 th Ave., Vancouver	WA	30
2/22/2007	Carter Park Neighborhood Association	Vancouver Housing Authority, 2500 Main St., Vancouver	WA	11
2/26/2007	WSDOT NW Region Design/Construction Training Session	WSDOT NW Region, 15700 Dayton Ave., North Shoreline	WA	n/a
2/27/2007	CRC Task Force meeting	ODOT-Region 1, 123 NW Flanders St., Portland	OR	n/a
3/7/2007	ODOT Region 1 Leadership Team	ODOT-Region 1, 123 NW Flanders St., Portland	OR	n/a

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3/8/2007	Jantzen Beach SuperCenter employee meeting	Jantzen Beach SuperCenter, 1405 Jantzen Center Drive, Portland	OR	27
3/8/2007	Hayden Island Neighborhood Network	Former Hayden Island Yacht Club, 12050 N. Jantzen Dr., Portland	OR	30
3/9/2007	Lions Club - Fort Vancouver chapter	Boppin' Bo's, 7809 NE Vancouver Plaza Dr., Vancouver	WA	40
3/12/2007	Fourth Alternative Subcommittee to CRC Task Force	Former Hayden Island Yacht Club, 12050 N Jantzen Dr., Portland	OR	35
3/13/2007	Hudson's Bay Neighborhood Association	Harney Elementary, 3212 E Evergreen Blvd., Vancouver	WA	12
3/17/2007	Trinity Lutheran Church Men's Group	Trinity Lutheran Church, 309 W 39 th St., Vancouver	WA	30
3/19/2007	Fourth Alternative Subcommittee to CRC Task Force	Former Hayden Island Yacht Club, 12050 N Jantzen Dr., Portland	OR	35
3/21/2007	Kiwanis Club - Downtown Portland	Benson Hotel, 309 SW Broadway, Portland	OR	21
3/26/2007	Fourth Alternative Subcommittee to CRC Task Force	Former Hayden Island Yacht Club, 12050 N Jantzen Dr., Portland	OR	13
3/27/2007	CRC Task Force meeting	WSDOT – SW Region, 11018 NE 51 st Circle, Vancouver	WA	n/a
3/28/2007	Columbia Corridor Association	Sheraton Airport Hotel, 8235 NE Airport Way, Portland	OR	20
4/3/2007	SW Washington Regional Transportation Council Board of Directors	Clark County Public Service Center, 1300 Franklin St., Vancouver	WA	n/a
4/5/2007	Portland Freight Committee	Portland City Hall, 1221 SW 4 th Ave., Portland	OR	35
4/9/2007	Northwest Oregon Labor Council	1125 SE Madison St., Portland	OR	26
4/9/2007	St Johns Neighborhood Association	St Johns Community Center, 8427 N Central, Portland	OR	23
4/10/2007	Institute of Transportation Engineers / Women's Transportation Seminar Joint Luncheon	Embassy Suites, 319 SW Pine Street, Portland	OR	130
4/10/2007	Clark County Young Democrats	Longshoreman's Hall, 1205 Ingalls St., Vancouver	WA	12
4/16/2007	Battle Ground City Council	Battle Ground City Hall, 109 SW 1 st St., Battle Ground	WA	7
4/17/2007	Vancouver School District	CRC project office, 700 Washington St., Vancouver	WA	1
4/17/2007	Arlington Club	811 SW Salmon St, Portland	OR	35
4/18/2007	Portland State University, Urban Studies brownbag discussion	Urban Center, 506 SW Mill, Portland	OR	40
4/19/2007	City Center Redevelopment Authority	Vancouver City Hall, 210 E 13 th St., Vancouver	WA	n/a
4/19/2007	West Minnehaha Neighborhood Association	1500 NE 49 th St., Vancouver	WA	27
4/24/2007	City of Vancouver Neighborhood liaisons briefing	Vancouver City Hall, 210 E 13 th St., Vancouver	WA	10
4/24/2007	Rose Village Neighborhood Association	Memorial Lutheran Church, 2700 E 28 th St., Vancouver	WA	16
4/25/2007	Kiwanis Club - Peninsula chapter	Elmer's Restaurant, 9848 N Whitaker Rd., Portland	OR	11
4/26/2007	Andresen / St. Johns Neighborhood Association	Clark County Public Works Maintenance Center, 4700 NE 78th, Vancouver	WA	17
5/3/2007	North Salmon Creek Neighborhood Association	Three Creeks Library, 800-C NE Tenney Road, Vancouver	WA	25

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5/9/2007	ODOT Bridge Technical Training	Chemeketa Eola Center, 215 Doaks Ferry Rd., Salem	OR	n/a
5/9/2007	WSDOT SR-502 Open House	Battle Ground High School, 300 W Main St., Battle Ground	WA	15
5/10/2007	Land Surveyors Association of Washington	Boppin' Bo's, 7809 NE Vancouver Plaza Dr., Vancouver	WA	17
5/12/2007	Walnut Grove Park dedication	NE 58 th Ave. and 70 th St., Vancouver	WA	18
5/14/2007	Congressional staffers visit	CRC project office and tour of Bridge Influence Area	WA	13
5/14/2007	Lincoln Neighborhood Association	Lincoln Elementary School, 4200 NW Daniels St., Vancouver	WA	28
5/17/2007	American Society of Civil Engineers	Old Country Buffet, 7809 NE Vancouver Plaza Dr., Vancouver	WA	22
5/24/2007	North Portland Business Association	New Dad's Restaurant, 8608 N Lombard, Portland	OR	25
5/24/2007	Carter Park Neighborhood Association	Vancouver Housing Authority, 2500 Main St., Vancouver	WA	21
5/30/2007	Central Park Neighborhood Association	Washington School for the Blind, 2214 E 13 th St., Vancouver	WA	23
6/1/2007	Washington Freight Mobility Strategic Investment Board	Frito Lay, 4808 NW Fruit Valley Rd., Vancouver	WA	24
6/4/2007	North Portland Neighborhood Services	Kenton Firehouse, 2209 N Schofield, Portland	OR	9
6/7/2007	Hayden Island Mobile Home Owners and Renters Association	South Shore Clubhouse, 12221 N Westshore Drive, Portland	OR	26
6/7/2007	Shumway Neighborhood Association	Vancouver School of Arts and Academics, 3101 Main St., Vancouver	WA	11
6/9/2007	Vista Meadows Neighborhood Park	NE 29 th Ave. and NE 147 th St., Vancouver	WA	20
6/9/2007	Vancouver Farmers Market	Esther Short Park, W Columbia St. and 8 th St., Vancouver	WA	39
6/11/2007	Lincoln Neighborhood Association	Lincoln Elementary School, 4200 NW Daniels St, Vancouver	WA	39
6/12/2007	Rosemere Neighborhood Group	Washington Elementary, 2908 S St., Vancouver	WA	13
6/12/2007	Hudson's Bay Neighborhood Association	Harney Elementary, 3212 E Evergreen, Vancouver	WA	7
6/13/2007	Kenton Neighborhood Association	Kenton Lodge, 8130 N Denver Ave., Portland	OR	40
6/13/2007	Clark County High Capacity Transit Sounding Board meeting	Clark County Elections, 1408 Franklin St., Vancouver	WA	3
6/14/2007	WSDOT SR 502 Open House	Battle Ground High School, 300 W Main St., Battle Ground	WA	12
6/14/2007	City of Portland Bicycle Master Plan Open House	Jefferson High School, 5210 N Kerby Ave, Portland	OR	16
6/14/2007	Hayden Island Neighborhood Network (HINooN)	Former Hayden Island Yacht Club, 12050 N Jantzen Dr.	OR	48
6/14/2007	Arnada Neighborhood Association	Vancouver Housing Authority. 2500 Main St., Vancouver	WA	19
6/19/2007	Hough Neighborhood Association	Hough Elementary School, 1900 Daniels St., Vancouver	WA	16
6/20/2007	ODOT I-5 Delta Park project open house	Ockley Green School, 6031 N. Montana Ave., Portland	OR	25
6/20/2007	Bridgeton Neighborhood Association	Columbia School, 716 NE Marine Dr., Portland	OR	33
6/21/2007	Uptown Village Association	Vancouver Housing Authority, 2500 Main St., Vancouver	WA	14
6/21/2007	Vancouver's Downtown Association	Divine Consign, 904 Main St., Vancouver	WA	35
6/23/2007	Good in the 'Hood	King School Park, 4815 NE 7 th Ave., Portland	OR	49
6/25/2007	Northwest Oregon Labor Council	1125 SE Madison St., Portland	OR	143

6/26/2007	CRC Task Force meeting	ODOT-Region 1, 123 NW Flanders St., Portland	OR	n/a
6/26/2007	Rose Village Neighborhood Association	Memorial Lutheran Church, 2700 E 28th St., Vancouver	WA	18
7/9/2007	Neighborhood Associations Council of Clark County	Clark County Public Works Maintenance Center, 4700 NE 78 th Ave., Vancouver	WA	24
7/10/2007	East Columbia Neighborhood Association	East Columbia Bible Church, 420 NE Marine Dr., Portland	OR	22
7/12/2007	Arnada Neighborhood Association	Arnada Park, W 25 th and G St., Vancouver	WA	25
7/13/2007	Rotary - Vancouver Sunrise	Heathman Lodge, 7805 NE Greenwood Dr, Vancouver	WA	28
7/15/2007	Vancouver Farmers Market	Esther Short Park, W Columbia St. and 8 th St., Vancouver	WA	84
7/17/2007	Humboldt Neighborhood Association	Portland Community College – Cascade Campus, 705 N Killingsworth, Portland	OR	7
7/18/2007	West Hazel Dell Neighborhood Association	Clearwater Springs Assisted Living Center, 201 NW 78 th St., Vancouver	WA	9
7/19/2007	Bi-State Coordination Committee	Clark County Public Service Center, 1300 Franklin St., Vancouver	WA	n/a
7/19/2007	City Center Redevelopment Authority	Vancouver City Hall, 210 E 13 th St., Vancouver	WA	n/a
7/19/2007	Six to Sunset Summer Concert Series	Esther Short Park, W Columbia St. and 8th St., Vancouver	WA	50
7/20/2007	Regional Transportation Advisory Committee	Clark County Public Service Center, 1300 Franklin St., Vancouver	WA	n/a
7/20/2007	"Tour of Tomorrow" bi-state bike ride	Pearson Air Museum, 1115 E 5 th St., Vancouver	OR	10
7/21/2007	Battle Ground Harvest Days	Battle Ground Fairgrounds	WA	84
7/23/2007	Vancouver City Council	Vancouver City Hall, 210 E 13 th St., Vancouver	WA	n/a
7/23/2007	Hayden Island Neighborhood Network (HINooN) meeting on East Hayden Island neighborhood plan	South Shore Clubhouse, 12221 N Westshore Dr., Portland	OR	15
7/24/2007	Overlook Neighborhood Association	Kaiser Town Hall, 3704 N Interstate Ave. Portland	OR	31
7/25/2007	CRC Summer Drop-In Event	Former Hayden Island Yacht Club, 12050 N Jantzen Dr., Portland	OR	84
7/25/2007	Piedmont Neighborhood Association	Holy Redeemer School, 127 N Portland Blvd., Portland	OR	24
7/26/2007	Cowlitz-Wahkiakum Council of Governments Board of Directors	207 4 th Avenue North, Kelso	WA	21
7/27/2007	Breakfast on the Bridges for Bicyclists	Broadway Bridge and Hawthorne Bridge, Portland	OR	59
7/28/2007	Ho'ike Hawaiian Festival	Esther Short Park, W Columbia St. and 8th St., Vancouver	WA	113
7/29/2007	International Festival	Esther Short Park, W Columbia St. and 8th St., Vancouver	WA	n/a
8/2/2007	Rotary - Greater Clark County	Royal Oaks Country Club, 8917 NE Fourth Plain Blvd., Vancouver	WA	64
8/3/2007	Clark County Fair	Clark County Fairgrounds, 505 NW 179th St., Ridgefield	WA	n/a
8/4/2007	CRC Summer Drop-In Event	Vancouver Farmers Market, W Columbia St. and 8th St., Vancouver	WA	230
8/8/2007	Kiwanis - Russelville chapter	Courtyard Retirement Home, E. Burnside and 103 rd , Portland	OR	10

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8/9/2007	Arnada Neighborhood Association	Arnada Park, W 25 th and G Street, Vancouver	WA	32
8/11/2007	CRC Summer Drop-In Event	Jantzen Beach SuperCenter, 1405 Jantzen Center Drive, Portland	OR	59
8/13/2007	Lincoln Neighborhood Association	First Presbyterian Church, 4300 Main Street, Vancouver	WA	125
8/16/2007	Rotary Club - Camas-Washougal	Parker House Restaurant, 56 S 1 st St., Washougal	WA	48
8/16/2007	Arbor Lodge Community Fair	Peace Lutheran Church, 2209 N Portland Blvd., Portland	OR	29
8/18 - 8/19/2007	Uptown Village Street Festival	Main & 13 th St., Vancouver	WA	316
8/21/2007	Congressional tour	I-5 Bridge	OR/WA	24
8/25/2007	Seaport Celebration	Port of Portland Terminal 6, 7201 N Marine Dr., Portland	OR	
8/25/2007	Oregon Symphony Concert and Arbor Lodge Park Festival	Arbor Lodge Park, N Delaware Ave. and Dekum St., Portland	OR	71
8/30/2007	Alberta Street Farmers Market	NE Alberta St., Portland	OR	n/a
9/4/2007	CRC public meeting on right of way	First Presbyterian Church, 4300 Main St., Vancouver	WA	38
9/5/2007	Commercial Real Estate Economic Coalition	Multnomah Athletic Club, 1849 SW Salmon St., Portland	OR	12
9/5/2007	CRC public meeting on right of way	Water Resources Education Center, 4600 SE Columbia Way, Vancouver	WA	7
9/6/2007	CRC public meeting on right of way	Vancouver Hilton, 301 W 6 th St., Vancouver	WA	25
9/8/2007	CRC public meeting on right of way	Former Hayden Island Yacht Club, 12050 N Jantzen Dr., Portland	OR	14
9/9/2007	"In the Neighborhood" block party, First United Methodist Church	First United Methodist Church, 401 E 33 rd St., Vancouver	WA	34
9/10/2007	CRC public meeting on right of way	Hough Elementary School, 1900 Daniels St., Vancouver	WA	13
9/10/2007	Lincoln Neighborhood Association ~ Fall Open House	Lincoln Elementary School, 4200 NW Daniels St., Vancouver	WA	70
9/16/2007	Marshall Community Center Re-opening	1009 E McLoughlin Blvd., Vancouver	WA	61
9/17/2007	CRC public meeting on right of way	Former Hayden Island Yacht Club, 12050 N Jantzen Dr., Portland	OR	6
9/20/2007	Uptown Village Association	Vancouver Housing Authority, 2500 Main St., Vancouver	WA	21
9/20/2007	Esther Short Neighborhood Association	Vancouver Hilton, 301 W 6 th St., Vancouver	WA	39
9/26/2007	WSDOT SR 502 Open House	Battle Ground High School, 500 W Main St., Battle Ground	WA	19
9/26/2007	Columbia Corridor Association	Hilton Airport, 12048 NE Airport Way, Portland	OR	n/a
10/2/2007	SW Washington Regional Transportation Council Board of Directors	Clark County Public Service Center, 1300 Franklin St., Vancouver	WA	n/a
10/4/2007	The Urban League	10 N Russell St, Portland	OR	3
10/4/2007	Shumway Neighborhood Association	Vancouver School of Arts and Academics, 9101 Main St., Vancouver	WA	17
10/5/2007	Oregon Business Magazine Tour	The Columbian, 415 W 6 th St., Vancouver	WA	40
10/8/2007	Portland Oregon Visitors Association	Red Lion Hotel on the River, 909 N Hayden Island Dr., Portland	OR	7
10/8/2007	East Metro Economic Alliance	Fairview City Hall, 1300 NE Village St., Fairview	OR	25

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10/8/2007	Lincoln Neighborhood Association	Lincoln Elementary School, 4200 NW Daniels St., Vancouver	WA	30
10/9/2007	Hayden Island Neighborhood Plan Steering Committee	Former Hayden Island Yacht Club, 12050 N Jantzen Dr., Portland	OR	n/a
10/9/2007	Hudson's Bay Neighborhood Association	Harney Elementary, 3212 E Evergreen Blvd., Vancouver	WA	9
10/10/2007	Uptown Village Association	Vancouver Housing Authority, 2500 Main St., Vancouver	WA	12
10/10/2007	WSU Vancouver Alternative Transportation Fair	WSU-Vancouver, 14204 NE Salmon Creek Ave., Vancouver	WA	30
10/10/2007	Pacific Northwest Waterways Association	Red Lion Hotel at the Quay, 100 Columbia St., Vancouver	WA	65
10/10/2007	Portland Air Cargo Association	Sheraton Airport, 8235 NE Airport Way, Portland	OR	17
10/11/2007	City of Vancouver internal traffic safety meeting	Vancouver City Hall, 210 E 13 th St., Vancouver	WA	15
10/11/2007	Transit Station distribution of open house flyers	Salmon Creek Park and Ride, Hwy 99 & NE 134 th St., Vancouver	WA	n/a
10/16/2007	Coldwell Banker Commercial	1500 D St., Vancouver	WA	20
10/16/2007	Uptown Village Association	Broadway Natural Health, 2400 Broadway St., Vancouver	WA	5
10/16/2007	Identity Clark County Board of Directors	Murdock Building, 703 Broadway St., Vancouver	WA	n/a
10/16/2007	Transit Station distribution of open house flyers	7th Street Transit Center, 7 th St. and Washington St., Vancouver	WA	n/a
10/17/2007	CRC Open House	Former Hayden Island Yacht Club, 12050 N Jantzen Dr., Portland	OR	123
10/18/2007	Oregon Business Association Transportation Committee	Stoel Rives LLP, 900 SW 5 th Ave., Portland	OR	20
10/18/2007	Women's Shipping Club	Port of Portland, 121 NW Everett, Portland	OR	9
10/20/2007	CRC Open House	Lincoln Elementary School, 4200 NW Daniels, Vancouver	WA	97
10/23/2007	Vancouver Port Commission	3103 NW Lower River Road, Vancouver	WA	27
10/24/2007	International Brotherhood of Electrical Workers, Local Union 48	15937 NE Airport Way, Portland	OR	193
10/27/2007	CRC Transit Roundtable	Kaiser Permanente Town Hall, 3704 N Interstate Ave., Portland	OR	30
11/6/2007	SW Washington Regional Transportation Council Board of Directors	Clark County Public Service Center, 1300 Franklin St., Vancouver	WA	n/a
11/7/2007	Evergreen Inn	500 Main St., Vancouver	WA	31
11/7/2007	Society of American Military Engineers - Portland Chapter	Kell's Restaurant, 112 SW 2 nd Ave., Portland	OR	22
11/7/2007	Piedmont Neighborhood Association annual meeting	Holy Redeemer School, 127 N Portland Blvd., Portland	OR	40
11/8/2007	Longview Transportation Club	Monticello Hotel, 1405 17 th Ave., Longview	WA	21
11/8/2007	Hayden Island Neighborhood Network (HINooN)	Former Hayden Island Yacht Club, 12050 N Jantzen Dr., Portland	OR	38
11/12/2007	National Electrical Contractors Association	601 NE Everett Street, Portland	OR	57
11/13/2007	East Columbia Neighborhood Association	East Columbia Bible Church, 420 NE Marine Dr., Portland	OR	26
11/14/2007	Kelso-Longview Chamber of Commerce, Transportation Committee	Monticello Hotel, 1405 17 th Ave., Longview	WA	23

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11/14/2007	Clackamas County Business Alliance	Oregon City	OR	25
11/14/2007	Pythian Home	3409 Main St., Vancouver	WA	54
11/15/2007	City Center Redevelopment Authority	Vancouver City Hall, 210 E 13 th St., Vancouver	WA	n/a
11/19/2007	ODOT Division Managers Brownbag	Mill Creek Building, 555 13 th St. NE, Salem	OR	40
11/21/2007	120 Day Club	Hunan Restaurant, 515 SW Broadway, Portland	OR	20
11/21/2007	Cowlitz Economic Development Council	Lower Columbia College, Student Center, 1600 Maple St., Longview	WA	31
11/27/2007	CRC Task Force meeting	WSDOT – SW Region, 11018 NE 51 st Circle, Vancouver	WA	n/a
11/28/2007	National Association of Industrial & Office Properties	Multnomah Athletic Club, 1849 SW Salmon St., Portland	OR	89
11/28/2007	West Vancouver Freight and Industrial Businesses	Frito Lay, 4808 NW Fruit Valley Rd., Vancouver	WA	56
11/28/2007	ODOT Major Projects Branch	680 Cottage St. NE, Salem	OR	n/a
12/5/2007	Oregon Freight Advisory Committee	ODOT-Region 1, 123 NW Flanders St., Portland	OR	18
12/5/2007	City of Vancouver staff leadership	Water Resources Education Center, 4600 SE Columbia Way, Vancouver	WA	50
12/10/2007	Clark County Democratic Central Committee	Longshoreman's Hall, 1205 Ingals St. Vancouver	WA	48
12/11/2007	Portland Business Alliance, Transportation Committee	200 SW Market St., Portland	OR	15
12/11/2007	Oregon Association of Nurseries, Government Relations Committee	29751 SW Town Center Loop W., Wilsonville	OR	20
12/12/2007	Port of Portland Commission	Port of Portland, 121 NW Everett St., Portland	OR	59
12/13/2007	Kiwanis - Cascade Park chapter	International House of Pancakes, 2600 SE 164 th Ave., Vancouver	WA	17
12/13/2007	Professional Land Surveyors of Oregon / Land Surveyors Association of Washington Joint Chapter Meeting	Portland Precision Instruments 6015 NE 80 th Ave., Portland	OR	60
12/18/2007	Vancouver Chamber of Commerce, General Meeting	WSU-Vancouver, 14204 NE Salmon Creek Ave., Vancouver	WA	31
1/8/2008	Ridgefield/Camas/Washougal Port Commissioners Joint Meeting	Ridgefield Community Center, 210 North Main Ave., Ridgefield	WA	53
1/9/2008	Transportation Association of Portland	Kell's Restaurant, 112 SW Second Ave., Portland	OR	23
1/10/2008	Responsible Growth Forum	1101 Broadway, Vancouver	WA	10
1/22/2008	CRC Task Force meeting	Vancouver Hilton, 301 W 6 th St., Vancouver	WA	n/a
1/23/2008	Washington State Transportation Commission	WSDOT – SW Region, 11018 NE 51 st Circle, Vancouver	WA	n/a
1/23/2008	Pleasant Highlands Neighborhood Association	Pleasant Valley Middle School, 14320 NE 50 th Ave., Vancouver	WA	30
1/24/2008	Northwest Neighborhood Association	Franklin Elementary School 5206 Franklin St., Vancouver	WA	31
1/28/2008	CRC Transit Roundtable	Vancouver Hilton, 301 W 6 th St., Vancouver	WA	63
1/30/2008	Washington State Legislature, Senate Transportation Committee	Cherberg Bldg, 304 15 th Ave., Olympia	WA	n/a
2/4/2008	Battle Ground City Council	109 SW First St., Battle Ground	WA	45
2/7/2008	Portland Freight Committee	Portland City Hall, 1221 SW 4 th Ave., Portland	OR	30
2/7/2008	Friends of Portland International Raceway	Nicola's Pizza, 4826 N Lombard St., Portland	OR	10

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2/8/2008	Frito Lay	Frito Lay, 4808 NW Fruit Valley Rd., Vancouver	WA	70
2/11/2008	Vancouver City Council	Vancouver City Hall, 210 E 13 th St., Vancouver	WA	n/a
2/12/2008	East Columbia Neighborhood Association	East Columbia Bible Church, 420 NE Marine Dr., Portland	OR	20
2/12/2008	Portland Bicycle Advisory Committee	Portland City Hall, 1221 SW 4 th Ave., Portland	OR	30
2/12/2008	Hudson's Bay Neighborhood Assn.	Harney Elementary, 3212 E Evergreen Blvd., Vancouver	WA	8
2/12/2008	City of Portland - Hayden Island Planning Group	Former Hayden Island Yacht Club, 12050 N Jantzen Dr., Portland	OR	60
2/14/2008	Hayden Island Neighborhood Network (HINooN)	Former Hayden Island Yacht Club, 12050 N Jantzen Dr., Portland	OR	18
2/18/2008	Oregon House Transportation Committee	Oregon State Capitol, 900 Court St. NE, Salem	OR	12
2/19/2008	Clark County Bicycle Advisory Committee	Clark County Public Service Center, 1300 Franklin St., Vancouver	WA	13
2/19/2008	Hough Neighborhood Association	Hough Elementary School, 1900 Daniels St., Vancouver	WA	23
2/20/2008	Rotary - Longview Chapter	Hotel Monticello, 1405 17 th Ave., Longview	WA	130
2/20/2008	Institute of Real Estate Management	Multnomah Athletic Club, 1849 SW Salmon St., Portland	OR	50
2/20/2008	Vancouver Neighborhood Forum on Light Rail	Water Resources Education Center, 4600 SE Columbia Way, Vancouver	WA	200
2/21/2008	Southwest Washington Regional Transportation Council Board of Directors	Clark County Public Utilities, 1200 Fort Vancouver Way, Vancouver	WA	n/a
2/21/2008	Arnada Neighborhood Association	Vancouver Housing Authority 2500 Main St., Vancouver	WA	15
2/23/2008	CRC Transit Roundtable	Kaiser Permanente Town Hall, 3704 N Interstate Ave., Portland	OR	24
2/26/2008	Clark College Executive Cabinet	Clark College, 1933 Fort Vancouver Way, Vancouver	WA	11
2/26/2008	SW Washington Regional Transportation Council High Capacity Transit Study Open House	Clark County Public Utilities, 1200 Fort Vancouver Way, Vancouver	WA	10
2/28/2008	C-TRAN Citizens Advisory Committee	C-TRAN, 2425 NE 65 th Ave., Vancouver	WA	16
3/4/2008	Vancouver Planning Commission	Vancouver City Hall, 210 E 13 th St., Vancouver	WA	n/a
3/5/2008	Esther Short Neighborhood Association - Downtown Appearance and Projects Committee	Vancouver City Hall, 210 E 13 th St., Vancouver	WA	4
3/10/2008	Lincoln Neighborhood Association	Lincoln Elementary School, 4200 Daniels St. Vancouver	WA	35
3/11/2008	American Institute of Architects, Portland	403 NW 11 th Ave., Portland	OR	14
3/11/2008	Portland Planning Commission	1900 SW 4 th St., Portland	OR	n/a
3/12/2008	Westside Economic Alliance Transportation Committee	W & H Pacific, 9755 SW Barnes Rd., Beaverton	OR	n/a
3/12/2008	Kiwanis -Vancouver	1010 NE Broadway St., Vancouver	WA	28
3/17/2008	Portland City Council	Portland City Hall, 1221 SW 4 th Ave., Portland	OR	n/a
3/18/2008 - 3/20/2008	WSDOT's Statewide Project Engineers' Conference	Kitsap Conference Center 100 Washington Ave. Bremerton	WA	n/a

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3/19/2008	Bridgeton Neighborhood Association	Columbia High School, 716 NE Marine Dr., Portland	OR	35
3/19/2008	CRC Transit Roundtable	Luepke Community Center, 1009 E McLoughlin, Vancouver	WA	23
3/21/2008	Oregon Business Alliance	David Evan & Associates, 2100 SW River Pkwy., Portland	OR	n/a
3/24/2008	Highland Homeowners Association Annual Meeting	Pleasant Valley Middle School, 14320 NE 50 th Ave., Vancouver	WA	35
3/25/2008	Woodland Chamber of Commerce	Oak Tree Restaurant, 1020 Atlantic Ave., Woodland	WA	40
3/25/2008	Bus Project Debate	The Edge of Belmont 3350 SE Morrison, Portland	OR	80
3/27/2008	Clark College Board of Trustees	Clark College, 109 Ft. Vancouver Way, Vancouver	WA	14
3/28/08 - 3/30/08	Better Living Show	Portland Metropolitan Exposition Center, 2060 N Marine Dr., Portland	OR	504
4/1/2008	Southwest Washington Regional Transportation Council Board of Directors	Clark County Public Service Center, 1300 Franklin St., Vancouver	WA	n/a
4/2/2008	Clark County Board of Commissioners	Clark County Public Service Center, 1300 Franklin St., Vancouver	WA	n/a
4/3-4/4/08	2008 Bike Summit	Red Lion Hotel on the River, 909 N Hayden Island Dr., Portland	OR	10
4/7/2008	West Minnehaha Neighborhood Association	1500 NE 49 th St Vancouver	WA	12
4/8/2008	Western Association Of State Highway and Transportation Officials 2008 Conference	Embassy Suites, 319 SW Pine Street, Portland	OR	n/a
4/9/2008	Vancouver Neighborhood Forum on Light Rail	Water Resources Education Center, 4600 Columbia Way, Vancouver	WA	112
4/10/2008	Association for the Advancement of Cost Engineering	Portland State University University Place, 310 SW Lincoln, Portland	OR	35
4/13/2007	Senior Connections Expo	Vancouver Hilton, 301 SW 6 th Ave., Vancouver	WA	97
4/14/2008	Lincoln Neighborhood Association	Lincoln Elementary School, 4200 Daniels St., Vancouver	WA	42
4/15/2008	American Council of Engineering Companies (ACEC)	Holiday Inn, 25425 SW 95 th Ave., Wilsonville	OR	n/a
4/15/2008	Portland Pedestrian Advisory Committee	Portland City Hall, 1221 SW 4 th Ave., Portland	OR	13
4/16/2008	Portland Business Alliance	Governor Hotel, 614 SW 11 th Ave., Portland	OR	n/a
4/16/2008	Bicycle Transportation Alliance Forum on CRC	Portland Development Commission, 222 NW 5 th Ave., Portland	OR	46
4/17/2008	Uptown Village Association	Vancouver Housing Authority 2500 Main St., Vancouver	WA	11
4/17/2008	Washington States Good Roads and Transportation Association	1700 Canyon Rd., Ellensburg	WA	25
4/22/2008	ODOT I-5 Delta Park project open house	Ockley Green School, 6031 N Montana Ave., Portland	OR	41
4/22/2008	Rose Village Neighborhood Association	Memorial Lutheran Church, 2700 E 28 th St., Vancouver	WA	11
4/24/2008	Portland Sustainable Development Commission	City of Portland Building, 1120 SW 5 th Ave., Portland	OR	n/a
4/25/2008	URS Corp	111 SW Columbia St., Portland	OR	23
4/25-4/27	Home and Garden Idea Fair	Clark County Fairgrounds, 505 NW 179 th St., Ridgefield	WA	80
4/29/2008	Esther Short Commons	555 W 8 th St., Vancouver	WA	12

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5/1/2008	Fruit Valley Neighborhood Association	Fruit Valley Park Community Center, Fruit Valley Rd. & W 31 st St., Vancouver	WA	10
5/1/2008	Shumway Neighborhood Association	Vancouver School of Arts and Academics, 9101 Main St., Vancouver	WA	22
5/6/2008	Public Employees Recognition Week	Esther Short Park, W Columbia St. and 8th St., Vancouver	WA	25
5/6/2008	Southwest Washington Regional Transportation Council Board of Directors	Clark County Public Service Building, 1300 Franklin St., Vancouver	WA	n/a
5/7/2008	Society of American Military Engineers, Portland Chapter	Kell's Restaurant, 112 SW 2 nd Ave., Portland	OR	n/a
5/8/2008	Vancouver's Downtown Association	Divine Consign, 904 Main St. Vancouver	WA	22
5/8/2008	Say Hey! Partners in Diversity	Portland Spirit River Cruise, Willamette River	OR	45
5/8/2008	Arnada Neighborhood Association	Vancouver Housing Authority, 2500 Main St., Vancouver	WA	22
5/8/2008	Hayden Island Neighborhood Network (HINooN)	Former Hayden Island Yacht Club, 12050 N Jantzen Dr., Portland	OR	n/a
5/8/2008	North Garrison Heights Neighborhood Association	Marrion Elementary, 10119 NE 14 th St., Vancouver	WA	19
5/12/2008	Lincoln Neighborhood Association	Lincoln Elementary School, 4200 NW Daniels St., Vancouver	WA	21
5/12/2008	Boise Neighborhood Association	Albina Youth Opportunity School, 3710 N Mississippi St., Portland	OR	26
5/12/2008	Neighborhood Associations Council of Clark County	4700 NE 78 th St., Vancouver	WA	15
5/12/2008	Vancouver City Council	Vancouver City Hall, 210 E 13 th St., Vancouver	WA	n/a
5/13/2008	C-TRAN Board of Directors	C-TRAN Administration Building, 2425 NE 65 th Ave., Vancouver	WA	n/a
5/13/2008	Portland Planning Commission	1900 SW 4 th St., Portland	OR	n/a
5/13/2008	West Vancouver Freight Alliance	Frito Lay, 4808 NW Fruit Valley Rd., Vancouver	WA	26
5/13/2008	Humboldt Neighborhood Association	Portland Community College – Cascade Campus, 705 N Killingsworth, Portland	OR	6
5/14/2008	Vancouver Bicycle Club	Bortolami's Pizzeria, 9901 NE 7 th Ave., Vancouver	WA	33
5/15/2008	Columbia River Economic Development Council Board of Directors	Riverview Community Bank Operation Center, 17205 SE Mill Plain Blvd., Vancouver	WA	45
5/15/2008	Columbia House Apartments for Seniors	130 W 24 th St., Vancouver	WA	28
5/15/2008	CRC Draft EIS Question and Answer Session	Jantzen Beach SuperCenter, 1405 Jantzen Center Dr., Portland	OR	60
5/15/2008	Esther Short Neighborhood Association	Vancouver Hilton, 301 W 6 th St., Vancouver	WA	46
5/16/2008	Rotary - Vancouver Sunrise	Heathman Lodge, 7805 NE Greenwood Dr., Vancouver	WA	26
5/19/2008	TriMet Transit Investment Plan Open House	Portland Mall Info Center, 519 SW 6 th Ave., Portland	OR	25
5/19/2008	Columbia Slough Watershed Council	Craft Nabisco, 100 NE Columbia Blvd., Portland	OR	19
5/19/2008	TriMet Transit Investment Plan Open House	Tigard Public Works Building, 777 SW Burnham St., Tigard	OR	10
5/20/2008	TriMet Transit Investment Plan Open House	North Clackamas Chamber of Commerce, 7740 SE Harmony Road, Milwaukie	OR	6

COLUMBIA RIVER CROSSING
PUBLIC OUTREACH ACTIVITIES, FEB. 2005 – APR. 27, 2010

5/20/2008	WSDOT SR502 Scoping Project Open House	Cherry Grove Church, 9100 NE 219 th St., Battle Ground	WA	20
5/20/2008	Neighborhood Traffic Safety Alliance	City of Vancouver, 4400 NE 77 th Ave., Vancouver	WA	15
5/20/2008	Portland Planning Commission	1900 SW 4 th St., Portland	OR	n/a
5/21/2008	Latino Resource Group	Human Service Council, 201 NE 73 rd St., Vancouver	WA	11
5/21/2008	Three Port Commission Meeting	Red Lion Hotel at the Quay, 100 Columbia St. Vancouver	WA	42
5/21/2008	West Hazel Dell Neighborhood Association	Clearwater Springs Assisted Living Center, 201 NW 78th St., Vancouver	WA	15
5/27/2008	Metro Council work session	Metro Council Chamber, 600 NE Grand Ave., Portland	OR	n/a
5/28/2008	TriMet Board of Directors	City of Portland Building, 1120 SW 5th Ave., Portland	OR	n/a
5/28/2008	CRC Draft EIS Open House/Public Hearing	Red Lion Hotel at the Quay, 100 Columbia St., Vancouver	WA	250
5/29/2008	CRC Draft EIS Open House/Public Hearing	Portland Metropolitan Exposition Center, 2060 N Marine Dr., Portland	OR	175
5/29/2008	Glenwood Place Senior Living	5500 NE 82nd Ave, Vancouver	WA	46
5/29/2008	Piedmont Neighborhood Association	Holy Redeemer School, 127 N Portland Blvd, Portland	OR	6
5/30/2008	Transportation Policy Alternatives Committee (TPAC)	Metro, 600 NE Grand Ave., Portland	OR	n/a
5/30/2008	Rotary - Albina	Emmanuel Hospital, 501 N Graham St, Portland	OR	n/a
6/2/2008	Vancouver City Council	Vancouver City Hall, 210 E 13 th St., Vancouver	WA	n/a
6/2/2008	Smith Tower Apartments	515 Washington St, Vancouver	WA	20
6/2/2008	Port of Vancouver outreach meeting	Fort Vancouver Historic Reserve, Vancouver	WA	72
6/3/2008	Clackamas County Commissioners	2051 Kaen Rd., Oregon City	OR	n/a
6/3/2008	Southwest Washington Regional Transportation Council Board of Directors	Clark County Public Service Center, 1300 Franklin St., Vancouver	WA	n/a
6/4/2008	Ride Connection staff meeting	3030 SW Moody, Portland	OR	25
6/5/2008	Metro Council hearing	Metro, 600 NE Grand Ave., Portland	OR	n/a
6/6/2008	Lions Club - Fort Vancouver chapter	Bill's Chicken & Steak House, 2200 St Johns Blvd., Vancouver	WA	20
6/7/2008	Draft EIS Question and Answer Session	Firstenburg Community Center, 700 NE 136th Ave., Vancouver	WA	15
6/8/2008	Vancouver Farmers Market	Esther Short Park, W Columbia St. and 8th St., Vancouver	WA	45
6/9/2008	Lions Club - Columbia Crest chapter	International House of Pancakes, 2600 SE 164th Ave., Vancouver	WA	20
6/9/2008	St. Johns Neighborhood Association	St. Johns Community Center, 8427 N Central St., Portland	OR	20
6/10/2008	PedalPalooza event: CRC Bike Bridge Tour and Discussion	Vancouver and N. Portland Harbor	WA	8
6/10/2008	C-TRAN board of directors	Administration Building 2425 NE 65th Ave	WA	n/a
6/11/2008	International Association for Public Participation (IAP2) - Cascade chapter	Clark County Public Service Center, 1300 Franklin St., Vancouver	WA	20
6/11/2008	Kenton Neighborhood Association annual meeting	Kenton Masonic Temple 8130 N Denver Ave, Portland	OR	75
6/12/2008	New Columbia neighborhood	Trenton Terrace, 4720 N Trenton, Portland	OR	30

COLUMBIA RIVER CROSSING
PUBLIC OUTREACH ACTIVITIES, FEB. 2005 – APR. 27, 2010

6/12/2008	Jantzen Beach Moorage Inc. (JBMI)	Former Hayden Island Yacht Club, 12050 N Jantzen Dr., Portland	OR	70
6/14/2008	Draft EIS Question and Answer Session	Beaverton Main Library, 12375 SW Fifth, Beaverton	OR	31
6/14/2008	Juneteenth festival	Jefferson High School, 5210 N Kerby Ave., Portland	OR	34
6/16/2008	Interstate Corridor Urban Renewal Advisory Committee	Oregon Association of Minority Entrepreneurs (OAME), 4135 N Vancouver Ave., Portland	OR	35
6/17/2008	Hough Neighborhood Association	Hough Elementary School, 1900 Daniels St., Vancouver	WA	13
6/17/2008	Rosemere Neighborhood Association	Clark Public Utilities, 1200 Fort Vancouver Way, Vancouver	WA	11
6/17/2008	Overlook Neighborhood Association	Kaiser Permanente Town Hall, 3704 N Interstate Ave., Portland	OR	28
6/18/2008	Kiwanis Club - Downtown Portland chapter	Benson Hotel, 309 SW Broadway, Portland	OR	25
6/18/2008	Kiwanis Club - Peninsula chapter	Elmer's Restaurant, 9848 N Whitaker Rd., Portland	OR	5
6/18/2008	Interstate Farmers Market	3550 N Interstate Ave., Portland	OR	53
6/18/2008	Bridgeton Neighborhood Association	The Mews Condominium, 905 N Harbor Dr., Portland	OR	37
6/19/2008	PedalPalooza - Mocktails	Bike path on the north side of the I-5 Bridge	WA	10
6/19/2008	Draft EIS Question and Answer Session	Clark Public Utilities, 1200 Fort Vancouver Way, Vancouver	WA	15
6/24/2008	CRC Task Force meeting	WSDOT – SW Region, 11018 NE 51 st Circle, Vancouver	WA	n/a
6/23/2008	University Park Neighborhood Association	Trinity Lutheran Church, 7119 N. Portsmouth, Portland	OR	11
6/26/2008	Rotary - Camas-Washougal chapter	Parker House Restaurant, 56 S 1 st St., Vancouver	WA	40
6/26/2008	Clark County High Capacity Transit System Study open house	Clark County Elections Building, 1408 Franklin St., Vancouver	WA	6
6/28/2008	Good in the Neighborhood festival	Kings School Park, 4815 NE 7th Ave., Portland	OR	82
6/30/2008	Pritchard Orthodontics staff meeting	3700 Main St., Vancouver	WA	8
7/1/2008	Kiwanis - Boulevard chapter	Elmers Restaurant, 7105 NE 40th Ave., Vancouver	WA	18
7/1/2008	Portland State University Environmental Regulation and Policy class	Portland State University, 506 SW Mill St., Portland	OR	18
7/7/2008	Vancouver City Council - LPA decision	Vancouver City Hall, 210 E 13th St., Vancouver	WA	n/a
7/8/2008	C-TRAN board of directors - LPA decision	Fisher's Landing Transit Center, 3510 SE 164th Ave., Vancouver	WA	n/a
7/9/2008	City of Portland Small Business Advisory Council	Portland City Hall, 1120 SW 5 th , Portland	OR	32
7/9/2008	Portland City Council - LPA decision	Portland City Hall, 1221 SW 4th Ave., Portland	OR	n/a
7/9/2008	RTC CRC public comment meeting	Vancouver City Hall, 210 E 13th St., Vancouver	WA	n/a
7/9/2008	TriMet board of directors - LPA decision	Portland Building, 1120 SW 5th Ave., Portland	OR	n/a
7/10/2008	Joint Policy Advisory Committee on Transportation (JPACT)	Metro, 600 NE Grand Ave., Portland	OR	n/a
7/12/2008	PDX Air Fair	Portland International Airport, 7000 NE Airport Way, Portland	OR	116
7/15/2008	Washington State Transportation Commission	310 Maple Park Avenue SE, Olympia	WA	n/a
7/17/2008	Metro Council - LPA decision	Metro, 600 NE Grand Ave., Portland	OR	

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PUBLIC OUTREACH ACTIVITIES, FEB. 2005 – APR. 27, 2010

7/19/2008	Battle Ground Harvest Days	Battle Ground Village, 199th St. & Commerce Ave., Battle Ground	WA	61
7/22/2008	RTC board of directors - LPA decision	1300 Franklin St., Vancouver	WA	n/a
7/23/2008	Western Association of State Highway and Transportation Officials (WASHTO) 2008 Conference	Marriott Portland Downtown Waterfront, 1401 SW Naito Parkway, Portland	OR	n/a
7/26/2008	Ho'i'ke Hawaiian Festival	Esther Short Park, W Columbia St. and 8th St., Vancouver	WA	312
7/27/2008	International Fair	Esther Short Park, W Columbia St. and 8th St., Vancouver	WA	132
7/30/2008	Kiwanis - Fort Vancouver chapter	Bill's Chicken & Steak House, 2200 St Johns Blvd., Vancouver	WA	19
7/31/2008	Rotary - Greater Clark County chapter	Heathman Lodge, 7805 NE Greenwood Dr., Vancouver	WA	35
8/5/2008	National Night Out Block Party with Hayden Island Mobile Home Owners and Renters Association	1503 N. Hayden Island Dr., Portland	OR	35
8/10/2008	Vancouver Farmers Market	Esther Short Park W. Columbia St. and 8th St., Vancouver	WA	78
8/12/2008	Washington County Board of Commissioners	155 N. First Avenue, Hillsboro	OR	n/a
8/16/2008	Seaport Celebration	Port of Portland - Terminal 6, Portland	OR	115
8/19/2008	West Coast Corridor Coalition	600 NE Grand Ave., Portland	OR	n/a
8/26/2008	Women's Transportation Seminar	Bike tour in the Bridge Influence Area	WA	8
8/27/2008	5th Annual Port of Ridgefield Commissioners' Picnic	Port of Ridgefield Boat Ramp & Picnic Facility, west end of Mill Street, Ridgefield	WA	75
9/4/2008	Washington State Senate Committee Assembly Tour	Vancouver Hilton, 100 Columbia St., Vancouver	WA	n/a
9/5/2008	Regional Freight Mobility Roundtable (co-sponsored by Puget Sound Regional Council and enterpriseSeattle)	Puget Sound Regional Council, 1011 Western, Seattle	WA	n/a
9/5 - 9/7/2008	Vancouver Sausage Festival	St. Joseph School, 6500 Highland Drive, Vancouver	WA	197
9/8/2008	Lincoln Neighborhood Association	Lincoln Elementary, 4200 Daniels St., Vancouver	WA	30
9/10/2008	Hawthorne Boulevard Business Association	SE Uplift, 3534 SE Main St., Portland	OR	15
9/10/2008	The Multnomah County Bicycle/Pedestrian Citizen Advisory Committee	501 S.E. Hawthorne Street Portland	OR	10
9/11/2008	Vancouver's Downtown Association	Divine Consign, 904 Main St. Vancouver	WA	14
9/11/2008	East Portland Rotary	Rose Garden Arena, Portland	OR	110
9/11/2008	Arnada Neighborhood Association	Corner of D street and 22nd Street, Vancouver	WA	20
9/13/2008	PROPER Festival	Kenton Park, N. Kilpatrick and N. Delaware, Portland	OR	75
9/16/2008	Columbia River Propeller Club	Double Tree Hotel, 1000 NE Multnomah, Portland	OR	n/a
9/16/2008	Hough Neighborhood Association	Hough Elementary, 1900 Daniels St, Vancouver	WA	20
9/17/2008	CRC Pedestrian and Bicycle Advisory Committee	700 Washington St., Vancouver	WA	n/a
9/17/2008	CRC Freight Working Group	700 Washington St., Vancouver	WA	n/a

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9/17/2008	West Hazel Dell Neighborhood Association	Clearwater Springs Assisted Living Center, 201 NW 78th Street, Vancouver	WA	18
9/18/2008	CRC Community and Environmental Justice Group	Kenton Firehouse, 2209 N Schofield Street, Portland	OR	n/a
9/23/2008	Washington State Treasurer's Office	Legislative Building, Olympia	WA	n/a
9/24/2008	Airport Way Interchange Open House	Multnomah Educational Service District (MESD), 11611 NE Ainsworth Circle, Portland	OR	3
9/26/2008	Parsons Brinckerhoff Portland Sustainable Projects brown bag series	Parsons Brinckerhoff, 400 SW Sixth Ave., Suite 802, Portland	OR	18
10/1/2008	Transportation Association of Portland	Kell's Restaurant, 112 SW Second Ave., Portland	OR	20
10/2/2008	Lions Club, Fort Vancouver Chapter	Bill's Chicken & Steak House, 2200 St. Johns Blvd., Vancouver	WA	12
10/3/2008	CRC Urban Design Advisory Group – work session	700 Washington St., Vancouver	WA	n/a
10/9/2008	Hayden Island Neighborhood Network (HINooN)	Hayden Island Yacht Club 12050 N Jantzen Drive, Portland		25
10/14/2008	Arnada Neighborhood Association	Corner of D street and 22nd Street, Vancouver	WA	25
10/16/2008	CRC Community and Environmental Justice Group	Kenton Firehouse, 2209 N Schofield Street, Portland	OR	n/a
10/16/2008	CRC Freight Working Group	700 Washington St., Vancouver	WA	n/a
10/20/2008	Ridgefield Lions Club	Ridgefield Community Center 210 North Main Avenue Ridgefield	WA	30
10/20/2008	Rotary, Southeast Portland Chapter	Country Bills, 4415 SE Woodstock Blvd, Portland	OR	18
10/22/2008	CRC Pedestrian and Bicycle Advisory Committee	700 Washington St., Vancouver	WA	n/a
10/22/2008	Regional Trails Working Group	Metro, 600 NE Grand Ave., Portland	OR	35
10/23/2008	Ridgefield City Council	Ridgefield Community Center 210 North Main Avenue Ridgefield	WA	n/a
10/28/2008	Hispanic Metropolitan Chamber membership meeting	Benson Hotel, 309 SW Broadway, Portland	OR	20
10/30/2008	West Vancouver Freight Alliance	Frito Lay 4808 NW Fruit Valley Rd. Vancouver	WA	35
11/4/2008	CRC Project Sponsors Council meeting	WSDOT, SW Region, 11018 NE 51st Circle, Vancouver	WA	n/a
11/12/2008	Port of Portland Commission	121 NW Everett St., Portland	OR	n/a
11/14/2008	CRC Urban Design Advisory Group	700 Washington St., Vancouver	WA	n/a
11/12/2008	Portland's Transportation Futures Open House	Embassy Suites Portland Airport 7900 NE 82nd Avenue, Portland	OR	31
11/19/2008	Bridgeton Neighborhood Association	Columbia High School, 716 NE Marine Dr., Portland	OR	18
12/2/2008	CRC Open House	Hilton Vancouver, 301 W 8 th St., Vancouver	WA	104
12/3/2008	CRC Open House	Portland Metropolitan Exposition Center, 2060 N. Marine Dr., Portland	OR	77
12/5/2008	CRC Project Sponsors Council meeting	The Portland Building, 1120 SW Fifth Avenue, Portland	OR	n/a
12/8/2008	Northwest Environmental Conference	Red Lion - Jantzen Beach, Portland	OR	n/a
12/10/2008	CRC Pedestrian and Bicycle Advisory Committee	700 Washington St., Vancouver	WA	n/a
12/12/2008	CRC Urban Design Advisory Group	WSDOT, SW Region, Vancouver	WA	n/a

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12/16/2008	Marine Drive Stakeholder Group	Portland Metropolitan Exposition Center 2060 N. Marine Dr. Portland	OR	n/a
12/18/2008	CRC Freight Working Group	700 Washington St., Vancouver	WA	n/a
1/6/2009	RTC Board	Clark Public Service Center, 1300 Franklin St., Vancouver	WA	n/a
1/6/2009	CRC Vancouver Working Group	Vancouver Housing Authority	WA	n/a
1/8/2009	Arnada Neighborhood Association	Vancouver Housing Authority	WA	15
1/8/2009	Hayden Island Neighborhood Network	Hayden Island Yacht Club, 12050 N Jantzen Drive, Portland	OR	n/a
1/9/2009	CRC Project Sponsors Council	WSDOT SW Region	WA	n/a
1/10/2009	Vancouver Light rail walking tour	Downtown Vancouver	WA	70
1/10/2009	CRC workshop on light rail in Vancouver	Hudson's Bay High School, 1601 E McLoughlin Blvd., Vancouver	WA	45
1/12/2009	Lincoln Neighborhood Association	Lincoln Elementary, 4200 Daniels St., Vancouver	WA	13
1/12/2009	Eliot Neighborhood Association	Emanuel Hospital Medical Office Building, 501 N Graham St., Portland	OR	n/a
1/12/2009	Boise Neighborhood Association	Albina Youth Opportunity School (AYOS), N. Mississippi at Beech	OR	10
1/13/2009	Port of Vancouver Board of Commissioners	Port of Vancouver, 3103 NW Lower River Rd, Vancouver, WA	WA	n/a
1/13/2009	C-TRAN Board	Rose Besserman Room, Fisher's Landing Transit Center, Vancouver	WA	n/a
1/14/2009	CRC workshop on light rail in Vancouver	Discovery Middle School, 800 E 40th St., Vancouver	WA	64
1/15/2009	CRC Community and Environmental Justice Group	Kenton Firehouse, 2209 N. Schofield, Portland	OR	n/a
1/16/2009	Joint Meeting of CRC Urban Design Advisory Group, Pedestrian and Bicycle Advisory Committee, and Freight Working Group representatives	Jeff Stuhr's Office, 110 SE 8th Ave., Portland	OR	n/a
1/21/2009	CRC Freight Working Group	CRC Project Office, 700 Washington St. Vancouver	WA	n/a
1/21/2009	Bridgeton Neighborhood Association	Columbia School, 716 NE Marine Dr., Portland	OR	11
1/21/2009	CRC Pedestrian and Bicycle Advisory Committee	CRC Project Office, 700 Washington St. Vancouver	WA	n/a
1/21/2009	CRC informational session on number of lanes	Clark County Elections Building 1408 Franklin Street Room 226 Vancouver	WA	30
1/23/2009	CRC Urban Design Advisory Group Workshop	WSDOT SW Region, Vancouver	WA	n/a
1/24/2009	CRC Informational Session on number of Lanes	Kaiser Town Hall, 3704 N Interstate Avenue, Conference rooms A & B, Portland	OR	7
1/26/2009	Metro Council and Portland City Council work session	Portland City Hall. 1221 SW 4th Avenue, Portland	OR	n/a
1/28/2009	Marine Drive Stakeholder Group	Kenton Firehouse, 2209 N. Schofield at Brandon, Portland	OR	n/a
1/28/2009	Professional Land Surveyors of Oregon (PLSO)	Red Lion Jantzen Beach, 909 N Hayden Island Drive, Portland	OR	22
1/29/2009	Portland City Council Session / Public Hearing on CRC	Portland City Hall, Council Chambers, 1221 SW 4th Avenue, Portland	OR	

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1/29/2009	AMEC Earth and Environmental Inc.	7376 SW Durham Road, Portland, Oregon 97224	OR	20
1/29/2009	Multnomah County Drainage District #1	Columbia Edgewater Golf Course, Portland	OR	15
2/2/2009	Vancouver City Council - Work session	Vancouver City Hall, 210 East 13th Street, Vancouver	WA	n/a
2/4/2009	Marine Drive Stakeholder Group	David Evans and Associates, 2100 SW River Parkway, Portland	OR	n/a
2/5/2009	CRC Vancouver Working Group	Vancouver Housing Authority, 2500 Main Street, Vancouver	WA	n/a
2/6/2009	CRC Project Sponsors Council	ODOT Region 1, 123 NW Flanders, Portland	OR	n/a
2/10/2009	Hudson's Bay Neighborhood Association	Harney Elementary, 3212 E. Evergreen Blvd., Vancouver	WA	30
2/10/2009	Northwest Industrial Neighborhood Association (NINA)	Guilds Lake Inn, 3271 NW 29 th Ave., Portland	OR	18
2/10/2009	Humboldt Neighborhood Association	McMenamin's Chapel Pub, 430 N. Killingsworth St., Portland, OR 97217	OR	30
2/12/2009	Kiwanis - Cascade Park chapter	IHOP, 164th St., Vancouver	WA	16
2/16/2009	Washington State House Transportation Committee	Legislative Building, Olympia	WA	n/a
2/18/2009	CRC Freight Working Group meeting	CRC Project Office, 700 Washington St. Vancouver	WA	n/a
2/18/2009	Marshall/Luepke Center	Marshall Center, 1009 E McLoughlin Blvd., Vancouver	WA	15
2/19/2009	National Association of Women in Construction (NAWIC)	Vibrant Catering – The Loft, 2236 SE Belmont St., Portland	OR	26
2/19/2009	Clark County Historical Museum	1511 Main St., Vancouver	WA	12
2/20/2009	Seaside Chamber of Commerce	Chamber and Visitors Bureau, 989 Broadway, Seaside	OR	40
2/19/2009	CRC Community and Environmental Justice Group	Kenton Firehouse, 2209 N. Schofield, Portland	OR	n/a
2/19/2009	CRC Vancouver Working Group	Vancouver Housing Authority, 2500 Main Street, Vancouver WA	WA	n/a
2/24/2009	Rose Village Neighborhood Association	Memorial Lutheran Church, 2700 E 28th St, Vancouver	WA	17
2/25/2009	CRC Pedestrian and Bicycle Advisory Committee	CRC Project Office, 700 Washington St. Vancouver	WA	n/a
2/25/2009	Portland City Council meeting on number of lanes	City of Portland Building, Room C 1120 SW 5th Ave. Portland,	OR	n/a
3/5/2009	CRC Vancouver Working Group	Vancouver Housing Authority, 2500 Main Street, Vancouver	WA	n/a
3/6/2009	CRC Project Sponsors Council	WSDOT SW Region, 11018 NE 51st Circle, Vancouver	WA	n/a
3/7/2009	Pacific Northwest Transportation Conference (Women's Shipping Club)	Paramount Hotel , 808 S.W. Taylor Street, Portland	OR	45
3/10/2009	CRC workshop on light rail	Red Lion at the Quay, 100 Columbia St., Vancouver	WA	75
3/10/2009	Redmond Chamber of Commerce	446 SW 7 th St., Redmond	OR	20
3/11/2009	Institute of Real Estate Management	Multnomah Athletic Club, 1849 SW Salmon St., Portland	OR	41
3/11/2009	Marine Drive Stakeholder Group	David Evans and Associates, 2100 SW River Parkway, Portland	OR	n/a
3/13/2009	CRC Urban Design Advisory Group	Clark County Elections Building, 1408 Franklin St., Vancouver	WA	n/a

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3/18/2009	Washington State Transportation Commission	Transportation Building, 310 Maple Park Avenue SE, Olympia	WA	n/a
3/19/2009	CRC Vancouver Working Group	Vancouver Housing Authority, 2500 Main Street, Vancouver	WA	n/a
3/19/2009	CRC Community and Environmental Justice Group	Kenton Firehouse, 2209 N. Schofield, Portland	OR	n/a
3/25/2009	CRC Pedestrian and Bicycle Advisory Committee	CRC Project Office, 700 Washington St. Vancouver	WA	n/a
3/25/2009	Esther Short Neighborhood Association	Vancouver Hilton, 301 W 6 th St., Vancouver	WA	27
3/26/2009	Southwest Washington School Retirees	Clark County Skills Center, 12200 NE 28th St., Vancouver	WA	60
4/2/2009	CRC Vancouver Working Group	Vancouver Housing Authority, 2500 Main Street, Vancouver	WA	n/a
4/14/2009	Oregon Trucking Association Spring Safety Conference	Resort at the Mountain, 68010 East Fairway Ave., Welches	OR	60
4/16/2009	CRC Vancouver Working Group	Vancouver Housing Authority, 2500 Main Street, Vancouver	WA	n/a
4/16/2009	CRC Community and Environmental Justice Group	Kenton Firehouse, 2209 N. Schofield, Portland	OR	n/a
4/17/2009	CRC Freight Working Group	CRC Project Office, 700 Washington St., Vancouver	WA	n/a
4/17/2009	CRC Urban Design Advisory Group	Clark County Elections Building, 1408 Franklin St., Vancouver	WA	n/a
4/19/2009	50+ Connections Expo	Vancouver Hilton, 301 W 6 th St., Vancouver	WA	160
4/22/2009	CRC Pedestrian and Bicycle Advisory Committee	CRC Project Office, 700 Washington St., Vancouver	WA	n/a
4/27/2009	Columbia Slough Watershed Council	Nabisco Bakery, 100 NE Columbia, Portland	OR	18
4/30/2009	CRC Marine Drive Stakeholder Group	Portland Metropolitan Exposition Center, 2060 N Marine Dr., Portland	OR	n/a
4/30/2009	CRC Vancouver Working Group	Vancouver Housing Authority, 2500 Main Street, Vancouver	WA	n/a
5/4/2009	CRC Project Sponsors Council	Clark County Public Service Center, 1300 Franklin St., Vancouver	WA	n/a
5/5/2009	Public Employees Recognition Week	Esther Short Park, W. Columbia St. and 8th St., Vancouver	WA	20
5/6/2009	CRC Pedestrian and Bicycle Advisory Committee	CRC Project Office, 700 Washington St., Vancouver	WA	n/a
5/7/2009	Shumway Neighborhood Association	Vancouver School of Arts and Academics, Media Center, 9101 Main St., Vancouver	WA	23
5/8/2009	Glenwood Place Senior Living	5500 NE 82nd Ave., Vancouver	WA	20
5/12/2009	Portland Bicycle Advisory Committee	Portland City Hall, Lovejoy Room, 1221 SW 4th Ave., Portland	OR	30
5/13/2009	CRC Portland Working Group	Jantzen Beach SuperCenter, 1405 Jantzen Center Dr., Portland	OR	n/a
5/14/2009	Columbia Crossings right-of-way meeting	Jantzen Beach SuperCenter, 1405 Jantzen Center Dr., Portland	OR	3
5/14/2009	CRC Vancouver Working Group	Vancouver City Hall, 210 East 13th Street, Vancouver	WA	n/a
5/19/2009	Portland Pedestrian Advisory Committee	Portland City Hall, Pettygrove Room, 1221 SW 4th Ave., Portland	OR	n/a
5/21/2009	CRC Community and Environmental Justice Group	Clark County Elections Building, 1408 Franklin St., Vancouver	OR	n/a

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5/26/2009	Rotary, East Vancouver Chapter	Camas Meadows Golf Course, 4105 NW Camas Meadows Dr., Camas	WA	8
5/26/2009	North Salmon Creek Neighborhood Association	Three Creeks Library, 800 NE Tenney Rd., Vancouver	WA	40
5/26/2009	Jantzen Beach Moorage, Inc. right-of-way meeting	Jantzen Beach SuperCenter, 1405 Jantzen Center Dr., Portland	OR	11
5/27/2009	Kiwanis - Fort Vancouver Chapter	Bill's Chicken & Steak House, 2200 St Johns Blvd., Vancouver	WA	28
5/27/2009	CRC Pedestrian and Bicycle Advisory Committee	CRC Project Office, 700 Washington St., Vancouver	WA	n/a
5/28/2009	CRC Vancouver Working Group	Vancouver Housing Authority, 2500 Main Street, Vancouver	WA	n/a
6/2/2009	Southwest Washington Regional Transportation Council	Public Services Building, 1300 Franklin St., Vancouver	WA	n/a
6/3/2009	Washington State Department of Transportation - St. Johns/SR 500 Open House	Washington Elementary, 2908 S. St., Vancouver	WA	25
6/4/2009	Vancouver Executive Association	Elmers Restaurant, 7105 NE 40th Ave., Vancouver	WA	30
6/5/2009	CRC Project Sponsors Council	Oregon Department of Transportation Region 1, 123 NW Flanders St., Portland	OR	n/a
6/10/2009	CRC Portland Working Group	Jantzen Beach SuperCenter, 1405 Jantzen Center Dr., Portland	OR	n/a
6/10/2009	Kenton Annual Neighborhood Meeting	Kenton Masonic Temple, 8130 N Denver Ave., Portland	OR	55
6/11/2009	Hayden Island Neighborhood Network (HiNooN)	Former Hayden Island Yacht Club, 12050 N. Jantzen Dr., Portland	OR	22
6/14/2009	Vancouver Farmers Market	Esther Short Park, W Columbia St. and 8th St., Vancouver	WA	25
6/15/2009	Jantzen Beach Moorage, Inc. right-of-way meeting	Jantzen Beach SuperCenter, 1405 Jantzen Center Dr., Portland	OR	17
6/16/2009	Hough Neighborhood Association	Hough Elementary, 1900 Daniels St., Vancouver	WA	15
6/18/2009	CRC Community and Environmental Justice Group	Jantzen Beach SuperCenter, 1405 Jantzen Center Dr., Portland	OR	n/a
6/21/2009	Portland Sunday Parkways: North Portland	Kenton Park, N Delaware Ave., Portland	OR	117
6/23/2009	CRC Open House	Jantzen Beach SuperCenter, 1405 Jantzen Center Dr., Portland	OR	61
6/24/2009	CRC Pedestrian and Bicycle Advisory Committee	CRC Project Office, 700 Washington St., Vancouver	WA	n/a
6/24/2009	CRC Open House	Red Lion at the Quay, 100 Columbia St., Vancouver	WA	54
6/25/2009	Portland State University: Environmental Regulations and Policy Class	Portland State University, 1825 SW Broadway, Portland	OR	22
6/25/2009	CRC Vancouver Working Group	Vancouver Housing Authority, 2500 Main Street, Vancouver	WA	n/a
6/27/2009	Good in the Neighborhood	Kings School Park, 4815 NE 7th Ave., Portland	OR	51
6/30/2009	CRC Urban Design Advisory Group, Subcommittee	CRC Project Office, 700 Washington St., Vancouver	WA	n/a
6/30/2009	CRC Listening Session on Tolling	Red Lion at the Quay, 100 Columbia St., Vancouver	WA	32

7/1/2009	CRC Listening Session on Tolling	Jantzen Beach SuperCenter, 1405 Jantzen Center Dr., Portland	OR	41
7/2/2009	Battle Ground Chamber of Commerce	2903 W Main St., Battle Ground	WA	42
7/6/2009	Vancouver City Council work session on SR 500 / Fourth Plain	Vancouver City Council chambers, 210 E. 13th Street, Vancouver	WA	n/a
7/7/2009	Southwest Washington Regional Transportation Council board	1300 Franklin St., Vancouver	WA	n/a
7/8/2009	CRC Freight Working Group	CRC Project Office, 700 Washington St., Vancouver	WA	n/a
7/8/2009	CRC Portland Working Group	Jantzen Beach SuperCenter, 1405 Jantzen Center Dr., Portland	OR	n/a
7/9/2009	CRC Vancouver Working Group	Vancouver City Hall, 210 East 13th Street, Vancouver	WA	n/a
7/11/2009	Vancouver Farmers Market	Esther Short Park, W Columbia St. and 8th St., Vancouver	WA	86
7/16/2009	CRC Performance Measures Advisory Group	CRC Project Office, 700 Washington St., Vancouver	WA	n/a
7/18/2009	Battle Ground Harvest Days	Fairgrounds Park, 912 E Main St., Battle Ground	WA	90
7/19/2009	Portland Sunday Parkways: Northeast Portland	Fernhill Park, NE 37th Ave and NE Ainsworth St., Portland	OR	150
7/20/2009	CRC right-of-way meeting with property owners for SR-500 / Fourth Plain	WSDOT Maintenance Facility, 4100 Main St., Vancouver	WA	18
7/22/2009	City of Vancouver Parking Advisory Committee	Vancouver City Council Chambers, 210 E. 13th Street, Vancouver	WA	20
7/22/2009	CRC Pedestrian and Bicycle Advisory Committee	CRC Project Office, 700 Washington St., Vancouver	WA	n/a
7/22/2009	Joint meeting of Oregon Transportation Commission and Washington State Transportation Commission	Oregon Department of Transportation Region 1, 123 NW Flanders St., Portland	OR	n/a
7/23/2009	CRC right-of-way meeting with property owners for SR-500 / Fourth Plain	Clark County Elections Building, 1408 Franklin St., Vancouver	WA	8
7/23/2009	CRC Vancouver Working Group	Vancouver Housing Authority, 2500 Main Street, Vancouver	WA	n/a
7/25/2009	Ho'ike Hawaiian Festival	Esther Short Park, W Columbia St. and 8th St., Vancouver	WA	138
7/25/2009	East Portland Expo	Ed Benedict Community Park, 3738 SE 101st Ave., Portland	OR	10
7/26/2009	St. John the Evangelist Catholic Church: Transportation Projects Open House	St. John the Evangelist Catholic Church, 8701 NE 119th St., Vancouver	WA	15
7/28/2009	CRC Urban Design Advisory Group, Subcommittee	CRC Project Office, 700 Washington St., Vancouver	WA	n/a
8/1/2009	East Columbia Neighborhood Association Barbeque	Children's Arboretum Park, NE Meadows Dr. between NE 13th and NE 6th, Portland	OR	15
8/4/2009	Hayden Island Manufactured Home Owners & Renters Association National Night Out Block Party	North Shore Community playground lawn area, 1503 N Hayden Island Dr., Portland	OR	35
8/4/2009	National Night Out at Esther Short Neighborhood Association	Turtle Place, Vancouver	WA	24
8/8/2009	Vancouver Farmers Market	Esther Short Park, W Columbia St. and 8th St., Vancouver	WA	91
8/11/2009	Portland Bicycle Advisory Committee	Portland City Hall, Lovejoy Room, 1221 SW Fourth Ave., Portland	OR	30

COLUMBIA RIVER CROSSING
PUBLIC OUTREACH ACTIVITIES, FEB. 2005 – APR. 27, 2010

8/11/2009	Rose Village Neighborhood Association	Memorial Lutheran Church, 2700 E. 28th St., Vancouver	WA	9
8/13/2009	Hayden Island Neighborhood Network (HiNoon) Ad Hoc Committee on CRC	Former Hayden Island Yacht Club, 12050 N. Jantzen Dr., Portland	OR	n/a
8/13/2009	Arnada Neighborhood Association	Vancouver Housing Authority, 2500 Main Street, Vancouver	WA	31
8/16/2009	Portland Sunday Parkways: Southeast Portland	Mt. Tabor Park, 6000 SE Salmon St., Portland	OR	89
8/18/2009	Port of Vancouver: CRC tolling presentation	Port of Vancouver, Commission Room, 3103 NW Lower River Rd., Vancouver	WA	57
8/18/2009	Port of Portland: CRC tolling presentation	Port of Portland, Commission Room, 121 NW Everett St., Portland	OR	20
8/18/2009	Clark County Bicycle Advisory Committee	1300 Franklin St., Vancouver	WA	16
8/18/2009	Portland Pedestrian Advisory Committee	Portland City Hall, Pettygrove Room, 1221 SW 4th Avenue, Portland	OR	13
8/20/2009	Community Choices	Chamber of Commerce, 1101 Broadway, Ste. 110, Vancouver	WA	10
8/20/2009	CRC Community and Environmental Justice Group	Jantzen Beach SuperCenter, 1405 Jantzen Center Dr., Portland	OR	n/a
8/21/2009	Vancouver-Clark Parks and Recreation Advisory Commission	Clark County Public Service Center, 1300 Franklin St., Vancouver	WA	9
8/21/2009	Port of Ridgefield Commissioners Picnic	Ridgefield Boat Launch, west end of Mill St., Ridgefield	WA	52
8/22/2009	St. Johns Farmers Market	St. Johns Plaza, N. Lombard St. and N. Philadelphia Ave., Portland	OR	32
8/26/2009	CRC Pedestrian and Bicycle Advisory Committee	CRC Project Office, 700 Washington St., Vancouver	WA	n/a
8/26/2009	Interstate Farmers Market	Overlook Park, 3550 N Fremont St., Portland	OR	41
8/26/2009	Bike Me! Vancouver	Wallis Engineering, 215 W. 4th St., Vancouver	WA	30
9/1/2009	Regional Transportation Commission Board Meeting	Clark County Public Service Building, 1300 Franklin Street, Vancouver	WA	n/a
9/3/2009	West Coast Corridor Coalition	Port of Portland, Commission Room, 121 NW Everett St., Portland	OR	25
9/3/2009	Shumway Neighborhood Association	Knights of Pythias Retirement Center, 3409 Main St., Vancouver	WA	40
9/3/2009	Hayden Island Manufactured Home Owners and Renters Association	South Shore Clubhouse, 12221 N. Westshore Drive, Portland	OR	15
9/4/2009	CRC Project Sponsors Council	Washington State Department of Transportation Southwest Region Office, 11018 NE 51st Circle, Vancouver	WA	n/a
9/8/2009	Vancouver Housing Authority, Resident Advisory Board	Rise and Stars Community Center, 500 Omaha Way, Vancouver	WA	9
9/9/2009	CRC Portland Working Group	Jantzen Beach SuperCenter, 1405 Jantzen Center Dr., Portland	OR	n/a
9/10/2009	Oregon Business Association Transportation Committee	Stoel Reeves, 900 SW Fifth Ave., Suite 2600, Portland	OR	5
9/10/2009	Arnada Neighborhood Association	Vancouver Housing Authority, 2500 Main Street, Vancouver	WA	35

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PUBLIC OUTREACH ACTIVITIES, FEB. 2005 – APR. 27, 2010

9/10/2009	Hayden Island Neighborhood Network (HiNooN)	Hayden Island Yacht Club, 12050 N Jantzen Drive, Portland	OR	15
9/12/2009	TriMet MAX Green Line Opening Day	Pioneer Square, 715 SW Morrison St., Portland	OR	100
9/13/2009	Uptown Village Business Association	Pop Culture, 1929 Main Street, Vancouver	WA	5
9/14/2009	Bridgeton Neighborhood Association	Columbia High School, 716 NE Marine Dr., Portland	OR	16
9/15/2009	Neighborhood Traffic Safety Alliance	4400 NE 77th Avenue, Vancouver	WA	23
9/16/2009	The Economic Roundtable	University Club, 1225 SW Sixth Ave., Portland	OR	8
9/16/2009	League of United Latin American Citizens (LULAC), Clark County Council 47010	Firstenburg Community Center, 700 NE 136th Ave., Vancouver	WA	7
9/17/2009	Parkrose Business Association	Holiday Inn Airport, 8439 NE Columbia Blvd., Portland	OR	50
9/17/2009	CRC Community and Environmental Justice Group	Jantzen Beach SuperCenter, 1405 Jantzen Center Dr., Portland	OR	n/a
9/18/2009	CRC Urban Design Advisory Group	Vancouver Hilton, 301 W. 6th St., Vancouver	WA	n/a
9/18/2009	Washington State Good Roads and Transportation Association annual conference	Vancouver Hilton, 301 W. 6 th St., Vancouver	WA	30
9/22/2009	CRC Freight Working Group	CRC Project Office, 700 Washington St., Vancouver	WA	n/a
9/22/2009	Rose Village Neighborhood Association	Memorial Lutheran Church, 2700 E. 28th St., Vancouver	WA	14
9/23/2009	CRC Pedestrian and Bicycle Advisory Committee	CRC Project Office, 700 Washington St., Vancouver	WA	n/a
9/23/2009	Esther Short Neighborhood Association	Vancouver Hilton, 301 W 6 th St., Vancouver	WA	40
9/23/2009	Northeast Coalition of Neighborhoods	Northeast Coalition of Neighborhoods, 4815 NE 7th, Portland	OR	12
9/25/2009	Oregon Association of Minority Entrepreneurs Coffee and Issues Forum	4134 N Vancouver Ave., Portland	OR	5
9/30/2009	CRC Marine Drive Stakeholder Group	Portland Metropolitan Exposition Center, 2060 N Marine Dr., Portland	OR	n/a
9/30/2009	CRC Hayden Island Light Rail Station Planning Workshop	Jantzen Beach SuperCenter, 1405 Jantzen Center Dr., Portland	OR	57
10/1/2009	CRC Tolling Study Committee	Portland Metropolitan Exposition Center, 2060 N Marine Dr., Portland	OR	21
10/1/2009	Shumway Neighborhood Association	Vancouver School of Arts and Academics, Media Center, 3101 Main St., Vancouver	WA	15
10/3/2009	Old Apple Tree Festival	Old Apple Tree Park, 112 SE Columbia Way, Vancouver	WA	114
10/6/2009	Russellville Park Retirement Community	23 SE 103rd Ave., Portland	WA	15
10/8/2009	Oregon Department of Transportation Open House on Hayden Island Interchange Area Management Plan	Former Hayden Island Yacht Club, 12050 N. Jantzen Dr., Portland	OR	n/a
10/8/2009	Hayden Island Neighborhood Network (HiNooN)	Former Hayden Island Yacht Club, 12050 N. Jantzen Dr., Portland	OR	14
10/8/2009	Arnada Neighborhood Association	One World Merchants, 2315 Main Street, Vancouver	WA	18

10/12/2009	Neighborhood Associations Council of Clark County (NACCC)	Public Works Maintenance Ctr., 4700 NE 78th, Clark County, Vancouver	WA	10
10/13/2009	Lincoln Neighborhood Association leaders	CRC Project Office, 700 Washington St., Vancouver	WA	5
10/13/2009	Ellsworth Springs Neighborhood Association	Ellsworth Elementary School, 512 SE Ellsworth Road, Vancouver	WA	6
10/13/2009	Sunnyside United Neighbors Community Planning Organization	Valley View Evangelical Church, 11501 SE Sunnyside Rd., Clackamas	OR	15
10/14/2009	City of Portland engineers staff meeting	City of Portland Building, Room C, 1120 SW 5th Ave., Portland	OR	80
10/14/2009	Swan Island Business Association	Daimler Trucks NA Corp 9, Columbia Room, 4435 N Channel Ave., Portland	OR	12
10/14/2009	CRC Portland Working Group	Jantzen Beach SuperCenter, 1405 Jantzen Center Dr., Portland	OR	n/a
10/15/2009	Northwest Neighborhood Association	Franklin Elementary School, 5206 Franklin St., Vancouver	WA	26
10/17/2009	National Association of Women in Construction, Region 9 Annual Planning Convention	Residence Inn by Marriott - Portland Downtown Riverplace, 2115 SW River Parkway, Portland	OR	41
10/19/2009	North Clackamas Chamber of Commerce, Public Policy Team	Oregon Institute of Technology Campus, Rm. 141, 7740 SE Harmony Rd., Milwaukie	OR	21
10/19/2009	Vancouver City Council work session on light rail	Vancouver City Council chambers, 210 E. 13th Street, Vancouver	WA	n/a
10/20/2009	Hough Neighborhood Association	Hough Elementary, 1900 Daniels Street, Vancouver	WA	20
10/28/2009	CRC Pedestrian and Bicycle Advisory Committee	CRC Project Office, 700 Washington Street, Vancouver	WA	n/a
10/28/2009	Northwest Association of Environmental Professionals (NWAEP)	Multnomah County Library, Central Branch, 801 SW 10th Avenue, Portland	OR	15
10/30/2009	Oregon Association of Minority Entrepreneurs Coffee and Issues Forum	4134 N. Vancouver Avenue, Portland	OR	5
10/31/2009	American Indian Science & Engineering Society, 2009 National Conference	DoubleTree Hotel, 1000 NE Multnomah Street, Portland	OR	4
11/4/2009	Southwest Washington Regional Transportation Council Board of Directors	Port of Vancouver, Commission Room, 3103 NW Lower River Road, Vancouver	WA	n/a
11/5/2009	Oregon Highway Users Alliance	Oba!, 555 NW 12th Avenue, Portland	OR	24
11/5/2009	Fruit Valley Neighborhood Association	Fruit Valley Park Community Center, 3302 Unander Avenue, Vancouver	WA	27
11/9/2009	Bridgeton Neighborhood Association	Columbia High School, 716 NE Marine Drive, Portland	OR	15
11/10/2009	Portland Business Alliance Transportation Committee	200 SW Market Street, Portland	OR	16
11/10/2009	C-TRAN board	2425 NE 65th Avenue, Vancouver	WA	n/a
11/10/2009	East Columbia Neighborhood Association	East Columbia Bible Church, 420 NE Marine Drive, Portland	OR	23
11/11/2009	CRC Portland Working Group	Jantzen Beach SuperCenter, 1405 Jantzen Center Dr., Portland	OR	n/a

COLUMBIA RIVER CROSSING
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11/12/2009	Vancouver's Downtown Association	Vancouver Library, 1007 East Mill Plain Boulevard, Vancouver	WA	n/a
11/12/2009	CRC Freight Working Group	CRC Project Office, 700 Washington Street, Vancouver	WA	n/a
11/16/2009	Washington Highway Users Federation (WHUF)	Washington State Convention Center, 800 Convention Place, Seattle	WA	n/a
11/19/2009	Oregon State Senate Interim Committee on Business & Transportation	Oregon State Capitol, 900 Court Street NE, Salem	OR	n/a
11/19/2009	Oregon State House Interim Committee on Transportation	Oregon State Capitol, 900 Court Street NE, Salem	OR	n/a
11/19/2009	Northfield Neighborhood Association	Fire Station #9, 17409 SE 15th St., Vancouver	WA	9
11/21/2009	Hayden Island outreach at Safeway	Hayden Island Safeway, 11919 N Jantzen Drive, Portland	OR	30
11/22/2009	Hayden Island outreach at Safeway	Hayden Island Safeway, 11919 N Jantzen Drive, Portland	OR	54
11/25/2009	Hayden Island outreach at Safeway	Hayden Island Safeway, 11919 N Jantzen Drive, Portland	OR	120
12/4/2009	CRC Project Sponsors Council	121 NW Everett Street, Portland OR	OR	n/a
12/5/2009	Courtyard Village Vancouver Men's Breakfast	Courtyard Village Vancouver, 4555 NE 66 th Ave., Vancouver	WA	14
12/5/2009	CRC environmental justice training for members of the Community and Environmental Justice Group	Kaiser Town Hall, 3704 N. Interstate Ave., Portland	OR	20
12/7/2009	Columbia River Crossing Tolling Study Committee	Washington State Department of Transportation Southwest Region Office, 11018 NE 51st Circle, Vancouver	WA	13
12/8/2009	Washington State University, Vancouver, Graduate Class	Washington State University, Vancouver, 14204 NE Salmon Creek Avenue, Vancouver	WA	7
12/9/2009	CRC Pedestrian and Bicycle Advisory Committee	CRC Project Office, 700 Washington Street, Vancouver	WA	n/a
12/9/2009	CRC Portland Working Group	Jantzen Beach SuperCenter, 1405 Jantzen Center Dr., Portland	OR	n/a
12/17/2009	GVA Kidder Mathews	One SW Columbia St., Suite 950, Portland	WA	15
12/17/2009	Clark College Board of Trustees	1933 Fort Vancouver Way, Vancouver	WA	n/a
1/6/2010	CRC Performance Measures Advisory Group	CRC Project Office, 700 Washington Street, Vancouver	WA	n/a
1/13/2010	CRC Portland Working Group	Jantzen Beach SuperCenter, 1405 Jantzen Center Dr., Portland	OR	n/a
1/21/2010	Washington State Senate Transportation Committee	Senate Hearing Room 1, J.A. Cherberg Bldg., Olympia	WA	n/a
1/22/2010	CRC Project Sponsors Council	WSDOT SW Region, 11018 NE 51st Circle, Vancouver	WA	n/a
1/25/2010	Washington State House Transportation Committee	House Hearing Room B, John L. O'Brien Building, Olympia	WA	n/a
1/27/2010	Loaves and Fishes senior lunch, Hayden Island manufactured homes community	Rivershore Clubhouse, 1501 N. Hayden Island Dr., Portland	OR	20
1/29/2010	Oregon Association of Minority Entrepreneurs Coffee and Issues Forum	4134 N. Vancouver Ave., Portland	OR	120
2/3/2010	Society of Automotive Engineers (SAE)	Daimler Trucks of North America, Vancouver Room, 4555 N. Channel Ave., Portland	OR	15

2/4/2010	CRC Vancouver Working Group Briefing	Vancouver Housing Authority, 2500 Main Street, Vancouver	WA	n/a
2/10/2010	CRC Hayden Island Open House	Jantzen Beach SuperCenter, 1405 Jantzen Center Dr., Portland	OR	110
2/17/2010	WSDOT Design/Construction Conference	WSDOT SW Region, 11018 NE 51st Circle, Vancouver	WA	n/a
2/17/2010	ODOT Environmental Coordinators quarterly meeting	ODOT Region 1, 123 NW Flanders St., Portland	OR	n/a
2/23/2010	CRC Vancouver Light Rail Alignment Community Meeting	Clark Public Utilities Building, 1200 Fort Vancouver Way, Vancouver	WA	50
2/24/2010	CRC Pedestrian and Bicycle Advisory Committee	CRC Project Office, 700 Washington St., Vancouver	WA	n/a
2/24/2010	CRC Vancouver Light Rail Alignment Community Meeting	Vancouver Housing Authority, 2500 Main Street, Vancouver	WA	40
3/2/2010	Regional Transportation Council Board of Directors	Clark County Public Service Center, 1300 Franklin St., Vancouver	WA	n/a
3/8/2010	Vancouver City Council work session: Vancouver light rail alignment	City Council Chambers, 210 E. 13th St., Vancouver	WA	n/a
3/8/2010	Bridgeton Neighborhood Association	Columbia High School, 716 NE Marine Dr., Portland	OR	25
3/9/2010	East Columbia Neighborhood Association	East Columbia Bible Church, 420 NE Marine Dr., Portland	OR	15
3/10/2010	Portland Air Cargo Association	Holiday Inn Airport, 8439 NE Columbia Blvd., Portland	OR	14
3/10/2010	CRC Portland Working Group	Jantzen Beach SuperCenter, 1405 Jantzen Center Dr., Portland	OR	n/a
3/11/2010	Piedmont Neighborhood Association	Rosemont Court, 749 NE Dekum St., Portland	OR	40
3/12/2010	CRC Project Sponsors Council	ODOT Region 1, 123 NW Flanders Street, Portland	OR	n/a
3/17/2010	ODOT Surveyors Conference	Chemeketa Community College, Eola Viticulture Center, 215 Doaks Ferry Rd., Salem	OR	130
3/22/2010	Professional Engineers of Oregon, Columbia Chapter	Multnomah Athletic Club, 1849 SW Salmon St., Portland	OR	18
3/22/2010	Vancouver City Council meeting: Vancouver light rail alignment	City Council Chambers, 210 E. 13th St., Vancouver	WA	n/a
3/23/2010	PDXplore: CRC presentation	Pacific Northwest College of Art, Swigert Commons, 1241 NW Johnson St., Portland	OR	n/a
4/1/2010	Madison South Neighborhood Association	Glenhaven Building, 8020 NE Tillamook St., Portland	OR	16
4/6/2010	ODOT Hayden Island Interchange Area Management Plan (IAMP) Open House	Jantzen Beach SuperCenter, 1405 Jantzen Center Dr., Portland	OR	40
4/6/2010	Concordia Neighborhood Association	McMenamin's Kennedy School, 5736 NE 33rd Ave., Portland	OR	19
4/6/2010	Burton Ridge Neighborhood Association	Marrion Elementary, 10119 NE 14th St., Vancouver	WA	6
4/7/2010	Mt. Scott-Arleta Neighborhood Association	Mt. Scott Community Center, 5530 SE 72nd Ave., Portland	OR	12
4/9/2010	Oregon Environmental Justice Task Force	East Portland Neighborhood Office, 1017 NE 117th Ave., Portland	OR	n/a
4/9/2010	International Right of Way Association	Ernesto's Italian Restaurant, 8544 Apple Way, Beaverton	OR	20
4/10/2010	Terwilliger Plaza	Terwilliger Plaza, 2545 SW Terwilliger Blvd., Portland	OR	30

4/11/2010	50+ Connections Expo	Vancouver Hilton, 301 W. 6 th St., Vancouver	WA	110
4/12/2010	St. John's Neighborhood Association	St. John's Community Center, 8427 N. Central St., Portland	OR	25
4/13/2010	Vernon Neighborhood Association	EnterBeing, 1603 NE Alberta St., Portland	OR	14
4/13/2010	Roseway Neighborhood Association	Grace Lutheran Evangelical, 7610 NE Fremont St., Portland	OR	35
4/14/2010	CRC Portland Working Group	Jantzen Beach SuperCenter, 1405 Jantzen Center Dr., Portland	OR	n/a
4/14/2010	King Neighborhood Association	King Neighborhood Facility, 4815 NE 7th Ave., Portland	OR	20
4/15/2010	Hayden Island Livability Project (HILP)	Hayden Island Mobile Home Community, South Shore Clubhouse, 12221 N. Westshore Dr., Portland	OR	40
4/15/2010	South Tabor Neighborhood Association	Trinity Church, 2700 SE 67th Ave., Portland OR	OR	12
4/16/2010	Fairview Village Democratic Forum	Fairview Village Clubhouse, 15509 SE Fernwood Dr., Vancouver	WA	30
4/20/2010	Portland Pearl Rotary	Ecotrust Building, 721 NW 9th Ave., Portland	OR	37
4/20/2010	Union Building	Union Building, 612 E McLoughlin Blvd., Vancouver	WA	55
4/20/2010	Carter Park Neighborhood Association	Vancouver Housing Authority, 2500 Main St., Vancouver	WA	14
4/23/2010	CRC Project Sponsors Council	WSDOT SW Region, 11018 NE 51st Circle, Vancouver	WA	n/a
4/26/2010	Alameda Neighborhood Association	Fremont United Methodist Church, 2620 NE Fremont St., Portland	OR	5
Outreach events currently scheduled				
4/28/2010	American Public Works Association, Oregon Chapter (APWA)	Seven Feathers Casino, 146 Chief Miwaleta Lane, Canyonville	OR	
4/28/2010	Southwest Neighborhoods, Inc. (SWNI)	Multnomah Center, Room 34, 7688 SW Capitol Hwy., Portland	OR	
4/29/2010	Southcliff Neighborhood Association	604 Umatilla Way, Vancouver	WA	
4/29/2010	Hollywood Neighborhood Association	Hollywood Senior Center, 1820 NE 40th Ave., Portland	OR	
5/4/2010	DuBois Park Neighborhood Association	McLoughlin Middle School media center, 5802 MacArthur Blvd., Vancouver	WA	
5/4/2010	Fircrest Neighborhood Association	Firstenburg Recreation Center, 700 NE 136th Ave., Vancouver	WA	
5/4/2010	Grant Park Neighborhood Association	Grant Park Church, 2728 NE 34th Ave., Portland	OR	
5/5/2010	Arlington Club Speakers Forum	The Arlington Club, 811 SW Salmon St., Portland	OR	
5/6/2010	Portland Frieght Committee	Portland City Hall, Lovejoy Room, 1221 SW 4th Ave., Portland	OR	
5/6/2010	ODOT Marine Drive Interchange Area Management Plan (IAMP) Open House	Residence Inn by Marriot, 1250 N. Anchor Way, Portland	OR	
5/10/2010	Richmond Neighborhood Association	Waverly Heights Congregational Church, 3300 SE Woodward St., Portland	OR	
5/10/2010	Powellhurst-Gilbert Neighborhood Association	Ron Russell Middle School, 3955 SE 112th Ave., Portland	OR	

5/11/2010	Cully Association of Neighbors	Grace Presbyterian Church, 6025 NE Prescott St., Portland	OR	
5/12/2010	Multnomah Neighborhood Association	Multnomah Arts Center, 7688 SW Capitol Highway, Portland	OR	
5/12/2010	Kenton Neighborhood Association	Historic Kenton Firehouse, 2209 N Schofield St., Portland	OR	
5/12/2010	CRC Portland Working Group	Jantzen Beach SuperCenter, 1405 Jantzen Center Dr., Portland	OR	
5/13/2010	Pearl District Neighborhood Association	PREM Group, 351 NW 12th St., Portland	OR	
5/14/2010	CRC Project Sponsors Council	ODOT Region 1, 123 NW Flanders Street, Portland	OR	
5/16/2010	Portland Sunday Parkways: Northeast	Alberta Park, NE 22nd Ave. and NE Killingsworth St., Portland	OR	
5/18/2010	Forest Park and Sylvan Highlands Neighborhood Association	Willis Building, 360 NW Greenleaf Ave., Portland	OR	
5/18/2010	Far Southwest Neighborhood Association	TBD	OR	
5/18/2010	American Society of Civil Engineers (ASCE)	Lloyd Center Doubletree, 1000 NE Multnomah St., Portland	OR	
5/19/2010	Northwest Industrial Neighborhood Association	MacTarnahan's Taproom, 2730 NW 31st Ave., Portland	OR	
5/24/2010	Columbia Slough Watershed Council	Nabisco, 100 NE Columbia Blvd., Portland	OR	
5/25/2010	Lents Neighborhood Association	Seventh-day Adventist Church, 8835 SE Woodstock Blvd., Portland	OR	
5/25/2010	Rose City Park Neighborhood Association	Rose City Park United Methodist Church, 5830 NE Alameda St., Portland	OR	
6/1/2010	Wilkes Neighborhood Association	Margaret Scott School, 14700 NE Sacramento St., Portland	OR	
6/2/2010	Hazel Dell Lions	Roundtable Pizza, 616 NE 81st St., Vancouver	WA	
6/9/2010	CRC Portland Working Group	Jantzen Beach SuperCenter, 1405 Jantzen Center Dr., Portland	OR	
6/11/2010	CRC Project Sponsors Council	WSDOT SW Region, 11018 NE 51st Circle, Vancouver	WA	
6/12/2010	Vancouver Farmers Market	Esther Short Park, W. 8 th St. and Esther St., Vancouver	WA	
6/14/2010	Beaumont / Wilshire Neighborhood Association	TBD	OR	
6/15/2010	Overlook Neighborhood Association	Kaiser Town Hall, 3704 N Interstate Ave., Portland	OR	
6/17/2010	Northcrest Neighborhood Association	Northcrest Community Church, 5602 E. Mill Plain Blvd., Vancouver	WA	
6/23/2010	Council of Supply Chain Management Professionals (CSCMP)	Plat Electric, 10605 SW Allen Blvd., Beaverton	OR	
6/24/2010	Vancouver Heights Neighborhood Association	Nierenberg Child Center, 105 S Lieser Rd., Vancouver	WA	
6/26/2010	Good in the 'Hood	Kings School Park, 4815 NE 7th Ave., Portland	OR	
6/27/2010	Portland Sunday Parkways: North	Kenton Park, N Kilpatrick and N Delaware, Portland	OR	
7/7/2010	Linneton Neighborhood Association	Linneton Community Center, 10614 NW Saint Helens Rd., Portland	OR	
7/11/2010	King's Farmers Market	Kings School Park, 4815 NE 7th Ave., Portland	OR	

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7/12/2010	Neighborhood Associations Council of Clark County	TBD	WA	
7/16/2010	CRC Project Sponsors Council	ODOT Region 1, 123 NW Flanders Street, Portland	OR	
7/17/2010	Battle Ground Harvest Days	Battle Ground Community Center, 912 E. Main St., Battle Ground	WA	
7/18/2010	Portland Sunday Parkways: Outer Southeast	Lents Park, SE 92nd Ave. and Holgate Blvd., Portland	OR	
7/31/2010	Ho'ike and Hawaiian Festival	Esther Short Park, W. 8 th St. and Esther St., Vancouver	WA	
8/7/2010	Vancouver Farmers Market	Esther Short Park, W. 8 th St. and Esther St., Vancouver	WA	
8/10-13/2010	Western Planners Conference	Red Lion Hotel, Vancouver at the Quay, 100 Columbia St., Vancouver	WA	
8/15/2010	Portland Sunday Parkways: Southeast	Laurelhurst Park, SE 39th and Stark St., Portland	OR	
8/20/2010	Port of Ridgefield Commissioner's Picnic	Ridgefield Boat Launch, west end of Mill St., Ridgefield	WA	
8/21/2010	St. John's Farmers Market	St. Johns Plaza: N. Lombard St. and N. Philadelphia Ave.	OR	
11/12/2010	East Vancouver Business Association	TBD	WA	

COMMUNITY AND ENVIRONMENTAL JUSTICE GROUP

To achieve the goal of meaningful public engagement throughout the project development process, the CRC project team formed the Community and Environmental Justice Group (CEJG). The members of the CEJG come from neighborhoods in the project area and include environmental justice communities (low-income, African American, Latino), and at-large members. About ten members have volunteered on this group since it was formed. They represent the diverse interests and perspectives of the Vancouver, Portland, and Hayden Island neighborhoods potentially affected by the project. CEJG has recommended project outreach strategies and materials to help effectively reach environmental justice communities. In addition to recommendations on outreach and notification of the Environmental Impact Statement, the group also provided comments on the document. CEJG also provided comments on the alternatives proposed to move forward for analysis in the Draft EIS. CEJG has met 33 times since 2006.

Recommendations from CEJG are included in this section of the notebook.

We, the members of the Community Environmental Justice Group (CEJG), have been meeting since August of 2006. We are a collection of neighborhood and community representatives within the Columbia River Crossing (CRC) influence area and represent the communities which will be most significantly impacted by this project. Many of our communities contain low income and minority individuals who historically have been overly impacted and excluded from the development and decision making process.

On January 9, 2007 we reviewed the CRC Staff Recommendation of alternatives for advancement into the Draft Environmental Impact Statement.

It is the consensus of this group that we cannot accept or decline the Staff Recommendation. We believe there are too many unanswered questions regarding the impacts facing the communities we represent.

While we acknowledge improvement to the transportation facilities in the corridor significantly benefit the region, the following issues have yet to be addressed to our satisfaction:

- I. I. Health and Environmental Impacts (include, but are not limited to Air Quality and Noise)
- II. Displacement of Homes, Businesses, Resources, Neighborhoods and Impacts on Quality of Life
- III. Study of Alternatives for Corridor Placement and the Impact Area

I. Health and Environmental Impacts

The CEJG members are concerned about current and future air quality and noise issues, particularly within 1500 feet of the I-5 corridor.

We would like to know the current level of emissions (including diesel emissions) and noise levels to establish a base line for data collection.

We would like to know what air quality and noise standards will be negotiated for construction equipment and related project vehicles.

We would like to know how the air quality and noise standards will be monitored and how they will be mitigated during and after the project is complete, to insure no air quality degradation for ten years within the Bridge Impact Area (BIA).

II. Displacement of Homes, Businesses, Resources, Neighborhoods and Impacts on Quality of Life.

After completing a bus tour of the BIA, the CEJG members calculate the possibility of approximately 100 homes and more than 20 businesses along both sides of the bridge being removed, destroyed or heavily impacted.

We would like to know what compensations and mitigation measures will be made for those home owners, renters and business owners.

Hayden Island could potentially lose virtually all of the neighborhood shopping resources (grocery, pharmacy, restaurants, fuel stations and other retailers).

III. Alternatives and Corridor

Many believe the current corridor is already extended to its maximum and should not be expanded further. Members in Vancouver, Hayden Island and Portland have expressed strong concerns about the significant deterioration of their quality of life both during construction and after the project is completed.

Conclusion

Although the CEJG believes that many, if not most of these issues can be mitigated as specific plans unfold, it is unwilling to offer endorsement of the “Build” option until more specific and detailed planning and solutions are offered to deal with the issues described above.

Therefore, after all of these considerations, the CEJG cannot accept or decline the Staff Recommendation.

We must have more information.

Agreed upon this Fifteenth Day of February, 2007, by unanimous consensus of the following members:

Dave Frei,
CRC Task Force Member
Arnada Neighborhood Association Member
Vancouver, WA

Anne McEnery-Ogle, Chair
Shumway Neighborhood Association
Vancouver, WA

Edward G. Garren,
Hayden Island Neighborhood Network (HiNoon)
Portland, OR

Nicole Williams,
Environmental Justice Action Group,
Boise Neighborhood, Local 36
Portland, OR

Marcia Ward,
Salmon Creek
Vancouver (Hazel Dell), WA

Dave Skagen,
Rose Village Neighborhood, K Street
Vancouver, WA

Kris Long,
Vancouver, WA

John Benson,
Piedmont Neighborhood Association
Portland, OR

Jonath Colón-Montesi,
N/NE Neighborhood Coalition,
Portland, OR

Matt Whitney, President
Bridgeton Neighborhood Association
Portland, OR

The following members participated in drafting the response letter, but did not attend the meeting on February 15, 2007: Michelle Tworoger and Connie Sherrard



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SUITE 300
VANCOUVER, WA 98660
360-737-2726 | 503-256-2726

July 1, 2008

Dear CRC Project Sponsors,

The members of the Community and Environmental Justice Group have been meeting since August of 2006. We are a collection of neighborhood and community representatives who live in the Columbia River Crossing Bridge Influence Area and advise the CRC on the communities which will be most significantly impacted by this project. Many of our communities contain low income and minority individuals who historically have been overly impacted and excluded from development and decision making processes particularly as it relates to decisions which impact health and livability through toxic emissions, construction noise and vibration and unhealthy air quality.

The Community and Environmental Justice Group was formed by the Columbia River Crossing project to achieve the goal of meaningful public involvement. Meaningful public involvement is achieved when:

- Potentially affected community residents have an appropriate opportunity to participate in decisions about a proposed activity that will affect their environment and/or health;
- Public contribution can influence decisions;
- Concerns of all participants are considered in the decision making process;
- Decision makers seek out and facilitate involvement of those potentially affected; and,
- Environmental impacts which damage air or water quality, create health hazards, or otherwise damage livability in the area are reduced or eliminated, and meaningful mitigation, enhancement and compensation are implemented.

We take this responsibility seriously and meet with CRC project staff regularly to provide input. This input includes identifying community concerns, presenting recommendations at key milestones, raising issues to inform efforts to avoid, minimize or mitigate potential impacts and assisting staff in effectively engaging the public.

The Draft Environmental Impact Statement (EIS) public comment period provided us an opportunity to help staff develop innovative and additional public engagement opportunities. This included the development of two documents the Draft EIS Public Comment Guide and the Draft EIS Table of Contents. These two documents were provided at outreach events and presentations throughout the comment period and online to assist our community members in reading and understanding the many elements of the

DEIS. We also suggested and helped develop targeted outreach before and during the comment period. This included the four (4) informal question and answer sessions, transportation mode specific outreach, a transit information session for individuals who depend on public transit for mobility, and newsletter articles, community board postings and presentations to residents of subsidized and senior housing. Staff also responded to additional requests by compiling neighborhood specific information or holding neighborhood specific meetings.

During the Draft EIS stage, we believe it is important to make a statement about the project to date, the information in the Draft EIS and the project to come.

In our experience, the CRC's public process to date has been transparent and has worked to engage people, especially those within the project area, to raise awareness and understanding of the project. CRC staff have been responsive to our ideas, as evidenced by their adoption of the materials used during the Draft EIS comment period.

We believe that the Draft EIS has generally described the communities within the Bridge Influence Area. We are concerned, however, with several items that appear to misrepresent some communities and we will work with CRC to clarify these issues before the Final EIS. We recognize that this is not the end point for this analysis. It is not the final statement on which impacted individuals need additional assistance to understand the project and project impacts. Nor is it the final statement on important details of mitigation and compensation for impacts. As specific impacts become clearer, more detailed work and attention must be taken by staff to ensure that individuals who are protected by environmental justice legislation are not disproportionately impacted. This is as much about the project's willingness to actively provide information and seek out those persons affected as it is to provide just and clear compensation for impacts.

We expect to play a significant role in communications and project development from this point forward. We are extremely interested in the development of design, mitigation plans and project aspects to enhance the communities affected by this project. Because of past burdens borne by this area, we want to see the project go above and beyond minimum requirements to improve the livability of the communities in the bridge influence area. As the project moves forward we are committed to:

- Continuing to ensure a meaningful communications process that reaches as many people as possible, particularly those who would not normally be involved;
- Working for enhancements to maximize the benefits for communities in the bridge influence area;
- Watching for environmental justice concerns voiced in the NEPA process or in our communities and ensuring they are considered and addressed in project plans; and,
- Watching for equity between areas and people of the costs and benefits of the project and of project enhancements.

The CEJG believes that there are many upcoming opportunities to shape the alternative endorsed by the region to meet the needs of the community and enhance the Bridge Influence Area. We are committed to working with project staff to ensure the nearby communities are informed, engaged and have a voice in the process.

Sincerely,

Community and Environmental Justice Group

John Benson, Piedmont Neighborhood Association, Portland

Jonath Colon-Montesi, Hispanic Metropolitan Chamber, NE Neighborhood Coalition,
Portland

Dave Frei, Columbia River Crossing Task Force, Arnada Neighborhood, Vancouver

Ed Garren, Manufactured Homes Association, Hayden Island

Peg Johnson, Jantzen Beach Moorage, Inc. Board of Directors, Portland

Steve Kayfes, Kenton Neighborhood Association Board Member, Portland

Connie Sherrard, Vancouver Housing Authority, Vancouver

Dave Skagen, Rose Village, Vancouver

Michelle Tworoger, Jantzen Beach Moorage, Inc. Board of Directors, Portland

Marcia Ward, Clark County Resident

Matt Whitney, Bridgeton Neighborhood Association, Portland

FREIGHT WORKING GROUP

The Freight Working Group (FWG) advises and informs the CRC project team about freight issues. Specifically, the 13 member group provides insight, observation, and recommendations about the needs for truck access and mobility within the corridor; characterizes the horizontal and vertical clearances, acceleration/deceleration, and stopping performance needs of trucks that must be accommodated; provides meaningful comments on the effect of geometric, regulatory, and capacity changes on truck movements in the corridor; and provides testimony and objective information about the effects of congestion on freight-related businesses and the businesses they serve.

The group has met 21 times since 2006 and has made recommendations on freight ideas to consider in the Draft EIS, interchange designs, the number of replacement bridge lanes and project refinements.

This group's recommendations and correspondence with PSC are included in this section of the notebook.

February 4, 2009

TO: CRC Project Sponsors Council
FROM: CRC Freight Working Group
SUBJECT: Number of Lanes Decision/Implications to Movement of Freight and Goods

Framework

As an integral link in the Interstate highway system, the CRC project area¹ is vital to the movement of freight and people up and down the west coast, as well as within the Portland/Vancouver region. The CRC project is analyzing the appropriate number of lanes to safely and efficiently move the very high number of auto and truck trips that are entering and exiting I-5 in a very short congested area, as well as accommodating the high overall number of trips on the Interstate itself.

There are seven high volume interchanges within the project area. The area warrants a standard two-mile spacing to accommodate the heavy automobile and truck volumes; however this area has nine interchanges in a five and a half mile stretch. The merging and weaving created by these closely spaced interchanges creates unsafe and congested conditions. This section of I-5 has the highest accident rate of any Interstate highway in the entire state of Oregon. By 2030 the number of automobiles is expected to increase by almost 30%, while the number of freight trucks is expected to increase by almost 80%. Congestion is expected to last 15 hours a day if no improvements are made and accidents are forecast to double.

The add/drop lanes being considered are the extension of existing add/drop lane and new lanes that would connect the closely spaced interchanges with the heaviest on/off volumes. They would provide better access to areas that have reduced development capacity, such as the Marine Drive corridor and Hayden Island; as well to improve safety and manage the operation of the freeway. The intent is not to add capacity, but to improve safety and match the flow of traffic to the north and south.

Congestion

By year 2030, truck freight traffic across the I-5 bridge and in the project area is expected to increase at about twice the rate of non-truck freight traffic. Freight haulers try to avoid high periods of congestion. Consequently, a great deal of freight movement occurs in the off-peak hours. The critical freight-related problem being addressed by the CRC project is the duration of the period of congestion on I-5. Under the No-Build alternative, congestion would last about 15 hours, essentially eliminating the peak midday freight hauling period.

The CRC project will help reduce these impacts to varying degrees, in part depending on the number of add/drop lanes within the most congested segments of the study area:

- Under the 8-lane corridor option, congestion on the I-5 Bridge would last for seven to nine hours each weekday in 2030, which still would have a substantial impact on the peak midday freight-hauling periods, but to a lesser extent than the No-Build alternative. Key freight traffic routes and interchanges including Mill Plain Boulevard, SR 14, and Marine Drive would be affected.

¹ Five mile bridge influence is from Victory Boulevard in Oregon to SR 500 in Washington.

- The 10-lane corridor option provides a more substantial benefit to freight movement than the 8-lane option; I-5 Bridge congestion would last for five to seven hours in 2030, with congestion affecting Mill Plain Boulevard, SR 14, and Marine Drive, but to a lesser extent than the 8-lane option. 10-lane option has five “hot spots” that inhibit smooth, safe traffic flow.
- With the 12-lane option, the period of delay at the I-5 Bridge would be reduced to 3.5 to 5.5 hours in 2030, with all of the congestion occurring during peak commute periods and not during midday freight peaks. Thus, the 12-lane option provides the greatest benefit to freight movement.

Safety

Trucks are currently involved in over twice as many collisions on a per vehicle basis, than other vehicles. However, trucks only comprise about 8% of total daily traffic. Compared to the 12-lane option, the 10-lane option would result in 20 percent more collisions and the 8-lane option would result in 50 percent more collisions. Options with fewer add/drop lanes would increase the number of “forced lane changes” along this critical highway segment (e.g., under the 10-lane option over 10% more lane changes, including movements for trucks, would occur compared to the 12-lane option). Today, almost 40% of truck collisions on this segment of highway involve sideswipes.

- 12% of crashes in I-5 Bridge Influence Area involved at least 1 truck
- 39% of truck crashes involved sideswipes, compared to 14% for all vehicles
- 30% of truck crashes involved injuries

Cost

The difference in capital costs between the 10 and 12-lane options is estimated to be approximately \$100 million (2008 mid-year costs). The 8-lane option would be approximately \$85 million less than the 10-lane. These numbers would increase by about 35-40% when inflated to the mid-year of construction (2014).

Effects on Local Streets/Adjacent Neighborhoods

Today, during the AM peak hour up to 600 vehicles cut through local streets to avoid I-5 congestion. Many exit I-5 at the Main Street off-ramp and travel south on Main Street to downtown Vancouver destinations or before re-entering I-5 in downtown Vancouver at Mill Plain Boulevard and City Center entrances. Similar effects occur on local streets in Portland during the PM peak period for northbound traffic. Although specific models have not been run to compare the amount of cut-through traffic for the various lane options, it is assumed that 12-lane option would have the least amount of cut-through traffic and an 8-lane option would have the most. Impacts from the 10-lane option would fall in between.

Value of Freight

In 2005, 22.5 million tons of freight crossed the Interstate Bridge. According to the *Commodity Flow Forecast Update and Lower Columbia River Cargo Forecast* report, the estimated value of truck freight was \$1,800 per ton, averaged across all commodity classifications. In other words, the value of freight crossing the Interstate Bridge in 2005 was \$40.6 billion (\$40,600,000,000).

About three-quarters of trucks crossing the Interstate Bridge enter and/or exit an interchange in the I-5 project area. This means approximately \$30.5 billion worth of commodities crossing the bridge enter or exit on of the seven CRC project interchanges each year. Freight is expected to grow by 77 percent between 2005 and 2030. By 2030, the value of freight crossing the I-5 Bridge will increase to \$71.7 billion

(year 2005 dollars). \$53.8 billion worth of this freight will originate or exit from an interchange in the I-5 project area.*²

Conclusion

The extensive analysis shows that the 12-lane bridge option (three through lanes and three add/drop lanes) demonstrates the greatest efficiency and safety to both car and truck drivers.

It is critical to our region's economy that the CRC project demonstrates significant improvements to safety, capacity and velocity for efficient freight movement. Safety, speed and efficiency are priorities for the movement of people and commerce within the CRC's five mile bridge study area. The 12-lane bridge option best addresses the significant challenges this project seeks to address.

²CRC estimated truck-specific benefits for the Columbia River Crossing project, recognizing that FHWA had not yet issued final guidance on the calculation methodology. The analysis was done only for the 12-lane supplemental bridge option, but provides an estimate of the scale of project benefits related to trucks. The present value (2007\$) was estimated at \$170 million with about 75% of the total related to travel time savings. Accident cost savings was 13% of the total and remaining savings were attributed to vehicle operating costs, emission costs, and bridge lift time savings. The inflated values of the truck-specific benefits through year 2040 were estimated at \$350 million. Although no estimates were made for the 8 and 10-lane options, since travel time savings represents the greatest savings, the benefits would be less for these options.

November 30, 2009

TO: CRC Project Sponsors Council
FROM: CRC Freight Working Group
SUBJECT: FWG Endorsement of Draft Recommendation of Design Refinements

Background

The Columbia River Crossing Freight Working Group has been meeting since January 2007 to provide ongoing review and input as project designs are developed and evaluated. The 13-member group includes representatives from small and large businesses in Oregon and Washington, as well as the ports of Portland and Vancouver. As a group, we are committed to improving freight mobility and safety on I-5.

Endorsement of Draft Recommendation for Design Refinements

Our November 12, 2009 meeting focused on the project's draft recommendation for design refinements throughout the five-mile project area. The draft recommendation includes \$650 million in cost savings, including provision of a 10-lane bridge over the Columbia River. After a thorough presentation by CRC staff, attendees asked questions and discussed the recommendation. Members recognized the need for the cost-savings and expressed appreciation for the well-thought out and comprehensive recommendation that maintained safety and freight mobility goals.

As noted in our February 4, 2009 memo addressed to the PSC, the Freight Working Group believes that a 12-lane bridge would provide the greatest efficiency and safety for freight movement. However, the newly designed 10-lane bridge with 12-foot wide shoulders could accommodate two additional lanes in the future, if necessary, and would substantially improve safety and freight mobility. Although some members would prefer an initial 12-lane bridge, the group accepts the 10-lane bridge element of the recommendation.

The Freight Working Group also supports ultimate construction of braided ramps as proposed as part of the original design, as well as the Marine Drive flyover ramp. We understand that anticipated funding levels may not make these elements affordable in the near future, but that their construction in the long-term would not be precluded by the design of the refined project.

The Freight Working Group members experience the congestion; short merge, weaving and diverge areas; bridge lifts and collisions within the project area's seven closely spaced interchanges on a daily basis. We urge the Project Sponsors Council to move forward quickly with project planning and design. Construction couldn't start soon enough for us.

CRC Freight Working Group Members

Steve Bates, Redmond Heavy Hauling
Bryan Bergman, Georgia Pacific
Katy Brooks, Port of Vancouver
Mark Cash, G&M Trucking
Corky Collier, Columbia Corridor Association
Ken Emmons, United Road Service
Jerry Gaukroger, Boise Building Supply

Bob Hillier, City of Portland
Lee Johnson, Jet Delivery Systems
John Leber, Swanson Bark
Deborah Redman, Metro
Tracy Whalen, ESCO Corporation
Kathryn Williams, Port of Portland

October 18, 2006

TO: CRC Task Force
FROM: CRC Freight Working Group
SUBJECT: **Screening of Freight Components**

The Columbia River Crossing project's Freight Working Group (FWG), which consists of representatives of the Vancouver-Portland metropolitan area's freight industry and meets regularly to provide input to the project, unanimously recommends the following regarding the remaining freight components being considered:

- Component F-1 – Freight in Managed Lanes: Drop from further consideration
- Component F-2 – Freight Bypass Lanes: Continue to consider as a project component
- Component F-5 – Freight Direct Access Ramps: Continue to consider as a project component
- Component F-6 – Enhanced Highway Design for Freight Mobility: Add as a new component to be considered

Components F-3 and F-4 (Freight Restrictions and Increased Truck Size) were previously dropped from consideration by the Task Force.

For additional information regarding Components F-1, F-2, F-5, and F-6, please refer to the following pages.

Freight Working Group Committee:

Member	Organization
Grant Armbruster	Columbia Sportswear
Steve Bates	Redmond Heavy Hauling
Bryan Bergman	Georgia Pacific
Mark Cash	G&M Trucking
Corky Collier	Columbia Corridor Association
Ken Emmons	United Road Service
Jerry Gaukroger	Boise Building Supply
Lee Johnson	Jet Delivery Systems
John Leber	Swanson Bark
Tracy Whelan	Esco Corporation

Component F-1: Freight in Managed Lanes

Description

Freight in managed lanes could cover a range of facilities from truck-only lanes to managed lanes where vehicles pay a fee to enter the lanes when there is excess capacity. Managed lanes are typically designed for high occupancy vehicles.

Analysis of Operating Conditions

Managed lanes offer a travel time benefit to truck mobility primarily for long distance trips. For short trips, the time delay caused by weave maneuvers required to enter and exit the truck-only lane or a managed lane is often a large portion of the total travel time. Several of the region's major freight generators are accessed to and from I-5 within the Bridge Influence Area such as the Port of Vancouver, the Port of Portland, and the Columbia Corridor and would not benefit from an approximate five-mile-long truck-only lane. In addition, there is generally no net travel time benefit for trucks operating in managed lanes during the off peak, and no need to pay a fee to enter the lane.

Truck-only facilities on an interstate are generally recommended to be physically separated from general purpose traffic to reduce or eliminate the effect of trucks weaving into and out of this lane. Because of this separation, direct-access ramps to truck-only lanes are required and have limited locations. Such a configuration would substantially impact the I-5 Bridge Influence Area, which has limited right-of-way and many interchanges. The cost and environmental impacts of added infrastructure within this corridor would be considerable.

The summary below provides a comparison of conditions within the I-5 Bridge Influence Area to three criteria for truck-only lanes recommended from current research.

Truck-Only Lane Criteria Assessment for I-5 Bridge Influence Area

Criteria	Criteria met today?	Criteria met in 2020?
Truck volume exceeds 30% of the normal traffic mix.	No 125,000 daily trips on the I-5 Columbia River Bridge with at most 9% trucks including smaller single-unit trucks. Peak direction-peak period percentages tend to be lower.	No Previous analysis from the I-5 Partnership and recent I-5 Delta Park study results show truck volumes as a percentage of total traffic will not reach 30%.
Peak hour volume exceeds 1,800 vehicles per lane per hour.	Yes The I-5 Partnership work and recent Delta Park EA shows that peak period/direction volumes within the Bridge Influence Area exceed 1,800 vehicles per lane.	Yes Growing regional demand ensures this criteria will be met in the future.
Off-peak volumes exceed 1,200 vehicles per lane per hour.	Partially The Delta Park EA shows southbound I-5 afternoon volumes exceeding 1,200 vph on the I-5 Bridge. At other Bridge Influence Area locations, volumes drop below 1,200 vph. Northbound morning volumes rarely exceed 1,000 vph.	Partially Barring significant changes in regional jobs/housing balance, it is reasonable to assume these criteria, partially met today, will continue to be at least partially met in 2020.

Source: Identification and Thresholds Analysis of Truck Only Lanes, Working Paper 6.2, I-5 Columbia River Crossing Partnership: Traffic and Tolling Analysis, Prepared by David Evans and Associates, Inc. and Parisi Associates, November 2000.

Recommendation

The FWG recommends dropping Freight Component F-1 from consideration and exploring other more effective freight facilities during the design of alternatives.

Component F-2: Freight Bypass Lanes

Description

Bypass lanes can accommodate a high volume of vehicle trips around a system interchange (highway-to-highway) or around a major arterial interchange. Freight bypass lanes could also be applied to ramps, and could be used to avoid starting from a stop at ramp meters. I-5 at Barbur Boulevard is a local example.

Analysis of Operating Conditions

Freight bypass lanes are used to bypass complex interchanges and intersections, thus minimizing potential for delay due to local congestion. A bypass lane around an interchange reduces delay for through truck trips when the interchange is congested. In addition, it removes trucks from the highway mainline and from the weaving maneuvers of general purpose traffic at major interchanges.

The concept of a truck bypass lane could be applied to ramps by adding an exclusive lane for trucks. This concept can provide a travel-time advantage for trucks during congested conditions and if ramp metering is in effect. In addition, a bypass lane can eliminate trucks starting from a stop condition when entering the highway. Trucks require longer acceleration distances and if a truck enters the highway at a higher speed, it has less impact on general purpose traffic and less reduction of the effective highway capacity.

Recommendation

The FWG recommends carrying forward F-2: Truck-freight bypass lanes.

Component F-3: Freight Restrictions

This component was previously dropped by the Task Force.

Component F-4: Increased Truck Size

This component was previously dropped by the Task Force.

Component F-5: Freight Direct Access Ramps

Description

Freight direct access ramps provide access from an independent highway lane such as a truck-only lane or managed lane. However, a truck access ramp could be warranted to serve a high volume of trucks when there is not an independent highway lane. Such a ramp may or may not be for the exclusive use of trucks, but may be warranted due to the truck volume.

Analysis of Operating Conditions

Separation of trucks and passenger cars could reduce conflicts resulting from different vehicle operating characteristics. Removing trucks from high volume ramps could preserve capacity for general purpose traffic.

A truck access ramp could improve travel time reliability for trucks at locations with high truck volumes and high general purpose traffic volumes. In the Portland-Vancouver region, the location of truck access to and from I-5 is a significant design consideration in order to address the relatively large volume of trucks to and from local industrial land uses such as the Port of Portland, Port of Vancouver, and various distribution centers.

Improvements to access ramps for trucks are an opportunity for “truck-friendly” design by lengthening acceleration and merge distances, reducing grade, and reducing superelevation on curves. Truck-friendly design preserves ramp and mainline capacity for general purpose traffic. In addition, there is a safety benefit for trucks and general purpose traffic.

Recommendations

The FWG recommends revising F-5 as “Access ramps for trucks” to be more inclusive of all potential ramp facilities that benefit trucks and general purpose traffic.

Component F-6: Enhanced Highway Design for Truck Mobility

Description

Enhanced highway design for truck mobility addresses the difference in operating characteristics between trucks and general purpose traffic. Trucks are longer and heavier, require longer distances for acceleration and deceleration, are affected more significantly by steep grades, and are more limited in mobility around tight curves and on super-elevated curves. When truck speeds and mobility differ from that of general purpose traffic, they have the effect of reducing the capacity along a mainline segment and on a ramp.

Analysis of Operating Conditions

Truck needs are essentially the same as those for general purpose traffic. The differentiating issues between trucks and general purpose traffic are their operating characteristics. Adding mainline capacity provides a window of opportunity for increasing the number of hours that the highway operates in uncongested conditions, which facilitates the efficient movement of trucks. An uncongested or less congested system offers better reliability and fast travel times—both of which are important for freight. Improved safety along the corridor will also reduce the unexpected delay associated with incidents, which will also improve the reliability of the system for freight.

The benefits of truck-only facilities are limited to locations with very high volumes of trucks and single-purpose truck movements (through truck trips, direct access, etc.). The FWG recognizes that improvements to truck mobility benefit all traffic. In addition, truck-friendly highway design will result in accrued benefit to all significant truck movements within and through the Bridge Influence Area, whether or not the location warrants a truck-only facility. Examples of major improvements that could provide improved mobility for trucks are:

- Improved design of the eight interchanges in five miles
- Efficient access – truck bypass lanes and truck ramps
- An increase in the number of through lanes to at least preserve the existing hours of uncongested highway conditions
- Geometric improvements to increase capacity and reduce the crash rate – i.e., grades, ramp curves and superelevation, and merge and weave distances
- Reduction in or elimination of the number of bridge lifts

Finally, safety improvements targeted to trucks could reduce the potential for crashes with general purpose traffic and the liability for truck drivers. Truck-friendly design can integrate needed safety improvements with the highway design.

Recommendations

The FWG recommends adding freight component F-6: Enhanced design for truck mobility.

MARINE DRIVE STAKEHOLDER GROUP

The Marine Drive Stakeholder Group (MDSG) advised the Columbia River Crossing project on designs to improve the safety and traffic operations of the Marine Drive interchange. In fall of 2009, the diverse group of 18 stakeholders recommended a new alignment that calls for the interchange to be rebuilt with additional ramps to improve safety. The alignment will enhance freight and vehicle safety and mobility, improve local street connections, avoid and minimize impacts to nearby wetlands and allow for future open space development. Pedestrian and bicycle access around the interchange will be more direct and easier to follow. The MDSG met six times between 2008 and 2009.

The group's final report is included in this section of the notebook.

MARINE DRIVE INTERCHANGE ALIGNMENT RECOMMENDATION PROCESS

FINAL SUMMARY REPORT AND STAKEHOLDER RECOMMENDATION

BACKGROUND

Project Background

The Columbia River Crossing (CRC) project, a joint project of the Oregon and Washington State departments of transportation, released a Draft Environmental Impact Statement (DEIS) in May 2008 for the five-mile project area, including seven interchanges. The DEIS proposes three alignment options for reconstruction of the Marine Drive interchange. There are many views among interested parties about which of the three alternatives is the best. Interested parties include nearby property owners, the City of Portland, the Oregon Department of Transportation (ODOT), Metro, TriMet, the Port of Portland, the adjacent neighborhoods, and environmental advocacy groups. As the CRC Project advances towards preparation of a Final EIS, it is necessary to select a preferred interchange design to include in the Final EIS.

To evaluate the options and develop a preferred alignment among the different interests, the CRC created a decision-making process that included the formation of a Stakeholder Group and a Technical Study Group.

This report summarizes the process, technical findings, and conclusions reached by the Stakeholder Group.

Alignment Recommendation Process

The Marine Drive Interchange Alignment Recommendation Process is one component of the CRC Project. CRC and local project partners convened the Technical Study Group (TSG) and the Stakeholder Group (SG). The TSG includes entities with technical expertise—ODOT, City of Portland, Port of Portland, and the Metropolitan Exposition Recreation Commission MERC—and focused on evaluating technical information. The SG includes nearby property owners, neighborhood representatives, government representatives, and advocates for environmental issues and urban design. Not every interested or affected party is a member of the SG. The SG group membership represents parties that may be directly affected from a redesign of the Marine Drive interchange as well as stakeholders that will not be directly affected by the interchange, but will rely on the larger local circulation system for multimodal connections. In this context, the SG is charged with recommending a Marine Drive Interchange alignment that best serves both direct I-5 access while also providing local connectivity for the entire surrounding area.

The Marine Drive Interchange Design Recommendation Process was led by CRC. Staff facilitated the meetings, regularly communicated with the stakeholders, and conducted technical analysis. The TSG and SG provided input throughout the process, including identifying potential design modifications and in some cases new interchange designs that met the needs and desires of the groups they represented. CRC staff evaluated all of these proposals to ensure they were technically feasible. In most cases, this input resulted in modifications to existing designs, although several new interchange designs and local circulation plans were also developed to address the TSG and SG needs. The result of this iterative process is the four alignments being considered in this process. The TSG and SG reviewed technical findings and considered

competing interests. Their design recommendation will be forwarded to the Sponsor Agency Senior Staff (SASS).

Stakeholder Group Charge

The Stakeholder Group was asked to work to help identify an alternative that best accommodates the needs and interests of multiple private and public agency stakeholders. The Marine Drive Interchange serves a diverse range of users including local residents, Expo visitors and Delta Park/Portland International Raceway users and spectators during events, and a significant amount of the Port of Portland's freight traffic from facilities located in the corridor. The SG reviewed work and recommendations forwarded by the TSG and provided comments back to the TSG. Identifying the best alignment has required detailed analysis of traffic characteristics, exploration of land use opportunities, and identification of other potential benefits and challenges for each alignment option.

SUMMARY OF ALTERNATIVES

Marine Drive and the current interchange are located adjacent to the North Portland Harbor. The SG evaluated eight alternatives (Standard, Diagonal, Southern (1), Southern (2), Central, and Central Modified, including three refinements to existing alternatives (Option 12 and Option 12 Modified, which are refinement to the Standard Modified; and Option 14, a refinement to the Standard), including the three identified in the CRC DEIS, that offer various options for aligning the Marine Drive interchange and for addressing the land use and transportation benefits of the project.

Alignments Under Consideration

At the January 28, 2009 SG meeting, the SG agreed to carry forward the Standard and Standard Modified alignments for further consideration with the caveat that CRC continue to work on a refinement to the Standard Modified Alignment to minimize the impact to the existing light rail station. CRC agreed to refine the Standard Modified Alignment as well as provide a refinement to the Standard Alignment, producing two new design options (Option 12 and 14). These were presented at a work session on February 4th at DEA.

The **Standard Alignment** (Exhibit 1) places the improvements in the same general location as the existing facility. The Standard Alignment was developed with input from the freight community, whose members are interested in having the interchange function for freight movement. However, Marine Drive in its current alignment separates vacant and potentially redevelopable land uses from a waterfront amenity. The standard alignment has less support from parties interested in providing more potential for connecting to the river and from businesses that would be affected by its construction.

The **Standard Modified Alignment** (Exhibit 2) was developed as a compromise between trucking interests that require an efficient interchange for freight, MERC's interest in minimizing impacts to its property and the light rail station, and the City of Portland's interest in providing space for potential future connections to the river and recreational amenities along the Multnomah Harbor. Access for local waterfront businesses is also improved under this option, providing one right in/right out access from Marine Drive to Ross Island Sand and Gravel. Both Ross Island Sand and Gravel and Diversified Marine would each have one full access to the local road system.

As described above, CRC developed two refined alternatives for the Standard and Standard Modified alignments. **Option 12** (Exhibit 3) is a refined Standard Modified Alignment that moves Marine Drive and the ramps slightly to the east of the light rail station (it still crosses approximately 50 feet of the northern corner of the station) and keeps Marine Drive on the south side of the existing overcrossing. Access to waterfront businesses would be the same as described under the Standard Modified Alignment.

Option 14 (Exhibit 4) is a modification to the Standard Alignment and keeps Marine Drive north of the existing interchange but moves Marine Drive slightly to the south of the existing Standard Alignment to provide better accessibility to Ross Island Sand and Gravel and Diversified Marine. Access to waterfront businesses would be the same as described under the Standard Modified Alignment.

At a Marine Drive Stakeholders meeting held in March 2009, the group came to somewhat of an impasse between selecting Option 12 or Option 14 as the preferred alternative. The Marine Stakeholder group recommended to CRC to take a more in-depth look at impacts to the light rail station under Option 12 and identify potential design treatments to mitigate for a portion of the station being under the overpass. Alternatively, CRC was also asked about the possibility of developing an option that does not place the ramp over the station.

CRC met with several stakeholders to identify their critical issues and develop design concepts. This included a half-day design session with those parties and expanded somewhat from just looking at the light rail station to developing a larger connectivity concept for the entire area, including Portland International Raceway, existing and future local street connections on the east and west sides of I-5, and the regional trail system. CRC staff were also developing a new alternative that could alleviate the impact to the light rail station by shifting the alignment slightly south on the east side of the interchange, which allowed the west side to shift further north and miss the light rail station entirely. The result is **Option 12 Modified** (Exhibit 5). This option:

- Is located north of the Expo light rail station;
- Provides open space for potential future water related and recreation activities in the vicinity of the interchange;
- Provides similar freight and traffic capacity as Options 12 and 14; and
- Provides local street connectivity.

Alignments Evaluated but Removed From Consideration

There were four options that were considered but have been removed consideration because of one or more of the following issue(s):

- Potential impacts to area businesses;
- Potential impacts to habitat in the Vanport wetlands; and/or
- Geometric design concerns that could affect traffic operations and safety of the interchange

The **Diagonal Alignment** was one of the three alignments included the CRC DEIS. This option was removed from consideration because of the impacts to Expo Center.

Two options for a more southerly alignment would place Marine Drive to the South of the Expo Center and north of the Vanport wetlands. **Southern Alignments 1 and 2** locate the interchange south of the major land uses. These alternatives were viewed less favorably by freight and environmental interests because of the extra curves, slower speeds, and proximity to the wetlands. However, the southern alignments allow better access potential to the North Portland Harbor and perhaps some additional developable land on the east side of the existing light rail station. The southern alignments are attractive to those who see an opportunity to change the urban form of the area over the long term. These options were removed from consideration primarily because of their impacts to the Vanport Wetlands, impacts to existing Expo Center access, and impacts to the Harsch and Expo Center properties.

The **Central Alignment** is an attempt to provide both freight and land use benefits. It would move a portion of the interchange away from the North Portland Harbor to the same location as the southern alignments and could provide some development opportunities east of the existing light rail station; however, the Expo Center site would be bisected by an elevated freeway ramp, which would make the site less attractive for future redevelopment. The northeast corner of the Expo

site, coupled with the ODOT parcel, could create a transit-oriented development node, but the site would be surrounded by the freeway interchange ramps. This option was removed from consideration because of its impacts to the Expo Center.

FINDINGS

The following are the key findings identified in the transportation, land use, and environmental analysis. An evaluation matrix that compares all of the options is included as Exhibit 6.

Geometry

- All of the alignments both provide similar levels of improvement, although the Standard Modified and Option 12 provide a less skewed interchange.
- All of the alignments provide a similar level of improvements with respect to design speed.
- The merge/weave distance on the collector/distributor roads between Hayden Island and Marine Drive is improved with the Standard Modified, Option 12 and Option 12 Modified.

Transportation

- Travel time differences and vehicle/truck delay between the alignments are not substantial on a per trip basis, but they are considerable when measured cumulatively (for AM and PM peak hours). Some local trips from area businesses would also experience longer travel times because of out-of-direction travel on the local road system.
- The Standard Alignment and Option 14 are the fastest of the alignments, followed by the Standard Modified Alignment, Option 12 and Option 12 Modified.¹
- The Standard Alignment and Option 14 are the fastest for trucks, followed by the Standard Modified Alignment, Option 12 and Option 12 Modified, which were slightly slower for trucks (between 1 and 10 seconds slower, depending on direction of travel).

Multimodal

- There are no significant differences between the alignments in regard to transit, pedestrian, or bicycle accessibility, although the Standard Modified, Option 12, and Option 12 Modified may perform better for pedestrians and bicyclists because of the lower elevation and longer ramps that may improve access.
- An at-grade or grade-separated crossing of the light-rail line adjacent to the Portland Harbor will be provided under all of the design options to provide a direct east/west connection for the Bridgeton Trail.

Access

The access locations and types for this process were assumed by the CRC and evaluated based on ODOT's access control standards. Access will also be discussed further in ODOT's Interchange Access Management Plan (IAMP) process.

- All of the alignments will affect access for Diversified Marine and Ross Island Sand and Gravel, particularly the Standard Alignment. Some access to Diversified Marine and Ross Island Sand and Gravel would be provided under all of the options.
- All alignments meet ODOT access control standards for the Force Avenue full intersection.

¹ The Standard Modified Alignment and Option 12 have similar characteristics as the Central alignment and are assumed to function in a similar fashion as that option.

- All options, except for the Standard Alignment, provide one access point from the local road system to Ross Island Sand and Gravel. None of the build options meet ODOT access spacing standards for providing direct access to Marine Drive for Ross Island Sand and Gravel. The ability of Ross Island Sand and Gravel to maintain direct access to Marine Drive will be determined through the Marine Drive Interchange Management Plan process.
- Under all of the build options, Diversified Marine would have a single access point from the local street system with no direct access to Marine Drive.

Land Uses

- The land west of I-5 is zoned IG-2, a heavy industrial zone that allows only limited local service retail uses. Office uses are limited to those needed to support the primary industrial activity on the site.
- The City of Portland's representatives confirm that they are not considering any change in zoning from IG-2.
- The area is designated as regionally significant industrial land, which signifies Metro's intention that it should remain as an industrial use.
- There is a MAX station located at the eastern end of the Expo Center ownership. The Metro 2040 Growth Concept identifies the area around the MAX station as a station area community.
- ODOT owns 1.6 acres not occupied by freeway right-of-way. This land is currently leased to Diversified Marine, which uses the property for storage. Diversified Marine has said that this parcel, or replacement land for storage, is critical for its operations.
- The Standard Modified Alignment, Option 12, and Option 12 Modified would be located between the existing interchange and the light rail station. Vacant ODOT-owned land has been identified as an area that may have value as a development or open space area. CRC has also considered using this site for storm water management purposes.
- Metro owns approximately 60 acres in the interchange area. It operates under a conditional use master plan that was last updated in 2001 and must be updated every 10 years. MERC is currently working on updating its master plan. The preliminary plans propose a much more intense development pattern than currently exists; the plans have been shared with the City of Portland Bureau of Planning and were shared with the SG on December 16, 2008.

Development Potential

- The area in the vicinity of the Expo Center light rail station is designated as Station Community in Metro's 2040 Concept Plan, however, the surrounding IG-2 zoning would not permit many of the uses (small shops, retail, housing) typically associated with a Station Community.
- All of the alignments include a local road system to provide local connectivity between the Bridgeton and Kenton neighborhoods. Improved local connectivity would also benefit local property owners, although Diversified Marine does not consider the direct 40-mile loop connection an improvement to their access.
- Any development would have to be consistent, either permitted outright or as a conditional use, with the IG-2 zoning district.
- The Standard Modified Alignment and Option 12 place ramps over the light rail station, which could affect the environment around the station and future development opportunities. The Standard Modified Alignment would locate the Marine Drive ramps in

Expo Center parking lot between the existing buildings and the light rail station, covering the southern portion of the light rail station. Option 12 would have less impact to Expo property by placing the ramps to the east of the light rail station, but would still place the ramps over the northern corner of the light rail station.

- The Standard Modified Alignment would affect a portion of the existing parking area, some of which may be maintained under the ramp. Neither the Standard Modified Alignment nor Option 12 creates large, irregular parcels, but they would place the interchange ramps immediately adjacent or over the existing light rail station.
- Option 12 Modified would place the interchange ramps to the northeast of the existing light rail station and would not locate them over the existing platform.
- All of the options under consideration would use land on the east of the light rail station for the interchange and potentially for storm water retention/treatment. There does not appear to be a significant development opportunity in the area that would be made available by moving the interchange ramps to the south as proposed under the Standard Modified Alignment, Option 12, or Option 12 Modified because ODOT owns this property and would need to sell it for it to be developable (ODOT has not indicated that it would do so). This area is more likely to be used as a storm water retention/treatment area under all alignments.
- The City of Portland has expressed an interest in developing the area north of the interchange as open space and providing direct access to the Portland Harbor for small watercraft. Option 12, Option 12 Modified, and the Standard Modified alignments provide the largest amount of open land north of the interchange; The Standard Alignment and Option 14 provide the least amount of open land.
- Expo Center would likely orient its future development towards the Vanport wetlands and light rail station and have a private urban street grid under any of the options, consistent with MERC's proposed new master plan, which the City of Portland would review as a conditional use within the IG-2 zone. Option 12, Option 12 Modified, and the Standard Modified alignments may require them to revise their plans for the northeast corner of their property.
- Existing development along the river and the levee could make it less attractive to develop with a focus towards the river.

Property Acquisition

- Option 12 Modified would require the least property acquisition (2.9 acres) followed by Standard Alignment and Option 14, (3.0 acres), Option 12 (3.2 acres). The Standard Modified Alignment would require the most property acquisition (3.8 acres).

Environmental Impacts

- There are no listed threatened and endangered species in the interchange area.
- All of the ramps would be elevated in the vicinity of the Vanport wetlands, potentially increasing noise and light emissions in the area.
- Option 12 Modified would locate the interchange ramps furthest away from the Vanport wetlands (approximately 210 feet) of any option. The Standard Alignment and Option 14 would locate the interchange ramps the closest to the Vanport wetlands (Approximately 60 feet). The Standard Modified and Option 12 would locate the ramps between 80 and 130 feet from the Vanport wetlands.
- Option 12 and Option 12 Modified would have no direct impact to wetland L/M near the existing interchange, but would still cross the combined Vanport wetlands/wetland L/M buffer area.

- The Standard Alignment, Option 14, and the Standard Modified Alignment would affect wetland L/M near the existing interchange area. Option 12 would not affect this wetland. None of the options would be located within the Vanport wetland boundary, although all of the options would have some impact to the Vanport Wetland buffer.
- Noise and air quality impacts would likely be similar for all of the options.
- Impacts to the Portland Harbor are not significantly different between the options. Storm water retention/treatment proposed for any of the options could benefit water quality.

Cost

- The cost is roughly equal between the options given the level of design being evaluated.

APPLICABLE POLICIES

Any time a new road, bridge, or transit facility is being considered, it is important to confirm that the proposed facility is consistent with and will support the land uses envisioned by the Regional Framework plan, the relevant city's comprehensive plan, and any other applicable policy documents. The existing policies that apply in this area include the following:

Oregon Highway Plan (1999, with amendments)

The Oregon Highway Plan (OHP) establishes policies and investment strategies for Oregon's state highway system over a 20-year period and refines the goals and policies found in the Oregon Transportation Plan. Policies in the OHP emphasize the efficient management of the highway system to increase safety and to extend highway capacity, partnerships with other agencies and local governments, and the use of new techniques to improve road safety and capacity. These policies also link land use and transportation, set standards for highway performance and access management, and emphasize the relationship between state highways and local road, bicycle, pedestrian, transit, rail, and air systems.

The policies applicable to planning for interchange and corridor improvements are described below.

Goal 1: System Definition:

- Policy 1A (State Highway Classification System), which states the management objective of Statewide Highways, is to provide safe and efficient, high-speed, continuous-flow operation with minimal interruptions to traffic flow in urban areas; Marine Drive is also classified as an Inter-modal Connector, which typically links airports, ports, rail terminal and other passenger and freight facilities to the Interstate and Statewide Highways;
- Policy 1B (Land Use and Transportation), which recognizes the need for coordination between state and local jurisdictions;
- Policy 1C (State Highway Freight System), which states the need to balance the movement of goods and services with other uses;
- Policy 1F (Highway Mobility Standards), which sets mobility standards for ensuring a reliable and acceptable level of mobility on the highway system by identifying necessary improvements that would allow the interchange and corridor area to function in a manner consistent with OHP mobility standards; and
- Policy 1G (Major Improvements), which requires maintaining performance and improving safety by improving efficiency and management before adding capacity.

Goal 2: System Management:

- Policy 2B (Off-System Improvements), which helps local jurisdictions adopt land use and access management policies; and
- Policy 2F (Traffic Safety), which improves the safety of the highway system.

Goal 3: Access Management:

- Policy 3A: (Classification and Spacing Standards), which sets access spacing standards for driveways and approaches to the state highway system;
- Policy 3C (Interchange Access Management Areas), which sets policy for managing interchange areas by developing an IAMP that identifies and addresses current interchange deficiencies and short-, medium- and long-term solutions; and
- Policy 3D (Deviations), which establishes general policies and procedures for deviations from adopted access management standards and policies.

The OHP describes I-5 as having interstate significance, serving as the primary north and south through route for traffic traveling through the area. Marine Drive is classified by the OHP as having statewide significance. It provides alternate route connections to Portland International Airport and N. Columbia Boulevard via NE Martin Luther King Jr. Boulevard and N. Swift Highway. Marine Drive is also a designated freight route.

Metro Regional Framework Plan

The interchange vicinity comprises an existing MAX light rail station (Expo Center) in a designated Region 2040 Industrial Area with Station Community overlay. Although Marine Drive is not specifically addressed in the Framework Plan, the proposed Marine Drive project supports Fundamental 4, which states: *Ensure the identified function, capacity and level of service of transportation facilities are consistent with applicable regional land use and transportation policies as well as the adjacent land use patterns.*

Metro Regional Transportation Plan

The Marine Drive interchange is on the financially constrained list of RTP Projects (RTP #4006). The financially constrained system is a 20-year transportation scenario that assumes existing and proposed funding sources that can reasonably be expected to be available for transportation uses during the 20-year plan period.

City of Portland Comprehensive Plan

The Marine Drive interchange vicinity is located within a designated “Industrial Sanctuary” in the comprehensive plan. Through Goal 2 (Urban Development) of the comprehensive plan, the City strives to encourage the growth of industrial activities in the city by preserving industrial land primarily for manufacturing purposes. Through Goal 5 (Economic Development), Policy 5.8 (Diversity and Identity in Industrial Areas), the City promotes a variety of efficient, safe, and attractive industrial sanctuary and mixed employment areas.

City of Portland Transportation System Plan

Marine Drive is a designated “Priority Truck Street” as displayed in North District Map 6.35.5 of the Portland Transportation System Plan (TSP). The vicinity of the Marine Drive interchange is also situated within a freight district which, as defined in the City of Portland Freight Master Plan (February 2006), provides for local truck circulation and access. Policy 6.35 of the TSP, specific to the North Transportation District, strives to reinforce neighborhood livability and commercial activity by planning and investing in a multimodal transportation network, relieving congestion through measures that reduce transportation demand, and routing non-local and industrial traffic

along the edges of the residential areas. Among the objectives listed under this policy is Objective (B), which states: *Support efficient functioning of the N Marine Drive/N Lombard (west of N Philadelphia)/N Columbia Boulevard loop as the truck and commuter access to the Rivergate industrial area and adjacent industrial areas.*

DISCUSSION

In the context of the policies described above, and considering the factual information developed for each alignment, the question presented to the SG is: Which alignment best addresses the variety of competing interests?

Support for Desired Land Uses

In Oregon, the starting point for evaluating a major transportation investment is how well it supports desired land uses. The Marine Drive interchange is a regional facility and, therefore, the land use analysis must consider desired regional land uses as well as immediately adjacent properties.

The regional analysis focuses on how well the five alternative designs support industrial uses located along Marine Drive and in the Port of Portland facilities located in Rivergate and at Terminal 6. Almost all deep water ships calling at Portland are docked in this area.

For these regional land uses, a fast, efficient, and safe connection to the interstate highway system is a high priority. The data developed for each of the alternatives demonstrates that, while the Standard Alignment and Option 14 perform slightly better on most transportation measures than the other alignment options, they do not address the City of Portland's or the CRC Urban Design Advisory Group (UDAG) representatives' desire for locating the interchange as far south as possible to provide the most space to design an "iconic" bridge structure over the Portland Harbor, and providing better connections to the waterfront and recreational amenities in the vicinity of the project, such as at Delta Park and the regional trail system. The Standard Modified Alignment, Option 12, and Option 12 Modified provide for the possibility of providing those connections and still provide an acceptable level of service for freight and automobiles using the interchange.

Support for the immediately adjacent land uses is the other land use consideration. The immediate area is zoned for heavy industrial uses, and the applicable policies indicate that this is the desired land use for the area. The primary land use in the project area between Force Avenue and the interchange is the Expo Center, owned by Metro and operated by MERC. It occupies approximately 60 acres. This is the only large site that provides for a future development opportunity under any of the alternatives, because the majority of the site is a parking lot. Other industrial uses in the area are expected to remain as they are today.

Although there are four other parcels within the western portion of the interchange area, they are not likely to develop differently than what is seen today. Two of the parcels are ODOT property, one of which is currently leased to Diversified Marine for storage and would not likely be redeveloped because of the future construction of the light rail bridge bisecting the property under all of the options. The Standard Modified Alignment, Option 12, and Option 12 Modified with their more southerly location, would retain a small parcel when the existing Marine Drive ramps are removed, but with its size, ODOT ownership, and location between an elevated ramp system and the I-5 mainline, its most likely use is as a storm water facility for the interchange and freeway. The City of Portland has also expressed an interest in providing an opportunity for water-related recreational amenities in the area with a potential small boat launch into the Portland Harbor. The Standard Modified Alignment, Option 12, and Option 12 Modified provide the largest land area of the options for this potential future use.

The two other parcels are owned by Diversified Marine and Ross Island Sand and Gravel. These are both waterfront industrial uses, consistent with the existing zoning, and on unique sites. Access to these two parcels would be modified by any of the build options. Proposed direct

access from Marine Drive to Ross Island Sand and Gravel does not meet ODOT access spacing standards under any of the build options and will be evaluated as part of the Marine Drive Interchange Area Management Plan as to whether or not direct access is provided; access to the new local road system will be provided to Ross Island Sand and Gravel under all of the options except the Standard Alignment, where no local connection is proposed. Access to Diversified Marine would be provided to the local street system under all of the options.

MERC has stated that it is committed to more intensive use of its site. It seeks to take greater advantage of the MAX station for its future facilities. There has been discussion and some disagreement among the stakeholders about the impact the Standard Modified Alignment and Option 12 would have on the feasibility of incorporating the light rail station into the Expo Center's future development plans because of the ramp location over a portion of the light rail station. The Standard Modified Alignment would locate the Marine Drive ramps in Expo Center parking lot between the existing buildings and the light rail station, covering the southern portion of the light rail station. Metro and MERC strongly expressed that ramps over the light rail station were an unacceptable design condition. Option 12 would have less impact to Expo property by placing the ramps to the east of the light rail station, but would still place the ramps over the northern corner of the light rail station. Option 12 Modified has the least impact to the Expo property and light rail station by moving the ramps further to the north; it does not directly cross the light rail station as the Standard Modified and Option 12 do. Under any of the options, MERC would orient its future facilities to the south towards its primary access and would use the adjacent wetlands as a visual amenity. MERC also would seek to connect its facilities visually and perhaps physically to the water amenity to the north.

Transportation

The transportation analysis looked at several factors, including geometry, travel times, level of service, and volume to capacity ratios for intersections under each of the options. The Marine Drive interchange is the critical link between the Port of Portland Terminal 6 and other industrial uses located west and east of the interchange. Speed and efficiency are priorities for these uses. For the transportation analysis, the primary goal was to determine which alignment provides the greatest efficiency and safety to car and truck drivers.

All of the options offer similar improvements with respect to design speed, adherence to NHS standards, and meeting driver expectation. All of the options follow typical intersection design practice and meet access control standards for Force Avenue. Where Marine Drive crosses I-5, the Standard Modified Alignment, Option 12, and Option 12 Modified provide an improvement to the skew angle of the interchange compared to the Standard Alignment and Option 14. This provides for a safer and more efficient signal at the interchange.

The merge/weave distance on the CD roads between Hayden Island and Marine Drive is improved with the Standard Modified, Option 12, and Option 12 Modified compared to the Standard Alignment and Option 14.

Trucking interests represented on the SG have identified overall delay, as well as the cost of that delay, as an important consideration. Travel times were measured for both vehicles and trucks. From a traffic operations standpoint, the Standard Alignment and Option 14 perform the best of the alignments, but are not considerably faster than the Standard Modified Alignment, Option 12, or Option 12 Modified. Travel times for the Standard Modified Alignment, Option 12, and Option 12 Modified are approximately 1-10 seconds slower than the Standard Alignment or Option 14, depending on movement.

Based on the transportation analysis completed, the Standard Alignment and Option 14 perform slightly better from and travel speed standpoint than the Standard Modified Alignment, Option 12, and Option 12 Modified, but the Standard Modified and Option 12 are preferred by the freight interests because the alignments offer improved geometry and still provide an acceptable level of service.

Environmental

The 90-acre Vanport wetlands are a valuable environmental resource near the interchange. This site is owned by the Port of Portland, which has granted a conservation easement to the Multnomah Drainage District. The Vanport wetlands constitute one of the region's anchor and connector habitats for a wide variety of wildlife species, including migratory birds. The site is bordered on the north side by a stand of cottonwood trees. Qualitative assessments of fish and wildlife, plant communities, air quality, and water quality were completed for each of the options.

There are no listed threatened and endangered species in the interchange area. All of the options place elevated ramps near the Vanport wetland, which could increase noise and light emission in the area, although given the Vanport wetland's proximity to I-5, the impact associated with the elevated ramp system compared to what is already occurring along I-5 isn't necessarily going to change the natural character of the area. The Standard Alignment and Option 14 are separated from the Port of Portland property line (and thus the wetlands) by approximately 60 feet, whereas Option 12 Modified places the ramps approximately 210 feet from the Port of Portland property line. The Standard Modified Alignment and Option 12 would locate ramps between approximately 60 feet and 130 feet, respectively from the Port of Portland property line. Impacts to the Portland Harbor are not significantly different between the options. Storm water retention/treatment proposed for any of the options could benefit water quality.

Option 12 and Option 12 Modified are the only alignments that do not directly impact wetland L/M (although they do affect the combined Vanport/wetland L/M buffer) whereas the Standard Alignment, Option 14, and the Standard Modified Alignment would affect wetland L/M near the existing interchange area. None of the options would be located within the Vanport wetland boundary, although all of the options would have some impact to the Vanport Wetland buffer.

RECOMMENDATION AND IMPLEMENTATION ACTIONS

After considering all of the findings and analysis, the Marine Drive Stakeholder Group concludes that Option 12 Modified best satisfies the criteria established by the stakeholders and should be advanced to the Final EIS and the next stage of design.

Regarding key issues, Option 12 Modified has the following attributes:

- Provides good operational characteristics for freight mobility;
- Separates new overhead ramps from the LRT platform;
- Separates new highway infrastructure from Vanport wetlands;
- Provides good open space relationships to the Portland Harbor;
- Provides separation of new highway infrastructure from Delta Park;
- Provides a new local circulation network in the vicinity of the interchange;
- Allows for access to waterfront industrial businesses;
- Minimizes impacts to the Expo property.

Option 12 Modified, as illustrated in Exhibit 5, includes the following specific design features that were part of the basis for Stakeholder Group support of the Option:

1. The local street system design within the interchange area will conform to the concept plan shown in Exhibit 5.

This design meets a number of objectives related to circulation, station access, access to the Expo site, and access to Diversified Marine and Ross Island Sand and Gravel. The CRC project will continue to communicate with City of Portland Bureau of Transportation and the property owners to ensure that the detailed designs meet their needs.

2. There will be a new 40-mile trail alignment on the west side of the interchange that intersects the LRT alignment at grade and minimizes impacts to existing businesses.

TriMet, CRC, Metro, Diversified Marine and the City of Portland will continue to explore an optimum design through the PE phase.
3. The interchange design will preserve the opportunity for open space and public water access.

This includes a finished grade that maximizes the visual connection between the local street, pedestrian paths and the water. The open space/public water access is initially intended to be located on ODOT right-of-way. Implementation of this recommendation will primarily be the responsibility of ODOT and the City of Portland.
4. The final design will maintain connections from Martin Luther King, Jr. Blvd to Vancouver Way and Union Court.

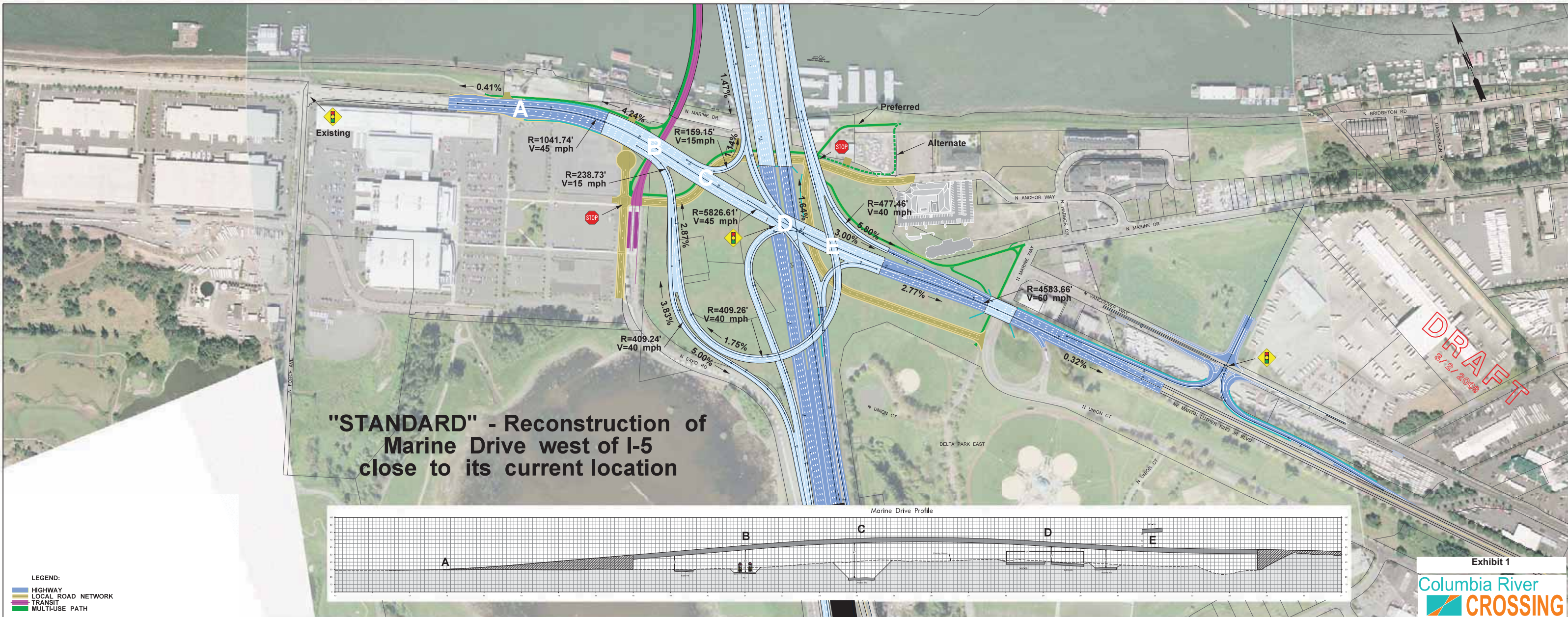
Considerations include providing good freight connections to and from Vancouver Way and separation to the extent possible of industrial traffic from neighborhood and park access routes. CRC will continue to work with the City of Portland to identify an acceptable circulation plan.
5. The final design will include improvement plans for local street, bike and pedestrian circulation east of the interchange.

Considerations include providing good multi-modal access to East Delta Park, to the Bridgeton and Kenton neighborhoods, to local businesses and for local bus service. CRC will continue to work with the City of Portland to identify an acceptable circulation plan.
6. The interchange design will allow MERC flexibility for additional development on the EXPO property.

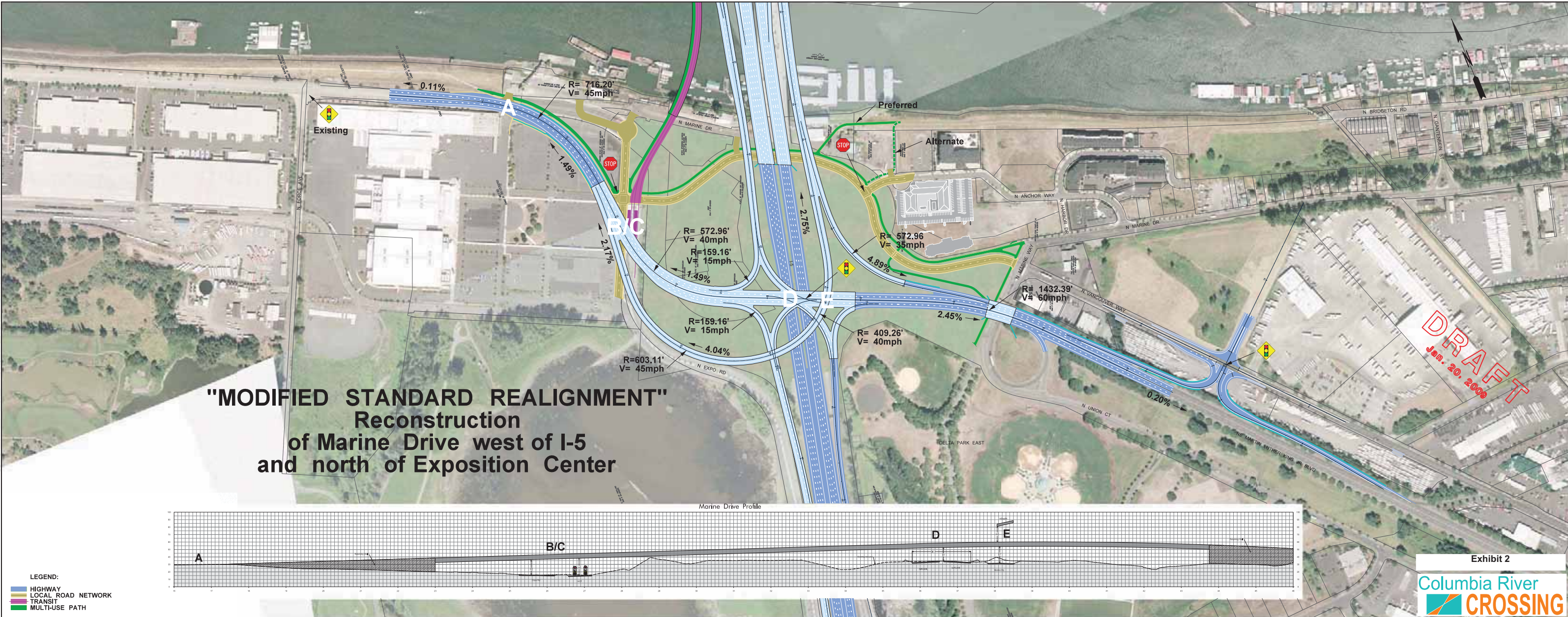
MERC should proceed with development of a master plan for the EXPO site that incorporates the light rail station and uses its location as an opportunity to be a gateway civic structure. New development on the site should acknowledge the wetlands to the south through building orientation and other features. Future development should also strive to provide visual access to the North Portland Harbor. Among the issues to be addressed is the creation of a public street on the alignment of the private road on the south side of the EXPO site.
7. CRC should evaluate the feasibility of both a "fly under" ramp and a local street connection under I-5. The evaluation criteria should be the same as those used to evaluate the "fly over" ramp. CRC will report to the stakeholder group on the results of the analysis.

Exhibits:

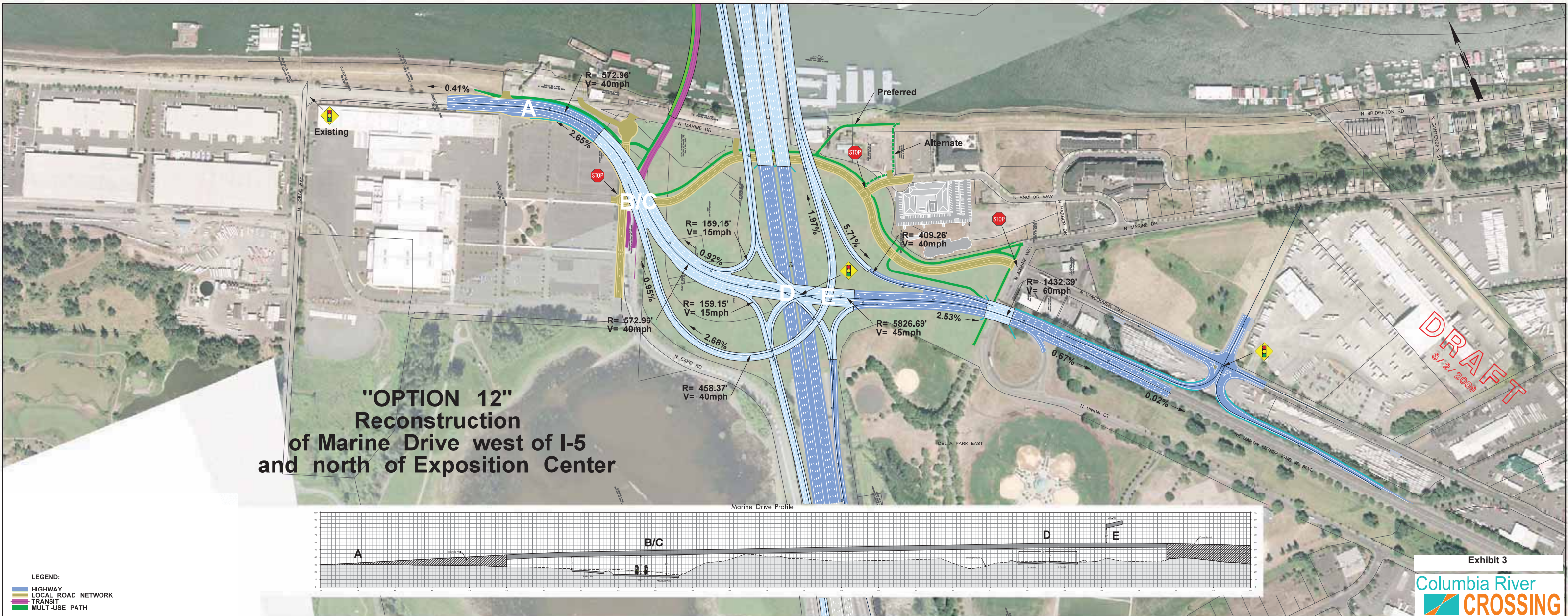
- Exhibit 1: Standard Alignment
- Exhibit 2: Standard Modified Alignment
- Exhibit 3: Option 12
- Exhibit 4: Option 14
- Exhibit 5: Option 12 Modified
- Exhibit 6: Evaluation Matrix



**"MODIFIED STANDARD REALIGNMENT"
Reconstruction
of Marine Drive west of I-5
and north of Exposition Center**

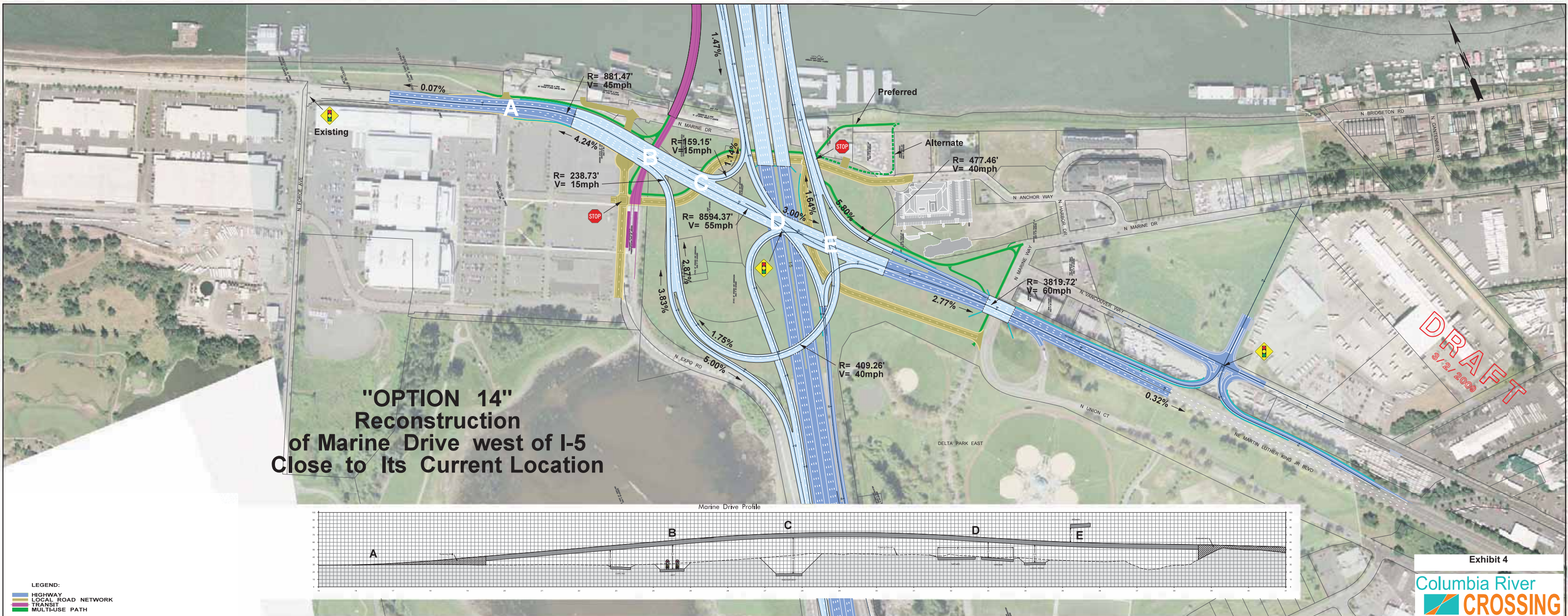


"OPTION 12" Reconstruction of Marine Drive west of I-5 and north of Exposition Center



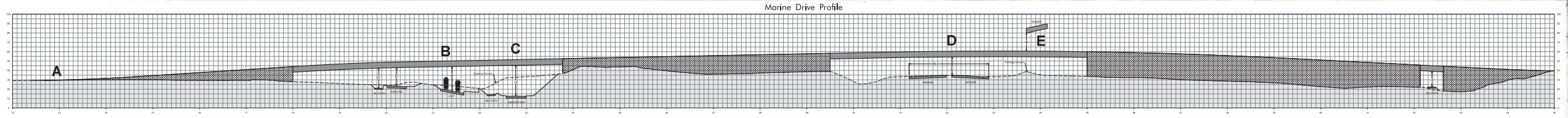
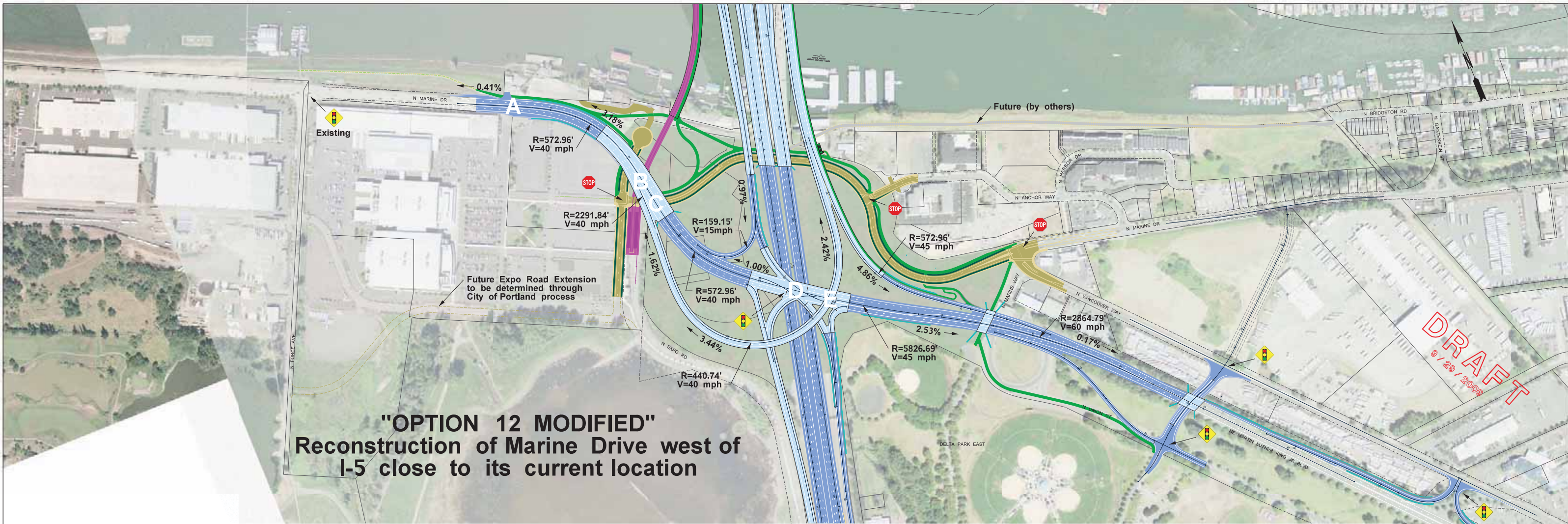
DRAFT
3/2/2008

**"OPTION 14"
Reconstruction
of Marine Drive west of I-5
Close to Its Current Location**



DRAFT
3/2/2008

Exhibit 4



LEGEND:
 - HIGHWAY (Blue line)
 - LOCAL ROAD NETWORK (Yellow line)
 - TRANSIT (Red line)
 - MULTI-USE PATH (Green line)

Tier 1 Criteria																						
Criteria	Measurement/Methodology	No Build	Standard Alignment				Option 14				Modified Standard ¹				Option 12 ¹				Option 12 Modified ¹			
Traffic																						
Traffic Operations	<ul style="list-style-type: none"> Travel time <ul style="list-style-type: none"> 1,000 feet west of Force Avenue to the center of the interchange 	<ul style="list-style-type: none"> Model does not provide an appropriate comparison for No Build. Qualitatively, travel times for all Build scenarios would be improved from the No Build scenario. 	AM EB	PM WB	AM EB	PM WB	AM EB	PM WB	AM EB	PM WB	AM EB	PM WB	AM EB	PM WB	AM EB	PM WB	AM EB	PM WB	AM EB	PM WB		
	<ul style="list-style-type: none"> Vehicles per peak hour 		300	1420	435	630	300	1420	435	630	300	1420	435	630	300	1420	435	630	300	1420	435	630
	<ul style="list-style-type: none"> Travel time (seconds) 		75	68	92	75	75	68	92	75	83	78	92	72	83	78	92	72	83	78	92	72
	<ul style="list-style-type: none"> Cumulative travel time (volume*travel time for peak hour in hours) 		6	27	11	13	6	27	11	13	7	31	11	13	7	31	11	13	7	31	11	13
	<ul style="list-style-type: none"> Terminal 6 to interchange (seconds) 		394	387	411	394	394	387	411	394	402	397	411	391	402	397	411	391	402	397	411	391
	<ul style="list-style-type: none"> Truck Travel Time (in seconds) <ul style="list-style-type: none"> 1,000 feet west of Force Avenue to NB ramp meter (PM Peak Period) SB off ramp to 1,000 feet west of Force Avenue (AM Peak Period) 	<ul style="list-style-type: none"> Traffic for the two most critical movements in the peak hours is severely congested: AM southbound off-ramp traffic impacts the I-5 mainline. PM northbound traffic experiences delays > 10 minutes per vehicle. 	<ul style="list-style-type: none"> PM eastbound: 138 (1,025 vehicle/hr, 39 hours of cumulative travel time) AM westbound: 100 (700 vehicle/hr, 19 hours of cumulative travel time) 	<ul style="list-style-type: none"> PM eastbound: 138 (1,025 vehicle/hr, 39 hours of cumulative travel time) AM westbound: 100 (700 vehicle/hr, 19 hours of cumulative travel time) 	<ul style="list-style-type: none"> PM eastbound: 140 (1,025 vehicle/hr, 40 hours of cumulative travel time) AM westbound: 111 (700 vehicle/hr, 22 hours of cumulative travel time) 	<ul style="list-style-type: none"> PM eastbound: 140 (1,025 vehicle/hr, 40 hours of cumulative travel time) AM westbound: 111 (700 vehicle/hr, 22 hours of cumulative travel time) 	<ul style="list-style-type: none"> PM eastbound: 140 (1,025 vehicle/hr, 40 hours of cumulative travel time) AM westbound: 111 (700 vehicle/hr, 22 hours of cumulative travel time) 															
	<ul style="list-style-type: none"> Level of Service (peak hour) <ul style="list-style-type: none"> Marine Drive/Force Avenue intersection(s) (average delay per vehicle in seconds) 	<ul style="list-style-type: none"> AM LOS A (8.7) PM LOS F (99.7) 	<ul style="list-style-type: none"> AM LOS A (6.1) PM LOS B (11.3) 	<ul style="list-style-type: none"> AM LOS A (6.1) PM LOS B (11.3) 	<ul style="list-style-type: none"> AM LOS A (5.8) PM LOS A (9.6) 	<ul style="list-style-type: none"> AM LOS A (5.8) PM LOS A (9.6) 	<ul style="list-style-type: none"> AM LOS A (5.8) PM LOS A (9.6) 															
Ramp design and access (Geometry of Marine Drive and Interchange movements) <i>D indicates curve</i>	<ul style="list-style-type: none"> MD skew with I-5: 90° ideal Interchange spacing (HI-MD): 15,800' Std. Ramp Weave (HI-MD): 1000' Min. 	<ul style="list-style-type: none"> MD skew with I-5: 54° Interchange spacing (HI-MD): 2500' Ramp Weave (HI-MD): 875' 	<ul style="list-style-type: none"> MD skew with I-5: 57° Interchange spacing (HI-MD): 2500' Ramp Weave (HI-MD): 875' 	<ul style="list-style-type: none"> MD skew with I-5: 80° Interchange spacing (HI-MD): 2900' Ramp Weave (HI-MD): 1450' 	<ul style="list-style-type: none"> MD skew with I-5: 76° Interchange spacing (HI-MD): 2900' Ramp Weave (HI-MD): 1375' 	<ul style="list-style-type: none"> MD skew with I-5: 67° Interchange spacing (HI-MD): 2900' Ramp Weave (HI-MD): 1230' 																

¹ Traffic operations for this option were similar to the Standard Alignment. Minor differences in geometry could change these values by less than 5%.

Tier 1 Criteria								
Criteria	Measurement/Methodology	No Build	Standard Alignment	Option 14	Modified Standard ¹	Option 12 ¹	Option 12 Modified ¹	
<p>delta: the central angle of the curve (acute deltas are more desirable)</p> <p>G indicates the grade: the steepness of the vertical alignment expressed in percentage (flatter grades are more desirable)</p>	<ul style="list-style-type: none"> Marine Drive to Martin Luther King Jr. Boulevard 		45 mph curve right (D=30°) G=4.2% 45 mph curve left (D=14°) – G=3.0% 60 mph curve right (D=6°) - G=2.8%	45 mph curve right (D=28°) G=4.2% 55 mph curve left (D=11°) – G=3.0% 60 mph curve right (D=6°) - G=2.8%	45 mph curve right (D=60°) G=1.5% Straight line: G=1.5% 40 mph curve left (D=63°): G=1.5% Straight Line: G=1.5% 60 mph curve right (D=25°): G=2.5%	40 mph curve right (D=61°) – G=2.7% straight line – G=0.9% 40 mph curve left (D=55°) - G=0.9% 45 mph curve left (D=7°) – G=flat 60 mph curve right (D=25°) - G=2.5%	40 mph curve right (D=56°) – G=3.2% straight line – G=1.0% 40 mph curve left (D=43°) - G=1.0% 45 mph curve left (D=9°) – G=2.5% 60 mph curve right (D=18°) - G=0.2%	
	<ul style="list-style-type: none"> I-5 southbound to Marine Drive westbound 		straight line - G=1.5% 15 mph curve right (D=132°) G=1.1%	straight line - G=1.5% 15 mph curve right (D=128°) - G=1.1%	Straight line: G=0.7% 15 mph curve right (D=104°): G=0.1%	Straight line: G=0.7% 15 mph curve right (D=128°): G=0.1%	Straight line: G=1.0% 15 mph curve right (D=136°): G=1.0%	
	<ul style="list-style-type: none"> Marine Drive eastbound to I-5 northbound 		15 mph curve right (D=55°): G=2.9% 40 mph curve left (D=171°): G=1.8% Straight line: G=3.4%	15 mph curve right (D=54°): G=2.9% 40 mph curve left (D=171°): G=1.8% Straight line: G=3.4%	45 mph curve left (D=88°): G=4.0% 40 mph curve left (D=87°): G=flat% Straight line: G=flat	40 mph curve left (D=179°) – G=2.7% Straight line - G=flat	40 mph curve left (D=179°) – G=3.4% Straight line - G=2.4%	
	<ul style="list-style-type: none"> Marine Drive eastbound to I-5 southbound 		40 mph curve left (D=59°) - G=3.8%(combined with MDe-5n) Straight line - G=5.0% 40 mph curve right (D=48°) - G=5.0%	40 mph curve left (D=54°) - G=3.8% (combined with MDe-5n) Straight line - G=5.0% 40 mph curve right (D=48°) - G=5.0%	15 mph curve right (D=72°) – 3.3% Straight line – 3.3%	15 mph curve right (D=60°) - G=3.3% Straight line - G=3.3%	15 mph curve right (D=58°) - G=0.4% Straight line - G=2.0%	
	<ul style="list-style-type: none"> Martin Luther King Jr. Boulevard to I-5 northbound 		40mph curve right (D=52°) - G=5.8%	40 mph curve right (D=51°) - G=5.8%	35 mph curve right (D=66°): G=4.9%	40 mph curve right (D=66°) - G=5.7%	40 mph curve right (D=57°) - G=4.9%	
	<ul style="list-style-type: none"> Potential for arterial to impact ramp or freeway operations 		<ul style="list-style-type: none"> Little to none 					
	² Marine Drive Access Spacing Standard	<ul style="list-style-type: none"> Standard for Access 1320' from interchange for first full access 1320' from interchange for a right-in/right-out 		<ul style="list-style-type: none"> 175' to Ross Island Sand & Gravel west driveway 	<ul style="list-style-type: none"> 215' to Ross Island Sand & Gravel west driveway 	<ul style="list-style-type: none"> 740' to Ross Island Sand & Gravel west driveway 	<ul style="list-style-type: none"> 620' to Ross Island Sand & Gravel west driveway 	<ul style="list-style-type: none"> 525' to Ross Island Sand & Gravel west driveway

² Final access to Marine Drive will be determined through the IAMP and r/w negotiation process.

Tier 1 Criteria							
Criteria	Measurement/Methodology	No Build	Standard Alignment	Option 14	Modified Standard ¹	Option 12 ¹	Option 12 Modified ¹
Roadway alignment	<ul style="list-style-type: none"> Qualitative evaluation of impacts to trucks west of I-5 Number of curves signalized intersections Signalized intersection on curves 		<ul style="list-style-type: none"> 1 curve (45 mph) 1 signalized intersection 0 signalized intersections on curve 	<ul style="list-style-type: none"> 1 curve (45 mph) 1 signalized intersection 0 signalized intersections on curve 	<ul style="list-style-type: none"> 2 curves (40 mph s, 40 mph n) 1 signalized intersection 0 signalized intersections on curve 	<ul style="list-style-type: none"> 2 curves (40 mph s, 40 mph n) 1 signalized intersection 0 signalized intersections on curve 	<ul style="list-style-type: none"> 2 curves (40 mph s, 40 mph n) 1 signalized intersection 0 signalized intersections on curve
Design Standards	<ul style="list-style-type: none"> Intersection design – standard intersections and intersections on a curve AASHTO 2004 p. 68,72, 388, and 469 		<ul style="list-style-type: none"> Meets AASHTO guidance for design speed and intersection design 				
	<ul style="list-style-type: none"> NHS-route design standards 		<ul style="list-style-type: none"> Meets CFR Title 23, part 625 requirements 				
Multi-modal	<ul style="list-style-type: none"> Transit/bicycle/pedestrian amenities Grade for LRT bridge near Marine Drive Pedestrian and bicycle facilities 	No change	<ul style="list-style-type: none"> 5% LRT grade Sidewalk, bike lanes and Multi-use path to be included. Similar bicycle and pedestrian facilities for all of the alternatives 				
Land Use and Development							
Development opportunities	<ul style="list-style-type: none"> Qualitative assessment of development opportunities near the LRT station Potential new open land 	No change	<ul style="list-style-type: none"> East of station would be reserved for interchange. Interchange area could be used for storm water retention/detention. Expo property remains intact. Redevelopment of Expo property could be toward Vanport wetland and light rail station. No additional ODOT surplus ROW available. 	<ul style="list-style-type: none"> Similar to the Standard Alignment. Redevelopment of Expo property could be toward Vanport wetland and light rail station. 	<ul style="list-style-type: none"> Ramps would cross northeast corner of Expo property and the existing light rail station. Areas east of the light rail station would most likely be used for storm water retention/detention, or potentially as an open space area Redevelopment of Expo property could be toward Vanport wetland and light rail station. 	<ul style="list-style-type: none"> Ramps would affect less Expo property than the Standard Modified. Redevelopment of Expo property could be toward Vanport wetland and light rail station. Location of the ramps east of the light rail station would limit any potential development on ODOT-owned parcels. The most likely use would be for storm water retention/detention, or potentially as an open space area 	<ul style="list-style-type: none"> Redevelopment potential and orientation would be similar to Option 12.
Land use	<ul style="list-style-type: none"> Acreage within area by zoning (identify existing uses in area) 		<ul style="list-style-type: none"> Entire project area is IG2 and part of a Regionally Significant Industrial Area (RSIA) overlay. Conservation overlays cover areas along the Vanport wetlands to the south and the Multnomah Channel to the north. Design and aircraft landing overlays cover Expo and interchange areas. 				

Tier 1 Criteria							
Criteria	Measurement/Methodology	No Build	Standard Alignment	Option 14	Modified Standard ¹	Option 12 ¹	Option 12 Modified ¹
Right-of-way	Acres of new right-of-way required		3.0 acres	3.2 acres	3.8 acres	3.0 acres	2.9 acres
Businesses							
	<ul style="list-style-type: none"> Number and type businesses affected, displaced Acquisition (number of parcels with r/w acquisition) 	No change	8 – parcels with r/w acq	8 – parcels with r/w acq.	7 – parcels with r/w acq.	7 – parcels with r/w acq.	7 – parcels with r/w acq.
	<ul style="list-style-type: none"> Access on west side of Force Avenue Harsch Peninsula Terminal Harsch Stockyards Harbor Oil 	<ul style="list-style-type: none"> 2 full to Force Ave 1 full to Force Ave 1 full to Force Ave 2 full to Force Ave 	<ul style="list-style-type: none"> No change No change No change No change 				
Access to developed and developable parcels	<ul style="list-style-type: none"> Access on north side of Marine Drive Ross Island Sand & Gravel Diversified Marine Larson Parcel Pier 99 	<ul style="list-style-type: none"> 2 full to Marine Drive 1 full to Marine Drive 1 full to Marine Drive 1 full to Marine Drive 	<ul style="list-style-type: none"> TBD to Marine Dr² 1 full to local road 1 full to local road 1 full to local road 	<ul style="list-style-type: none"> TBD to Marine Dr², 1 full to local 1 full to local road 1 full to local road 1 full to local road 			
	<ul style="list-style-type: none"> Access to existing vacant parcels north of Marine Drive 	No Change	No direct access is proposed. Light rail bridge restricts access to vacant parcel currently used for storage	Same as Standard Alignment	Similar to Standard Alignment, although the more southerly location of Marine Drive could improve circulation and may permit some room for storage space for Diversified Marine.	Similar to Modified Standard but would locate Marine Drive closer to Ross Island Sand and Gravel and Diversified Marine and provide less potential storage space.	Access to vacant storage areas would be similar to Option 12.
	<ul style="list-style-type: none"> Access to Expo Center 	<ul style="list-style-type: none"> 1 full to Expo road 3 full to Force Ave 3 full to Marine Dr 	<ul style="list-style-type: none"> No change to Expo Road No change to Force Avenue No access to Marine Drive² 	<ul style="list-style-type: none"> 2 full to Expo Road No change to Force Avenue No access to Marine Dr² 			
	<ul style="list-style-type: none"> Neighborhood connectivity Local street system connections 	No change	All alternatives would provide similar local street connectivity.				

Tier 1 Criteria							
Criteria	Measurement/Methodology	No Build	Standard Alignment	Option 14	Modified Standard ¹	Option 12 ¹	Option 12 Modified ¹
Permitting	<ul style="list-style-type: none"> Level of difficulty in permitting (types of permits potentially required, conflicts with Vanport wetlands easement) 		<ul style="list-style-type: none"> Direct impacts to Wetland near interchange will require Corps and DSL permits, also needed for bridge construction. Although mitigation for impacts less than 0.1 acre is often not required, overall project impacts will exceed this threshold. City of Portland permitting will need to include impacts to E-zone (wetland buffer). No conflict with the Vanport conservation easement has been identified with this alignment. Impacts to the Portland Harbor levee will be reviewed through the Section 408 process. 	<ul style="list-style-type: none"> Permitting would be similar to the Standard Alignment. 		<ul style="list-style-type: none"> Permitting would be similar to the Standard, although any impacts to the Portland Harbor levee, such as relocating it, will require Corp approval. 	
Environmental impacts or benefits							
Wetlands	<ul style="list-style-type: none"> Estimated acreage (including buffer) affected and potential mitigation 		<ul style="list-style-type: none"> Approximately 0.09 acre of direct impact to wetland L/M near interchange with 0.71 acres of combined Vanport-L/M wetlands buffer impact. Although mitigation for direct impacts less than 0.1 acre is often not required, overall project impacts will exceed this threshold. 	<ul style="list-style-type: none"> Approximately 0.09 acre of direct impact to wetland L/M near interchange with 0.71 acres of combined Vanport-L/M wetlands buffer impact. Although mitigation for direct impacts less than 0.1 acre is often not required, overall project impacts will exceed this threshold. 	<ul style="list-style-type: none"> I-5 NB on-ramp would cross the northern extent of wetland L/M near the interchange, resulting in approximately 0.18 acres of direct impact and 0.62 acres of combined Vanport-L/M wetlands buffer impact. 	<ul style="list-style-type: none"> I-5 NB on-ramp would cross the northern extent of wetland L/M and the combined Vanport-L/M wetlands buffer near the interchange, resulting in 0.60 acres of buffer impact. There would be no direct impact to wetland L/M or the Vanport wetlands. 	<ul style="list-style-type: none"> I-5 NB on-ramp would avoid the northern extent of wetland L/M but cross the combined Vanport-L/M wetlands buffer near the interchange, resulting in 0.07 acres of buffer impact. There would be no direct impact to wetland L/M or the Vanport wetlands.
	<ul style="list-style-type: none"> Minimum distance between north bound flyover ramp and Vanport Wetland Boundary 		<ul style="list-style-type: none"> 60' 	<ul style="list-style-type: none"> 60' 	<ul style="list-style-type: none"> 80' 	<ul style="list-style-type: none"> 130' 	<ul style="list-style-type: none"> 210'

Tier 1 Criteria							
Criteria	Measurement/Methodology	No Build	Standard Alignment	Option 14	Modified Standard ¹	Option 12 ¹	Option 12 Modified ¹
Biology	Potential impacts to threatened and endangered (T&E) species (vibration, noise, lights)		<ul style="list-style-type: none"> All of the options place elevated ramps near the Vanport wetlands. The Standard Alignment and Option 14 place ramps the closest to the Vanport wetlands Noise and air quality impacts would likely be similar for all of the options Biological impacts to the Portland Harbor are not significantly different between the options. Storm water retention/treatment with any of the options No currently listed threatened and endangered (T&E) species use the interchange area, impacts to the nearby wetlands and buffer areas (see above) would affect native songbirds, mammals, and amphibians. 	<ul style="list-style-type: none"> All of the options place elevated ramps near the Vanport wetlands. The Standard Alignment and Option 14 place ramps the closest to the Vanport wetlands Noise and air quality impacts would likely be similar for all of the options Biological impacts to the Portland Harbor are not significantly different between the options. Storm water retention/treatment with any of the options could benefit water quality. Noise and air quality impacts would likely be similar for all of the options No currently listed threatened and endangered (T&E) species use the interchange area, impacts to the nearby wetlands and buffer areas (see above) would affect native songbirds, mammals, and amphibians. 	<ul style="list-style-type: none"> All of the options place elevated ramps near the Vanport wetlands. Standard Modified places ramp system slightly further from the Vanport wetlands than Standard and Option 14. Noise and air quality impacts would likely be similar for all of the options Biological impacts to the Portland Harbor are not significantly different between the options. Storm water retention/treatment with any of the options could benefit water quality. Noise and air quality impacts would likely be similar for all of the options No currently listed threatened and endangered (T&E) species use the interchange area, impacts to the nearby wetlands and buffer areas (see above) would affect native songbirds, mammals, and amphibians. 	<ul style="list-style-type: none"> All of the options place elevated ramps near the Vanport wetlands. Option 12 places ramp system slightly further from the Vanport wetlands than Standard Modified. Noise and air quality impacts would likely be similar for all of the options Biological impacts to the Portland Harbor are not significantly different between the options. Storm water retention/treatment with any of the options could benefit water quality. Noise and air quality impacts would likely be similar for all of the options No currently listed threatened and endangered (T&E) species use the interchange area, impacts to the nearby wetlands and buffer areas (see above) would affect native songbirds, mammals, and amphibians. 	<ul style="list-style-type: none"> All of the options place elevated ramps near the Vanport wetlands. Option 12 Modified places ramp system slightly further from the Vanport wetlands than Option 12.
Environmental Mitigation Considerations	Wetlands, runoff and water quality treatment		<ul style="list-style-type: none"> Mitigation for unavoidable impacts to wetland(s) will be required. Buffer impacts will be mitigated for by replacing functions elsewhere. Storm Water would be treated regardless of which alternative is chosen. No appreciable difference between alternatives. 				
Cost							
	2008 costs (does not include access modifications, wetland mitigation, contingency, escalation, or inflation)		\$365M	\$360-370 M	\$365-\$385M	\$360-370 M	\$360-380 M

Tier 1 Criteria							
Criteria	Measurement/Methodology	No Build	Standard Alignment	Option 14	Modified Standard ¹	Option 12 ¹	Option 12 Modified ¹
Constructability/Staging							
	<ul style="list-style-type: none"> Qualitative discussion of constructability/staging 		<ul style="list-style-type: none"> New structure crosses I-5 to the north of existing Marine Drive alignment. The overlap over the existing road would require constructing a temporary intersection and some realignment both north and south of Marine Drive, 	<ul style="list-style-type: none"> Constructability would be similar to the Standard Alignment 	<ul style="list-style-type: none"> New structure crosses I-5 to the south of existing Marine Drive alignment. Most of structure can be built while existing interchange is in service. 	<ul style="list-style-type: none"> Constructability would be similar to the Modified Standard Alignment 	<ul style="list-style-type: none"> Constructability would be similar to the Modified Standard Alignment There would be some improvement on the east side with the tie in to MLK.

Tier 2 Criteria

Criteria	Measurement/Methodology	No Build	Standard Alignment	Option 14	Modified Standard ³	Option 12 ¹	Option 12 Modified ¹																																			
Traffic																																										
Traffic Operations	• Peak hour truck trips on Marine Drive west of I-5-2030	<table border="1"> <tr> <td>AM</td> <td>PM</td> </tr> <tr> <td>EB WB</td> <td>EB WB</td> </tr> <tr> <td>230 260</td> <td>140 80</td> </tr> </table>	AM	PM	EB WB	EB WB	230 260	140 80	<table border="1"> <tr> <td>AM</td> <td>PM</td> </tr> <tr> <td>EB WB</td> <td>EB WB</td> </tr> <tr> <td>230 260</td> <td>140 80</td> </tr> </table>	AM	PM	EB WB	EB WB	230 260	140 80	• Similar to the Standard Alignment																										
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• Free-flow versus stop locations at ramp terminals		• All alternatives would provide similar ramp terminal operations																																								
• Marine Drive Interchange Level of Service • Intersection at interchange (average delay per vehicle in seconds)	<table border="1"> <tr> <td>AM</td> <td>PM</td> </tr> <tr> <td>LOS F(>100)</td> <td>LOS F(>100)</td> </tr> <tr> <td>V/C: 0.97</td> <td>V/C: 1.00</td> </tr> </table>	AM	PM	LOS F(>100)	LOS F(>100)	V/C: 0.97	V/C: 1.00	<table border="1"> <tr> <td>AM</td> <td>PM</td> </tr> <tr> <td>LOS B (15.4)</td> <td>LOS B (19.1)</td> </tr> <tr> <td>V/C: 0.59</td> <td>V/C: 0.66</td> </tr> </table>	AM	PM	LOS B (15.4)	LOS B (19.1)	V/C: 0.59	V/C: 0.66	<table border="1"> <tr> <td>AM</td> <td>PM</td> </tr> <tr> <td>LOS B (15.4)</td> <td>LOS B (19.1)</td> </tr> <tr> <td>V/C: 0.59</td> <td>V/C: 0.66</td> </tr> </table>	AM	PM	LOS B (15.4)	LOS B (19.1)	V/C: 0.59	V/C: 0.66	<table border="1"> <tr> <td>AM</td> <td>PM</td> </tr> <tr> <td>LOS B (11.8)</td> <td>LOS B (14.6)</td> </tr> <tr> <td>V/C: 0.61</td> <td>V/C: 0.66</td> </tr> </table>	AM	PM	LOS B (11.8)	LOS B (14.6)	V/C: 0.61	V/C: 0.66	<table border="1"> <tr> <td>AM</td> <td>PM</td> </tr> <tr> <td>LOS B (11.8)</td> <td>LOS B (14.6)</td> </tr> <tr> <td>V/C: 0.61</td> <td>V/C: 0.66</td> </tr> </table>	AM	PM	LOS B (11.8)	LOS B (14.6)	V/C: 0.61	V/C: 0.66	<table border="1"> <tr> <td>AM</td> <td>PM</td> </tr> <tr> <td>LOS B (11.8)</td> <td>LOS B (14.6)</td> </tr> <tr> <td>V/C: 0.61</td> <td>V/C: 0.66</td> </tr> </table>	AM	PM	LOS B (11.8)	LOS B (14.6)	V/C: 0.61	V/C: 0.66
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Way-finding I-5 to Port of Portland	• Signage requirements • Potential for confusion • Single or combined ramp access		• MD WB similar to existing • MD EB to I-5 south and north combined	• MD WB similar to existing • MD EB to I-5 south and north separated	• MD WB similar to existing • MD EB to I-5 south and north separated	• MD WB similar to existing • MD EB to I-5 south and north separated	• MD WB similar to existing • MD EB to I-5 south and north separated																																			
Design Standards	• Approach speed/Posted Speed, side street traffic, back of queue conditions	• Force Avenue intersection loaded from south, right turn from Force is the primary movement	• Force Avenue intersection loaded from south, right turn from Force is the primary movement	• Similar to Standard Alignment																																						
	• NHS-route design standards		• Meets CFR Title 23, part 625 requirements																																							

³ Traffic operations for this option were similar to the Standard Alignment. Minor differences in geometry could change these values by less than 5%.

Tier 2 Criteria

Criteria	Measurement/Methodology	No Build	Standard Alignment	Option 14	Modified Standard ³	Option 12 ¹	Option 12 Modified ¹
Land Use and Development Opportunities							
Access to developed and developable parcels	<ul style="list-style-type: none"> Qualitative discussion of accessibility and visibility of areas from interchange Freight access and internal circulation 		<ul style="list-style-type: none"> The interchange ramps and interchange intersection would all be elevated and would be the dominant structure in the area. Views on and in the vicinity of the interchange could be obstructed by the interchange itself and/or the ramp system, except for the Marine Drive/I-5 northbound ramp that would have the highest elevation in the interchange. Freight movement similar to today because alignment on existing Marine Drive Interchange. Access to Diversified Marine and Ross Island modified. Access to Expo includes the addition of an access point to the local road system near the light rail station Access on the east side of the interchange would be on the new local road system. Freeway access would be via Martin Luther King Junior Boulevard. 	<ul style="list-style-type: none"> Views and visibility similar to Standard Alignment Access to Expo includes the addition of an access point to the local road system near the light rail station Freight movement similar to Standard Alternative Provides full access to Ross Island Sand and Gravel and Diversified Marine from local street system. Access on the east side of the interchange would be on the new local road system. Freeway access would be via Martin Luther King Junior Boulevard. 	<ul style="list-style-type: none"> The interchange shifts slightly to the south under these options, although the ramp system on the west side of the interchange would obstruct views from Expo Center to the east. Views from the east side of the interchange toward the west could be less affected than under the Standard and Option 14 because the interchange is further to the south. Views on and in the vicinity of the interchange could be obstructed by the interchange and/or ramp system, except for the Marine Drive/I-5 northbound ramp that would have the highest elevation in the interchange. Provides one access to Ross Island Sand and Gravel from the local street system. Provides one access to Diversified Marine from the local street system. Provides full access to Ross Island Sand and Gravel and Diversified Marine from local street system. Access to Expo includes the addition of an access point to the local road system near the light rail station Freight movement similar to Standard Alternative Access on the east side of the interchange would be on the new local road system. Freeway access would be via Martin Luther King Junior Boulevard. 		

Tier 2 Criteria

Criteria	Measurement/Methodology	No Build	Standard Alignment	Option 14	Modified Standard ³	Option 12 ¹	Option 12 Modified ¹
	<ul style="list-style-type: none"> Qualitative discussion of riverfront accessibility for recreation/potential redevelopment 	No change	<ul style="list-style-type: none"> Riverfront accessibility would be the same as No Build, although improved recreational amenities could improve access Interchange is close to the waterfront. Ramp system could make the area less attractive for recreation because of local road system, ramp piers, and existing industrial uses. 	<ul style="list-style-type: none"> Recreational amenities similar to the other alternatives. Riverfront accessibility could be possible north of new Marine Drive alignment, although the levy and existing industrial uses currently prevent direct access to the river. Interchange is close to the waterfront. Ramp system could make the area less attractive for recreation because of local road system, ramp piers, and existing industrial uses. 	<ul style="list-style-type: none"> Recreational amenities similar to other alternatives. Potential river accessibility the greatest of the alternatives, although levy would still prevent direct access to channel. Existing industrial uses along interchange would also prevent access to that area. Interchange location further from the Portland Harbor than the Standard Alignment and Option 14 and may allow using vacant area for open space. 	<ul style="list-style-type: none"> Both options provide similar potential for riverfront access and recreational opportunities as the Modified Standard option 	
Freight movement	<ul style="list-style-type: none"> Qualitative discussion of impact to trucks and value/type of freight Travel times/delay/wear and tear for freight and vehicles 		<ul style="list-style-type: none"> Travel times and delay are discussed in Tier 1. Wear and tear on vehicles was not analyzed. 				
	<ul style="list-style-type: none"> Qualitative discussion of cost of delay for freight (FHWA estimates that delay costs approximately \$70 per hour per trip). 		<ul style="list-style-type: none"> The Standard Alignment would have the least delay of the options the least cost from delay of the options. 	<ul style="list-style-type: none"> Option 14 would likely be similar to the Standard Alignment 	<ul style="list-style-type: none"> Both options would likely be similar to the Modified Standard. Delay was not significantly more per trip than the Standard Alignment. 		
Impacts or benefit to rail spur	<ul style="list-style-type: none"> Potential impacts from construction 		<ul style="list-style-type: none"> No Impacts are anticipated to rail spur 				
Environmental impacts or benefits							
Historic resources	<ul style="list-style-type: none"> Potential impacts to historic properties 		<ul style="list-style-type: none"> Pier 99 (built 1960) 				
Visual Resources	<ul style="list-style-type: none"> Qualitative discussion of visual impacts 		<ul style="list-style-type: none"> All alternatives would construct a new interchange on I-5. No significant differences between the alternatives 				

Tier 2 Criteria

Criteria	Measurement/Methodology	No Build	Standard Alignment	Option 14	Modified Standard ³	Option 12 ¹	Option 12 Modified ¹
Air quality and greenhouse gas (GHG) emissions	<ul style="list-style-type: none"> Potential impacts from intersection operations Qualitative discussion based on number of intersections and traffic modeling results 						<ul style="list-style-type: none"> No significant air quality impacts and no substantial differences between the options⁴

⁴ Sub-area emissions for mobile source air toxins (MSATs) and other pollutants would be lower than No-build, based on modeling conducted for the DEIS; none of the interchange options being evaluated would be expected to substantially change that finding. Carbon monoxide (CO) hotspot analysis for the DEIS showed that the intersections most impacted by the project would have CO concentrations well within (about 50 to 85 percent below) federal CO standards; none of the interchange options being evaluated would be expected to change that finding. The DEIS analysis showed that the project would reduce overall greenhouse gas (GHG) emissions compared to No-build; traffic speeds have an effect on GHG emissions, but the expected differences in speeds associated with the different interchange design options would be expected to have no meaningful differences in carbon dioxide (CO₂) emissions. Updated data from previous version is shown in bold text.

PEDESTRIAN AND BICYCLE ADVISORY COMMITTEE

The Pedestrian and Bicycle Advisory Committee (PBAC) was established to guide the development of improvements for people who walk or ride bicycles in or through the project area. The 15 member committee brings together community members and agency representatives to develop recommendations to enhance facilities and connections for pedestrian and bicycle circulation.

PBAC has met 33 times since 2007. The group has made recommendations on the location of the bicycle and pedestrian pathway on the replacement bridge, alignment of the land pathway connecting to the bridge, elements for a maintenance and security plan and criteria for bicycle and pedestrian facility design. PBAC has also reviewed and given feedback on future bicycle and pedestrian modeling for the project area.

This section of the notebook includes PBAC's recommendations and correspondence with the PSC and project team.

Staff

David Parisi, CRC Traffic Team, facilitator

Zach Horowitz, CRC Traffic Team

Members

April Bertelsen, City of Portland

Todd Boulanger, City of Vancouver

Kyle Brown, Steps to a Healthier Clark County

Basil Christopher, Oregon Department of Transportation

Seanette Corkill, Arnada Neighborhood Association

Bob Cromwell, National Park Service

Debbie Elven-Snyder, C-TRAN

Michelle Poyourow, Bicycle Transportation Alliance

Roger Geller, City of Portland

Lisa Goorjian, City of Vancouver

Joe Greulich, Clark County Bicycle Advisory Committee

Rod Merrick, Portland Pedestrian Advisory Committee

Ken Burgstahler, Washington State Department of Transportation

Shayna Rehberg, Portland Bicycle Advisory Committee

Walter Valenta, Bridgeton Neighborhood Association

January 8, 2008

TO: David Parisi, Columbia River Crossing Project Team
FROM: CRC Pedestrian and Bicycle Advisory Committee (PBAC)
SUBJECT: Pedestrian and Bicycle Advisory Committee Status Report and Initial Recommendations on Bridge Alternatives

Introduction

Three key decisions will soon be made for the Columbia River Crossing project: 1) replace or supplement the existing Interstate Bridges, 2) provide bus rapid transit or light rail transit across the Columbia River, and 3) align the future high capacity transit route through downtown Vancouver or along I-5 in Vancouver. This memorandum serves to provide the Pedestrian and Bicycle Advisory Committee's recommendations regarding pedestrian and bicycle facilities associated with the first decision. The PBAC, through eight meetings, has reviewed both the Replacement and Supplemental bridge alternatives and is providing our recommendations for the types of facilities and connections for both bridge alternatives.

Within this memorandum, the PBAC is also providing a status report on tasks completed and planned future activities.

Composition of the Committee

The PBAC is composed of representatives from municipal, county and state public agencies, citizen advisory committees, neighborhood associations, bicycle and pedestrian advocacy groups and staff members of the Columbia River Crossing.

Completed Tasks

The PBAC has completed a great deal of work. Our work includes products that provide guidance and context for the pedestrian and bicycle component of the CRC project. These products include design criteria and characteristics for the path across the Columbia River and associated connections in Vancouver and Portland; pedestrian and bicycle bridge facility examples from around the world; and, a map of pedestrian and bicycle facilities existing or planned in the I-5 Bridge Influence Area. A brief description of these products is provided below.

- **Pedestrian and bicycle design guidelines for the I-5 Columbia River Crossing:** This document serves to provide design guidelines for consideration of a future bridge facility in terms of pathway design, pedestrian and bicycle safety, improved connections to the local and regional network, and to create a high quality walking and riding experience between Vancouver and Portland.
- **Pedestrian and bicycle bridge pathways around the world:** Ten bridges that contain dedicated pedestrian and bicycle pathways are provided as examples of the current state of the practice and to demonstrate pathway dimensions of comparable facilities.
- **Existing and planned pedestrian and bicycle facilities:** A detailed map was created by using multiple data sources from public agencies. It displays the existing and planned multi-use trails, pedestrian and bicycle facilities, and transit stops in the Bridge Influence Area and serves to highlight missing and desired connections between the local system and the proposed bridge alternatives.

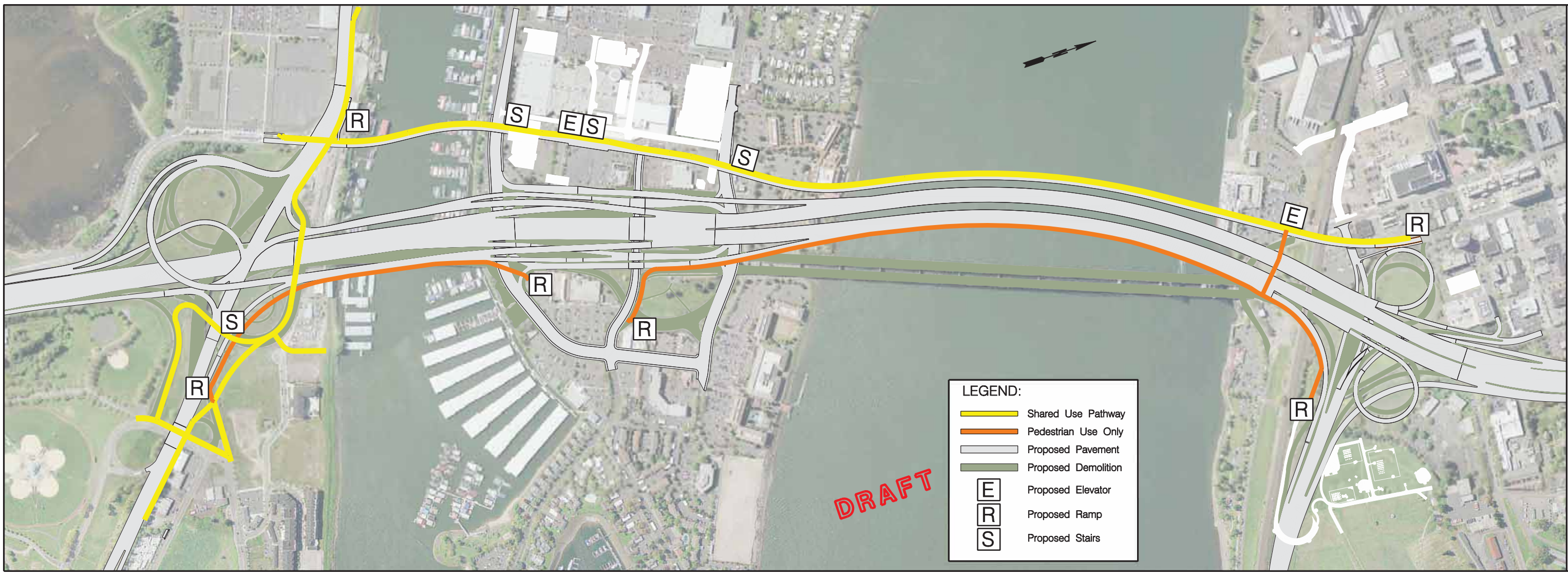
Recommendations for the Replacement Bridge and Supplemental Bridge Alternatives

The PBAC has developed recommendations for pedestrian and bicycle facilities based upon preliminary plans for both the Replacement and Supplemental bridge alternatives. These recommendations are summarized in the attached maps. Two maps are provided, one for the Replacement bridge option and the second for the Supplemental bridge alternative. The recommendations relate to the following set of features: shared-use pathways, pedestrian-only paths, pathway access points and connections to existing facilities, and the potential locations of elevators, stairs and ramps.

Future Tasks








To date, the PBAC's efforts have been concentrated at a planning level and general consideration of the bridge alternatives. As the CRC project continues through the publication of the Draft Environmental Statement (DEIS), subsequent public review, and then the selection of a Locally Preferred Alternative (LPA), the PBAC's involvement will shift direction. The committee will soon focus on the evaluation of specific engineering details of the pedestrian and bicycle infrastructure for the LPA. A list of tasks would likely include the following:

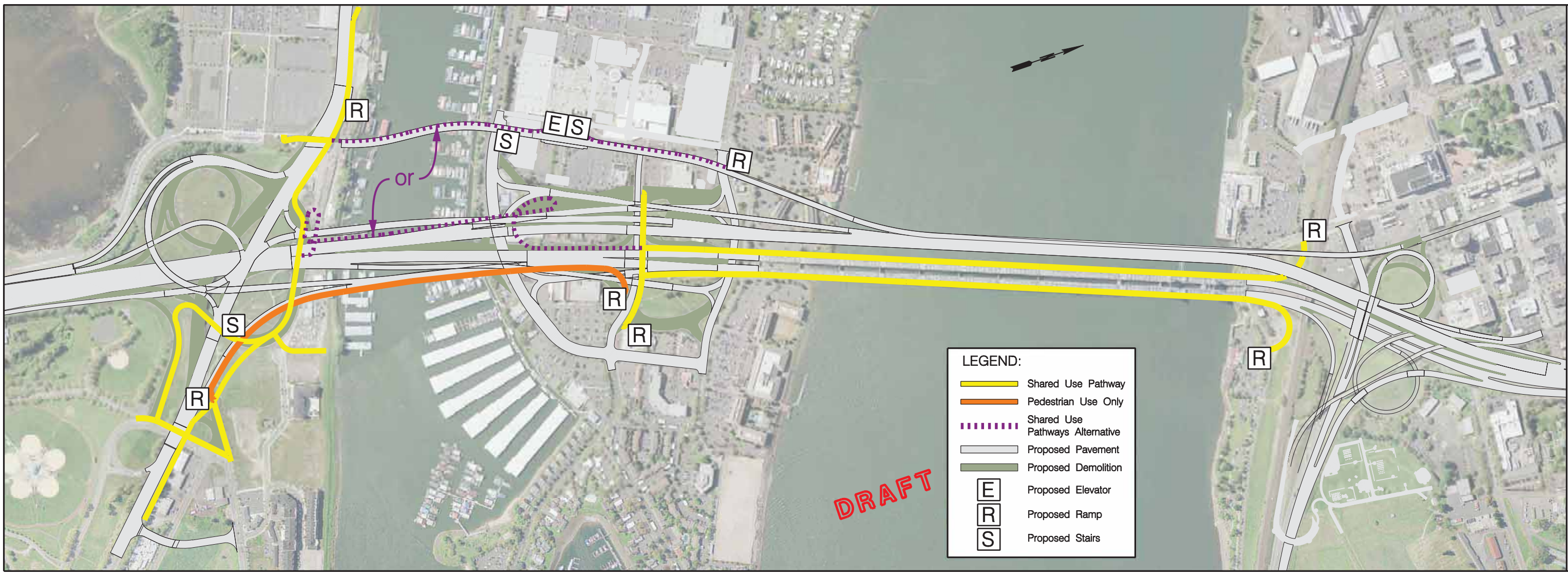
- Study local street and trail circulation patterns in Vancouver and Portland in relation to the interfacing of the Interstate 5 crossing within the Bridge Influence Area
- Review of facilities, safety considerations and connections to the local path system at interchanges in the I-5 Bridge Influence Area
- Evaluation of pedestrian and bicycle amenities and facilities at and leading to transit stations and park-and-ride facilities
- Developing future pedestrian and bicycle use projections for the I-5 river crossing and recommending pathway cross-sections for the I-5 crossing
- If transit-in-a-box is an option, the PBAC will conduct the same level of analysis for the bridge facilities and the connections between the structure and the local system



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LEGEND:

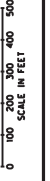
	Shared Use Pathway
	Pedestrian Use Only
	Proposed Pavement
	Proposed Demolition
	Proposed Elevator
	Proposed Ramp
	Proposed Stairs



LEGEND:

	Shared Use Pathway
	Pedestrian Use Only
	Shared Use Pathways Alternative
	Proposed Pavement
	Proposed Demolition
	Proposed Elevator
	Proposed Ramp
	Proposed Stairs

DRAFT



THIS PLAN IS FOR INFORMATIONAL PURPOSES ONLY. IT IS NOT A CONTRACT DOCUMENT. THE PROJECT OWNER AND ENGINEER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR VERIFYING THE ACCURACY OF ALL INFORMATION. THE PROJECT OWNER AND ENGINEER SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND FOR VERIFYING THE ACCURACY OF ALL INFORMATION.

August 27, 2008

TO: CRC Pedestrian and Bicycle Advisory Committee
FROM: CRC Transportation Planning Team
SUBJECT: Pedestrian and Bicycle Demand Forecasts for I-5 Bridge

Executive Summary

Columbia River Crossing (CRC) staff, with input from the CRC Pedestrian and Bicycle Advisory Committee (PBAC), developed a methodology for forecasting year 2030 pedestrian and bicycle travel demand for an improved pedestrian and bicycle facility on I-5 across the Columbia River. The forecasts were developed to take into account the three primary factors related to pedestrian and bicycle demand: future land use, percentage of trips by mode, and walking and bicycling trip lengths.

Projected increases in population, employment and density throughout the I-5 corridor, including in downtown Vancouver, on Hayden Island and in North Portland, will increase walking and bicycling trips along I-5 over the Columbia River. In addition, pedestrians and bicyclists may choose to walk and ride longer distances due to the availability of an improved multi-modal system, the cost of driving or taking transit, for health purposes, and other reasons.

During peak summer conditions in 2007, about 80 pedestrians and 370 bicyclists traversed the Interstate Bridge on a daily basis. While about 450 pedestrians and bicyclists used the bridge, more certainly would have, but were discouraged from doing so because of the presence of narrow sidewalks, the sidewalk's proximity to highway traffic, loud traffic noise, and other physical attributes of the Interstate Bridge and connecting multi-modal infrastructure. In addition, commuting trips across the Interstate Bridge average 18 miles in length (compared to less than eight miles for most of the Willamette River bridges in downtown Portland), far outside the comfortable trip range of the vast majority of bicycle commuters, not to mention pedestrians.

Future pedestrian and bicycle trips over the I-5 bridge were forecast using mode share data from the Census Transportation Planning Package provided by the US Census, information from travel surveys conducted by the Bicycle Transportation Alliance for the annual Bicycle Commute Challenge, results from an ongoing bicycle trip study being conducted by Portland State University, and travel characteristics associated with the Hawthorne Bridge.

Average travel times, by mode, were converted into trip distances by mode, creating a matrix of pedestrian and bicycle mode shares. This enabled development of future scenarios that served as part of the forecasting methodology. These scenarios, developed by the PBAC, considered the forecasted number of trips from the regional travel demand model and factored them by the respective pedestrian and bicycle mode share percentages. Daily pedestrian and bicycle travel forecasts were developed as well. The projections focused on weekday conditions because regional river crossings typically experience higher demand on weekdays compared to weekend days.

Exhibit A summarizes the pedestrian and bicycle forecasting results.

Exhibit A: Existing and Forecasted Pedestrian and Bicycle Demands

Pedestrian Scenarios

Name	Description	Daily Volume	% Change over Existing
Existing (2007)	September 2007 data collection	80	-
P1(2030)	No change in existing mode share	600	650%
P2 (2030)	150% of existing mode share	1,000	1,150%

Bicyclist Scenarios

Name	Description	Daily Volume	% Change over Existing
Existing (2007)	September 2007 data collection	370	-
B1 (2030)	No change in existing mode share	900	150%
B2-a (2030)	300% of existing mode share	3,000	700%
B2-b (2030)	50% all trips 3 miles or less by bike, and 300% existing mode share > 3 miles	4,800	1,200%
B3-a (2030)	500% of existing mode share	4,900	1,225%
B3-b (2030)	50% all trips 3 miles or less by bike, and 500% existing mode share > 3 miles	6,400	1,625%

As shown above, pedestrian and bicycle travel demands would increase substantially for the I-5 bridge by 2030. Pedestrian travel across the bridge would be expected to increase from 80 pedestrians today to between 600 and 1,000 daily walkers, an increase of 650 to 1,150 percent over current conditions. The number of bicyclists predicted to use the crossing would increase from 370 today to between 900 and 6,400 riders, an increase of between 150 to over 1,625 percent. Generally, the I-5 bridge would be expected to serve about five bicyclists to every one pedestrian.

Introduction

The Columbia River Crossing’s (CRC) Purpose and Need statement, created by the CRC’s 39-member Task Force, defines the transportation goals of the CRC project. One of the six stated goals is to improve mobility and safety for pedestrians and bicyclists across the Columbia River. Enhancing pedestrian and bicycle facilities is necessary because the current pathways do not conform to ADA accessibility or engineering standards. Connections to regional and local pathways on either side of the river are circuitous or non-existent. In addition, existing bridge pathway users feel unsafe and uncomfortable crossing the river in close proximity to highway traffic. To address these issues and others, and to make recommendations to the CRC Task Force, the CRC Pedestrian and Bicycle Advisory Committee (PBAC) was formed to further the goal of improving the pedestrian and bicycle transportation facilities as part of the overall CRC project.

CRC staff developed a methodology for forecasting pedestrian and bicycle demands across the Columbia River with input and advice from the PBAC. Changing land uses and forecasted increases in population and employment density in North Portland, Hayden Island and Vancouver are expected to have a significant effect on pedestrian and bicycle travel over the Columbia River. The higher employment levels and residences in these areas will increase the potential for short trips that are most susceptible to walking and bicycling. In addition, other effects such as higher energy prices, public health concerns and population growth may further increase demand for non-motorized travel between Portland and Vancouver.

This technical memorandum describes the methodology for forecasting pedestrian and bicycle travel demand in 2030. First, the data sources and inputs into the model are described, followed by a discussion of the forecasting approach. An explanation of the calibration process and verification of the methodology is provided. Then, the various scenarios that were modeled for future pedestrian and bicycle demand are discussed. Finally, the results and conclusions are provided.

Data Sources

Data for the pedestrian and bicycling forecasting include information about mode shares, outputs from Metro's regional travel demand model, and existing count data on the Interstate Bridge, as well as on the Hawthorne Bridge, the Willamette River bridge with the highest existing pedestrian and bicycle volumes.

Mode Share Data

An important data source for the pedestrian and bicycle forecasting was the Census Transportation Planning Package (CTPP) data from the 2000 US Census. The CTPP contains information about the average travel times, by mode, for journey to work trips. The CTPP bicycle mode share relationship by trip length for Portland is shown in **Exhibit B**.

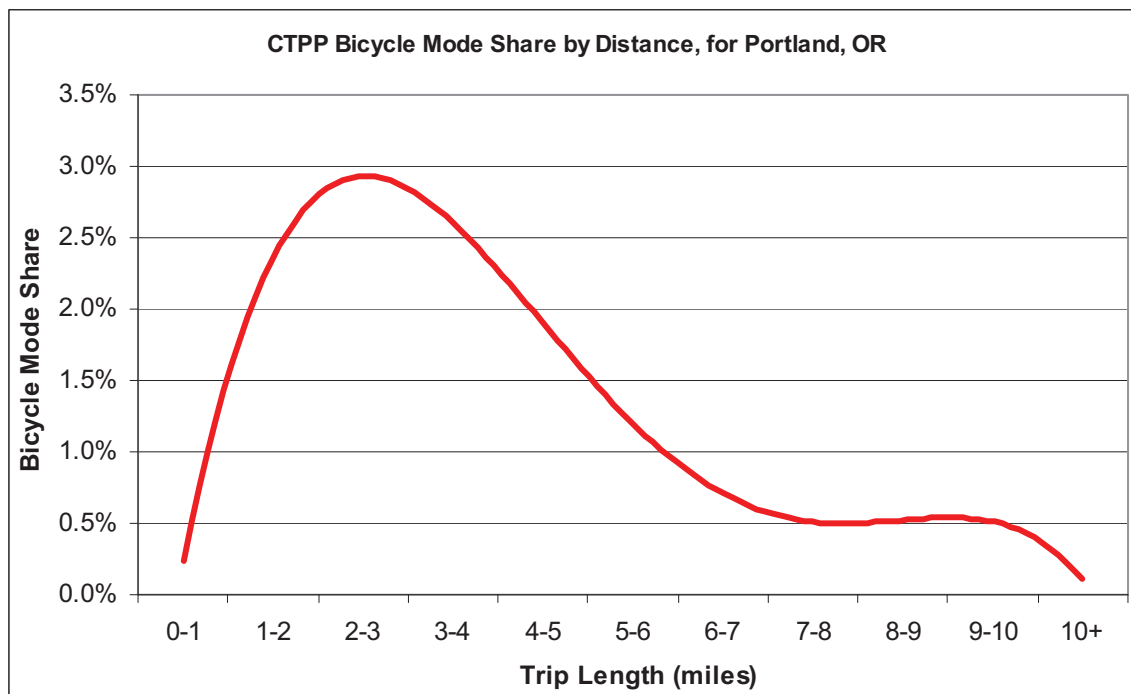


Exhibit B: Existing CTPP Bicycle Mode Share by Distance for Portland, OR

Though the CTPP data is statistically reliable for 2000, bicycling in Portland has increased substantially during the last eight years, and it seemed possible that the mode share to trip length relationship is slightly different today. Additional information was therefore needed to confirm that the 2000 mode share data was still an accurate measure of bicycling behavior in Portland.

The Bicycle Transportation Alliance (BTA), a local advocacy organization, sponsors the annual Bicycle Commute Challenge (BCC). The BCC event takes place annually during the month of September and encourages people to bicycle to work. As part of the event's registration process, BCC participants enter their one-way trip length data into an on-line database. An extensive analysis of this data shows that the

most common one-way bicycle commute trip is approximately three miles long and that the general distribution of bicycle trip lengths is quite similar to the City of Portland CTPP data for 2000.

In addition to the CTPP and BCC data, results from Dr. Jennifer Dill's bicycling study at Portland State University (PSU) provided additional confirmation of the CTPP and BCC bicycle mode share and trip length data. Dr. Dill's results show that the average length of all bicycle trips in her study was approximately three miles long and that the average length of a journey to work bicycle trip was about four miles long. Both measurements are consistent with CTPP and BCC information.

Finally, bicycle trip distance data from the Netherlands was compared with the information from the Portland-Vancouver region. The Netherlands has among the highest mode share of bicycle trips of all developed countries, possesses excellent bicycle system connectivity within its cities, and is a world leader in bikeway design and safety. The Netherlands data reveals that despite a country-wide 29 percent mode share for bicycling, the vast majority of one-way bicycle trips are less than 4.5 miles long. This data provides further confirmation that the majority of bicyclists' one-way trip distance is no longer than five miles.

The trip lengths by pedestrian mode share were assumed to have remained consistent with the 2000 CTPP data. Pedestrian mode share is only significant for trips less than two miles, and it was deemed unlikely that these values would have changed much since 2000 because the majority of walking commutes are already being made. **Exhibit C** illustrates the CTPP pedestrian mode share relationship by trip length for Portland.

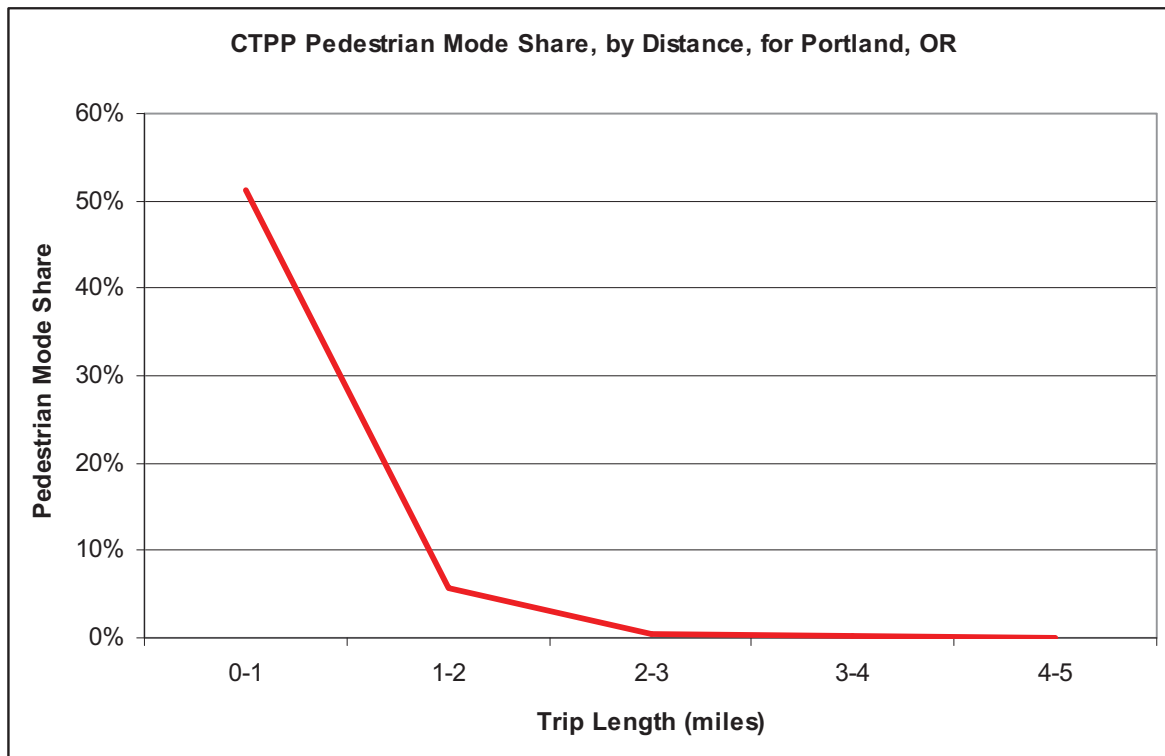


Exhibit C: Existing CTPP Pedestrian Mode Share by Distance for Portland, OR

Regional Travel Demand Data

The number of overall person-trips forecast to be made across the Interstate Bridge, by distance traveled, is an output from Metro's regional travel demand model. The Metro regional model determines travel patterns and demands based upon the region's land use and transportation planning documents.

Bridge Count Data

Fourteen-hour pedestrian and bicycle counts on the Interstate Bridge were conducted in September 2007 during the Bicycle Commute Challenge event. Existing count data from the Portland Department of Transportation (PDOT) for the Hawthorne Bridge was used to develop a factor to expand the 14-hour counts into daily totals. Data from the Hawthorne Bridge was used because it has the highest volume of pedestrian and bicycle activity on bridges in the Portland-Vancouver region, and therefore is the most useful data in applying a sensitivity analysis to the demand forecasts. Based on this factor, on a daily basis the Interstate Bridge was estimated to serve about 80 pedestrians and 370 bicyclists in 2007.

Forecasting Methodology

Pedestrian and bicycle forecasts for the I-5 bridge were developed by combining mode share and trip length data with outputs from Metro's regional travel demand model. The mode share data includes estimated percentages of pedestrians and bicyclists that make trips over the bridge. The regional travel demand data contains the forecasted total number of trips for all modes of travel which are expected to be made over the bridge. The combination of the mode share and travel demand data produces a forecast of daily pedestrian and bicycle volumes for the I-5 bridge.

Mode Share by Travel Distance

The CTPP data measures mode share by travel time. It was converted to mode share by travel distance by using a speed of ten miles per hour (equal to PDOT's methodology for their bicycle route signage) for bicycle trips, and a speed of four feet per second for walking trips. Recently presented data from Dr. Dill's PSU bicycle study found that bicyclists in her study averaged ten miles per hour. Mode share decreased for both pedestrians and bicyclists as the length of a trip increased, with the pedestrian trips exhibiting a faster rate of decline as trip length increased.

Number of Trips by Travel Distance

Metro's regional travel demand model was used to forecast the number of trips, by all modes, crossing the Columbia River. Forecasted trips were output from the model for two four-hour peak periods, i.e., 6 a.m. to 10 a.m. and 3 p.m. to 7 p.m.

Pedestrian and Bicycle Trip Forecasts

To calculate a forecasted number of trips for pedestrians and bicyclists, the mode shares for pedestrians and bicyclists were multiplied by the number of trips for each trip length increment. This process produced a forecasted number of pedestrian and bicycling trips for each trip length increment. The results for each trip length increment were summed together to forecast trips for each of the two four-hour peak periods. A factor, based on travel distributions for the Hawthorne Bridge in 2007, was then applied to convert the results for the two four-hour peak periods into a daily weekday total.

Model Validity Testing

To confirm the validity of the forecasting methodology, its ability to correctly predict trips under current conditions was tested. The methodology applied the existing conditions CTPP pedestrian and bicycle mode share and trip length data to the 2005 four-hour peak direction, peak period travel demand data from Metro's regional model. The results were then compared against actual 2007 pedestrian and bicycle count data for the Interstate Bridge.

Applying this methodology to the morning peak period for southbound travel produced an estimate of 24 pedestrian and 96 bicycle daily trips. The actual 2007 counts during this time were nine pedestrian and 62 bicycle trips. While the forecasting methodology overestimates the total number of trips, the actual difference is relatively small. The difference can be explained by the unmet latent demand for higher quality pedestrian and bicycle facilities than currently exist in the I-5 corridor. That is, the methodology appears to account for travel that is not occurring because of pedestrians and bicyclists that currently are unwilling to use the poor quality, non-standard facilities on the Interstate Bridge. If a new pedestrian and bicycle facility were sized based on an overestimation of demand in the future, the methodology would constitute a conservative approach in providing adequate capacity.

The results for the afternoon peak period for northbound travel estimated 61 pedestrian and 125 bicycle trips. The 2007 actual counts during this time were 19 pedestrian and 100 bicycle trips. As in the morning peak period, the methodology overestimates the number of trips, but the difference still remained quite small in relative terms. In addition, the estimate again appeared to capture latent demand, as the actual counts are less than the predicted numbers.

A second test of the validity of the CTPP data and the forecasting methodology was conducted for the Hawthorne Bridge in downtown Portland. The analysis of bicycle trips made over the Hawthorne Bridge reveals that the CTPP mode share is an accurate predictor of bicycle traffic on the Hawthorne Bridge, but only after the mode share is increased by a factor of three across all trip lengths in the peak travel direction (i.e., toward downtown in the mornings and departing from downtown in the afternoons). The CTPP mode shares require the three times factor to account for the fact that the Hawthorne Bridge is the most heavily traveled bridge by bicyclists in Portland, has wide, directional separated bicycling facilities, and has the most complete network of bicycling infrastructure leading towards and away from any Willamette River bridge in Portland.

Ultimately, measuring the validity of the CTPP data and understanding its usefulness in forecasting demand through the calibration process, led to the development of multiple modeling scenarios where assumptions about future travel demand and mode share could be fully tested.

Scenarios Modeled

Five bicycle and two pedestrian mode share scenarios were modeled based upon input from the PBAC. More bicycle mode share scenarios were examined than for pedestrians because of the greater variance in mode share by travel distance that is to be expected with bicycling compared to walking. The increased variance at the bicycle mode share level produces a greater range of forecasted traffic volumes.

It should be noted that the last decade has seen enormous growth in pedestrian and bicycle use throughout the Portland-Vancouver metropolitan region. Non-motorized traffic along Vancouver's Waterfront Trail has risen to over 260,000 yearly users since the trail was constructed. Downtown Portland's Eastbank Esplanade has been a major success in attracting pedestrian and bicycle traffic, and use of the Esplanade has increased since it opened in 2001. The Hawthorne Bridge is arguably Portland's most visible example of the growth in bicycle traffic, as average summer bicycle volumes have grown from about 1,900 daily riders in 1995 to over 6,400 daily riders in 2007, which constitutes almost an 11 percent compounded annual growth rate. Pedestrian volumes have also grown on the Hawthorne Bridge, and have been estimated at more than 8,000 daily walkers in 2007. These examples of growth in pedestrian and bicycle traffic influenced the development of the pedestrian and bicycle forecasting scenarios.

Bicycle Scenarios

Five different scenarios for bicycle demand for the I-5 bridge in the future year 2030 were modeled based upon input from the PBAC committee.

- B1 No change in existing mode share
- B2-a 300% of existing mode share
- B2-b 50% of trips 3 miles or less by bike, and 300% existing mode share for trips longer than 3 miles
- B3-a 500% of existing mode share
- B3-b 50% of all trips 3 miles or less by bike, and 500% existing mode share for trips longer than 3 miles

The first scenario assumes no change in existing mode share percentages. The second scenario assumes that the bicycle mode share over the I-5 bridge in 2030 will mimic the high use seen on the Hawthorne Bridge today. The third scenario is similar to the second, except it assumes that 50 percent of *all trips* crossing the I-5 bridge that are three miles or less would be made by bicycle.

The fourth scenario assumes that the bicycle mode share will be five times the existing mode share and 66 percent higher than the Hawthorne Bridge today. The fifth scenario is similar to the fourth, but assumes that 50 percent of *all trips* three miles or less will be made by bicycle.

The bicycle mode share curves for three of the five scenarios can be seen in **Exhibit D** (note that scenarios B2-b and B3-b are not displayed in **Exhibit D** for graphical clarity). The different scenarios were developed to account for a wide range of possible land uses, behavior and travel conditions in 2030 that might affect ridership. The 300% and 500% existing mode share means that for each trip length increment, the respective scenario has increased the mode share for that increment by three or five times.

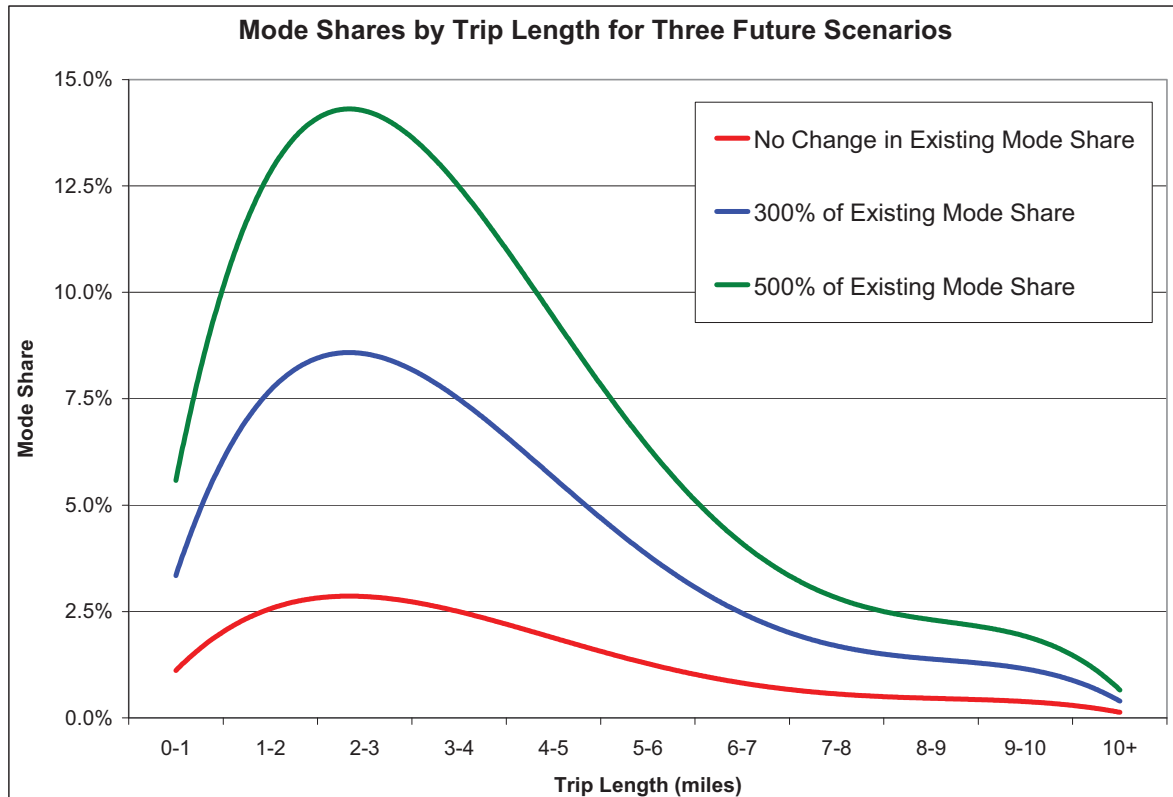


Exhibit D: Bicycle Mode Share Future Scenarios

Pedestrian Scenarios

Two scenarios were modeled for pedestrians for the I-5 bridge in the future year 2030. The mode share curves for these two scenarios can be seen in **Exhibit E**. Fewer scenarios were used for pedestrian forecasting in this case because there is a narrower set of variables that might affect walking conditions across the Columbia River.

The two pedestrian scenarios were modeled for year 2030 conditions:

- P1 No change in existing mode share
- P2 150% of existing mode share

The first scenario assumes that there will be no change in the existing pedestrian mode share. The second scenario assumes a 50 percent increase in walking mode share across all trip distances five miles or less.

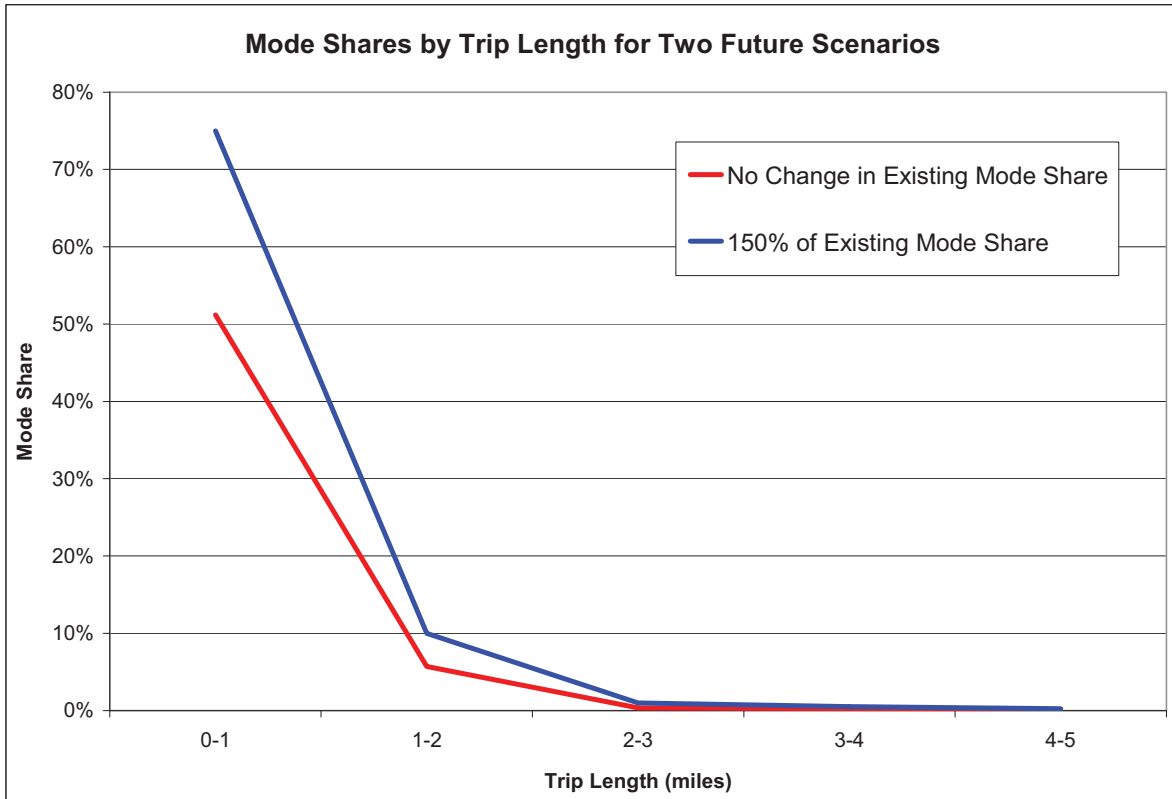


Exhibit E: Pedestrian Mode Share Future Scenarios

Future Pedestrian and Bicycle Forecasts

The results of the pedestrian and bicycle forecasts for year 2030 are presented in **Exhibit F**. For comparison, year 2007 volumes on the existing Interstate Bridge are shown. The pedestrian forecasts show a range of between 600 to 1,000 daily walkers on the I-5 bridge in 2030, a substantial increase from the 80 pedestrians observed in 2007. The more optimistic of the two pedestrian scenarios would result in a 1,150 percent increase in daily pedestrian volumes.

The bicycle forecasts show a range of daily usage between 900 and 6,400 riders, a significant amount of growth from the 370 bicyclists observed in 2007. This would represent an increase of between 150 and 1,625 percent over the existing count of 370.

The two scenarios that assumed all trips three miles or less across the I-5 bridge would be made by bicycle would produce between 4,800 daily bike trips (for scenario B2-b) and 6,400 daily bike trips (for scenario B3-b). These scenarios were modeled to measure how sensitive the forecasts are to a drastic change in bicycle mode share for short trips.

A sensitivity test was conducted on bicycle travel directions during weekday peak periods. In the summer of 2007, the majority of peak hour bicycle traffic during the morning peak period, about 65 percent, occurred in the southbound direction. In the afternoon, the reverse is true, with about 65 percent of bicyclists using the Interstate Bridge traveling northbound. Forecasted changes in land use, population and employment patterns would have an affect on commuting patterns by 2030. These changes would be expected to produce a bicycle commute pattern where southbound and northbound trips would be more evenly distributed during the peak periods. This reflects the expected growth in bicycle trips originating in North Portland as housing density increases and employment opportunities increase in Vancouver. In addition, growth in recreational or non-commute trips would be expected to increase substantially; this would create a more even distribution of trips between the peak commuting and off-peak hours compared to conditions in 2007.

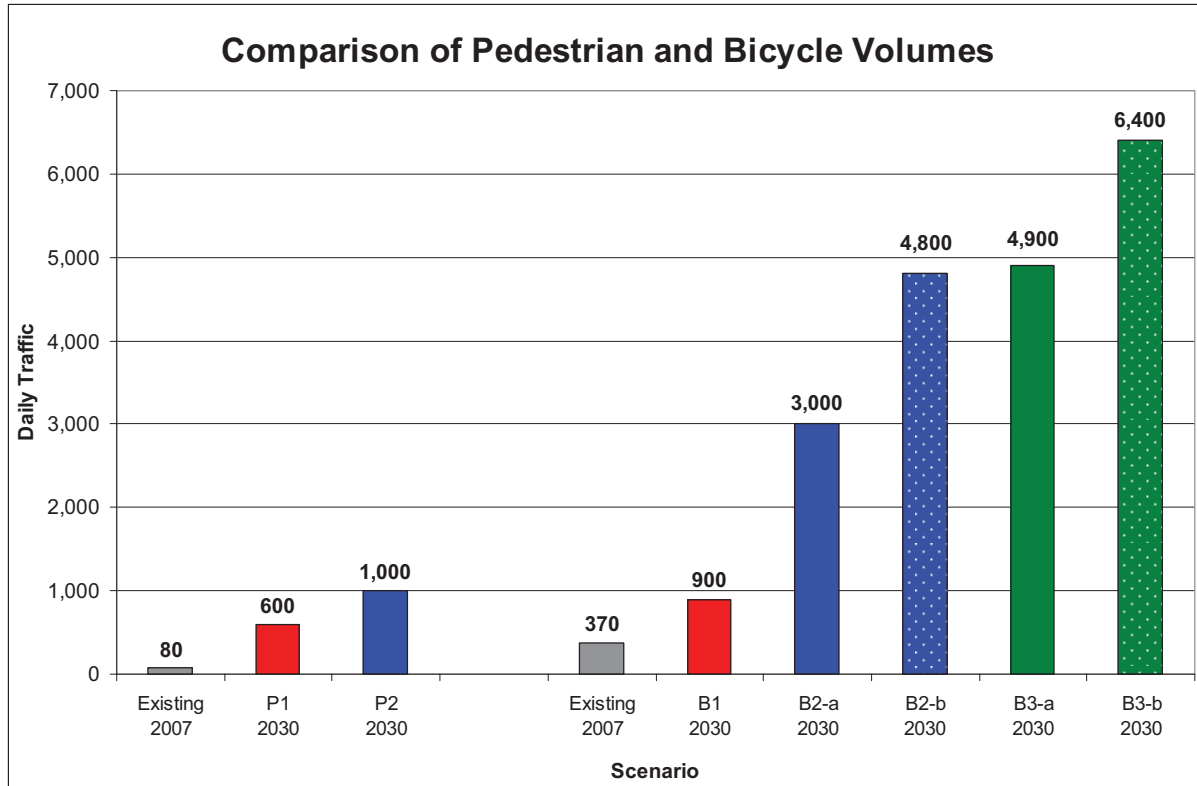


Exhibit F: Comparison of Pedestrian and Bicycle Volumes and Forecasts

Conclusions

The existing non-standard pedestrian and bicycle facilities across and connecting the Interstate Bridge discourage many pedestrians and bicyclists from crossing the Columbia River. The “build” alternatives proposed as part of the CRC project would provide vastly improved facilities for pedestrians and bicyclists. The CRC project proposes to improve connections in Vancouver, on Hayden Island and in North Portland that would enhance safety, wayfinding and the quality of the experience of crossing the Columbia River as a pedestrian and bicyclist. These improvements, based on the experience of similar changes provided to other bridges, multi-use pathways and their connections in the Portland-Vancouver area, would be expected to induce a significant increase in pedestrian and bicycle trip-making across the bridge.

The results of the forecasting scenarios reveal that pedestrian and bicycle travel demands would increase substantially for the I-5 bridge by 2030. Pedestrian travel across the bridge would be expected to increase from 80 pedestrians today to between 600 and 1,000 daily walkers, an increase of 650 to 1,150 percent over current conditions. The number of bicyclists predicted to use the crossing would increase from 370 today to between 900 and 6,400 riders, an increase of between 150 to over 1,625 percent. Generally, the I-5 bridge would be expected to serve about five bicyclists to every one pedestrian.

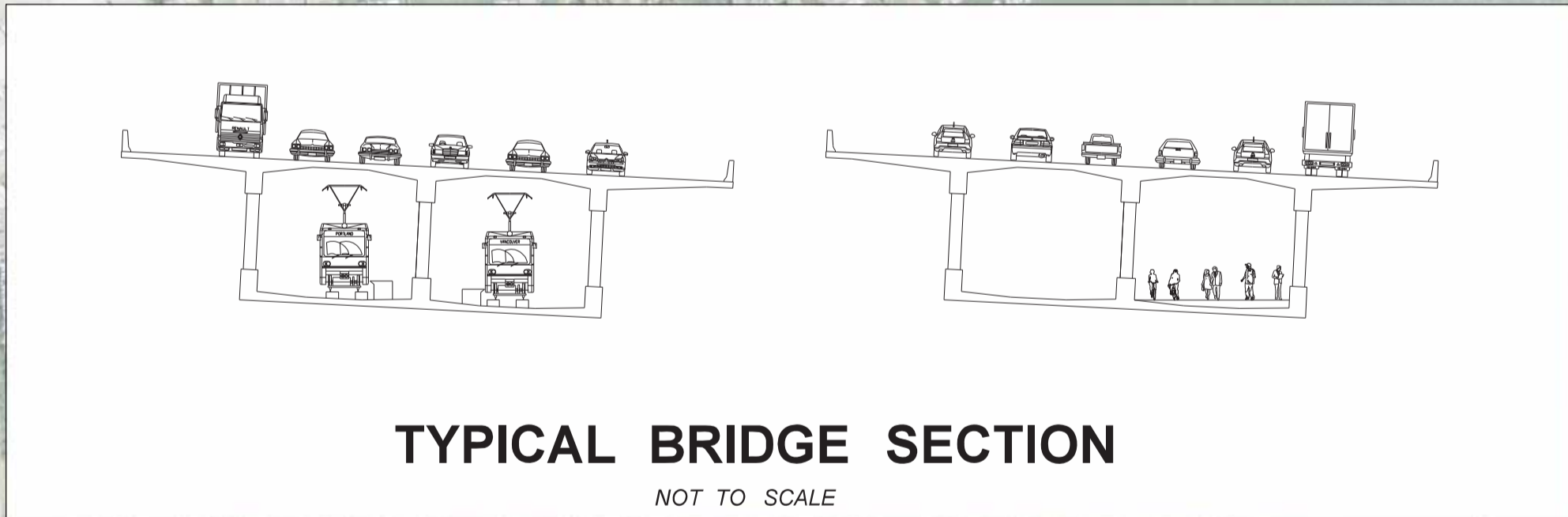
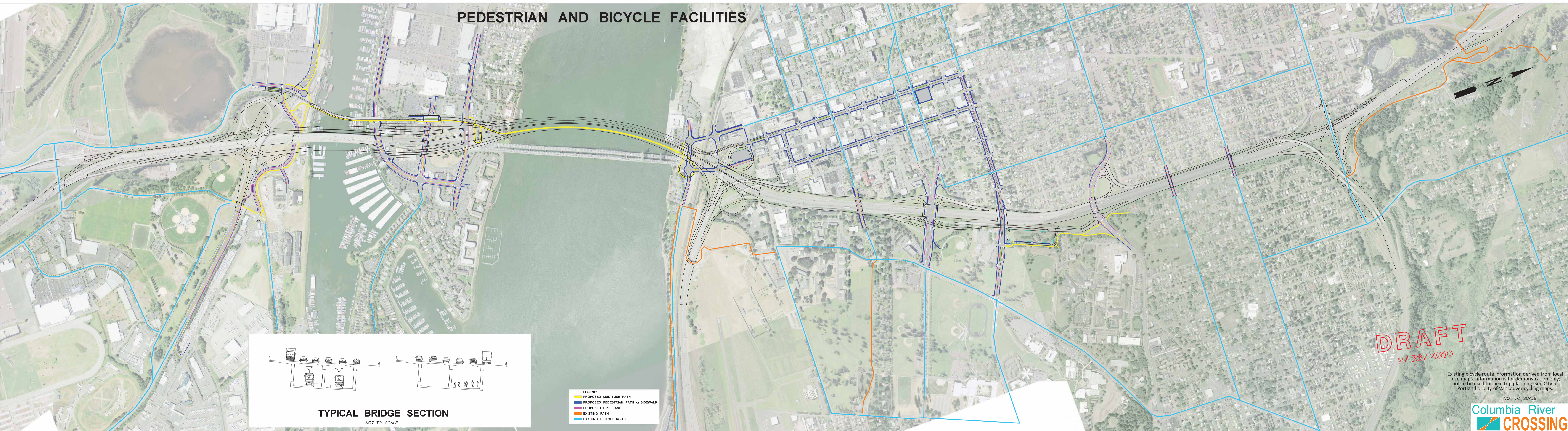
Interstate 5’s proposed pedestrian and bicycle facilities should be designed to not only accommodate projected future pedestrian and bicycle demands, but to also meet their functional needs. The I-5 crossing of the Columbia River would be over 6,300 feet long and would continue to include grades approaching five percent. These constraints, while a significant improvement over existing conditions, would pose challenges to some pedestrian and bicyclists.

To meet the goals of providing a facility to meet the needs of multiple user types, the PBAC has recommended that the new pedestrian and bicycle facility include a separated recreational pathway that is adjacent to two one-way bicycle lanes. This design would allow bicyclists of different speeds and

abilities to pass one another safely and provide adequate width to separate slower pedestrians from faster bicyclists. The proposed design would also provide areas for pedestrians to rest and to take in the view of the Columbia River. According to the PBAC, the new facility should be constructed with universal design standards, and provide excellent visibility, sightlines and pavement markings to alert users to potential conflict areas.

Details on the PBAC's recommendation for a "world-class" facility are included in the PBAC memorandum titled "Recommendation for World Class Pedestrian and Bicycle Facilities", dated June 17, 2008.

PEDESTRIAN AND BICYCLE FACILITIES



- LEGEND:
- PROPOSED MULTI-USE PATH
 - PROPOSED PEDESTRIAN PATH or SIDEWALK
 - PROPOSED BIKE LANE
 - EXISTING PATH
 - EXISTING BICYCLE ROUTE

DRAFT
2/23/2010

Existing bicycle route information derived from local bike maps. Information is for demonstration only. Not to be used for bike trip planning. See City of Portland or City of Vancouver cycling maps.

Potential Pedestrian and Bicycle Considerations for I-5 Columbia River Crossing

Introduction

The Columbia River Crossing's Problem Definition states, "Bicycle and pedestrian facilities for crossing the Columbia River in the I-5 Bridge Influence Area are not designed to promote non-motorized access and connectivity across the river." This document serves to provide parameters for consideration of a future bridge facility in terms of pathway design, bicycle and pedestrian safety, improved connections to the local and regional network and to create a high quality riding and walking experience between Portland and Vancouver.

Design

- Pathways
 - On one side of bridge or both
 - Shared use or separated
 - Width; increase path width on steeper grades
 - Gentle grades ($\leq 5\%$) and cross-slopes ($\leq 2\%$)
 - Sight distances on curves
 - Large turning radii on downgrades and curves
 - Overhead clearance
 - Constructed using non-skid surfaces
 - Utility, drainage grates and expansion joint placement
- Scenic views – (Mt. Hood, Columbia River, Hayden Island, Vancouver)
- Planned for future capacity

Safety

- Modal separation
 - Minimize exposure of pedestrians and bicyclists to vehicles and transit
 - Separation of pedestrians and bicyclists
 - Separation of "commuter" bicyclists and "recreational" bicyclists
- Physical separation features
 - Grade separated paths
 - Barriers – vehicular, transit and water
 - Noise mitigation
 - Minimize exposure to vehicle exhaust
 - Protection from debris/"kick-up"/splatter/bird droppings
 - Wind, rain and headlight glare protection
- Personal safety
 - Lighting
 - Security cameras and phones
 - "Eyes on the street"
- Emergency response/maintenance vehicle access

Connections

- Connection to existing pedestrian/bicycle facilities – (Portland, Vancouver, transit stops, activity centers)
- Provide straight and direct connections – minimize time to cross river and make connections
- Way-finding and directional signage
- Improvement of existing trails/paths in the BIA
- Travel time across the future facility should not exceed the time to cross today

Quality of Experience

- Amenities – (restrooms, benches, trash cans, info kiosks, public art, end of trip and park & ride facilities, etc.)
- Bridge aesthetics
 - Architectural detailing and quality of build materials
 - Lighting and landscaping

June 17, 2008

TO: Columbia River Crossing Task Force
FROM: CRC Pedestrian and Bicycle Advisory Committee (PBAC)
SUBJECT: PBAC Recommendations for World Class Pedestrian and Bicycle Facilities

Purpose of this Memorandum

The Locally Preferred Alternative (LPA) for the Columbia River Crossing project, to be selected by the project's sponsoring agencies this summer, will focus on three key decisions: 1) replace or supplement the existing Interstate Bridges, 2) provide bus rapid transit or light rail transit across the Columbia River, and 3) the location of the high capacity transit line's terminus in Vancouver.

This memorandum serves to provide recommendations from the Pedestrian and Bicycle Advisory Committee (PBAC) regarding pedestrian and bicycle facilities associated with the decision of replacing or supplementing the existing bridges and the PBAC's definition of and requirement for "world class" facilities. This memorandum also describes tasks the PBAC plans to undertake after the LPA, which sets the general framework for actual project design, has been chosen. Presented within this memorandum are points of consensus reached within the PBAC. Neither support nor opposition by the PBAC to issues outside the scope of this memorandum should be assumed.

Composition of the Pedestrian and Bicycle Advisory Committee

The PBAC is composed of representatives from municipal, county and state public agencies; citizen advisory committees; neighborhood associations; and pedestrian and bicycle advocacy groups (see attachment for a list of the PBAC members). Staff members of the Columbia River Crossing support the PBAC. All PBAC meetings are open to the public. The PBAC, which has met 13 times so far, will continue to provide input on pedestrian and bicycle related project elements after the LPA is selected and to be explored during preparation of the project's Final Environmental Impact Statement (FEIS).

Pedestrian and Bicycle Considerations in the DEIS, LPA, and FEIS

Pedestrian and bicycle facilities are part of the Columbia River Crossing project's Purpose and Need statement. This means that any build alternative must address the problems for pedestrian and bicycle conditions described in the Purpose and Need statement.

The Draft Environmental Impact Statement (DEIS), released on May 2, 2008, presents analysis of pedestrian and bicycle conditions associated with build alternatives that assumed single pathways at least 16 feet in width over the Columbia River (emphasis added). The multi-modal elements (transit, highway, pedestrian, bicycle, etc.) for each of the build alternatives analyzed in the DEIS were based on standard design practices. This assisted in packaging the multi-modal elements into complete alternatives that could be evaluated and compared in the DEIS and to enable the project's sponsors to focus on the three key decisions needed as a part of the LPA.

While the DEIS evaluated the environmental impacts associated with pedestrian and bicycle pathways at least 16 feet wide across the Columbia River, the DEIS included flexibility for design refinements. For example, many of the PBAC's recommendations through the spring of 2008 were referenced in the DEIS, and while not all were included in the full environmental analysis, they will be further explored after the adoption of the LPA and during the preparation of the FEIS. This is consistent with how several other multi-modal elements, that while not key for making an LPA decision, were considered in the DEIS, e.g., number of auxiliary lanes across the Columbia River, specific designs for each of the six interchanges, transit alignment choices on Hayden Island and in Vancouver, and tolling rates.

The Replacement Bridge Would Offer Best Pedestrian and Bicycle Opportunities

The PBAC has come to a consensus that the replacement bridge alternative would offer the best opportunities for walking and bicycling in the project area. Compared to the supplemental bridge alternative, the replacement bridge option would provide the most direct and safe routes for pedestrians and bicyclists between Vancouver, Hayden Island, and North Portland. It would also enable provision of a “world-class” facility (see discussion below).

According to the DEIS, the replacement bridge alternative would include a multi-use pathway west of and adjacent to the transit guideway. The pathway would be continuous and above-grade from approximately Sixth Street in Vancouver to just north of Marine Drive, then pass under Marine Drive and connect to the Expo Center. The pathway could separate pedestrian and bicycle traffic.

The replacement bridge alternative would provide access to Vancouver via a ramp to a roadway in the downtown area. A second connection in Vancouver, closer to the Columbia River, would provide access (with an elevator) to waterfront attractions and the multi-use path along the shore. On Hayden Island, the pathway would be accessible via an elevator and stairs located at the high-capacity transit station. In addition, stairs at the north and south ends of the island could be provided to link the interstate facility to waterfront trails.

At the Marine Drive interchange, the multi-use path would have access to the Expo Center transit station and to the 40 Mile Loop trail pathway running along North Portland Harbor. Additional connections to Delta Park and bicycle routes along Union Court and Martin Luther King Jr. Boulevard would be maintained and improved with off-street facilities, ramps and stairs. Pedestrians and bicyclists would be able to cross North Portland Harbor on a new pathway along the high-capacity transit guideway on the west side of I-5.

The I-5 Bridge Must Include a “World-Class” Pedestrian and Bicycle Facility

The PBAC, after extensive study of current multi-modal issues, existing and planned pedestrian and bicycle routes, physical and geographic conditions, projected land use changes, and forecast pedestrian and bicycle demands, has determined that the Columbia River Crossing must provide “world-class” pedestrian and bicycle facilities. To meet this standard, the I-5 bridge must:

- Think forward by designing pedestrian and bicycle facilities that accommodate demands for the next 50 plus years and that offer flexibility for reconfiguration as needs change over time
- Provide a safe and comfortable experience for a variety of users, including pedestrians, persons with disabilities, seniors, families with children, recreational trail users, tourists, roller-skaters, and well as bicyclists of varying skill levels traveling at a range of speeds. This is best achieved by maximizing accessibility and limiting opportunities for conflict through:
 - Universal design
 - Ample width for all users to travel in both directions and pass one another
 - Separation between more vulnerable users traveling at slow speeds and users traveling at significantly higher speeds (this is especially important given the grades required to span the Columbia River)
 - Good visibility and sight lines
 - Minimal changes in elevation and steepness of grade
 - Provide wide negotiation room, signage and pavement markings to alert users to potential conflict points
- Link communities and regionally significant trail networks on both sides of the Columbia River and the North Portland Harbor, including in Vancouver, on Hayden Island, and near Marine Drive. This should be achieved by providing connections at bridgeheads to existing and planned trails and street networks that are convenient, logical, easy to find and navigate, and that limit out of direction travel and changes in grade.

- Promote healthy and active living by providing inviting opportunities to incorporate physical activity into daily lives, including how people transport themselves
- Celebrate and elevate the importance of multi-modal transportation in the region by increasing the visibility of people walking and bicycling in the project area
- Offer a high quality experience by providing attractive and functional features such as lighting, seating, wayfinding signs, and art
- Provide a facility dedicated to regional trail users, complete with rest and scenic viewing areas, that serves as the regional trail connection between Washington and Oregon identified in trail plans
- Commit to sustainability and quality urban design and landscaping

The following describes the PBAC’s recommendation for the replacement bridge’s “world-class” pedestrian and bicycle facility:

- The overall pathway on the western bridge (adjacent to the transit guideway) must provide separation between recreational users and higher speed bicycle users. To provide this separation, a 12-foot wide regional trail should be provided adjacent to, and to the west of, a pair of six-foot wide bicycle lanes (see attached rendering). These recommended widths are exclusive of potentially needed shy distances, i.e., free and clear of poles and other obstructions to enable safe pedestrian and bicycle movement (a summary of agency standards for multiuse paths, sidewalks and bike lanes is attached).

The regional trail would accommodate pedestrians, persons with disabilities, seniors, families with children, tourists, roller-skaters, and recreational bicycle riders. The adjacent bicycle lanes would be used by bicycle commuters and other faster-moving bicyclists. The regional trail would be at a slightly higher level than the bicycle lanes, but bicyclists in the bicycle lanes would be able to access the trail. Different paving treatments and/or patterns should differentiate the regional trail and the bicycle lanes.

- In addition to the combined regional trail and bicycle lanes on the western bridge, an eight-foot wide sidewalk should be provided on the eastern bridge (the bridge that would serve the northbound traffic lanes) across both the Columbia River and the North Portland Harbor. The sidewalk across the North Portland Harbor would touch down on Hayden Island and use surface street sidewalks to connect to the sidewalk across the Columbia River.

While this facility would primarily serve pedestrians, accommodations should be provided for the occasional recreational bicyclist, e.g., wheel gutters (narrow ramps alongside stairs for rolling a bicycle while climbing stairs). It is understood that for physical and environmental reasons connecting this eastern sidewalk directly with the Vancouver shore would be challenging and most likely would require routing it westerly under the replacement bridge to tie in with the western multi-use pathway above the shore.

- Additional access points, discussed as possibilities in the Draft EIS, should be provided to make the river crossing paths connect more directly to parks and recreational trails. Some examples of these facilities are the Columbia River Waterfront Trail in Vancouver, the river adjacent areas on Hayden Island, and the 40 Mile Loop in Oregon.
- Viewpoints or “belvederes” should be provided at locations along both the regional trail on the western bridge and the sidewalk on the eastern bridge. These features would also function as rest areas for pathway users.

The PBAC recognizes that the Portland-Vancouver metropolitan area has experienced exponential growth in walking and bicycling trips over the years and that any bridge improvement project must not only meet existing and latent pedestrian and bicycle demands, but also must accommodate pedestrian and bicycle traffic anticipated over the next 50 plus years. Based on pedestrian and bicycle forecasts developed for the Columbia River Crossing, the PBAC is confident that the facilities described above would offer a sustainable, long-term solution to accommodate expected users for years to come .

PBAC's Next Steps

The PBAC plans to spend the summer and fall of 2008 conducting several tasks, including:

- Providing recommendations for project area pathway and sidewalk designs, including walkway and bikeway separation treatments and barriers
- Studying and suggesting pathway and sidewalk connections near Marine Drive/Bridgeton/Expo Center, Hayden Island, and Vancouver, including ramps, elevators and stairs
- Recommending pedestrian and bicycle treatments within each of the project's six interchange areas (Marine Drive, Hayden Island, SR 14/City Center, Mill Plain, Fourth Plain, and 39th Street/SR 500/Main Street)
- Providing input on pedestrian and bicycle design for the affected local streets (e.g., Vancouver's high-capacity transit streets determined after the LPA) and transit stations, including provisions for bicycle parking

In addition, the PBAC will continue to refine its list of pedestrian and bicycle considerations regarding design, safety, connections, and quality of experience (see attachment).

Attachments

- CRC Pedestrian and Bicycle Advisory Committee Membership
- PBAC Proposed Pedestrian and Bicycle System for Replacement Bridge
- PBAC Recommended Pathway Artist Rendering
- Potential Pedestrian and Bicycle Design Guidelines
- Pedestrian and Bicycle Facilities in Portland and Vancouver
- Pedestrian and Bicycle Bridge Pathways around the World
- Summary of Agency Standards for Multiuse Paths, Sidewalks and Bike Lanes

/DJP



Pedestrian and Bicycle Advisory Committee Membership

Membership current as of June 5, 2008

April Bertelsen, City of Portland

Todd Boulanger, City of Vancouver

Kyle Brown, Steps to a Healthier Clark County

Coalition for a Livable Future - *inactive*

Basil Christopher, Oregon Department of Transportation

Seanette Corkill, Arnada Neighborhood Association

Bob Cromwell, National Park Service

Debbie Elven-Snyder, C-TRAN

Emily Gardner, Bicycle Transportation Alliance

Roger Geller, City of Portland

Lisa Goorjian, City of Vancouver

Joe Greulich, Clark County Bicycle Advisory Committee

Rod Merrick, Portland Pedestrian Advisory Committee

Paula Reeves, Washington State Department of Transportation

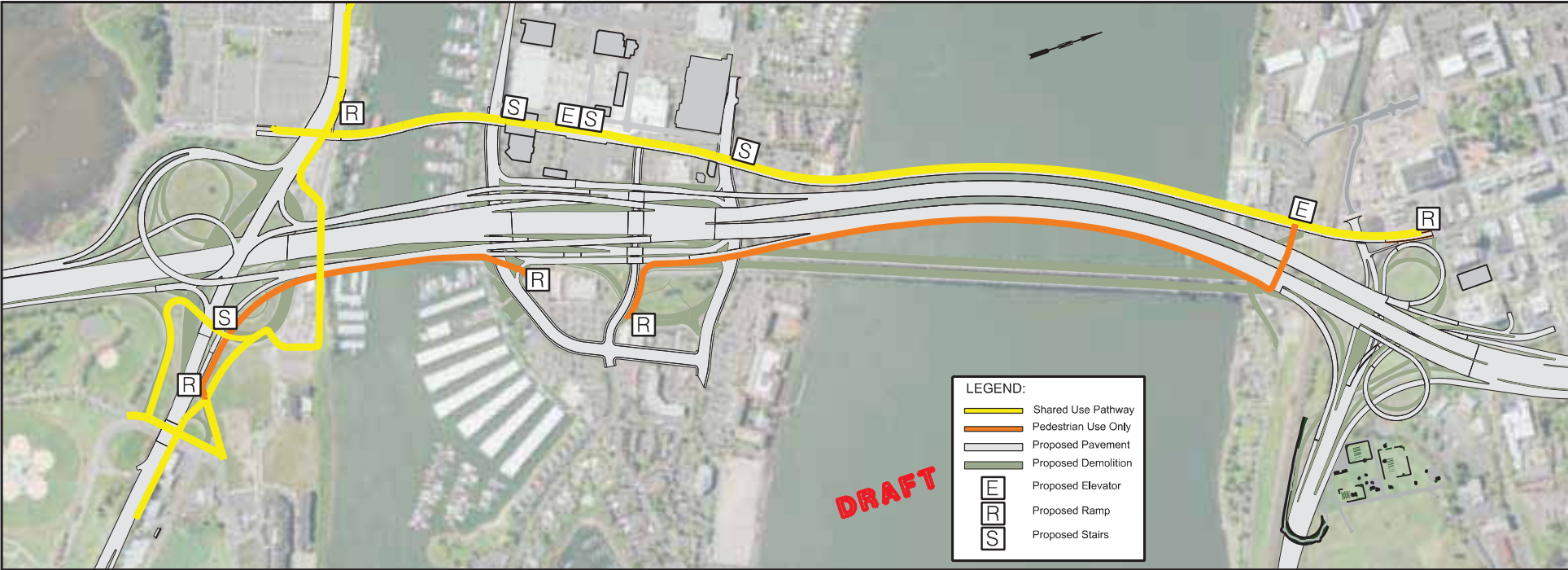
Shayna Rehberg, Portland Bicycle Advisory Committee

Karl Rohde, Bicycle Transportation Alliance

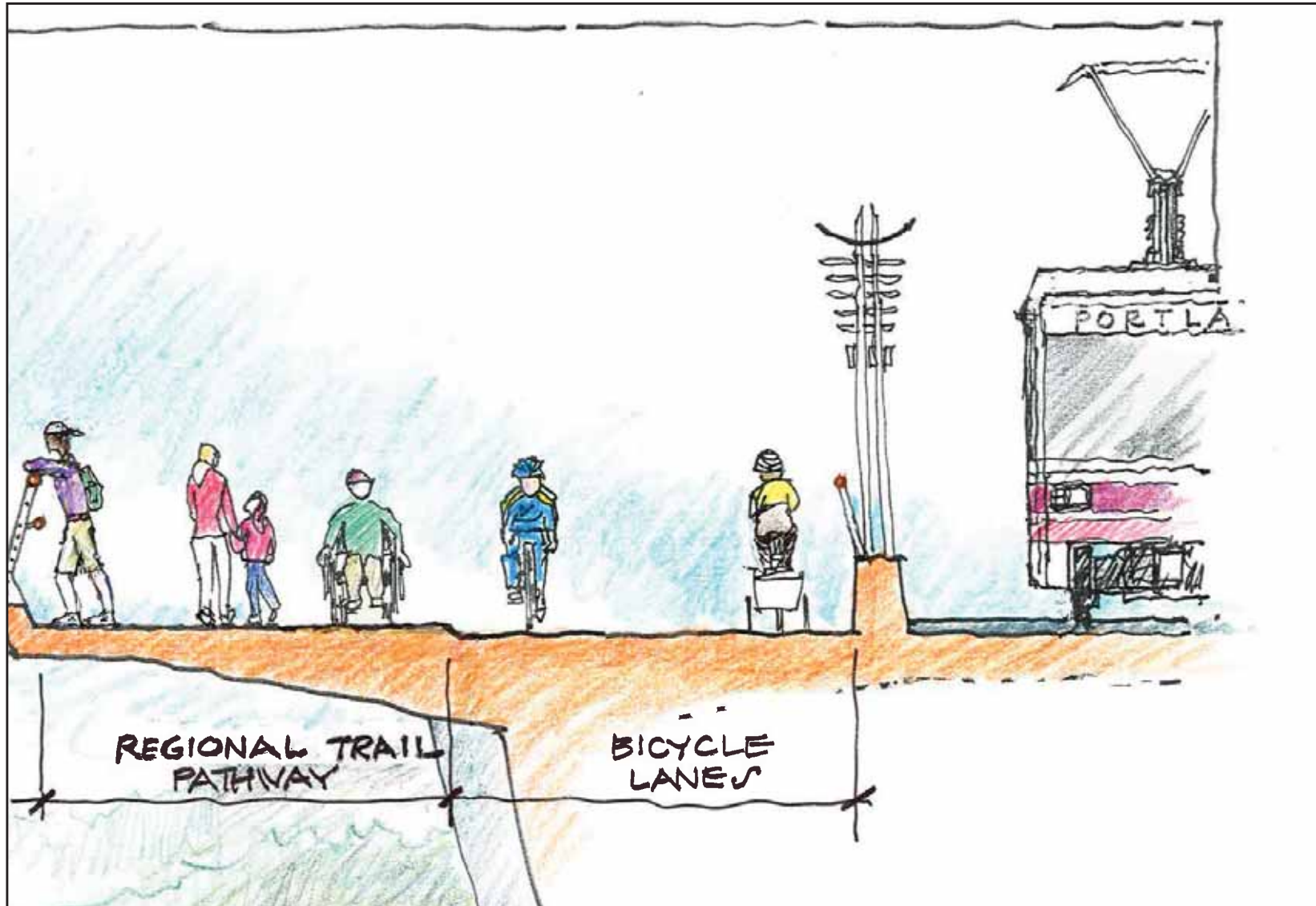
Walter Valenta, Bridgeton Neighborhood Association



PBAC Proposed Pedestrian and Bicycle System for Replacement Bridge



Pedestrian and Bicycle Advisory Committee Recommended Pathway
on West Side of West Replacement Bridge (Looking North)



Artist Rendering



Potential Pedestrian and Bicycle Design Guidelines for the I-5 Columbia River Crossing

Introduction

The Columbia River Crossing's Problem Definition states, "Bicycle and pedestrian facilities for crossing the Columbia River in the I-5 Bridge Influence Area are not designed to promote non-motorized access and connectivity across the river." This document serves to provide parameters for consideration of a future bridge facility in terms of pathway design, bicycle and pedestrian safety, improved connections to the local and regional network and to create a high quality riding and walking experience between Portland and Vancouver.

Design

- Pathways
 - Located on either side of the bridge or on both sides
 - Shared use or separated
 - Width; increase path width on steeper grades
 - Gentle grades ($\leq 5\%$) and cross-slopes ($\leq 2\%$)
 - Sight distances on curves
 - Large turning radii on downgrades and curves
 - Overhead clearance
 - Constructed using non-skid surfaces
 - Utility, drainage grates and expansion joint placement
- Scenic views – (Mt. Hood, Columbia River, Hayden Island, Vancouver)
- Planned for future capacity

Safety

- Modal separation
 - Minimize exposure of pedestrians and bicyclists to vehicles and transit
 - Separation of pedestrians and bicyclists
 - Separation of "commuter" bicyclists and "recreational" bicyclists
- Physical separation features
 - Grade separated paths
 - Barriers – vehicular, transit and water
 - Noise mitigation
 - Minimize exposure to vehicle exhaust
 - Protection from debris/"kick-up"/splatter/bird droppings
 - Wind, rain and headlight glare protection

- Personal safety
 - Lighting
 - Security cameras and phones
 - “Eyes on the street”
- Emergency response/maintenance vehicle access

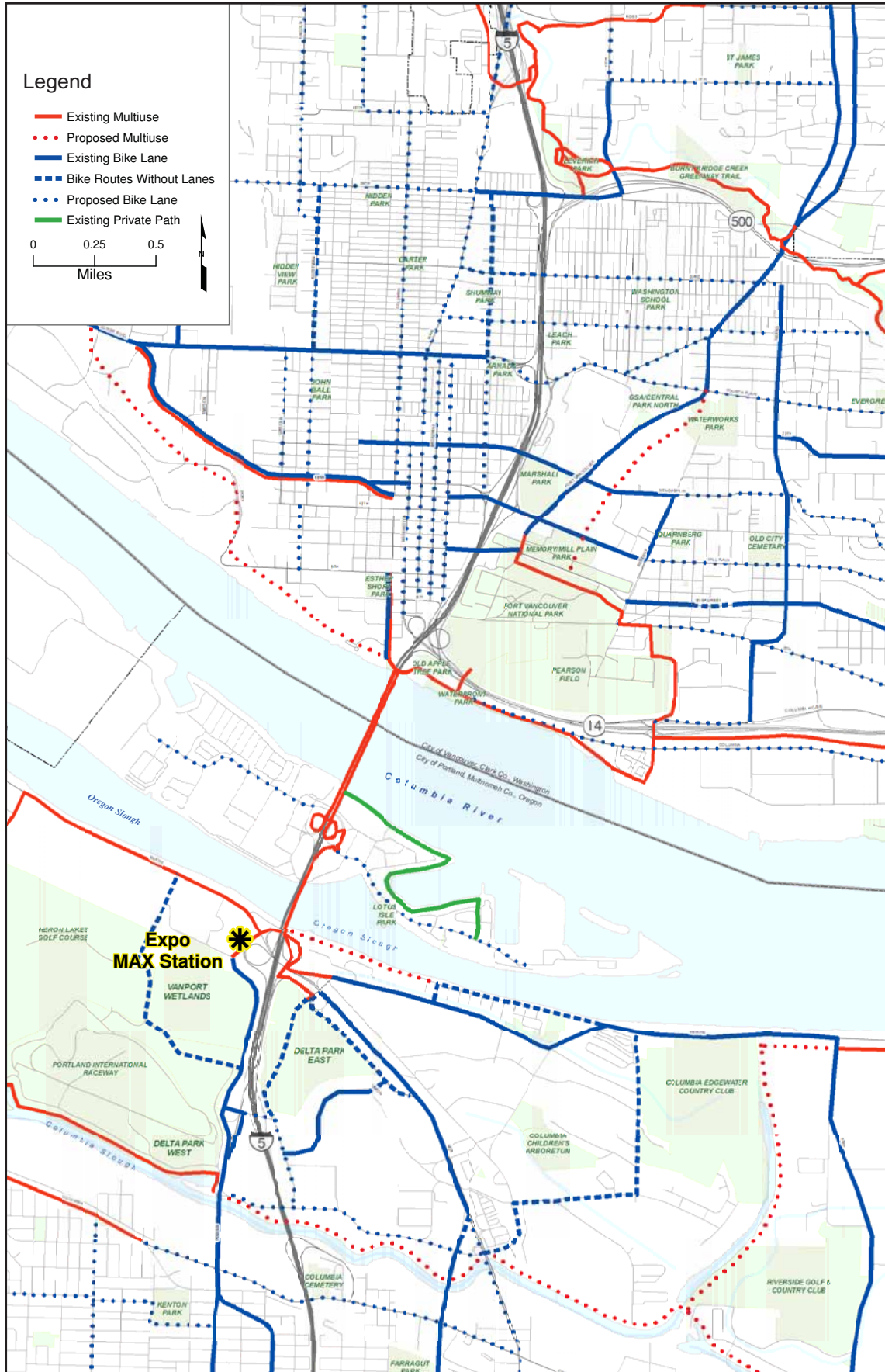
Connections

- Connection to existing pedestrian/bicycle facilities – (Portland, Vancouver, transit stops, activity centers)
- Provide straight and direct connections – minimize time to cross river and make connections
- Way-finding and directional signage
- Improvement of existing trails/paths in the BIA
- Travel time across the future facility should not exceed the time to cross today

Quality of Experience

- Amenities – (restrooms, benches, trash cans, info kiosks, public art, end of trip and park & ride facilities, etc.)
- Bridge aesthetics
 - Architectural detailing and quality of build materials
 - Lighting and landscaping

Pedestrian and Bicycle Facilities in Portland and Vancouver



Pedestrian and Bicycle Bridge Pathways Around the World

Shared Pedestrian and Bicycle Paths



Tacoma Narrows Bridge
Tacoma, WA
10' shared-use path (1)
Total 10'



Golden Gate Bridge
San Francisco, CA
10' shared-use path (1 full-time)
10' (5' clear) bike path (weekend)
1' raised above roadway
Total 10' (15' weekend)



Carquinez Bridge
Vallejo, CA
12' shared-use path (1)
Total 12'



New Bay Bridge
SF/Oakland, CA
15.5' shared-used path (1)
7.5' belvederes (2)
Total 15.5'



Cooper River Bridge
Charleston, SC
12' shared-use path (1)
Total 12'

Separated Pedestrian and Bicycle Paths



Pfluger Bridge
Austin, TX
10' bi-directional bike path (1)
5' sidewalks (2)
15' observation deck
Total: 20'



Willemsbrug
Rotterdam, Netherlands
6' sidewalks (2)
6' bike lanes (2)
Total: 24'



Erasmusbrug
Rotterdam, Netherlands
6' sidewalks (2)
6' bike lanes (2)
Total: 24'



Stone Arch Bridge
Minneapolis, MN
Bi-directional bike path (1)
Sidewalks (2)
Total: 24'



I-80 Ped/Bike Bridge
Berkeley, CA
8' bi-directional bike path (1)
5' sidewalk (1)
Total: 13'

Summary of Agency Standards for Multiuse Paths, Sidewalks and Bike Lanes

Multiuse path

Agency	Minimum width	Desirable width	Separation	Reference
WSDOT	14 feet: (2)-10-(2)	16 feet: (2)-12-(2) or (1)-14-(1) Use a 12-14 foot pathway when maintenance vehicles use the path as an access road for utilities or when there will be substantial use by bicyclists, joggers, skaters and pedestrians	Min. 2 feet to traffic barrier	1
ODOT	14 feet, (2)-10-(2)	16 feet: (3)-10-(3) or (2)-12-(2) 12-foot wide path in areas with high mixed-use	5 feet shy distance when adjacent to roadway or barrier	2
City of Vancouver	12 feet	18-20 feet which includes a 6- to 8-foot border		3
City of Portland	14 feet clear of obstructions for a two-way path: (2)-10-(2)	16 feet clear of obstructions for two-way path: (2)-12-(2)		4

Sidewalk

Agency	Minimum width	Desirable width	Separation	Reference
WSDOT	5 feet	6 feet		1
ODOT	5 feet 6 feet adjacent to motor vehicle lane 6 feet on bridges	6 feet plus 3-5 feet of planting strip 7 feet on bridges	2 foot shy from shoulder high barriers or walls (in addition) 1 foot shy when adjacent to fills (in addition)	2
City of Vancouver	pedestrian zone width: 4-6 feet, depending on street classification	Frontage plus furnishing zone width: 3.5-8, depending on street classification		3
City of Portland	8 feet clear of obstructions (6 feet through pedestrian zone plus 2 feet furnishings zone/curb zone)	12 feet clear of obstructions (6 feet through pedestrian zone plus 2.5 feet furnishings zone/curb zone plus 1.5 feet frontage zone adjacent to bridge rail)		5

Bike lane

Agency	Minimum width	Desirable width	Separation	Reference
WSDOT	4 feet (no curb) 5 feet (against curb, guardrail or barrier)	5 feet		1
ODOT	4 feet (when physically limited) 5 feet against curb, guardrail or parking	6 feet		2
City of Vancouver	5 feet	6 feet		6
City of Portland	5 feet	6.5 feet		4

Definition of terms

Minimum width: The smallest pathway width allowable under the standard without a design exception.

Desirable width: The default width for new construction as suggested by the standard. This width is to be used in all cases except when circumstances call for the adoption of the minimum width or a design exception.

Separation: The default width for new construction as suggested by the standard. This width is to be used in all cases except when circumstances call for the adoption of the minimum width or a design exception.

References

1. Chapters 1020 & 1025 - WSDOT Design Manual (2006)
2. Oregon Bicycle and Pedestrian Plan (1995)
3. Southeast Vancouver Neighborhood Traffic Management Plan (2002)
4. City of Portland Bicycle Master Plan (1998)
5. Portland Pedestrian Design Guide (1998)
6. City of Vancouver Standard Plan Number T29-43 (2007)

Columbia River CROSSING

Summary of Agency Standards for Multiuse Path Grade, Curve Radius and Clearance Standards

Grade		
Agency	Maximum grade	Reference
WSDOT	5%, minimize length of segments with grades over 5% 2% grade for sustained climbing sections longer than 800'	1
ODOT	5% - steeper grades allowed for up to 500'	2
AASHTO	5% - steeper grades allowed according to: 5-6% for up to 800 ft 7% for up to 400 ft 8% for up to 300 ft 9% for up to 200 ft 10% for up to 100 ft 11+% for up to 50 ft	3

Curve Radius		
Agency	Minimum radius	Reference
WSDOT	Open country, urban setting: 90 feet Downgrades > 4% & 500 feet: 260 feet	1
ODOT	As short as needed to accommodate design vehicles	2
AASHTO	Design speed of 12 mph: 36 feet Design speed of 20 mph: 100 feet Design speed of 25 mph: 156 feet Design speed of 30 mph: 225 feet	3

Clearance			
Agency	Minimum height	Standard height	Reference
WSDOT	10 feet. 8 feet, with justification	10 feet	1
ODOT	8 feet	10 feet	2
AASHTO	8 feet	10 feet	3

Cross slope			
Agency	Standard	Maximum	Reference
WSDOT	2%	2%	1
ODOT	2%		2
AASHTO	2%	3%	3

Definition of terms

Minimum height: The smallest clearance allowable under the standard without a design exception.

Desirable height: The clearance suggested by the standard that meets almost all general requirements

Maximum grade: The sustained rise or drop in slope of the path

Minimum radius: The sharpest curve allowed under the standard for the given design speed

References

1. Chapters 1020 & 1025 - WSDOT Design Manual (2006)
2. Oregon Bicycle and Pedestrian Plan (1995)
3. AASHTO Guide for the Development of Bicycle Facilities (1999)

August 28, 2009

TO: Columbia River Crossing Project Sponsors Council
FROM: David Parisi, Facilitator, CRC Pedestrian and Bicycle Advisory Committee (PBAC)
SUBJECT: PBAC recommendation on bridge type, maintenance and security

Background

The CRC Pedestrian and Bicycle Advisory Committee (PBAC) was established to guide the development of improvements for people who walk or cycle in the project area. The committee brings together community members and agency representatives to develop recommendations for enhanced facilities and connections.

The committee has held 28 meetings since March 2007. They have conducted field reviews, developed design guidelines, assisted in development of user projections, and researched “world class” pathways. They have held several workshop-style meetings to map out pathways and connections across the bridge, through highway interchanges, along streets, and to/from future light rail park and ride lots. Committee members will continue to advise the project on design refinements.

Recommendation on bridge type, maintenance and security

After a rigorous screening process over many meetings, PBAC recommends a two-bridge, covered path instead of the exposed path alongside highway traffic. Please see the attached matrix.

At their meeting on August 26, 2009, PBAC voted 11 to 1 in support of the following recommendation:

“Provided the Columbia River Crossing Project Sponsors Council makes a commitment to PBAC’s recommendation for a maintenance and security program, the PBAC would support the two-bridge, covered path option.”

Most of the groups have conditioned their support on having a specific maintenance and security plan for the path. Groups are submitting individual letters outlining their recommendations. The attached PBAC document titled *PBAC’s Recommendation for a Maintenance and Security Program* contains more detail outlining what they believe is necessary in order for the path to be safe, secure, and well maintained.

Members present and voting at PBAC meeting, August 26, 2009:

1. April Bertelsen, City of Portland and Portland Pedestrian Advisory Committee (on behalf of Rod Merrick)
2. Kyle Brown, Community Choices
3. Ken Burgstahler, Washington State Department of Transportation
4. Jennifer Campos, City of Vancouver
5. Basil Christopher, Oregon Department of Transportation
6. Seanette Corkill, Arnada Neighborhood Association
7. Leslie O’Rourke, National Park Service (on behalf of Bob Cromwell)
8. Joe Greulich, Clark County Bicycle Advisory Committee
9. Michelle Poyourow, Bicycle Transportation Alliance
10. Mark Ginsberg, Portland Bicycle Advisory Committee (on behalf of Shayna Rehberg)
11. Walter Valenta, Bridgeton Neighborhood Association

Members absent from meeting but voted via email (in favor of Option B):

12. Lisa Goorjian, Vancouver-Clark Parks and Recreation
13. Debbie Elven-Snyder, C-TRAN

Attachments

1. Matrix showing comparison of pathway options between Hayden Island and downtown Vancouver
2. PBAC's Recommendation for a Maintenance and Security Program



Comparison of Pathway Options for I-5 Columbia River Bridge between Hayden Island and downtown Vancouver

Pedestrian and Bicycle Advisory Committee—August 2009



SAFETY AND PERSONAL SECURITY

	Option A: Three Bridge	Option B: Two Bridge Pathway under deck	Option C: Two Bridge Pathway on top deck	
“Eyes on the street”	⊖	○	●	Option A would have some visibility from light rail. Option C would have regular visibility from the highway.
Minimize exposure of pedestrians and bicyclists to vehicles and/or transit	⊖	●	○	Option A exposes pathway users to light rail. Option B would not expose pathway users to motorized traffic and transit. Option C exposes pathway users to highway traffic.
Separate pedestrians and bicyclists	⊖	●	⊖	Option B, the widest, would provide the most potential for separation between modes.
Separate “commuter” and “recreational” bicyclists	⊖	●	○	Option B, the widest, would provide the most potential for separation between different types of bicyclists.
Reduce/eliminate at-grade crossings with vehicles and transit	S	S	S	All options would provide a grade separated pathway.
Provide railings between users and vehicles/transit and water	S	S	S	All options would provide barriers and railings that meet current height standards.
Provide sufficient pathway lighting	S	S	S	Compared to Option B, Options A and C would provide better lighting during daylight, but worse at night.
Potential to provide security cameras and phones	S	S	S	All options have the potential to provide security cameras and phones.
Potential to post ordinances, applicable laws and agency contact information	S	S	S	All options could post applicable laws, ordinances and agency contact information.

DESIGN

	Option A: Three Bridge	Option B: Two Bridge Pathway under deck	Option C: Two Bridge Pathway on top deck	
Exceed ODOT/WSDOT multi-use path ‘desirable’ width standards (16 feet)	⊖	●	○	Option A: one 16' path, Option B: one 24' path, Option C: two 12' paths. Standard ODOT/WSDOT multi-use path widths are 14'.
Comply with ADA standards for grade (≤ 5%) and cross-slope (≤ 2%)	S	S	S	All options would meet ADA standards for grade and cross-slope.
Maximizes design principles of Crime Prevention Through Environmental Design (CPTED)	⊖	○	●	CPTED principles performance increases as multi-use pathway user visibility is maximized.
Minimizes elevation of path over river and changes in grade. Ability to maximize proximity to river.	○	⊖	○	Option B would have the lowest multi-use pathway height that meets Coast Guard navigation standards.
Minimize travel on long grades	⊖	●	○	Travel time on long grades increase as height of pathway increases.
Maintain required sight distances for applicable design speeds	S	S	S	All options would have the required sight distance for the applicable design speed.
Minimize turns and provide for comfortable turning on access/egress ramps	⊖	●	⊖	Option B would have fewer turning areas on ramps than Options A or C.
Meet overhead clearance standards (10 feet)	S	S	S	All options would meet the clearance standard.
Potential to be constructed with non-skid surfaces for traction	S	S	S	All options could use non-skid surfaces.
Planned for future capacity, flexibility and versatility	⊖	●	○	All options could accommodate forecasted demand. Option B provides the most flexibility for accommodation.
Ability to provide emergency response/maintenance vehicle access to the pathway	⊖	⊖	●	Option C would provide the easiest access as it is adjacent to the highway. All options would be accessible to emergency response and maintenance vehicles.
Potential maintenance and operations costs	●	○	⊖	Option B would likely have slightly higher operating costs because it would require more maintenance and security upkeep.
Overall cost	⊖	●	○	Option B is the lowest cost to build because it requires less structure cost than Option A or C. Option A would be at least \$50M more, and Option C would be at least \$75M more.

*Option A is included for reference. The Project Sponsors Council recommended in March 2009 to move forward with a two bridge design.





Comparison of Pathway Options for I-5 Columbia River Bridge between Hayden Island and downtown Vancouver



Pedestrian and Bicycle Advisory Committee—August 2009

■ CONNECTIONS ■

	Option A: Three Bridge	Option B: Two Bridge Pathway under deck	Option C: Two Bridge Pathway on top deck	
Distance from beginning of descent from path over Hayden Island to Hayden Island Drive, west of I-5				Option A: 1050', Option B: 575', Option C: 1000'.
Distance from beginning of descent from path over Hayden Island to intersection of Hayden Island Drive/Jantzen Drive, east of I-5				Option A: 2535', Option B: 2060', Option C: 2485'.
Distance from beginning of descent from path over Vancouver to Esther Short Park in downtown Vancouver				Option A: 2300', Option B: 2500', Option C: 2200'.
Distance from beginning of descent from path over Vancouver to Vancouver waterfront				Option A: 1400', Option B: 1200', Option C: 1700'.
Minimize river crossing time				Option A: 9.30 minutes (1.55 miles), Option B: 9.12 minutes (1.52 miles), Option C: 12.12 minutes (2.02 miles). Travel times are based on an average bicycling speed of 10 mph.
Potential to provide way-finding and directional signage	S	S	S	All options would include way-finding and directional signage.

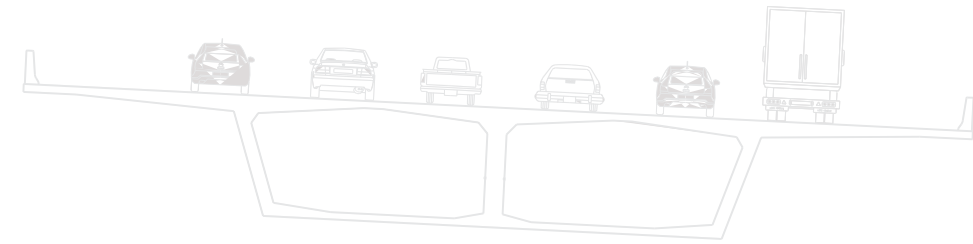
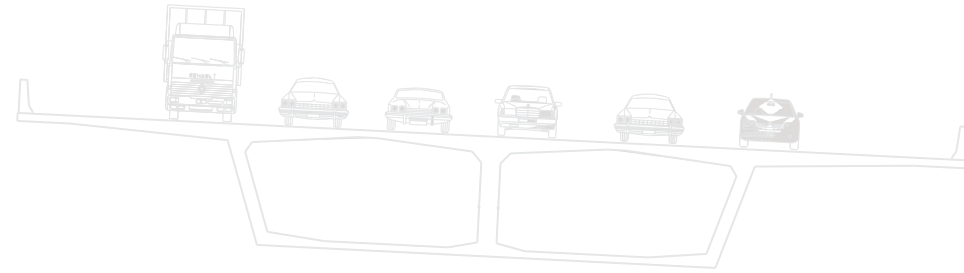
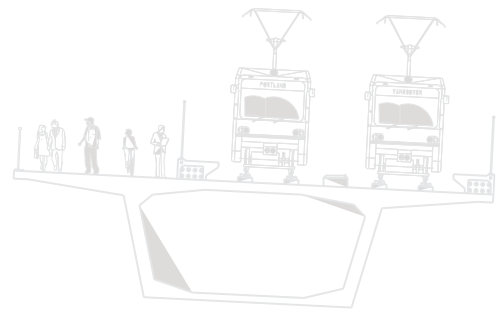
■ QUALITY OF EXPERIENCE ■

	Option A: Three Bridge	Option B: Two Bridge Pathway under deck	Option C: Two Bridge Pathway on top deck	
Potential to provide amenities such as restrooms, benches, trash cans, info kiosks, public art, end of trip and park & ride facilities, etc.				All options would have the potential to provide amenities. Option B would have more potential as amenities could be designed into the infrastructure.
Minimize noise				Noise measurements have shown that an under deck pathway similar to Option B would have at least a 5-10 dbA noise reduction compared to Option A, which would be similarly reduced from Option C.
Minimize exposure to vehicle exhaust				Vehicle separation in Option B would minimize multi-use pathway users exposure to exhaust.
Protection from debris/"kick-up"/splatter				Vehicle separation in Option B would minimize multi-use pathway users exposure to debris/kick-up/splatter.
Protection from bird droppings	S	S	S	All options would have a similar amount of protection from bird droppings.
Wind protection				Option B provides the most wind protection because the under deck location and the top deck overhang reduce exposure to wind.
Rain protection				Option B provides the most rain protection because of the under deck location and overhang reduce exposure to rain.
Headlight glare protection				Option B provides the most headlight glare protection because it is separated from vehicle and transit traffic.
Potential for natural light, open sky crossing and sense of openness				Options A and C would be open to the sides and above. Option B would be open to the sides but not above.
Ability to "program the space" and provide activity areas				Better opportunities to 'program the space' and involve people would exist with Option B because the design affords protection from the elements.
Provides scenic views from the bridge of: Mt. Hood, Columbia River, Hayden Island, and Downtown Vancouver				All options would provide opportunities for scenic vistas, but Option C would have the most unrestricted views.
Potential for architectural detailing				Designs details would more likely be incorporated into Option B due to overall lower construction costs and integration of CPTED principles.
Potential to use quality materials in construction	S	S	S	All options could be built with high quality materials.
Potential to provide landscaping	S	S	S	All options could provide landscaping at appropriate locations.

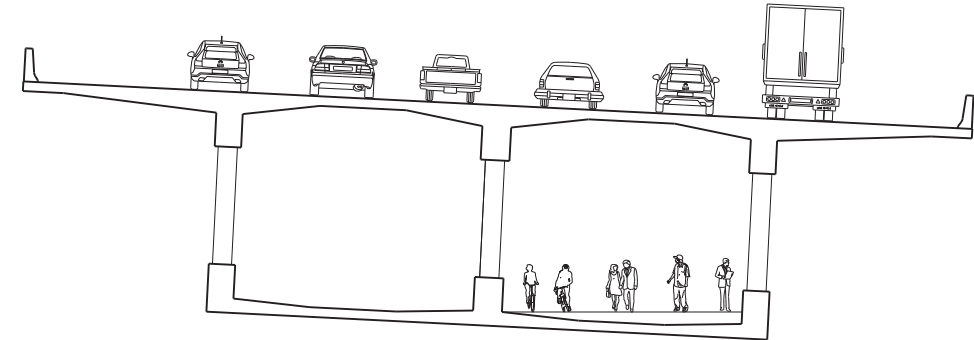
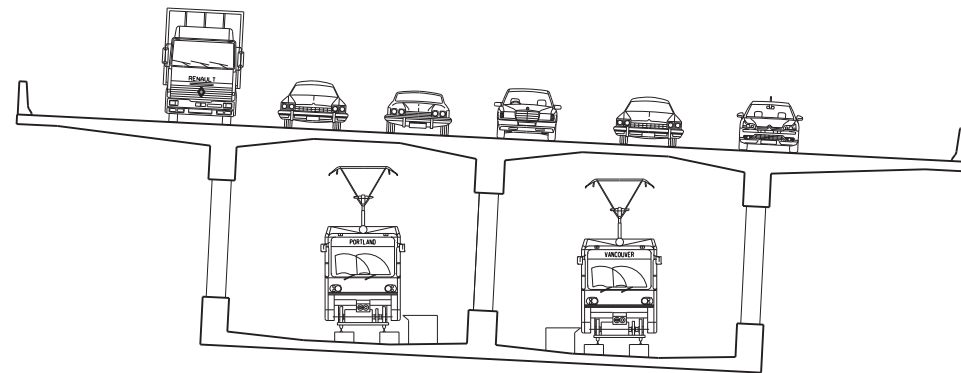
*Option A is included for reference. The Project Sponsors Council recommended in March 2009 to move forward with a two bridge design.



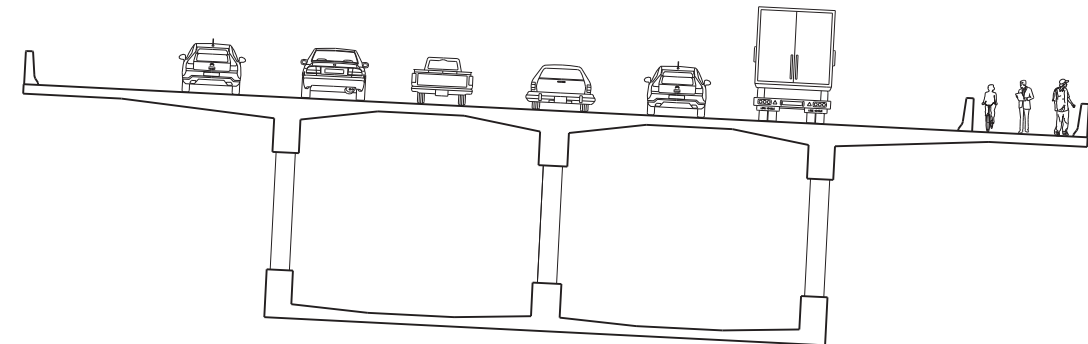
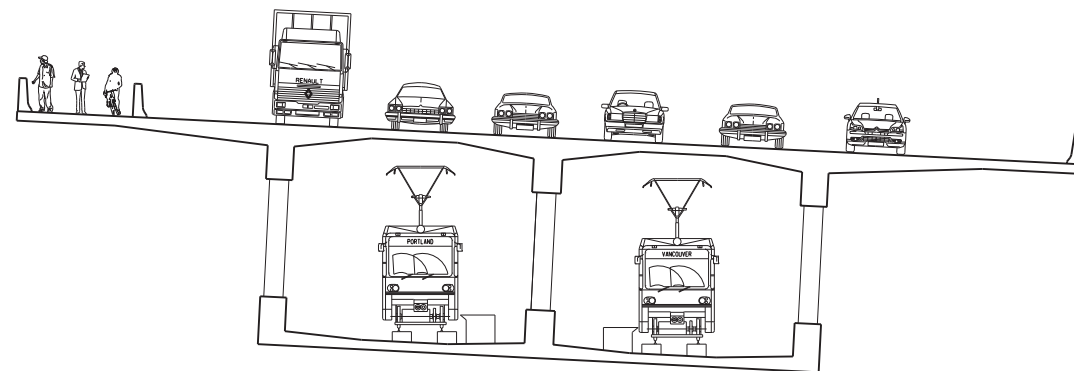
TYPICAL SECTIONS



3-BRIDGE



2-BRIDGE (STACKED/UNDERDECK)



2-BRIDGE (STACKED/DECK)

DRAFT

4/22/09

PBAC's Recommendation for a Maintenance and Security Program

The Columbia River Crossing project's Pedestrian and Bicycle Advisory Committee (PBAC) recommends a sufficient and sustainable maintenance and security program for the project's pedestrian and bicycle facilities.

The best and most effective method of enhancing maintenance and security is to design a functional facility that is inviting to and well used by the general public. Design principles that provide natural surveillance, territorial reinforcement, and natural access control will minimize on-going maintenance and security requirements. A reliable and funded program will be required. The program must recognize that a poorly maintained facility could undermine the value of good design.

The maintenance and security program shall include, but not be limited to, the following:

- Identification of reliable funding sources and responsible parties for maintenance and security
- Commitment of reliable funding sources and responsible parties for maintenance and security
- Demand responsive and prompt facility management and maintenance
- Opportunities to “program the space” and support activity (e.g., kiosks, overlooks, vendor opportunities) to provide “eyes on the pathway”
- Ensure 24 hours a day, seven days a week pedestrian and bicycle access to and across the bridge and its connecting pathways
- Visible and regular on-site monitoring by law enforcement officers or security staff
- Security cameras monitored by law enforcement officers or security staff
- Call boxes to enable bridge users to report immediate maintenance needs and security concerns
- Efficient, sufficient, vandal-proof, no glare and dark skies compliant clear, crisp, white LED lighting
- Clearly posted laws and ordinances
- Advance notification and posting of maintenance closures and detours
- Citizen and volunteer participation shall be encouraged for future maintenance, operations and programming

The above outline of maintenance and security elements shall be the basis of an agreement between the parties responsible for the final design, construction and management of the crossing. Both the design of the facilities and the conditions established by these elements in said agreement are essential for the provision of a successful pedestrian and bicycle environment. The performance of the agreement shall be regularly reviewed against measurable metrics and assessments of user satisfaction with the security and maintenance.

PORTLAND WORKING GROUP

The Portland Working Group (PWG) was convened to ensure the community perspective is incorporated into design and planning for the extension of the MAX Yellow light rail line from the Expo Center to Vancouver. Since then, the group's focus has expanded to include island connectivity and access. The 14 member group advises the project on issues related to design; mobility and access; community cohesion; transit planning; business and community outreach; and impacts on businesses and neighborhoods for Hayden Island and the Oregon light rail segment of the project. The group has met 11 times since 2009 and has made recommendations on light rail station design.

The group's Hayden Island Light Rail Station Conceptual Design Report is included in this section of the notebook.

Public Discussion Draft

January 14, 2010

HAYDEN ISLAND LIGHT RAIL STATION
CONCEPTUAL DESIGN REPORT



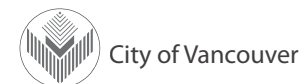
Project Partners:



U.S. Department of Transportation

Federal Highway
Administration

Federal Transit
Administration



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Hayden Island Station Area (Source: The Hayden Island Plan, City of Portland, 2009)

I. INTRODUCTION

PURPOSE OF THE REPORT

The Hayden Island Light Rail Transit (LRT) Station is an element of the multimodal Columbia River Crossing (CRC) project addressing congestion, safety and mobility problems on Interstate 5 (I-5) between Portland and Vancouver. The CRC project includes an extension of the existing MAX light rail line north from its current terminus at the Expo Center through downtown Vancouver to Clark College. There will be five new light rail stations, four in Vancouver and one elevated station in Portland on Hayden Island.

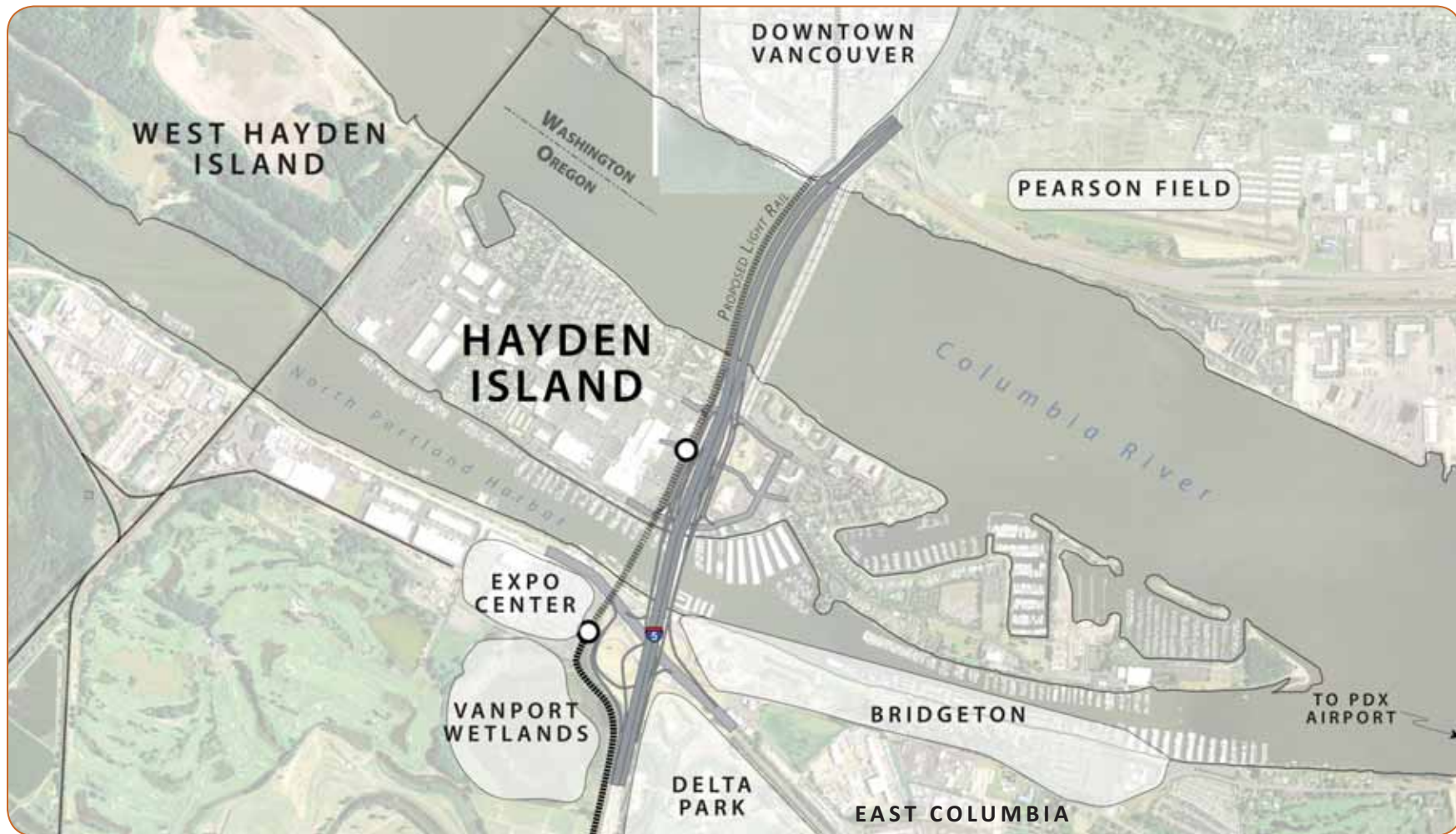
This report is intended to provide guidance to the CRC project, TriMet, and the City of Portland regarding the Hayden Island station design. In addition, the report documents the process and context in which the principles were created. Design principles identified here will be applied to the future station. The design principles were crafted to capture the community's values while remaining broad enough to apply to the station regardless of CRC project decisions that may affect the position of I-5, local road circulation, and land development patterns.

This report is divided into four sections. Section 1 discusses the purpose and structure of the report and lists the five design principles. Section 2 provides the planning context in which the design principles were developed, Section 3 outlines the planning process and stakeholders involved, and Section 4 describes the aspirations for the station and the resulting design principles that will guide its design.

Station Location

The general location of the station was identified as part of the Hayden Island Plan adopted by the City of Portland in August 2009. The station will be elevated and positioned adjacent to I-5, over or near Tomahawk Island Drive. Tomahawk Island Drive will be extended under I-5 to provide a third east and west connection for Hayden Island. The Hayden

STATION LOCATION - CONTEXT MAP



Island plan calls for retail development, a mixed-use station community, and a well-connected street system to be developed adjacent to the station.

PROJECT OBJECTIVES AND APPROACH

The approach for this Conceptual Design Report was to involve the public in an exploration of what could be accomplished at the Hayden Island LRT Station given the constraints and opportunities inherent in its location and planning context. Public input was essential to ensure that the new station reflects the desires of the community and key stakeholders.

A series of three interactive design workshops with the Portland Working Group (PWG) and the general public were held focusing on the light rail station design. The CRC staff, consultant team, and City of Portland provided context, a discussion of how design had been implemented in other places, and drawings and models of potential Hayden Island Station designs (three concepts) that the public and the PWG could review to identify preferences. The process and the PWG are discussed in detail in Section 3 of this report.

SUMMARY RESULTS

The following five design principles were created to guide the design of the future LRT station, regardless of other CRC project decisions.

Hayden Island Light Rail Station Design Principles

- **Create a station environment that is safe, attractive, and inviting for transit users, visitors, and island residents**
- **Provide circulation paths that allow clear connections to or through the station area for users of all modes with varied abilities**
- **Develop a station area that embraces and engages its surroundings with transparency and activity**
- **Design a station that protects transit users from freeway noise and the natural elements, while providing light, views, and clear way-finding**
- **Design a station that includes features referencing historical or cultural values unique to Hayden Island**



Photographs taken at the PWG meetings and community workshop (Source: CRC Project)

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II. PROJECT BACKGROUND

EXISTING CONDITIONS ON HAYDEN ISLAND

East Hayden Island is largely developed and includes a variety of residential, commercial, and industrial uses. The Hayden Island community has approximately 2,155 permanent residents and the number of residents increases in the summer when the roughly 5,000 boat owners moored at the island visit and take advantage of the marine amenities. Permanent residents live in a variety of housing types on Hayden Island that include floating homes, single-family residences, and condominiums.

There are approximately 238 businesses, employing 2,950 persons, on the island. The primary commercial/retail development is the Jantzen Beach SuperCenter, which contains approximately 875,000 square feet and 3,100 parking spaces on 80 acres, 68 acres of which is under single ownership. Hayden Island supports a large number of visitors to its marine-related and shopping facilities, and the island's permanent population is too small to support the retail and other services it desires.

Hayden Island has many large industrial facilities that include automobile auction and services; boat building, service, sales, and storage; public marinas; distribution warehouses; and a large cabinetmaking business. A multi-tenant commercial office building is located east of the interstate. The SuperCenter provides retail and restaurant amenities, and its owners have major redevelopment plans that will integrate the new light rail station into a transit-supportive development.

The island has one public park, which is approximately one acre in size. On the eastern tip of the island, there are several parcels of undeveloped land that are providing important natural habitat for both aquatic and terrestrial species.

Getting to Hayden Island by vehicle is only possible via I-5 through the existing Hayden Island interchange. This interchange is functionally

obsolete and is frequently the site of accidents. North Hayden Island Drive, North Tomahawk Island Drive, and North Center Avenue are the only public roads on the island. The rest are private streets and are maintained by the adjacent properties. Sidewalks vary in location, and there are no designated bike lanes. As a result, there is no consistent pedestrian or bicycle network and, where it does exist, it is circuitous, requiring out-of-direction travel for walking and cycling.

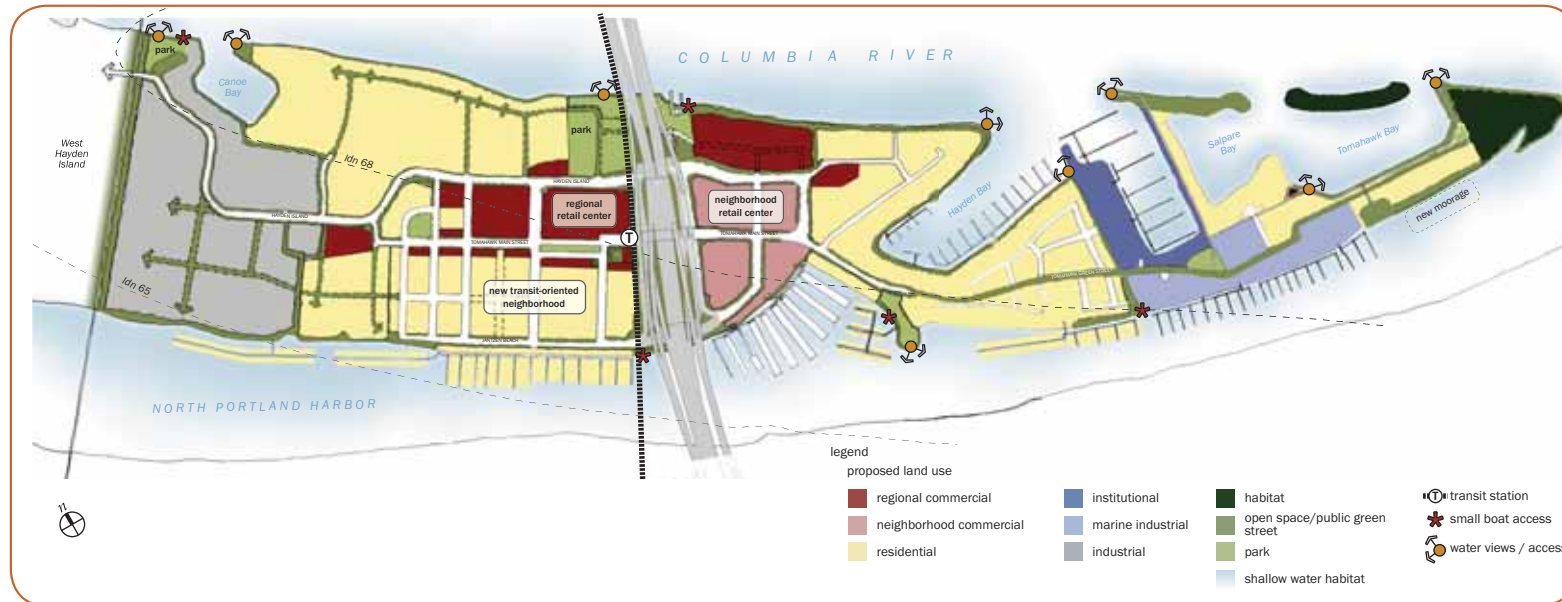
HAYDEN ISLAND PLAN

The Hayden Island Plan was a collaborative effort between the City of Portland and the community to improve accessibility, livability, and sustainability of Hayden Island over the next 35 years. Focusing on the portion of Hayden Island within the City of Portland (east of the Burlington Northern Railroad bridge), the plan contains goals, objectives, comprehensive plan and zoning changes, and an implementation

strategy to encourage:

- A more walkable residential community that protects the quality of the existing residential neighborhoods of both land-based and floating homes.
- A new neighborhood-serving business area east of I-5.
- New transit-oriented development adjacent to the proposed light rail station west of the interstate.
- Continued support for marine businesses, and enhanced marine and terrestrial habitats so important to the Columbia River environment.

The Hayden Island Plan was initiated as a mitigation measure for the



Hayden Island Concept Plan Map (Source: The Hayden Island Plan, City of Portland, 2009)

development moratorium enacted by Portland City Council in September 2006, to address development on the island and at the I-5 interchange. Additionally, this plan is intended to provide guidance to the CRC project, which is developing designs for a new I-5 bridge and Hayden Island interchange, among other improvements along the I-5 corridor. A new light rail station will be constructed on the island along the new light rail line that will connect from the existing terminus at the Portland Expo Center and Vancouver, Washington.

The Portland City Council adopted the Hayden Island Plan and implementing ordinances on August 19, 2009. The Hayden Island Plan seeks to protect the interests of the island as well as ensure that the amount and type of development on Hayden Island will not overload the proposed freeway improvements. The adopted plan includes a vision statement that identifies Hayden Island as a gateway to Portland and to Oregon. The plan identifies the Hayden Island LRT Station as part of the gateway that is envisioned. The Hayden Island Plan also identifies a series of the goals and themes relevant to this process, which, as they relate to the Hayden Island LRT Station, are summarized below.

Island Community

The concept of the “Island Community” centers on the built and open space environments and uses the future transit station as a way to create a community identity and sense of place. The



“Island Community” theme places special attention on creating a physical space and building form where multiple types of uses are located, but recognizes that existing uses are also integral to the success of the plan, including the existing residential communities, the marine commercial uses near Canoe Bay and Tomahawk Bay, and the industrial uses on the west end of the neighborhood.

Getting Around

A major issue for Hayden Island is mobility around the island and access to and from it. The community envisions a transportation system that provides for a neighborhood where residents can walk to a light rail station and a boat moorage; where streets accommodate all modes of transportation; and where residents and businesses benefit from access to the island that is provided by local access lanes and a new bridge over the Columbia River.

Environment and Open Space

The environment and availability of open space are important issues to Hayden Island residents. As these issues relate to the station area and its environment, residents would like more open spaces, trails, and gathering areas, which are currently very limited, and a “green philosophy” that applies to all private development and public infrastructure development on the island. The green philosophy would also be applied when looking at hardscape surfaces and runoff for the station and other infrastructure.



An example of a mixed-use community with an integrated light rail station (Source: ZGF)

New Transit-Oriented Development

A critical piece of the Hayden Island Plan is to modernize and improve the Jantzen Beach SuperCenter and incorporate long-term options for more dense mixed-use development. These plans include redeveloping the existing mall to include new retail outlets that are designed around an urban grid street pattern. This new street grid will provide a more walkable block pattern that will over time develop as a mixed-use, mid-rise center with residential, retail, and commercial uses. Redeveloping the shopping center in a fashion that supports transit-oriented development and incorporates the new light rail station creates an opportunity for a plaza and gateway, both physical and symbolic, to Hayden Island.

A New Center

The Hayden Island Plan envisions a new center around the light rail station that is a walkable, mixed-use community. This center concept relies to a large degree on the surrounding future development pattern, primarily on the Jantzen Beach SuperCenter site. However, the future street and bicycle and pedestrian system will also play key roles in how well the center serves its intended function. The light rail station will also serve a critical role in supporting the desire for redevelopment with a new, transit-oriented center, but it should be viewed in context, as one component within a larger system that shapes development.

New Local Street System

Given the unique characteristics of Hayden Island and the goals and themes of the Hayden Island Plan, the plan proposed a specialized local street network and set of street types. These street types respond to the general City of Portland policies regarding the development of a multimodal transportation system and are consistent with all modal classifications within the City's Transportation System Plan. The intent of the local street network and various street types is to provide logical circulation for all modes and suitable access to planned land uses. The local street network is intended to be compatible with the planned Columbia River Crossing.

As part of the Columbia River Crossing Project, a new east-west street connection would be added between North Jantzen Avenue and North Hayden Island Drive. This report refers to this new east-west street as Tomahawk Island Drive.

LOCALLY PREFERRED ALTERNATIVE

In July 2008, local project partners reached consensus on a replacement bridge with light rail to Clark College in Vancouver as the Locally Preferred Alternative (LPA). The LPA was chosen because it offers the best opportunity to meet project goals and serve community needs. Local project partners considered information in the Draft Environmental Impact Statement, a recommendation from the 39-member CRC Task Force and public comment when making their recommendation.

The CRC project is developing designs with input from the public. Over the next year, the project will be working on light rail route, station location and design; interchange design; pedestrian and bicycle facility design; and, financing. Additional analysis of the environmental and community effects will be included in a Final EIS, expected in 2010.

The LPA includes extension of the MAX Yellow Line from the Expo Center through downtown Vancouver to Clark College but does not specify transit alignment or station locations. In June 2009, the CRC Project Sponsors Council directed project staff to further analyze the project for potential refinements that could produce cost savings while maintaining the project's environmental, economic, transportation and safety benefits. In coordination with project partners, CRC staff prepared a recommendation that reduces the project's cost by \$650 million. One component of this refinement plan includes reusing the North Portland Harbor Bridge instead of rebuilding it. The design concepts in this report reflect both reusing or rebuilding the bridge over the North Portland Harbor.

These design issues have an impact on where the light rail station will be located and its elevation near the interchange. The design concepts contained within this report (Section 4) reflect the potential locations and elevation of the station.



Project Area Map Depicting the Locally Preferred Alternative (Source: CRC Project)

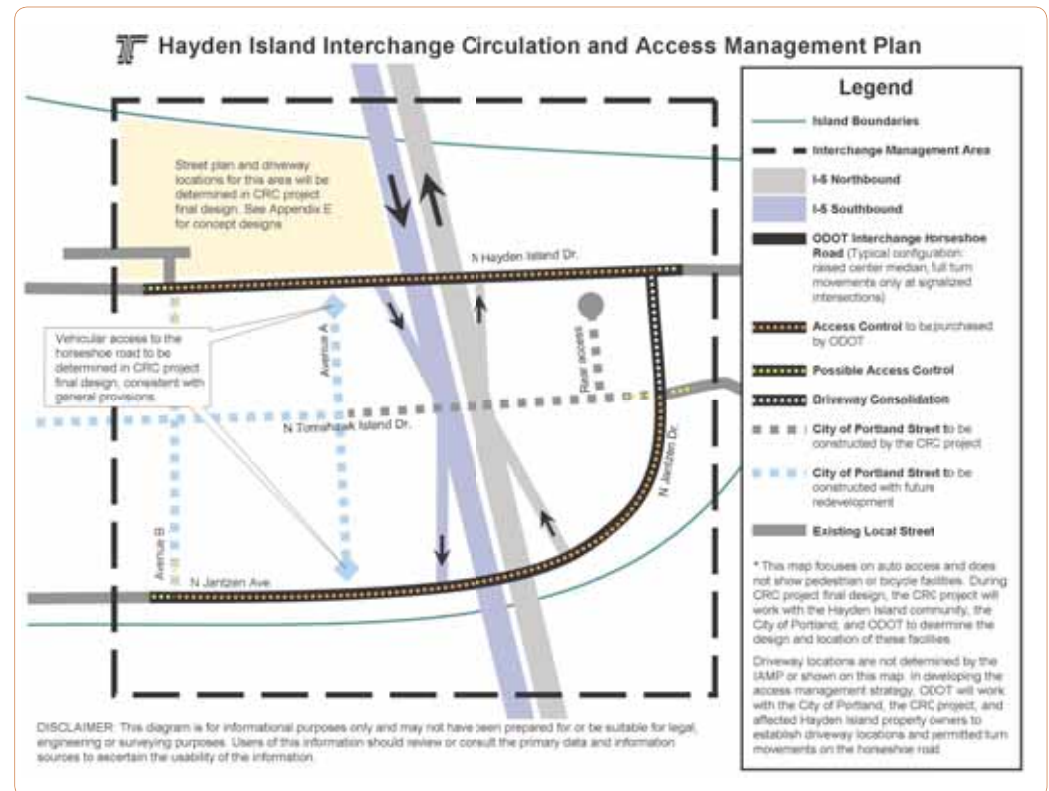
THE HAYDEN ISLAND INTERCHANGE AREA MANAGEMENT PLAN

The Oregon Department of Transportation (ODOT) is currently developing the Hayden Island Interchange Area Management Plan (IAMP) in conjunction with the CRC and the City of Portland. The purpose of an IAMP is to ensure safe and efficient operations between connecting roadways, to protect the function of the interchange, and to minimize the need for future major interchange improvements. It is required by law for any new or significantly reconstructed interchange (OAR 734-051-0155.6). Because new interchanges are very costly, state and local governments, as well as citizens, have an interest in ensuring that interchanges function as intended for as long a period as possible, while still supporting the planned land uses.

The goals of the Hayden Island IAMP are to:

- Ensure safe and efficient operations of I-5 and Hayden Island local streets in the long term.
- Balance the needs of the Hayden Island community with the needs of the traveling public.
- Create safe accesses for local businesses and property owners that are as convenient as possible.
- Support the vision laid out in the City of Portland's Hayden Island Plan.
- Consider current land uses and the potential for future development.
- Keep traffic moving smoothly on roads that connect the different parts of the interchange.

A public open house was held in October 2009 and another open house will be held in Spring 2010. ODOT will continue reviewing the input gathered from these and events work with CRC and the City of Portland to develop the Draft Hayden Island IAMP. This plan may affect connections to North Jantzen Avenue and North Hayden Island Drive.



Circulation and access management being considered (Source: CRC Project)

III. STAKEHOLDER INPUT

This section discusses stakeholder input and the process for arriving at the Hayden Island LRT Station design principles.

PORTLAND WORKING GROUP

In order to ensure that the CRC project meets the expectations and needs of the community, the CRC team with the City of Portland TriMet have established an advisory committee called the Portland Working Group (PWG). The PWG helps ensure that community perspective is incorporated into design and planning for the extension of the MAX Yellow light rail line from the Expo Center to Vancouver. The group makes recommendations related to station area planning, business and community outreach, and construction impact mitigation for the Oregon portion of the project. The group started in 2009 and will meet through the preliminary engineering phase of the project.

The PWG is charged with:

1. Advising CRC project and jurisdictional partners during the Final EIS and Preliminary Engineering (PE) phases of the project on transit-related issues for the Oregon portion of the project.
2. Acknowledging the basic assumptions in the CRC project LPA adopted in July 2008 and the City of Portland's Hayden Island Plan, and working collaboratively toward maximizing the regional benefits and minimizing the impacts of the project as it moves forward.
3. Serving as a sounding board for project staff and decision makers on preliminary design issues (for example, station area planning) by:
 - a) Studying and discussing designs developed by staff.
 - b) Providing feedback to project staff based on community priorities.



PWG meeting (Source: CRC Project)



Stakeholders at the community workshop considered circulation for people using mobility devices (Source: CRC Project)

4. Providing a strong communication link between the project and representative stakeholders by:
 - a) Serving as a project liaison: conveying project-related information to and from respective communities and interest groups.
 - b) Identifying stakeholders and helping facilitate contact with those groups and individuals.
 - c) Regularly receiving public testimony regarding the project at each PWG meeting.

There are 12 members of the PWG as of December 2009 they included:

- Richard Carhart, Hayden Island Neighborhood Network (HiNooN)
- Pam Ferguson, Hayden Island Manufactured Home Owners and Renters Association
- Brad Howton, Columbia Crossings
- Bill Jackson, Safeway Corporation
- Sam Judd, Jantzen Beach SuperCenter
- Steve Kayfes, Kenton Neighborhood Association
- Tom Kelly, Member-at-Large
- Charlie Kuffner, Pedestrian Advocate
- Colin MacLaren, Friends of Portland International Raceway
- Barbara Nelson, Jantzen Beach Moorage, Inc.
- Deborah Robertson, Bridgeton Neighborhood Association
- Walter Valenta, Waterside Condo



Community workshop (Source: CRC Project)



PWG meeting (Source: CRC Project)

Members of the PWG provide in-depth knowledge of the local community. They are community leaders, many of whom were involved in the development of the Hayden Island Plan and/or served on other CRC advisory groups.

MEETINGS AND COMMUNITY WORKSHOP

Two interactive PWG meetings and a community workshop were held to garner public input regarding the Hayden Island LRT Station design. The CRC staff, consultant team, and City of Portland provided context, a discussion of how designs had been implemented at other stations, and drawings and three-dimensional models of three potential Hayden Island LRT Station designs for the PWG and the public to react to. The process was iterative, with changes made to concepts based on input along the way.

PWG Meeting 1

The first PWG meeting was held on September 9, 2009, to provide the groundwork for station planning and to get the PWG's direction to take to the public workshop. The meeting included:

- An overview of station design context (planning, regulatory, and CRC project context).
- A discussion of station design elements and examples of how other stations have addressed them.
- A framework for thinking about the station facing the community, embracing the community, intersecting with the community and other transportation modes, and providing a gateway to the community.
- PWG recommendations for improving station concepts.

Based on input from the PWG, the consultant team's urban designers

revised the two preliminary station concepts and added a third concept design.

Community Workshop

The PWG hosted a community workshop on September 30, 2009, with approximately 50 people attending. The CRC project's architects and urban designers worked with the PWG and public to develop preferences for the six station design elements illustrated by the three Hayden Island station concepts. The six station design elements explored were:

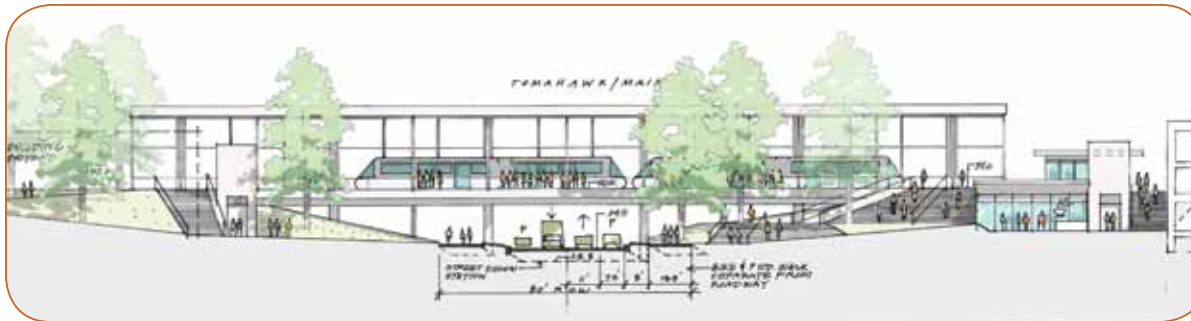
1. Station position and type
2. Height and vertical circulation
3. Pedestrian and bicycle connectivity
4. Relationship to adjacent streets and development
5. Station architecture and gateway treatments
6. Safety and security

Next, the group broke into four groups to review the three design concepts: (1) Elevated, (2) Gateway, and (3) Plaza. PWG members facilitated discussion of the likes and dislikes related to how the three concepts performed in general and what was successful or lacking in how a concept incorporated each design element.

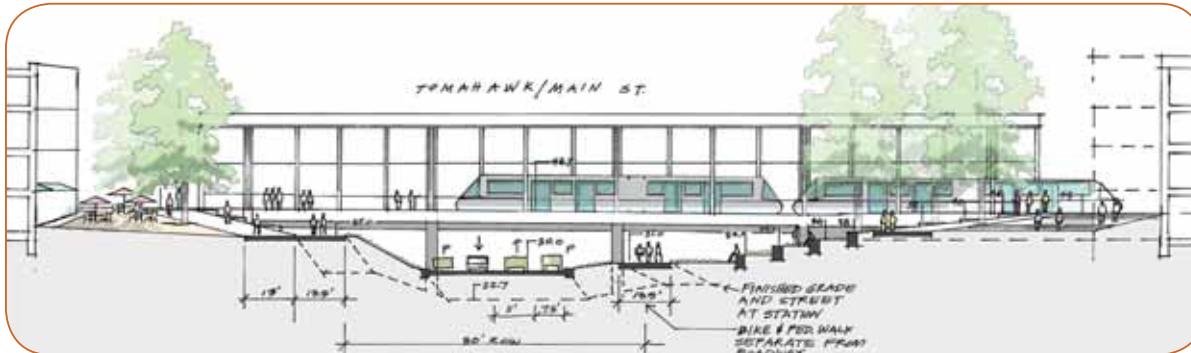
PWG Meeting 2

The PWG reconvened on October 14, 2009, to synthesize its aspirations with those heard at the community workshop. Grounded in context and having explored different potential scenarios, the group provided design principles for the station as outlined in Section 4 of this report.

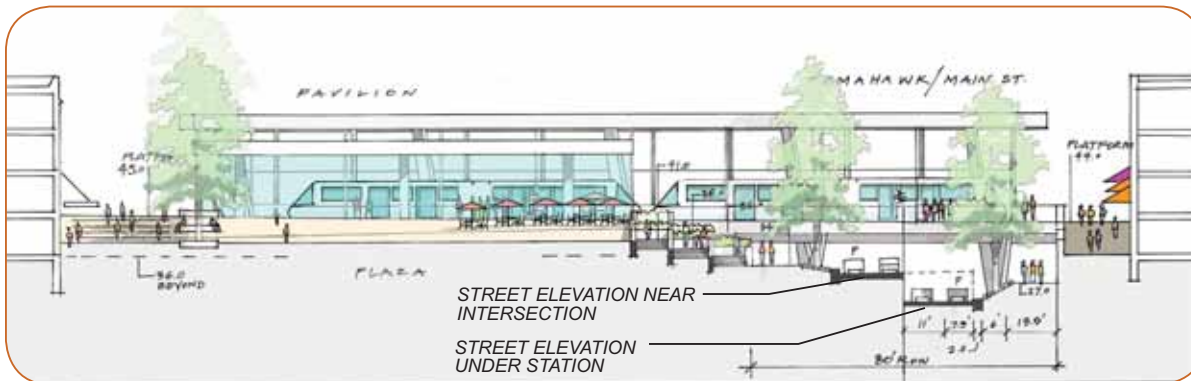
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Concept 1: The Elevated Station (Source: ZGF)



Concept 2: The Gateway (Source: ZGF)



Concept 3: The Plaza (Source: ZGF)

IV. DESIGN PRINCIPLES

PRELIMINARY CONCEPTS

The PWG helped to develop three potential design concepts to illustrate ideas that could be incorporated into the station design when it is constructed. One concept, the Elevated Station Concept, incorporates the Hayden Island interchange if it is constructed with new North Portland Harbor bridges, while the Plaza and Gateway concepts incorporate the existing North Portland Harbor bridge that would remain in place and at the same elevation. Any of the concepts could incorporate either side or center platforms. All of these designs are meant to complement the existing Hayden Island Plan and its proposed street and multimodal connections.

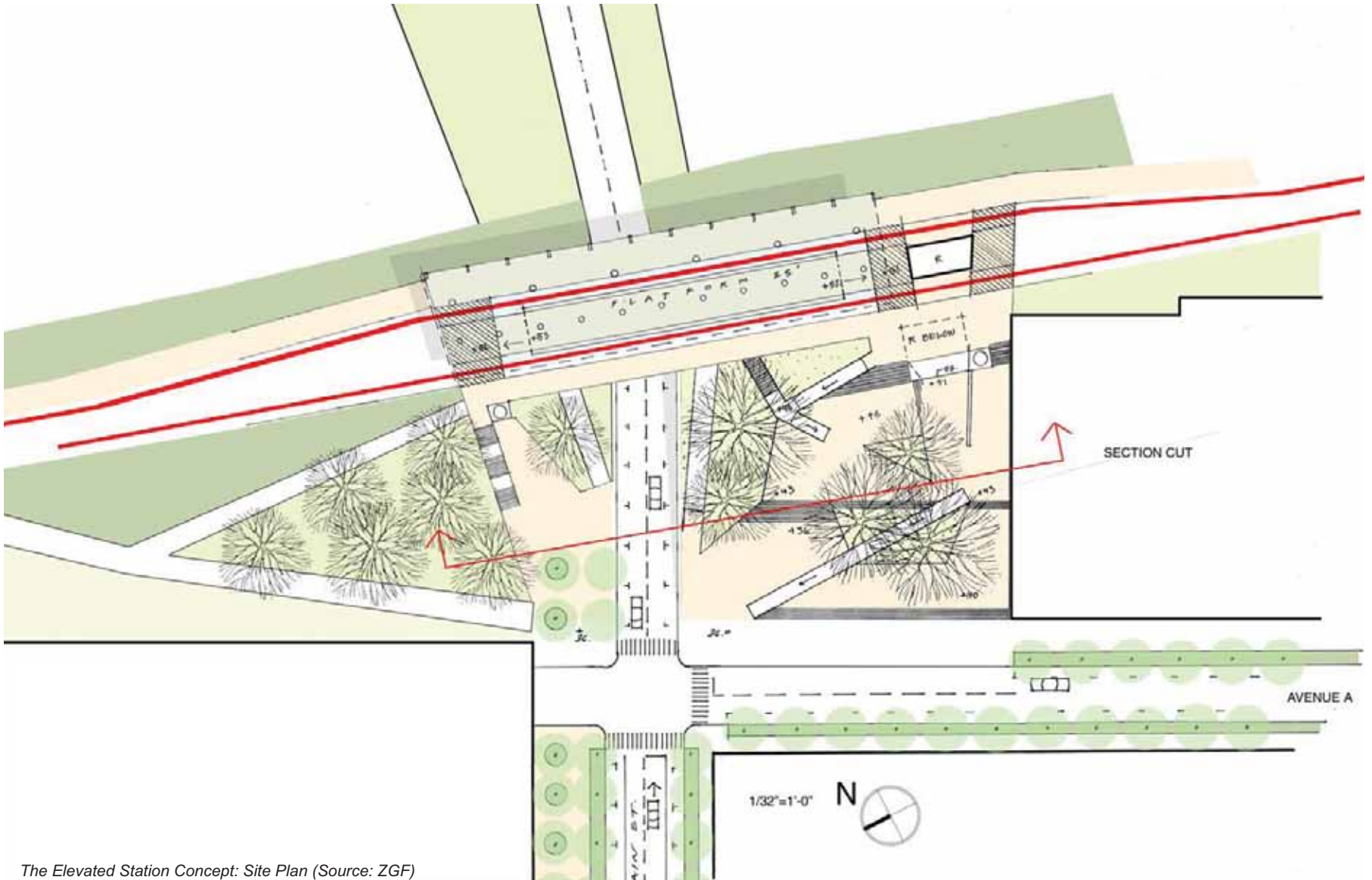
Concept 1: The Elevated Station Concept

The Elevated Station Concept was designed to respond to the LPA, which places the light rail station on the west side of I-5, approximately 124 feet east of the intersection of Tomahawk Island Drive and Avenue A. The station would be approximately 18 feet higher than Avenue A. In this concept, the station would be centered over Tomahawk Island Drive. Vertical circulation would be provided via a tiered plaza on the south side of Tomahawk Island Drive and a landscaped ramp running north toward North Hayden Island Drive, then switching back toward the intersection of Tomahawk Island Drive and Avenue A. Elevators and stairs would also provide access to both sides of Tomahawk Island Drive.

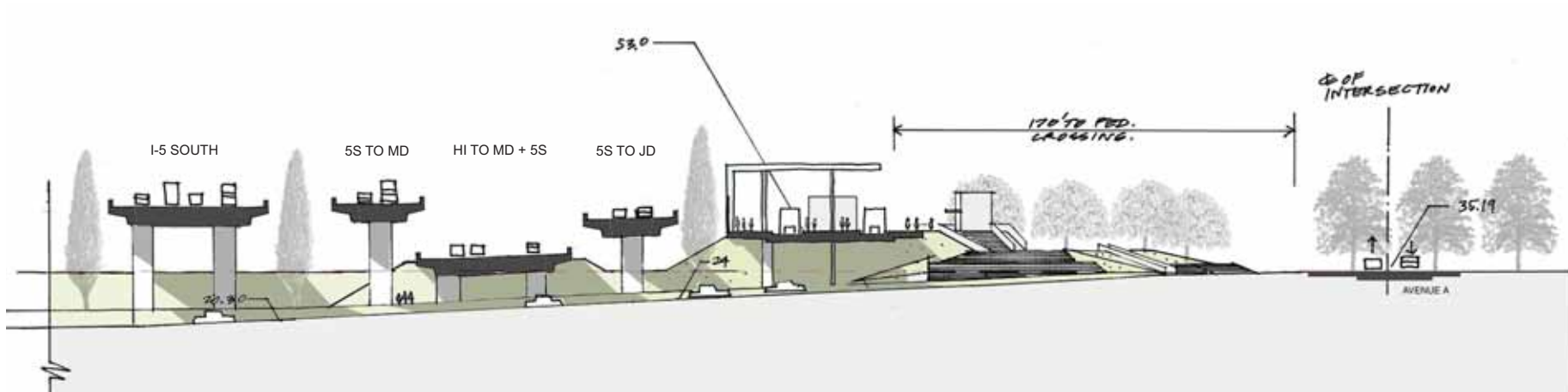
Of the three concepts, this concept least affected the elevation of Tomahawk Island Drive, because the North Portland Harbor bridge would be rebuilt as part of the LPA at a higher elevation than then it is today, resulting in higher elevations of the new on-off-ramps to the island. If the North Portland Harbor bridge is reconstructed as proposed, the lowest portion of Tomahawk Island Drive would be constructed approximately 14 feet below the existing grade to provide adequate clearance for the on-off-ramps on Hayden Island.



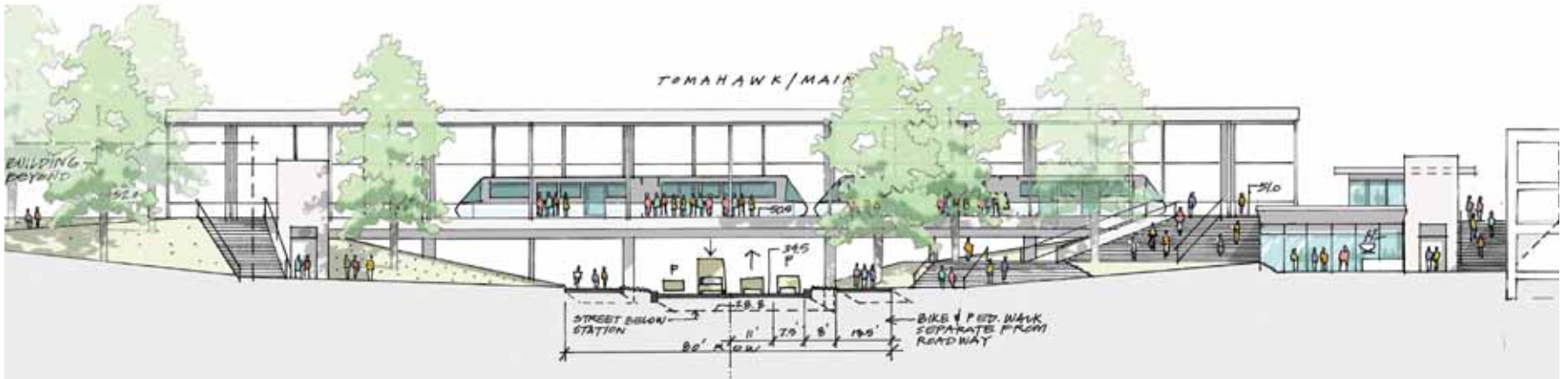
The Elevated Station Concept: Hayden Island Study Area. LPA freeway and LRT station are approximately 124 feet from Avenue A. (Source: ZGF)



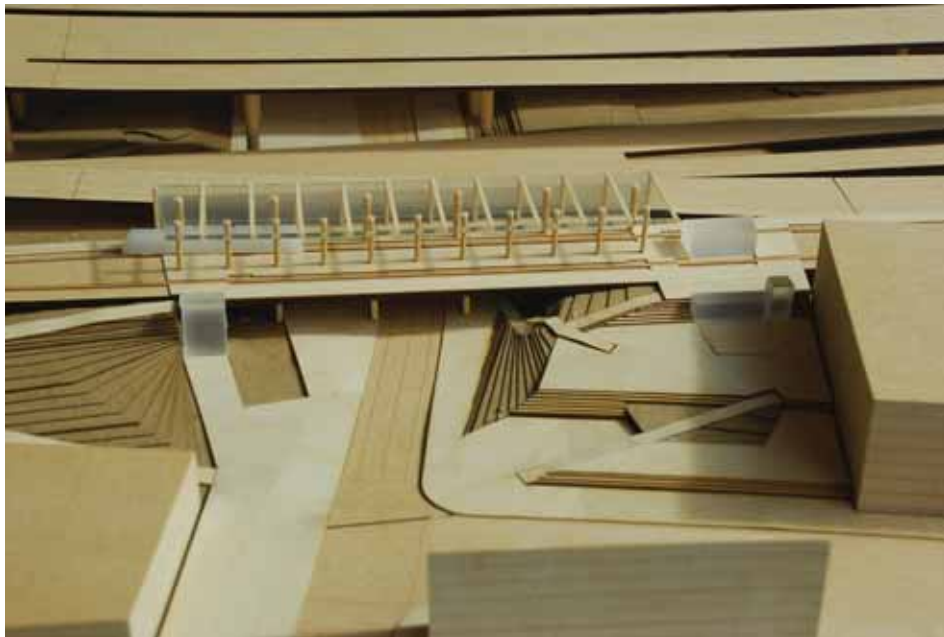
The Elevated Station Concept: Site Plan (Source: ZGF)



The Elevated Station Concept: Section of Tomahawk Island Drive looking south (Source: ZGF)



The Elevated Station Concept: Section looking east (Source: ZGF)



The Elevated Station Concept Model looking east (Source: ZGF)



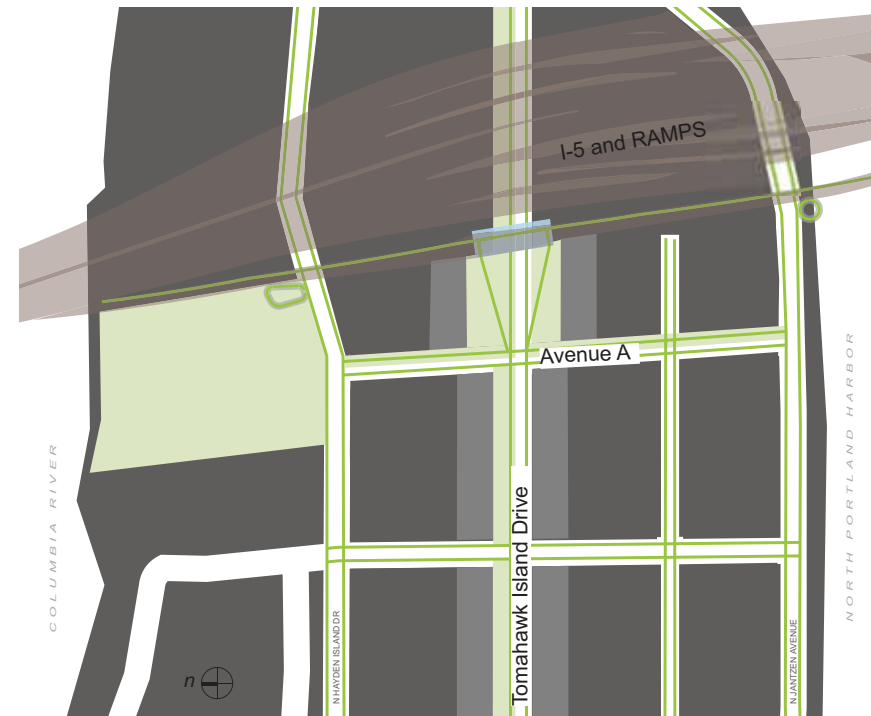
The Elevated Station Concept Model looking northeast (Source: ZGF)

Concept 2: The Gateway Concept

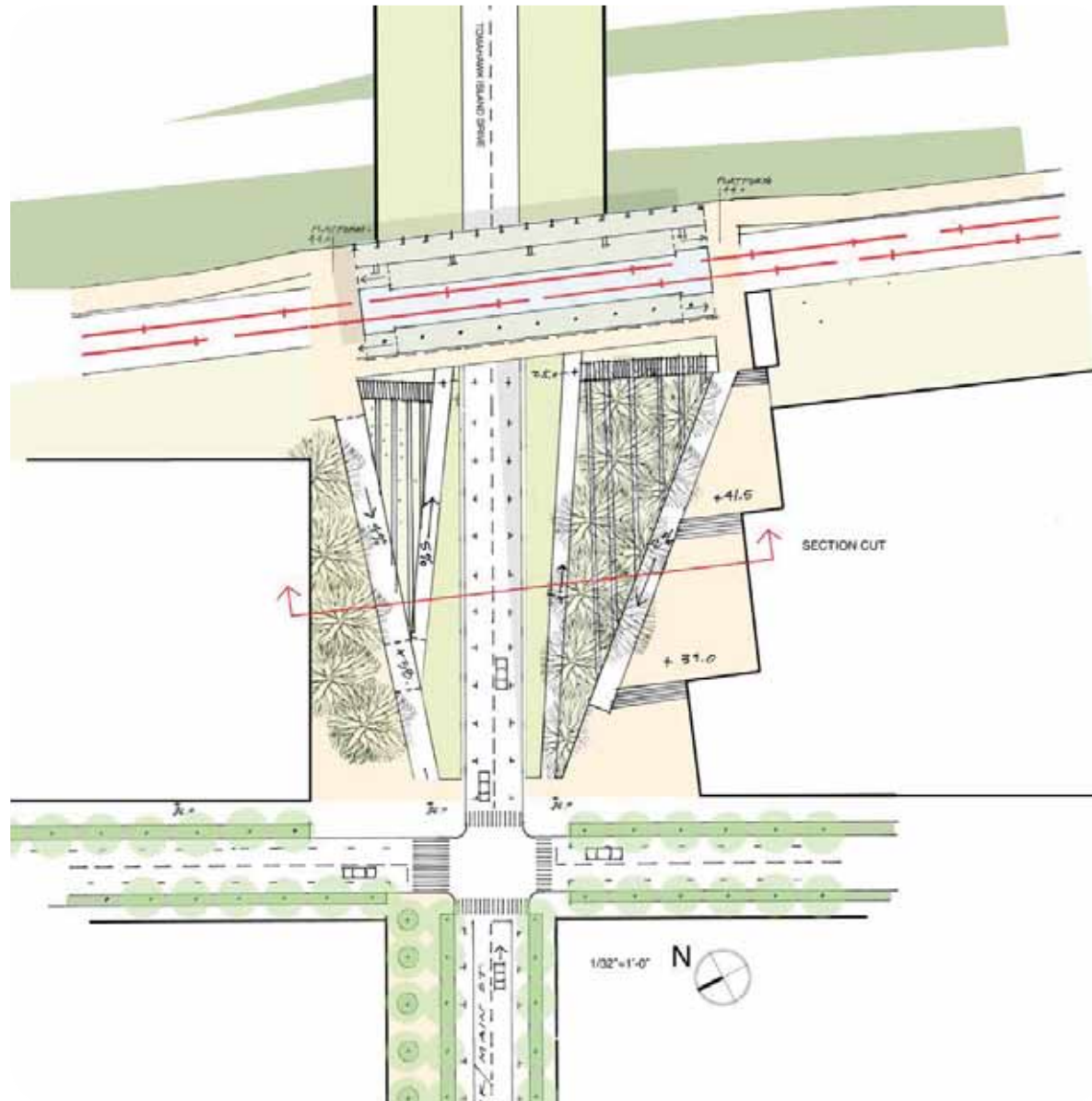
The CRC designers were asked by the Project Sponsors Council to find ways to reduce the overall cost of the CRC while maintaining project benefits and meeting community needs. As a cost cutting measure, a Revised Package (RP) of improvements was created. The RP includes using the existing North Portland Harbor bridge as opposed to reconstructing them as proposed under the LPA. The result is a lower structure over Hayden Island and a more easterly location for the Hayden Island interchange and transit station. The Gateway Concept was designed to respond to the RP highway option, which places the light rail station about 300 feet from the intersection of Tomahawk Island Drive and Avenue A, as opposed to approximately 124 feet from the intersection under the Elevated Station Concept.

The station would be approximately nine feet higher than Avenue A, which is lower than the proposed height of the station under the Elevated Station Concept, primarily because the interchange is also lower. In this concept, the station is centered over Tomahawk Island Drive. Vertical circulation would be provided by roughly symmetrical landscaped walkways, on both sides of Tomahawk Island Drive, which provide a gateway visual effect and a gradual approach to the station for users. Elevators would not be necessary, and stairs and sloped walkways would provide access to both sides of Tomahawk Island Drive. Stairs would be designed to accommodate people gathering and sitting on the landscaped areas, but would not provide the same type of open areas shown in the Elevated Station or Plaza concepts.

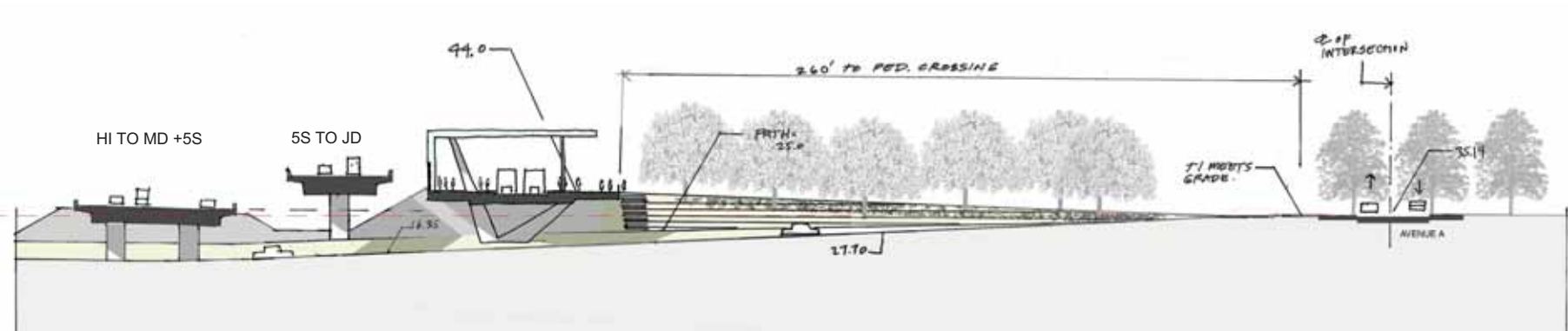
Tomahawk Island Drive would be constructed at approximately 22 feet below the existing grade, which is approximately 8 feet lower than under the Elevated Station Concept because of the reduced height of the I-5 structures.



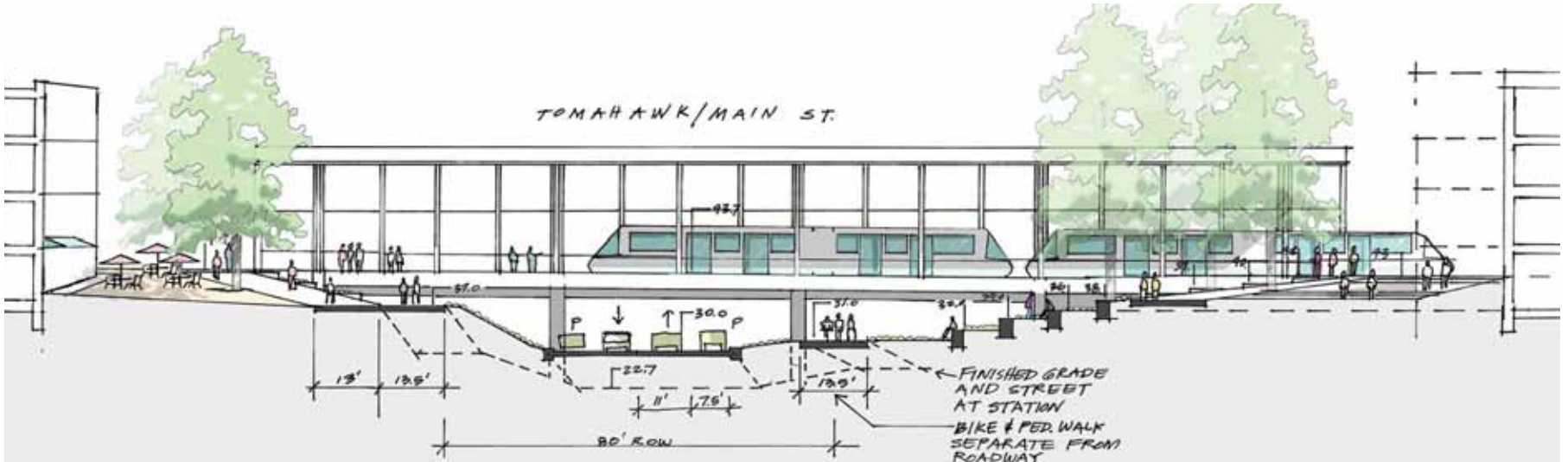
The Gateway Concept: Hayden Island Study Area. Refinement package with freeway and ramps moved east. The LRT station is approximately 300 feet from Avenue A. (Source: ZGF)



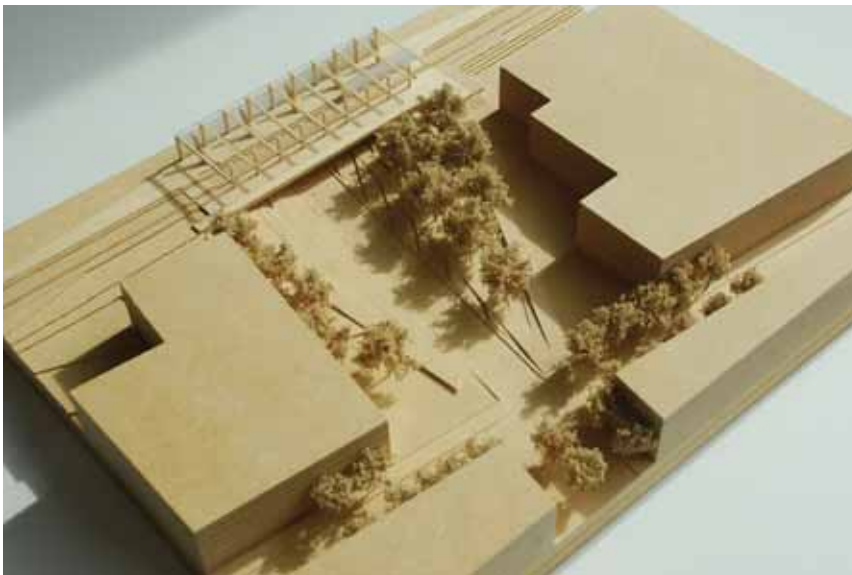
The Gateway Concept: Site Plan (Source: ZGF)



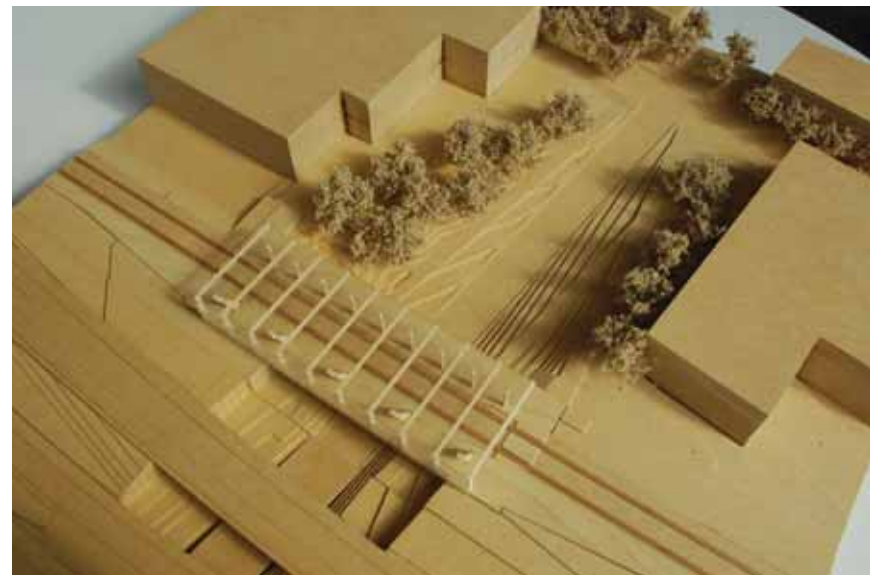
The Gateway Concept: Section of Tomahawk Island Drive looking south (Source: ZGF)



The Gateway Concept: Section looking east (Source: ZGF)



The Gateway Concept Model looking southeast (Source: ZGF)



The Gateway Concept Model looking west (Source: ZGF)

Concept 3: The Plaza Concept

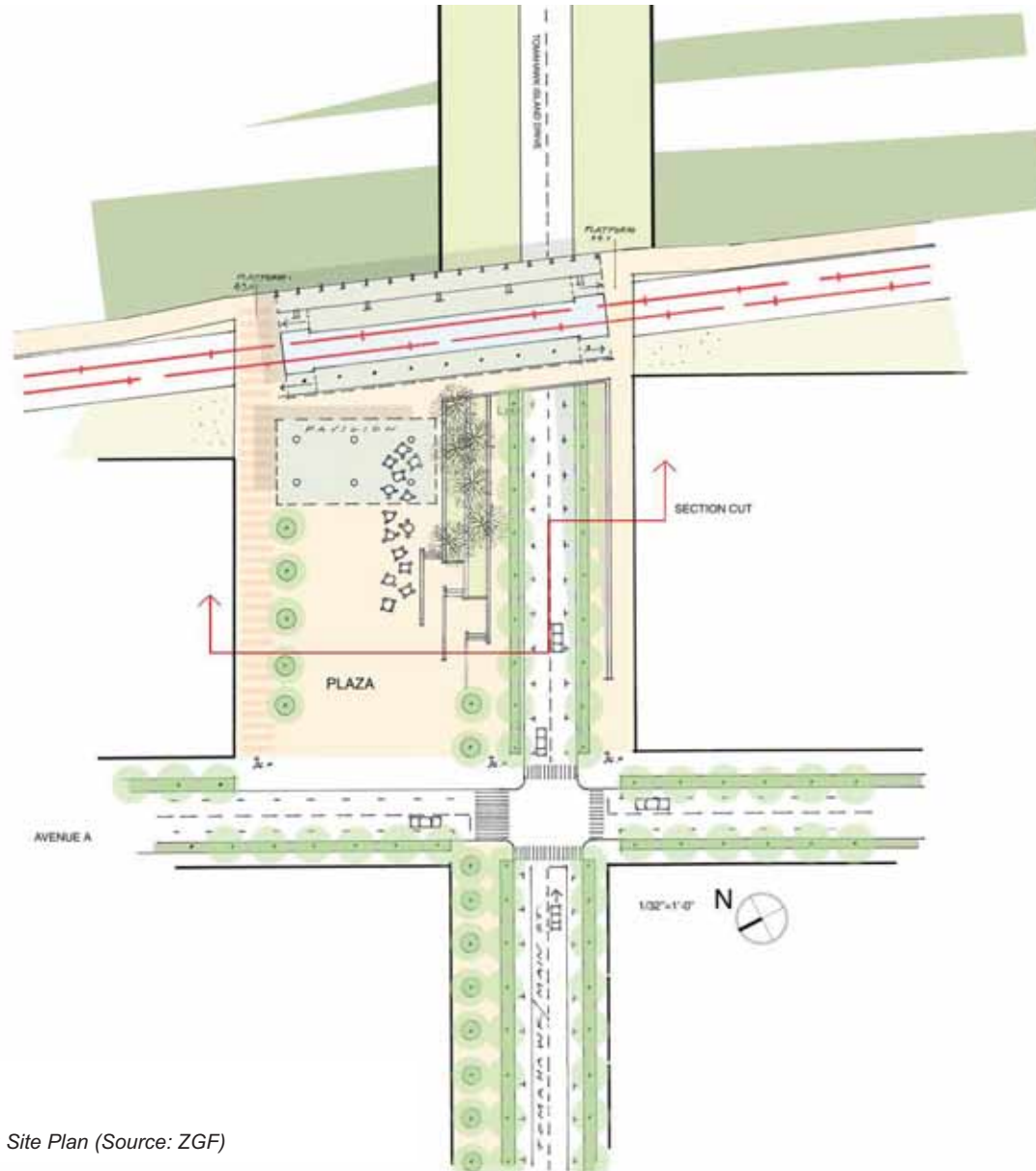
The Plaza Concept was designed to respond to the same circumstances as the Gateway Concept, which assumes that the RP is the approved package of improvements. As with the Gateway Concept, the Plaza Concept places the new light rail station approximately 300 feet to the east of the intersection of Tomahawk Island Drive and Avenue A, and the light rail station would be approximately nine feet higher than Avenue A.

The key differences between this concept and the Gateway Concept are that the station would be placed just north of Tomahawk Island Drive as opposed to centered over the road. This offset location allows the northern end of the station to frame a lightly sloping plaza that would be bordered by adjacent development on the northern edge that would focus on retail and would have the potential for a light pavilion. The southern end of the station ramps down to the southern sidewalk of Tomahawk Island Drive. Unlike the other two options, which use both sides of Tomahawk Island Drive more equally, this option focuses activity on the north side of the street, where the plaza is located. Access is provided on the south side of the road, but more as a means to reach the plaza and the station platform.

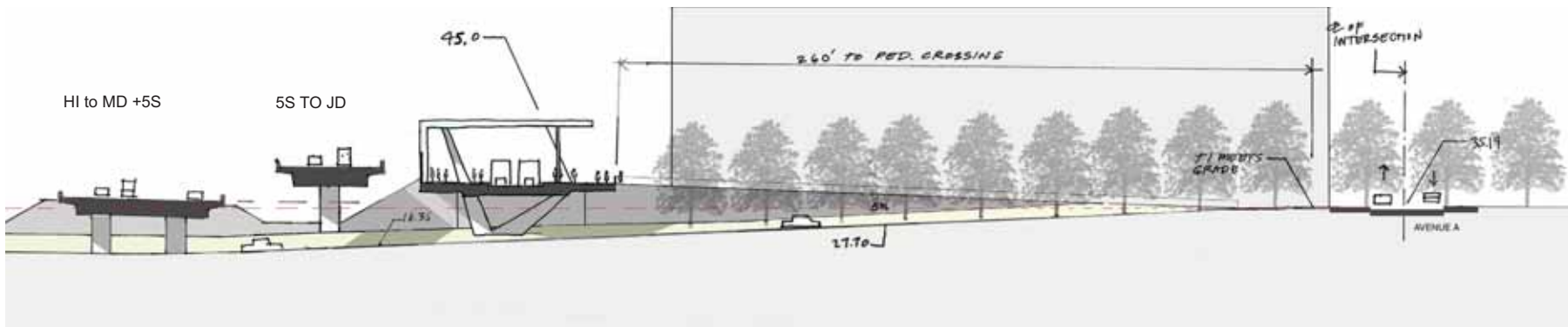
Vertical circulation is similar to the Gateway Concept, where access would be provided via a ramp from Avenue A to the southern end of the station, as well as by the sloping plaza. Elevators would not be necessary, but stairs and sloped walkways would provide access to both sides of Tomahawk Island Drive. In the current design, the station is configured with side platforms, but it could also accommodate a center platform.



The Plaza Concept: Hayden Island Study Area. Refinement package with freeway and ramps moved east. The LRT station is approximately 300 feet from Avenue A. (Source: ZGF)



The Plaza Concept: Site Plan (Source: ZGF)



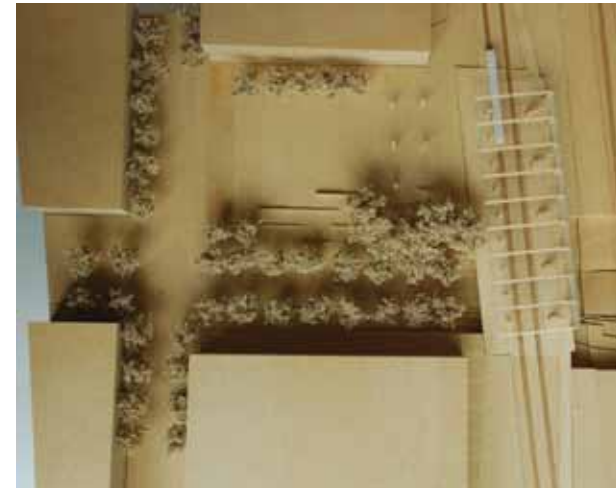
The Plaza Concept: Section of Tomahawk Island Drive looking south (Source: ZGF)



The Plaza Concept: Section looking east. (See red section line on page 25 for Tomahawk Island Drive elevations.) (Source: ZGF)



Plaza Concept Model looking east (Source: ZGF)



Aerial view of Plaza Concept Model looking north (Source: ZGF)

DESIGN ELEMENTS

The project team worked with the PWG to develop a series of design principles to guide the design of the future light rail station. Input from the community workshop and PWG was organized by the six design elements affecting the design and operation of the station, and how the station relates to the larger urban design of Hayden Island. Aspirations take the input and articulate how an ideal station might implement the design element given the input collected throughout this process.

Station Position and Type

Input

The community workshop attendees and the PWG all agreed that they like how the Plaza Concept functions and the potential connections it provides. However, there was less agreement about where the platform should be located. Some groups preferred the platform to be located to the north, as shown in the Plaza Option, while others liked the visual impact of a center-positioned station over Tomahawk Island Drive, as shown in the Gateway and Elevated concepts. Most people prefer the Center Platform because of its potential for clear way-finding.

Aspiration

The station is integrated into the surrounding development pattern and is an active location. The station also provides direct, easy access for all modes of travel. Connections are provided on both sides of the station, encouraging retail uses that support the transit users.

Height and Vertical Circulation

Input

The PWG and the public prefer a lower platform like that shown in the Plaza Concept because it provides better pedestrian and Americans with



An example of an elevated station that is accessible from both sides of the street, provides transparency, and protects riders from the rain and wind (Source: ZGF)



An example of a gently sloping public space that fosters a sense of place, provides gathering spaces, and enhances visual and physical connectivity (Source: ZGF)

Disabilities Act (ADA) access. Access with either the Plaza or Gateway concepts can be provided via stairs and ramps and would not require elevators. If an elevated structure is unavoidable, the PWG would like to have a combination of an elevated station with a plaza as a gathering space.

Aspiration

The station is constructed at gently sloping grades that maximize connectivity to the surrounding area and provide gathering points. Redundant, easily accessible elevators/escalators and stairs to ensure accessibility, resting, and passing areas are provided. Transit users have clearly demarcated areas on the platform to catch the train.



An example of maximizing accessibility and integrating the station with surrounding development (Source: David Evans and Associates)

Pedestrian and Bike Connectivity

Input

Height and grade of the station are concerns for the island community, who prefer that grades be kept to a minimum. If the station is elevated, they would like redundant systems (i.e., elevator and escalator) to ensure there is easy access to the station. Several people also stressed the need for clear and accessible way-finding to the platform and station area, and stressed that pedestrian and through bicycle traffic should be separated as much as possible and sheltered bike parking should be provided for protection against the elements.

Aspiration

Bicycle and pedestrian paths are clearly marked and provide easy way-finding to the station and to regional trail connections. Multi-use trails are separated from areas where people are waiting to catch the train.



Pedestrian, bicycle, and transit connections support ridership and make the system accessible to many users (Source: City of Bellevue)



An example of a station that provides clear pedestrian connections, demarcates pedestrian areas, and relates to the adjacent street (Source: David Evans and Associates)



Examples of kiss-and-ride signage and use of bike lanes to promote clear and accessible mobility choices to the transit station (Sources: Flickr Mike_fj40 and David Evans and Associates)



An example of a station that provides adjacent development and enhances safety by having active uses around the clock (Source: ZGF)

Relationship to Adjacent Streets and Development

Input

The PWG strongly voiced a desire for a designated area for shuttle and kiss-and-ride parking near the station. Much of the existing residential development is not located near the station and many of the residents who might use the station are elderly. Strong connections should also be available that link the station to the surrounding area and local street grid, creating spaces that are inviting to people and increase potential development opportunities. If possible, including retail on or near the platform area should be encouraged to help activate the area and deter negative activities.

Aspiration

The station environment becomes a place, not just a platform to catch the train. Some retail is provided on or near the platform. The station also provides a context for adjacent development that provides services to support transit users. The adjacent streets provide exceptional connectivity for all modes of travel and have drop-off and pick-up spots near the station.

Station Architecture and Gateway Treatments

Input

There is considerable support for a plaza for use as an active space with a management entity to schedule events and uses. The platform itself should be sheltered from the elements and highway noise and potentially incorporate the westward views. There was also a strong desire to acknowledge the history of the island in some fashion. The connections from the station to the local street system are important, but some felt that the Gateway Concept could limit how well those connections might be made.

Aspiration

The station is sheltered from the elements and noise from the freeway, but solar access is maintained by siting the station to take advantage of the sun and providing design guidelines for surrounding buildings to minimize shading. The station is designed with materials that are resistant to graffiti and vandalism, and a program is established to keep the station clean and in good repair. The station design references what is special about Hayden Island, such as its history.

Safety and Security

Input

The PWG frequently mentioned safety and security as important issues, specifically defining ways to reduce vandalism and minimize areas where people can hide. If an elevator is needed



An example of a station that creates a gateway and sense of arrival (Source: ZGF)

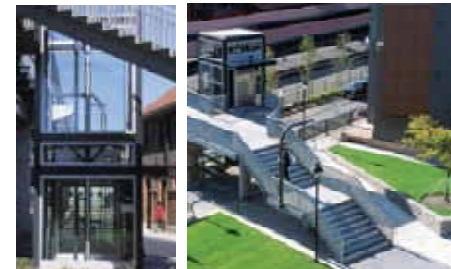


An example of how materials, landscaping, and architecture reflect community history. Orenco Station takes its name from the "Oregon Nursery Company," the original landowner. Vegetation and art play a significant role at the station and surrounding developments (Source: David Evans and Associates)

at the station, it should be transparent in order to allow sight in and out.

Aspiration

Ideally, the station is clean, well lit, and does not provide hiding places. There is also a security station located at the station that improves safety and reduces undesirable behavior.



An example of a transparent elevator and an open architecture promoting visibility (Source: ZGF)



The presence of law enforcement or security personnel discourages loitering and vandalism at stations, increases the level of surveillance and security, and helps reduce fare evasion (Source: David Evans and Associates)



Simulation of potential station elements (Source: ZGF)

RECOMMENDED DESIGN PRINCIPLES FOR THE TRANSIT STATION

The input provided on the six design elements from the community workshop and PWG provided a context to develop a series of design principles to help guide the station design, regardless of which package of interchange improvements the CRC Project Sponsors Council recommends. The recommended design principles are:

- **Create a station environment that is safe, attractive, and inviting for transit users, visitors, and island residents.**
- **Provide circulation paths that allow clear connections to or through the station area for users of all modes with varied abilities.**
- **Develop a station area that embraces and engages its surroundings with transparency and activity.**
- **Design a station that protects transit users from freeway noise and the natural elements, while providing light, views, and clear way-finding.**
- **Design a station that includes features referencing historical or cultural values unique to Hayden Island.**

As the project is further developed and more information about the transit station and interchange design is available, the design principles should be revisited periodically to ensure that they are being implemented as originally planned, or revised to reflect new information.

URBAN DESIGN ADVISORY GROUP

The Urban Design Advisory Group (UDAG) advises the CRC project on the appearance and design of bridge, transit, and highway improvements. This bi-state group is led by former Vancouver Mayor Royce Pollard and Portland Mayor Sam Adams. The 16 members from Washington and Oregon contribute diverse professional and community perspectives on a variety of topics including architecture, aesthetic design, cultural and historic resources, community connections, and sustainability.

In September 2009, UDAG unanimously adopted its Aesthetic Design Guidelines report and approved the design concept for the main span across the Columbia River. The asked for additional review of two alternatives for the North Portland Harbor bridges.

UDAG has met 14 times as a full committee and has held multiple smaller, subcommittee meetings. The group's design guidelines and architectural design concept reports are included in this section of the notebook.

Staff

Rob Turton, CRC Design Team

Bradley Touchstone, CRC Design Team

Mandy Putney, CRC Communications Team

Members

Portland Mayor Sam Adams, Co-Chair

Royce Pollard, Co-Chair

Rob Barrentine, Vancouver Design Review Comm., Architects Barrentine Bates Lee

Ed Carpenter, Artist

Jane Hansen, Lango Hansen Landscape Architects, P.C.

Mark Masciarotte, Aviation Advisory Committee

Dick Pokornowski, Downtown Redevelopment Authority

Carrie Schilling, Works Partnership Architecture

Jeff Stuhr, HOLST Architecture, Portland Design Commission

Dave Smith, Vancouver Planning Commission and Design Review Committee

Peg Johnson, Jantzen Beach Moorage Association, Inc.

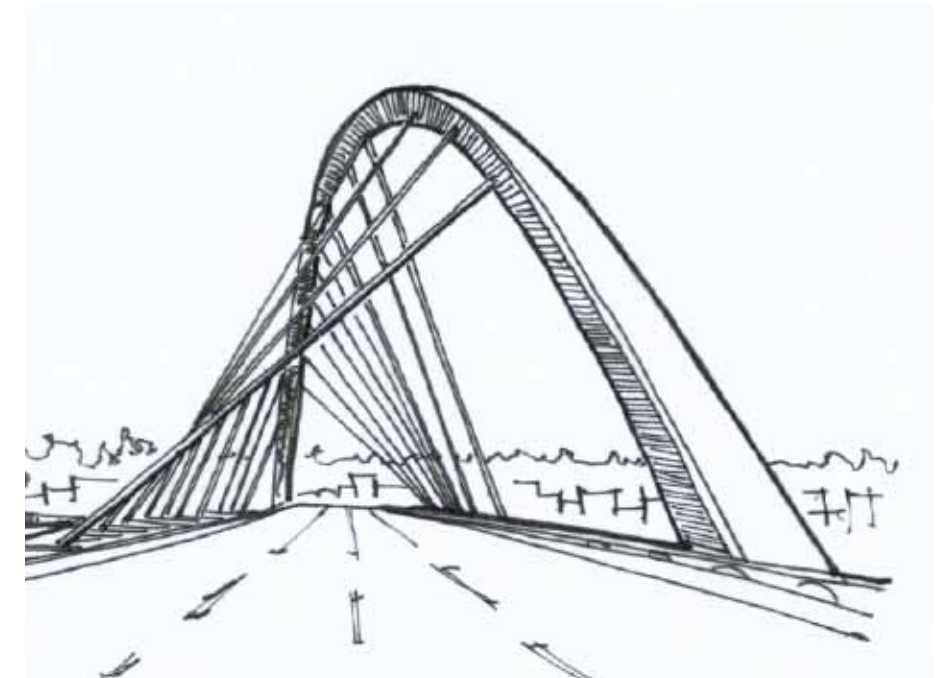
Walter Valenta, Bridgeton Neighborhood Association

Marcia Ward, Salmon Creek neighborhood



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Introduction

In December 2006, the Urban Design Advisory Group (UDAG) was formed, including 14 government and non-government representatives from Vancouver and Portland under the joint chairmanship of Mayor Royce Pollard and Mayor Sam Adams. UDAG members determined that one of their primary functions would be to develop design guidelines for implementation by CRC staff throughout the design process. These design guidelines pertain to the main span across the Columbia River, but also to the urban design of all other elements of the five mile corridor. Those guidelines were published in June, 2008 in a document titled *"DRAFT - Design Guidelines for the Columbia River Crossing"*.

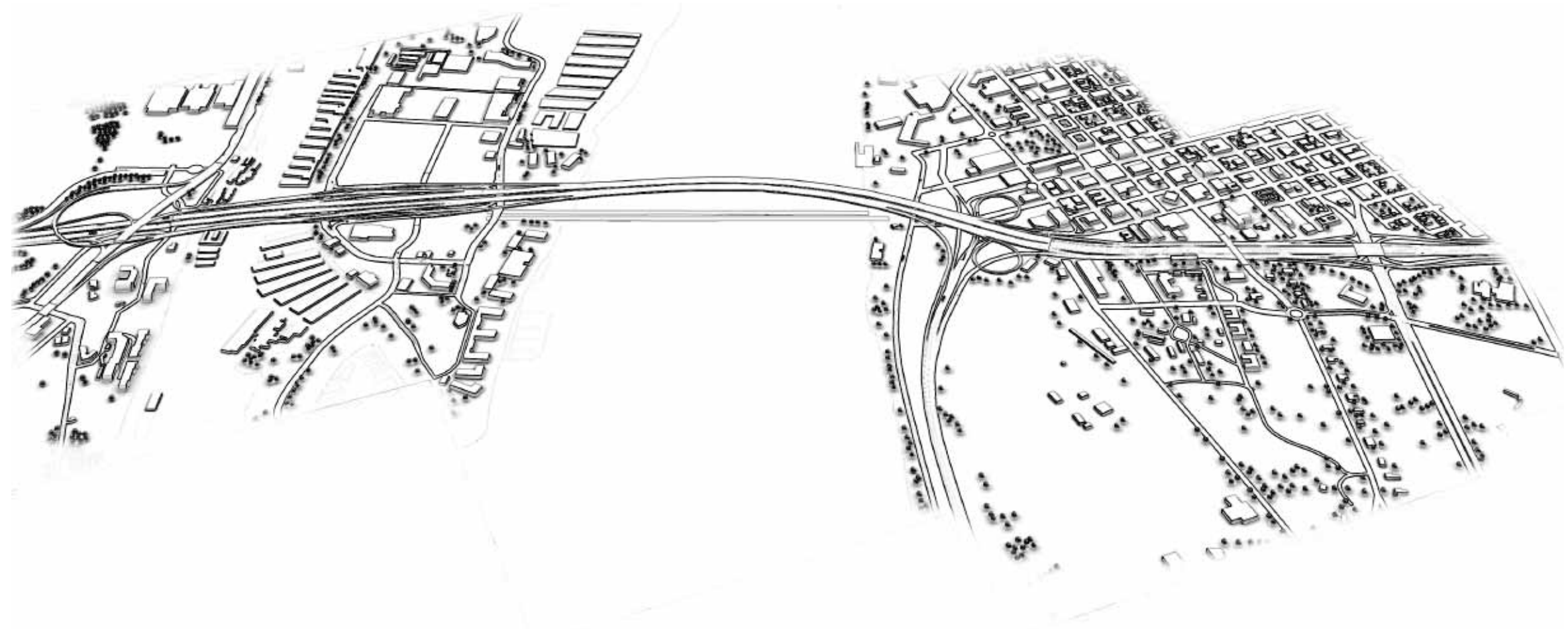
This Architectural Design Concept Document (Concept Document) has been developed through close collaboration between the UDAG Aesthetic Design Sub-Committee (ADS) and the CRC Design Team. It builds on the *"DRAFT - Design Guidelines for the Columbia River Crossing Project"* by creating a focused design direction for the Columbia River Crossing and the North Portland Harbor Crossing.

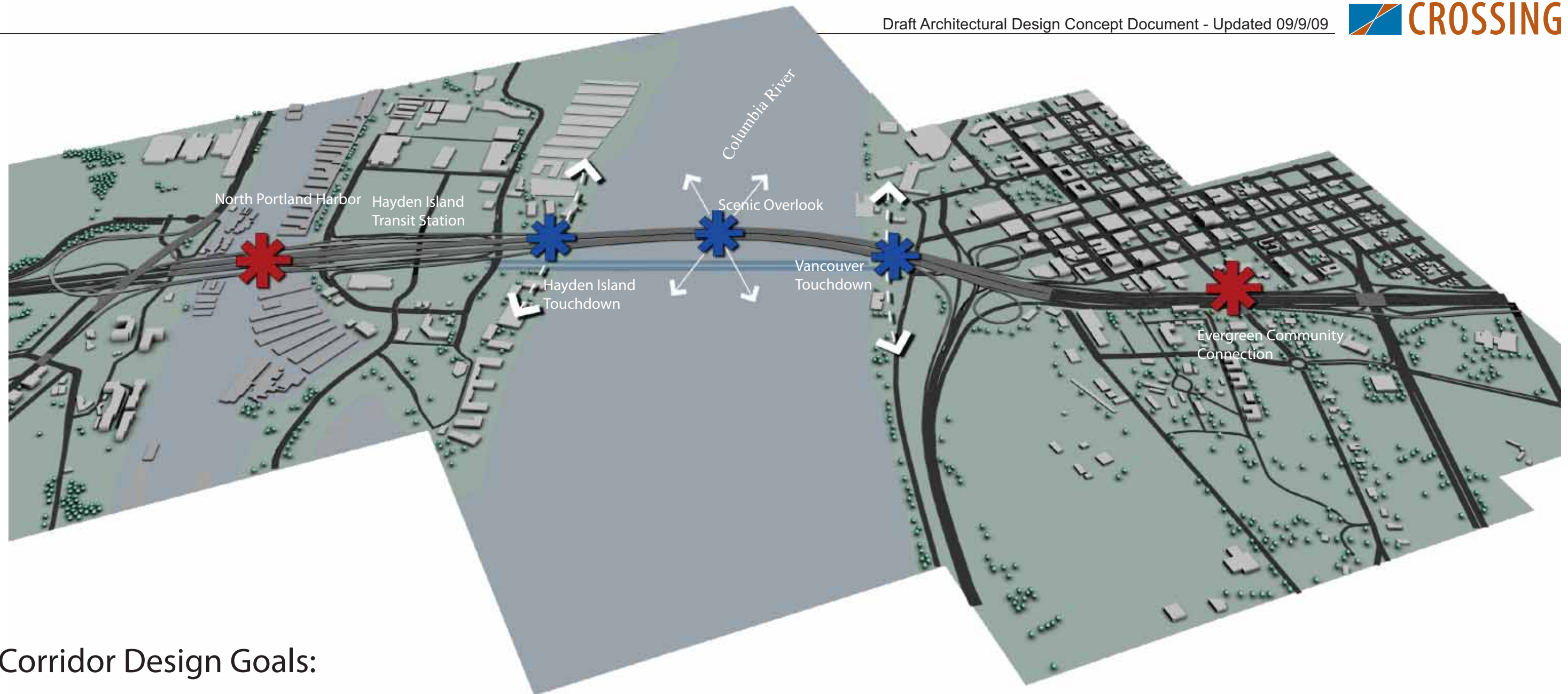
In May of 2009 the UDAG formed the Aesthetic Design Sub-Committee (ADS) to study architectural design concepts for the Columbia River Crossing / North Portland Harbor Crossing and provide design recommendations. This Concept Document establishes a design direction for the project that implements many of the goals set forth previously in the June 2008 Document and encompasses the body of work performed by the ADS. The design ideas represented herein are not the final product, rather, they are the result of ADS deliberations and study over the last four months.

This report represents a starting point and is intended to provide guidance and direction as the project moves forward; it embodies the concepts preferred by the ADS and responds to the charge of providing recommendations by establishing a design direction for the entire project, from the Evergreen Community Connection in Vancouver to the North Portland Harbor Bridges. It is anticipated that the design will evolve and will be refined over the next two years with continued input from a wide array of stakeholders in the project.

Many decisions will need to be made in the development of a final design for the CRC Project. It is important that no decision be made in a vacuum. Instead, decisions should be made considering the over-arching goals of the project. Each individual element of the project will participate in the success of the job. This narrative begins to map out a strategy and design direction that can be used in future decision making processes.

Corridor Design Goals





Corridor Design Goals:

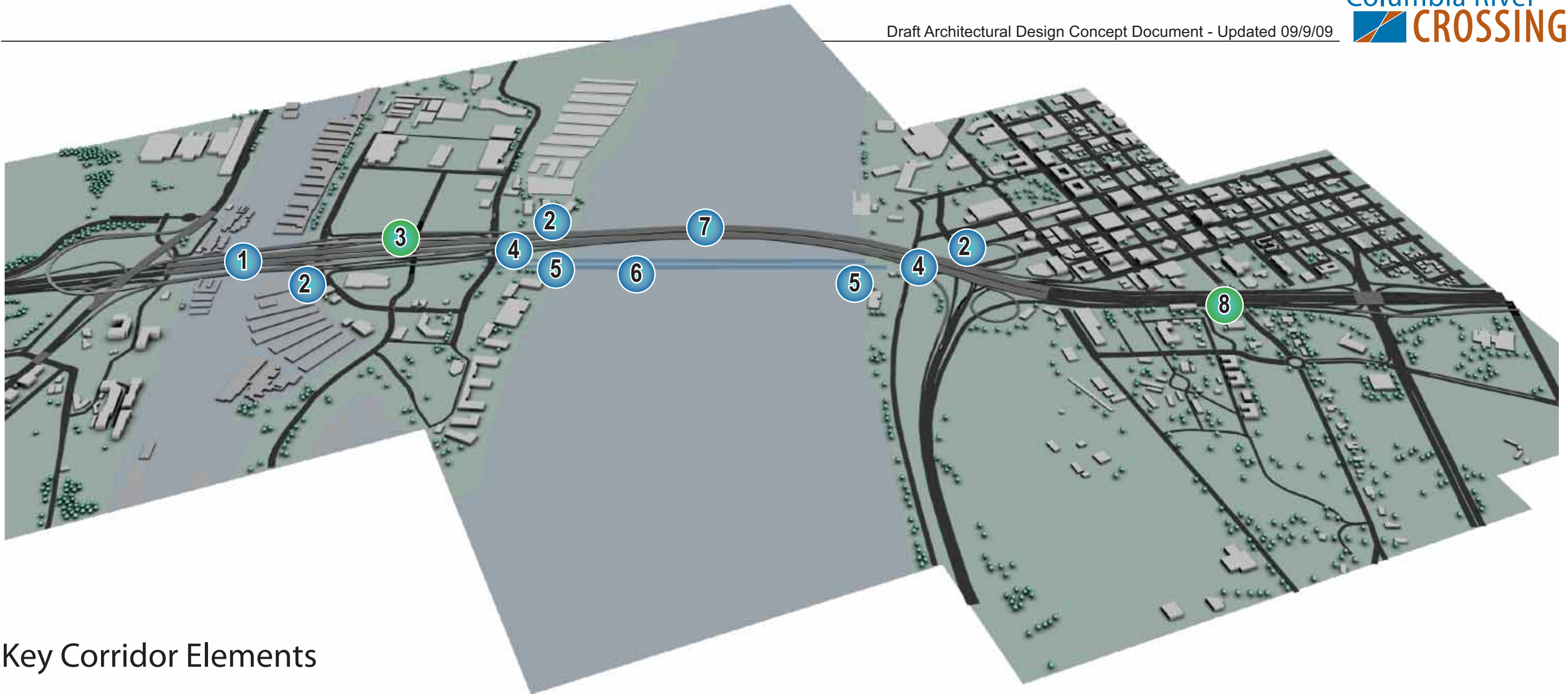
The Columbia River Crossing Project is comprised of a series of experiential events which are illustrated above. These events are anchored by the Evergreen Community Connection to the north and the North Portland Harbor Bridges at the south.

Given the complex nature of this project, it would be very easy to create visual clutter and confusion. Instead, we want to create a corridor that consists of many parts working in harmony to create a holistic and unified design statement. Every element of this project should contribute to a visual experience of the users and share threads of commonality. We have begun the design process by identifying the largest components and their associated experiences. These large components coincide with a major event along the corridor.

Corridor experience begins and ends with the North Portland Harbor Bridges to the south and the Evergreen Community Cap to the north. Between these anchor points are a series of smaller events which correspond to intersections, structural changes and opportunities for views to and from the bridge.

Each event along the corridor should be designed to create a unique and memorable experience and will naturally have many unique characteristics. For example, the Hayden Island Transit Station will be comprised of hardscape, landscape and building elements in order to satisfy its functional needs. It is important that each area of the project be designed to support its specific purpose while also reinforcing the overall visual integrity of the project. This is accomplished by defining the physical elements that are fundamentally unique to this project.

The fundamental elements for the project provide a basis for design and give harmonious direction for the development of the many different components that form this project. This approach will accommodate the need for multiple design teams working at different times in different areas of the project.



Key Corridor Elements

Harmony must exist among the elements of the project in order to achieve visual success. The map above identifies major project elements requiring compatibility of design. Each key element defines an experience by the user that contributes to the overall success of the corridor's theme.

This concept document cannot address every aspect of the project at once. Instead, this document addresses key areas in order to establish a precedence for future design. Areas not addressed specifically are the Transit Station on Hayden Island and the Evergreen Community Connector.

- 1 North Portland Harbor Signature Bridge Element
- 2 Approach Structure Piers
- 3 Hayden Island Transit Station*

- 4 Transition of Stacked Structure to Conventional Structure
- 5 Hayden Island and Vancouver Touchdowns
- 6 River Bridge Piers

- 7 River Bridge Bike/Ped Overlook and Walkway
- 8 Evergreen Community Connection*

* Not specifically studied in this report

Sustainability Design Goals:

The Columbia River Crossing team is committed to creating a project that is functional, beautiful and achieves the highest standard in sustainability.

To accomplish this goal CRC has convened a "Sustainability Strategies Technical Committee" tasked with developing sustainability plan values and strategies for the project. The committee has identified 21 sustainability values that fall under the following categories:

- Community Livability
- Mobility, Reliability, Accessibility, Congestion Reduction, and Efficiency
- Modal Choice
- Safety
- Regional Economy
- Distribution of Benefits and Impacts
- Cost Effectiveness and Financial Resources
- Bi-State Cooperation
- Stewardship of Natural and Human Resources

More than 100 strategies have been identified to address the sustainability values. A few specific examples are as follows:

"Design and prioritize implementation of project elements that promote opportunities for physically active forms of travel including walking and bicycling, and non-motorized access to transit." The bridge design should assure a world-class pedestrian/bicycle covered facility for the river crossing.

"Incorporate heat-reflecting concrete pavement and other materials, permeable pavement, and maximize natural shading to reduce urban "heat island" effect in the project area." The bridge design should minimize the total surface area across the river.

"Incorporate features to screen objectionable views and enhance scenic views." The replacement bridge should provide opportunities to enhance scenic views.

"Implement safety and security recommendations from CRC Pedestrian and Bicycle Advisory Committee." A safety and security plan will be developed for the river crossing.

A full list of sustainability strategies is available from the CRC office.

As the project moves forward and the sustainability plan is established, the design team will identify the physical requirements necessary to accomplish the environmental goals. The physical characteristics of sustainability will be woven into the project in a meaningful and visible way.

Key Elements of Design:

The Columbia River Crossing must be a structure which can accommodate traffic, trains, pedestrians and cyclists in an efficient manner that has the least impact on the environment. To achieve this, the Columbia River Crossing is comprised of two parallel bridge structures utilizing a stacked transit system. In this configuration, traffic flows on the top deck of the two structures. The trains travel in the lower portion of one structure and bicycles and pedestrians share space in the lower portion of the second structure. This scheme minimizes the overall width of the structures and minimizes the footprint of the bridge both in water and over land.

Stacked transit structures have been used on other projects throughout the country. However, few if any rival the scale and complexity of the CRC. In addition, this is the first stacked transit bridge to utilize a hybrid system that connects two concrete decks with a lattice of steel cross-bracing.

The "V" shape of the cross bracing sets up a structural rhythm for the bridge on which every other component of the bridge is centered. Therefore, the form of the cross bracing system was selected to create the essential foundation for

the aesthetics of the project. The strong angular shape and inherent strength of the triangular form has led to visual uniformity among bridge elements. The most visible example is the form of the river bridge piers. The triangular shape was inspired by the shape of the cross-bracing and has resulted in a pier shape that is both dynamic and visually elegant. This form also minimizes the footprint of the bridge and maximizes visual transparency throughout the structure.

This same approach to design can be applied to all aspects of the project from the largest components down to the smallest details such as railings and sign structures. This creates a holistic and fully integrated design from end-to-end of the entire project.

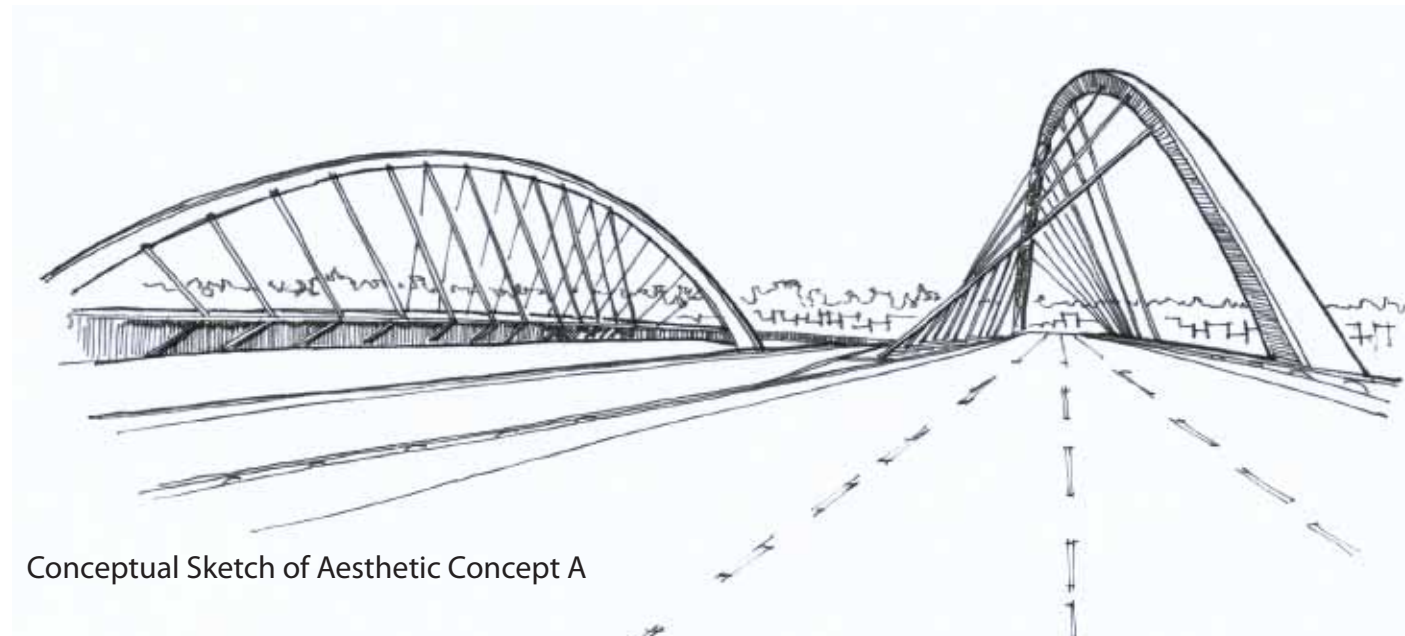


1 North Portland Harbor Signature Bridge Element

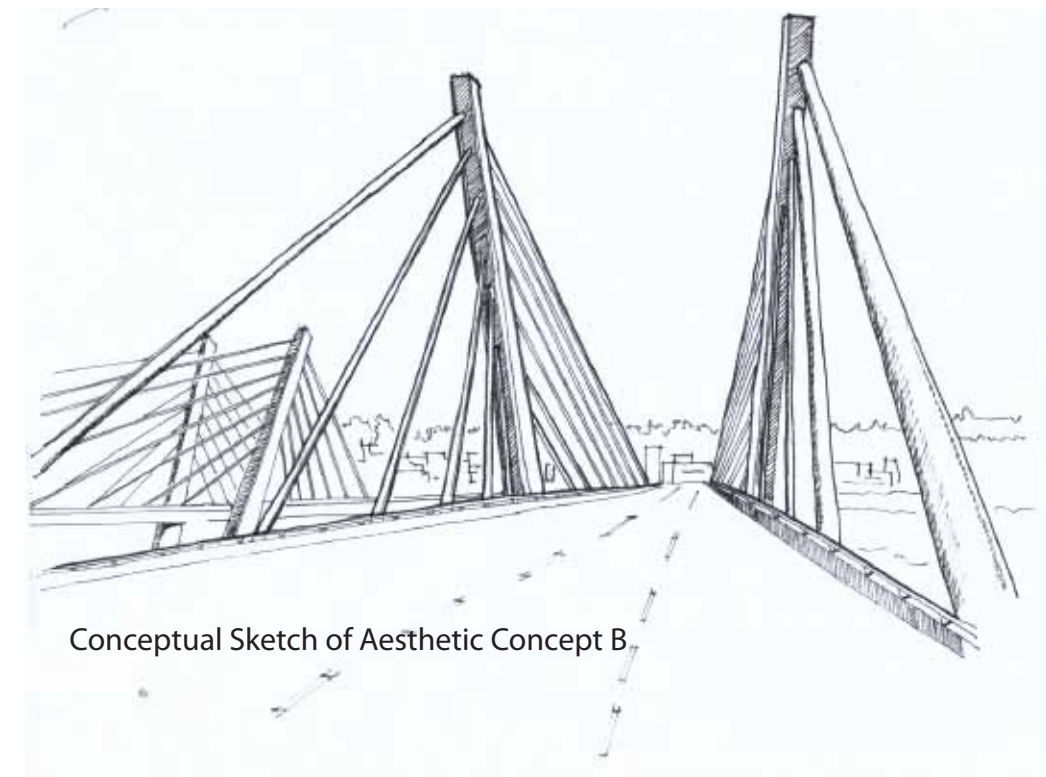
The ADS has two recommendations for further refinement and study of the Iconic Bridges for NPH. The first is a single Tied Arch that crosses the outer ramps of the Interstate Bridge, referred to as Aesthetic Concept A.

Equally impressive is Aesthetic Concept B, a pair of single pylon asymmetrical Cable Stayed Bridges featuring a set of open arms welcoming the user to Portland with iconic elements framing the City.

The Aesthetic Design Sub-Committee recognizes the merit of each solution and for the purposes of this report either is considered acceptable. During sub-committee discussions a preference was expressed for the Arch Concept. However, additional information related to cost and constructability must be weighed before a final decision can be made. Therefore, a recommendation was made to advance both options for further analysis; ensuring that aesthetics along with cost, constructability, maintenance and life-cycle costs are considered in the final selection of a bridge type for the North Portland Harbor Bridges.



Conceptual Sketch of Aesthetic Concept A



Conceptual Sketch of Aesthetic Concept B

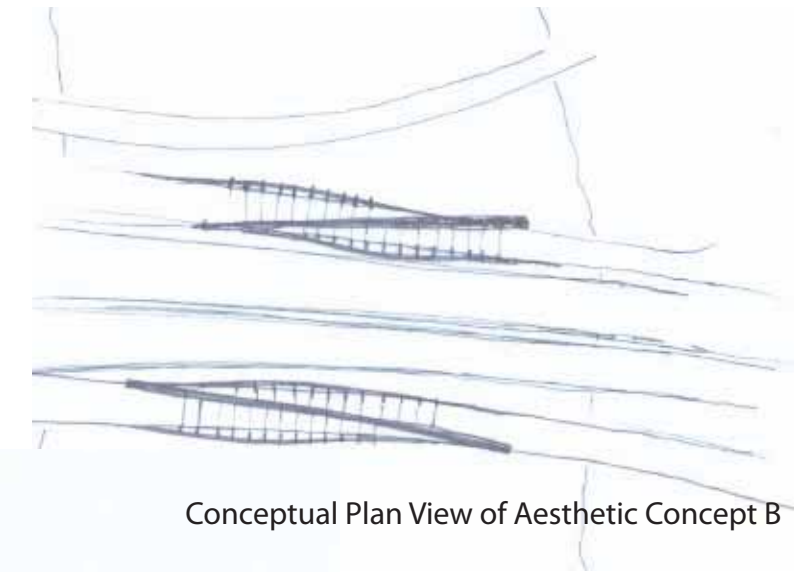
1 North Portland Harbor Signature Bridge Element

North Portland Harbor - Aesthetic Concept A - Arch

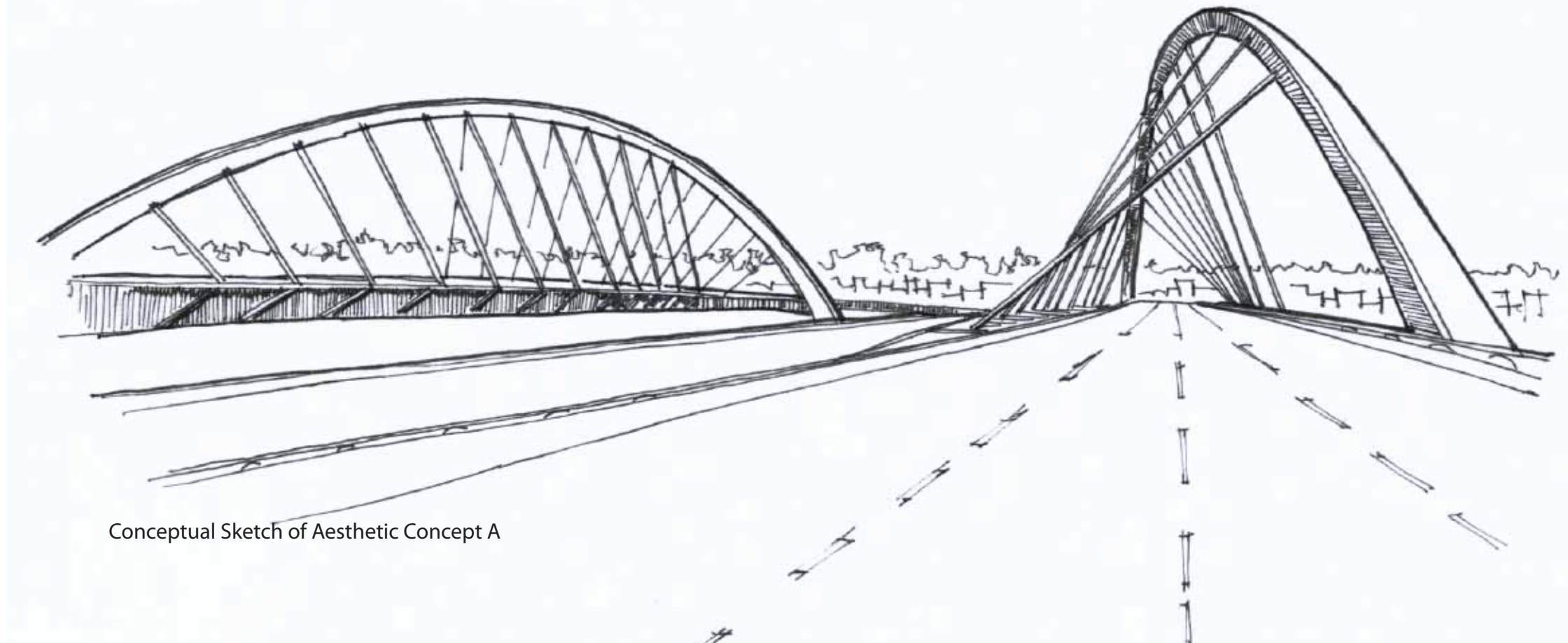
The arch concept utilizes a single arch rib crossing over the deck of the ramp. Asymmetric cables are attached to the superstructure via outriggers extended from the deck. The outriggers, of varying length, add three-dimensional width to ramp as they curve away from the deck - pictured to the right and below.

The bridges form an hourglass portal as the arch ribs converge on the mainline bridge at their southern extremity. As travelers move across the bridge this portal creates a doorway into and out of Portland.

At a macro scale the arch design stands in absolute contrast to the angular forms found in the rest of the bridge. This contrast places greater visual importance on the NPH crossing. The juxtaposition of form is lessened at a micro scale by integrating facets and triangular finishes to the bridge, thus tying it back to the overall theme of the corridor.



Conceptual Plan View of Aesthetic Concept B



Conceptual Sketch of Aesthetic Concept A

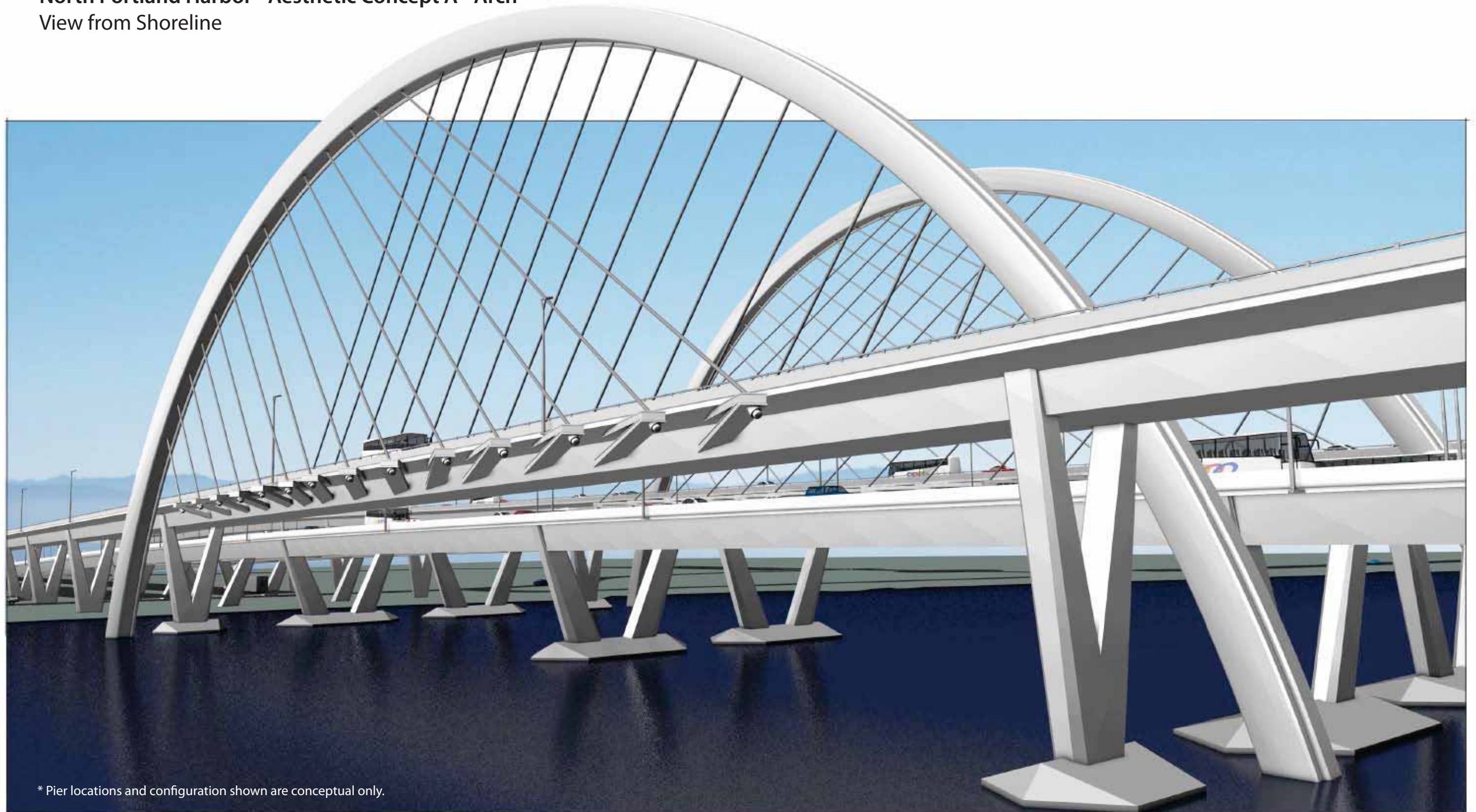
1 North Portland Harbor Signature Bridge Element
North Portland Harbor - Aesthetic Concept A - Arch
View from Southbound Ramp



1 North Portland Harbor Signature Bridge Element
North Portland Harbor - Aesthetic Concept A - Arch
View from Interstate Bridge



1 North Portland Harbor Signature Bridge Element
North Portland Harbor - Aesthetic Concept A - Arch
View from Shoreline



* Pier locations and configuration shown are conceptual only.

1 North Portland Harbor Signature Bridge Element
North Portland Harbor - Aesthetic Concept B - Cable Stayed Bridge

This Cable Stayed Concept incorporates two asymmetrical, single pylon, cable stayed bridges. The pylons for the bridges have a form which is born out of the geometry the river bridge's "V" Pier. This strong asymmetry creates a dynamic and directional experience for the users of the bridge.



Conceptual Sketch of Aesthetic Concept B

1 North Portland Harbor Signature Bridge Element
North Portland Harbor - Aesthetic Concept B - Cable Stayed Bridge
View from Interstate Bridge



1 North Portland Harbor Signature Bridge Element
North Portland Harbor - Aesthetic Concept B - Cable Stayed Bridge
View from Southbound Ramp



1 North Portland Harbor Signature Bridge Element
North Portland Harbor - Aesthetic Concept B - Cable Stayed Bridge
View from Shoreline



* Pier locations and configuration shown are conceptual only.

2 Approach Structure Piers



The Columbia River Crossing's stylized V Pier could be used for approach structures (River Bridge and NPH). These piers have been designed specifically for this crossing and could bear the earmark of the project, straight lines that form angular shapes.

3 Hayden Island Transit Station

The Light Rail Transit Station on Hayden Island falls outside the scope of this narrative. However, it will play a vital role in the continuity of the overarching theme of the corridor. Since it will come online at a later date than the UDAG report, the designers of the transit station will benefit from the design direction established herein.

4 Transition of Stacked Structure to Conventional Structure

A critical point in the project will be the conversion from stacked transit to conventional roadway. There is an opportunity to creatively transfer the roadway uses involved (Vehicular and Bike/Ped) in a fluid manner where neither modality will suffer.

This intersection of structural types is an area of great complexity and should be studied carefully to ensure compatibility with the corridor goals and theme.

5 Hayden Island and Vancouver Touchdowns

One of the more spectacular elements of the project is the transition point from bridge to ground. These touch down points will feature a glass encased elevator with stairs (descending from an overlook) that wrap around the enclosure. A trip on the elevator or stairway will afford the user exceptional views.



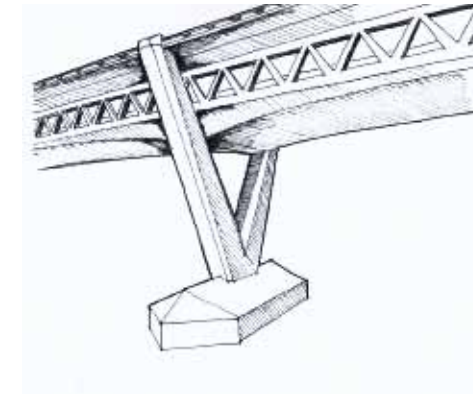
* Plaza configuration and stair/ elevator tower shown are conceptual only. Final design will be based on specific land use established for the touchdown areas.

6 River Bridge Piers

River Piers

The triangular form of the cross bracing establishes the basis for the shape of the river piers. This transverse “V” design establishes a direct visual connection between the pier and the superstructure; it creates a very slender profile for the bridge.

The bridge superstructure is nestled in the “V” of the pier, allowing a completely uninterrupted line to be established by the diagonal bracing. This unique arrangement will reinforce the linear nature of the bridge as it passes over the Columbia River.



7 River Bridge Bike/Ped Overlook and Walkway
Walkway Overlook

The undisputed highlight of the sheltered pathway users will be the opportunity for users to experience the mid-river view from this platform.



7 River Bridge Bike/Ped Overlook and Walkway
Walkway Overlook



7 River Bridge Bike/Ped Overlook and Walkway

Walkway Interior Perspective

At their September 2009 meeting, the Columbia River Crossing Project Sponsors Council voted unanimously to support the two bridge, covered path option, which will include a maintenance and security plan that is consistent with the work developed and agreed to by the project's Pedestrian and Bicycle Advisory Committee.

This solution has received the following endorsement from the CRC Pedestrian and Bicycle Advisory Committee (PBAC):

"Provided the Columbia River Crossing Project Sponsors Council makes a commitment to PBAC's recommendation for a maintenance and security program, the PBAC would support the two-bridge, covered path option."



Railings

Protective rails for the bike/ped thoroughfare combine a row of chevrons atop vertical pickets in stylish prefabricated panels that compliment the overall bridge theme. Vertical members extend from ground level to the base of the chevron cap without horizontal members; this is a safety feature that will discourage an attempt to climb on the rail. The railing could become an important accent feature once final color selections are made.

Lighting

Along the 2,700 foot length of the River Bridge, light poles extend up to 40 feet from the upper deck on either side of the bridge providing illumination for users and viewers alike. Here, once again, the chevron is incorporated in a most unique way. Special diamond shaped heads, bent at the mid-line, arc over the superstructure to illuminate the deck while reinforcing the chevron aspect of the bridge.

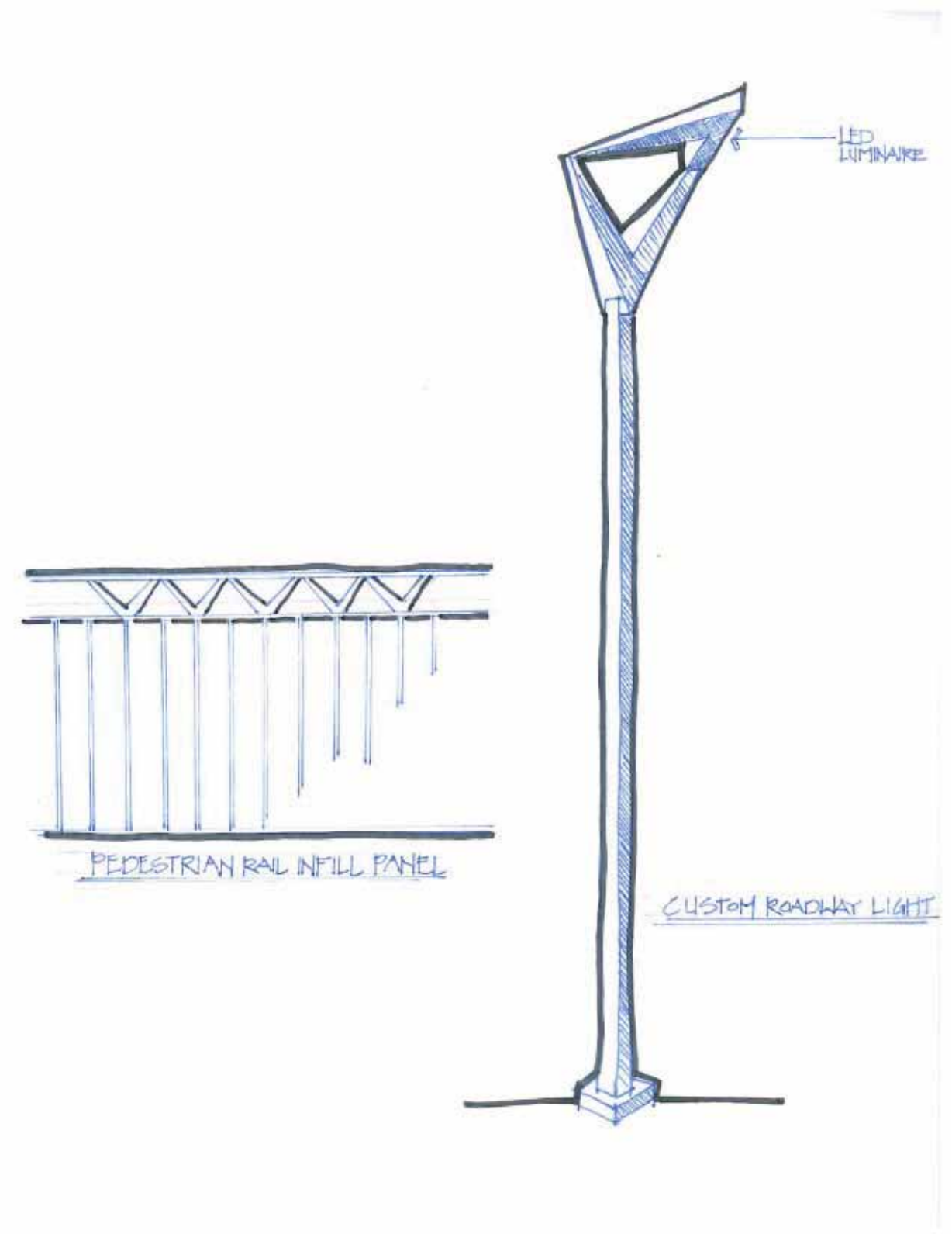
Barriers

Concrete safety barriers for vehicular traffic on the upper decks could continue the bridge theme in a manner yet to be determined.

8 Evergreen Community Connection

The Evergreen Community Connection falls outside the scope of this narrative. However, it will play a vital role in the continuity of the overarching theme of the corridor.

Currently a design competition is underway to develop concepts for the design of the Evergreen Community Connector. This document will be made available to the design teams, encouraging them to explore ways to build upon the design direction established herein.

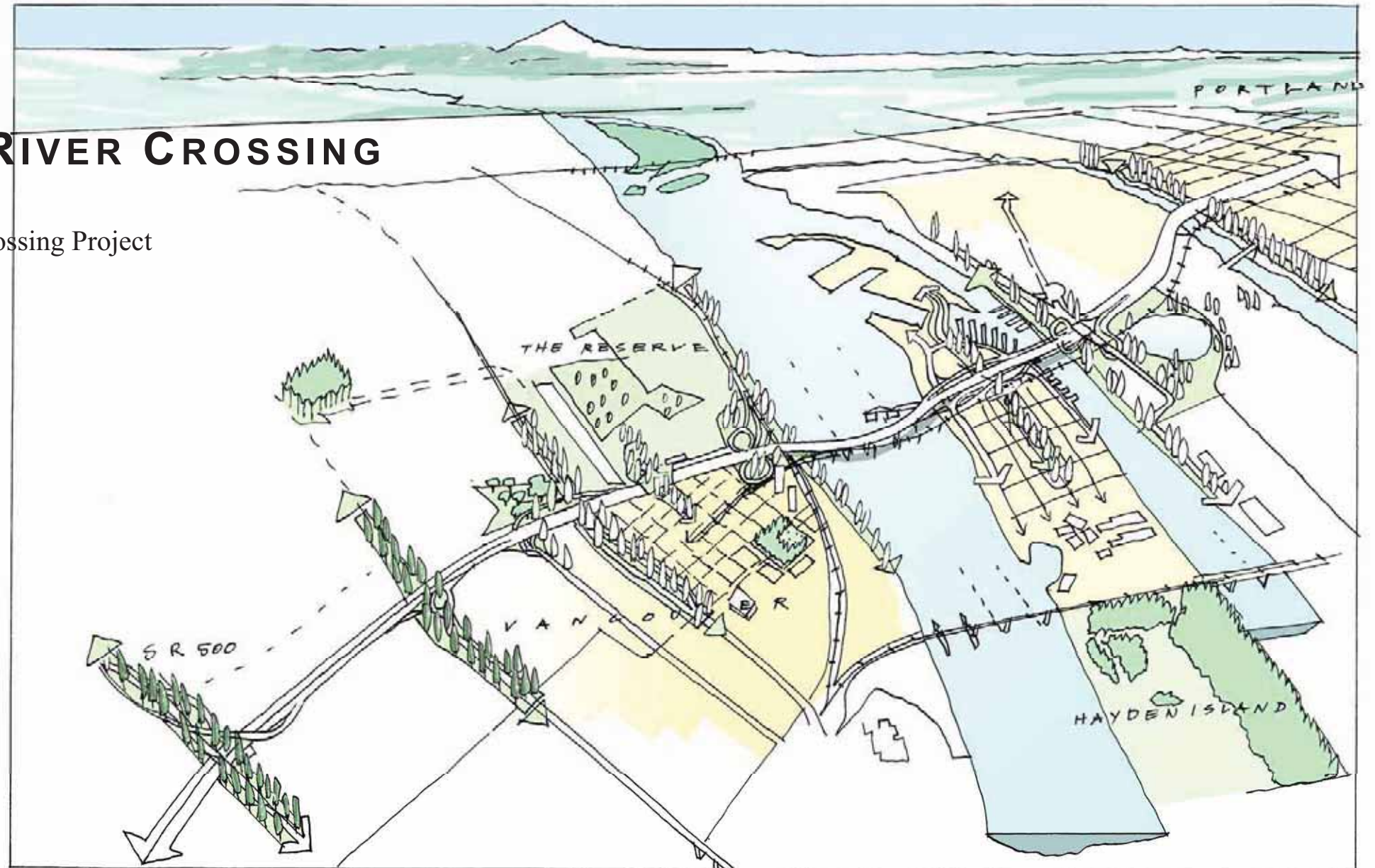


INTERSTATE 5 COLUMBIA RIVER CROSSING

DRAFT -Design Guidance for the Columbia River Crossing Project



July 16th 2008





Title VI

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Cover Sheet

Interstate 5 Columbia River Crossing

DRAFT -Design Guidance for the Columbia River Crossing Project

Submitted By:

CRC Urban Design Advisory Group

Abstract:

This report outlined the purpose, activities and recommendations of the Urban Design Advisory Committee.

Comments Due:

Initial comments are due by June 20th.

Signature

Date

ACRONYMS

Acronym	Description
CRC	Columbia River Crossing Draft
DEIS	Environmental Impact
PBAC	Pedestrian and Bicycle Advisory
SPUI	Single Point Urban Interchange
UDAG	Urban Design Advisory Group

UDAG MEMBERS

Columbia River Crossing Urban Design Advisory Group

Mayor Royce Pollard,
City of Vancouver
City Commissioner
Sam Adams,
City of Portland
Co-Chairs

Rob Barrentine, Vancouver Design Review Comm., Architects
Barrentine Bates Lee
Ed Carpenter, Artist
Jeanne Caswell, Vancouver Parks Commission
Jane Hansen, Lango Hansen Landscape Architects, P.C.
Mark Masciarotte, Aviation Advisory Committee
Dick Pokornowski, Downtown Redevelopment Authority
Carrie Schilling, Works Partnership Architecture
Jeff Stuhr, HOLST Architecture, Portland Design Commission
Dave Smith, Vancouver Planning Commission and Design Review Committee
Michelle Tworoger, Jantzen Beach Moorage Association, Inc.
Walter Valenta, Bridgeton Neighborhood Association
Marcia Ward, Salmon Creek neighborhood

City Assistance

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John Gillam, *City of Portland, Office of Transportation*
Mark Raggett, *City of Portland, Bureau of Planning*
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Section 1. Introduction

1.1 Executive Summary

The Urban Design Advisory Group (UDAG) will have succeeded in its endeavor if the bridges and other structures, landscapes and other features of the completed Columbia River Crossing (CRC) project are widely regarded as exemplars of exceptional design that fit harmoniously into their natural and built environments. Every component of the project is subject to functional requirements, physical and financial limitations – all of which help to shape the project, yet none of which should prevent good design. The most conspicuous features will be the bridges that span the Columbia River. These must do justice to the magnificence of the river that they cross. From the perspective of bridge users, they should celebrate passage over a mighty river between two states. From the perspective of those who see the bridges from elsewhere, they should be apt and iconic presences in the landscape. At the time of writing, the form and architecture of these bridges have not yet been determined.

With these results in mind, the UDAG used 10% engineering plans and on-site exploration to examine each proposed bridge and interchange improvement. In the course of fifteen months, UDAG identified design principles that would be important to the appearance of the project, the ways in which project components could fit most comfortably into the urban context, and the features necessary to lessen separation between communities that are divided by the freeway. Those design principles were stated and progressively refined as the set of design guidelines presented in this report. These design guidelines are intended for the CRC design team to use for project development from conceptual through final design to construction.

In the course of its research, the Group considered examples of bridges from around the world, some of which are illustrated here. The purpose was to broaden the aesthetic vocabulary with which each piece of the CRC project was approached. Materials and practices should be sustainable. The impact of large structures on those who use the spaces beside and beneath them

should be carefully considered. Light, views, circulation and uses beneath bridges and interchanges should knit communities together and contribute to their vitality. There is a particular challenge in reconciling the scale of freeway structures with the much finer scale of the urban environment through which they pass. The UDAG will address this challenge in a detailed examination of materials, finishes and design components that will be encountered as the design guidelines are applied.

Exhibit 1-1. Bridges from around the world



UDAG members considered examples of different bridge types from around the world seeking inspiration for the many bridges included in the five-mile CRC project. Depicted are 1. Asea Bridge, Oregon, 2. Ushibuka-Haiya Bridge, Japan, 3. Sundial Bridge, California, 4. Aka Bridge, Japan, 5. Wilsonville concept bridge, Oregon, 6. Tataro Bridge, Japan, 7. Ganter Bridge, Switzerland, 8. Golden Gate Bridge, California

1.2 Background and Purpose of This Report

In December 2006, the Urban Design Advisory Group (UDAG) was formed, including 14 government and non-government representatives* from Vancouver and Portland under the joint chairmanship of Mayor Royce Pollard and Commissioner Sam Adams. At the first meeting, Columbia River Crossing (CRC) staff presented the defined alignment of the five mile I-5 corridor and intersections and outlined constraints imposed by river and air traffic on the envelope within which a replacement bridge over the Columbia River would have to fit.

UDAG members determined that one of their primary functions would be to develop design guidelines for implementation by CRC staff throughout the design process. These design guidelines should pertain to the main span across the Columbia River, but also to the urban design of all other elements of the five mile corridor. The guidelines are detailed later in this document.

The Columbia River Crossing consultant design team had published a draft technical report in the fall of 2006 entitled Architectural Guidelines and Aesthetic Assessment Framework. The report included a set of universal design goals, including environmental, architectural, context-sensitive and sustainable design goals. UDAG took these design goals as its starting place; they are reproduced in the Appendix.

The purpose of this report is to summarize the context, process and content of the Urban Design Advisory Group's recommendations. The summary is intended to provide CRC designers with a practical manual of design guidelines that reach beyond engineering parameters to respond to community, environmental and aesthetic values.

*Members of the UDAG are listed in the Appendix.

1.3 CRC Overall Project Purpose

Columbia River Crossing is a bridge, transit and highway improvement project of the Oregon and Washington transportation departments. The project is designed to address six problems on a five-mile segment of I-5 between Vancouver, Washington and Portland, Oregon, including: congestion, limited public transit, impaired freight mobility, high collision rates, inadequate pedestrian and bicycle paths, and earthquake vulnerability.

The project's May 2008 Draft Environmental Impact Statement (EIS) describes the potential community and environmental effects of four build alternatives and a no build scenario. The build alternatives include a replacement bridge with bus rapid transit, a replacement bridge with light rail, a supplemental bridge with bus rapid transit, and a supplemental bridge with light rail. Multiple transit alignments are possible with each alternative.

Project sponsors will select the Locally Preferred Alternative by August 2008, based on public input and analysis in the Draft EIS. Design refinements and public involvement will continue as the Final EIS is prepared.

Over 13,000 people have been engaged in the project development process to date, through public meetings and open houses, community presentations, and stakeholder groups such as the Urban Design Advisory Group (UDAG). UDAGs work has focused on potential opportunities associated with a replacement bridge, light rail, and other improvements along the project area.

1.4 CRC Bridge Type Recommendations

A design envelope was defined within which a replacement bridge across the Columbia River could be constructed. The location of any new bridge near the north bank would be determined by the alignment of the existing highway, by height, width and alignment clearances necessary for river traffic, and by arrival and departure surfaces designated by the FAA relative to Pearson Field. These parameters described a slender deck section for the bridge with little or no superstructure except for lighting and signage structures. This ruled out consideration of several bridge types, such as suspension and cable-stay bridges. For the bridge replacement option, bridge types were swiftly narrowed to variations within the segmental box-girder family of structures. However, the design envelope for the rest of the Columbia River span is less constrained than at the north bank. A broader range of bridge types should be investigated, transitioning into a box-girder structure near the north bank.

The remainder of the project, with five miles of alignment and six interchanges, includes almost sixty lesser bridge structures. Design constraints for these differ widely, and the Urban Design Advisory Group recognized that it would be necessary to use generalized guidelines to direct their design. UDAG recommends reaching beyond the typology of box-girder bridges for some of the more visually important bridges, such as the four spans over the North Portland Harbor. A fair and objective evaluation of bridge types should be undertaken for these.

Exhibit 1-2. View of Mt. Hood from the Interstate Bridge



Eastward views towards Mt. Hood are valued by bridge and river users. The focus of the public at large is on the half-mile span across the Columbia River, but the work of the Urban Design Advisory Group extends over five miles of freeway improvements. The UDAG purpose is to ensure that the project fits appropriately into the context of adjoining properties and places.

1.5 Urban Design Advisory Group Purpose and Process

The Urban Design Advisory Group interpreted its purpose as design watchdog on behalf of community, landscape and urban design interests that may not otherwise be fully represented in engineering solutions being developed by the CRC team. While there was clearly sensitivity to these issues among CRC designers, there were circumstances in which default solutions favored vehicular traffic over other interests. UDAG members determined that all relevant issues should be considered, and that engineering design should balance vehicular and non-vehicular needs; that free movement of highway traffic, though of central importance to the whole project, should not be permitted to compromise the activities and qualities of communities and neighborhoods through which it passes.

UDAG members visited each of the intersections and explored the bridgehead areas so that local needs could be understood, and consequences of implementing the nascent structure designs could be visualized. Between formal monthly meetings, many members of the Urban Design Advisory Group met in workshop sessions in Vancouver and in Portland, dividing research tasks between them. Although they were volunteers, UDAG members spent considerable time between formal meetings investigating issues and formulating recommendations. Aided by CRC staff, recommendations were refined and illustrated, and shared with others, including City and agency representatives.

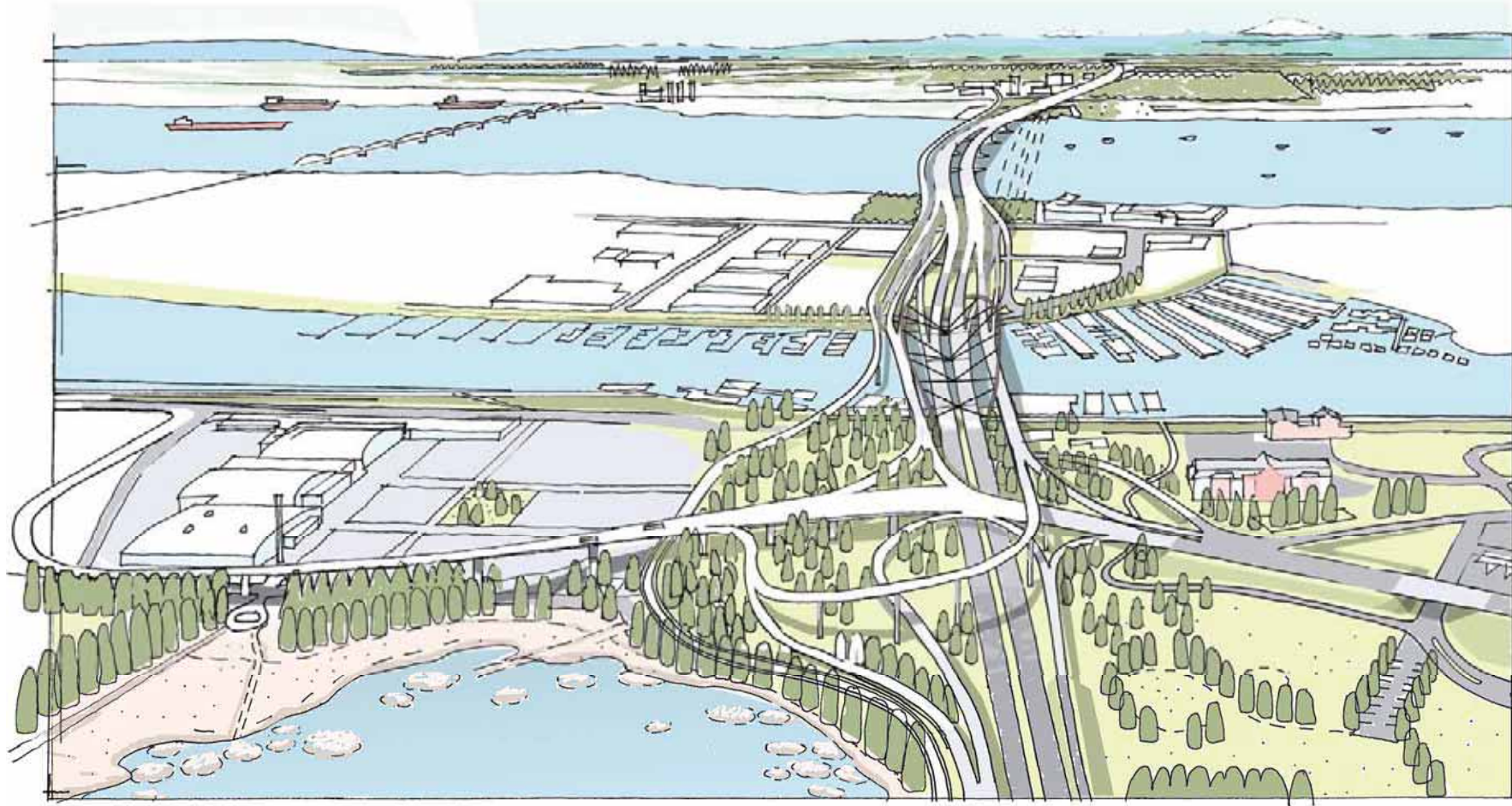
1.6 Interaction with Other CRC Committees

In parallel with the Urban Design Advisory Group other committees were at work, evaluating the project from the perspectives of community and environmental justice, freight, pedestrian and bicycle safety and access. All of these groups shared a number of interests in common. For example, original construction of I-5 had severed established neighborhoods and made passage between them inconvenient and more dangerous than it had been. Each citizen committee was determined that reconstruction of highway crossings and interchanges should result in safer and more convenient local access.

A summary of the PBAC findings is included in the Appendix.



Exhibit 1-3. Marine Drive Interchange looking north towards Vancouver



At the south end of the CRC project is a reconstructed Marine Drive interchange, followed by multiple spans across North Portland Harbor and a major new interchange on Hayden Island before the main spans over the Columbia River spring from the north bank of the island. UDAG members have investigated ways in which the properties beneath these structures can be configured to optimize their value and usefulness.

Section 2. UDAG Scope of Work

2.1 Overall Project Design Considerations

We have sought to push beyond the basic expectations of the project to achieve aesthetic excellence. The Architectural Guidelines and Aesthetic Assessment Framework drafted by CRC staff in 2006 identified four ‘universal goals’, which were elaborated under three categories, reflecting their particular relevance to each topic. The intention was that specific objectives would be derived from each as it was applied to different elements of the five mile-long project.

The four universal goals were:

1. Improve travel safety and traffic operations on the Interstate crossings and interchanges.
2. Improve connectivity, reliability, travel times and operations of public transportation in the Bridge Influence Area.
3. Improve highway freight mobility and address Interstate travel and commerce needs in the Bridge Influence Area.
4. Improve the I-5 river crossing seismic integrity.

Both cities have goals of achieving aesthetic appeal consistent with their community and land use objectives.

2.2 Columbia River Main Span Design Goals and Guidelines

In spring 2006, the CRC design team prepared a draft aesthetic assessment paper. This included eleven urban design goals, nine environmental goals, four architectural goals, and fourteen context and sustainability goals. These were subsequently used by the UDAG as a starting place in their evaluation of emerging designs for the highway bridges, intersections and associated improvements. They are reproduced in full in the Appendix.

The aesthetic assessment document also included general design guidelines pertaining to aesthetics, historical and cultural context, functionality-use of space, and community and environmental impacts. These were accepted by UDAG members as part of the design basis of their work, and commentary was added to each to clarify its intent and application. These too are included in the Appendix.

Good design can also be cost-effective design, but design should not be compromised as a means of reducing budget. Quality design will be a factor in gaining necessary approvals and in securing funding.

Exhibit 2-1. CRC Location Map



2.3 Comprehensive Summary of Design Elements Addressed

Examining components of the five-mile I-5 corridor project, it became evident that some places are more significant than others. The most conspicuous are those associated with the main Columbia River Crossing. The appearance of the main span structures is of primary importance, and several public viewpoints from which the bridge could be seen are identified in the Architectural Guidelines and Aesthetic Assessment Framework.

Next in importance are the highway interchange structures which form the bridgeheads on Hayden Island and on the north bank where SR 14 joins the highway. The design of these two interchanges is important because of their visual significance, but also because they define the interface between the bridge and the communities beneath and on either side of the bridge.

Third tier features within the purview of the main span are the North Portland Harbor crossing, the 7th Street pedestrian bridge and the landscaped deck over the highway at Evergreen Boulevard. These features have the potential to express the signature of adjacent communities due to their symbolic importance as well as the vital functions that they perform.

Features not directly associated with the main span across the Columbia River are the other interchanges and crossings throughout the five-mile length of the highway corridor project. First among these are the other four major interchanges:

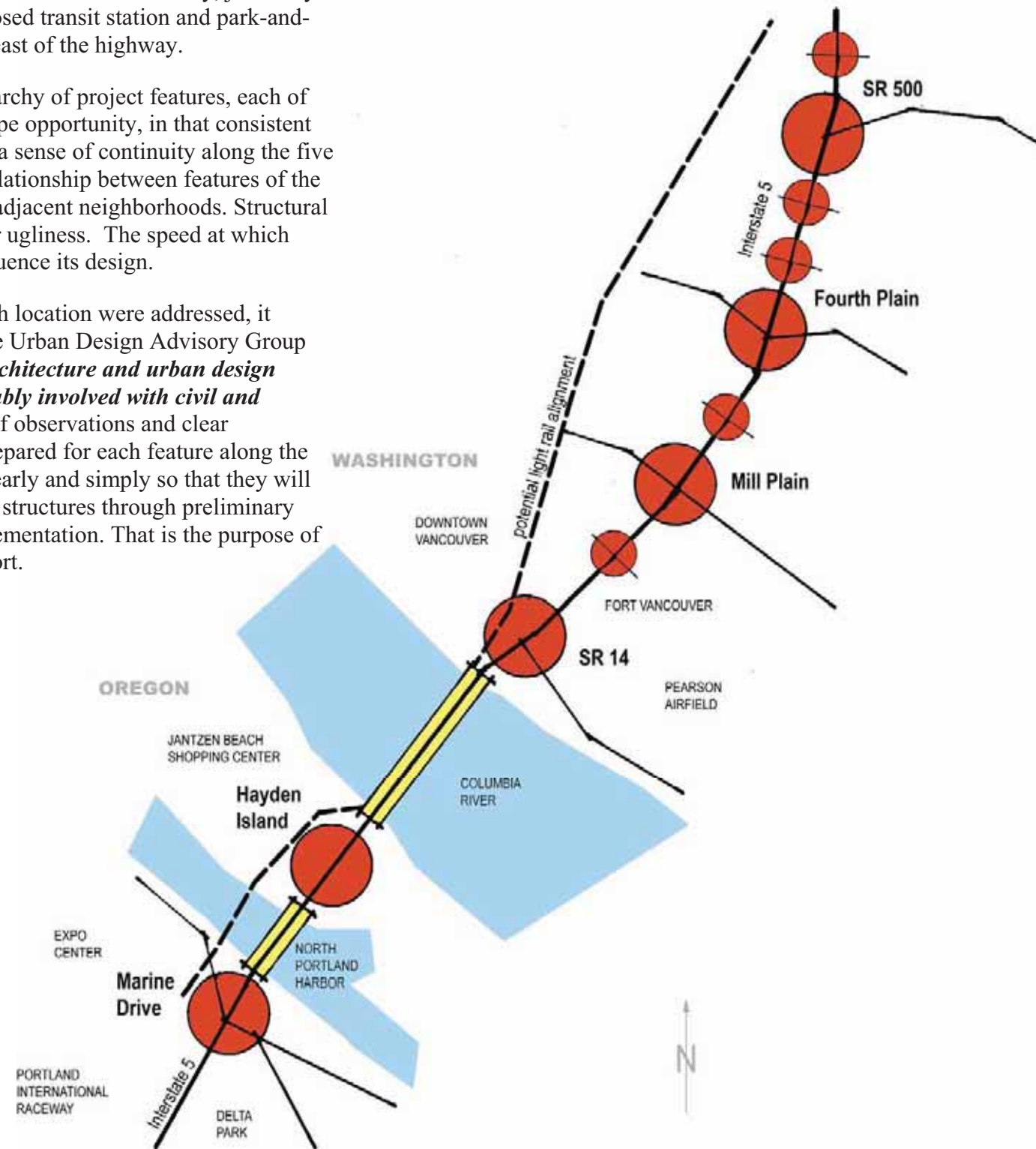
- The Marine Drive interchange, made conspicuous by the public open space that is adjacent to it;
- Mill Plain interchange, principal gateway to downtown Vancouver and the principal point of entry to the Port of Vancouver for freight vehicles;
- Fourth Plain interchange, linking north central Vancouver to all points east; and
- SR 500 interchange, spanning Leverich Park and weaving together interstate and state highway traffic with 39th, Main Street, and Highway 99 at Kiggins Bowl.

Over- and under-passes of the highway at McLoughlin, 29th, 33rd and 39th constitute a second tier in the hierarchy, joined by other features such as the proposed transit station and park-and-ride north of McLoughlin and east of the highway.

Besides their places in the hierarchy of project features, each of these places provides a landscape opportunity, in that consistent landscape treatment can create a sense of continuity along the five mile project, and can forge a relationship between features of the highway corridor and those of adjacent neighborhoods. Structural necessity is never an excuse for ugliness. The speed at which each feature is viewed will influence its design.

As the design challenges at each location were addressed, it became clear to members of the Urban Design Advisory Group that *architecture, landscape architecture and urban design should necessarily be inextricably involved with civil and structural engineering*. A set of observations and clear recommendations should be prepared for each feature along the highway corridor, presented clearly and simply so that they will be used to inform the design of structures through preliminary and final engineering and implementation. That is the purpose of succeeding sections of this report.

Exhibit 2-2. CRC Alignment and Major Vicinity Crossings



Section 3. UDAG Recommendations

3.1 Universal Urban Design Recommendations

The UDAG developed a number of urban design recommendations that are applicable throughout the CRC project. These are given below. Other recommendations that relate to specific parts of the project appear on the following pages. Each design guideline is preceded by a concise statement of purpose in italics.

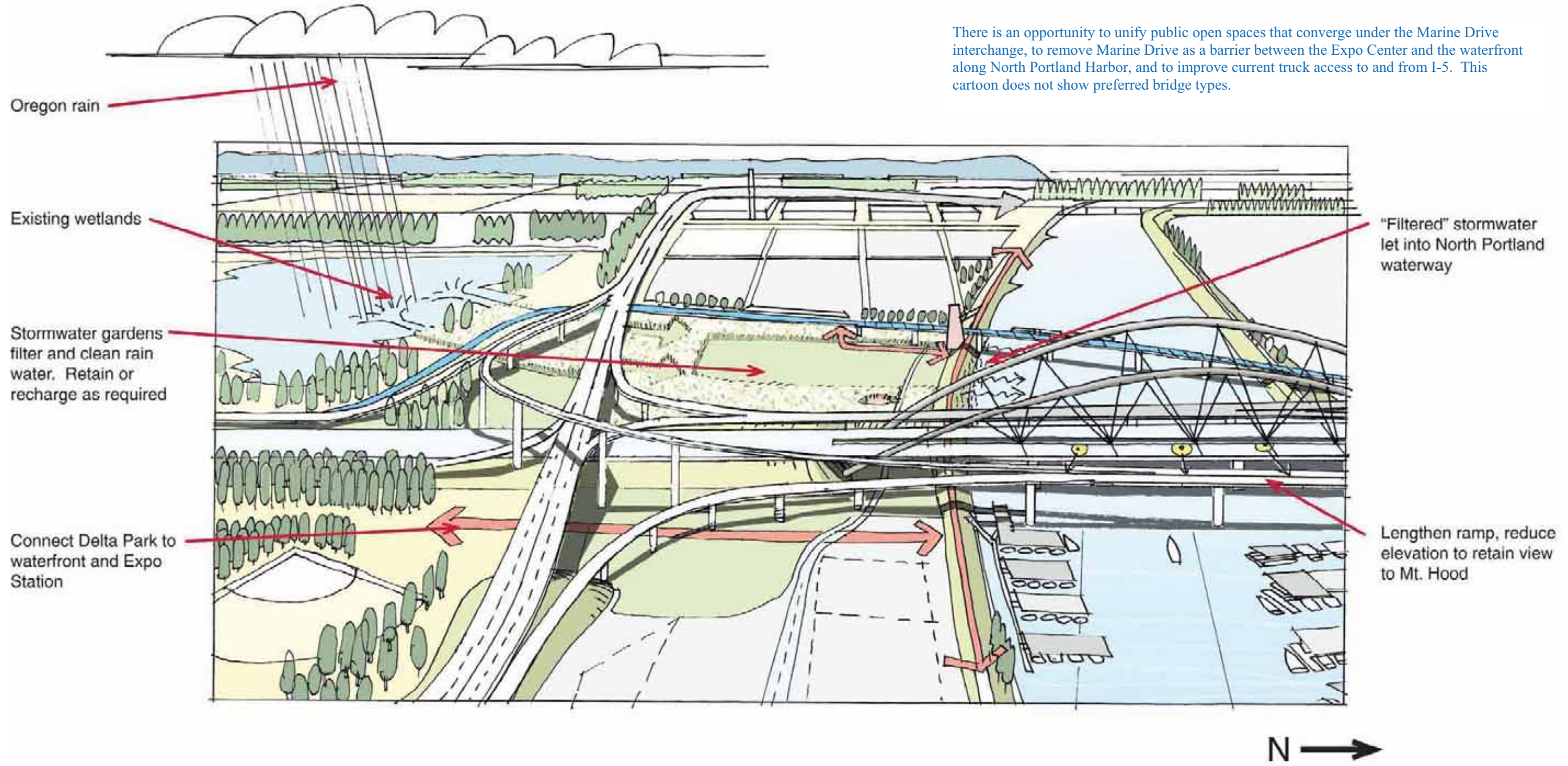
1. *Be sensitive to design context.* Be sensitive to existing communities by ensuring that each component of the bridge and highway structures complements nearby buildings in scale, materials and color. Respect the needs of established neighboring uses.
2. *Improve connections across I-5.* Improve the safety and convenience of connections between communities on the east and west sides of the highway.
3. *Relate designs to location.* Develop a design vocabulary of distinctive elements (e.g. retaining walls, fences, finishes, landscape materials) that are abstractly derivative of the natural landscape and history of their setting.
4. *Mark bridgeheads.* Signal transitions from land to water and between structure types (e.g. with changes in lighting or materials; changes in fence or barrier design; marking with pylons).
5. *Design bridges from all viewpoints.* Design all bridges and other structures to be seen from above and below, and where possible, use above-deck structure to define the span.
6. *Protect important views.* Protect valued views from the highway and its structures, especially towards Mount Hood.
7. *Use color and light in designs.* Use color to highlight key structural elements. Use light to highlight form and color after dark.
8. *Distinguish each intersection with trees of suitable scale.* Use tall-growing conifers and other native plants in a distinctive and consistent landscape marking interchanges and intersections throughout the alignment and sequestering carbon from the air.
9. *Design landscape to treat rain water.* Design highway landscapes to treat, and otherwise manage storm-water runoff sustainably.
10. *Unify highway and landscape designs.* Treat noise walls, retaining structures and berms as integral components of landscape.
11. *Practice sustainability throughout.* Use sustainable materials and practices throughout, demonstrating cost effective design over the long term. Measure the cumulative effects of such initiatives.
12. *Make transit design integral.* Ensure a good fit for transit by relating the design of platforms, furnishing, landscape, lighting and signage to adjacent neighborhoods and structures.
13. *Coordinate design and colors of signs with other elements.* Take a comprehensive approach to the design, size and color of way-finding and other signs, their supports, lighting, tolling structures, handrails, and other furniture. Develop a consistent and unifying theme for the entire corridor.
14. *Formally adopt these design guidelines in response to the DEIS.* Request adoption of these recommendations as conditions of approval by all relevant government bodies.
15. *Monitor design compliance.* Establish an independent authority to be responsible for design oversight of the Columbia River Crossing, including these urban design recommendations through completion of construction.
16. *Continue UDAG involvement.* Continue engagement of the Urban Design Advisory Group to ensure continuing design review and compliance with agreed recommendations.

3.2 Place-Specific Design Recommendations

3.2.1 Marine Drive Interchange

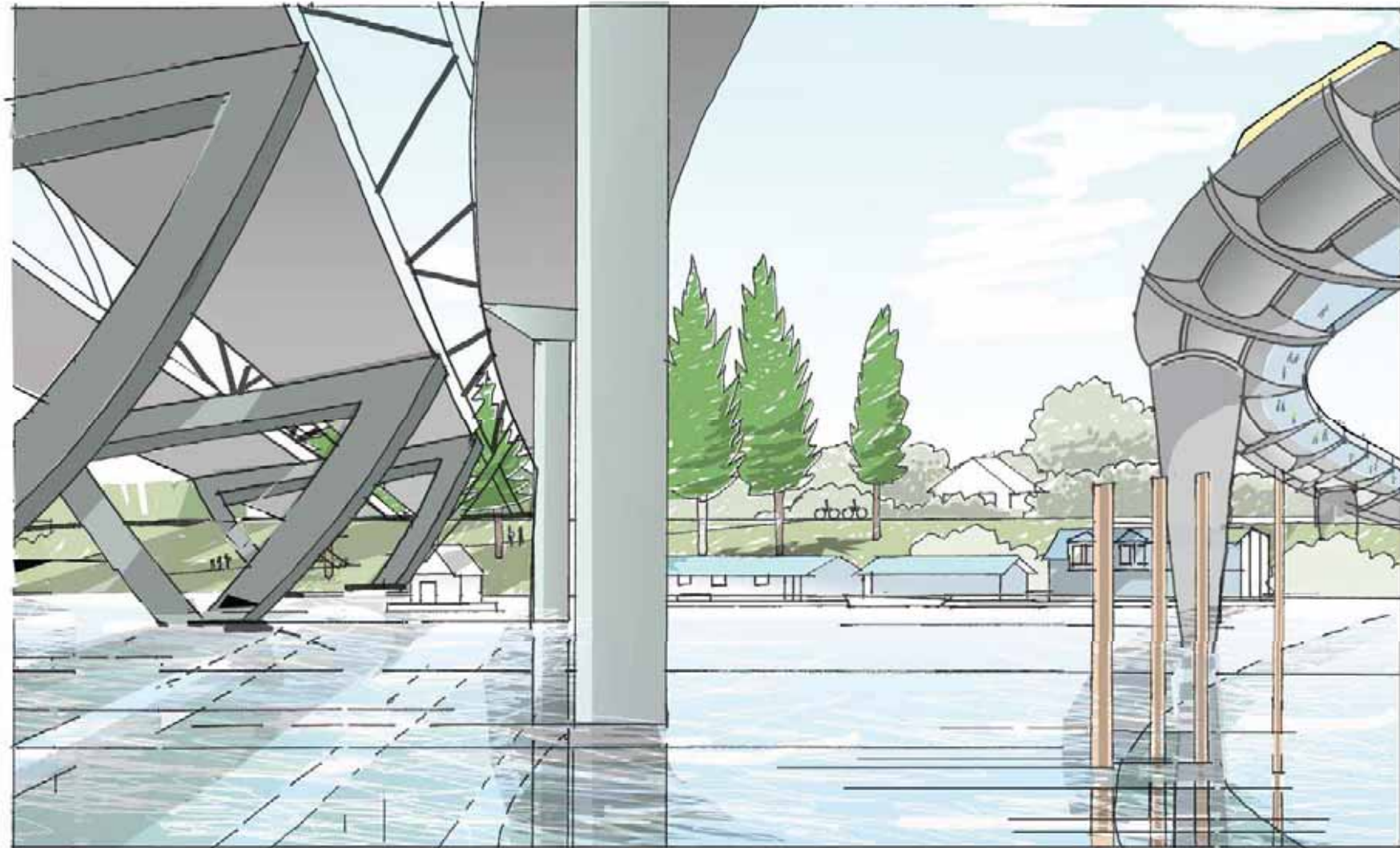
1. *Improve waterfront access and interconnect adjacent spaces.* Investigate alternative reconfigurations of the Marine Drive intersection to open up waterfront land for public and private development uses, to improve ramp geometry and to improve interconnection of green spaces that converge at the interchange.
2. *Improve transit alignment and access.* Investigate realignment of Marine Drive south of Expo Center, with Marine Drive crossing MAX tracks south of the station to simplify northward transit alignment.
3. *Interconnect open spaces under the interchange.* Configure and design green space related to the Marine Drive intersection structures to interconnect an expanded Delta Park to the Expo transit station and to open spaces to the southwest and along the North Portland Harbor.
4. *Create a local access network.* Integrate direct and safe bicycle and pedestrian circulation trails through and between these spaces and develop a local street network to provide necessary access.

Exhibit 3-1. Marine Drive Interchange and North Portland Harbor Crossings



There is an opportunity to unify public open spaces that converge under the Marine Drive interchange, to remove Marine Drive as a barrier between the Expo Center and the waterfront along North Portland Harbor, and to improve current truck access to and from I-5. This cartoon does not show preferred bridge types.

Exhibit 3-2. North Portland Harbor Crossing



The single I-5 structure that currently crosses North Portland Harbor will be replaced by five bridges at varying heights, spread out over a larger area of the Harbor. UDAG has focused on creating pleasant and usable spaces beneath them and encouraging elegant and appropriate design of the bridges with fewer columns in the harbor.

3.2.2 North Portland Harbor Crossing

5. *Improve waterfront trails.* Improve pedestrian and bicycle access along the south bank of the North Portland Harbor under the highway with adequate headroom and lighting, thus connecting Bridgeton to the 40-mile loop. Provide safe and convenient access to the Expo transit station.
6. *Encourage other bridge types with fewer columns in the water.* Minimize piers in North Portland Harbor and encourage bridge types independent of the constraints that shape the bridge over the Columbia River.
7. *Make detached bridges light and elegant.* Construct the highway ramp and transitway spans over the North Portland Harbor as light and elegant bridges. Their architecture need not reflect that of the main highway spans.
8. *Preserve views to Mt. Hood.* Preserve highway views towards Mount Hood.

3.2.3 Hayden Island

9. *Create an iconic entrance to Oregon.* Identify the locations and type of gateway acknowledgements that announce arrival in the State of Oregon for southbound motorists.

10. *Integrate transit and interchange structures.* Locate the Hayden Island transitway and station on the west shoulder of the interchange structure, with landscaped terraces connecting it to ground level.

11. *Align transit station with Tomahawk Drive.* Locate the station directly above Tomahawk Drive, aligning access and landscape with the planned east-west corridor.

12. *Ensure Mount Hood views from transit platform.* Design the Hayden Island transit station to complement features that announce arrival in the state of Oregon. Enable views of Mount Hood from the platform.

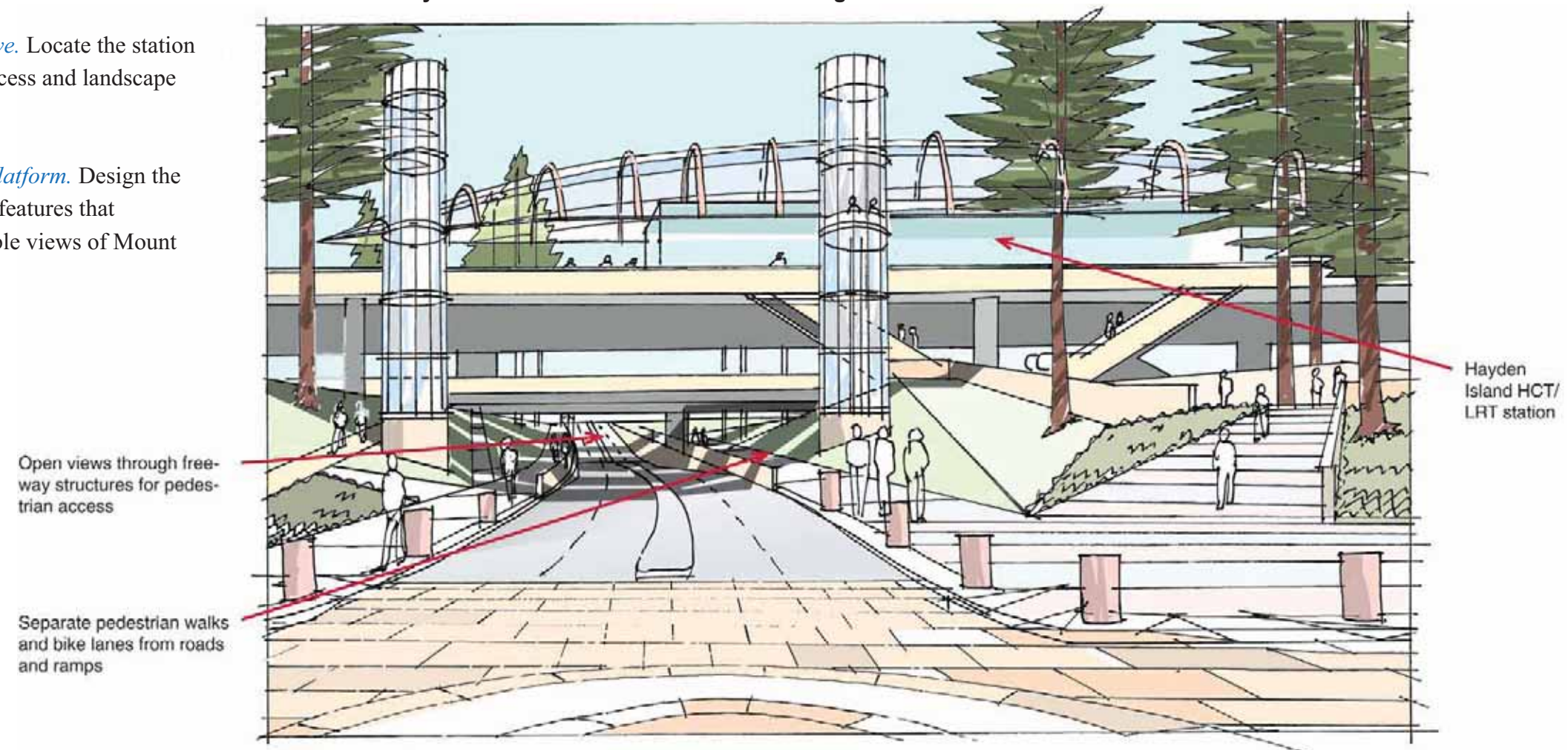
13. *Locate boat docks for visitors under the highway.* Locate transient boat docks under the highway on the north and south sides of North Portland Harbor and on the north side of Hayden Island to facilitate public boat access.

14. *Anticipate a local traffic bridge over North Portland Harbor.* Plan for future addition of a local traffic, bicycle and pedestrian bridge across North Portland Harbor east of the highway, location

to be determined (This is not seen as part of the CRC project, but something that should be planned for now).

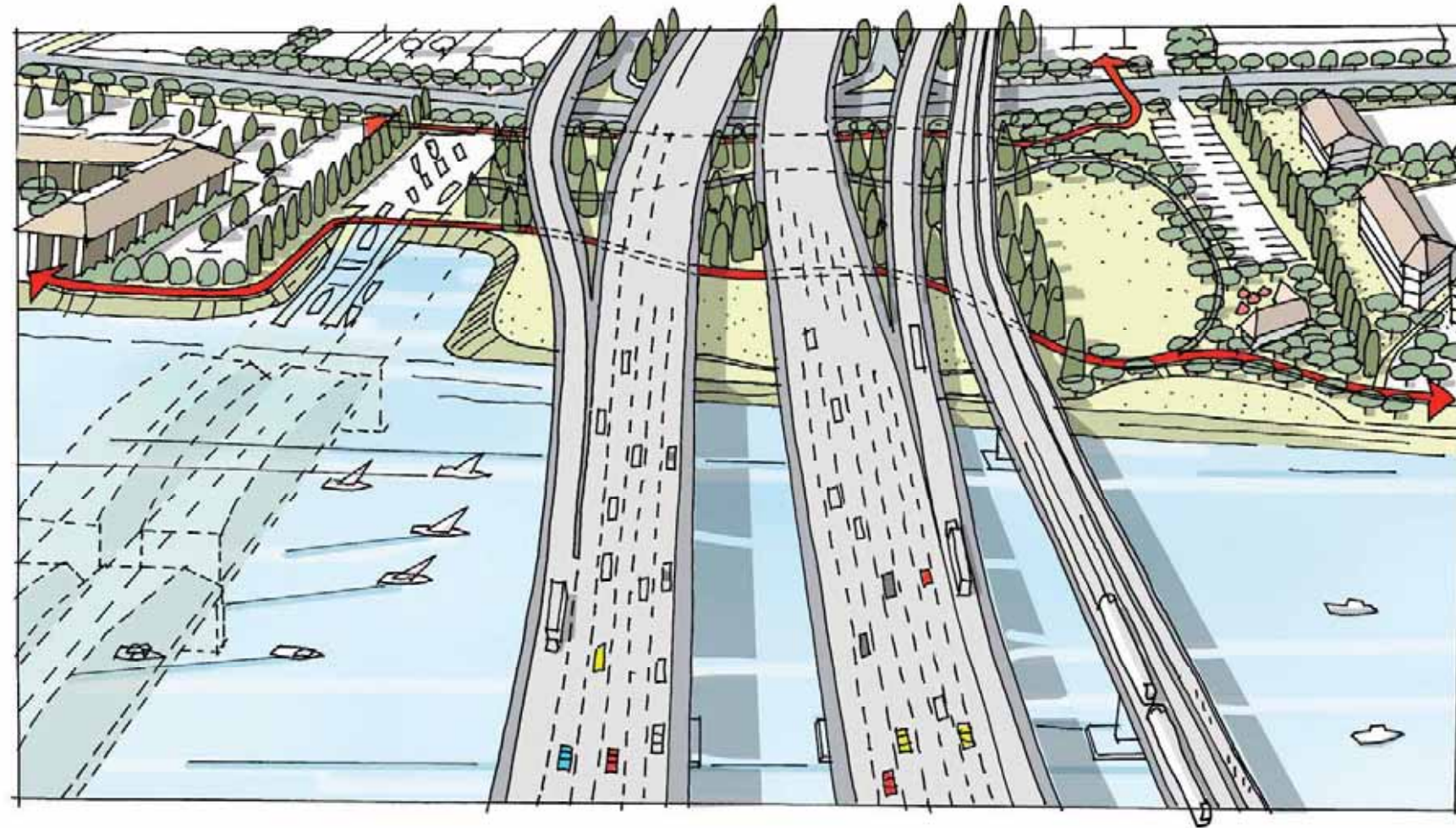
15. *Space ramps to admit daylight and generous landscaping.* Increase separation between ramps at the Hayden Island interchange to enable creation of generously planted landscaped terraces. Use this landscape also for natural treatment of storm-water runoff. Design noise walls and berms integral with the interchange to reduce noise trespass to the east and west.

Exhibit 3-3. Hayden Island LRT Station and I-5 Crossing



As Tomahawk Island Drive is extended under the Hayden Island interchange, it will be important to provide clear sight lines and plenty of daylight so that it can fulfill its intended function as a local connection for vehicular and foot traffic. It will be a principal access route to and from the elevated transit station, bikeway and footbridges. Tomahawk Island Drive (looking east) will dip under the interchange, but the sidewalks will remain level.

Exhibit 3-4. Columbia River Bridgehead on Hayden Island



In this view looking south towards Hayden Island, the new bridgehead will be located west of the existing pair of bridges across the Columbia River because of the horizontal curve in the alignment of the replacement bridge structures. This will allow phased construction, and will provide an opportunity to create a landscaped park at the bridgehead; a green landing place on the Oregon side of the river, consistent with recommendations of the Hayden Island Plan. An opportunity exists to memorialize the old bridges in some way.

3.2.4 Hayden Island Bridgehead

Several of the recommendations made for the *Columbia River Spans* and the *North Bank and SR 14 Interchange* are directly applicable to the Hayden Island Bridgehead. UDAG members discussed the possibility of creating public open space under the bridge structures between North Hayden Island Drive and the south bank of the Columbia River, as proposed in the Hayden Island Concept Plan. Guidelines specific to this location are:

16. *Separate structures to admit daylight.* Maintain the separation between bridge structures across the island to ensure daylight and viable landscape at ground level.
17. *Preserve elements of historic bridgeheads.* Explore preservation of parts of the existing bridgeheads as a historic reference.
18. *Explore public art opportunities.* Investigate public art options to announce arrival in Oregon, including pylons, piers and other structures.
19. *Keep banks clear of piers.* Keep piers and other massive structures clear of river bank open spaces.

Summary descriptions of applicable design guidelines include:

Consider other bridge types south of the Pearson Field constraints.

Reconfigure the under-bridge as destination public open space.

Investigate different under-bridge designs.

Include continuation of the waterfront trail.

Restore original topography and realign streets under the new bridges.

Provide visual and physical connections between under-bridge structures.

3.2.5 Columbia River Spans (Note new numbers below)

20. *Challenge aviation height limits.* Members of the UDAG recommend that the FAA be approached to consider a greater height allowance for the north end of the CRC span, permitting consideration of bridge types other than girder and box-girder. (It has been suggested that an element of interpretation by FAA staff has been involved in setting the imaginary surface height restrictions, and that a different interpretation might change the limits on bridge type).

21. *Find elegance amid dimensional constraints.* Use constraints on height and clearance over the water to inspire a great and unique design solution. (Explore the feasibility of a composite box girder bridge with open webs).

22. *Locate fewer piers in the river.* Minimize the number of piers in the river and on river banks, consistent with reasonable economy.

23. *Express experience and function with form.* Give expression to the integration of pier and deck structures. (e.g. consider deep haunches and slender mid-span deck). Investigate design opportunities above and below the bridge deck.

24. *Make transit, bike and footbridges open and airy.* If a pair of box girders is to be used for the main span, a composite construction with open webs should be used, accommodating light rail in one, bicycle and pedestrian facilities within the other.

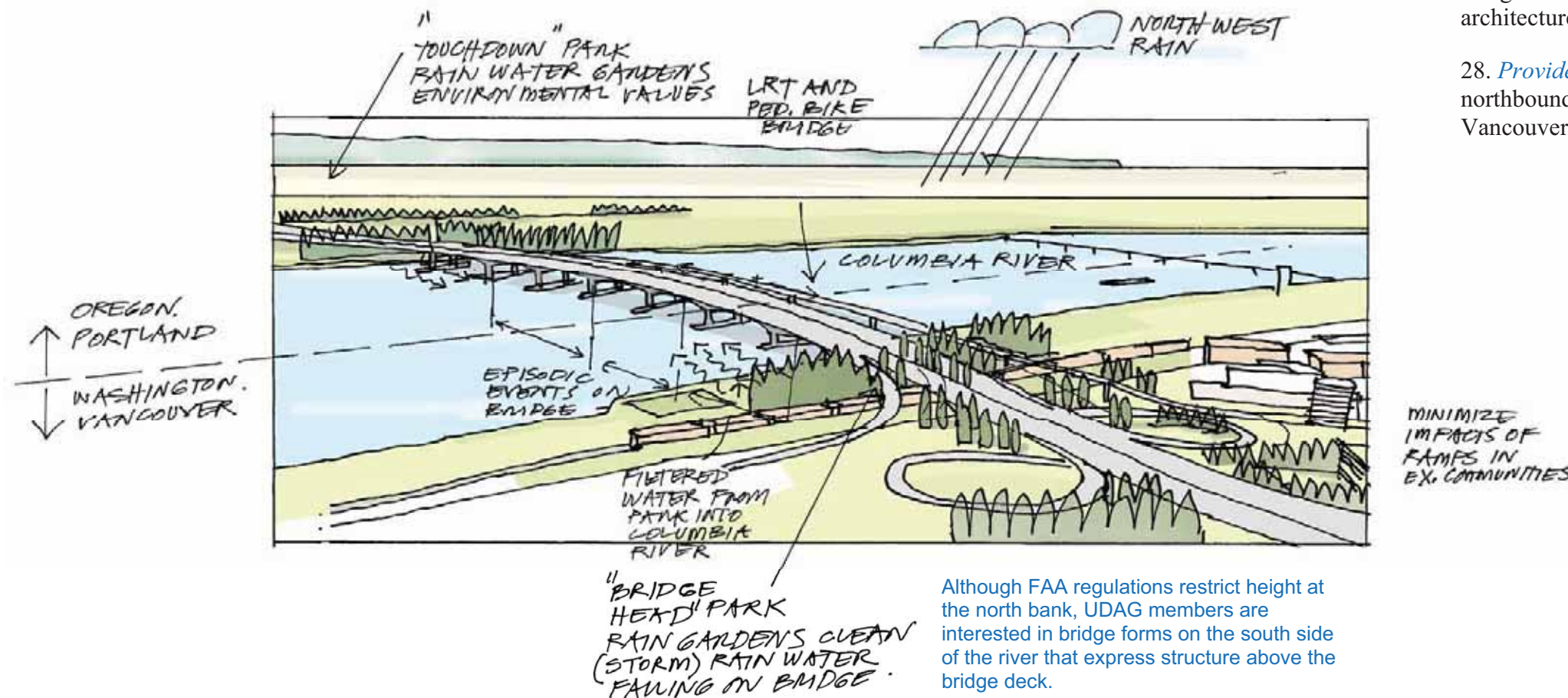
25. *Consider other bridge types south of the Pearson Field constraints.* Consider design opportunities on the south parts of the span that are relatively unconstrained in height. (FAA height limitations related to Pearson Field have effectively reduced bridge type selection to a single choice: box girder bridge. This might suggest a non-symmetrical bridge design or inclusion of an iconic object associated with the river crossing. Astoria Bridge demonstrates use of two distinct bridge types, one of limited height, the other much higher. Such options do not appear to have been considered for CRC).

26. *Design dramatic approaches to the river crossings.* Use public art, landscape and controlled views to build anticipation of the river crossing in those approaching the main span.

27. *Integrate architectural lighting.* Include in the design of the bridges architectural lighting that will give expression to the architecture after dark.

28. *Provide welcoming views into Vancouver.* Frame views for northbound traffic and transit passengers into downtown Vancouver and the Historic Reserve.

Exhibit 3-5. Columbia River Spans



3.2.6 North Bank & SR 14 Interchange

29. *Reconfigure the under-bridge as destination public open space.* Redesign the river bank at the former bridgehead under I-5 and the Red Lion site as urban park space in which people can meet, enjoy views, and otherwise use this shoreline destination.

30. *Investigate different under-bridge designs.* Investigate options for regrading and redesign of the river bank under the highway, including options for retention of fragments of the old bridges.

31. *Include continuation of the waterfront trail.* Designate a continuation of the regional trail through this space.

32. *Restore original topography and realign streets under the new bridges.* Regrade land between the railroad embankment and the river bank. Realign Columbia Way as a continuation of the alignment to the east which roughly parallels the railroad.

33. *Restore views of the river from Downtown along Main Street.* Extend Main Street south with clear sight lines to the river and connect it with Columbia Way for vehicular, bicycle and pedestrian traffic.

34. *Activate the edges of Main Street extended to the river.* Define with appropriate easements active open spaces and other uses that would flank the Main Street extension.

35. *Restore local access under I-5 on 5th Street.* Reconnect 5th Street east and west of the highway for pedestrians and vehicles with trail connections to Apple Tree Park and the Land Bridge.

36. *Provide visual and physical connections between under-bridge structures.* Connect the Land Bridge and Apple Tree Park with downtown Vancouver by combining improved sight lines, improved access and integrating landscape design.

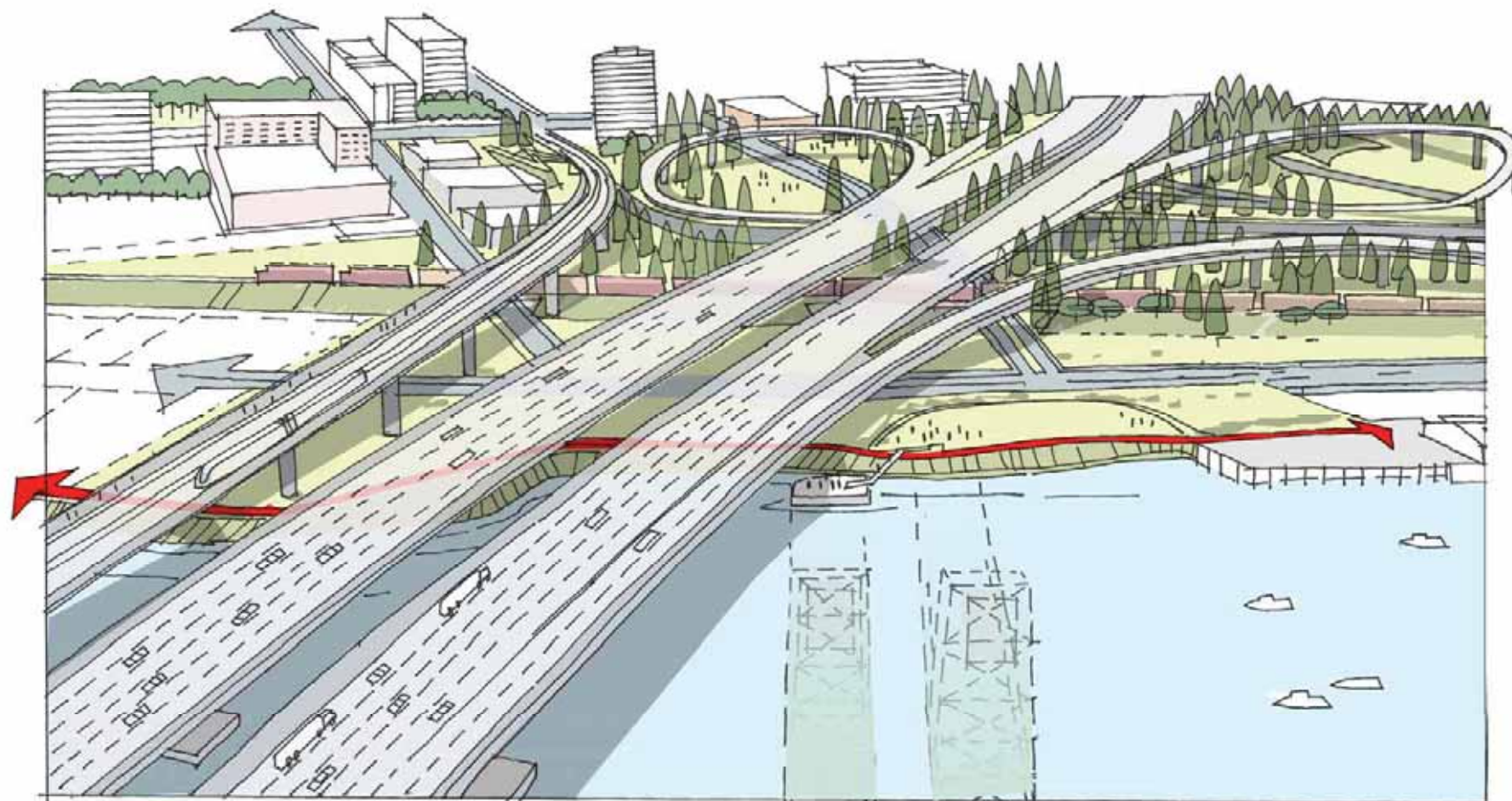
37. *Extend Land Bridge landscaping under the bridges.* Extend landscape treatment associated with the Land Bridge all the way to the river via the BNSF underpass. Also provide a landscaped trail to Main Street extended south to Columbia Way.

38. *Introduce active and functional uses under the SR 14 interchange.* Design open space within the SR 14 interchange to treat but not detain storm water runoff, reduce broadcast of traffic noise, integrate structures into the landscape, accommodate active open space and provide integral security for structures.

39. *Organize and screen open spaces and structures with landscaping.* Use landscape to organize the diversity and extent of open spaces associated with the interchanges and to screen the railroad berm.

40. *Announce the bridges with markers.* Use architecture or public art to mark entry and departure from each bridge.

Exhibit 3-6. North Bank & SR 14 Interchange



Because the spans of the new Columbia River Bridges must be high enough for commercial river traffic near the north bank, and because of clearances required above the railroad embankment, the bridge structures will pass high above the north bank. Open spaces and commercial development could connect new waterfront development downstream with trails and restaurants already established upstream of the bridgehead. New east-west connections beneath the bridges and ramps will restore connections between Downtown and the Historic Reserve of Fort Vancouver.

Exhibit 3-7. Vancouver Waterfront and CRC Bridgehead Alternatives



An important long term objective is to restore visual as well as physical access to the waterfront from Main Street in downtown Vancouver. Configuration of the railroad will prevent this from being achieved as part of the CRC project, but column placement and other elements can be located to preserve the opportunity of eventually re-uniting Downtown and its waterfront. One of many concept sketches prepared for the area beneath the bridgehead and interchange is shown.

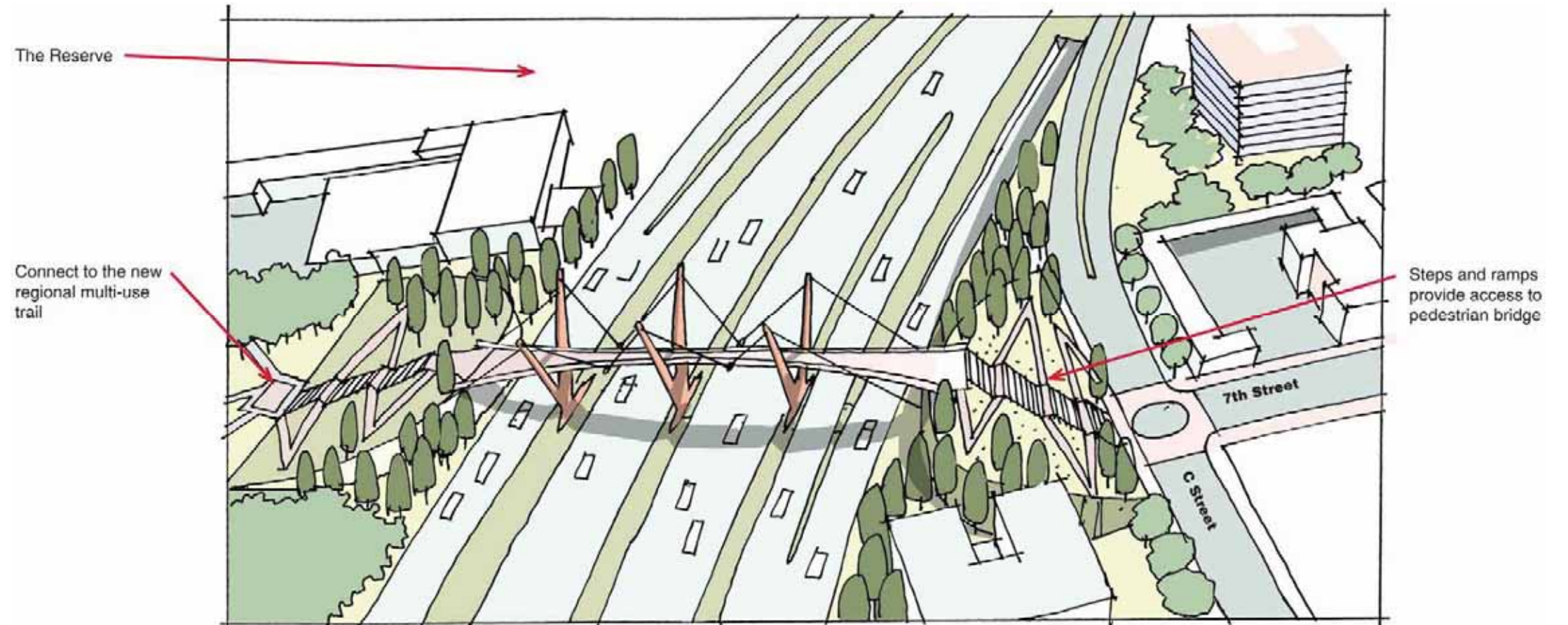
3.2.7 Seventh Street Footbridge

41. *Connect 7th Street over I-5.*
Construct a footbridge connection over the highway at 7th Street.

42. *Make the footbridge a colorful gateway.* Consider the design of the 7th Street footbridge as an opportunity to announce approach to the bridge with an elegant and colorful structure.

43. *Consider the collective appearance and function of Downtown crossings.* All of the Downtown highway crossings should be addressed functionally and visually as an integrated system.

Exhibit 3-8. Seventh Street Footbridge



This concept sketch illustrates a new footbridge connection between downtown Vancouver and the Historic Reserve. It offers an opportunity for a signature structure as well as an important link.

3.2.8 Evergreen Highway Park

(Note new numbers below)

44. *Create a highway park over I-5 at Evergreen.* Develop a landscaped deck as a community connection over I-5 at Evergreen Blvd. (This could make an apt entry marker to the Evergreen State if landscaped appropriately).

45. *Mark arrival in the Evergreen State with a dramatic park view.* Treat the covered portion of the highway as an arrival gateway for drivers.

Evergreen Boulevard is the only street that bridges the highway south of Mill Plain, and provides the main access between central Vancouver and the Historic Reserve. Addition of a landscaped deck over the highway will provide a community connection and give continuity between landscapes on either side of I-5.

Exhibit 3-9. Evergreen Highway Park and South to the Columbia River

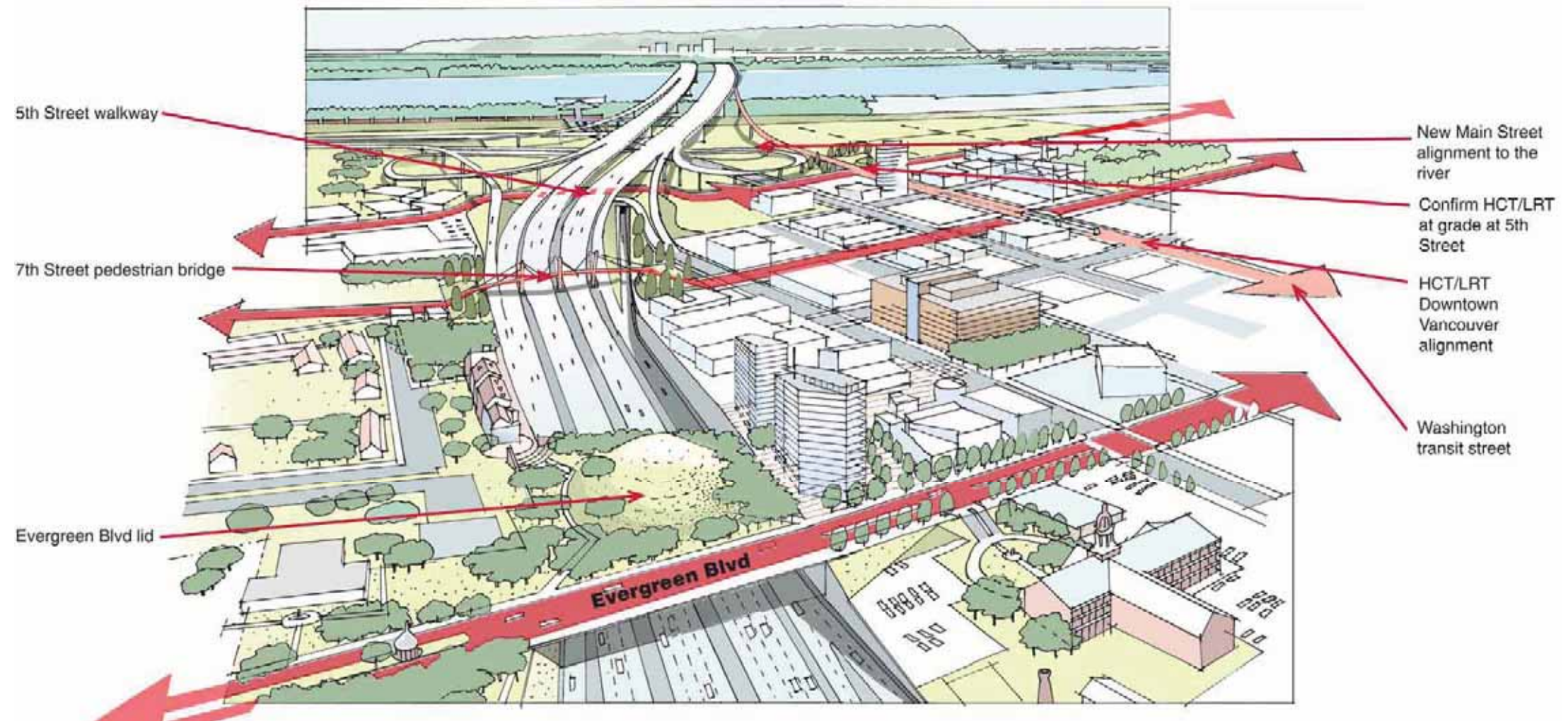
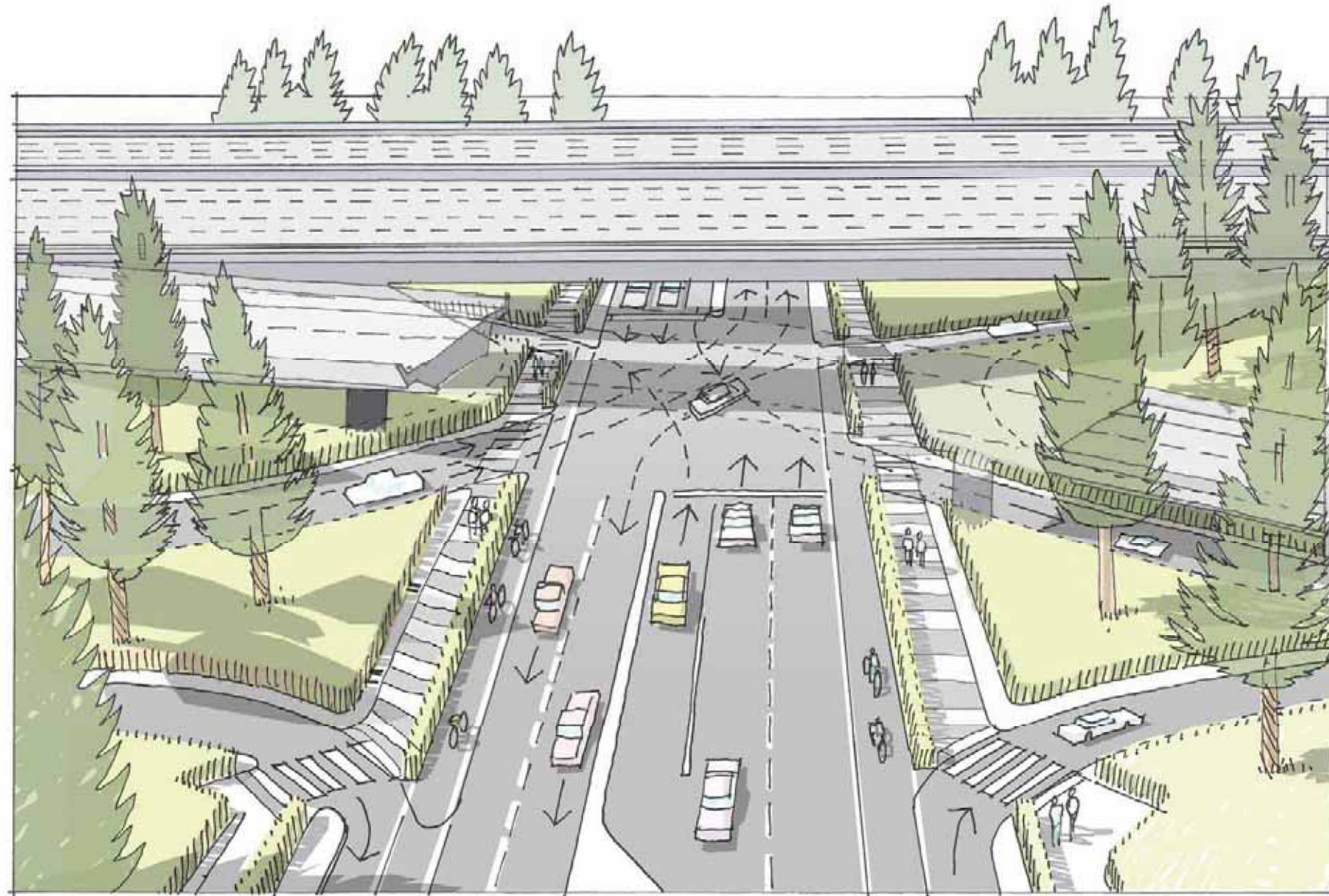


Exhibit 3-10. Mill Plain Interchange



3.2.9 Mill Plain Interchange

46. *Distinguish the Mill Plain interchange as the principal entrance to Downtown.* Acknowledge through urban design and landscape that Mill Plain is the principal point of access to Downtown from the north and east.

47. *Improve pedestrian and bicycle safety under I-5.* Provide safe and direct passage for pedestrians and cyclists on Mill Plain Blvd traveling between destinations east and west of I-5. (Refine the single point urban interchange (SPUI) design to accommodate all modes equitably).

48. *Create a memorable landscape around the interchange.* Investigate landscape options for surplus land at the four corners of the Mill Plain interchange that acknowledge views from Evergreen underpass.

49. *Design the ramp bridge as a sculptural feature.* At Mill Plain, design the long ramp bridge east of the interchange as an artifact in the landscape, visually distinct from the massive highway.

At the Mill Plain underpass, the urban design emphasis will be on creating an airy and open pathway for bicycles and pedestrians integrated with a cohesive landscape designed in concert with that of the other interchanges and freeway crossings. Safe crossings without lengthy delays will be important for pedestrians and cyclists. The ramp bridge (cut away to reveal SPUI) should appear as a light and elegant structure.

3.2.10 McLoughlin Boulevard Crossing

50. *Keep underpass sidewalks level as roadway dips.* Where McLoughlin Boulevard dips under I-5, maintain level sidewalks through the underpass for safety and clear sightlines.

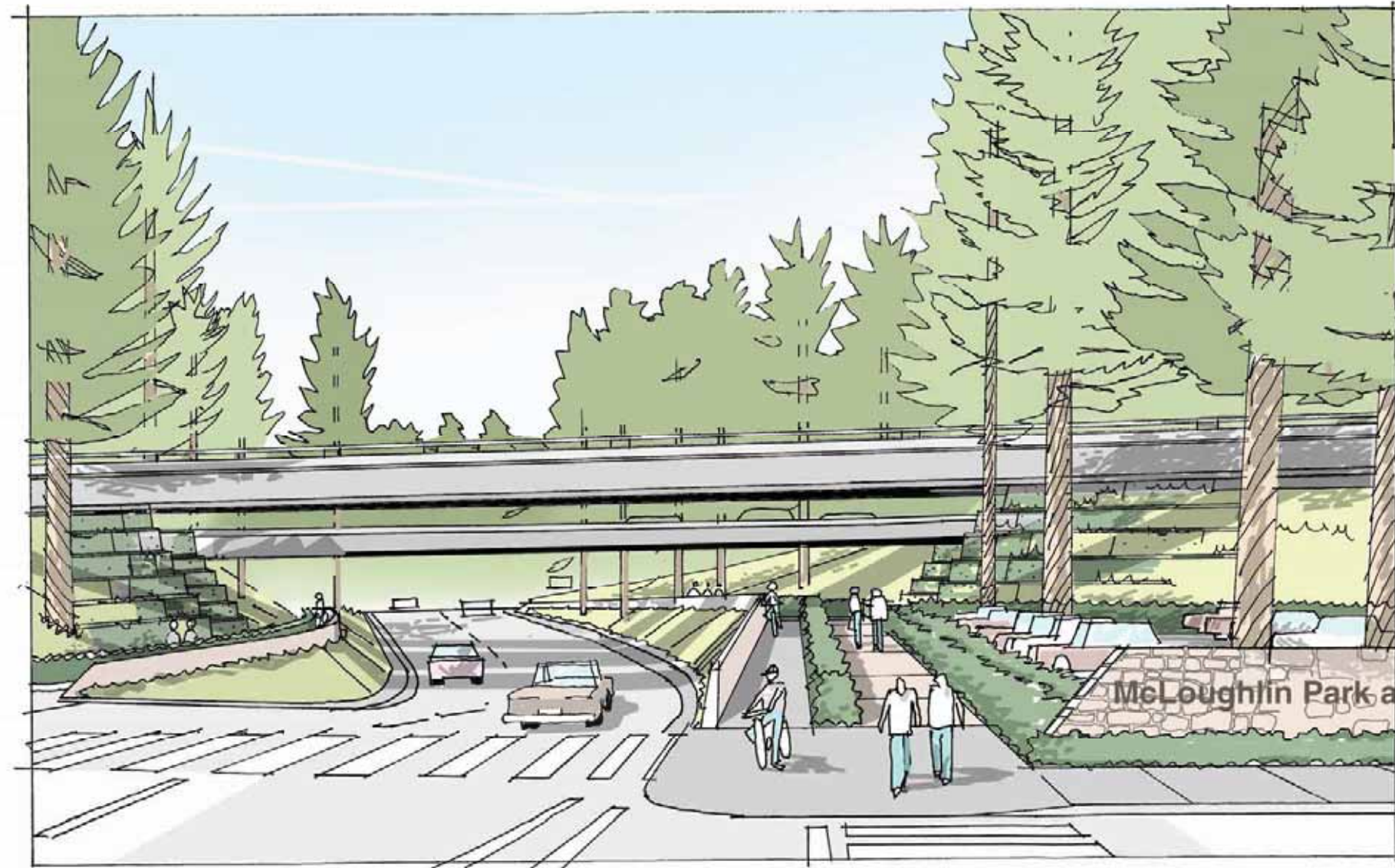
51. *Accommodate transit, pedestrians, bicycles and local vehicular traffic.* Provide east-west passage for all modes that improve safety and convenience over existing access.

52. *Coordinate lighting under structures with City and I-5 lighting.* Ensure that pedestrian and street lighting under the freeway and ramp structures does not create sharp contrasts of light and shadow. Design lighting to complement City and Freeway lighting.

53. *Landscape under-spaces to be clear of activities.* Design the environment beneath freeway structures to discourage encampments and other inappropriate uses.

Provisions will probably be made for a light rail terminus at a park-and-ride facility north and east of the underpass. This will increase peak hour traffic at the underpass and will increase the numbers of pedestrians and bicycles in the traffic mix. Facilities design will be challenged by greater risks to safety.

Exhibit 3-11. McLoughlin Boulevard Crossing



3.2.11 Fourth Plain Interchange

54. *Improve safety and convenience for all modes across I-5.* Redesign the Fourth Plain interchange to accommodate safe access and movement of pedestrians and bicycles, including access to and from local streets.

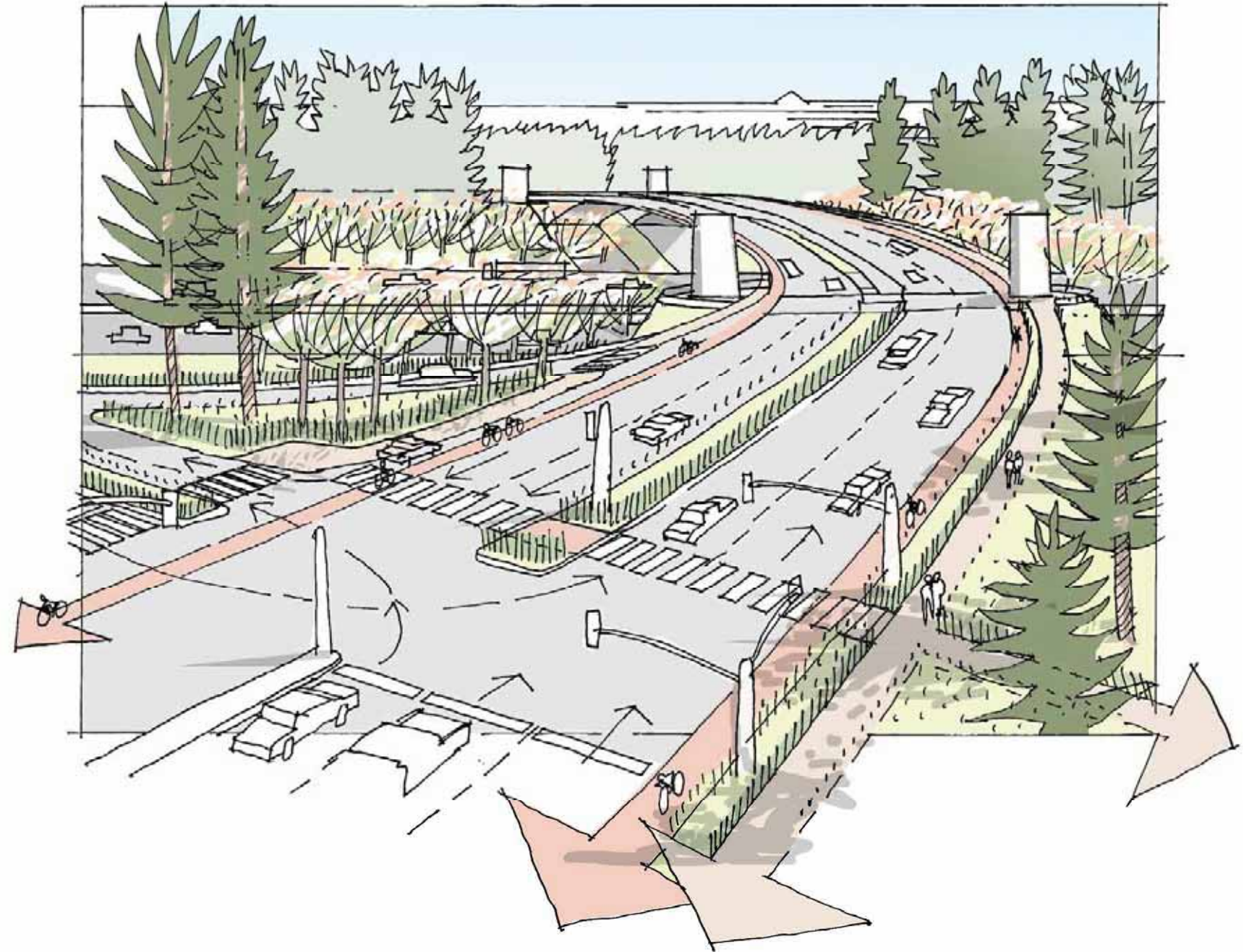
55. *Improve sidewalks on both sides of Fourth Plain overpass.* Provide sidewalk access along the north side of Fourth Plain adjacent to the cemetery (as stipulated by the Vancouver Central Park policy document).

3.2.12 The 29th and 33rd Street Overpasses

56. *Ensure compatibility of bridge approaches with neighborhoods.* Design visible portions of the bridges over the highway at 29th and 33rd Street with input from the neighborhood facing each end of the bridges.

Freeway ramps connecting to the Fourth Plain overpass are potential hazards for pedestrians and cyclists. Marked crossings and clear sight lines will be important.

Exhibit 3-12. Fourth Plain Interchange



3.2.13 .SR 500 Interchange

57. *Consider a local design theme for bridges.* Consider shared artistic themes in the designs of bridges over I-5 between 39th Street and the Columbia River. (The bridges could reference stories of historic places or events nearby).

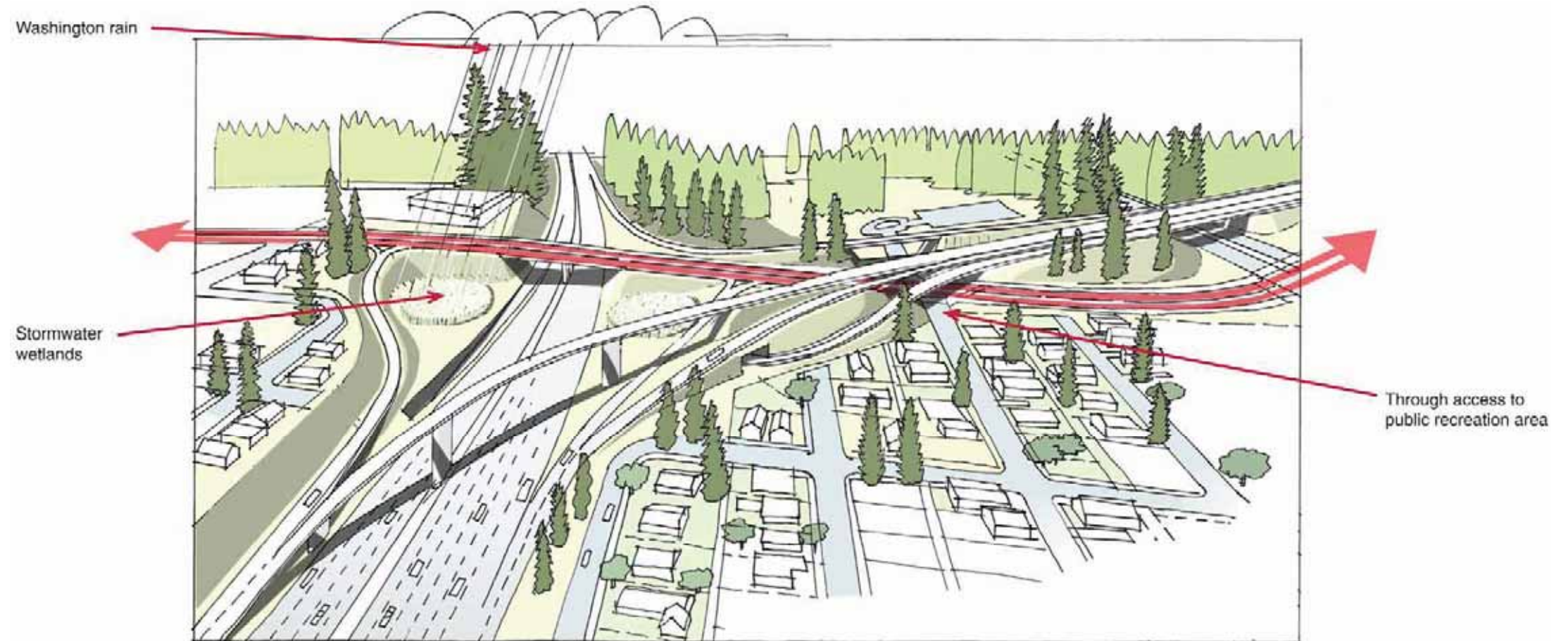
58. *Calm traffic on 39th Street.* Widen sidewalks and slow traffic on 39th between the school and NE 15th Ave.

59. *Create a grand entry to Leverich Park.* Design the northbound ramp overpass to appear from below as an entry to Leverich Park.

3.2.14 Highway 99 Interchange

No specific recommendations were made for the interchange with Highway 99, mainly because only minor changes to the existing configuration are contemplated. The universal design guidelines at the beginning of this section are of course relevant here. This interchange marks the northern limit of the CRC project.

Exhibit 3-13. SR 500 Interchange

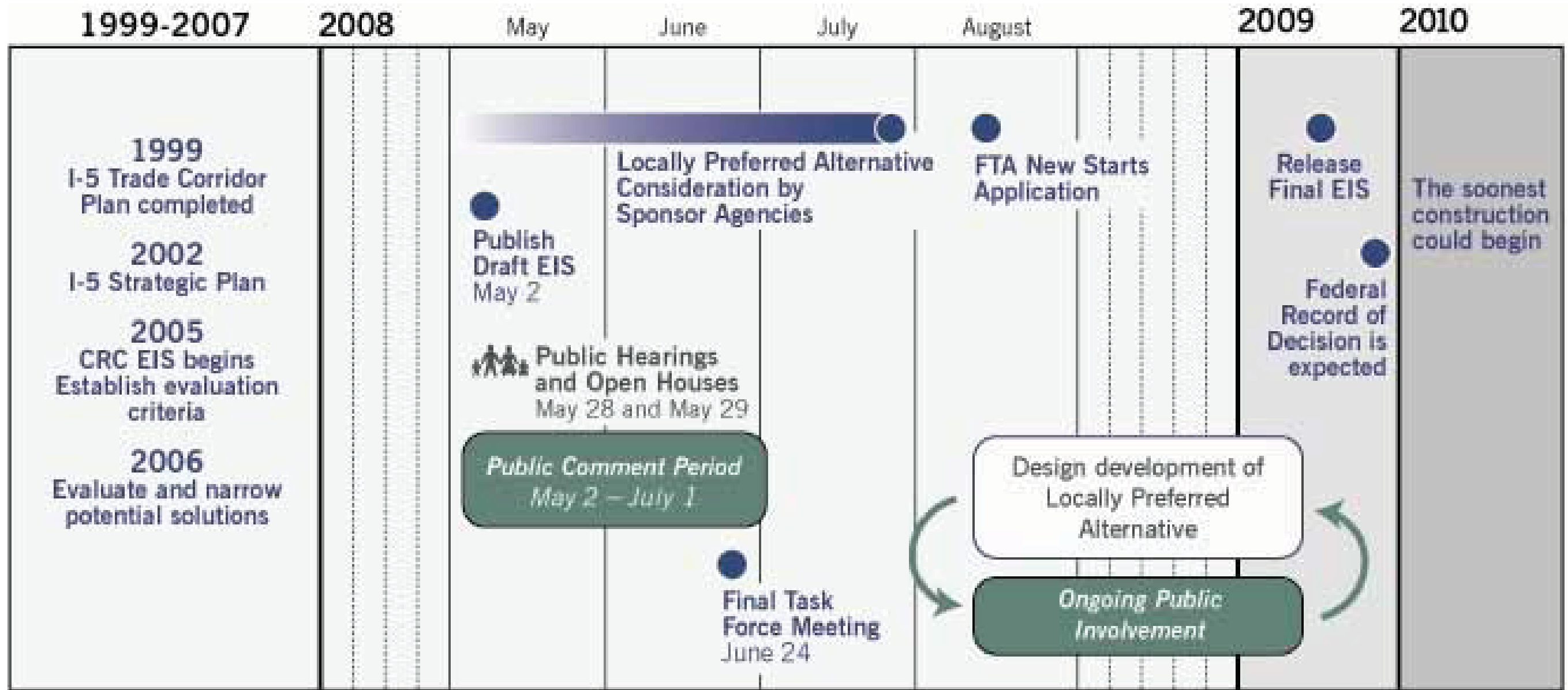


The SR 500 interchange marks the arrival of I-5 in Vancouver from the north. 39th Street connects the school on the west side of I-5 to the residential community to the east. Pedestrian safety is of the utmost importance (view to the north).

Appendix

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Appendix A. Overall CRC Schedule



05/20/08

Appendix B. Schedule of UDAG Meetings

Kick-off Meeting

December 13, 2006

Full Committee Meetings

March 9, 2007

April 6, 2007

May 11, 2007

June 15, 2007

August 17, 2007

October 19, 2007

December 14, 2007

January 25, 2008

June 27, 2008

Sub-Committee Work Sessions

May 1, 2007

May 29, 2007

November 9, 2007 (2 tours)

November 20, 2007

November 29, 2007

December 4, 2007

January 16, 2008

January 22, 2008

February 12, 2008

February 13, 2008

March 21, 2008

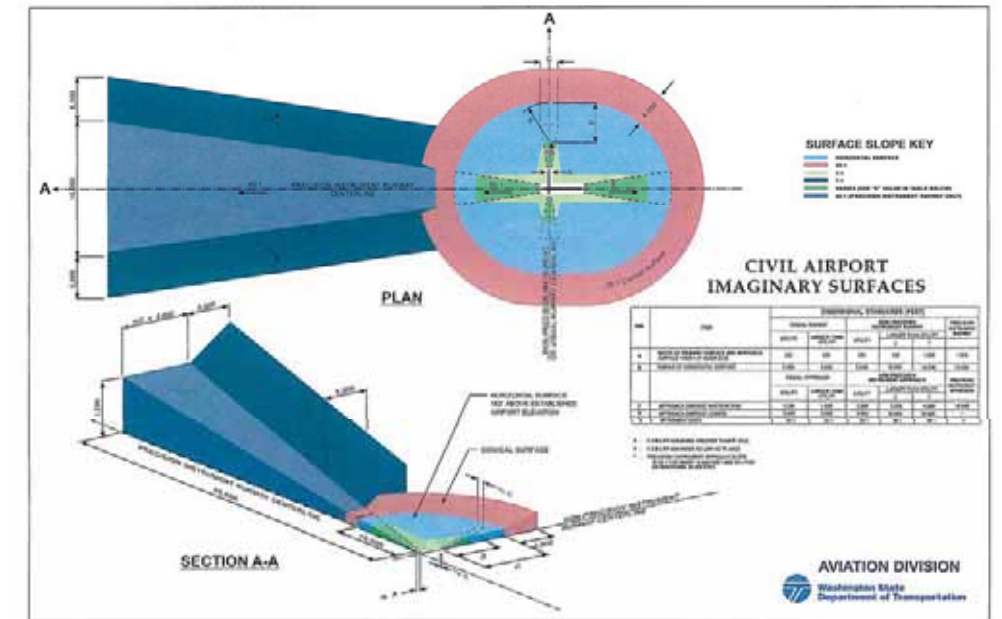
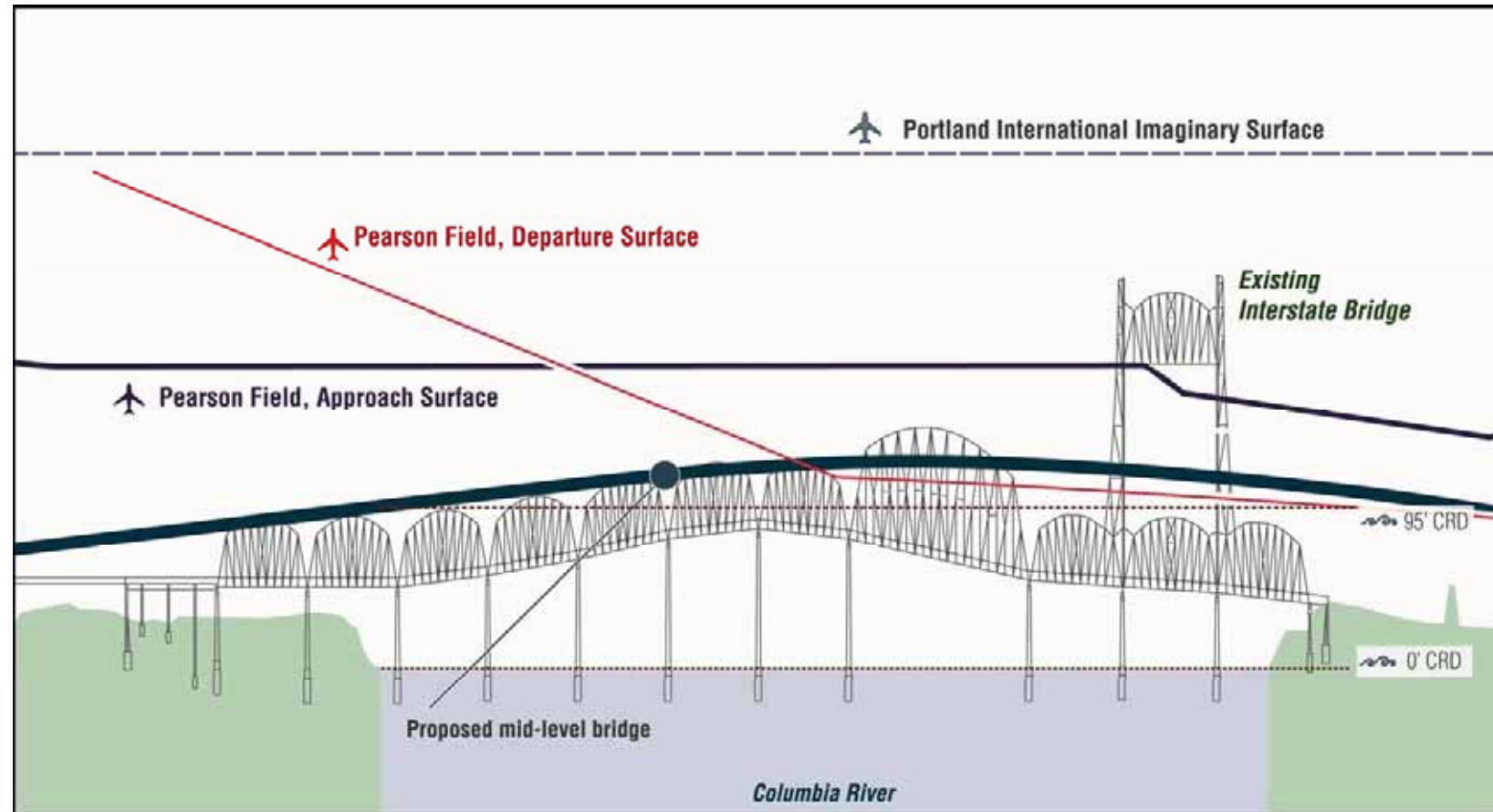
April 21, 2008

April 25, 2008

May 19, 2008

May 28, 2008

Appendix C. Pearson Field UDAG Charter Surfaces



Section 4. Appendix D. Hayden Island Plan Summary

HAYDEN ISLAND

Portland's Only Island Community

FINAL CONCEPT PLAN | April 2008



Hayden Island is the only island neighborhood in Portland and it provides a unique setting to its residents and businesses. All cherish its small town ambiance and river lifestyle in the middle of the Columbia River with easy access to the amenities of Portland and views of the Cascades.

Introduction



CONCEPT PLAN

In August 2007, the City of Portland and the Hayden Island community began a collaborative effort to develop a plan for the eastern half of the Island. In January 2008, the Concept Plan went out for consultation with the Hayden Island community. The following is the final Concept Plan produced by the Steering Group, consultants and the City of Portland staff. The Concept Plan for Hayden Island considers future growth, access and connectivity, the community and the environment and will serve as the direction for the final plan and zoning code changes that will be developed later this year.

single-family homes, major shopping areas, marinas, and industrial uses. West Hayden Island is outside the City limits and mostly owned by the Port of Portland. It is undeveloped containing wetlands, riverside forests, and a Columbia River dredge material handling facility.

The Hayden Island is a community of 2155 permanent residents which grows in the summer when the owners of the 5000 boats moored on the Island visit and take advantage of the marine experience.

PLAN DEVELOPMENT AND PURPOSE

The role of this plan is to provide clarity to residents, property owners and the City of Portland regarding the island's desired future land use, development, capital improvements and other steps toward realizing this future.



Aerial view of Hayden Island; West Hayden Island is to the left of the BNSF railroad tracks.

The development of the plan has involved a series of formal and informal community meetings, interviews and other opportunities for public input; the largest of which was a series of public workshops held on October 16-20, 2007 at the Jantzen Beach SuperCenter. During the workshops, urban designers, city planners and traffic engineers worked with property owners and members of the community to begin formulating the goals of the community into a physical plan for East Hayden Island. The community conversation was continued in January and February 2008 with the publication of the Concept Plan, neighborhood meetings, a large open house, and a written survey completed by more than 145 people.

Hayden Island is approximately 1400 acres on the Columbia River having two major sections roughly divided by the BNSF railroad tracks. Hayden Island (east of the railroad tracks) is approximately 600 acres, in the City and developed with a variety of uses—manufactured homes, floating homes, multi- and



HOUSING TYPE AND NUMBER OF DWELLINGS ON HAYDEN ISLAND

Floating Homes.....	360	Single Family Dwellings.....	54
Manufactured Housing.....	440	Yacht Club Units	50
Multi-Family Dwellings	677	(part-time housing)	
(condominiums)			

Vision, Goals and Challenges

VISION STATEMENT

The Concept Plan is based on the following draft vision statement, themes and goals. They were developed in community meetings from July to October, 2007 and were based on the Neighborhood Plan document drafted by community residents in 2006.

Hayden Island is a gateway to Portland and to Oregon. The Island residents live in a variety of housing styles both on the water and the land. They are connected to regional and local businesses and industries by a network of streets and paths that sustainably treat stormwater and protect the greatest of the Island's assets, the Columbia River. On Hayden Island there is access to the River for the many boaters, and protected habitat for avian, aquatic and terrestrial life.

The Concept Plan refines this vision by defining goals for the island's future organized around three themes: Island Community, Getting Around, and Environment and Open Space. Each theme also has the goal of developing a sustainable future.



Hayden Island and surrounding area.

The sustainable future of Hayden Island community is being approached with a combination of policies and programs to accomplish multiple objectives. One example in this concept plan is the transportation alternatives, such as walking, bicycling and light rail, that are provided; having multiple benefits for the community. Some of these benefits are improved air quality; reduced

pavement needed for roads and parking, health benefits from walking and bicycling and less noise from vehicles. This is true for other parts of the plan.

CHALLENGES AND OPPORTUNITIES

To accomplish this vision, the plan for East Hayden Island has to deal with a number of challenges and opportunities.

- The island is a great location with a small community sharing an interest in its riverside environment.
- The island's population is too small to support the retail and services desired.
- More population and/or jobs on the island are needed to support transit connections desired by its residents which will be developed with of the Columbia River Crossing project (CRC).
- Vehicle access to and from the island is limited and will remain so even with the Columbia River Crossing project. However, there will be traffic capacity for more development, and residential development.
- Hayden Island is on the western flight path to Portland International Airport. New residential housing is not permitted in areas that were not zoned for housing in 1981.
- An 80-acre regional shopping center, under single ownership, is about to undergo major redevelopment. The introduction of light rail transit to the island, with the Columbia River Crossing, should create the opportunity for this center to evolve into a mixed use, and transit supportive, development.



"Maintain the 'village' feel as much as possible here on the Island."

ISLAND THEMES AND GOALS



ISLAND COMMUNITY

- Shared community identity and sense of place
- Commercial and employment areas
- Safe, connected and healthy neighborhoods



GETTING AROUND

- Better access to and from the Island
- Better connectivity on the Island
- Integrated transportation network



ENVIRONMENT AND OPEN SPACE

- Protect and conserve ecological systems
- Embrace "Green Philosophy" and practices

Island Community

RIVER LIFESTYLE

Important goals of the Concept Plan are to build on the river lifestyle, create opportunities for the community to come together, and provide access to the water. Also of importance to the community is to have a resident population that is large enough that local goods and services are available on the Island. This is only possible by adding new residential areas. By providing a mix of land uses on the Island, there is an opportunity for residents to both live and work on the Island in close proximity, which is a goal of sustainable development.

The Concept Plan envisions a mix of land uses to meet the future needs of the community. Just east of the railroad tracks is a large industrial area of approximately 135 acres. In the Concept Plan this area will continue to be used for industrial purposes both general and marine industrial.

The manufactured home park remains residential and will continue to be a manufactured home park. The only changes for the floating home communities on the south shore will be some reduction in the number homes in the Jantzen Beach Moorage with the construction of the Columbia River Crossing project.

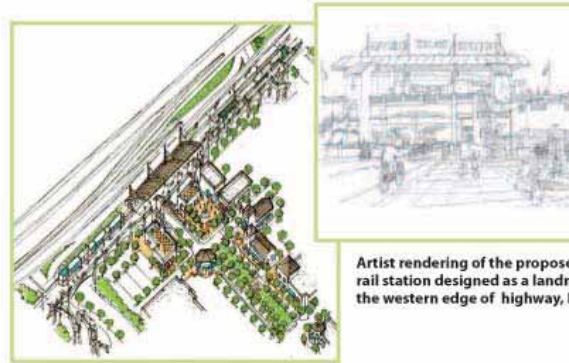
Current Redevelopment Plan



Transition Plan



Potential phased redevelopment of the shopping center into a transit-oriented center.



Artist rendering of the proposed rail station designed as a landmark on the western edge of the highway.

TRANSIT-ORIENTED DEVELOPMENT

West of the Interstate-5 is the Jantzen Beach SuperCenter. This center is about to undergo a redevelopment process with the existing mall being demolished and replaced with new retail outlets in an urban grid street pattern. Building on this grid pattern, the Concept Plan proposes a transition to a transit-oriented development over the life of the plan. It is hoped that over time, the value and demand for residences on the island will be accommodated in the redevelopment of a mixed use, mid-rise center with residences, business and commercial. It is anticipated that an additional 1000 new dwelling units may be constructed in this development.

The eastern edge of the Jantzen Beach SuperCenter is the proposed site for the light rail station. The new light rail station and the redevelopment of the shopping center create an opportunity for an entrance and plaza to Hayden Island. It is important that the new station is constructed to be a landmark along the highway and as a focal point of Hayden Island.



Final Concept Plan



"Neighborhood center should be designed for people — not cars."

CENTRAL CORE

Every community has a center or downtown, currently Hayden Island's center is divided by the Interstate. Creating hubs on both the east and west sides of the highway is a goal of the Concept Plan. With the construction of the new highway there will be land east of the Interstate which will become available for redevelopment, potentially for commercial uses serving the community. The plan designates this area as the neighborhood retail center. It anticipates that the commercial development on this side of the highway will serve the local community and be accessible by sidewalks and local streets.

Two road networks for this area were proposed; one through the center using the existing North Jantzen Drive, and a second route around the center on a new road. The second route provides better access to the

site and was the preferred option from the Community Design Workshops. The neighborhood commercial center would be connected to the west with an extension of Tomahawk Island Drive. During the community conversation this center road was preferred, although there are issues regarding the minimum distance between roads, driveways and the ramps to the Interstate. These issues still need to be addressed by the Oregon Department of Transportation and the City of Portland.

For the eastern most section of Hayden Island, the plan is proposing to preserve the residential communities, enhance the habitat at the eastern tip, expand the marine industrial district and provide residential development on vacant lots.



Land Use Plan Map (can be seen in larger scale on page 6)



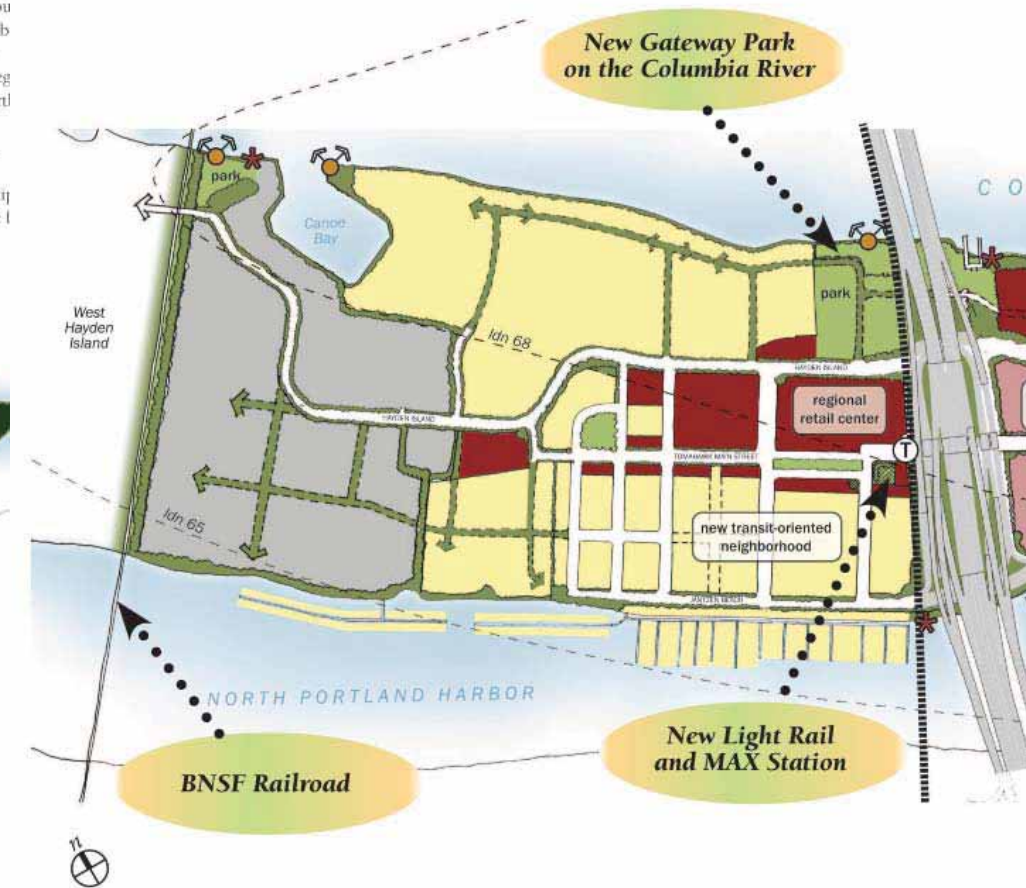
Alternative Road Alignment A



Alternative Road Alignment B

Two road networks were proposed for the east neighborhood; one coming through the center shown on the left, A, and the second alternative, B, on the right, showing the road circling the neighborhood on a new road to the outside.

Hayden Island Proposed Plan



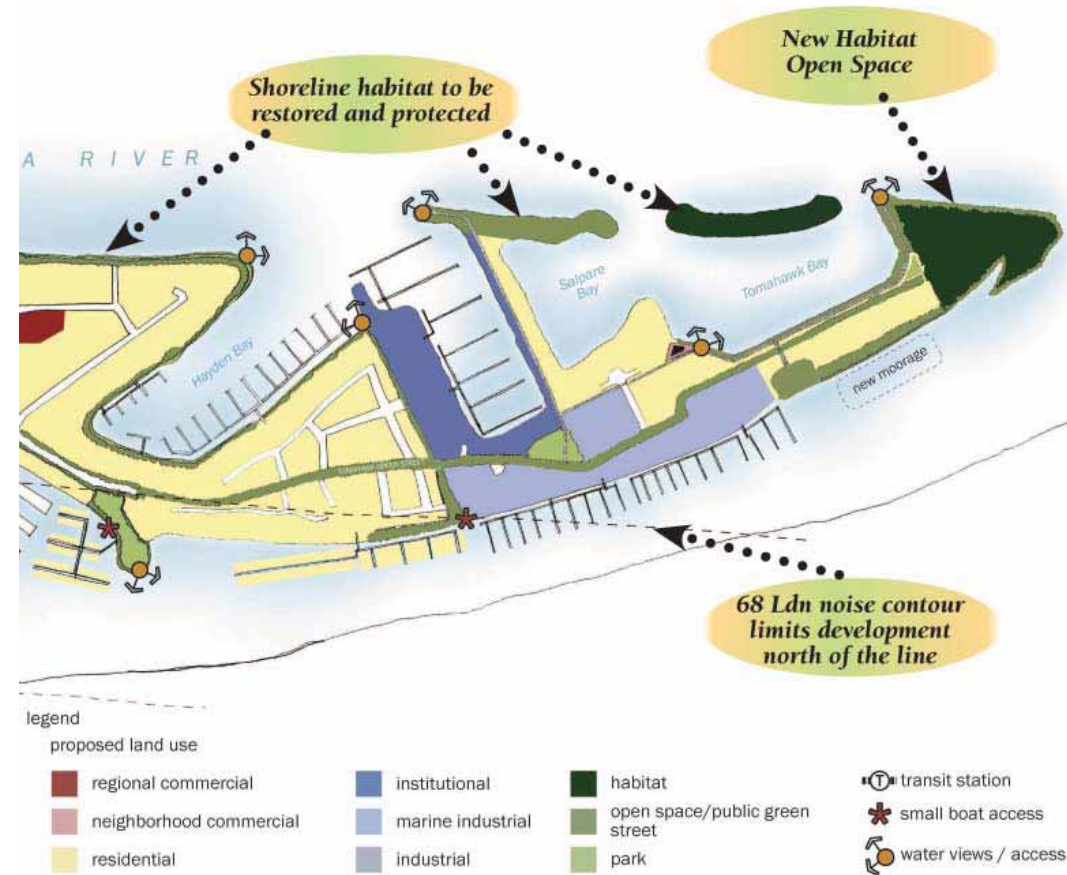
New Gateway Park on the Columbia River

New Light Rail and MAX Station

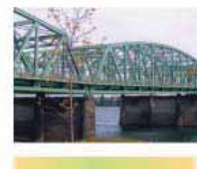
BNSF Railroad



Getting Around



Columbia River Crossing conceptual drawing, looking south, showing the new bridge with light rail access along the west (lower right in drawing) side.



DRAMATIC CHANGES TO COME

Currently coming and going from the Island is limited by the access from the Interstate, which is congested for a large part of the day.

Getting to and from Hayden Island will change dramatically in the next several years. New bridges across North Portland Harbor and the Columbia River, along with a new interchange for the Interstate at Hayden Island are proposed as part of the Columbia River Crossing project. CRC also includes a light rail connection from Expo Center to the south to Vancouver in the north.

This Concept Plan envisions a replacement bridge across the Columbia River providing the best access for Hayden Island residents to Marine Drive without having to get on the highway, Interstate 5.

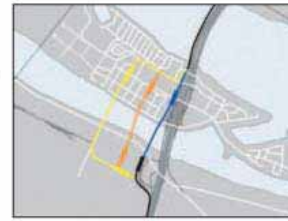
This Concept Plan envisions a replacement bridge across the Columbia River providing the best access for Hayden Island residents to Marine Drive without having to get on the highway, Interstate 5. While taking into account the future development of Hayden Island, consideration was given to the number of vehicles that could use the new interchange without causing it to become congested.

The CRC project provides for shared pedestrian and bike paths from Marine Drive through Vancouver. The path will be a wider and longer expansion of the existing path system. An expanded pedestrian and bicycle network will connect to Bridgeton and the 40-mile loop providing more sustainable access to recreation opportunities in the City.

EXTENSION OF EXPO CENTER LIGHT RAIL

A major part of the CRC project is the extension of Expo Center light rail line north across the Columbia River through Vancouver. This aspect of the plan provides the most sustainable form of frequent access to and from Hayden Island. It carries the most people using the least amount of energy.

As part of the planning process, there were choices for aligning and locating the light rail. During the design workshops, three alignments were explored.



Three light rail alignment/location options.

The options are:

- 1. West side of the Interstate (blue)
- 2. Middle of the Jantzen Beach SuperCenter (orange)
- 3. Western edge of the Jantzen Beach SuperCenter (yellow)

PREFERRED LOCATION

Through the Community Design Workshops and the community conversation, the preferred option for light rail is the route along the west side of, and adjacent to, the Interstate.



Pros for west of I-5 location

- Station location creates a defined edge along I-5
- Serves near and long term needs of Island
- Serves near and long term needs of Expo Center
- Alignment and station are central to Island's population
- Impacts fewer floating homes
- Minimal traffic impacts
- Shortest travel time

Cons for west of I-5 location

- Reduces potential for redevelopment to the west on areas currently zoned industrial
- Location of station along freeway may reduce station quality due to highway's proximity

ARTERIAL BRIDGE— TWO OPTIONS

After many conversations with the community, it was recommended that a second bridge be constructed connecting to Marine Drive. If there is a second bridge, it would need to serve future development on West Hayden Island and the community on the eastern half of Hayden Island. A second bridge would not be built unless future development on West Hayden Island proceeded; it would need to obtain all the required permits; and funding prior to its construction. Two options were explored during the design workshops and through the community conversation, one located at Force Avenue and one located on West Hayden Island. The community preference was the West Hayden Island location because it provided a direct route for trucks going to and from any potential development on West Hayden Island, limiting the truck traffic impacts on residential areas on the eastern half of the Island.



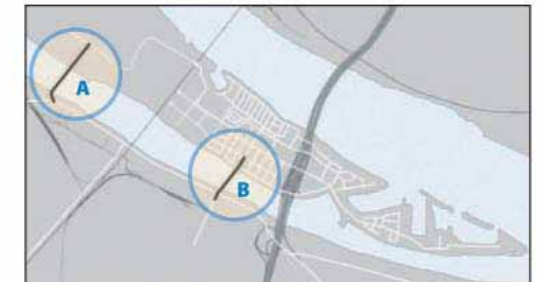
Designs showing stormwater treated naturally by soil and plants, instead of running into the sewer systems or polluting the river.

A linear planting system will be created by these Green Streets across Hayden Island.

LOCAL STREETS— ENHANCED GREEN STREETS

Getting around Hayden Island is important for Island residents and businesses. Proposed in the Concept Plan is a network of local streets that have sidewalks, bike paths, traffic lanes and, on many streets, on-street parking for visitors. Each of the streets is designed to be an "Enhanced Green Street." These are streets that serve many purposes — providing for stormwater runoff into planters protecting the Columbia River, providing landscaped settings for walking and new habitat areas on the Island. This is new linear green space to enhance the street network and the Hayden Island environment.

This future system of local streets will make it possible for residents to walk to the grocery store or other local businesses to run errands. By using the sidewalks along local streets, each trip not made in a car promotes personal exercise and uses less fuel making Hayden Island more sustainable.



Two arterial bridge options were explored during the design workshops and through the community conversation; one located at Force Avenue (B) and one located on West Hayden Island (A). Location A was preferred.



Street concepts showing planters for trees, parking for cars, bike lanes, and sidewalks for pedestrians.

Environment and Open Space

"Keep our Island beautiful... plan carefully... keep it natural."



Protecting the Columbia River for habitat for the many animals, birds, fish and plants of Hayden Island is one of the goals of the Concept Plan. To achieve this goal, the Concept Plan envisions the banks of the river are restored and protected; enhanced green streets are the standard as redevelopment takes place; and new habitat and parks spaces are provided on the Island. Additionally, the Hayden Island plan is proposing to protect areas of shallow water habitat surrounding the Island.

COLUMBIA RIVER

Over the history of Hayden Island, the Columbia River has bisected, flooded, and gone past the Island on its journey to the Pacific Ocean. It is an important river in the Pacific Northwest as a major navigation channel for the Ports of Portland and Vancouver USA. The river is an environmental and a recreational treasure for the region.

Open spaces and parks are indicated on this map.



Salmon, steelhead and lamprey migrate past Hayden Island to upstream spawning grounds; their offspring migrate back to the Pacific Ocean. During this migration, which varies in season, salmon will use the off channel and shallow water habitat on the shores of Hayden Island. Other salmon use the River year round, inhabiting the Island's off channel and shallow water habitat.

Birds and other wildlife use the Columbia River corridor. Hayden Island is part of a habitat complex that includes Smith and Bybee wetlands, Ridgefield Wildlife Refuge and the Lower Columbia River Estuary. More than 100 species of birds are attracted to this area, including bald eagles that have been sighted nesting on both the eastern and western ends of the Island. The protection of aquatic, avian and terrestrial species including endangered species is important for the Columbia River and Hayden Island.

To protect this vital asset it is important to know that Hayden Island is in the Columbia River watershed. All

run off from Hayden Island drains into the Columbia River. In order to protect the River's water quality, it is imperative that water drained from the Island is as clean as it can be before it enters the river.

ENHANCED GREEN STREETS PROPOSED

The Hayden Island Plan proposes development of enhanced green streets to filter stormwater runoff into the Columbia River, to protect its water quality. The Concept Plan is proposing that as streets are redeveloped they are built as enhanced green streets. These are streets designed so that the stormwater moves to swales and other structures where soils and plants reduce pollutants. Green streets also reduce impervious surface so that stormwater can infiltrate to recharge groundwater and surface water. The streets will become a linear system of open space across the Island.

RIVER BANKS AND BEACHES

As part of the Hayden Island Plan it is proposed that areas of shallow water habitat surrounding the Island are protected. This shallow water habitat, including beaches, is home to young fish and is vital in nurturing the protection and re-population of endangered species. The Concept Plan proposes replanting along the banks of the Columbia River with native species to further filter runoff and provide habitat for terrestrial and aquatic species. Riparian areas should be protected from further rip-rap/hardening and where possible rip-rap should be removed.

One of the actions in the proposed plan will be a habitat-based replanting plan for the banks of the river and plants to add to gardens to enhance the natural environment on Hayden Island. This replanting plan will apply where appropriate to new sections of the trail system.

OPEN SPACE PROTECTION PLAN

The protection of open space for habitat that is not used by people is necessary to restore the balance needed for restoring endangered species that use the Island and Columbia River for habitat. The eastern tip of the Island is a habitat area that the plan seeks to protect in perpetuity.

NEW PARKS

The community desires access to the river for viewing, swimming and boating. To the west, adjacent to Grandma's or Canoe Bay and the railroad tracks, it is proposed that a park is developed with beach access to the Columbia River.



Park concepts under I-5 highway, similar to Cathedral Park under the St. John's bridge.

A new park should be developed west of the highway on the Columbia River. This new park should be designed in a way to provide for a diversity of unstructured and structured recreational opportunities for both residents and visitors to the island. To enhance the parks potential recreational spectrum and to limit some of the costs, consideration should also be given to the establishment of a restaurant/café or similar visitor-related commercial enterprise that makes the park active year round. The



new park could extend eastward under the new bridge, if the crossing allows adequate air and light, and is not too noisy.

Facilities for docking motorized and non-motorized boats (kayaks and canoes) may be provided at new parks. These facilities will provide residents and non residents' opportunities to access the Island's marine-related businesses.

ISLAND TRAILS, WALKWAYS TO BE CONNECTED

On Hayden Island there are private walkways that are not connected. The Concept Plan recommends that these walkways be connected into a system of trails providing viewpoints of the River and the Cascades. This would be done with easements and be a private system for the Island community. Although some of these paths currently exist there was concern from some of the land owners to expand this system and there was approval from others about having such a system. Path systems provide a means of active recreation that is convenient and sustainable for communities.



Island trails providing access to the Columbia and views of the mountains will be linked with easements, and be a private system for the Island residents.

CENTRAL PLAZA DESIGN NEAR MAX LIGHT RAIL STATION



It is hoped that the plaza near the MAX station is an active community space, as in this photo.

At the center of the Island, it is proposed that a new plaza be part of the design for the light rail station. This open space is intended to be an active plaza for informal gatherings over coffee and conversation. This plaza will be connected to the park and green edge on both the northern and southern sides of the Island.

Next Steps



PROPOSED FINAL PLAN TO BE PRESENTED TO THE PLANNING COMMISSION SUMMER 2008

The Hayden Island Concept plan was presented to the Portland Planning Commission at a briefing on March 25, 2008. It will be followed by a public hearing on April 8th. It is anticipated that the Planning Commission will provide a recommendation on the direction of the plan in light of the proposed Columbia River Crossing project.



The information contained in this Concept Plan combined with the recommendations of the Planning Commission will form the foundation of the final plan for Hayden Island, the recommended changes to the Comprehensive Plan and zoning code. The Bureau of Planning, working with each of the City Bureaus and the community, will collaboratively develop the proposed final plan. This proposed final plan will be presented to the Planning Commission in summer 2008 and then be forwarded to the City Council for hearing and adoption.

If you have any questions regarding this concept plan or the next steps, please contact Alice Ann Wetzel in the Bureau of Planning at 503-823-9711 or AliceAnn.Wetzel@ci.portland.or.us.

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Plan Logos: Ralph Sanders, Christine Rains; Bureau of Planning
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Appendix E. Vancouver Central City Vision Summary

Relevant passages of the VCCP are contained in pages 9, 10 and 12 of the final report, and are reproduced here for reference.

TRANSPORTATION RECOMMENDATIONS

Polices:

Street Network

- Maintain collector and arterial capacity and continuity.
- Maintain and restore the 200-foot grid pattern for all travel modes.
- Discourage closures of local streets.
- Require a thorough review and analysis of any proposed change to the existing street system prior to recommending a street closure to City Council.
- Encourage the provision of interior walkways where the roadway network grid is interrupted or discontinuous, such as in the case of superbloc development.

Traffic Signalization

Traffic volume growth should be monitored and new traffic signals installed where warranted. In addition, the traffic signal system should be fully interconnected to improve efficiency for typical operations and for special events.

Pedestrian and Bicycle Systems

Increase sidewalk width and remove safety and convenience conflicts on designated pedestrian streets, including 6th, 8th, Evergreen, 13th, Mill Plain/15th and McLoughlin. Bike lane striping and signing should be provided on major bike corridors, except where motorized traffic is light.

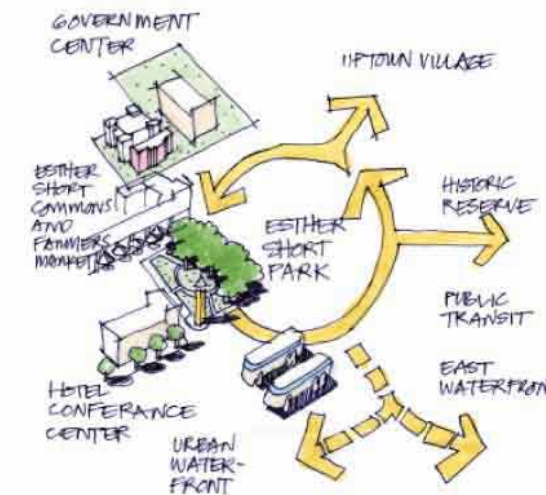
Parking Caps

Current City code requires minimum numbers of parking spaces for new buildings in downtown. City should consider replacing parking minimums and adopting parking maximums, thereby encouraging tighter, more pedestrian-friendly development.

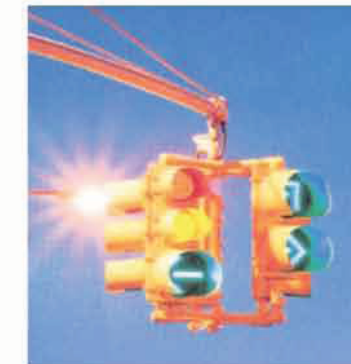
Public Transit

High Capacity Transit to Oregon in conjunction with the I-5 Partnership should be considered.

Trolley Circulator: A transit service with headways of 10 minutes or less should be considered to link major downtown destinations and major transit stops.



Trolley Circulator for the downtown area



Traffic signalization



Pedestrian and bicycle systems



On-street parking

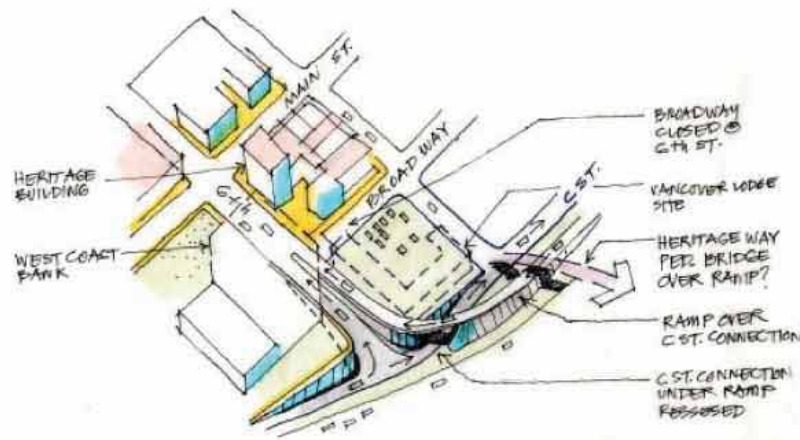
VCCV I-5 Expansion and River Crossing Goals for the CRT:

The I-5 expansion process and alternatives are in the early stages of development. The environmental impact process began in the summer of 2004. The CRT developed goals that can be utilized as the City participates in the I-5 process as follows:

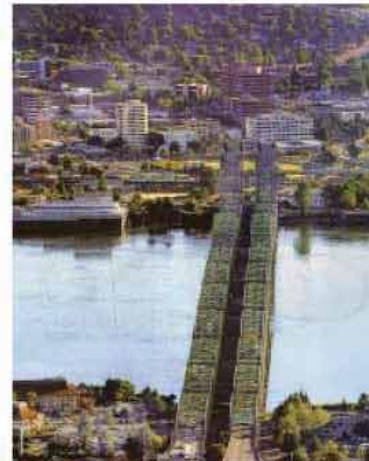
- Analyze proposed engineering design that could potentially affect adjoining properties negatively and result in wasteful use of downtown land.
- Enhance existing connections between the Vancouver National Historic Reserve and downtown.
- In addition to the I-5 southbound ramp to 6th Street, explore other opportunities to improve access to downtown.
- Integrate the Heritage Way Bridge concept into the I-5 improvements project.
- Integrate all modes of transportation, including high-capacity transit, bicycle and pedestrian circulation, to achieve a true regional multi-modal corridor.
- Coordinate I-5 improvements with city center access and circulation needs.



WSDOT I-5 web cam



One option for I-5 south bound ramp to 6th Avenue.



Existing Columbia River crossing

Longer Term Projects

North-South Arterial Street Improvements

Many downtown arterials have been identified for new construction or capacity improvements. Among them are:

- Improve and extend Jefferson/Kauffman south to waterfront.
- Improve Columbia Street multi-modal capacity.
- Improve and preserve Franklin as an arterial street.
- Consider Grant Street for improvement and extension to south waterfront.

East-West Arterials & Historic Reserve Connections

- Construct a new arterial route south of the railroad berm and approximately parallel to it, extending from east of I-5 to Jefferson, and connecting with Columbia, Esther and Jefferson Streets.
- Improve Esther Short Park arterials, including 6th Street and Esther Street.
- Construct a new Heritage Way pedestrian bridge across I-5 as a continuation of 7th Street.
- Enhance Evergreen Boulevard with wider sidewalks and improved way-finding signage to reinforce pedestrian linkages.
- Construct a southbound I-5 off-ramp to 6th Street.



7th Street Transit Center



8th Street crossing BNSF Rail lines



Extend downtown streets under the BNSF rail berm.

Section 5.

Appendix F. Architectural Guidelines & Aesthetic Assessment Framework

Preceding UDAG Formation:

Early in 2006, a multi-disciplinary team was assembled by the bi-state Columbia River Crossing design team (CRC) for the purpose of examining non-engineering aspects of the project and its area of influence. Part of this team focused on urban design aspects, and drafted an aesthetic assessment of the project based on preliminary engineering drawings, and on evaluation of existing conditions along the 5.2 miles of the project, reaching from Columbia Way in Oregon to the intersection of Highway 99 with I-5 in Washington.

By June, 2006, a complete draft of the CRC Aesthetic Assessment had been completed. It included a list of stakeholders who should be included in public consultation on urban design aspects of the project. Meanwhile, assessment of different bridge types for the main crossing of the Columbia River continued, as outlined in the overall project schedule.

In November 2006, a presentation of the project and the aesthetic assessment was made to a group of stakeholders, and the concept was developed of an appointed group of individuals appropriately qualified to comment on all aspects of urban design.

The first formal meeting of the Urban Design Advisory Group took place on March 9, 2007. A presentation was made by CRC staff on the bridge type alternatives analysis, and on prior work done in preparation for urban design input to project design. The most explicit results from this effort were the design goals and guidelines, given below, which the bi-state UDAG took as the basis for its work. They are reproduced in full in the following pages for reference.

Urban Design Goals:

1. Respect the variety of mobility options required by the Purpose and Need Statement to achieve a connected, functional, efficient, and integrated transportation system.
2. Achieve design excellence that can be embraced by affected communities and users.
3. Develop design elements that are sustainable economically, socially, physically, and ecologically.
4. Achieve unity of design that also reflects the unique qualities of the surrounding communities.
5. Provide better community connectivity on Hayden Island and in Vancouver.
6. Fully integrate the design elements of the project with its architecture, urban design, and landscape design.
7. Respect community values vested in buildings and landscape features affected by the project.
8. Provide a landmark bridge that is both inspired and inspiring and fully integrates the design and function of the structure with the urban design elements.
9. Integrate the Columbia River bridge structure into the approaches, taking into consideration the experiences of all users and surrounding communities.
10. Strengthen the gateways to Oregon and Washington by providing a sense of entry and exit.
11. Comply with design guidelines established by the cities of Vancouver and Portland with special consideration for community specific guidelines.

Environmental Goals

12. Integrate roadways, ramps and associated structures into the environments through which they pass so that neither local nor interstate functions are compromised.
13. Respect the heritage of land forms, distant views and natural features that preceded human intervention.
14. Sustain the uncontaminated qualities of air, water and earth with all demolition and construction activities.
15. Sustain the direction and flow of natural watercourses unless there are compelling reasons to modify them.
16. Respect the needs of established land uses and activities adjacent to the project.
17. Respect the community values vested in structures and natural features affected by the project.
18. Minimize the overall footprint of the project.
19. To the extent possible, the project should re-connect communities on either side of it, rather than compounding divisions made by past Interstate-related construction.
20. Treat all modes of transportation equitably; for example, ensure that pedestrians and bicycles can cross the highway where they need to and without undue detour.

Architectural Goals

21. Use a consistent vocabulary of architectural, urban design and landscape elements throughout the project. Use a limited palette of materials, details and colors.
22. Fully integrate the design of engineering elements of the project with its architecture, urban design and landscape design. For example, use forms and details in columns and beams that relate them to the project- wide architectural vocabulary.
23. Complement the architectural scale, materials and colors of significant structures nearby.
24. Respect community values vested in buildings and landscape features affected by the project.

Context Sensitive and Sustainable Solution Goals

25. Repair the fabric of built and natural environments affected by demolition or construction activities associated with the project.
26. Frame views with structure and landscape.
27. Use sustainable and low-energy-use materials and practices.
28. Re-use recyclable materials, including materials from demolition.
29. Consider life cycle costs as well as initial construction cost when selecting materials and systems.
30. Use trees and other shadow producers wherever practicable to reduce heat build-up in paved areas.
31. Use native compatible and drought-tolerant plant materials.
32. Minimize the extent of impervious surfaces, capture and treat all run-off (subject to findings and recommendations of the project Water Quality Team).

33. Detain, filter and cool water using bio-swales and other natural systems before returning storm water to watercourses.
34. Make maximum use of sustainable power sources for lighting and other purposes.
35. Minimize interference with the river bed, fisheries and navigation.
36. Use landscaping to re-unite the project with adjacent, established landscape, and to create meaningful features as part of the integrated project design; not as a means of using remnant areas of land.
37. Preserve historical, archeological and cultural features of the Bridge Influence Area.
38. Support the long-term economic viability of adjacent properties.



Appendix G. General Design Guidelines

The foregoing goals and guidelines from the Aesthetic Assessment of 2006 gave rise to the following general design guidelines. These too were accepted by the Urban Design Advisory Group as part of their background material. They prompted discussion of specific aspects of the project, thus contributing to development of the UDAG recommendations in the body of the report.

The design guidelines were written with the intention that they would evolve as the design is refined, rather than being prescriptive. The guidelines are given in bold followed by relevant commentary from the Urban Design Advisory Group in plain text.

Guideline 1. Aesthetic Elements and Signature Details

1.1 Open up the sightlines to the entries into Vancouver and Portland; be able to take in the grandeur of the landscape.

The natural arch of the alignment should give approaching bridge users excellent views of downtown Vancouver (northbound) and of Hayden Island (southbound).

Viewing platforms for pedestrians and bicyclists should be provided at strategic points on the main span to accommodate views without impeding through traffic.

1.2 Use pure and structurally honest expression of form in bridge design – elegant design.

The sculpting of design details, use of materials, and the scale of all the structural elements should create a harmony of form with the bridge and its setting.

1.3 Use colorful architectural lighting artistically and dramatically with potential for responding to special events.

The lighting standards and fixture housings should complement the main bridge and the adjacent interchanges.

Lighting should consider roadway design requirements, pedestrian and bike needs, life cycle costs and sustainability.

Lighting should be used in a subtle, elegant way.

Architectural and road lighting will have to conform to lighting and night sky ordinances, aviation, and any environmental restrictions governing spilled light on the land and water.

Address both bridge users and more distant lateral views with lighting design.

1.4 Make use of materials that can be colorful and adaptable.

The design team will develop design options for the Columbia River Bridge, viaducts, interchanges, piers, abutments, etc. and present them to the UDAG for comment.

1.5 Break the bridge-crossing experience down into episodic events to illustrate the transition from land to water and back to land; avoid one long uniform structure

Designs for the pedestrian and bikeway should recognize the episodic transitions involving lookouts, and multiple vertical access points to the land below

Transitions from the long bridge spans over the Columbia River to the landside structures should be fluid and create a variation of structural form that adds to the sculptural opportunity of the crossing.

1.6 Use features and themes on walls, ramps and surfaces

Designs should integrate the design elements of the project with its architecture, urban design, and landscape design.

Designs should consider use of cultural and context-related design motifs for their possible incorporation into the structural elements of the project.

Opportunities for interpretive sites should be considered.

1.7 Use landscaping to add color, texture and reflect environmental values

Landscape architecture should be a vital part of the design. Particular attention will be paid to the ground plane under the Vancouver Landing.

Landscaping should be designed with the structures; not added later.

1.8 Give equal treatments to approaches and landings to the bridge

All the planning and design elements of the project are important. The approaches and landings to and from all the bridges should relate to and flow into those bridges, and should be compatible with the urban context of landing places.

Guideline 2. Historical & Cultural Context

2.1 Reflect the regional heritage.

This includes gateways, the Columbia Gorge, Lewis and Clark, Native American culture, Mt Hood, Vancouver (including Fort Vancouver and the historic reserve), Portland, and many aspects of river history.

Designs should incorporate regionally relevant design motifs in the structures.

2.2 Use colors that reflect the Pacific Northwest and are derivative of the natural landscape.

The Design Team will study the use of colors reflective of the cultures of the Pacific Northwest and the natural landscape for the physical structures of the CRC project.

2.3 Provide designs that represent the partnership between Washington and Oregon, Vancouver and Portland.

Designs should create an iconic statement of the cooperation between the states and the two cities.

Frame significant views of urban and natural features to be seen by all users as they enter, use and leave the bridge and its approaches.

Guideline 3. Functionality and Use of Space

3.1 Create opportunities for public space around the bridgeheads.

Designs should incorporate potential waterfront development opportunities under the river crossing landings in both Vancouver and Hayden Island, including North Portland Harbor.

Designs should consider land use plans for Hayden Island and the resulting street network.

3.2 Be creative in the design of bicycle and pedestrian connections.

The Design Team should look at options for bicycle and pedestrian routes and improvements, including indentified viewpoints for review by the UDAG.

Treat transit, pedestrians and bicyclists as primary users of the bridge and its approaches along with motor vehicles. Resist compromise of the quality of accommodation for these functions.

Guideline 4. Community and Environmental Impacts

4.1 Provide definition to the underside of the Columbia River Bridge and give consideration to those that live near it.

Designs should consider articulation of the structural elements of the bridge and interchange spans. The placement and proportions of the columns, and the integration of utilities and lighting as seen from below are key to creating a pleasing visual “environment” for those living near, or passing by, these structures.

4.2 Emphasize sustainable design and consider future maintenance needs.

Every effort should be made to incorporate sustainable design elements in the crossing facilities. Reuse of demolished structural materials (concrete and steel), development of water quality facilities, use of energy efficient lighting fixtures and of solar powered emergency roadside phones, maximum use of concrete for long term maintenance savings, use of advanced coatings (20-30 year life) for any exposed steel required.

4.3 Consider the pedestrian experience – safety, views, access, noise, and motion.

Designs should consider opportunities for unobstructed views of the Columbia River and Mt. Hood from the Columbia River Bridge. The experience of pedestrians under the bridge and views of the bridge from the river and its banks are also important.

Designs should accommodate convenient pedestrian and bicycle access to the bridge, to existing pathways and local destinations.

Noise should be a significant consideration in the evaluation of alternative locations for the pedestrian and bicycle facilities. Related to this is the distance from moving vehicles in the nearest lanes.

Protection from the weather should be considered when evaluating alternative locations for pedestrian and bicycle facilities with each bridge type.



Before the freeway was built, Main Street and the downtown grid of city blocks extended to the river bank.

4.4 Design bridge and associated structures to minimize generation and projection of noise towards occupied buildings and open spaces.

This guideline must reconcile noise protection with other guidelines concerning views, aesthetic compatibility etc.

4.5 Minimize the physical impact of on and off ramps on views and local access.

Special care should be taken on the SR 14 connections as they reach grade near the Vancouver Land Bridge. It will be important to protect newly created infrastructure and connections to Old Apple Tree Park.

Coordinate ramp geometry with local access needs, such as reconnection of 5th street beneath the SR 14 interchange.

4.6 Deter invasive species and encourage native plants.

Detail structures to minimize the likelihood of perching and nesting birds.

Use plant materials that are non-invasive, native or native-compatible.

Section 6. Appendix H. Summary of PBAC Recommendations

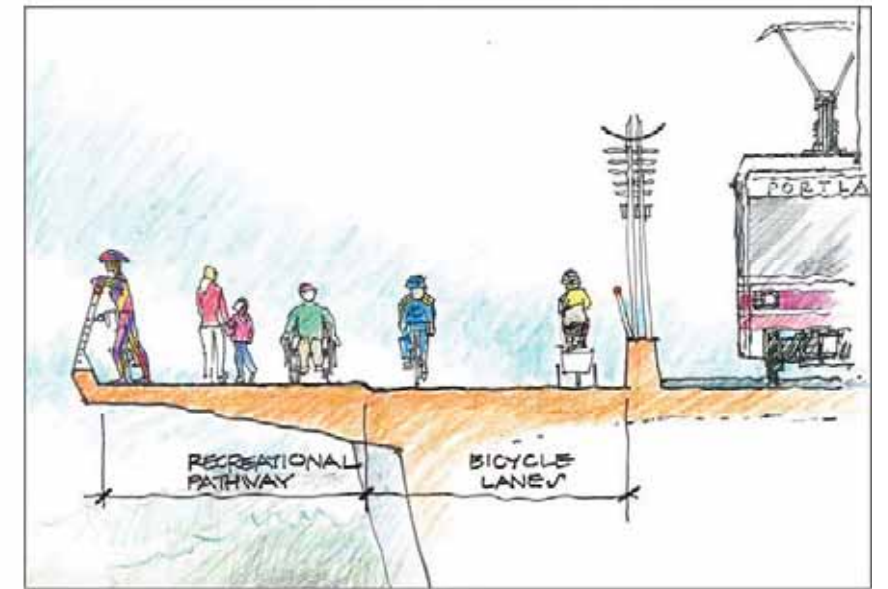
The Pedestrian and Bicycle Advisory Committee (PBAC) has been working in parallel with the Urban Design Advisory Group. Thus far, its primary focus has been on accommodation of pedestrian and bicycle facilities on the bridges across the Columbia River and North Portland Harbor. A draft paper on PBAC recommendations to the Columbia River Crossing Task Force suggests that the bridges should include a world class pathway, which it describes as providing safe and amply designed facilities that promote use through universal and aesthetic design for non-motorized transportation. It recommends separate pathways for recreational and faster commuter traffic. Assuming a separate bridge for transit, bicycle and pedestrian traffic, a 12' wide recreational pathway is recommended, separated from a pair of 6-foot bike lanes. In addition, an 8-foot wide sidewalk is recommended on the east side of the eastern (northbound) bridges. This would afford unobstructed views of Mount Hood. Also recommended are belvederes and access to parks and waterfront trails.

PBAC anticipates preparing recommendations for pathway and sidewalk design and inter-connections. It will also examine pedestrian and bicycle treatments within each of the six interchanges, and will advise on local street facilities for pedestrians and bicycles.

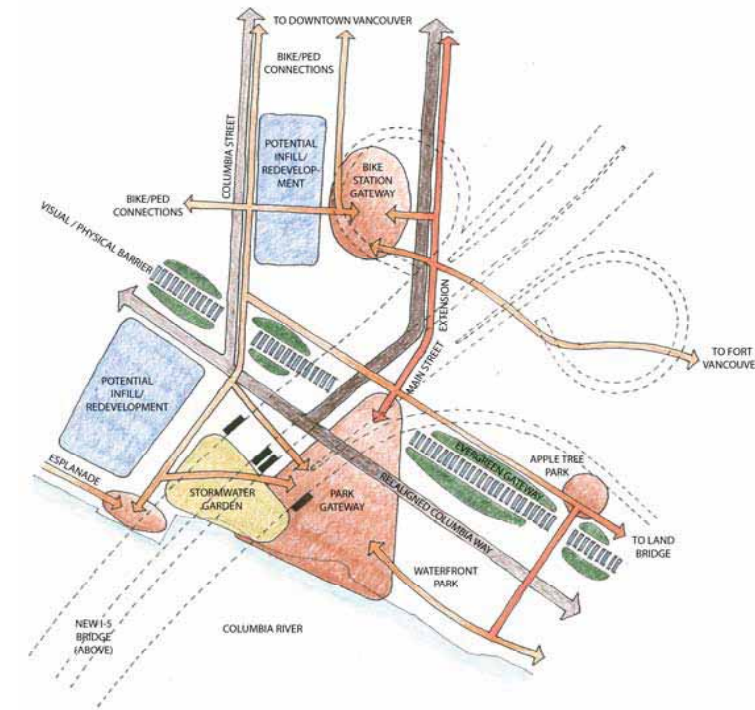
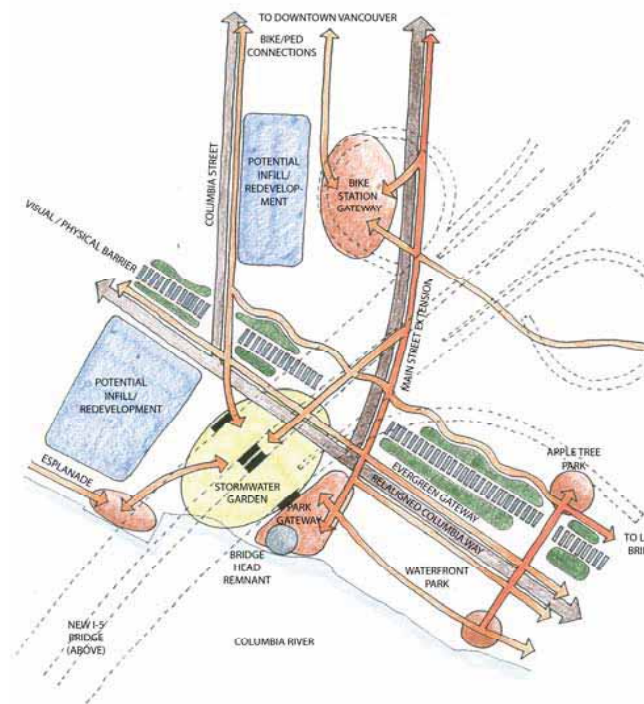
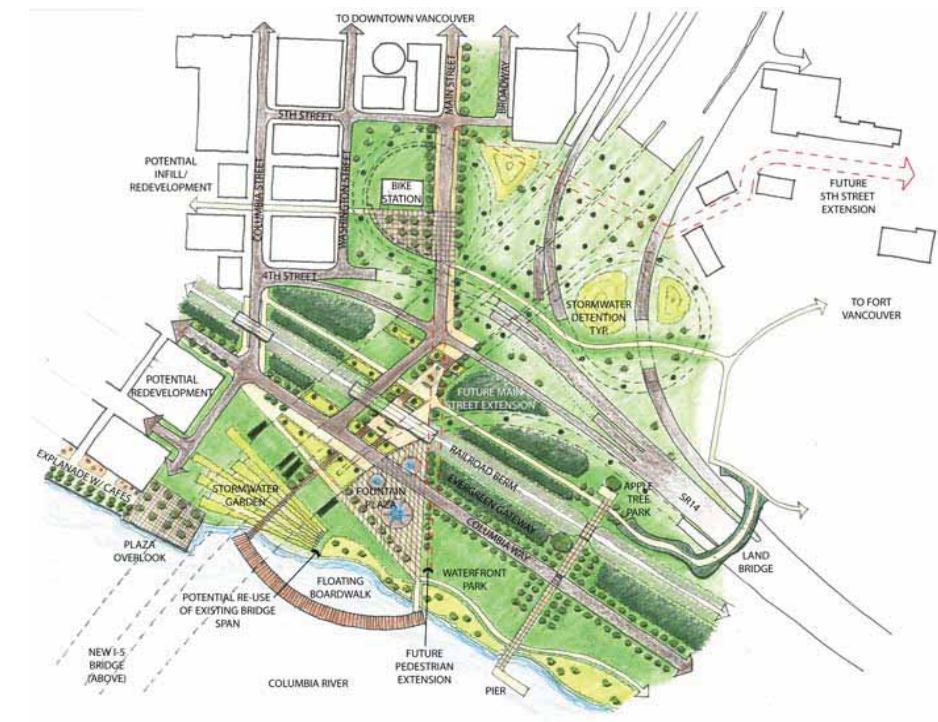
Columbia River CROSSING Pedestrian and Bicycle Facilities in Portland and Vancouver



Columbia River CROSSING Pedestrian and Bicycle Advisory Committee Recommended Pathway



Section 7. Appendix I. Concepts for development of space beneath the north bridgehead



An important long term objective is to restore visual as well as physical access to the waterfront from Main Street in downtown Vancouver. Configuration of the railroad will prevent this from being achieved as part of the CRC project, but column placement and other elements can be located to preserve the opportunity of eventually re-uniting Downtown and its waterfront. One of many concept sketches prepared for the area beneath the bridgehead and interchange is shown.

VANCOUVER WORKING GROUP

The Vancouver Working Group (VWG) was made up of 21 community members (residents, business owners, transit-dependent populations and commuters) who have an interest in light rail planning and in Vancouver. The group met 14 times in 2009 to develop recommendations and provide feedback to the Columbia River Crossing project, the City of Vancouver and C-TRAN. The group's recommendations included a preferred North/South and East/West light rail alignment, station locations and design, and park and ride locations.

The group's final report is included in this section of the notebook.

Vancouver Working Group Final Report

OCTOBER 2009



Vancouver Working Group Final Report



OCTOBER 2009

Background

In July of 2008, six local partners reached consensus on a Locally Preferred Alternative (LPA) for the Columbia River Crossing project from five that were analyzed in the Draft Environmental Impact Statement (DEIS). Partners selected the replacement bridge with light rail alternative because it offers the best opportunity to meet project goals and serve community needs. The proposed light rail line includes a 2.9 mile extension from the Expo Center in Portland to Clark College in Vancouver.

During the Draft Environmental Impact Statement process, a number of options for a light rail transit (LRT) alignment and termini were considered. For a variety of reasons, including local project partner support, the final choice was to terminate the line at Clark College. The introduction of LRT into downtown Vancouver will require local decision-makers to select the alignment through downtown to Clark College, select the station locations, and determine the appropriate siting of park and ride garages sufficient to provide 2,900 parking spaces for commuters using LRT.

The City of Vancouver, C-TRAN, and the Columbia River Crossing project (CRC) recognized that a high level of community engagement would be necessary to deal with these issues. They were clear that such a process needed to be unbiased, balanced, and transparent. They were also aware that Vancouver is unique, and LRT location and design preferences that had been made elsewhere in the region didn't necessarily fit the needs or values of this community. It was clear that what was needed was a process that looked in detail at how LRT could be integrated into this community so that the assets of the system and the investment would be maximized. In order to accomplish this, the agencies agreed to invite a group of interested citizens, which became known as the Vancouver Working Group (VWG), to weigh the pros and cons of alternatives and arrive at a recommendation. The recommendation would then be considered as part of a final decision-making process by the City Council, the C-TRAN Board of Directors, and the Columbia River Crossing project. The VWG was viewed by the agencies as a forum where the critical issues of impact—alignment, station location, and park and ride garages—could be discussed in full view of the public (all meetings were open to the public and with the exception of the first meeting, all were broadcast unedited on CTVV, the local government access channel).

In order to reflect the diverse perspectives needed to fully explore these issues, the membership of the VWG included representatives of neighborhoods, property owners, transit users, persons with disabilities, business owners, development interests, and concerned public sector entities. While there was no attempt to determine whether any of the invited members were pro- or anti-light rail, the group ended up with both. The decision as to the VWG's final composition was made by staff of the City and C-TRAN, with input from John D. White, the facilitator retained to assist the group. The resulting membership proved to be diverse, opinionated, insightful, creative, demanding, and occasionally argumentative. A listing of the VWG members can be found in Appendix 1.

As reported later in this document, the VWG was successful in developing recommendations on all of the critical issues of impact. The group also presents two minority opinion reports that the decision-makers should consider. Members were able to reach their recommendations and reports by collectively donating hundreds of volunteer hours in meetings and many more hours reading materials and preparing for the meetings. They have provided a valuable service and product to the Columbia River Crossing project, the City, and C-TRAN and deserve acknowledgement for their dedication and willingness to serve their community.

Summary of Recommendations from the Vancouver Working Group

Issue	Choices	Recommendation
North/South Alignment	<p>Northbound and southbound trains on Washington -or- 2-way couplet, northbound trains on Broadway and southbound trains on Washington</p>	2-way couplet
East/West Alignment	<p>McLoughlin Blvd -or- 16th St -or- 17th St</p>	McLoughlin Blvd
Track Location	<p>Center running (down the middle of the street) -or- Side running (immediately adjacent to the sidewalk)</p>	Center running
Station Locations	<p>Washington (between 5th St and 6th St) Washington (between 9th St and Evergreen Blvd) Washington (between 15th St and 16th St) Broadway (between 8th St and 9th St) Broadway (between 15th St and 16th St) Clark College (on McLoughlin Blvd)</p>	<p>Washington (between 5th St and 6th St) Washington (between 9th St and Evergreen Blvd) Washington (between 15th St and 16th St) Broadway (between 8th St and 9th St) Broadway (between 15th St and 16th St) Clark College (on McLoughlin Blvd)</p>
Park & Ride Structures	<p>Clark College: 1,750 spaces Mill District: 560 spaces SR 14: 590 spaces (within SR 14 to I-5 ramp) SR 14 Alt: 590 spaces (on blocks bounded by Columbia, Washington, 3rd St, and 5th St)</p>	<p>Clark College: 1,750 spaces Mill District: 560 spaces SR 14: 590 spaces (within SR 14 to I-5 ramp) SR 14 Alt: 590 spaces (on blocks bounded by Columbia, Washington, 3rd St, and 5th St)</p>

Consensus	Vote	Key Considerations
Not achieved due to two dissenting	15 – 2, with a minority report filed	Focused on retaining on-street parking; high-quality, inviting pedestrian facilities and design; retaining two-way traffic; design with crime prevention and safety in mind; design should be sensitive to context; coordinate closely with adjacent property owners.
Not achieved due to one dissenting	9 – 8, with a minority report filed	Focused on safety for all modes; retain existing McLoughlin amenity package; retain vehicular connectivity; make I-5 underpass inviting; design with possible future station on McLoughlin.
Yes	N/A	Include a design that keeps two-way traffic, but through the use of materials and design elements de-emphasizes the automobile.
Yes	N/A	High quality design; pedestrian-friendly spaces; safety.
Yes	N/A	Project should plan to provide 2,900 spaces; if possible, avoid building Mill District site; if not possible, try to reduce the number of spaces; make ground floor of both downtown sites active uses; use SR 14 Alternative site and build parking underground with convention-compatible use on top; provide aggressive parking management program to manage appropriate use of on- and off-street supply; design Clark College structure with access ramps on freeway side; review ability to move LRT station closer to Clark College site.

Charter and Process

In a public process such as the VWG used, a clear understanding of both the assignment at hand and the process for developing the requested recommendations must be well understood by all parties. To that end, the group considered, discussed and adopted two guiding documents: a charter and a process outline.

The charter (Appendix 2) was drafted by the group's facilitator and described the VWG's responsibilities, both as a group and as individuals. Importantly, the charter stated that the group accepted "the LPA and DEIS as a point of departure for this process." This was critical because it put the VWG beyond the argument about whether LRT should be a part of downtown Vancouver. The VWG acknowledged the fact that the issue might still be contentious and that in all likelihood a vote of the people on providing operating and maintenance funding would be required in the future.

The charter outlined the following guidelines and responsibilities for each member of the VWG:

- Accept the LPA and DEIS as a point of departure for this process.
- Educate themselves on the fundamentals of light rail design and operation and develop an understanding of how those fundamentals could best be incorporated into the fabric of downtown Vancouver.
- Attend, if possible, and receive and evaluate input from two community workshops.
- Discuss candidly the impacts of LRT construction and operation on business and property owners, neighborhoods, and downtown Vancouver as a whole, and develop creative approaches to addressing negative impacts, be they perceived or real.
- Achieve consensus on recommendations for a preferred alignment for LRT, preferred station locations, preferred locations of support and ancillary facilities (e.g., parking facilities), and policy issues pertaining to design and on-going operation of the system that should be addressed prior to final decisions.
- Develop final recommendations on the above-referenced issues and submit them to the Columbia River Crossing, Vancouver City Council, and the C-TRAN Board of Directors.

The charter was presented, discussed, and adopted at the January 6, 2009 meeting of the VWG.

It was also important to have the group agree on a decision-making process. Members were asked to consider a consensus-based decision-making model (Appendix 3) which meant that at key points in the process, they would be asked to indicate their agreement with a proposed position. They would be given three options:

- I agree with the proposition.
- While I may not be fully supportive of this decision or choice, I can live with its consequences and I agree that I will not oppose it.
- I disagree with the proposition.

The group defined achieving consensus to be when no participating members indicated disagreement with the proposition. If one or more members disagreed, discussion would continue until a consensus-supported decision evolved or until a member of the group called for an “up/down” vote of the body. A call for a vote occurred regarding two recommendations: the north/south LRT alignment and the east/west LRT alignment.

To further ensure that the process was workable and transparent, the group’s adopted process included a demand that technical information be sufficient and timely. The staff was asked to have all information to the group one week before the meeting, including an agenda that fully described what would be happening at each meeting. At times, despite diligent efforts technical information was unavoidably delivered beyond these deadlines. The decision-making process also provided for minority reports to be written by VWG members if they felt so motivated. As noted above, two such reports accompany their recommendations.

The group discussed and adopted the process model at its January 6, 2009 meeting.

Summary of Meetings

Initially, the VWG was scheduled to meet monthly but, after February 5, 2009, the group met on a twice-a-month schedule. The following is a brief summary of the areas of discussion and events at each of the 12 meetings.

January 6

Desired Meeting Outcome: Introduction of process and materials.

- Self introduction by each member, including affiliations and perspective on the light rail transit (LRT) issue
- Presentation, discussion, and adoption of the charter (see Charter and Process section of this report)¹
- Presentation, discussion and adoption of the VWG decision-making process (see Charter and Process section of this report)
- Presentations on issues to be kept in mind when making decisions regarding LRT
- Listing by VWG members of questions or additional information they would like to have
- Public comment

February 5

Desired Meeting Outcome: To receive information regarding the overall project status, funding objectives, and long-term transit planning; review and discuss information coming out of the neighborhood workshops; and introduce the concept of guiding principles that will provide a framework for making a recommendation on a preferred alignment.

- Project overview (Columbia Boulevard to SR 500) by Columbia River Crossing deputy project director
- Federal Transit Administration funding overview
- Regional High Capacity Transit study overview
- Summary of January 10 neighborhood workshop
- “Hot Seat” panel discussion regarding overall project issues (unstructured Q&A with technical experts)

¹ Two members expressed concern that the charter locked them into supporting LRT which they were not prepared to do. Once clarified, neither objected to the adoption of the charter.

- Introduction of guiding principles that could be used to facilitate decision-making
- Review of VWG schedule
- Public comment

February 19

Desired Meeting Outcome: To develop a set of guiding principles that will provide a framework for a recommendation of a preferred alignment and to consider the issues regarding a two-way Washington vs. a one-way Washington/Broadway couplet.

- Development of a proposed set of guiding principles to be used in evaluating the alignment options
- Presentation of the two north/south alignment options: two-way LRT on Washington and a couplet (northbound LRT on Broadway and southbound LRT on Washington)
- Responses to information requests and questions from prior VWG meetings regarding alignment
- Public comment

March 5

Desired Meeting Outcome: To arrive at a consensus on a recommendation on a preferred north/south alignment for LRT through downtown Vancouver.

- Presentation by the Port of Vancouver regarding LRT impact on traffic bound for the Port of Vancouver (especially trucks)
- Presentation by City of Vancouver staff on the Vancouver City Center Vision (VCCV) plan
- Discussion, refinement, and adoption of a set of guiding principles
- Discussion, refinement, and adoption of a set of indicators to support each guiding principle
- Description of design alternatives (track locations) within each north/south alignment option
- Public comment

March 19

Desired Meeting Outcome: To arrive at a consensus on a recommendation on a preferred north/south alignment for LRT through downtown Vancouver.

- Review of proposed decision-making process (use of guiding principles)
- Presentation of straw man assessment of scoring of north/south alternatives' fulfillment of guiding principles
- VWG discussion of how alternatives should be scored
- Public comment

April 2

Desired Meeting Outcome: To arrive at a consensus on a recommendation on a preferred north/south alignment for LRT through downtown Vancouver.

- Summary and discussion of results from March 10 community workshop on LRT station design
- Presentation on ridership by mode
- Presentation of photographs of other LRT station designs including PGE Park, Rosa Parks Way, Lloyd District, and Hillsboro
- Review of bus routing memo from C-TRAN
- Continuation of discussion of north/south alternatives and their fulfillment of guiding principles
- Arrival at recommendation for couplet as the preferred north/south alignment (unable to reach consensus; the recommendation was achieved by a vote, 14-2)
- Discussion of key considerations² that should be attached to the alignment recommendation
- Introduction of the issues surrounding the east/west alignment
- Public comment

² Key considerations is a term used by the VWG to indicate an assumption upon which the recommendation was based or an implementation measure that the VWG believes is essential to the ensuring success of integrating LRT into downtown Vancouver.

April 30³

Desired Meeting Outcome: To arrive at a consensus on a recommendation on a preferred east/west alignment for LRT through downtown Vancouver.

- Presentation of technical assessment of east/west alternatives (McLoughlin Boulevard and 16th Street)
- Presentation of staff recommendation for McLoughlin Boulevard
- Discussion of alternatives and a demand to know more about why 17th Street could not be considered a viable alternative
- Public comment

May 14

Desired Meeting Outcome: To arrive at a consensus on a recommendation on a preferred east/west alignment for LRT through downtown Vancouver.

- Walking tour of east/west alignment options
- Presentation by Columbia River Crossing staff of overall project schedule
- “Hot Seat” panel discussion regarding east/west alignment issues (unstructured Q&A with technical experts)
- Discussion whether to use the adopted guiding principles for the east/west alignment discussion
- Discussion of east/west alternatives, including 17th Street
- Arrival at a recommendation for McLoughlin Boulevard as the preferred east/west alignment (unable to reach consensus due to one dissenting; the recommendation was achieved by a vote, 9-8)
- Public comment

³ The next meeting following April 2 would have been April 16. That meeting was cancelled in order to allow staff more time to prepare for the next phase of discussion.

May 28

Desired Meeting Outcome: To arrive at consensus on a recommendation for station block locations and LRT street position.

- Develop key considerations for the McLoughlin Boulevard alignment
- Presentation of station block location design constraints (block length and grades)
- Presentation of station location recommendations from staff
- Review of track location options for the north/south alignment
- Review of north/south alignment minority report
- Public comment

June 25

Desired Meeting Outcome: To gain a shared understanding of the history of the development of the proposed park and rides (locations/number of parking stalls); of the interface between the park and ride facilities and surrounding transportation system (i.e., LRT stations, bike/pedestrian lanes, LRT track, parking); VWG decision on key considerations for north/south and east/west alignments.

- Background on prior park and ride decisions in planning process
- Proposed downtown bus routing
- Exploration of how all modes (bus, LRT, auto, bike, and pedestrian) can be integrated
- Description of existing and future traffic function
- Parking management programs and their implementation
- Public comment

July 9

Desired Meeting Outcome: To provide the VWG with answers to the questions that were asked about park and ride structures in the last meeting; to add additional information about park and ride structures; to agree upon a decision-making process; and to initiate that process for the station location and park and ride decisions.

- Finalizing key considerations for alignment recommendations
- Provision of information requested from prior two meetings including assumptions regarding park and ride demand, parking management strategies, and traffic
- Determination of decision-making process to be followed
- Public comment

July 23

Desired Meeting Outcome: To arrive at final recommendations for station location and park and ride decisions.

- Presentation on high capacity transit and its interface with bus and LRT modes
- History of park and ride decision-making within the Columbia River Crossing project, how park and rides operate, balancing capacity and demand
- Further information on parking management strategies and the City's expectations
- Decision on park and ride logistics, locations, and sizes
- Key considerations for station locations and park and rides
- Public comment

Recommendations

As noted in the introductory comments, the VWG was asked to provide recommendations to the Columbia River Crossing project, the City of Vancouver, and the C-TRAN Board of Directors on three questions.

- What is the best alignment for light rail transit through downtown Vancouver to Clark College?
- What are the best locations for light rail stations?
- What are the best locations and sizes for three park and ride structures in downtown Vancouver?

The recommendations are discussed below. Each recommendation is augmented by a set of key considerations, a term used by the VWG to indicate an assumption upon which the recommendation was based or an implementation measure that the VWG believes is essential to ensuring the successful integration of LRT into downtown Vancouver. It is fair to say that the recommendations cannot be separated from the key considerations. Indeed, some members of the VWG supported some recommendations only so long as the key considerations were included and adhered to.

The discussion that led to each recommendation was extensive, time-consuming, and far-ranging. Because many of the issues involved in the three questions are subtle and nuanced, to the greatest possible extent, the flavor of the discussion is expressed by listing the key discussion points.

Note: At the outset of the VWG process, it was assumed that the north/south and east/west alignments would be examined concurrently. However, it soon became obvious that because the issues involved diverged, it was best to separate them.

North/South Alignment

The VWG was presented with two north/south alignment alternatives which were derived through the development of the Draft Environmental Impact Statement. Each alternative began with a fixed point, the station on Washington Street between 5th Street and 6th Street. That station is the point at which the LRT line has descended from the bridge and the first place available and suitable for a station location.

The alignment options were the 2-way Washington alignment which would run northbound and southbound trains in the Washington Street right of way, and the couplet alignment which would turn northbound trains east along 7th Street, then north along Broadway. Southbound trains would be routed down Washington. See Exhibits 1 and 2. These alternatives were complicated by the fact that each contained sub-alternatives, which dealt with where the track would be situated on the street. The location of the track (the center of the street versus adjacent to the sidewalk) impacted other urban elements such as on-street parking, access to loading and parking lots, etc. So the group was faced with a daunting set of options.

Rather than leaping into a debate on the merits of each alternative, the VWG elected to first establish a set of guiding principles. These principles were intended to describe the characteristics of the best solution, not focus on the choice itself. Assessing how well either alternative met the guiding principles provided guidance for the VWG discussion. The result of that work suggests that the preferred alternative would fulfill these guiding principles:

- Provides opportunities to increase the vitality of downtown businesses and residential growth over the 20-year horizon of the VCCV.
- Serves as a catalyst for redevelopment and new development congruent with the VCCV plan.
- Creates downtown streets that promote safety and access and balance multiple uses.
- Provides the highest degree of transit efficiency and access via all modes.

Each principle was further defined by a set of indicators—in most cases metrics that could be used to help determine the alternative's level of compliance with the principle. The principles and indicators are attached as Appendix 4.

To kick start the process, the technical staff presented the VWG with a straw man ranking of the alternatives as they complied with the principles. The VWG then completed its own ranking. In the final analysis, the guiding principles were helpful in focusing discussion. But the process did not lead to a simple mathematical summation of points scored.

Key Discussion Topics

The VWG never lost sight of the community's primary objective: an active, accessible downtown that is pleasant, diverse, easy to use, and inviting. To that end, the discussion tended to focus on several key topics.

Existing street width and block size. Downtown Vancouver is based on a system of streets laid out in a grid, where most of the blocks measure 200 feet by 200 feet.⁴ Nearly all of the street width rights-of-way are 80 feet. As the VWG investigation revealed, the right of way width can be a significant challenge when it comes to fitting in transit, bike, auto, and pedestrian facilities without compromise. Many of the schemes, particularly those in the two-way Washington alignment, left pedestrian facilities narrower than the City's minimum standard (12 feet).

Sidewalk widths. Several of the guiding principles and their supporting indicators speak to having room enough for a streetscape that creates welcoming places. The VWG discussion frequently related this welcoming streetscape to sidewalks wide enough for pedestrian movement, street furniture (trees, lights, signs, etc.), and uses such as sidewalk cafes.

Protection of public and private investment. Many downtown businesses rely on on-street parking for customers. Those that do provide off-street parking need convenient access to it. Some businesses rely on on-street loading zones. Retaining as much on-street parking, access to off-street parking, and loading zones was a recurrent theme in the VWG discussions. The VWG, furthermore, was resolute in being clear that the group was not willing to sacrifice the well being of current businesses for the sake of longer-term gains. A balance of long- and short-term interests is required. This includes issues relating to construction disturbance—both in geographic scope and duration.

⁴ In the later discussion regarding station location, some blocks are noted to be less than 200 feet square.

Consistency with existing plans. The City Council adopted the VCCV plan in 2007. The VWG asked City representatives about the consistency of the proposed alignments with that plan. City staff indicated that the plan assumed a two-way Washington alignment. Making a different choice would require amending the plan. Much of the discussion centered on how much of a development incentive LRT would actually create. Regional and national examples can be interpreted as supporting LRT as an incentive for private sector investment or, conversely, LRT having little or no market impact.

Traffic circulation. The City recently modified its downtown auto circulation system to provide more two-way traffic flow through downtown as part of the implementation of the VCCV.⁵ Much of the data presented indicated that with a couplet LRT alignment, that traffic pattern could be retained. To do so with a single street LRT alignment was portrayed as much more challenging and likely not achievable. The VWG expressed a strong preference for retaining the new two-way traffic patterns. (Note: Although not listed as a key consideration by the VWG, maintaining two-way traffic circulation on the streets in question was assumed to be a given as part of the decision making process.)

LRT and pedestrian interaction. The VWG discussed at length how—or if—pedestrian patterns would be enhanced by the alignment choice. Some in the group believed that a concentrated rail alignment would provide more pedestrian opportunities for those businesses along that route. Others expressed a belief that by separating the rail lines, pedestrian traffic would be increased as people walked between the northbound and southbound segments.

Bus interface. To some extent, the alignment alternatives are impacted by how bus transit will serve downtown in the future. Some members wanted bus routes to be perpendicular to the LRT route. C-TRAN, however, responded that its planning shows more effective service is achieved by including bus service on the same streets as LRT.

⁵ Main Street, C Street, and Broadway Street have all been converted from one-way traffic to two-way traffic over the last 18 months.

Recommendation

The VWG was not able to reach a consensus position (all members either supporting or being able to live with one of the alternatives) on the north/south alignment. As a result a vote was taken. Fourteen supported the couplet, while two supported the two-way Washington alternative. Therefore, **the recommendation of the VWG is that LRT use an alignment that routes northbound trains along Broadway after crossing over from Washington on 7th Street, and that southbound trains be routed along Washington.** A minority report arguing for a two-way Washington alignment was drafted by a member of the VWG and is attached to this report. Decision-makers are encouraged to consider that report. See Minority Report 1.

Key Considerations

As noted above, for the VWG, key considerations are an assumption upon which its recommendation is based or as an implementation measure that the VWG believes is essential to ensuring the successful integration of LRT into downtown Vancouver. Decision-makers are advised that in many VWG members' minds, acceptance of the recommendation without due consideration of the key considerations would not be consistent with the intent of the VWG's work. For the north/south alignment, the key considerations are as follows:

- Optimize and balance access to downtown by coordinating parking (type, location, and amount) and use of alternative modes with the City parking management plan and the proposed transportation management area in downtown.
- Work with employers, community groups, schools, and residents to increase ridership via education, support, and incentives. Evaluate whether downtown Vancouver could be a free transit ride zone.
- Optimize traffic flow with intersection signal timing so that downtown remains accessible by limiting automobile and traffic speeds to those consistent with safety in a downtown environment.
- Make sidewalks and streetscapes as welcoming to pedestrians as possible. Make them a good place to traverse as well as spend time.

- Coordinate LRT design with adjacent properties. Work with businesses and developers to create partnerships that will help solve specific challenges. Consider developer incentives to achieve community objectives.
- Ensure landscaping does not obstruct lighting or create unsafe areas. Use the principles of Crime Prevention Through Environmental Design.
- Implement safe and frequently spaced crosswalks. There should be as many crosswalks as possible and they should all use the latest technology (such as allowing crossing pedestrians a head start to ensure visibility).
- Design along specific streets should not all be treated the same; rather, the design should respond, and potentially change, as it moves through unique areas and neighborhoods.
- Preserve loading zone and driveway access for businesses.
- Although not discussed here, a key consideration later proposed relative to park and ride structures that on-street parking that is removed due to the LRT project needs to be replaced in-kind or financially. Please see key considerations in the Park and Ride section.

East/West Alignment

In the case of the east/west alternatives, the VWG was again presented with two alternatives that had been derived through the development of the DEIS. See Exhibits 3 and 4.

- The first was the 16th Street alignment: northbound and southbound trains from the couplet alignment would move east and west on 16th Street, cross under the I-5 freeway in a new tunnel, and move onto McLoughlin Boulevard just in front of the Marshall Center, ending at the Clark College station located on McLoughlin.
- The second was the McLoughlin Boulevard alignment: northbound and southbound trains would move east and west on McLoughlin and remain in that right of way until they reached the Clark College station. The alignment would pass under I-5 in the same underpass as vehicular traffic.

In both options, eastbound and westbound trains would be on the same street, and the track would be in the center of the right of way to allow traffic to move along the alignment and across most intersecting streets. Variations of the 16th Street alignment—intended to avoid a costly tunnel under the freeway—would route tracks from 16th Street north along G Street and then to McLoughlin, or along the west side of the freeway and then pass underneath beneath it in the vehicular underpass.

The group discussed whether the guiding principles used for the north/south discussion would be useful for this phase of discussion. They concluded that many were not applicable and therefore elected not to use them in their evaluation of the east/west alternatives.

Unlike the north/south discussion, the Columbia River Crossing staff elected to provide the VWG with a recommendation for the east/west alignment. For the following reasons, they suggested that the better choice between the 16th Street and McLoughlin alignments was McLoughlin because:

- McLoughlin is already a mix of retail, commercial and office uses.
- This alignment can use the same underpass used by auto traffic.
- This alignment avoids trenching to achieve grades.
- Lower cost than 16th Street options and faster operating times.

Key Discussion Topics

McLoughlin upgrades. VWG members, particularly those who live or work close to McLoughlin Boulevard, spoke about the significant improvement that has come about as a result of the in-street modifications that were made to the street a few years ago. The improvements include traffic calming measures, designated bike lanes, and parking. VWG members noted that the street seems to have much more pedestrian use now and is viewed as a safe and pleasant way to get from the downtown neighborhoods to Central Park. They expressed serious reservations about whether any of that character could be retained or even recaptured with the introduction of two sets of LRT tracks. (Note: there is currently no plan for the inclusion of a station on McLoughlin, although the VWG did talk about it as a long-term possibility.)

Cost. The inclusion of a new tunnel under the freeway for the 16th Street alignment is clearly an increased cost. While no official estimate was provided, a ballpark estimate of \$60 million was discussed. Knowing the project is already very expensive, many VWG members expressed concerns about the cost of the tunnel and whether the 16th Street alignment option was worth the increased cost.

Right of way. Acquisition of right of way was discussed. The McLoughlin Boulevard alignment requires right of way acquisition between Washington and the freeway underpass.⁶ These prospective acquisitions stirred concerns about the project's impacts on continuity and scale along McLoughlin Boulevard.

Land use. The recently adopted VCCV plan envisions opportunities for redevelopment along 16th Street and the City recently rezoned the land adjacent to 16th for higher density and intensity of use (CX zone and 75-foot maximum building heights). On the other hand, the frontage on McLoughlin Boulevard (extending a half-block north of McLoughlin) is zoned CC, with a 50-foot maximum building height as far east as G Street. Areas north of that half-

⁶ Most of the right of way needs in the McLoughlin Boulevard alignment west of C Street are narrow strips from properties fronting the street.

block frontage on McLoughlin Boulevard are zoned to reflect the existing residential use (R-9, 35-foot maximum building height). The VWG debated whether these land use regulations implied an alignment along the denser corridor (16th Street).

Safety. The 16th Street alignment, emerging from a tunnel near McLoughlin Boulevard, was of significant concern. The crossing of the LRT tracks onto McLoughlin and under the freeway presented some geometric design challenges that could create some safety issues, particularly for bicyclists and pedestrians. It was observed that sight distances for train operators could be limited. Some VWG members believed that by placing the Clark station on the south side of McLoughlin instead of in the center of the street, many of the safety concerns being cited could be successfully addressed.

Design. To get the 16th Street alignment underneath the freeway, the grade of the alignment would have to begin to descend at about E Street and the train would be in a fairly deep trench as it moved through the eastern portion of the neighborhood. One sub-alternative—turning the tracks from 16th Street onto G Street to avoid the tunnel—avoided the trench. However, it introduced two right angle turns that increase the travel time for this alignment. The other sub-alternative—along the west side of the freeway—still required excavation that would result in a tall retaining wall on one side. In addition, with the 16th Street alignment, from E Street east, traffic would not be able to cross 16th Street. See Exhibit 5 for sub-alternatives.

Parking removal. The McLoughlin Boulevard alignment would remove the parking that currently exists on the street. This would be only partially mitigated by using D and E Streets between 17th Street and McLoughlin to build double loaded parking areas.

17th Street alternative. The biggest concern for the VWG, however, was why a 17th Street alternative had not been evaluated. In their view, it avoided most of the problems of 16th Street (need for trenching, new tunnel, tight turns, etc.) while leaving McLoughlin Boulevard intact. Members were candid as they assessed the two alternatives that had been provided: one worked (McLoughlin Boulevard) and one clearly had cost, safety and design issues (16th

Street). They did not believe that those alternatives really represented a choice. They asked for a more thorough evaluation of 17th Street as an alternative.

Columbia River Crossing staff returned with the outcome of their investigation of a 17th Street alternative. See Exhibits 6, 7 and 8. This alignment would not use a tunnel but rather would curve back to McLoughlin just prior to the freeway underpass, allowing the underpass to be used for both LRT and vehicular traffic. Right of way acquisition would be required for the 17th Street alignment to accommodate its return to McLoughlin. The safety of the train entering and leaving McLoughlin Boulevard (crossing auto, bike, and pedestrian traffic) would require close attention. At this point, the VWG unanimously agreed to withdraw 16th Street as a viable alternative based on concerns relating to safety, cost, speed, traffic obstruction (trenching), and potential impact to the Clark County Historical Museum.

Recommendation

This alignment choice ended up being perhaps the most controversial of the VWG process. The group was asked to provide a consensus check on the two options (McLoughlin Boulevard and 17th Street).⁷ On the McLoughlin Boulevard alternative, one VWG member did not support the alternative. On the 17th Street alternative, four members were unable to support it. After further discussion, a VWG member called for a vote, which was completely consistent with the operating principles adopted by the VWG at the beginning of the process. The vote was nine in favor of the McLoughlin Boulevard alignment and eight in favor of the 17th Street alignment.

Therefore, the **recommendation of the VWG is that LRT use an alignment that routes eastbound and westbound trains along McLoughlin Boulevard.** A minority report arguing for a 17th Street alignment drafted by a member of the VWG is attached to this report. Decision-makers are encouraged to consider that report. See Minority Report 2.

⁷ The consensus check consists of an expression of support for an issue, willingness to go along with the position even though it may not be the member's first choice, or unwillingness to support it.

Key Considerations

As noted above, for the VWG, key considerations are an assumption upon which its recommendation is based or as an implementation measure that the VWG believes is essential to ensuring the successful integration of LRT into downtown Vancouver. Decision-makers are advised that in many VWG members' minds, acceptance of the recommendation without due consideration of the key considerations would not be consistent with the intent of the VWG's work. For the east/west alignment, the key considerations are as follows:

- Ensure safety for all transportation modes including automobiles, bicycles, and pedestrians. The safety requirements for all modes will require a comprehensive approach combining education, engineering, and enforcement. Ensuring safety will require working with adjacent neighborhoods, public agencies, McLoughlin Boulevard businesses and residents, and community groups to make sure community safety needs are met.
- The recommendation should reflect the VWG's split decision and the reasons for dissent from the endorsement of McLoughlin Boulevard as the east/west alignment.
- Adequate sight distances must be maintained along the alignment.
- Maintain McLoughlin's existing amenities—pedestrian- and bicycle-friendly with desirable features such as bump-outs, traffic calming, adequate sidewalk widths, frequent crosswalks, landscaping, and bike lanes.
- Retain north/south neighborhood connectivity and visual access along McLoughlin Boulevard. The design of the alignment must plan for and take into account the possibility of a future station on McLoughlin Boulevard.
- Create the I-5 undercrossing as a safe and welcoming space.
- Maintain east and west left-hand turns onto Broadway and Main streets from McLoughlin Boulevard.
- Work with employers, community groups, schools, and residents to increase ridership via education, support, and incentives.

Track Location within the Street

As part of the alignment discussion, the VWG had also been looking at design work which illustrated alternative track locations. There are essentially two track locations for

consideration: side running, which means the station platform is the sidewalk and the train is immediately adjacent to the sidewalk; and center running, which means the track and station are located in the center of the street with vehicular traffic circulation on either side. The distinction is important in that side running eliminates on-street parking and driveway access along its route. Center running preserves most parking and driveway access, but requires riders to cross traffic to get to the station.

After looking at a variety of options, the VWG reached consensus on concept “5B”, which is illustrated in Exhibit 9A-C.

Station Locations and Park and Rides

Originally, the work plan for the VWG assumed that station locations would be discussed and decided separately from the issue of park and ride locations and sizes. The VWG determined that the issues were so intertwined they could only be dealt with concurrently.

Again, the Columbia River Crossing staff brought forward recommendations for both components. See Exhibit 10. Recommended station locations were as follows:

- Washington between 5th Street and 6th Street
- Washington between 9th Street and Evergreen Boulevard
- Washington between 15th Street and 16th Street
- Broadway between 8th Street and 9th Street
- Broadway between 15th Street and 16th Street
- Clark College (on McLoughlin Boulevard)

Recommended locations and sizes for the park and ride structures were as follows:

- Clark College—1,750 spaces
- Mill District (Washington Street/Main Street/15th Street/16th Street)—560 spaces

- (A) SR 14—Within the freeway access ramp – 590 spaces
- (B) SR 14—Washington Street/Columbia Street/4th Street/5th Street – 590 spaces

Key Discussion Topics—Station Locations

Design Constraints. The Columbia River Crossing staff said that the recommended station locations were the result of a series of design constraints which had been layered in order to yield appropriate sites. Standards dictate that stations should be no closer than four blocks and no further than seven blocks apart. Further, the maximum street grade that can accommodate a station is 4%. Blocks fronting on a turn of the LRT line cannot be used because the radius of the turn requires some taking of the block. Finally, the block face must be at least 200 feet long to accommodate the length of the trains. As noted earlier, downtown Vancouver’s street grid is based on a 200-foot square block. However, several blocks (especially north of Mill Plain) are shorter than that by as much as 20 feet. When these factors are overlaid, the number of blocks eligible as station locations becomes limited.

Adjacent and nearby uses. If LRT is, in fact, intended to spur urban investment, station location can become a catalyst. The VWG looked at the adjacent uses of the proposed station locations and suggested some alternative locations that could perhaps be more effective in inducing investment. In most cases, however, the blocks cited were deficient in length, spacing, or grade.

Bus service. Presumably, a significant number of bus riders will want to change modes to LRT. Given that, there were several discussions about how C-TRAN believes it will route buses in the future to serve downtown.

Key Discussion Topics—Park and Rides

It is fair to say that the issue of providing above-ground parking structures in the downtown core of Vancouver for the use of commuters who are leaving the community created great angst for members of the VWG. That discomfort occurred at several levels.

- From a policy perspective, is it wise to allow uses that take up valuable downtown land but have limited function?
- How do we know the right number of spaces to provide?
- Can these garages be built so that they are architecturally complementary to downtown?
- Can these garages incorporate other uses, particularly at street level, so that they avoid the appearance of just a place that hosts commuters' cars?
- Can there be joint use of the parking—some for commuters and some for employees or shoppers at downtown businesses?
- Can the structures themselves be mixed use, including housing, commercial office, and/or retail?

Working through these complex issues took several meetings. The key topics of discussion included the following.

Necessity. First and foremost, the VWG needed a rational explanation of why any park and ride structures needed to be provided. The assertion from Columbia River Crossing staff was that Park and Rides are an important part of the mix of the way people will access the line. Walk-ons, access by bicycle and transfers from C-TRAN bus lines are important ways of accessing the project, but they need to be supplemented with Park and Rides facilities. Because the proposed LRT line is short—terminating at Clark College—the number of riders who have direct access is limited. As a result, if the line can't go to the riders, the riders will have to come to the line. In order to demonstrate reasonable ridership numbers that lead to a prospect of federal funding, riders must be allowed to drive to a park and ride garage to board the train. The VWG challenged virtually every assumption behind this premise. They asked for examples of: 1) structures that have been built in tier one cities, 2) occupancy rates of other structures in the metropolitan area, and 3) management techniques. The VWG, after completing its investigation, came to support the premise that if LRT is to serve Vancouver, park and ride structures must be provided to ensure ridership.

Supply vs. demand. Although the number of parking spaces that should be supplied is generated by modeling, describing the modeling in a way that is intuitive was difficult. The VWG sought to determine that the 2,900 parking spaces recommended was really the right number: not too many so that spaces go unused, but not so few that the overflow creates problems in the form of parking in nearby neighborhoods and businesses. Ultimately, the VWG came to believe that 2,900 spaces was a reasonable number for planning purposes.

Unintended consequences. The VWG expressed real concern over the ability to manage the parking component effectively so that it would not cause negative financial impacts on the City or Clark College or impact nearby neighborhoods (or, in the case of the Clark College structure, the college itself) negatively. The VWG heard from technical experts who reported on other projects that use park and rides and the utilization patterns that develop around them. These experts explained that they have found from many other examples that after a relatively short period of time (about 3 weeks) a balance between the supply of parking and the demand is achieved.⁸

Parking management. In anticipation of potential conflicts, the VWG asked for a detailed explanation of how parking management would be used to ensure that commuters could not poach parking spaces from adjacent neighborhoods and businesses or at Clark College. Presentations included the City's parking manager and a private parking management consultant.

Fit and design. Having accepted the premise that the introduction of LRT would require park and ride facilities, the VWG's focus moved to making the structures architecturally attractive and highly functional. The Columbia River Crossing technical staff provided a presentation showing examples of parking structures in other downtown areas (most of them not for commuters, however). These examples illustrated the fact that not only can parking structures be attractive, but that there is opportunity for a mix of uses beyond just parking. The VWG emphasized the necessity for the Columbia River Crossing project to recognize that these facilities need to have life at the ground level and, where possible, should be looked

⁸ See July 23, 2009 presentation by Alan Lehto.

at as part of a larger mixed-use development including community-oriented uses, housing and commercial space. If possible, a public-private venture should be pursued particularly for the Mill District facility. Relative to the Clark College site, the VWG was very interested in how the station and the park and ride could be linked more closely, including possibly bringing the train directly into the ground floor of the park and ride. The college also expressed concern that the access ramps (and most of the vehicular movement) be located on the freeway side of the structure, offering a quieter side to the college.

Traffic. Given the amount of new development that is in the pipeline, downtown traffic is projected to grow significantly over the next 10 years. The VWG expressed concern that the traffic generated by the park and ride structures would congest streets adjacent to or near them to unacceptable levels. Columbia River Crossing traffic staff provided information about the current and future levels of service (LOS) at which those streets would operate. In sum, the park and ride facilities represent very little new volume compared to existing traffic volumes. With the exception of Fourth Plain Boulevard at the entrance/exit to the Clark College facility, all levels of service would remain within acceptable standards as set by the City. The Fourth Plain LOS is below standards; on-going engineering studies will be conducted to attempt to improve that.

Location and size. The most troubling site of the three presented was what was called the Mill District site bounded by Main Street, Washington Street, 15th Street, and 16th Street. Initially, several VWG members challenged the necessity of the facility. However, after coming to understand the function of the structures (attract riders), and the fact that without this site, more commuter traffic would likely use local streets to access the other garages, the VWG came to accept its location. The number of spaces provided, however, remained a sticking point with strong sentiment to reduce the number of spaces if possible (see Key Considerations in this section). They would like to see every effort made to avoid providing a park and ride at this location and they suggest that it be downsized if possible. They further suggest that if the alternate SR 14 site is not large enough to take any spaces displaced from the Mill District, that the original SR 14 site (inside the freeway access ramp) be used to

provide capacity. The site at Clark College, and its size, were acceptable to the college and, therefore, also to the VWG.⁹ The site at SR 14, initially indicated to be within an access ramp from SR 14 to I-5, was troubling. Observations included the fact that although the site is already in public ownership, it is too restricted in terms of access and given its odd shape could likely be more expensive to build. Further, the site offered no opportunity to serve as leverage for any additional development. The VWG asked the Columbia River Crossing staff to look at an alternative site bounded by Washington, Columbia, 5th Street, and 3rd Street. That site proved to be more workable and offered the additional opportunity to support some development associated with the City's convention facility directly across Columbia from this site.

Recommendation

The VWG recommends the following:

- **The station locations be established as Washington between 5th Street and 6th Street, Washington between 9th Street and Evergreen Boulevard, Washington between 15th and 16th, Broadway between 8th and 9th, Broadway between 15th and 16th, and Clark College (on McLoughlin Boulevard).**
- **In order to avoid closing existing driveways and save as much on-street parking as possible, the stations should use a center running track.**
- **2,900 park and ride spaces should be provided downtown, with locations and sizes as follows:**
 - **Clark College, housing 1,750 spaces (see Key Considerations)**
 - **Mill District (Washington/Main/15th/16th), housing no more than 560 spaces (see Key Considerations)**
 - **SR 14 alternate site (Washington/Columbia/5th/3rd), housing 590 spaces**

⁹ Although acceptable, the college offered some conditions precedent to its acceptance and they are contained in the Key Considerations.

Key Considerations

As noted above, for the VWG, key considerations are an assumption upon which its recommendation is based or as an implementation measure that the VWG believes is essential to ensuring the successful integration of LRT into downtown Vancouver. Decision-makers are advised that in many VWG members' minds, acceptance of the recommendation without due consideration of the key considerations would not be consistent with the intent of the VWG's work. For the station locations and park and ride garages, the key considerations are as follows:

- The VWG believes 2,900 park and ride spaces is an acceptable number of parking spaces. However, the VWG recommends that WSDOT/C-TRAN commit legally to 1) absorb all costs of administering a parking management program, and/or 2) construct additional park and ride capacity should it be necessary. Such obligations should be at the discretion of the Vancouver City Council for all park and rides except the Clark College park and ride, which should be at the discretion of the college.
- The VWG would prefer that the Mill Station park and ride not be constructed in the proposed location. Understanding that this change is not likely, the VWG could accept this park and ride if the ground floor on all sides, with the exception of parking and service entries, is committed to commercial and community uses and the Main Street side is committed to retail use; dedicated on-site parking should be provided for the commercial and retail uses, and the incorporation of housing on the top floors should be considered during the design phase. Further, there should be a commitment to shared parking for weekends, evenings, and holidays.
- The preferred site for the SR 14 park and ride should be the area between Washington, Columbia, 5th Street, and 3rd Street.
- Regarding the preferred SR 14 site, the City should insist on the park and ride being constructed underground, with the area above the parking made available to the City for the development of an exhibition center to support the current convention facility. Parking in the underground structure should be made available on nights, weekends, and holidays for conventions and exhibition patrons. The City should push back strongly against the argument that underground parking is too expensive. Vancouvercenter and Library Square do or will have underground parking because those are quality projects with significant public benefits. Light rail should be held to the same standard and not allowed to develop for just a narrow transit purpose.

- Downtown park and rides should not be free of charge in order to be consistent with demand management needs and should be coordinated with the City's Transportation Management Association efforts.
- The Clark College structure should be designed so that most of the traffic circulation is kept on the west (freeway) side of the structure. Special attention should be paid to the landscaping on the east side since it faces into Central Park.
- Study needs to be conducted to see if the stop at Clark College can actually be integrated into the park and ride structure. There is great concern about locating the station in the middle of McLoughlin and the pedestrian/vehicular access issues that result.

Minority Reports

As noted earlier, the process adopted by the VWG aspired to achieve consensus on every issue. Recognizing that was unlikely, the process foresaw the need to allow minority reports on any of the issues before the VWG. On both alignment recommendations—north/south and east/west—minority reports have been offered. After their circulation, all 22 members were afforded an opportunity to sign in support of those opposing positions. See Minority Reports 1 and 2 for both the reports and the endorsement forms.

- The couplet north/south alignment was selected by a 14 to 2 vote. The minority report was endorsed by 5 members.
- The McLoughlin Boulevard east/west alignment was selected by a 9 to 8 vote. The minority report was endorsed by 11 members.

The VWG encourages the thoughtful consideration of the minority reports. They illustrate the subtleties of the issues that were dealt with in this process and the judgments required in finding the “right” answer.

Community Workshops

In an effort to reach a broader community, the VWG and Columbia River Crossing sponsored three community workshops during their process. While targeted to those with interests in the area most likely to be affected, the workshops were open to the entire community. The first was on Saturday, January 10, 2009. It included a walking tour of the

alignment alternatives, followed by a workshop at Hudson's Bay High School. The second was on Wednesday, January 14, 2009 at Discovery Middle School. Both of those focused on the question of alignment. The third was on March 10, 2009 and was held at the Red Lion Inn at the Quay. The topic for that workshop was station configuration, although many participants took the opportunity to comment on the alignment.

Full reports on the findings and outcomes from each of those sessions are available. That information was used by the VWG as they deliberated on the issues they were addressing. Summaries of the workshops prepared for the VWG can be found in Appendix 5.

Acknowledgements

The City, C-TRAN, and the Columbia River Crossing project owe a debt of gratitude to the members of the VWG. The process lasted twice as long as they were told to expect, the meetings went from monthly to bi-weekly, and extended from two to three hours in duration. The volume of material provided to them was substantial, and the time it took to evaluate, compare, and absorb it was extraordinary. Attendance was superb throughout and every member came fully prepared and ready to engage in the debate.

This could not have been successfully concluded without the competent assistance of the staff at the City, C-TRAN and the Columbia River Crossing. The VWG kept the staff on their toes, occasionally out-stripping their ability to keep up. But they responded with honest, unfiltered information that made the tasks assigned to the VWG achievable.

Thanks to the members of the public who chose to come and participate in the VWG meetings or community workshops by providing their ideas and opinions and those who watched via CTV. And thanks to the able crews from CTV who made it look effortless.

Notably, there was no predetermined outcome expected from this process. Every participant was aware the group was in uncharted water, addressing issues that were complex and without simple answers. Never once was there any attempt to guide the process toward a preferred solution by a project sponsor if, in fact, they had preferred outcomes.

Appendices

**VANCOUVER WORKING GROUP
FINAL REPORT**



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Bob Sellers, C-TRAN Citizens Advisory Committee

Charlene Welch, Community Choices

Cirith Sebree, Umpqua Bank/Uptown Business Association

Dave Frei, Arnada Neighborhood Association

Dave Howard, Lincoln Neighborhood Association

Dick Malin, Central Park Neighborhood Association

Geoff Knapp, Clark County Department of Community Services

Jack Harroun, Hough Neighborhood Association

Jeff Arntson, Albina Fuel

Josh Schlesinger, Property Owner

Karin Ford, Vancouver Library

LaVon Holden, Vancouver Housing Authority

Lee Coulthard, Vancouver Downtown Association

Lisa Ghormley, Community Representative

Lonnie Chandler, Java House

Rob Barrentine, American Institute of Architects, Vancouver

Ross Montgomery, East Vancouver Resident

Sara Carter, Commuter

Steve Burdick, Killian Pacific

Terry McCarthy, Esther Short Neighborhood Association

Todd Horenstein, Vancouver School District



Vancouver Working Group Charter

Preamble

The Columbia River Crossing (CRC) project's local partners selected a locally preferred alternative (LPA) that includes a proposed light rail transit (LRT) line extending from the Expo Center, through downtown Vancouver and terminating at Clark College. The Draft Environmental Impact Statement (DEIS) for the project describes the possible alignments for the light rail line. It provides only general guidance regarding the locations of stations and support facilities.

In order to assure that the LRT meets the expectations and needs of the community, the CRC project, the City of Vancouver, and C-TRAN have established an advisory committee called the Vancouver Working Group (VWG). This group will serve as the central clearing house in developing a recommendation to the project and local jurisdictions regarding the best alignment, the best station locations and support facilities and policy issues that should be considered as part of the implementation of LRT in Vancouver.

Charter

Reporting to the CRC project, the C-TRAN Board of Directors, and the Vancouver City Council, the Vancouver Working Group (VWG) will be responsible for the following:

- Accepting the LPA and DEIS as a point of departure for this process.
- Educating themselves on the fundamentals of light rail transit design and operation and developing an understanding of how those fundamentals can best be incorporated into the fabric of downtown Vancouver.
- Attending, if possible, and receiving and evaluating input from two community workshops.
- Candidly discussing impacts of LRT construction and operation on business and property owners, neighborhoods and downtown Vancouver as a whole and developing creative approaches to addressing negative impacts, be they perceived or real.
- Achieving consensus on recommendations for a preferred alignment for LRT, preferred station locations, preferred locations of support and ancillary facilities (e.g., parking facilities), and policy issues pertaining to design and on-going operation of the system that should be addressed prior to final decisions.
- Develop final recommendations on the above referenced issues and submit them to the CRC, Vancouver City Council and the C-TRAN Board of Directors.



Vancouver Working Group Process

Desired Outcome

The purpose of the Vancouver Working Group (VWG) is to allow a diversity of perspectives to help shape critical decisions relating to the integration of light rail transit (LRT) into downtown Vancouver. While the VWG has no vested decision-making authority, we will be called upon to provide recommendations to the Columbia River Crossing (CRC) project, the City of Vancouver City Council, and the C-TRAN Board of Directors.

Process to Get There

How then will the VWG make decisions about what to recommend?

The primary objective will be to **achieve consensus** on the issues of the preferred alignment, preferred station locations, preferred locations of support facilities (e.g., parking garages), and recommended strategies dealing with contextual issues. Understanding that consensus on potentially volatile issues may be difficult, we agree that the process to get there will include the following.

Acknowledgement that our job is to reach consensus. The charter is specific about our obligation to achieve consensus. We need to keep this in mind so that discussion isn't framed as a pro and con debate, but more toward the relative benefits of each issue and problem solving our way toward a common (not compromise) solution. We will define "consensus" using this concept:

Either I am fully supportive of this decision or choice.

or

While I may not be fully supportive of this decision or choice, I can live with its consequences and I agree that I will not oppose it.

Using a philosophy of problem solving. These are complex problems and we are fortunate to have some very good minds around the table. We should challenge ourselves to adopt a mentality of *problem solving* as opposed to *problem finding*. While it is important to identify the problems, it is much more challenging to find creative thoughtful solutions to them.

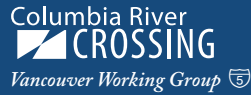
Provision of sufficient technical information. We can't expect consensus where there are gaps in data. It will be up to the technical team to make sure that they can adequately answer each "what if" that comes up in the discussion. While we can't expect the technical staff to know everything, being in a position of not having adequate information provides an easy out for not arriving at a common decision.

Provision of intermediate tools to take the pulse of the group. As discussion evolves and it is apparent there are competing valid viewpoints, we will employ some tools for informally polling the group (thumbs up, down, or sideways, etc.). We should be reserved in introducing these, instead asking ourselves to work our way through it.

Allow voting. While voting has its place, using up and down votes in this context does not help to build the kind of allegiance and ambassadorship that we hope to achieve. However, there are times when an issue can't be resolved without a vote.

Allow minority report. Where there are strongly held positions on a significant point, we should discuss – again, only after exhausting other remedies – preparing a minority report to accompany the majority opinion.

Enforce time constraints. Although there will be a sense of urgency around this entire process, we must assure that it doesn't feel as though we are being force-fed. On the other hand, it is important to define the time we will have for discussion before we must arrive at a solution. We need to be even-handed but consistent in our application of these expectations.



Light Rail Alignment Guiding Principles

■ GUIDING PRINCIPLE 1

Provides short- and long-term opportunities to increase the vitality of downtown businesses

- a. Keeps the supply and distribution of parking consistent with the demand
- b. Allows business and residential access and loading to remain where essential
- c. Minimizes right-of-way acquisition and excessive cost
- d. Provides active use sidewalks

■ GUIDING PRINCIPLE 4

Provides the highest degree of attractiveness and access via all modes

- a. Wayfinding to light rail is intuitive
- b. All modes can readily access light rail
- c. Design can be made compatible with surrounding properties / facilities
- d. Reinforces existing street grid (doesn't close / reroute)



■ GUIDING PRINCIPLE 2

Serves as a catalyst for investment in redevelopment and new development consistent with existing plans and policies

- a. Achieves the objectives of the Vancouver City Center Vision
- b. Retains logical vehicular access to and through downtown (effective traffic circulation)
- c. Light rail adds development potential

■ GUIDING PRINCIPLE 3

Creates downtown "Great Streets," promoting and balancing multiple uses

- a. Allows integrated safe bike, pedestrian, vehicular, and transit use
- b. Creates welcoming places
- c. Allows room for amenities including street trees, street furniture, and art
- d. Calms traffic



US Department of Transportation: Federal Transit Administration • Federal Highway Administration
City of Vancouver • City of Portland • SW Washington Regional Transportation Council • Metro • C-TRAN • TriMet

Evaluation Matrix

Indicators Applied to Comparison of 2-Way on Washington Versus Broadway/Washington Couplet Transit Options

■ GUIDING PRINCIPLE 1

Provides opportunities to increase the vitality of downtown businesses and residential growth over the plan horizon

	2-Way Washington		Broadway/Washington Couplet		
	#1	#2A	#3	#4	#5A
a. Minimizes negative impact on parking supply and distribution	Side-Running Transit, One-Way Auto Traffic, Two Platforms	Center-Running Transit, Two-Way Auto Traffic, One Platform	Side-Running Transit, Two-Way Auto Traffic, One Platform	Side-Running Transit, One-Way Auto Traffic, One Platform	Center-Running Transit, Two-Way Auto Traffic, One Platform
b. Allows business and residential access and loading to remain where essential					
c. Minimizes right-of-way acquisition costs					
d. Provides active use sidewalks					
e. Minimizes short-term construction impacts and maximizes long-term positive impacts					

■ GUIDING PRINCIPLE 2

Serves as a catalyst for redevelopment and new development congruent with the VCCV while preserving the character and safety of affected neighborhoods

	2-Way Washington		Broadway/Washington Couplet		
	#1	#2A	#3	#4	#5A
a. Supports the land use objectives of VCCV	Side-Running Transit, One-Way Auto Traffic, Two Platforms	Center-Running Transit, Two-Way Auto Traffic, One Platform	Side-Running Transit, Two-Way Auto Traffic, One Platform	Side-Running Transit, One-Way Auto Traffic, One Platform	Center-Running Transit, Two-Way Auto Traffic, One Platform
b. Supports the transportation objectives of VCCV					
c. Light rail adds development potential					

■ GUIDING PRINCIPLE 3

Creates downtown streets that promote safety and access, and balance multiple uses

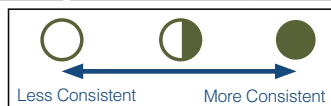
	2-Way Washington		Broadway/Washington Couplet		
	#1	#2A	#3	#4	#5A
a. Allows integrated safe pedestrian, transit, bike and vehicular use	Side-Running Transit, One-Way Auto Traffic, Two Platforms	Center-Running Transit, Two-Way Auto Traffic, One Platform	Side-Running Transit, Two-Way Auto Traffic, One Platform	Side-Running Transit, One-Way Auto Traffic, One Platform	Center-Running Transit, Two-Way Auto Traffic, One Platform
b. Creates welcoming places					
c. Allows room for amenities including street trees, street furniture, art and weather protection					

■ GUIDING PRINCIPLE 4

Provides the highest degree of transit efficiency and access via all modes

	2-Way Washington		Broadway/Washington Couplet		
	#1	#2A	#3	#4	#5A
a. Wayfinding to light rail is intuitive	Side-Running Transit, One-Way Auto Traffic, Two Platforms	Center-Running Transit, Two-Way Auto Traffic, One Platform	Side-Running Transit, Two-Way Auto Traffic, One Platform	Side-Running Transit, One-Way Auto Traffic, One Platform	Center-Running Transit, Two-Way Auto Traffic, One Platform
b. All modes can safely and readily access light rail					
c. Reinforces existing street grid					
d. Design can be compatible with surrounding properties and facilities					

- 2B: Same as 2A but parking and bus stops are more restricted and sidewalks are narrowed for another block at each station
- 5B: Same as 5A but roadway is raised to sidewalk level. Pedestrian crossing to Island station is integrated with through traffic
- 5C: Same as 5A but discontinuous auto lane and closed driveway accesses and parking on platform side for three blocks at stations
- 5D: Same as 5A but discontinuous auto lane and closed driveway accesses and parking on platform side for one block at stations





Workshop Summary

MEETING: Transit Workshops
DATES: January 10, 2009 and January 14, 2009
LOCATION: Hudson's Bay High School and Discovery Middle School, Vancouver, WA

The following represents the general direction of discussion by date and by topic at the light rail workshops held on Saturday, January 10 at Hudson's Bay High School and Wednesday, January 14, 2009 at Discovery Middle School. Although this is intended to give you the flavor of the discussion, opinions within each group varied widely. It is for this reason that we encourage you to **review the detailed notes that follow this summary carefully** so you can see for yourself the breadth (and depth) of opinion.

LRT Alignment

Saturday, January 10

Note: This workshop was preceded by a briefing on downtown redevelopment and a walking tour of parts of the proposed routes.

In general, most groups preferred a couplet (Broadway – Washington). Reasons ranged from a single street alignment being too crowded (reducing some sidewalks to 9 feet in width) to providing an opportunity to get streetscape improvements in front of more businesses. Support for a single street alignment was clearly in the minority, although one table was not able to reach a consensus position. There was little to no support for a 16th Street alignment as an alternative to McLoughlin.

Wednesday, January 14

While people generally preferred a couplet over a single street alignment, there was less consensus on the issue, believing in part that dividing light rail between two streets provides more access to the system. Single street alignment advocates pointed out that the impacts during construction will be significantly less if the alignment is restricted to just Washington. Opinions supporting a 16th Street alignment over McLoughlin were more vocal in this session.

Station Locations

Saturday, January 10

This session seemed to focus on how well the stations could be integrated into their surroundings both in design and accessibility (pedestrian, bike, and bus). They believe that the stations should be well designed – integrate neighborhood character and use high quality materials. Several tables expressed a need for another station along McLoughlin between Clark College and C Street. One group believed that the spacing between stations on Broadway was too far. Security around the stations was a concern of several participants. The question of center-of-street stations versus those that are adjacent to the sidewalk was debated by several tables.

Wednesday, January 14

Very similar comments as the Saturday session, including a notation that another station on McLoughlin should be provided. There was a caveat to that, however, suggesting that if a station were added there

that it should not be allowed to create a new development node – that only development which respects the character of the existing neighborhood should be allowed. Participants emphasized that stations need to be closely coordinated with bus routing for convenience. Overall, it is fair to say that in both workshops, the jury was still out on the appropriateness of the proposed station locations.

Park & Rides

Saturday, January 10

The focus of the park and ride discussion in this session tended to be on two areas: including mixed uses and design. Several of the tables were concerned that not enough spaces were included in the park and rides – particularly the Clark College location, and that they should be constructed so that they could be expanded if needed. There was a strong feeling that the facilities cannot be allowed to be “dead zones” and that providing ground-level retail or other active uses could help avoid that – particularly at the Mill Station location. Secondly, there were strong sentiments that the design of the facilities be sensitive to their surroundings. In particular, there was discussion around the site across from the museum needing to respect that building in scale and materials. Participants also advocated for making sure that adjacent users, especially Clark College, be carefully consulted in the design, use, and integration of that park and ride.

Wednesday, January 14

In this workshop, there was lively debate about why park and rides should even be allowed in downtown. Some suggested that other sites should be studied, that the Mill Station site should be eliminated, and that the Clark College site should be expanded if it would mean that the Mill Station site could be eliminated. Concerns about the Mill Station site included traffic congestion issues. Beyond that, the groups advocated for making the garages lively through the use of retail and by providing art where ever possible.

Other Issues

Security and safety were frequently mentioned as important issues. There were multiple calls for using high-end materials, making sure that what is done is sustainable and long-lasting and respects the specific character of the neighborhoods. There were several concerns expressed about traffic flow, including protecting existing driveways and loading zones. Many comments also focused on making the system easy to get to and easy to use.



Workshop Summary

MEETING: Community Workshop on Light Rail Station Options

DATE: March 10, 2009

LOCATION: Red Lion Hotel Vancouver at the Quay, Vancouver, WA 98660

Workshop Purpose: The purpose of the meeting to provide an opportunity for the public to work with design experts in defining the key design characteristics that the community believes will be important to make the LRT stations fit with downtown Vancouver.

Process: The event started with a presentation from Brian McCarter of ZGF, who presented computer generated perspective drawings of various alignment options for a two-track alternative and a single-track alternative both shown on Washington Street. There were "variations on a theme" within the two-track and single-track alternatives. Each table of approximately 10 participants was then asked to discuss the design features that they would most like to see in station design. Although we didn't specifically ask for it, we were offered numerous opinions about the alignment options illustrated in the ZFG graphics. Each group then reported their findings to the larger group.

Attendance: About 75 community participants signed in for the 2 ½ hour session.

Outcomes: As was the case with our January workshops, there was a lot of energy in the room and seemingly a good deal of geographic diversity as well.

It is always difficult to provide a general, yet accurate summary of a group session such as this. That said, there were clearly some themes that resulted from the discussion:

- **Pedestrian priority.** Virtually every table referred in some fashion to pedestrian accommodation, accessibility, scale and / or safety. Many groups specifically called for wide sidewalks, not less in width than the city's standard (12 feet). They used terms like "a continuous pedestrian experience" and the "pedestrian experience should take priority." Many expressed concerns about pedestrian safety, especially in crossing travel lanes to get to the stations. They wanted particular attention paid to assure that jaywalking would be made difficult, if not impossible.
- **Parking and Loading.** Many discussed the importance of trying to retain as much on-street parking as possible and access to existing parking lots, delivery zones and garages. It seemed to reflect a heightened sensitivity to the challenges of the small downtown business person. Several tables said we should give up turn lanes if we can get more parking instead. One table thought that substituting parking in garages for what is now on the street was acceptable. There was a clear sentiment to protect and promote neighborhood businesses.
- **Materials.** Several groups commented on materials. One table liked the possibility of a cobblestone surface, at the same time they warned against the use of cobblestone due

to the difficulty it can create in terms of handicap access. There were comments about transparency and lighting for safety, including see-through shelters. Several tables commented on the desirability of including artwork.

- Scale and relationships. Groups encouraged designers to be respectful of the scale of Vancouver's downtown. One group, considering those scale differences, said that in a couplet alignment we should not assume that the line looks the same on Washington as on Broadway. They are two different streets that might call for two different design solutions. At least two tables commented that the transit should not become a barrier to be crossed.
- Traffic movement. Several tables commented that they think it is important to provide consistency for traffic flow and to make sure that drivers aren't surprised by impediments. One table commented that we should "design so pedestrians and automobiles have to be aware of each other."

As noted earlier, although we weren't fishing for opinions on the alignment options, given how the information was presented graphically, people tended to express opinions anyway. In fairness, most options even when supported had a list of "buts" with them. There was, however, a clear consensus around the couplet options. Most opinions centered on being more pedestrian friendly, less intimidating in their scale and allowing more design flexibility.

Exhibits

**VANCOUVER WORKING GROUP
FINAL REPORT**

Columbia River Crossing
Downtown Vancouver Light Rail

Exhibit 1

Two-Way on Washington



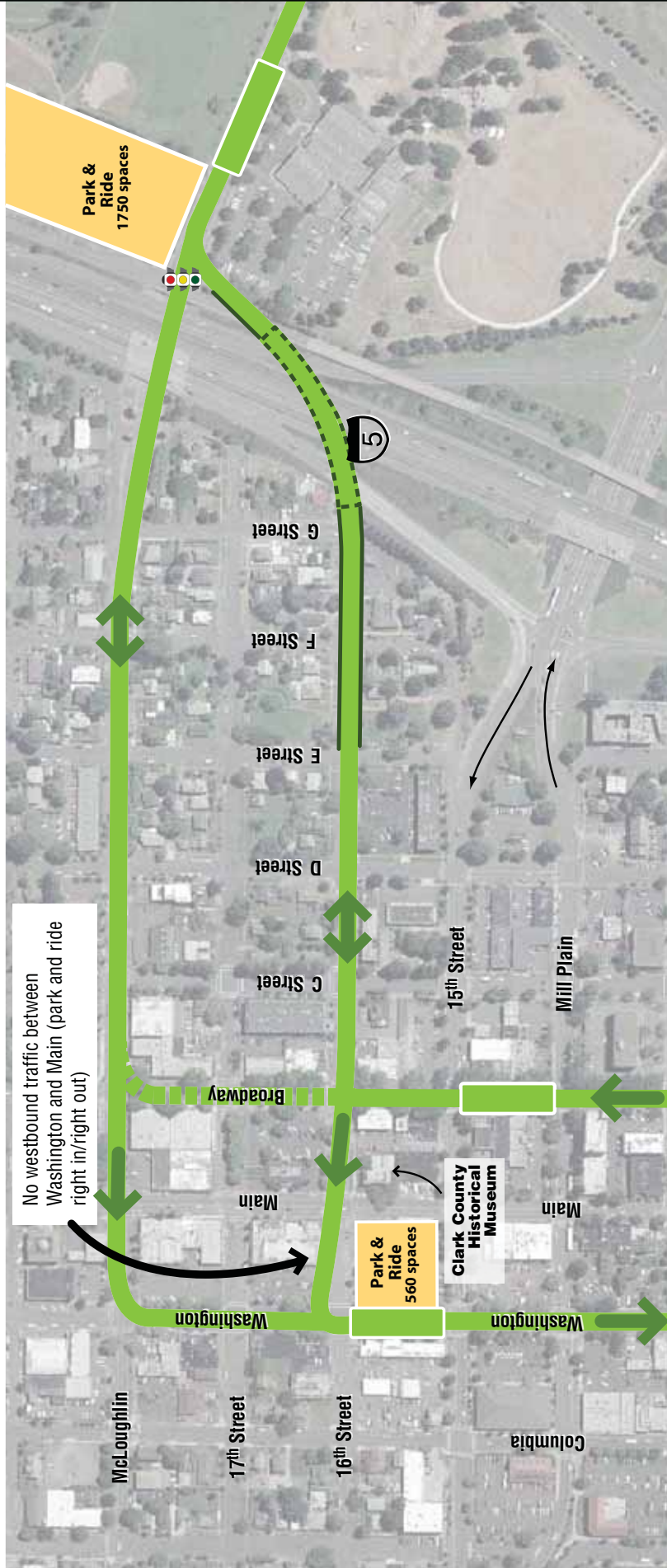
Columbia River Crossing Downtown Vancouver Light Rail

Broadway/Washington Couplet



- McLoughlin Boulevard
Locally Preferred Alternative as identified by Vancouver City Council
- 16th St. Alternative
- Potential Stations
- Direction of Transit

16th Street with Tunnel and McLoughlin Boulevard Option



- Transit Alignment
- Direction of Transit
- Proposed Station
- Tunnel
- Walls

For discussion purposes only and is subject to change.



US Department of Transportation • Federal Transit Administration • Federal Highway Administration
City of Vancouver • City of Portland • SW Washington Regional Transportation Council • Metro • C-TRAN • TriMet

East/West LRT Alignment Alternatives

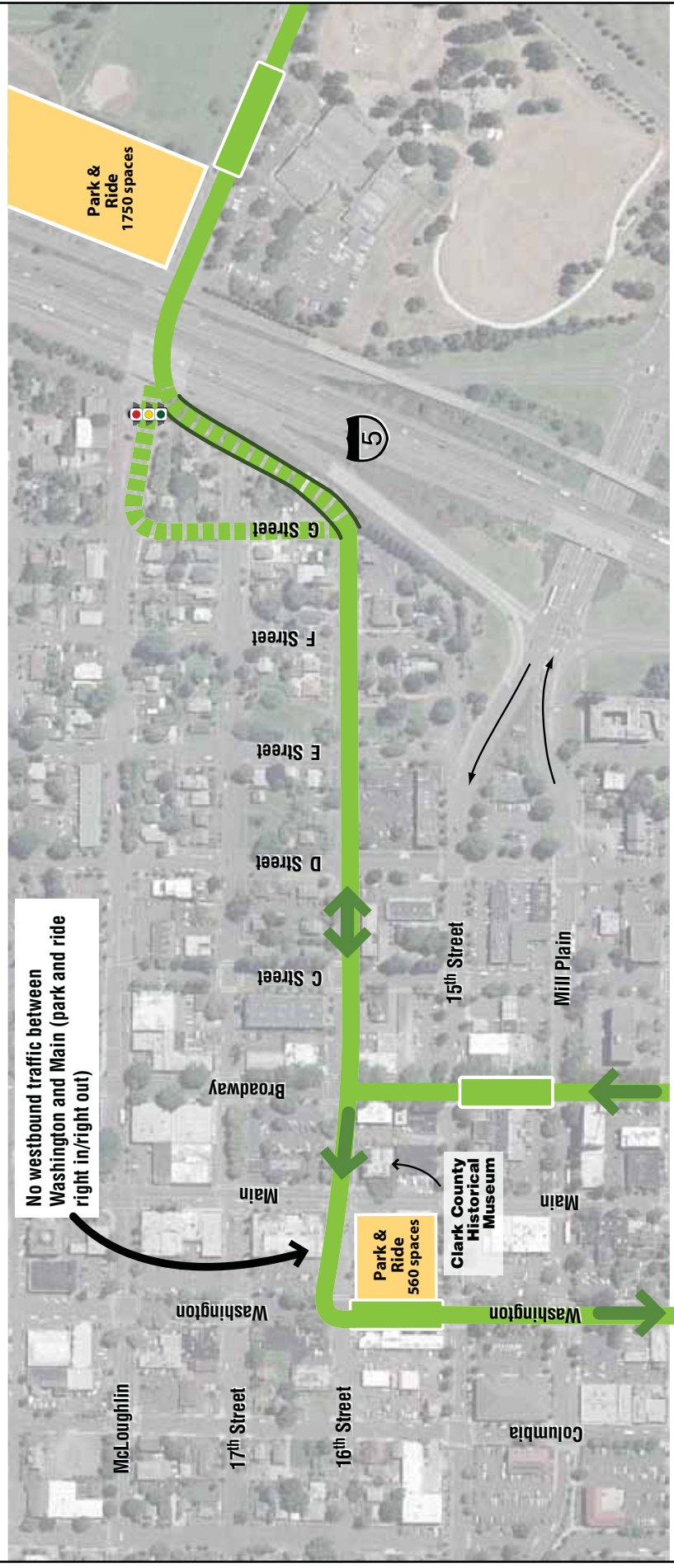


McLoughlin Boulevard Option

16th Street Option

Sketches for study purposes only

Columbia River CROSSING 16th Street (with West of I-5 Approach to McLoughlin Boulevard) and 16th Street (with G Street) Options



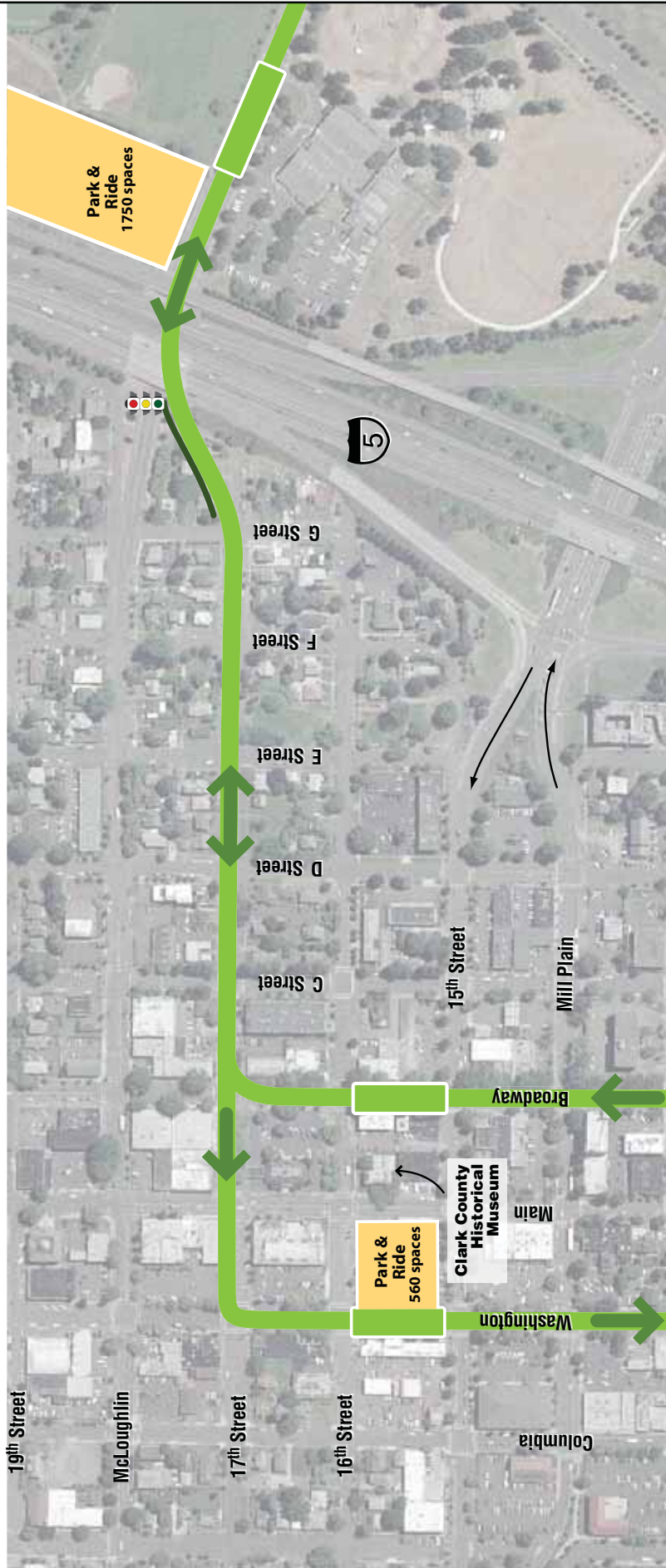
For discussion purposes only and is subject to change.

Local Project Partners

Oregon Department of Transportation
Washington State Department of Transportation

US Department of Transportation • Federal Transit Administration • Federal Highway Administration
City of Vancouver • City of Portland • SW Washington Regional Transportation Council • Metro • C-TRAN • TriMet

Columbia River CROSSING 17th Street Option



- Transit Alignment
- Direction of Transit
- Proposed Station
- Walls

For discussion purposes only and is subject to change.



Local Project Partners



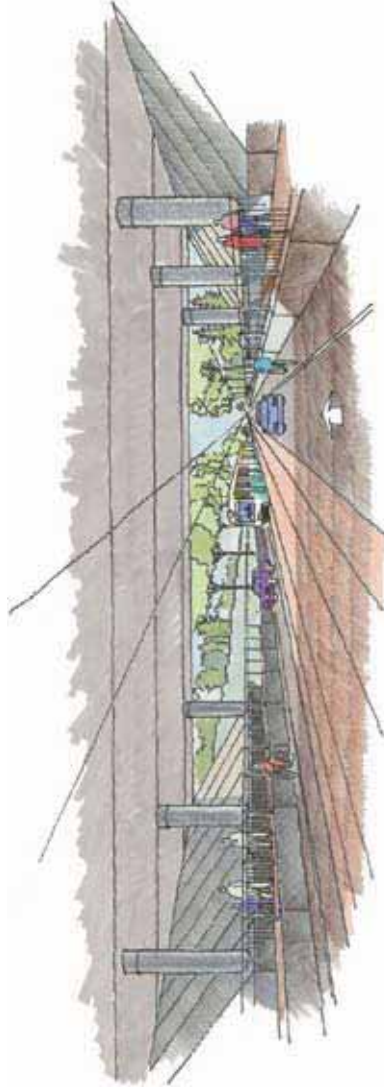
Oregon Department of Transportation



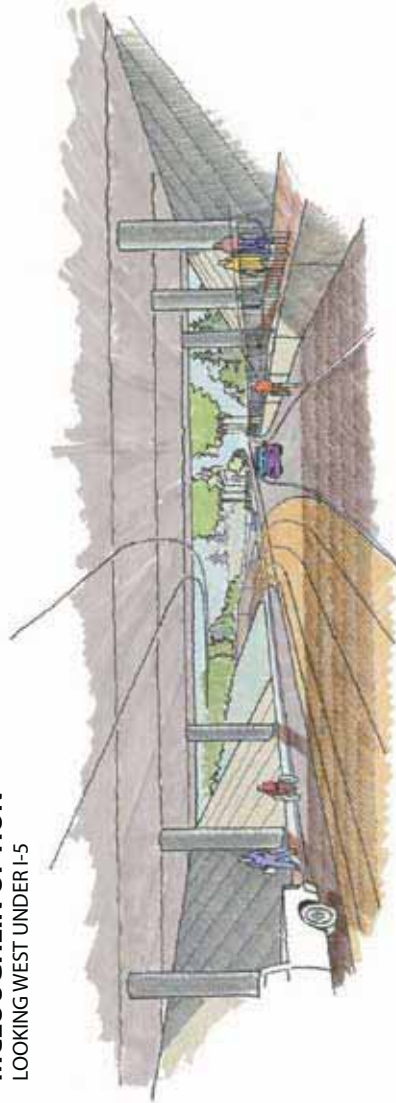
Washington State Department of Transportation

US Department of Transportation • Federal Transit Administration • Federal Highway Administration
City of Vancouver • City of Portland • SW Washington Regional Transportation Council • Metro • C-TRAN • TriMet

View Looking West Under I-5



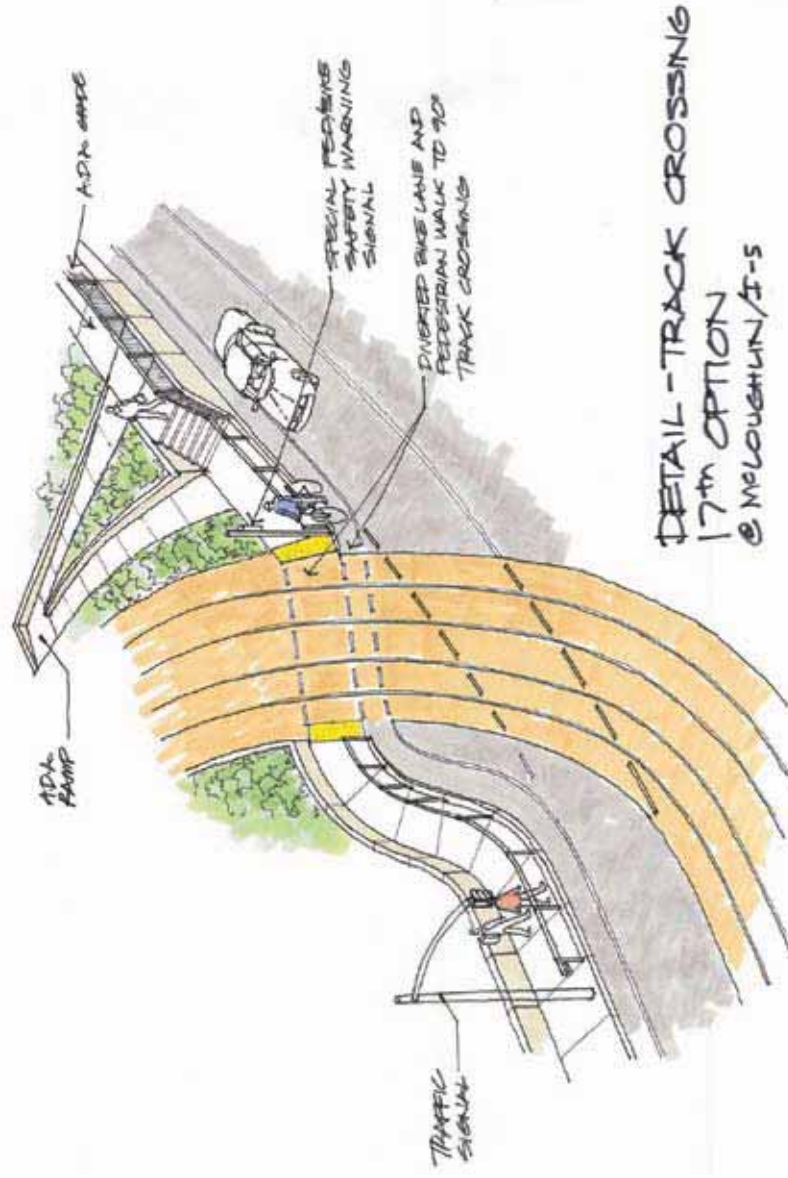
MCLOUGHLIN OPTION
LOOKING WEST UNDER I-5



17TH STREET OPTION
LOOKING WEST UNDER I-5



Track Crossing at 17th Street



17TH STREET OPTION • TRACK CROSSING
ENTERING M'LOUGHLIN WEST OF I-5 UNDERPASS



#5B Center-Running Transit, Two-Way Auto Traffic, Shared Island Platform Ground View



Columbia River
CROSSING

#5B Center-Running Transit, Two-Way Auto Traffic,
Shared Island Platform Aerial View



Columbia River
CROSSING

Exhibit 9B

#5B Center-Running Transit, Two-Way Auto Traffic,
Shared Island Platform Plan View





Vancouver Light Rail Station and Park & Ride Locations



Minority Reports

**VANCOUVER WORKING GROUP
FINAL REPORT**

**Vancouver Downtown Light Rail Alignment
Steve Burdick's Minority Report
April 16, 2009**

Argument for Two-Way LRT and One-Way Auto Traffic on Washington



The total negative impact to downtown from the couplet is much greater than the total negative impact to Washington in the two-way LRT option; especially when the impacts to Washington are tempered by reducing automobile travel to one northbound lane. Both alternatives have negative impacts, even accounting for the potential upside, but the sum of negative impacts to two streets is greater than the negative impact to one street.

The upside of the LRT impact on development, requires public investment to insure that each station area has a high quality finish and that each is anchored by complementary land uses. Spreading out to a couplet has the dual effect of increasing the base project cost and, more importantly, doubling the cost (and risk of failure) of trying to make station areas and streets that work. It is not easy, and not all station areas will be attractive and successful.

Sound urban development policy and principles support making one street work really well for LRT, and leaving the other for a more traditional, undisturbed urban streetscape.

ADVERSE IMPACTS

Light rail impacts a downtown environment block by block; its effects are not uniform. Station blocks and areas and non-station blocks and areas are two completely different things.

1. Overall Adverse Impacts: There are 13 blocks (26 block faces) on the Broadway leg. At least 11 of these blocks will not have a LRT station on them; yet the functionality of all of Broadway will be compromised because automobile use is prohibited on LRT tracks. Parking, drive lane widths and turning movements will all be restricted.

As a result, Broadway will look and feel different, and drivers will be discouraged from using it, especially if bus service also crowds out the constrained capacity. These impacts create a distinct economic disadvantage to the businesses, especially retail businesses, on Broadway.

2. Parking Impacts: In December 2008, the *Main Street District Design Handbook* study was completed by Vancouver citizens, City staff, Harper Hoff Regalis engineering and Crandall Arambula, PC. The purpose of this study was to provide, “a tool created by the citizens, stakeholders and City staff of Vancouver to help implement the Vancouver Main Street Improvement Project and foster downtown retail revitalization.” On page A-6 of that study, the authors conclude,

“Sufficient numbers of parking spaces to meet demand for estimated amount of future Main Street District retail development; if no new parking structures are built, the deficit would be 300-500 spaces.”

The most benign couplet alternative eliminates 125 on-street parking spaces; while two-way LRT on Washington with one-way auto traffic eliminates only 58 parking spaces.

Since surface parking lots are a poor parking space replacement strategy in an urban context any replacement of on-street parking should be developed in parking structures. However, the cost to replace on-street parking with structured parking ranges from \$35,000 to \$50,000 per space. Doing the math, the cost to replace parking with the couplet alternative is \$4.4 to \$6.3 million. The cost of the Washington two-way LRT and one-way auto traffic alternative is only \$2.0 to \$2.9 million.

These costs have not been factored into the CRC analysis or presentation to the VWG, yet they should be a critical consideration in our evaluation of what is best for downtown Vancouver. The scarcity of public resources to replace existing parking, let alone the new public parking necessary to “foster downtown retail revitalization”, should be a compelling argument in favor on two-way LRT and one-way auto traffic on Washington.

3. Transit Street Impacts: After tolerating more than 20 years of a bus system based on the 7th Street Transit Center that worked well for C-Tran, but was a blight on downtown, we now have a bus system that works well for C-Tran, for the business and property owners in downtown Vancouver, and for the community. All lines primarily use either Evergreen or Broadway. Both streets are well used by buses,

autos and pedestrians. There is no reason to dramatically change this functioning system if a two-way LRT alignment is developed on Washington.

If we choose the couplet alignment, the tracks, buses, and bus stops on Broadway will functionally convert Broadway to a transit only street. Drivers will be discouraged by that transit dominance and will likely choose other routes. To avoid this outcome, it is physically possible to shift the north / south bus routes and bus stops to C Street, but when the CRC project is complete, C Street will be overburdened as the primary access to and from I-5.

Preliminary designs to move transit to C Street already call for eliminating parking on the west side of C Street. If bus routes and stops have to be accommodated on C Street, it is likely that scarce parking on the east side of C Street will also be reduced or eliminated. Adding this bus traffic to C Street is likely to severely impact the turning movements into the 8th Street alley. This is the only entry drive to Riverwest's proposed 700 space parking garages. This could result in limiting turns into the 8th Street alley to right-in / right-out only. To gain entry into the public and private Riverwest garages, most Vancouver drivers would need to travel south on Broadway, turn left on 8th Street, turn left on C Street and turn right into the 8th Street alley. This pathway to the parking garages would be so illogical that it would most likely render the parking garages functionally obsolete.

4. Automobile Capacity, Access, and Circulation: The core of downtown has 5 north south streets—Columbia, Washington, Main, Broadway, and C.

Once the CRC project is complete and the Vancouver Waterfront is developed, Columbia, in addition to its central function as a through arterial will serve as access to SR14 and the newly developed Vancouver Waterfront.

Washington will not serve I-5, but can serve SR14 westbound traffic with one northbound lane that would complement the opposing southbound to eastbound movement available from Main Street to SR14. Under either alignment alternative, Washington will have reduced automobile capacity because of light rail.

Main Street is the designated retail core for downtown and will also serve through traffic with a new connection to SR14 and Columbia Way on the waterfront.

C Street will be overburdened with traffic to and from I-5 and with service to several large developments, including Riverwest and the public library.

Broadway Street is the only street that does not, at this time, have a designated function, aside from serving general traffic and CTRAN. But, consider the location—it is between Main, the primary retail street, and C, the primary freeway access street in lower downtown. If there is anywhere in downtown where the City will need additional flexibility for automobile circulation, it is on Broadway—to help absorb

some of the demand for circulation around Main and C. Putting light rail on Broadway would rob lower downtown of that essential circulation function.

5. Construction Impacts: From Washington / 7th to Broadway / McLoughlin, more than twice as many properties and businesses are adversely affected by construction. The argument that this impact is offset because construction will take twice as long on Washington is specious.

Whether one set of tracks or two sets of tracks are installed on Washington, the same amount of sidewalks are reconstructed, the same number of street light / LRT overhead cable structure is installed, two side by side track sets can be laid at the same time. Since construction will most likely tear up the whole street from property line to property line, the actual paving period will be of short duration and the number of lanes to pave will have minimal impact on the length of construction.

There are 26 block faces on both the Washington leg and the Broadway leg of the two alternatives. On the Broadway leg there are about 22 block faces that are developed and have active buildings on them. On the Washington leg there are about 15 block faces that are developed and have active buildings on them. In addition, one occupied block face on Washington is the east side of St. James church. So, there are 8 more block faces with active businesses that will be adversely impacted by construction on the Broadway leg than on the Washington leg.

MITIGATING CONSIDERATIONS

There are positive impacts from light rail as well, although there are important caveats that have to be considered alongside the purported positives.

1. The Shopping Light Rail Patron:

It is assumed that people riding LRT will get off at stations and then walk along the Broadway alignment and be enticed to shop along the way.

However, consider the segment of the Broadway alignment between Washington / 7th and Broadway / 9th that will be served by the 5th Street station. The logical routes for riders whose origins or destinations will be the waterfront development, the Hilton Hotel & Conference Center, the Columbian building, Vancouvercenter, Esther Short Park, Esther Short Commons, and City offices at 6th and Esther will take them away from Broadway and 7th, not along that route.

The logical routes for riders whose origins or destinations are the West Coast Bank building, the Frontier building, the Heritage building or Smith Tower are along 5th or 6th.

Only those riders whose origins or destinations are the Murdock Executive Plaza, Bank of America or the Lewis & Clark Apartments are likely to take zig zag paths using portions 5th, 6th, 7th, Washington, Main and Broadway.

So, the properties on 7th (Heritage Way) and Broadway up to 9th are being asked to give up a fully functioning street for exposure to a small segment of the riders using one of the five downtown stations.

This is a losing long term economic trade-off.

2. The LRT Patron Turned Shopper:

The second assumption is that people riding LRT on 7th and Broadway will observe the businesses along the way and be enticed to visit the businesses that they observe even though the business may be one to six blocks from a station.

Vancouver's experience with the 7th Street Transit Center resoundingly defeats that argument. When the card rooms were shut down in the lower Main area in 1979, the 7th Street Transit Center was conceived and proponents theorized that the 7,500 riders passing through the Center every day would spend money around the Center and along the bus routes. It didn't happen. The businesses that operated on the Center consisted of a sub-shop that did OK, a pawn shop that does well, a convenience store primarily known for the magazines and fortified beer and wine that it sold, a bar / club that changed hands often, the Eagles Club and office space that was often more vacant than occupied.

Just because the transit mode changes from bus to a LRT does not mean that the rider profile will change dramatically. There is no reason based on experience in Vancouver that these transit riders will energize downtown businesses along a LRT route anymore in the future than they did from 1982 to 2007 along Main Street and the 7th Street Transit Center. Furthermore, there is no expert analysis to indicate that the businesses on the 22 block faces on the Broadway leg that don't have a LRT station should expect positive economic impacts or increased property values.

3. Induced Development:

Immediately adjacent to the Washington leg are 11 blocks that, because they are mostly vacant or occupied by low value buildings, have good redevelopment potential. Along the Broadway leg there are only 5 or 6.

Blocks that have the most transit oriented development potential are those close to two-way LRT stations where the distance that riders must walk to and from the station is short. The Washington leg has about 5 sites that meet this criterion if two-way LRT is constructed on Washington. The Broadway leg has none.

The couplet alignment compromises the transit oriented development viability of the sites on Washington and leaves the downtown without any sites with high transit oriented development potential.

4. Supportive Development:

Beyond transit oriented development, there are potential development sites in downtown Vancouver that can support LRT viability through increased ridership and support downtown vitality through increased buying power. These are sites with higher density residential and offices development potential. Most of those opportunities are located west of Washington Street including:

- Block 10 between Vancouvercenter and Riverview Tower
- The two blocks immediately north of Heritage Place
- The Wolfe block immediately west of Java House
- The County owned block immediately west of Heritage Place
- The Angelo owned properties between 8th, Evergreen, Franklin and Harney
- The old Columbian property south of 8th and west of Esther Short Commons

A couplet alignment would require people living or working in these future developments to walk at least an additional two blocks to reach a station on Broadway. A 2002 C-Tran survey of their riders who walk to a bus stop showed that 41% of those riders walked one block or less and an additional 46% walked 2 to 5 blocks. The additional minimal walking distance of two blocks would put most of the blocks listed above sufficiently distant from LRT boarding on either a “to” or “from” trip that, based on the actual ridership survey, only a small percentage of potential transit riders would choose to actually use the LRT system.

Because of the I-5 freeway, the blocks where supportive development is most likely to occur east of the Broadway leg face onto C Street – the Academy site and Riverwest at Evergreen Boulevard and C Street. Depending on the location of the mid-leg station on Washington, the people in these future developments would need to walk 3 to 4 blocks and they would potentially have multiple C-Tran bus routes connecting that station to Evergreen and C Street. Potential ridership from these two large sites would not be nearly as compromised by access to a two-way station on Washington as the potential ridership from the multiple sites west of Washington would be compromised by the couplet alternative.

The Fort Vancouver Main Library will be constructed at this intersection and their location is now exceptionally well served by the existing bus routes on Evergreen and on Broadway. While this library branch anticipates an eventual annual patronage of about 700,000 people, it is logical that they will almost all arrive by means other than LRT. There will be 200 free parking spaces at this branch. So, it is not logical that anyone from Clark County would choose to park & ride and then take LRT. Multiple bus routes stop either at the library’s intersection or one block away at Broadway and Evergreen and those routes serve bus stops spread throughout Vancouver and Clark

County. So, it is not likely that these library patrons would choose to transfer from a bus to any of the downtown LRT stations.

SUMMARY AND CONCLUSION

The VWG evaluation applied a “shades of grey” measurement tool that teased out many of these issues. It represented varying degrees of positive impact of the two options, but failed to adequately account for the potential negative impacts. Positive and negative impacts occur block by block, property by property. The so-called “couplet or two-way decision” is an inappropriate and unintentionally deceptive simplification of urban economic development dynamics.

As I have outlined above, and stress to the group in the most urgent way, the challenges presented with the couplet alternative are many, many times greater than making light rail a success on Washington Street.

Finally, the two-way on Washington alignment would cost significantly less than the couplet alignment. Given recent comments from Rep. Brian Baird and Sen. Patty Murray, cost is a very significant issue—as it should always be with public investments. If cost savings can be obtained by the less costly alternative, then some of the savings could potentially be used to provide higher quality materials and more friendly environments along the Washington route.



North/South LRT Alignment Minority Report

In order to make sure that the decision-making process adopted by the Vancouver Working Group is completely transparent, the group decided to allow for dissenting opinions to be expressed in writing as minority reports. I have read the minority report on the north/south LRT alignment and I support that minority viewpoint.

Name (First and Last) JEFF ARNISON	Signature
Name (First and Last) DAVE HOWARD	Signature
Name (First and Last) STEPHEN M. BUNN	Signature
Name (First and Last) GEOFF KNAPP	Signature
Name (First and Last) DICK MALIN	Signature
* BOB WILLIAMSON	Signature
Name (First and Last)	Signature
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*Bob Williamson mistakenly signed this document; he requested that his name be removed from this list.

East-West LRT Alignment

Dave Frei's Minority Report: Argument for 17th Street

The key issue that seemed to drive the narrow majority preference for the McLoughlin Blvd alignment over 17th Street was sight-line safety concerns as the alignment crossed back onto McLoughlin prior to passing under I-5. This is a valid concern, but one which can be either addressed through design and mitigation options or eliminated by locating the Marshall Center station on the south side of McLoughlin. It was disappointing the Vancouver Working Group (VWG) was not allowed to discuss the southern station location more fully prior to voting on the alignment, especially considering several very important strengths of the 17th Street alignment over McLoughlin.

First consider the overall function of the two streets. Placing LRT on 17th Street provides a much better balance of uses between McLoughlin and 17th. McLoughlin is currently, and for the foreseeable future, designated a minor arterial, bus route, bicycle route and also acts as a primary east/west pedestrian corridor crossing I-5 for the Arnada Neighborhood. Currently with on-street parking and comfortable sidewalks McLoughlin works well. Adding LRT to McLoughlin requires something to be given up. In this case the partial Right of Way (ROW) taking of 6 feet from properties all the way from C to G Street and the removal of all on-street parking between Broadway and I-5 (relocating it to E and F Streets south of McLoughlin). In addition, to maintain left turn lanes from McLoughlin onto both Main and Broadway will require more sacrifices at these intersections. Parking will surely be compromised and the ROW takings could be major. All of these impacts can be significantly reduced or avoided by placing LRT on 17th Street. 17th street is not a minor arterial, bus route or bicycle route yet has virtually the same ROW width as McLoughlin. It can accommodate LRT in the existing ROW while retaining some on-street parking and eliminate the need for partial ROW takings on the 4-blocks east of C Street. In addition there is no need for left turn lanes from 17th onto either Main or Broadway which significantly reduces the impact of the LRT alignment as it crosses both of these streets.

Looking past LRT's function to neighborhood fit, it becomes very clear that the 17th Street alignment is a much better one. Moving north to south from 19th to 17th streets the character of the neighborhood makes a dramatic yet clearly transitional change. A review of the zoning and building height restrictions makes that very clear. On the north, 19th street is predominately R-9 single family residential (which the Arnada Neighborhood Association will continue to passionately defend) and building heights are limited to 35 feet. McLoughlin Blvd is the transition street with CC (community commercial) zoning and building heights limited to 50 feet. Currently most of the houses along McLoughlin have been converted to commercial uses with a few residential and purpose build commercial buildings. These zoning and height restrictions mean that most likely any future higher intensity redevelopment along McLoughlin will be in the form of smaller 3-story single property or partial block projects. Further south on 17th Street the zoning is CX (City Center Commercial) with building heights up to 75 feet. Considering the zoning and number of vacant and underutilized properties in the area between 17th and 15th streets, this area is well suited for partial, whole or even multi-block high density redevelopment. With that in

mind it is clear, in both physical and functional scale, that 17th street is much more compatible with LRT than McLoughlin.

Looking into the future, the placement of LRT on 17th street provides a much easier and more likely opportunity for adding a LRT station. At this time an additional station along the east-west alignment would be inappropriate but as the blocks south of McLoughlin take on the high density, mixed use character put forth by the Vancouver City Center Vision the need, and desire, for an additional stop will grow. According to the CRC project staff, adding a station to McLoughlin will be more difficult and require additional ROW takings while a station on 17th can fit in the existing ROW. This is further testament to how overburdened McLoughlin will be if LRT is placed on it. Also, depending on the situation when an additional LRT station becomes viable, there could be an opportunity for the station construction to be a public-private partnership, possibly in conjunction with one or more future Transit Oriented Development projects in this area.

With regards to the safety concerns of the 17th Street alignment as it crosses back onto McLoughlin, the issue needs to be put into perspective. Looking at the entire LRT alignment through downtown Vancouver there are over 30 un-gated intersection crossings. Even though the site distance restrictions coming from 17th Street back onto McLoughlin Blvd makes this crossing a bigger safety concern than others it should not be enough to outweigh the benefits of the 17th Street alignment. In addition if the Marshall Center station is located on the south side of McLoughlin this issue goes away. Even with the Marshall Center station located in the center of McLoughlin it was clear from questioning members of the CRC project team during our discussion that there are ample designs and engineering solutions available to mitigate this situation.

In closing the 17th Street is clearly a better long term solution for the east/west alignment of LRT because it:

- allows the retention of on-street parking on McLoughlin Blvd.
- does not require left turn lanes onto Main and Broadway.
- is a better fit with neighborhood zoning and building height restrictions.
- reduces the cost of adding a future station along the east/west alignment.
- provides an estimated \$2 million savings in ROW costs.
- has 22 fewer potential partial ROW acquisitions.
- has comparable capital costs.
- has comparable LRT travel time.
- has a comparable CEI.

The sightline safety issue clearly must, and can, be addressed but should not be a barrier to an alignment that is more cost effective, has less ROW impacts and is a better fit for the community.



East/West LRT Alignment Minority Report

In order to make sure that the decision-making process adopted by the Vancouver Working Group is completely transparent, the group decided to allow for dissenting opinions to be expressed in writing as minority reports. I have read the minority report on the east/west LRT alignment and I support that minority viewpoint.

Name (First and Last) <i>DICK MALIN</i>	Signature <i>D. C. Malin</i>
Name (First and Last) <i>Jack A Harroun III</i>	Signature <i>Jack A Harroun III</i>
Name (First and Last) <i>Charlene Welch</i>	Signature <i>Charlene Welch</i>
Name (First and Last) <i>Michael The Carty</i>	Signature <i>Michael The Carty</i>
Name (First and Last) <i>Dave Frei</i>	Signature <i>Dave Frei</i>
Name (First and Last) <i>KARIN FORD</i>	Signature <i>Karin Ford</i>
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