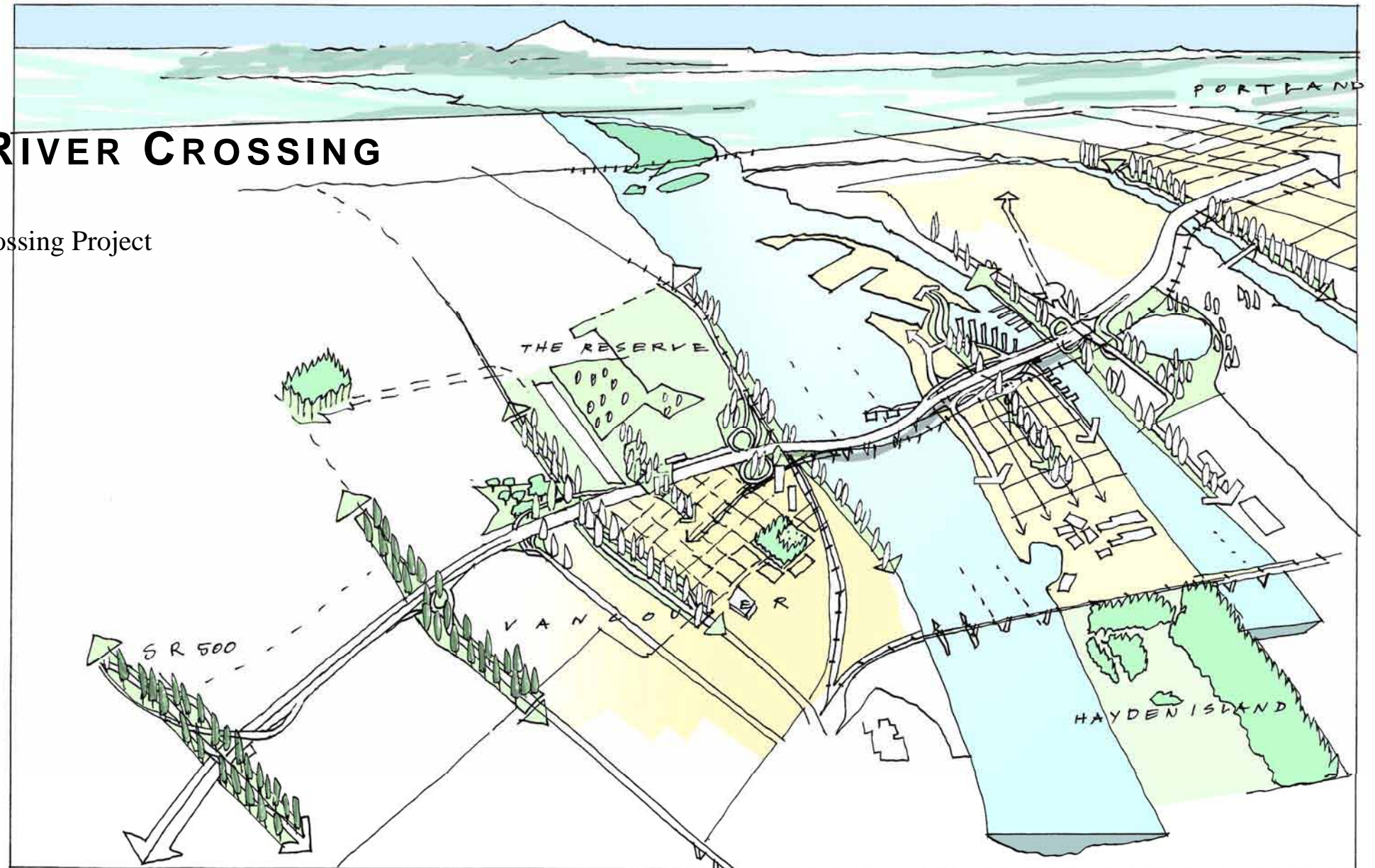


INTERSTATE 5 COLUMBIA RIVER CROSSING

DRAFT -Design Guidance for the Columbia River Crossing Project



July 16th 2008





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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

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City Commissioner
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City of Portland
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Section 1. Introduction

1.1 Executive Summary

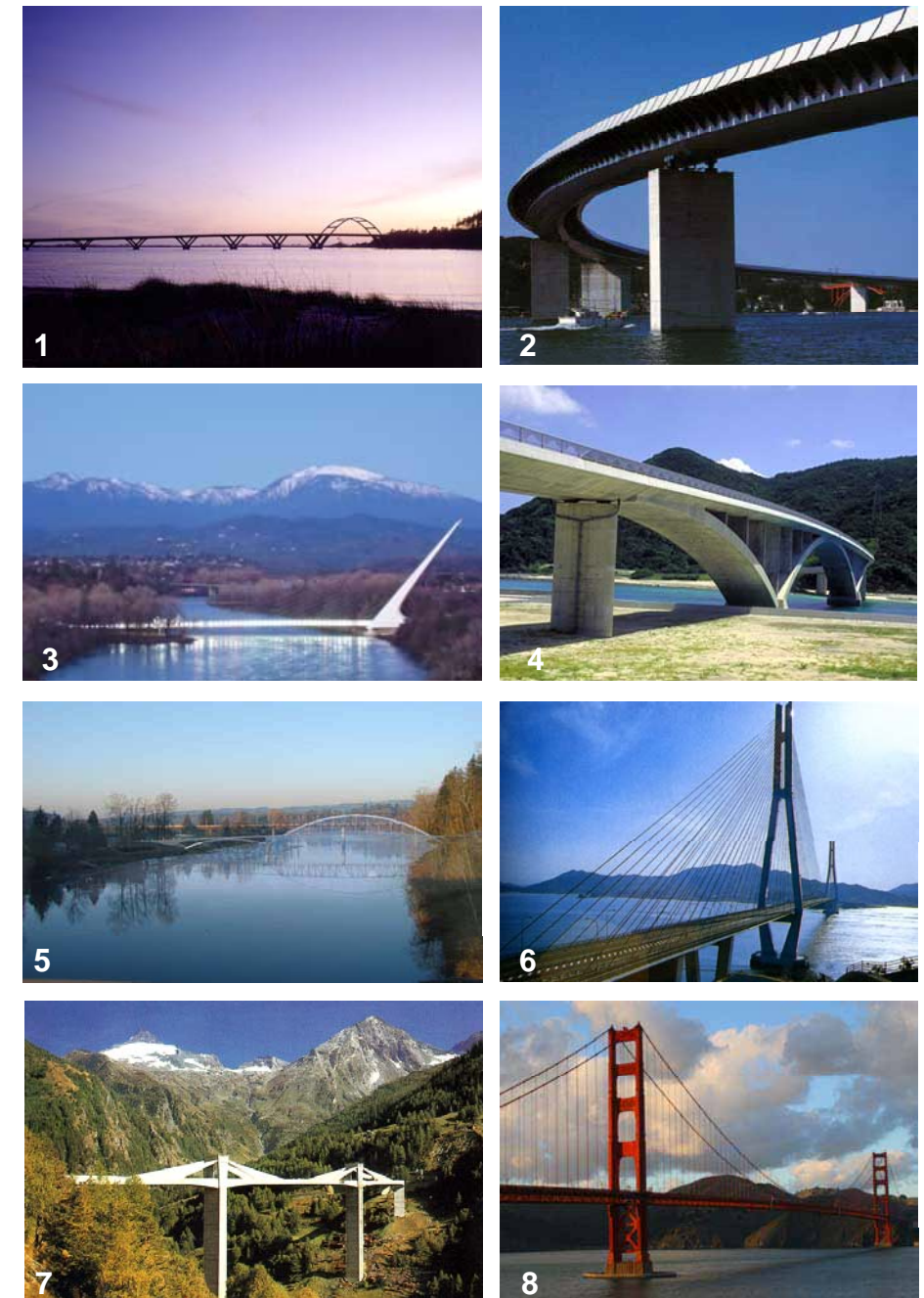
The Urban Design Advisory Group (UDAG) will have succeeded in its endeavor if the bridges and other structures, landscapes and other features of the completed Columbia River Crossing (CRC) project are widely regarded as exemplars of exceptional design that fit harmoniously into their natural and built 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. Alsea 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.

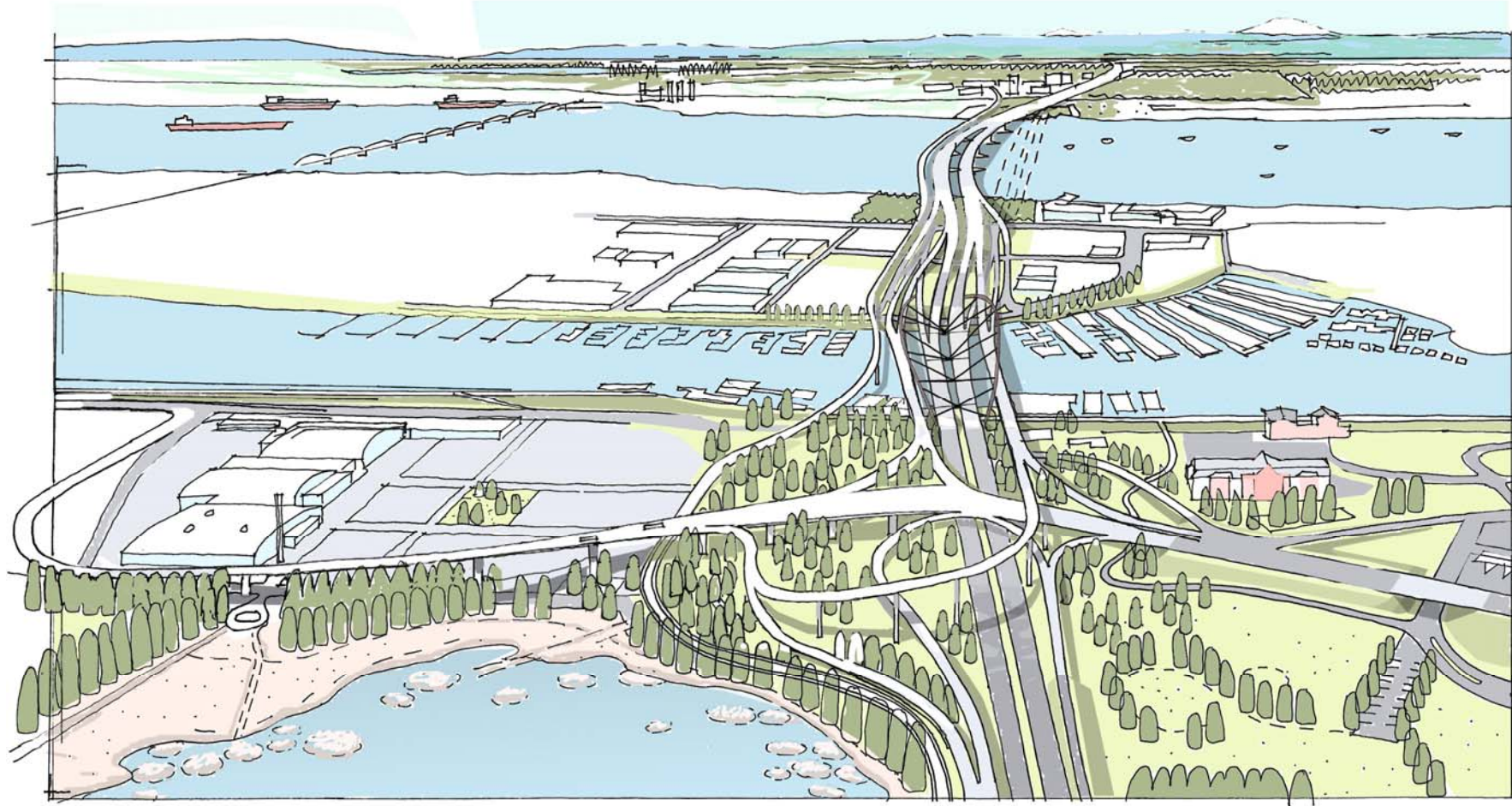
1.6 Interaction with Other CRC Committees

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:

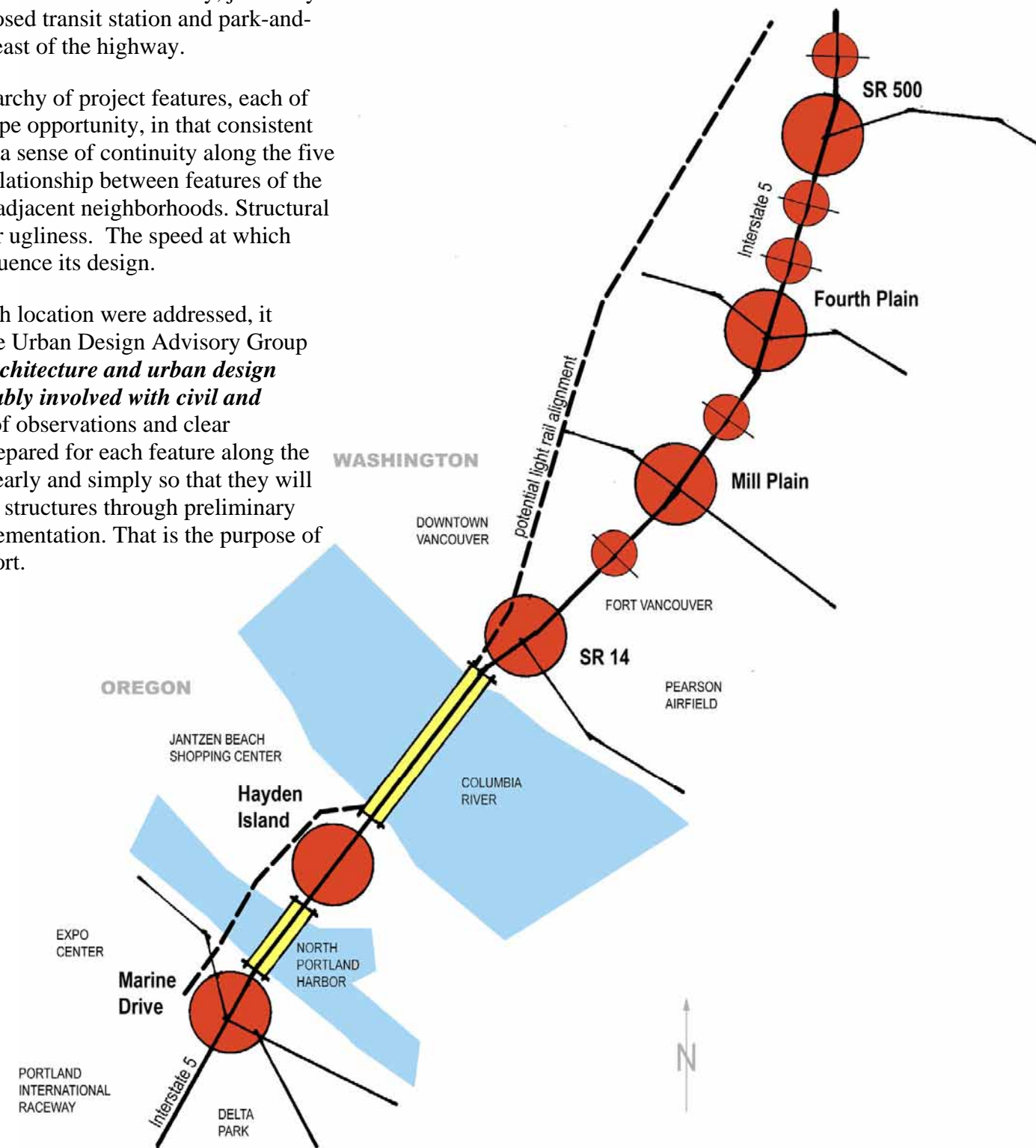
- The Marine Drive interchange, made conspicuous by the public open space that is adjacent to it;
- Mill Plain interchange, principal gateway to downtown Vancouver and the principal point of entry to the Port of Vancouver for freight vehicles;
- Fourth Plain interchange, linking north central Vancouver 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.

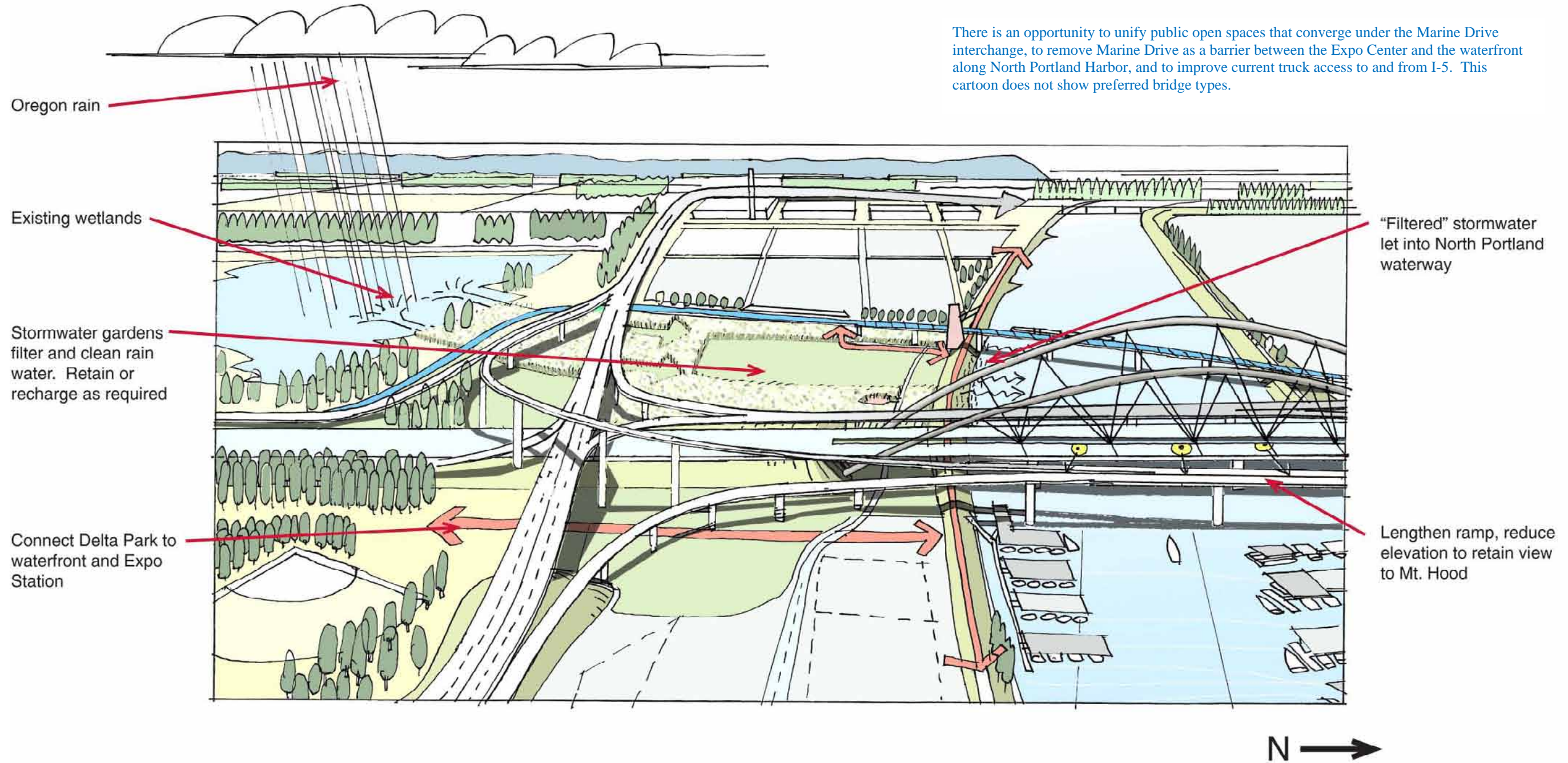
1. *Be sensitive to design context.* Be sensitive to existing communities by ensuring that each component of the bridge and highway structures complements nearby buildings in scale, materials and color. Respect the needs of established neighboring uses.
2. *Improve connections across I-5.* Improve the 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

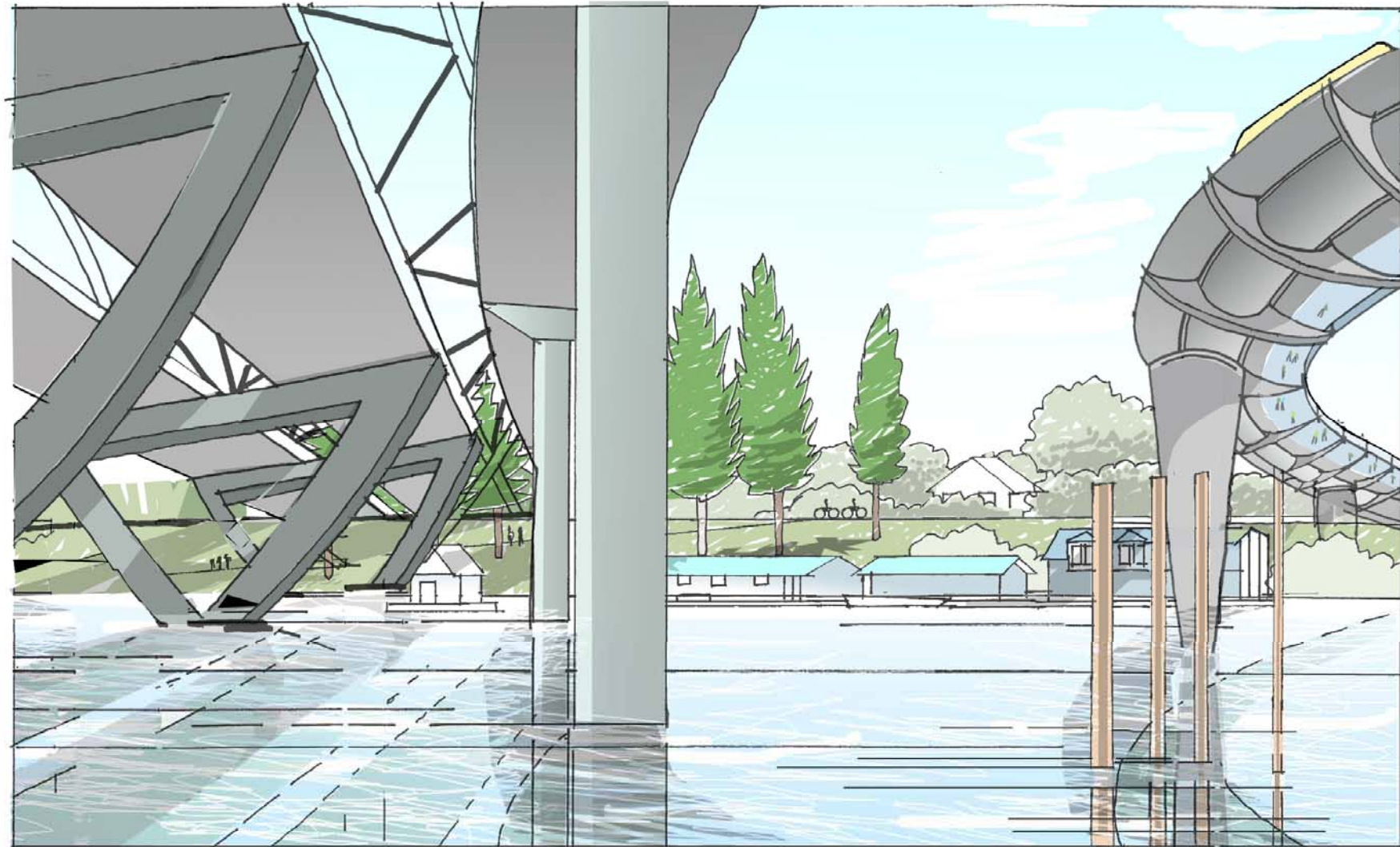
1. *Improve waterfront access and interconnect adjacent spaces.* Investigate alternative reconfigurations of the Marine Drive intersection to open up waterfront land for public and private development uses, to improve ramp geometry and to improve interconnection of green spaces that converge at the interchange.
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.

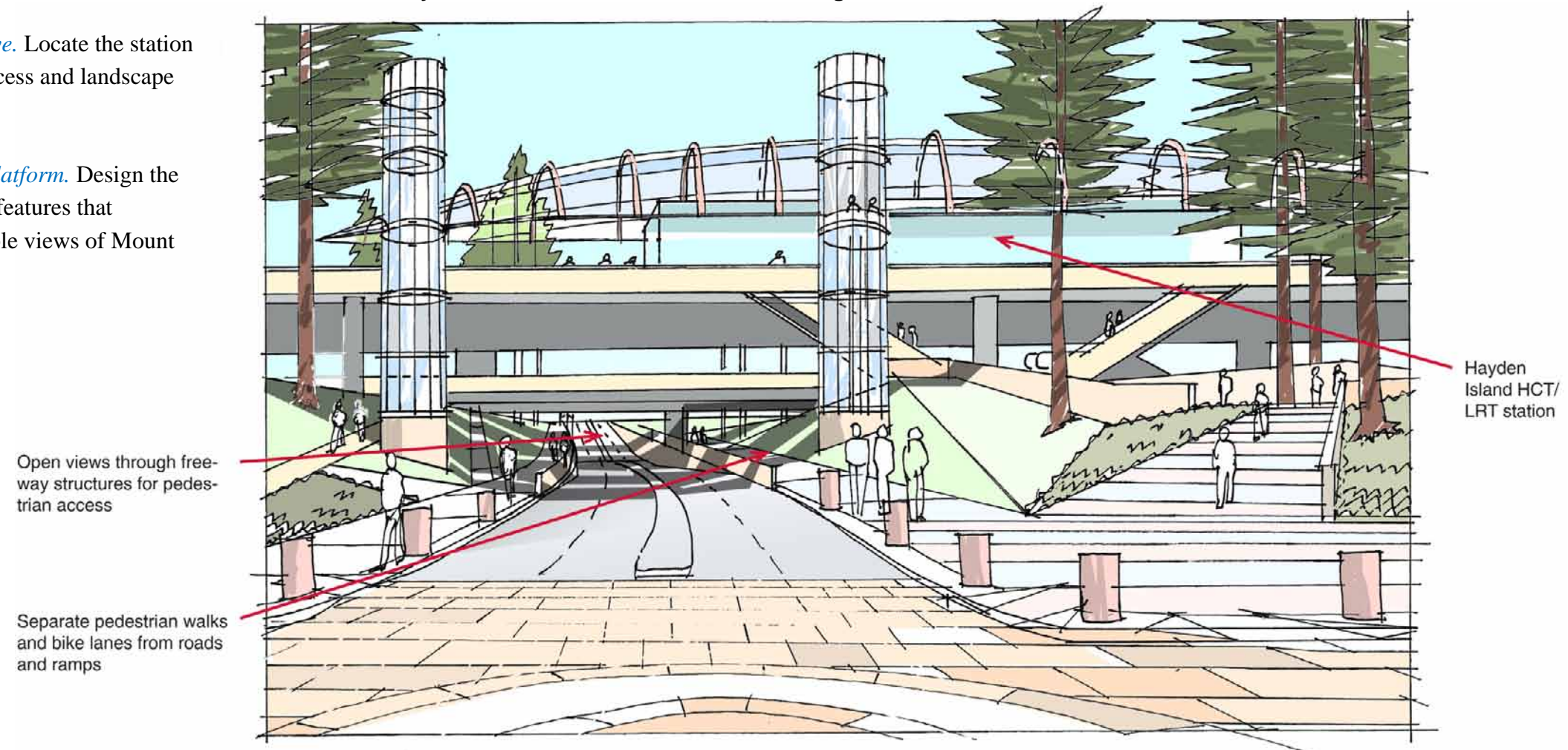
13. *Locate boat docks for visitors under the highway.* Locate transient boat docks under the highway on the north and south sides of North Portland Harbor and on the north side of Hayden Island to facilitate public boat access.

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).

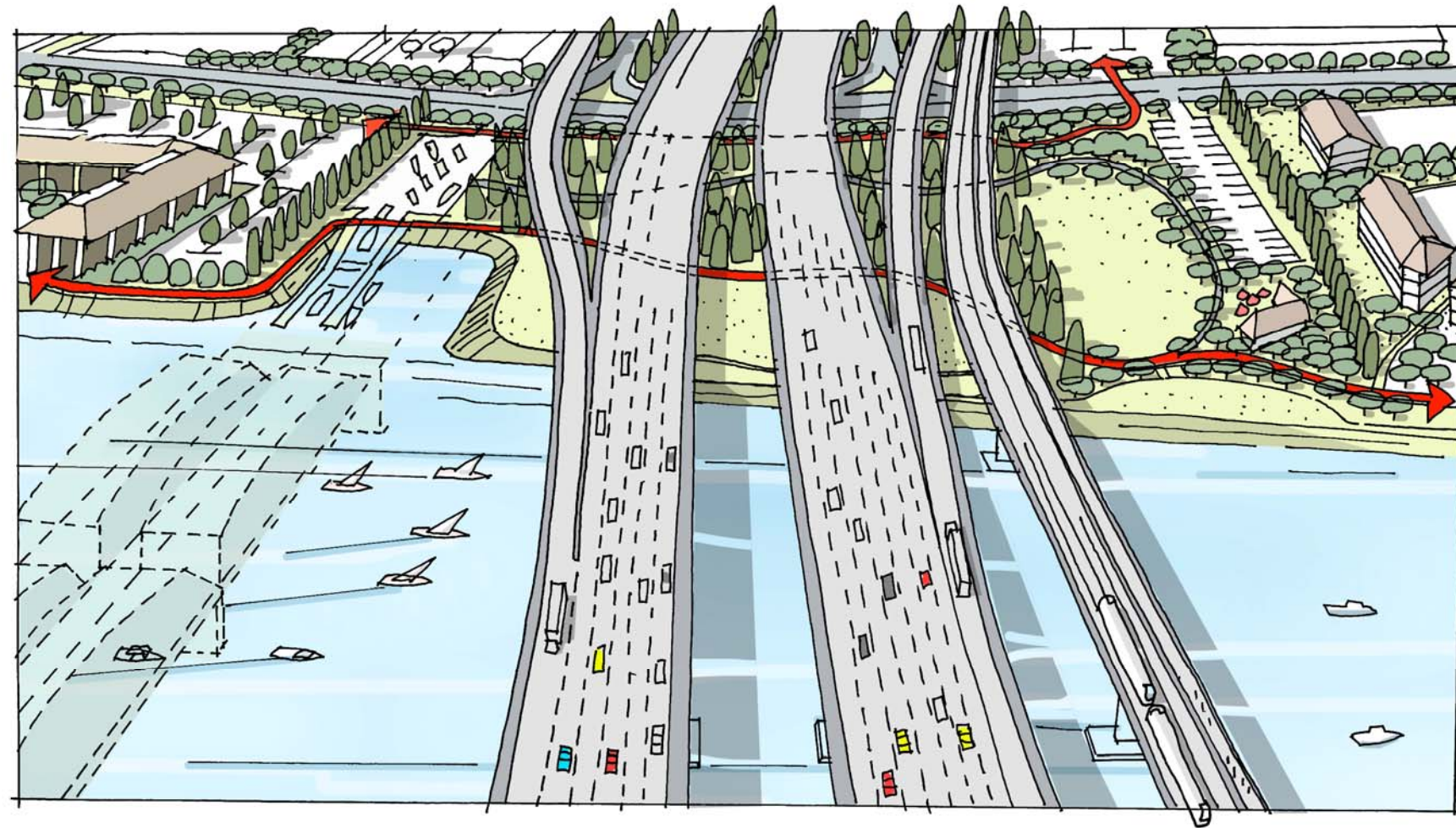
15. *Space ramps to admit daylight and generous landscaping.* Increase separation between ramps at the Hayden Island interchange to enable creation of generously planted landscaped terraces. Use this landscape also for natural treatment of storm-water runoff. Design noise walls and berms integral with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

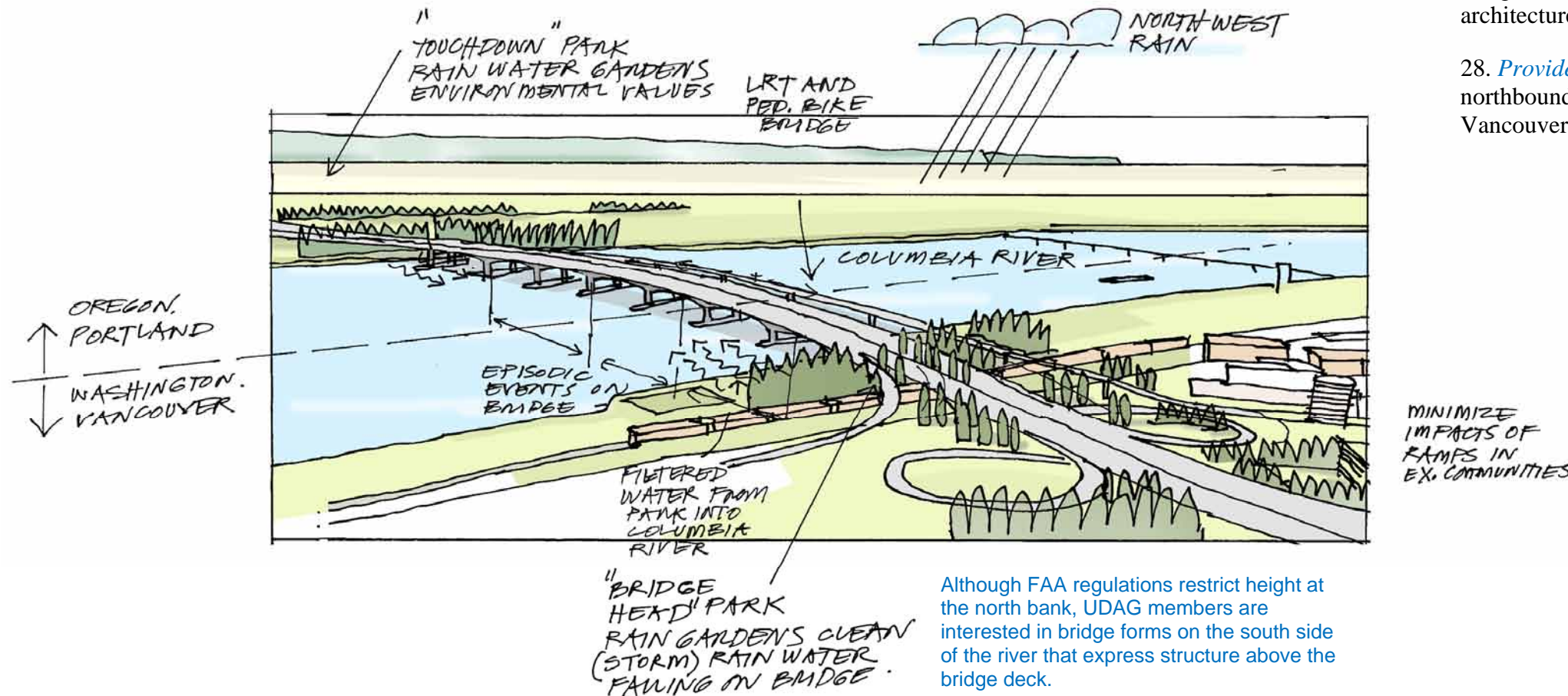
25. *Consider other bridge types south of the Pearson Field constraints.* Consider design opportunities on the south parts of the span that are relatively unconstrained in height. (FAA height limitations related to Pearson Field have effectively reduced bridge type selection to a single choice: box girder 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.

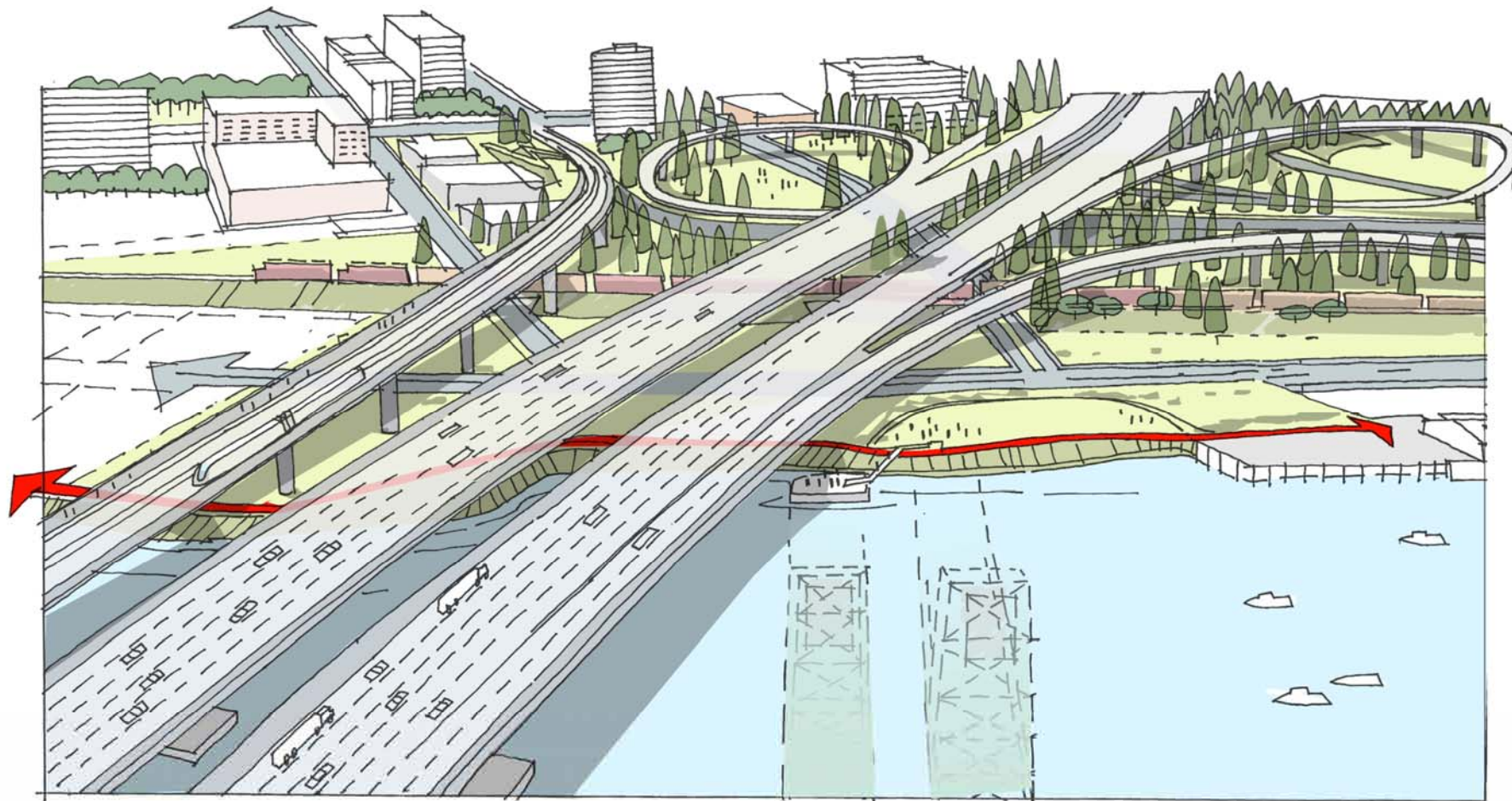
37. *Extend Land Bridge landscaping under the bridges.* Extend landscape treatment associated with the Land Bridge all the way to the river via the BNSF underpass. Also provide a landscaped trail to Main Street extended south to Columbia Way.

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

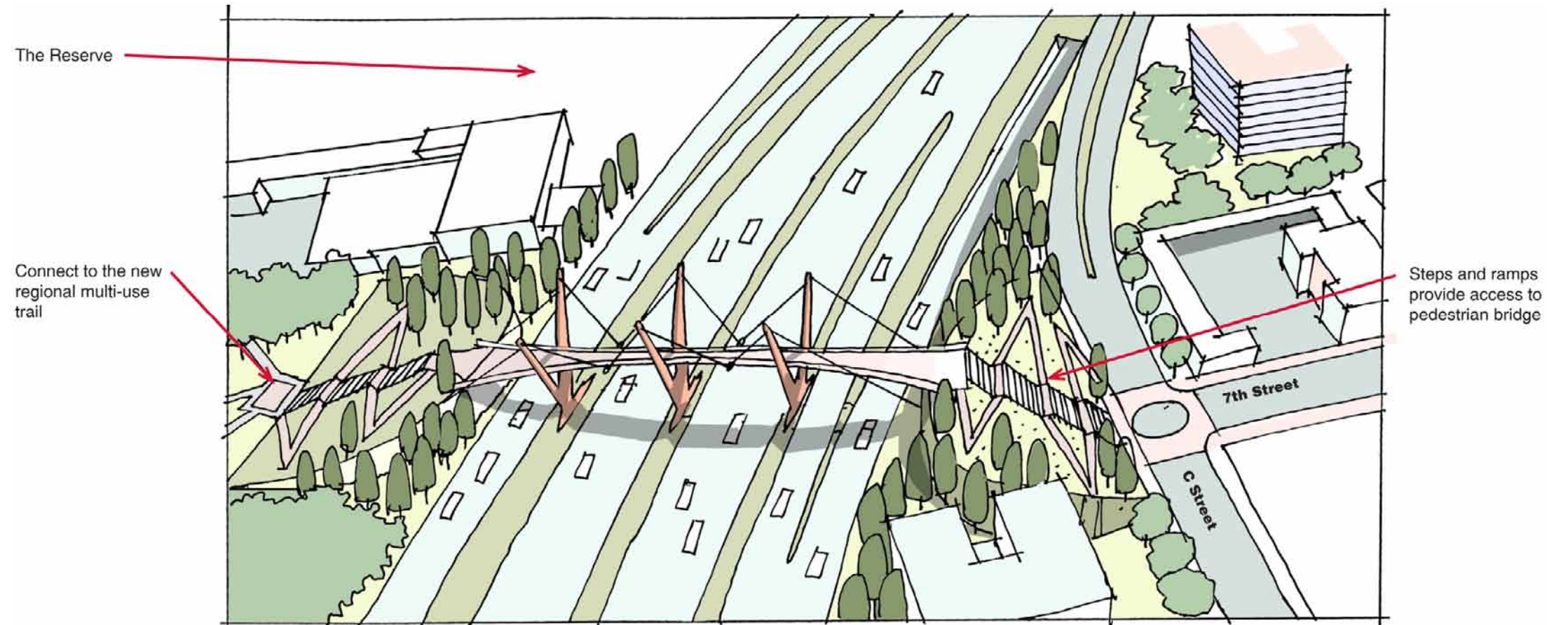


An important long term objective is to restore visual as well as physical access to the waterfront from Main Street in downtown Vancouver. Configuration of the railroad will prevent this from being achieved as part of the CRC project, but column placement and other elements can be located to preserve 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

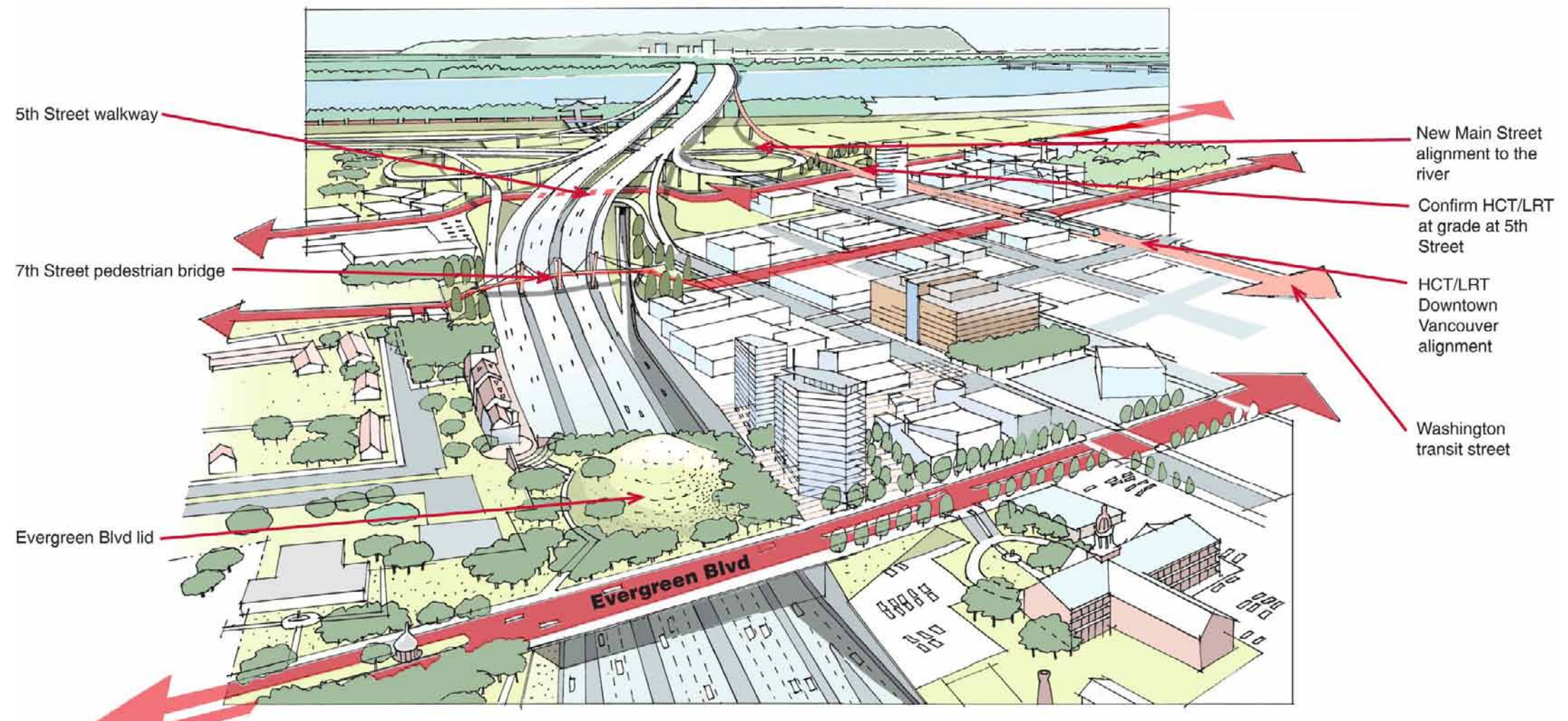
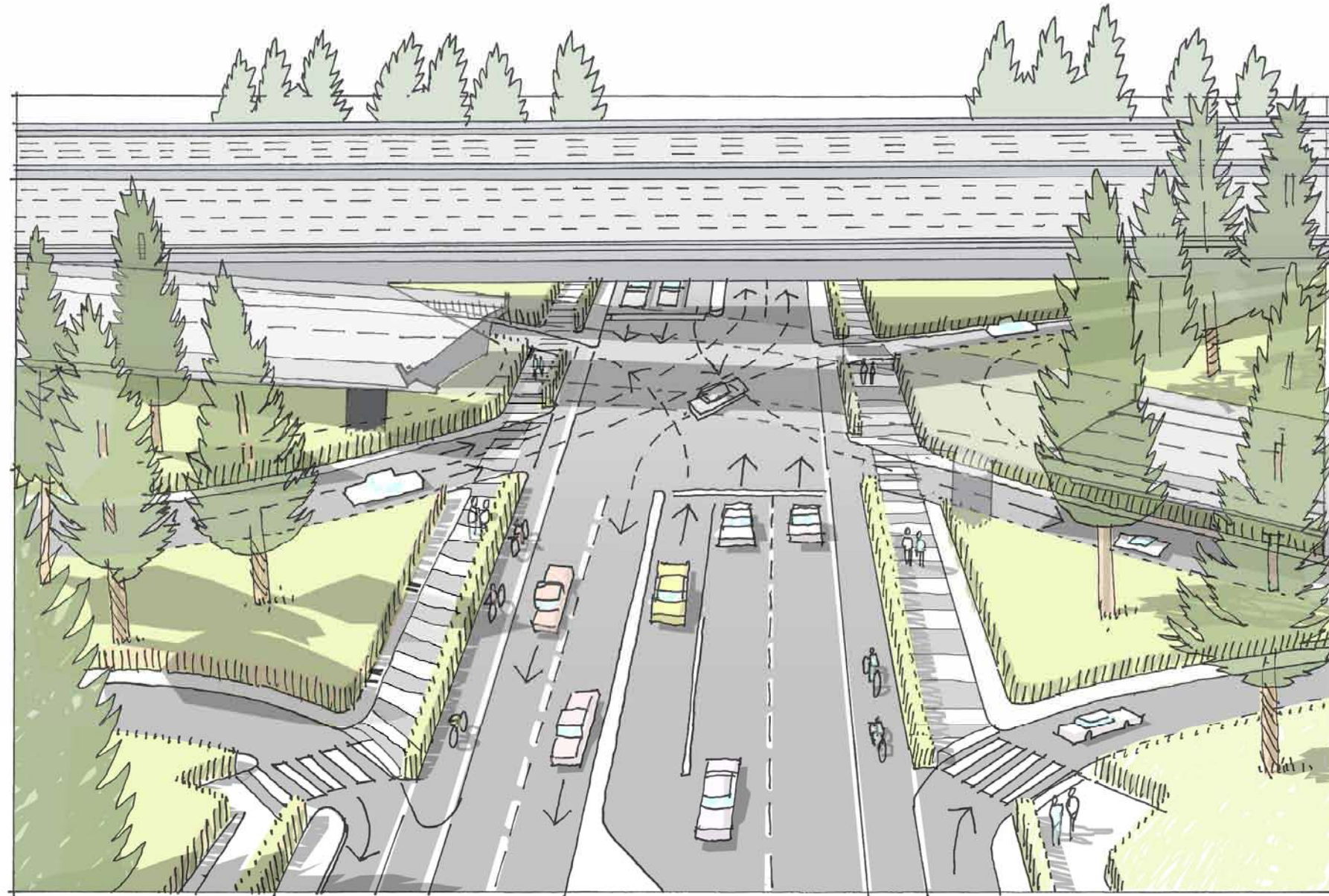


Exhibit 3-10. Mill Plain Interchange



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.

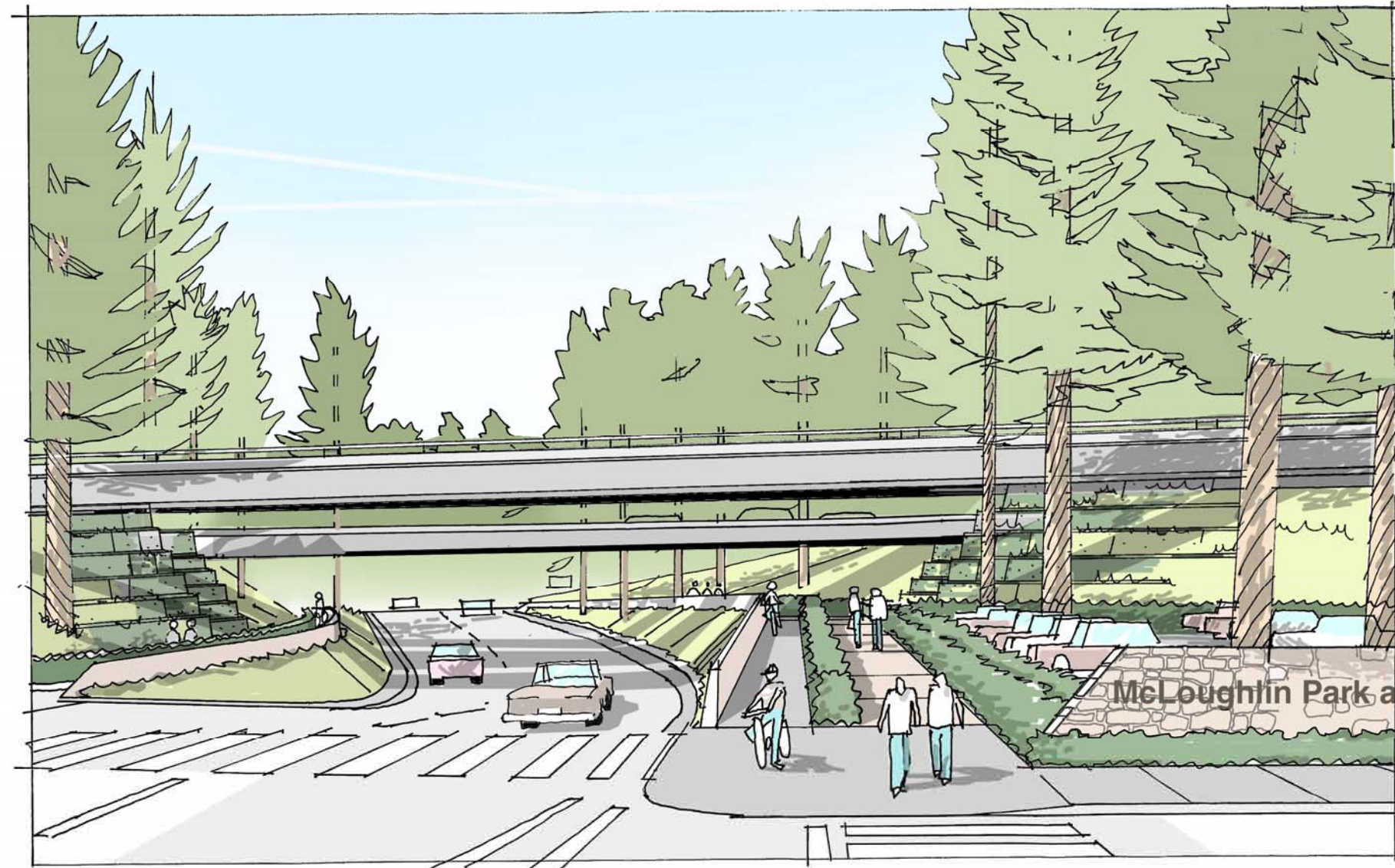
51. *Accommodate transit, pedestrians, bicycles and local vehicular traffic.* Provide east-west passage for all modes that improve safety and convenience over existing access.

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.

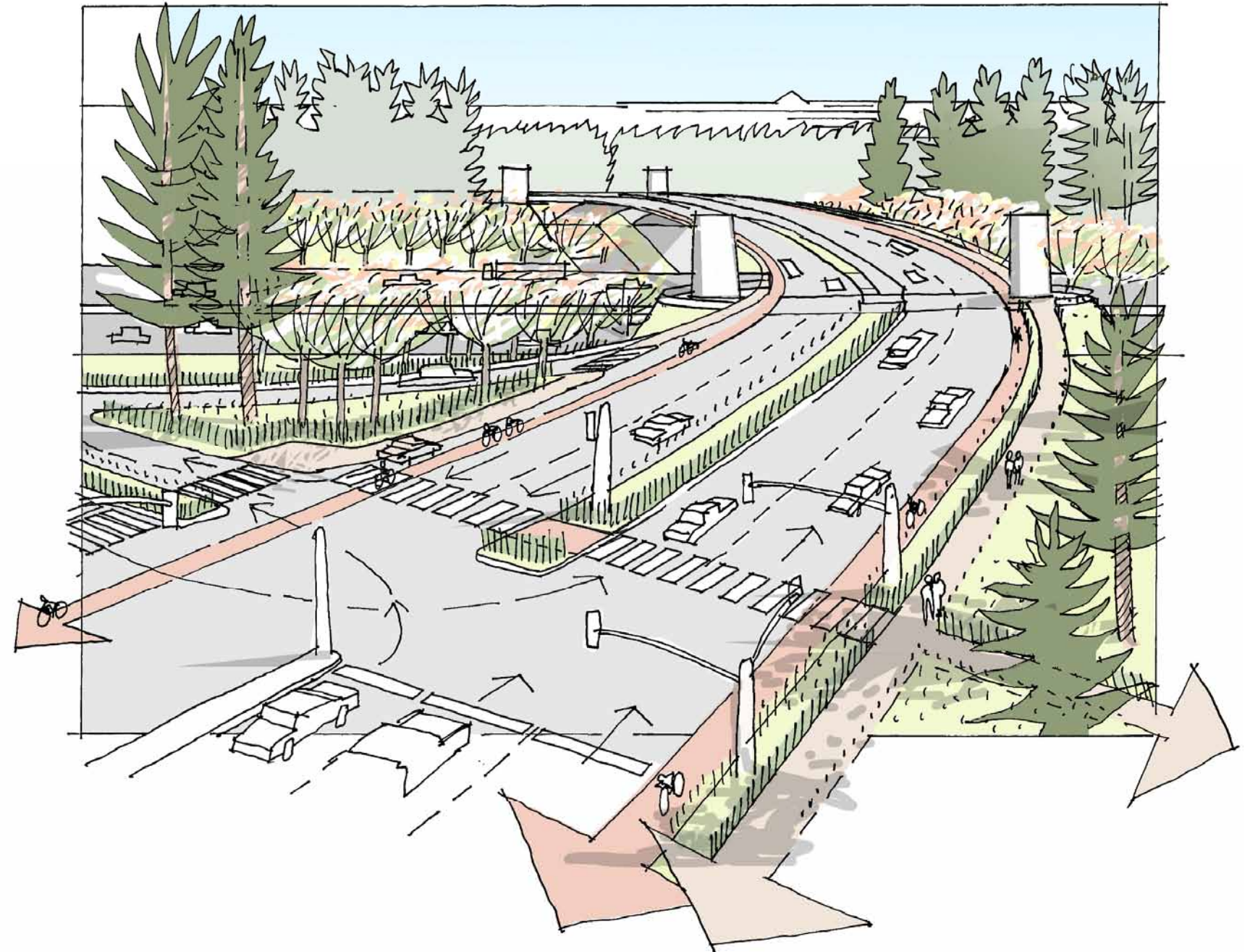
55. *Improve sidewalks on both sides of Fourth Plain overpass.* Provide sidewalk access along the north side of Fourth Plain adjacent to the cemetery (as stipulated by the Vancouver Central Park policy document).

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).

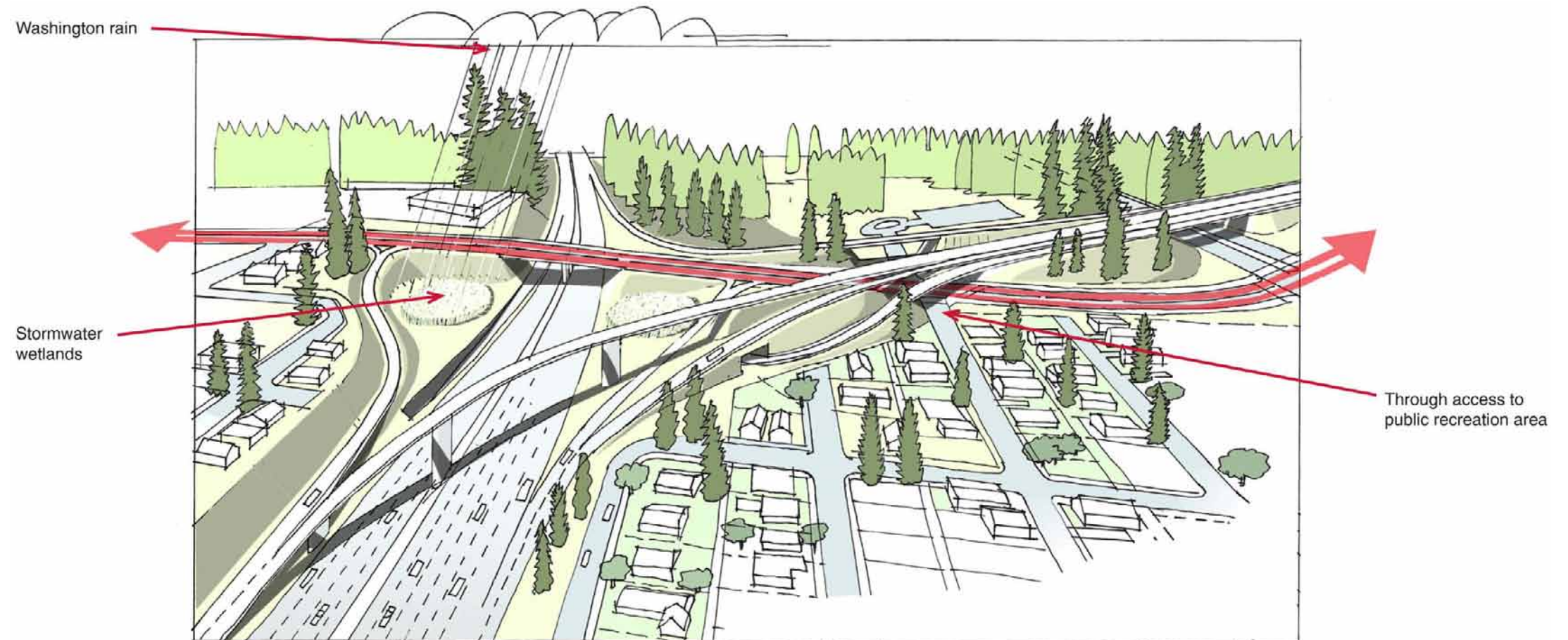
58. *Calm traffic on 39th Street.* Widen sidewalks and slow traffic on 39th between the school and NE 15th Ave.

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

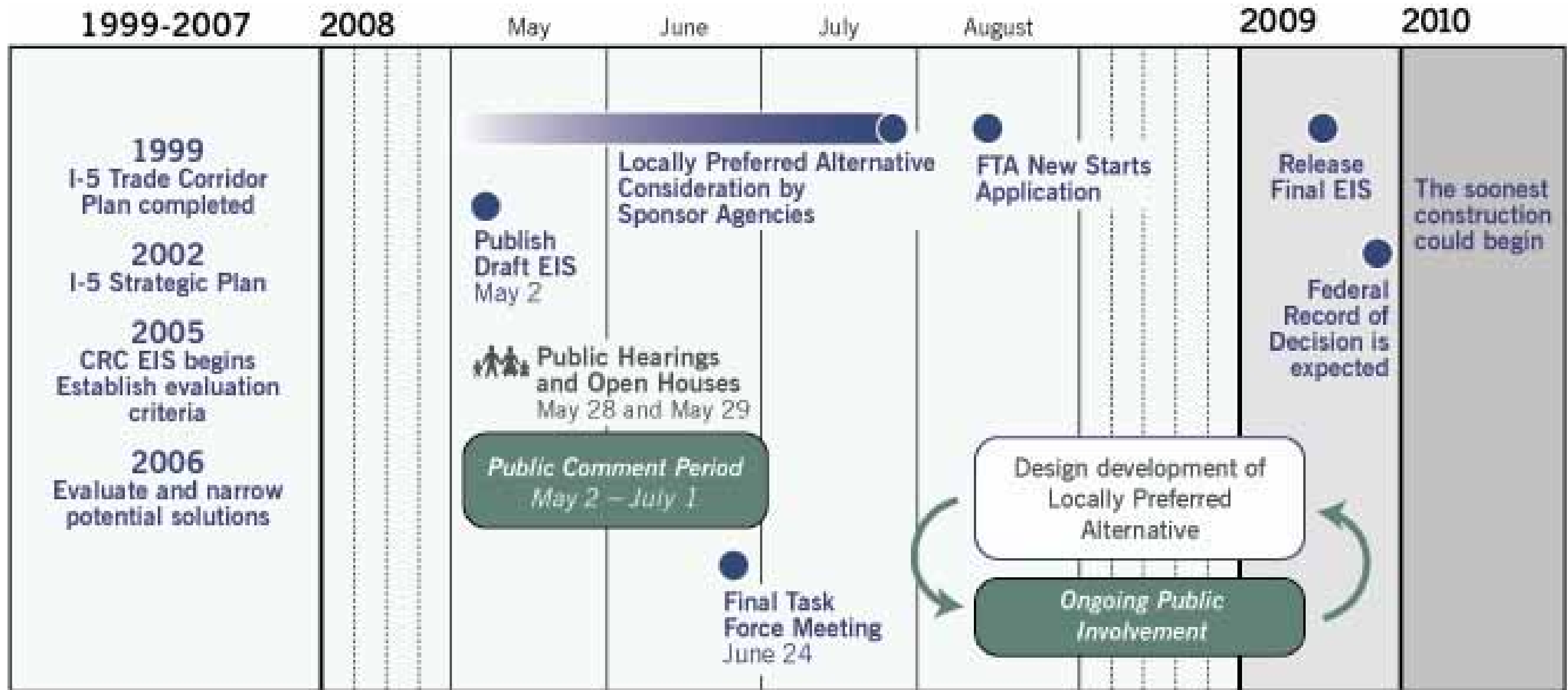


The SR 500 interchange marks the arrival of I-5 in Vancouver from the north. 39th Street connects the school on the west side of I-5 to the residential community to the east. Pedestrian safety is of the utmost importance (view to the north).

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

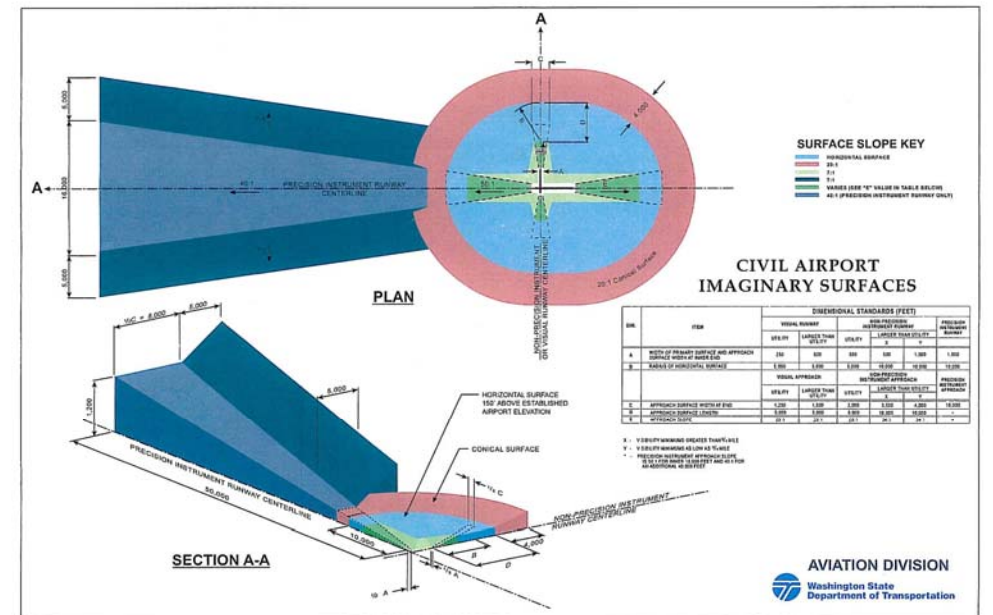
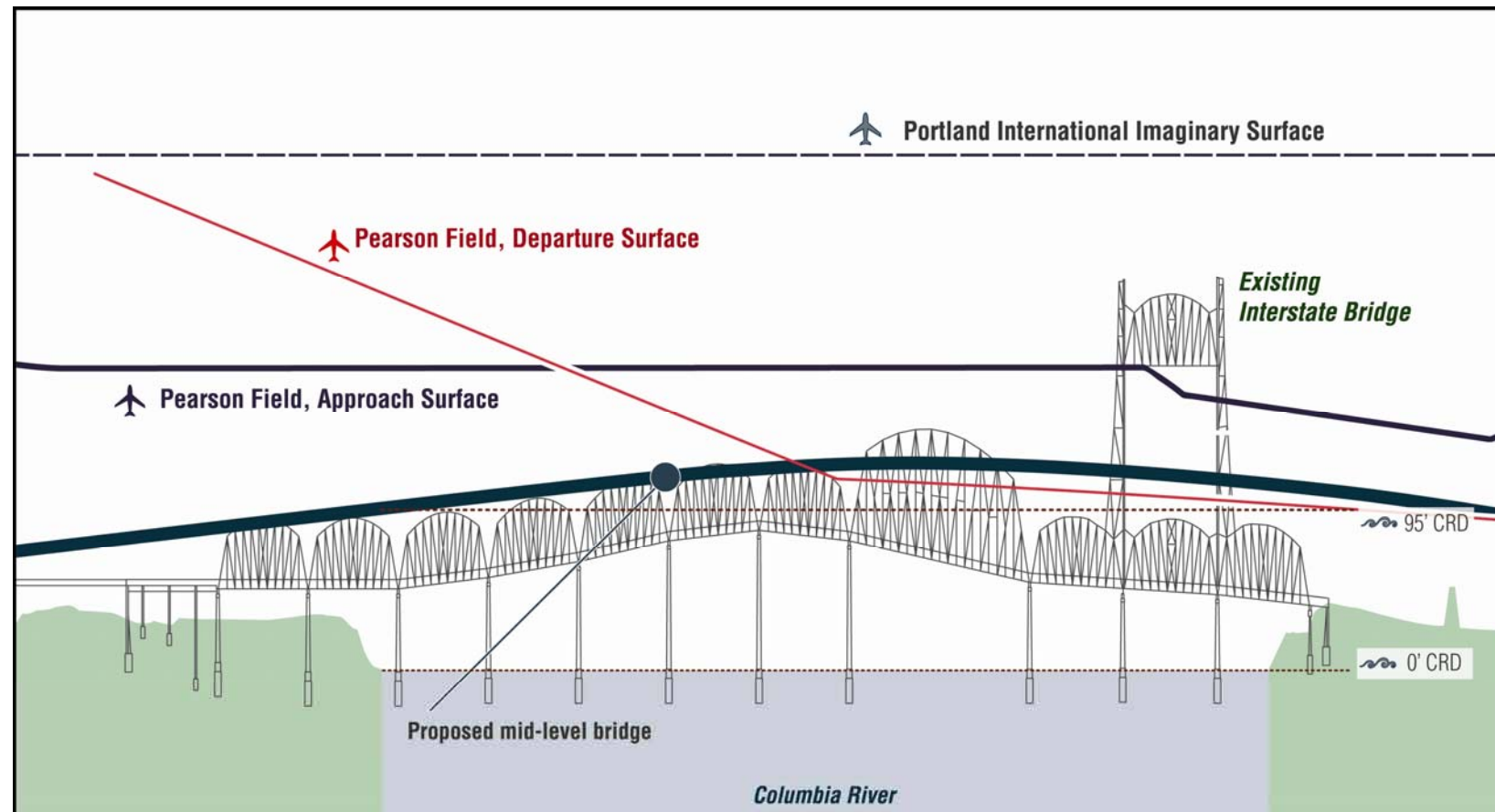
April 21, 2008

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



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.

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.



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

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

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.

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.



Floating Homes



Manufactured Housing



Multi-Family Condos



Single Family Homes



Yacht Club Units

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.

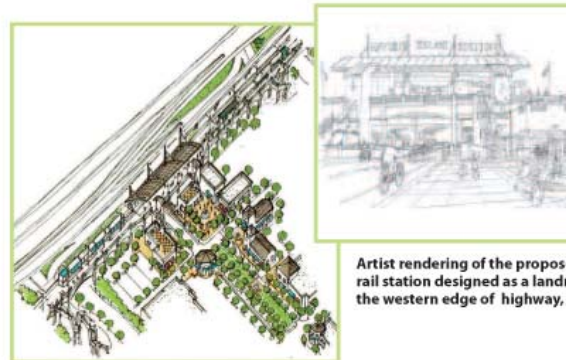
Current Redevelopment Plan



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 Commu 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)



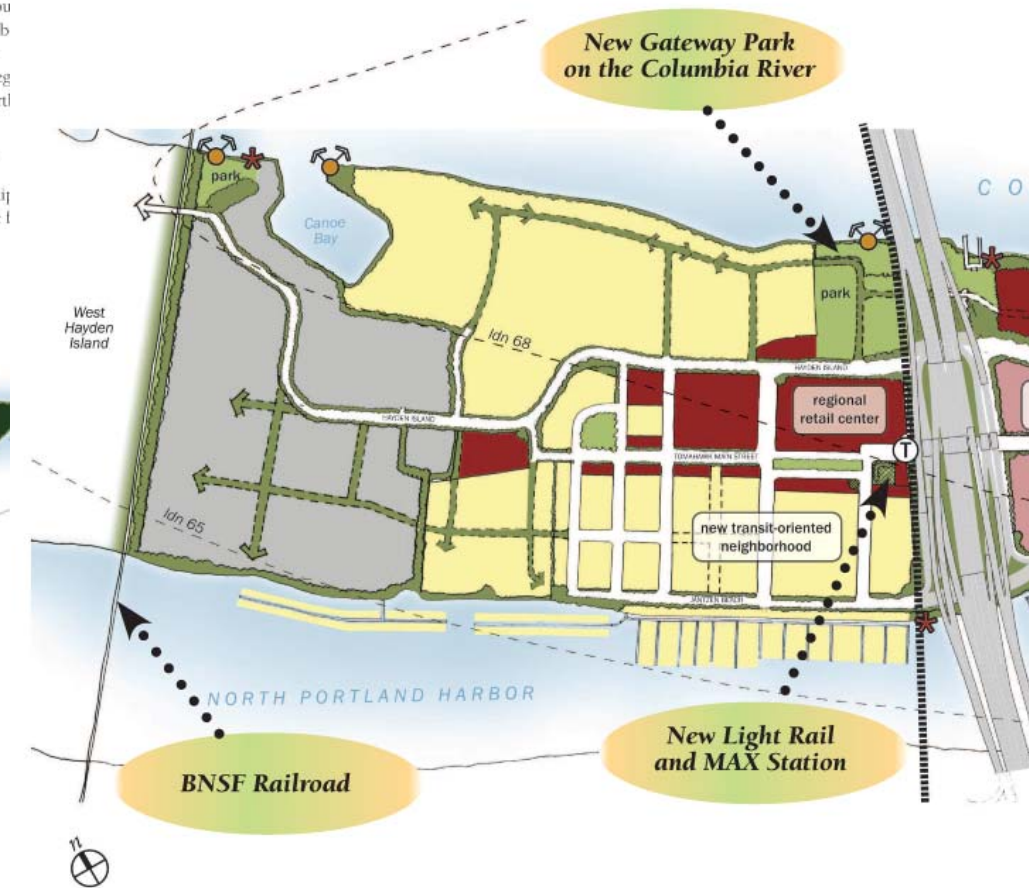
Alternative Road Alignment A



Alternative Road Alignment B

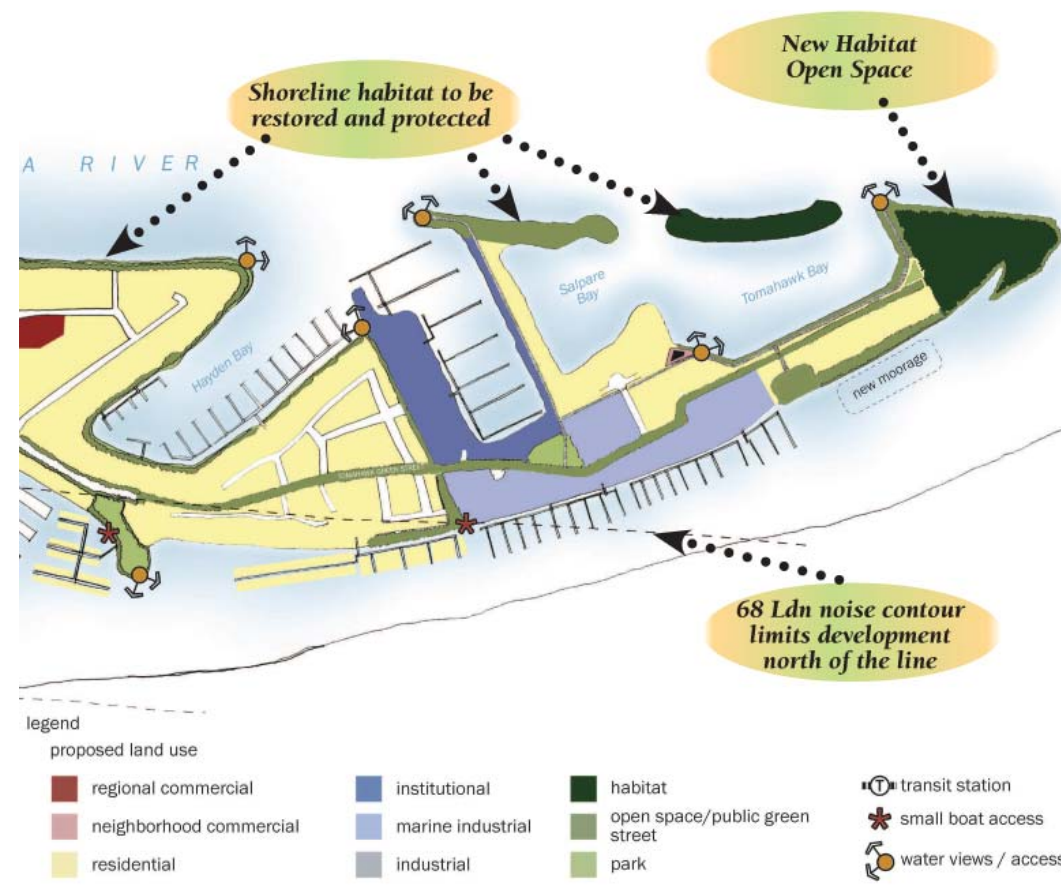
Two road networks were proposed for the east neighborhood; one coming through the center shown on the left, A, and the second alternative, B, on the right, showing the road circling the neighborhood on a new road to the outside.

Hayden Island Proposed Plan





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.

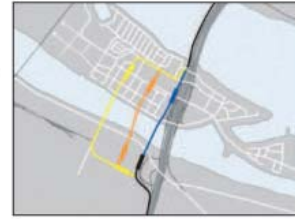
This Concept Plan envisions a replacement bridge across the Columbia River providing the best access for Hayden Island residents to Marine Drive without having to get on the highway, which is not available currently. While taking into account the future development of Hayden Island, consideration was 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.



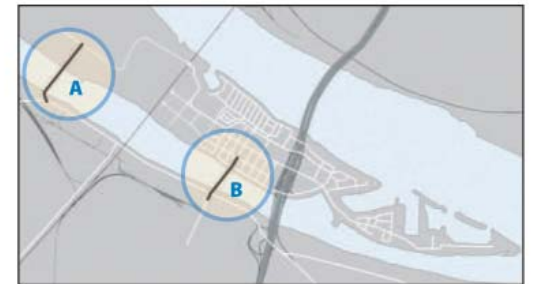
Designs showing stormwater treated naturally by soil and plants, instead of running into the sewer systems or polluting the river.

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

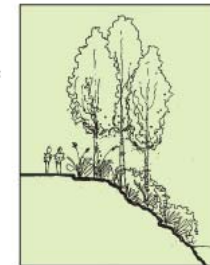


new park could extend eastward under the new bridge, if the crossing allows adequate air and light, and is not too noisy.

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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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.

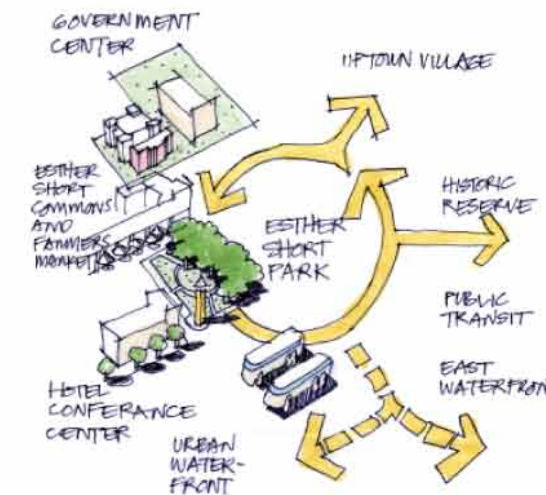
Parking Caps

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

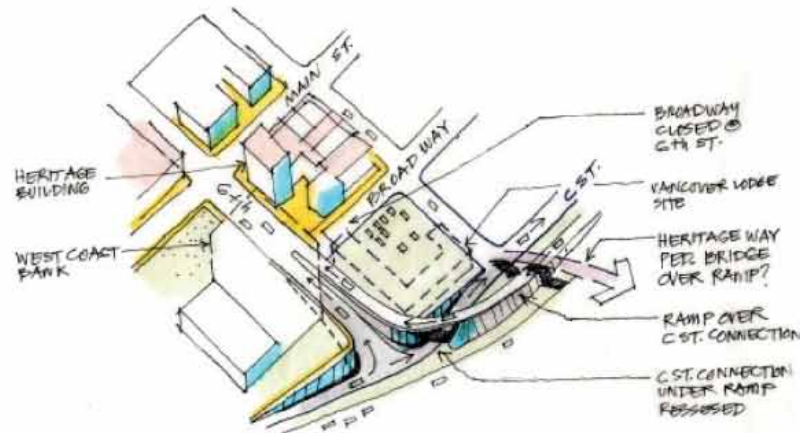
VCCV I-5 Expansion and River Crossing Goals for the CRT:

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:

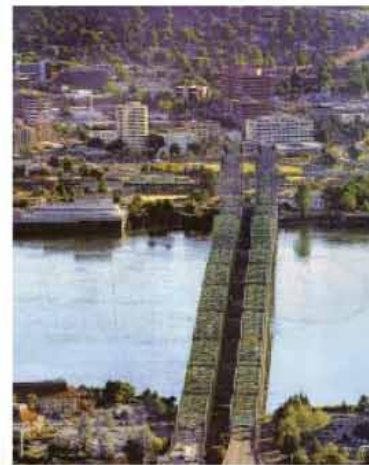
- Analyze proposed engineering design that could potentially affects adjoining properties negatively and result in wasteful use of downtown land.
- Enhance existing connections between the Vancouver National Historic Reserve and downtown.
- In addition to the I-5 southbound ramp to 6th Street, explore 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.

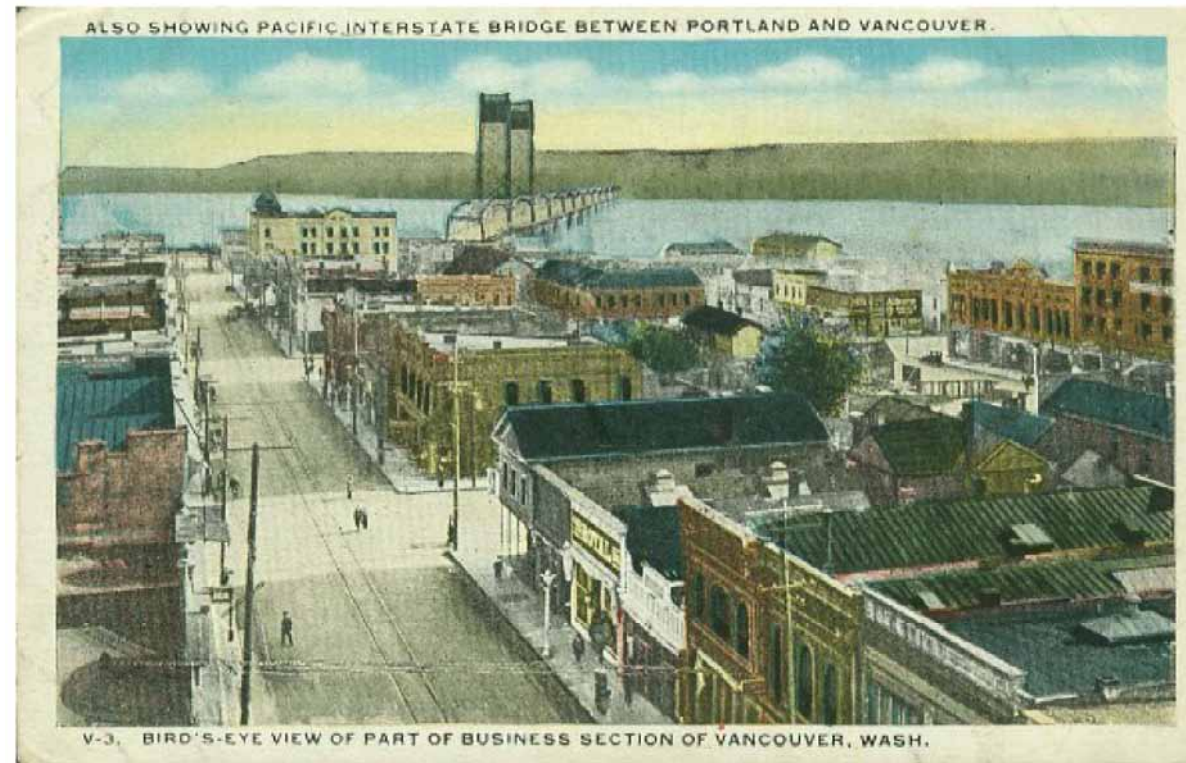
4.3 Consider the pedestrian experience – safety, views, access, noise, and motion.

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.

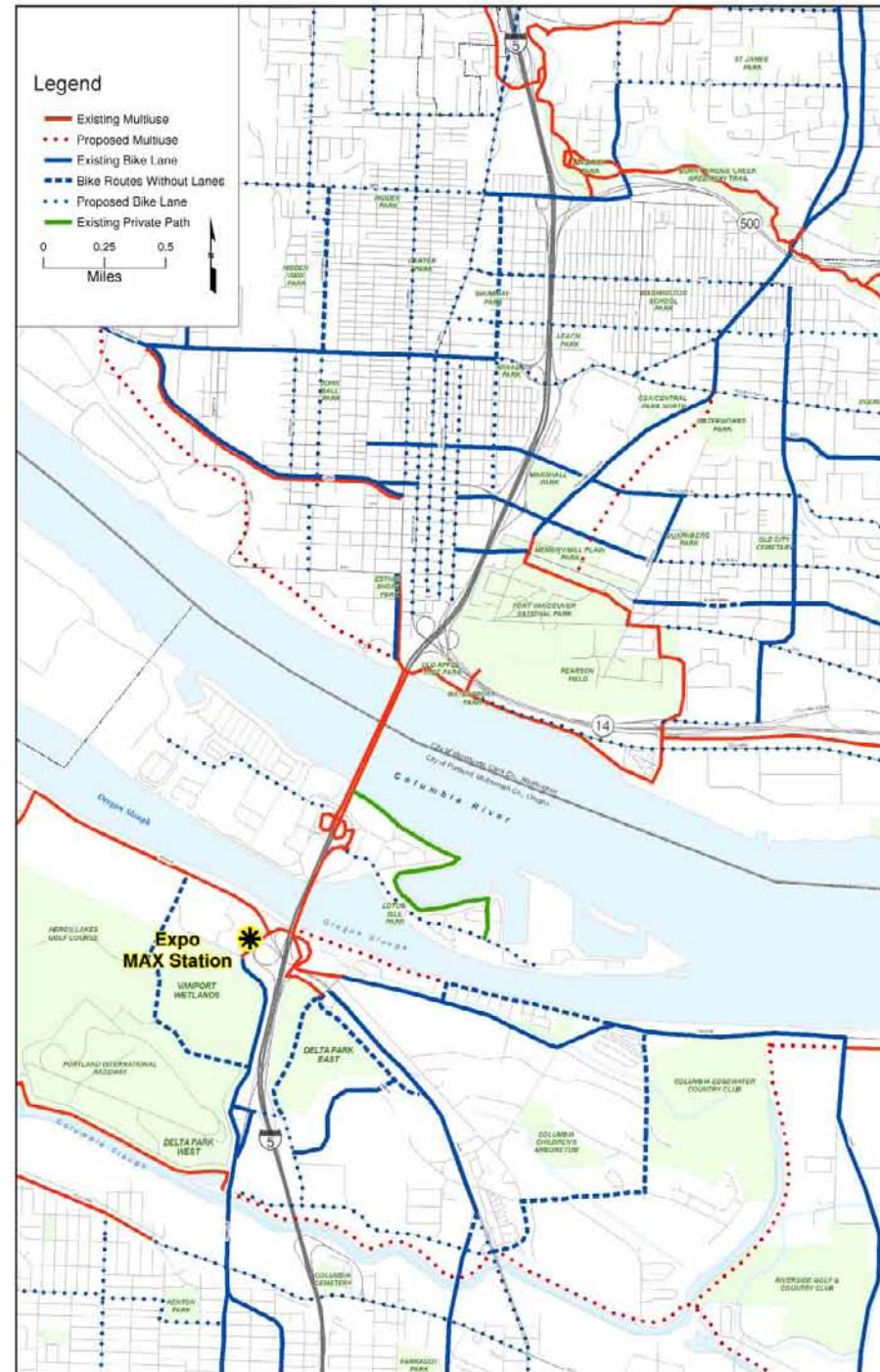
Use plant materials that are non-invasive, native or native-compatible.

Section 6. Appendix H. Summary of PBAC Recommendations

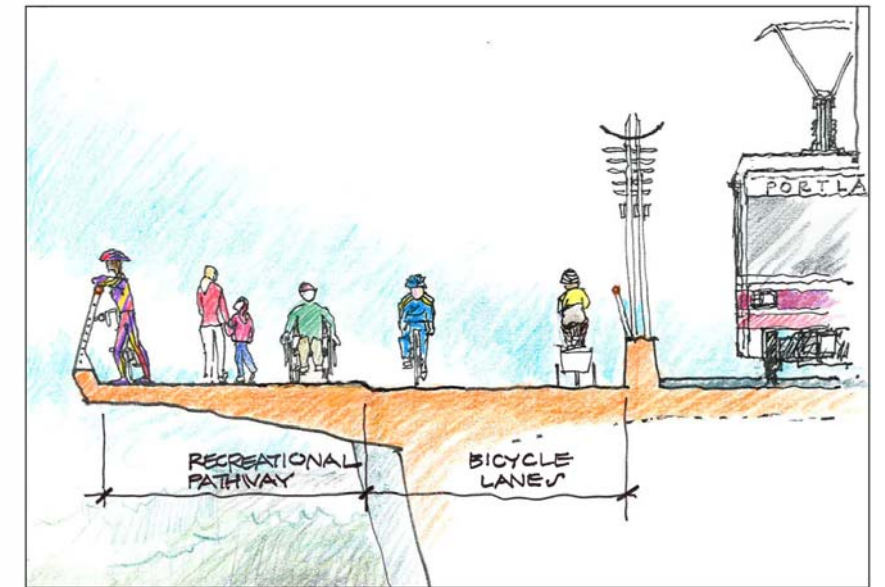
The Pedestrian and Bicycle Advisory Committee (PBAC) has been working in parallel with the Urban Design Advisory Group. Thus far, its primary focus has been on accommodation of pedestrian and bicycle facilities on the bridges across the Columbia River and North Portland Harbor. A draft paper on PBAC 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.

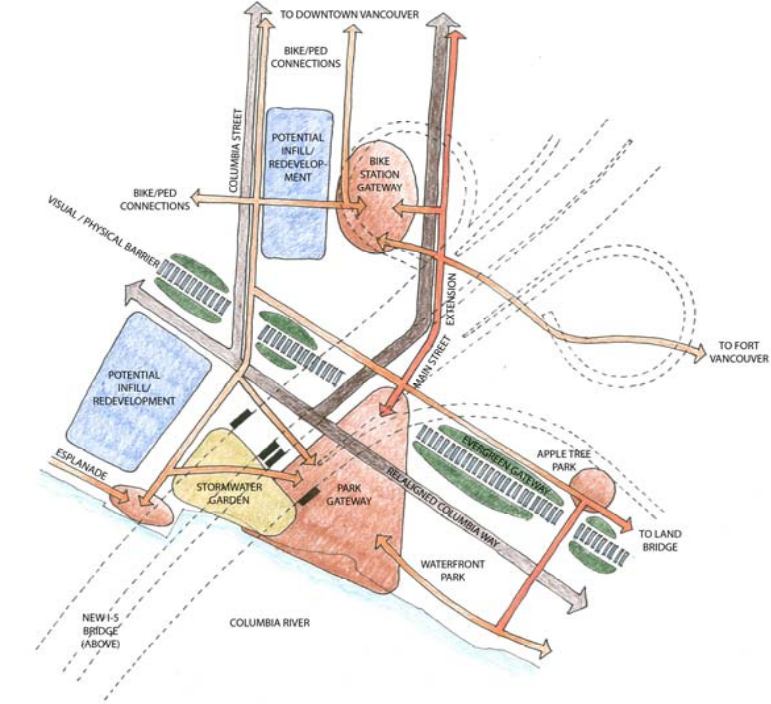
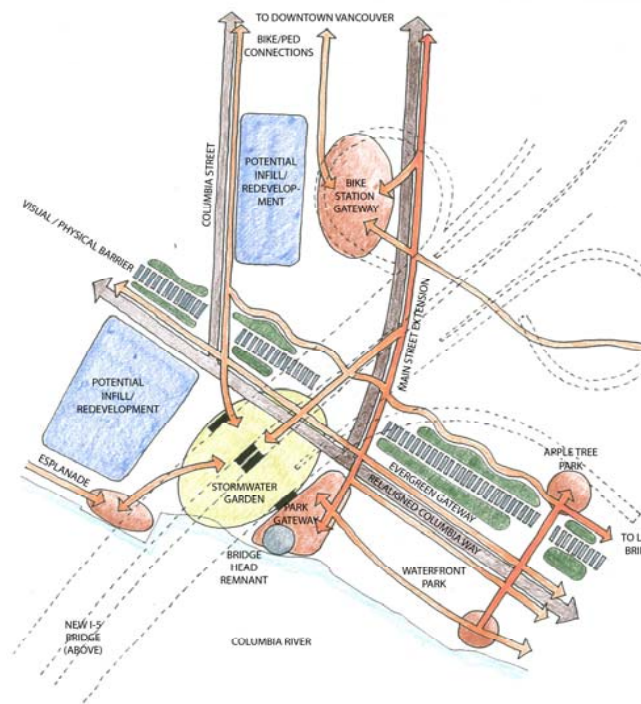
Columbia River CROSSING Pedestrian and Bicycle Facilities in Portland and Vancouver



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.