

INTERSTATE 5 COLUMBIA RIVER CROSSING

Land Use Technical Report for the Final Environmental Impact
Statement



May 2011



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Cover Sheet

Interstate 5 Columbia River Crossing

Land Use Technical Report for the Final Environmental Impact Statement

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ACRONYMS

Acronym	Description
ADA	Americans with Disabilities Act
API	Area of Potential Impact
BNSF	Burlington Northern Santa Fe
BPA	Bonneville Power Administration
C-TRAN	Clark County Public Transportation Benefit Area
CAO	critical area ordinance
CD	collector-distributor
CRC	Columbia River Crossing
DEIS	Draft Environmental Impact Statement
DOT	U.S. Department of Transportation
ECO	Employee Commute Options (Oregon)
FEIS	Final Environmental Impact Statement
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GIS	Geographic Information System
GMA	Growth Management Act
HCT	high-capacity transit
HOT	high-occupancy toll
HOV	high-occupancy vehicle
I-5	Interstate 5
IAMP	Interchange Area Management Plan
JBMI	Jantzen Beach Moorage, Inc.
JPACT	Joint Policy Advisory Committee on Transportation
LCDC	Land Conservation and Development Commission
LDTMA	Lloyd District Transportation Management Association
LOS	level-of-service
LPA	Locally Preferred Alternative
LRV	light rail vehicle
MAX	Metropolitan Area Express
Metro	Metropolitan Regional Government
MPO	Metropolitan Planning Organization
MTP	Metropolitan Transportation Plan
NAVD88	North American Vertical Datum 1988
NRHP	National Register of Historical Places
ODOT	Oregon Department of Transportation
OHP	Oregon Highway Plan
ORT	open road tolling

OTC	Oregon Transportation Commission
OTP	Oregon Transportation Plan
PDC	Portland Development Commission
PDX	Portland International Airport
PIR	Portland International Raceway
RLIS	Regional Land Information System
ROD	Record of Decision
RTC	Regional Transportation Council
RTP	Regional Transportation Plan
RTPO	Regional Transportation Plan Organization
RUGGO	Regional Urban Growth Goal and Objective
SFR	single-family residence
SPUI	single-point urban interchange
RTC	Southwest Washington Regional Transportation Council
TDM	transportation demand management
TDP	Transit Development Plan
TIP	Transportation Investment Plan
TOD	transit-oriented development
TPR	Transportation Planning Rule
TriMet	Tri-County Metropolitan Transportation District
TSM	transportation system management
TSP	Transportation System Plan
UGA	urban growth area
UGB	urban growth boundary
v/c	volume-to-capacity ratio
VCCV	Vancouver City Center Vision
VMC	Vancouver Municipal Code
VMT	vehicle miles traveled
VNHR	Vancouver National Historic Reserve
WSDOT	Washington Department of Transportation
WTC	Washington Transportation Commission
WTP	Washington Transportation Plan

1. Summary

1.1 Introduction

This report presents the evaluation of potential land use impacts that would result from the proposed Interstate 5 (I-5) Columbia River Crossing (CRC) project locally preferred alternative (LPA). The analysis is based on conceptual design for the LPA that was selected following the public comment period for the Draft Environmental Impact Statement (DEIS). This report identifies the likely land use impacts from those designs and identifies potential measures to reduce the impacts, including possible options for avoiding, minimizing, or mitigating impacts. The project team will continue evaluation of the LPA, refining the impact analysis and reaching agreement on final mitigation measures.

1.2 Description of Alternatives

This technical report evaluates the CRC project's locally preferred alternative (LPA) and the No-Build Alternative. The LPA includes two design options: The preferred option, LPA Option A, which includes local vehicular access between Marine Drive and Hayden Island on an arterial bridge; and LPA Option B, which does not have arterial lanes on the light rail/multi-use path bridge, but instead provides direct access between Marine Drive and the island with collector-distributor (CD) lanes on the two new bridges that would be built adjacent to I-5. In addition to the design options, if funding availability does not allow the entire LPA to be constructed in one phase, some roadway elements of the project would be deferred to a future date. This technical report identifies several elements that could be deferred, and refers to that possible initial investment as LPA with highway phasing. The LPA with highway phasing option would build most of the LPA in the first phase, but would defer construction of specific elements of the project. The LPA and the No-Build Alternative are described in this section.

1.2.1 Adoption of a Locally Preferred Alternative

Following the publication of the Draft Environmental Impact Statement (DEIS) on May 2, 2008, the project actively solicited public and stakeholder feedback on the DEIS during a 60-day comment period. During this time, the project received over 1,600 public comments.

During and following the public comment period, the elected and appointed boards and councils of the local agencies sponsoring the CRC project held hearings and workshops to gather further public input on and discuss the DEIS alternatives as part of their efforts to determine and adopt a locally preferred alternative. The LPA represents the alternative preferred by the local and regional agencies sponsoring the CRC project. Local agency-elected boards and councils determined their preference based on the results of the evaluation in the DEIS and on the public and agency comments received both before and following its publication.

In the summer of 2008, the local agencies sponsoring the CRC project adopted the following key elements of CRC as the LPA:

- A replacement bridge as the preferred river crossing,
- Light rail as the preferred high-capacity transit mode, and

- Clark College as the preferred northern terminus for the light rail extension.

The preferences for a replacement crossing and for light rail transit were identified by all six local agencies. Only the agencies in Vancouver – the Clark County Public Transit Benefit Area Authority (C-TRAN), the City of Vancouver, and the Regional Transportation Council (RTC) – preferred the Vancouver light rail terminus. The adoption of the LPA by these local agencies does not represent a formal decision by the federal agencies leading this project – the Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) – or any federal funding commitment. A formal decision by FHWA and FTA about whether and how this project should be constructed will follow the FEIS in a Record of Decision (ROD).

1.2.2 Description of the LPA

The LPA includes an array of transportation improvements, which are described below. When the LPA differs between Option A and Option B, it is described in the associated section. For a more detailed description of the LPA, including graphics, please see Chapter 2 of the FEIS.

1.2.2.1 Multimodal River Crossing

Columbia River Bridges

The parallel bridges that form the existing I-5 crossing over the Columbia River would be replaced by two new parallel bridges. The eastern structure would accommodate northbound highway traffic on the bridge deck, with a bicycle and pedestrian path underneath; the western structure would carry southbound traffic, with a two-way light rail guideway below. Whereas the existing bridges have only three lanes each with virtually no shoulders, each of the new bridges would be wide enough to accommodate three through-lanes and two add/drop lanes. Lanes and shoulders would be built to full design standards.

The new bridges would be high enough to provide approximately 95 feet of vertical clearance for river traffic beneath, but not so high as to impede the take-offs and landings by aircraft using Pearson Field or Portland International Airport to the east. The new bridge structures over the Columbia River would not include lift spans, and both of the new bridges would each be supported by six piers in the water and two piers on land.

North Portland Harbor Bridges

The existing highway structures over North Portland Harbor would not be replaced; instead, they would be retained to accommodate all mainline I-5 traffic. As discussed at the beginning of this chapter, two design options have emerged for the Hayden Island and Marine Drive interchanges. The preferred option, LPA Option A, includes local vehicular access between Marine Drive and Hayden Island on an arterial bridge. LPA Option B does not have arterial lanes on the light rail/multi-use path bridge, but instead provides direct access between Marine Drive and the island with collector-distributor lanes on the two new bridges that would be built adjacent to I-5.

LPA Option A: Four new, narrower parallel structures would be built across the waterway, three on the west side and one on the east side of the existing North Portland Harbor bridges. Three of the new structures would carry on- and off-ramps to mainline I-5. Two structures west of the existing bridges would carry traffic merging onto or exiting off of I-5 southbound. The new structure on the east side of I-5 would serve as an on-ramp for traffic merging onto I-5 northbound.

The fourth new structure would be built slightly farther west and would include a two-lane arterial bridge for local traffic to and from Hayden Island, light rail transit, and a multi-use path for pedestrians and bicyclists. All of the new structures would have at least as much vertical clearance over the river as the existing North Portland Harbor bridges.

LPA Option B: This option would build the same number of structures over North Portland Harbor as Option A, although the locations and functions on those bridges would differ, as described below. The existing bridge over North Portland Harbor would be widened and would receive seismic upgrades.

LPA Option B does not have arterial lanes on the light rail/multi-use path bridge. Direct access between Marine Drive and the island would be provided with collector-distributor lanes. The structures adjacent to the highway bridge would carry traffic merging onto or exiting off of mainline I-5 between the Marine Drive and Hayden Island interchanges.

1.2.2.2 Interchange Improvements

The LPA includes improvements to seven interchanges along a 5-mile segment of I-5 between Victory Boulevard in Portland and SR 500 in Vancouver. These improvements include some reconfiguration of adjacent local streets to complement the new interchange designs, as well as new facilities for bicyclists and pedestrians along this corridor.

Victory Boulevard Interchange

The southern extent of the I-5 project improvements would be two ramps associated with the Victory Boulevard interchange in Portland. The Marine Drive to I-5 southbound on-ramp would be braided over the I-5 southbound to the Victory Boulevard/Denver Avenue off-ramp. The other ramp improvement would lengthen the merge distance for northbound traffic entering I-5 from Denver Avenue. The current merging ramp would be extended to become an add/drop (auxiliary) lane which would continue across the river crossing.

Potential phased construction option: The aforementioned southbound ramp improvements to the Victory Boulevard interchange may not be included with the CRC project. Instead, the existing connections between I-5 southbound and Victory Boulevard could be retained. The braided ramp connection could be constructed separately in the future as funding becomes available.

Marine Drive Interchange

All movements within this interchange would be reconfigured to reduce congestion for motorists entering and exiting I-5 at this location. The interchange configuration would be a single-point urban interchange (SPUI) with a flyover ramp serving the east to north movement. With this configuration, three legs of the interchange would converge at a point on Marine Drive, over the I-5 mainline. This configuration would allow the highest volume movements to move freely without being impeded by stop signs or traffic lights.

The Marine Drive eastbound to I-5 northbound flyover ramp would provide motorists with access to I-5 northbound without stopping. Motorists from Marine Drive eastbound would access I-5 southbound without stopping. Motorists traveling on Martin Luther King Jr. Boulevard westbound to I-5 northbound would access I-5 without stopping at the intersection.

The new interchange configuration changes the westbound Marine Drive and westbound Vancouver Way connections to Martin Luther King Jr. Boulevard and to northbound I-5. These

two streets would access westbound Martin Luther King Jr. Boulevard farther east. Martin Luther King Jr. Boulevard would have a new direct connection to I-5 northbound.

In the new configuration, the connections from Vancouver Way and Marine Drive would be served, improving the existing connection to Martin Luther King Jr. Boulevard east of the interchange. The improvements to this connection would allow traffic to turn right from Vancouver Way and accelerate onto Martin Luther King Jr. Boulevard. On the south side of Martin Luther King Jr. Boulevard, the existing loop connection would be replaced with a new connection farther east.

A new multi-use path would extend from the Bridgeton neighborhood to the existing Expo Center light rail station and from the station to Hayden Island along the new light rail line over North Portland Harbor.

LPA Option A: Local traffic between Martin Luther King Jr. Boulevard/Marine Drive and Hayden Island would travel via an arterial bridge over North Portland Harbor. There would be some variation in the alignment of local streets in the area of the interchange between Option A and Option B. The most prominent differences are the alignments of Vancouver Way and Union Court.

LPA Option B: With this design option, there would be no arterial traffic lanes on the light rail/multi-use path bridge over North Portland Harbor. Instead, vehicles traveling between Martin Luther King Jr. Boulevard/ Marine Drive and Hayden Island would travel on the collector-distributor bridges that would parallel each side of I-5 over North Portland Harbor. Traffic would not need to merge onto mainline I-5 to travel between the island and Martin Luther King Jr. Boulevard/Marine Drive.

Potential phased construction option: The aforementioned flyover ramp could be deferred and not constructed as part of the CRC project. In this case, rather than providing a direct eastbound Marine Drive to I-5 northbound connection by a flyover ramp, the project improvements to the interchange would instead provide this connection through the signal-controlled SPU. The flyover ramp could be constructed separately in the future as funding becomes available.

Hayden Island Interchange

All movements for this interchange would be reconfigured. The new configuration would be a split tight diamond interchange. Ramps parallel to the highway would be built, lengthening the ramps and improving merging speeds. Improvements to Jantzen Drive and Hayden Island Drive would include additional through, left-turn, and right-turn lanes. A new local road, Tomahawk Island Drive, would travel east-west through the middle of Hayden Island and under the I-5 interchange, improving connectivity across I-5 on the island. Additionally, a new multi-use path would be provided along the elevated light rail line on the west side of the Hayden Island interchange.

LPA Option A: A proposed arterial bridge with two lanes of traffic, one in each direction, would allow vehicles to travel between Martin Luther King Jr. Boulevard/ Marine Drive and Hayden Island without accessing I-5.

LPA Option B: With this design option there would be no arterial traffic lanes on the light rail/multi-use path bridge over North Portland Harbor. Instead, vehicles traveling between Martin Luther King Jr. Boulevard/Marine Drive and Hayden Island would travel on the collector-distributor bridges that parallel each side of I-5 over North Portland Harbor.

SR 14 Interchange

The function of this interchange would remain largely the same. Direct connections between I-5 and SR 14 would be rebuilt. Access to and from downtown Vancouver would be provided as it is today, but the connection points would be relocated. Downtown Vancouver I-5 access to and from the south would be at C Street rather than Washington Street, while downtown connections to and from SR 14 would be made by way of Columbia Street at 4th Street.

The multi-use bicycle and pedestrian path in the northbound (eastern) I-5 bridge would exit the structure at the SR 14 interchange, and then loop down to connect into Columbia Way.

Mill Plain Interchange

This interchange would be reconfigured into a SPUI. The existing “diamond” configuration requires two traffic signals to move vehicles through the interchange. The SPUI would use one efficient intersection and allow opposing left turns simultaneously. This would improve the capacity of the interchange by reducing delay for traffic entering or exiting the highway.

This interchange would also receive several improvements for bicyclists and pedestrians. These include bike lanes and sidewalks, clear delineation and signing, short perpendicular crossings at the ramp terminals, and ramp orientations that would make pedestrians highly visible.

Fourth Plain Interchange

The improvements to this interchange would be made to better accommodate freight mobility and access to the new park and ride at Clark College. Northbound I-5 traffic exiting to Fourth Plain would continue to use the off-ramp just north of the SR 14 interchange. The southbound I-5 exit to Fourth Plain would be braided with the SR 500 connection to I-5, which would eliminate the non-standard weave between the SR 500 connection and the off-ramp to Fourth Plain as well as the westbound SR 500 to Fourth Plain Boulevard connection.

Additionally, several improvements would be made to provide better bicycle and pedestrian mobility and accessibility, including bike lanes, neighborhood connections, and access to the park and ride.

SR 500 Interchange

Improvements would be made to the SR 500 interchange to add direct connections to and from I-5. On- and off-ramps would be built to directly connect SR 500 and I-5 to and from the north, connections that are currently made by way of 39th Street. I-5 southbound traffic would connect to SR 500 via a new tunnel underneath I-5. SR 500 eastbound traffic would connect to I-5 northbound on a new on-ramp. The 39th Street connections with I-5 to and from the north would be eliminated. Travelers would instead use the connections at Main Street to connect to and from 39th Street.

Additionally, several improvements would be made to provide better bicycle and pedestrian mobility and accessibility, including sidewalks on both sides of 39th Street, bike lanes, and neighborhood connections.

Potential phased construction option: The northern half of the existing SR 500 interchange would be retained, rather than building new connections between I-5 southbound to SR 500 eastbound and from SR 500 westbound to I-5 northbound. The ramps connecting SR 500 and I-5 to and from the north could be constructed separately in the future as funding becomes available.

1.2.2.3 Transit

The primary transit element of the LPA is a 2.9-mile extension of the current Metropolitan Area Express (MAX) Yellow Line light rail from the Expo Center in North Portland, where it currently ends, to Clark College in Vancouver. The transit element would not differ between LPA and LPA with highway phasing. To accommodate and complement this major addition to the region's transit system, a variety of additional improvements are also included in the LPA:

- Three park and ride facilities in Vancouver near the new light rail stations.
- Expansion of Tri-County Metropolitan Transportation District's (TriMet's) Ruby Junction light rail maintenance base in Gresham, Oregon.
- Changes to C-TRAN local bus routes.
- Upgrades to the existing light rail crossing over the Willamette River via the Steel Bridge.

Operating Characteristics

Nineteen new light rail vehicles (LRV) would be purchased as part of the CRC project to operate this extension of the MAX Yellow Line. These vehicles would be similar to those currently used by TriMet's MAX system. With the LPA, LRVs in the new guideway and in the existing Yellow Line alignment are planned to operate with 7.5-minute headways during the "peak of the peak" (the two-hour period within the 4-hour morning and afternoon/evening peak periods where demand for transit is the highest) and 15-minute headways during off-peak periods.

Light Rail Alignment and Stations

Oregon Light Rail Alignment and Station

A two-way light rail alignment for northbound and southbound trains would be constructed to extend from the existing Expo Center MAX station over North Portland Harbor to Hayden Island. Immediately north of the Expo Center, the alignment would curve eastward toward I-5, pass beneath Marine Drive, then rise over a flood wall onto a light rail/multi-use path bridge to cross North Portland Harbor. The two-way guideway over Hayden Island would be elevated at approximately the height of the rebuilt mainline of I-5, as would a new station immediately west of I-5. The alignment would extend northward on Hayden Island along the western edge of I-5, until it transitions into the hollow support structure of the new western bridge over the Columbia River.

Downtown Vancouver Light Rail Alignment and Stations

After crossing the Columbia River, the light rail alignment would curve slightly west off of the highway bridge and onto its own smaller structure over the Burlington Northern Santa Fe (BNSF) rail line. The double-track guideway would descend on structure and touch down on Washington Street south of 5th Street, continuing north on Washington Street to 7th Street. The elevation of 5th Street would be raised to allow for an at-grade crossing of the tracks on Washington Street. Between 5th and 7th Streets, the two-way guideway would run down the center of the street. Traffic would not be allowed on Washington between 5th and 6th Streets and would be two-way between 6th and 7th Streets. There would be a station on each side of the street on Washington between 5th and 6th Streets.

At 7th Street, the light rail alignment would form a couplet. The single-track northbound guideway would turn east for two blocks, then turn north onto Broadway Street, while the single-track southbound guideway would continue on Washington Street. Seventh Street will be converted to one-way traffic eastbound between Washington and Broadway with light rail operating on the north side of 7th Street. This couplet would extend north to 17th Street, where the two guideways would join and turn east.

The light rail guideway would run on the east side of Washington Street and the west side of Broadway Street, with one-way traffic southbound on Washington Street and one-way traffic northbound on Broadway Street. On station blocks, the station platform would be on the side of the street at the sidewalk. There would be two stations on the Washington-Broadway couplet, one pair of platforms near Evergreen Boulevard, and one pair near 15th Street.

East-west Light Rail Alignment and Terminus Station

The single-track southbound guideway would run in the center of 17th Street between Washington and Broadway Streets. At Broadway Street, the northbound and southbound alignments of the couplet would become a two-way center-running guideway traveling east-west on 17th Street. The guideway on 17th Street would run until G Street, then connect with McLoughlin Boulevard and cross under I-5. Both alignments would end at a station east of I-5 on the western boundary of Clark College.

Park and Ride Stations

Three park and ride stations would be built in Vancouver along the light rail alignment:

- Within the block surrounded by Columbia, Washington 4th and 5th Streets, with five floors above ground that include space for retail on the first floor and 570 parking stalls.
- Between Broadway and Main Streets next to the stations between 15th and 16th Streets, with space for retail on the first floor, and four floors above ground that include 420 parking stalls.
- At Clark College, just north of the terminus station, with space for retail or C-TRAN services on the first floor, and five floors that include approximately 1,910 parking stalls.

Ruby Junction Maintenance Facility Expansion

The Ruby Junction Maintenance Facility in Gresham, Oregon, would need to be expanded to accommodate the additional LRVs associated with the CRC project. Improvements include additional storage for LRVs and other maintenance material, expansion of LRV maintenance bays, and expanded parking for additional personnel. A new operations command center would also be required, and would be located at the TriMet Center Street location in Southeast Portland.

Local Bus Route Changes

As part of the CRC project, several C-TRAN bus routes would be changed in order to better complement the new light rail system. Most of these changes would re-route bus lines to downtown Vancouver where riders could transfer to light rail. Express routes, other than those listed below, are expected to continue service between Clark County and downtown Portland. The following table (Exhibit 1-1) shows anticipated future changes to C-TRAN bus routes.

Exhibit 1-1. Proposed C-TRAN Bus Routes Comparison

C-TRAN Bus Route	Route Changes
#4 - Fourth Plain	Route truncated in downtown Vancouver
#41 - Camas / Washougal Limited	Route truncated in downtown Vancouver
#44 - Fourth Plain Limited	Route truncated in downtown Vancouver
#47 - Battle Ground Limited	Route truncated in downtown Vancouver
#105 - I-5 Express	Route truncated in downtown Vancouver
#105S - I-5 Express Shortline	Route eliminated in LPA (The No-Build runs articulated buses between downtown Portland and downtown Vancouver on this route)

Steel Bridge Improvements

Currently, all light rail lines within the regional TriMet MAX system cross over the Willamette River via the Steel Bridge. By 2030, the number of LRVs that cross the Steel Bridge during the 4-hour PM peak period would increase from 152 to 176. To accommodate these additional trains, the project would retrofit the existing rails on the Steel Bridge to increase the allowed light rail speed over the bridge from 10 to 15 mph. To accomplish this, additional work along the Steel Bridge lift spans would be needed.

1.2.2.4 Tolling

Tolling cars and trucks that use the I-5 river crossing is proposed as a method to help fund the CRC project and to encourage the use of alternative modes of transportation. The authority to toll the I-5 crossing is set by federal and state laws. Federal statutes permit a toll-free bridge on an interstate highway to be converted to a tolled facility following the reconstruction or replacement of the bridge. Prior to imposing tolls on I-5, Washington and Oregon Departments of Transportation (WSDOT and ODOT) would have to enter into a toll agreement with U.S. Department of Transportation (DOT). Recently passed state legislation in Washington permits WSDOT to toll I-5 provided that the tolling of the facility is first authorized by the Washington legislature. Once authorized by the legislature, the Washington Transportation Commission (WTC) has the authority to set the toll rates. In Oregon, the Oregon Transportation Commission (OTC) has the authority to toll a facility and to set the toll rate. It is anticipated that prior to tolling I-5, ODOT and WSDOT would enter into a bi-state tolling agreement to establish a cooperative process for setting toll rates and guiding the use of toll revenues.

Tolls would be collected using an electronic toll collection system: toll collection booths would not be required. Instead, motorists could obtain a transponder that would automatically bill the vehicle owner each time the vehicle crossed the bridge, while cars without transponders would be tolled by a license-plate recognition system that would bill the address of the owner registered to that license plate.

The LPA proposes to apply a variable toll on vehicles using the I-5 crossing. Tolls would vary by time of day, with higher rates during peak travel periods and lower rates during off-peak periods. Medium and heavy trucks would be charged a higher toll than passenger vehicles. The traffic-related impact analysis in this FEIS is based on toll rates that, for passenger cars with transponders, would range from \$1.00 during the off-peak to \$2.00 during the peak travel times (in 2006 dollars).

1.2.2.5 Transportation System and Demand Management Measures

Many well-coordinated transportation demand management (TDM) and transportation system management (TSM) programs are already in place in the Portland-Vancouver Metropolitan region and supported by agencies and adopted plans. In most cases, the impetus for the programs is from state-mandated programs: Oregon's Employee Commute Options (ECO) rule and Washington's Commute Trip Reduction (CTR) law.

The physical and operational elements of the CRC project provide the greatest TDM opportunities by promoting other modes to fulfill more of the travel needs in the project corridor. These include:

- Major new light rail line in exclusive right-of-way, as well as express bus and feeder routes;
- Modern bicycle and pedestrian facilities that accommodate more bicyclists and pedestrians, and improve connectivity, safety, and travel time;
- Park and ride lots and garages; and
- A variable toll on the highway crossing.

In addition to these fundamental elements of the project, facilities and equipment would be implemented that could help existing or expanded TSM programs maximize capacity and efficiency of the system. These include:

- Replacement or expanded variable message signs or other traveler information systems in the CRC project area;
- Expanded incident response capabilities;
- Queue jumps or bypass lanes for transit vehicles where multi-lane approaches are provided at ramp signals for entrance ramps;
- Expanded traveler information systems with additional traffic monitoring equipment and cameras, and
- Active traffic management.

1.2.3 LPA Construction

Construction of bridges over the Columbia River is the most substantial element of the project, and this element sets the sequencing for other project components. The main river crossing and immediately adjacent highway improvement elements would account for the majority of the construction activity necessary to complete this project.

1.2.3.1 Construction Activities Sequence and Duration

The following table (Exhibit 1-2) displays the expected duration and major details of each element of the project. Due to construction sequencing requirements, the timeline to complete the initial phase of the LPA with highway phasing is the same as the full LPA.

Exhibit 1-2. Construction Activities and Estimated Duration

Element	Estimated Duration	Details
Columbia River bridges	4 years	<ul style="list-style-type: none"> Construction is likely to begin with the bridges. General sequence includes initial preparation, installation of foundation piles, shaft caps, pier columns, superstructure, and deck.
Hayden Island and SR 14 interchanges	1.5 - 4 years for each interchange	<ul style="list-style-type: none"> Each interchange must be partially constructed before any traffic can be transferred to the new structure. Each interchange needs to be completed at the same time.
Marine Drive interchange	3 years	<ul style="list-style-type: none"> Construction would need to be coordinated with construction of the southbound lanes coming from Vancouver.
Demolition of the existing bridges	1.5 years	<ul style="list-style-type: none"> Demolition of the existing bridges can begin only after traffic is rerouted to the new bridges.
Three interchanges north of SR 14	4 years for all three	<ul style="list-style-type: none"> Construction of these interchanges could be independent from each other or from the southern half of the project. More aggressive and costly staging could shorten this timeframe.
Light rail	4 years	<ul style="list-style-type: none"> The river crossing for the light rail would be built with the bridges. Any bridge structure work would be separate from the actual light rail construction activities and must be completed first.
Total Construction Timeline	6.3 years	<ul style="list-style-type: none"> Funding, as well as contractor schedules, regulatory restrictions on in-water work, weather, materials, and equipment, could all influence construction duration. This is also the same time required to complete the smallest usable segment of roadway – Hayden Island through SR 14 interchanges.

1.2.3.2 Major Staging Sites and Casting Yards

Staging of equipment and materials would occur in many areas along the project corridor throughout construction, generally within existing or newly purchased right-of-way or on nearby vacant parcels. However, at least one large site would be required for construction offices, to stage the larger equipment such as cranes, and to store materials such as rebar and aggregate. Suitable sites must be large and open to provide for heavy machinery and material storage, must have waterfront access for barges (either a slip or a dock capable of handling heavy equipment and material) to convey material to the construction zone, and must have roadway or rail access for landside transportation of materials by truck or train.

Three sites have been identified as possible major staging areas:

1. Port of Vancouver (Parcel 1A) site in Vancouver: This 52-acre site is located along SR 501 and near the Port of Vancouver's Terminal 3 North facility.
2. Red Lion at the Quay hotel site in Vancouver: This site would be partially acquired for construction of the Columbia River crossing, which would require the demolition of the building on this site, leaving approximately 2.6 acres for possible staging.
3. Vacant Thunderbird hotel site on Hayden Island: This 5.6-acre site is much like the Red Lion hotel site in that a large portion of the parcel is already required for new right-of-way necessary for the LPA.

A casting/staging yard could be required for construction of the over-water bridges if a precast concrete segmental bridge design is used. A casting yard would require access to the river for barges, including either a slip or a dock capable of handling heavy equipment and material; a large area suitable for a concrete batch plant and associated heavy machinery and equipment; and access to a highway and/or railway for delivery of materials.

Two sites have been identified as possible casting/staging yards:

1. Port of Vancouver Alcoa/Evergreen West site: This 95-acre site was previously home to an aluminum factory and is currently undergoing environmental remediation, which should be completed before construction of the CRC project begins (2012). The western portion of this site is best suited for a casting yard.
2. Sundial site: This 50-acre site is located between Fairview and Troutdale, just north of the Troutdale Airport, and has direct access to the Columbia River. There is an existing barge slip at this location that would not have to undergo substantial improvements.

1.2.4 The No-Build Alternative

The No-Build Alternative illustrates how transportation and environmental conditions would likely change by the year 2030 if the CRC project is not built. This alternative makes the same assumptions as the build alternatives regarding population and employment growth through 2030, and also assumes that the same transportation and land use projects in the region would occur as planned. The No-Build Alternative also includes several major land use changes that are planned within the project area, such as the Riverwest development just south of Evergreen Boulevard and west of I-5, the Columbia West Renaissance project along the western waterfront in downtown Vancouver, and redevelopment of the Jantzen Beach shopping center on Hayden Island. All traffic and transit projects within or near the CRC project area that are anticipated to be built by 2030 separately from this project are included in the No-Build and build alternatives. Additionally, the No-Build Alternative assumes bridge repair and continuing maintenance costs to the existing bridge that are not anticipated with the replacement bridge option.

1.3 Long-term Effects

1.3.1 No-Build Alternative

The No-Build Alternative would fail to support the principle elements of plans for the area, including accepted levels of service, improved freight mobility, multimodal transportation, and safety.

1.3.2 Locally Preferred Alternative

The primary land use impacts of the project are described below.

1.4 Plan Consistency

The project would provide more vehicular capacity and would be more effective at maintaining freight mobility and economic development, which are emphasized in state, regional, and local plans. The project is also supportive of goals related to the reduction of single-occupancy vehicle trips, light rail transit, and congestion pricing.

1.4.1.1 Right-of-Way Impacts

There are numerous residential and commercial displacements associated with the project. There would be a significant loss of commercial property on Hayden Island. The critical question for land use is whether these acquisitions, collectively, constitute an impact to any single land use category, mix of uses, or the planned land use pattern and intensity in the area. The acquisition of new right-of-way, displacement of active land uses, and other impacts would not lead to a change in land use patterns, zoning, or land use plans.

1.4.1.2 Other Impacts

The project would vacate the existing I-5 mainline right-of-way passing under the Burlington Northern Santa Fe (BNSF) railroad berm. This space would be used to extend Main Street to the waterfront and the planned development along the Columbia River.

The land nearest the river, under the bridge in Vancouver, would be significantly more open than with the existing bridges, allowing for an extension of the existing open space along the waterfront.

The increase in highway capacity would not induce auto-oriented, suburban type growth. This issue is discussed in the Indirect Effects Technical Report.

There are potential benefits associated with light rail, including stimulating downtown development and new businesses. This issue is thoroughly discussed in the Indirect Effects Technical Report.

There is little difference, from a land use perspective, between the LPA Full Build and the highway phasing options. Any differences between LPA Option A and Option B from a land use perspective is addressed in this report.

1.5 Temporary Effects

If properly mitigated, temporary construction impacts would not have a significant impact to the land use patterns or plans of the region. Construction delays would negatively impact frequent users of the bridge. Lost productivity and a lower quality of life are recognized results from roadway delays. However, these delays would be actively managed with transportation system management (TSM) and transportation demand management (TDM) measures, detours, public information, and other mechanisms. Long-term decisions regarding housing or employment would not be affected by construction related delays.

Construction of transit facilities would potentially be disruptive to commercial and residential uses, resulting in temporary closure of ingress and egress points and outdoor noise.

1.6 Mitigation

Possible mitigations would include potential improvements to the zoning overlays which help to guide transit oriented development, land use regulations, and policies.

2. Methods

2.1 Introduction

This section describes the approach and methods used to collect data and evaluate land use impacts of the various CRC project alternatives. The impact analysis includes a discussion of construction-related, operational, indirect, and cumulative impacts associated with the different alternatives. The project team evaluated the project's consistency with local, regional, and state transportation and land use plans, and development regulations as well as the project's potential to impact the broader goals of these plans.

2.2 Study Area

The study area for this analysis consisted of the primary and secondary areas of potential impact (API) as shown in Exhibit 2-1. These areas were set based on the initial alternatives evaluated in the DEIS.

The primary API is the area most likely to experience direct impacts from construction and operation of the proposed project. The primary API extends about five miles from north to south. It starts north of the I-5/Main Street interchange in Washington, and runs to the I-5/Columbia Boulevard interchange in Oregon. North of the river, the API extends west into downtown Vancouver, and east near Clark College to include potential high-capacity transit alignments and park and ride locations. Around the actual river crossing, the eastern and western sides each extend 0.25 mile from the I-5 right-of-way. South of the river crossing, this width narrows to 300 feet on each side.

The secondary API represents the area where indirect effects (e.g., traffic and development changes) could occur from the proposed project. The project team relied primarily on secondary data to evaluate the likelihood of indirect land use effects. The secondary API includes a broader area than the primary API and stretches from where I-5 and I-205 meet to I-84.

Major transportation projects can impact regional growth trends and patterns. The analysis considered the Metro urban growth area and Clark County, including their existing and planned land uses. The analysis has also included a review for consistency with state, regional, and locally adopted plans. Also, the potential areas for high-capacity transit maintenance facilities were analyzed.

2.3 Effects Guidelines

The approach for evaluating potential land use effects is based on guidelines (USDOT 1987) developed by the Federal Highway Administration (FHWA). The analysis included a check for consistency with state, regional, and local plans and regulations. Potential land use effects evaluated by this approach include:

- Changes in a recognized special district, overlay, or plan area that would be inconsistent with adopted goals, possibly including:
 - Significant impacts to historic resources, air quality, traffic, noise, or ecosystems, or

- Property acquisitions and relocations.
- Conflicts with local plans that appropriate agencies do not favor amending.
- Project effects that would require changes in zoning not supported by the local land use planning agency.
- Changes in development intensities or changes to the mix of land uses resulting from loss of land area for project construction (the discussion of induced growth can be found in the Indirect Effects Technical Report).

2.4 Data Collection

For this evaluation, the project team examined the land use planning context in both Oregon and Washington, specifically in the Portland-Vancouver metropolitan area. The team reviewed the general historical development of the area, and recent development trends. Geographic Information Systems (GIS) and preliminary alternative designs from the DEIS process were used to analyze the changes in land use that could result from the project, including any indirect impacts to land use.

The existing land use analysis primarily relied on Metro's Regional Land Information System (RLIS) and Clark County's GIS Services and Assessment. The project team conducted field visits to verify and correct information gathered from these sources, especially for existing land uses. Also, local agencies were consulted to verify the accuracy of land use and zoning maps.

The land use analysis included:

- Reviewing project consistency with state, regional, and local plans and policies, including comprehensive plans, transportation plans, zoning ordinances, subarea plans, shoreline management master plans, and site-specific master or facility plans. The reviewed plans are described in Section 3 of this report. The project team contacted relevant agencies to discuss potential plan or ordinance amendments required to avoid any inconsistencies with applicable plans and development regulations.
- Interviewing local, regional, and state planning agencies and other relevant agencies to gather data and interpret policies.
- Identifying potential impacts to special districts, centers, and overlays, such as Vancouver's Central Park, through a review of relevant policies and interviews with local planning agencies. This included a review of planned developments, connectivity, access to the Interstate and transit systems, and noise and air quality.
- Reviewing required permits and development regulations for areas in the primary API that may be impacted by construction activities. To conduct the permitting review, the team considered allowed uses, buffers around sensitive areas, demolition of significant structures, and other regulated actions.

2.5 Analysis Methods

2.5.1 Long-term Operational Impacts

In order to analyze long-term land use impacts, the project team compared conceptual designs and operational plans to the information collected on existing land uses, zoning, comprehensive plan designations, designated special districts, overlays, and subarea plans. The findings from other technical reports, including Traffic, Transit, Acquisitions, Economics, and Air Quality, were reviewed to identify any land use impacts. Long-term land use impacts were classified as either direct or indirect, as discussed below. The indirect impacts are fully discussed in the Indirect Effects Technical Report.

2.5.2 Direct Land Use Impacts

The analysis of direct land use impacts evaluated the following:

- The extent to which property acquisitions and relocations of existing uses within the primary API could change land uses including any necessary changes to zoning, special district plans, and overlays.
- The compatibility of new uses (such as roadway or transit facilities) with surrounding existing or planned uses, and whether such uses could disrupt or divide the physical arrangement of a community.
- The long-term effects analysis reviewed relevant state, regional, and local plans to determine:
 - Whether components of the alternatives are included in the project lists and facilities plans of the respective jurisdictions.
 - Whether the components of the alternatives are consistent with the goals and policies of the plans.
 - Whether any changes to the plans would be needed to accommodate the project.

2.5.3 Plan Consistency

Each alternative and their associated design options were checked for consistency with state, regional, and local plans and implementing regulations, including comprehensive plans, transportation plans, zoning ordinances, subarea plans, shoreline management master plans, and site-specific master or facility plans. The reviewed plans are described in Section 3 of this report. The project team contacted relevant agencies to discuss potential plan or ordinance amendments required to avoid any inconsistencies with applicable plans and development regulations.

2.5.4 Short-term Construction Impacts

The land use analysis estimated short-term construction impacts based on conceptual designs for alternatives, conceptual construction plans, and the findings from other technical reports.

The analysis included evaluation of the impacts of construction activities on surrounding uses, special districts, overlays, and plan areas. These included activities with impacts to access, noise, air pollution, traffic, neighborhoods, economics, historic resources, ecosystems, and others. Such impacts could include changes to land uses resulting from temporary reduction or loss of

accessibility to businesses or residences, disturbance of livability, or disruption of significant public activities or events.

2.5.5 Indirect Impacts

Indirect impacts generally occur after construction or are more physically distant from the project. These can include effects on future growth and land use patterns. The results of the analysis of indirect land use impacts can be found in the Indirect Effects Technical Report.

2.5.6 Mitigation

Where potential impacts are identified, the project team conducted an analysis to identify potential and appropriate mitigation measures, with the intent of identifying mitigation measures directly related to the impacts. The analysis included an evaluation of the cost effectiveness of the measures. Mitigation measures were prioritized to respond to the greatest land use impacts. The mitigations are not listed in order of importance, and will be further refined through work with the participating and sponsoring agencies and in keeping with adopted federal and state guidelines.

2.6 Coordination

This Land Use Technical Report was prepared using information obtained from a variety of sources. Agency and environmental documents, local maps, project drawings, aerial photographs, and field visits provided information on existing conditions in the project area. The Washington Department of Transportation (WSDOT) Environmental Procedures Manual, Federal Guidance documents, and other materials were employed to structure the analysis. Neighborhood, local, regional, and state plans and development regulations were reviewed to identify goals, and policies pertaining to transportation and land use. Agency interviews and coordination meetings enabled the project team to clarify ambiguities, legislative intent, and implementation priorities from these plans and development regulations.

Early interviews with agencies were necessary to review interpretations of plan policies and to incorporate into the study all planned projects in the primary API. Meetings and conversations were held with numerous agencies on the methodology. The Land Use Methods and Data Report, which structured this analysis, was approved by sponsoring agencies including the WSDOT, Oregon Department of Transportation (ODOT), Southwest Washington Regional Transportation Council (RTC), Metropolitan Regional Government (Metro), C-TRAN, TriMet, and the cities of Vancouver and Portland. Input was received on which plans and development regulations to review, and how to address the indirect and cumulative impacts.

The CRC project team evaluated whether and how this project could change travel behavior and consequentially influence land use patterns. The evaluation was presented in the May 2008 DEIS and subsequently reviewed by an independent panel of experts. The discussion of induced growth has been moved to the Indirect Effects Technical Report. In summary, the project team convened a panel of national experts to review the travel demand model methodology and conclusions, including a land use evaluation. The panel unanimously concluded that the project team's methods and the conclusions were valid and reasonable. Specifically, the panel noted that CRC would "have a low impact to induce growth...because the project is located in a mature urban area," and that it would "contribute to a better jobs housing balance in Clark County...a positive outcome of the project" (Outwater 2008).

Additionally, in 2010, Metro used a MetroScope model to forecast growth associated with transportation improvements of a 12 lane river crossing and light rail to Clark College. MetroScope is an integrated land use and transportation model designed by Metro to predict how changes in several factors, including transportation infrastructure, could change the future distribution of employment and housing throughout the region. The model forecast the impacts with both a tolled and an untolled bridge. The MetroScope model showed only minimal changes in employment location and housing demand compared to the No-Build Alternative. Essentially, the model verified previous analyses that found the project would not significantly induce growth or sprawl. Compared to the No-Build scenario for a tolled facility, MetroScope estimated a 0.03 percent decrease in households in north Clark County and a 0.51 percent increase in the southern, more urban half of the County. Even with no toll, the model forecast only a slight increase in households in North Clark County (0.85 percent) and a 0.66 percent increase in southern Clark County. MetroScope estimated a 1.5 percent employment gain in north and northeast Portland, compared to the No-Build Alternative. Other changes in employment were similarly slight.

The project team has continued with agency coordination throughout the development of the FEIS. In addition to ongoing agency coordination, the analysis of the potential project impacts and mitigations for such has benefitted from the thousands of individual comments submitted in response to the DEIS. These comments rarely provided new information that had not already been included in the analysis. However, the public comments did reflect to growing concern over certain potential impacts such as the introduction of high capacity transit stations and the potential for induced growth (sprawl). These comments have helped to guide the analysis for this technical report.

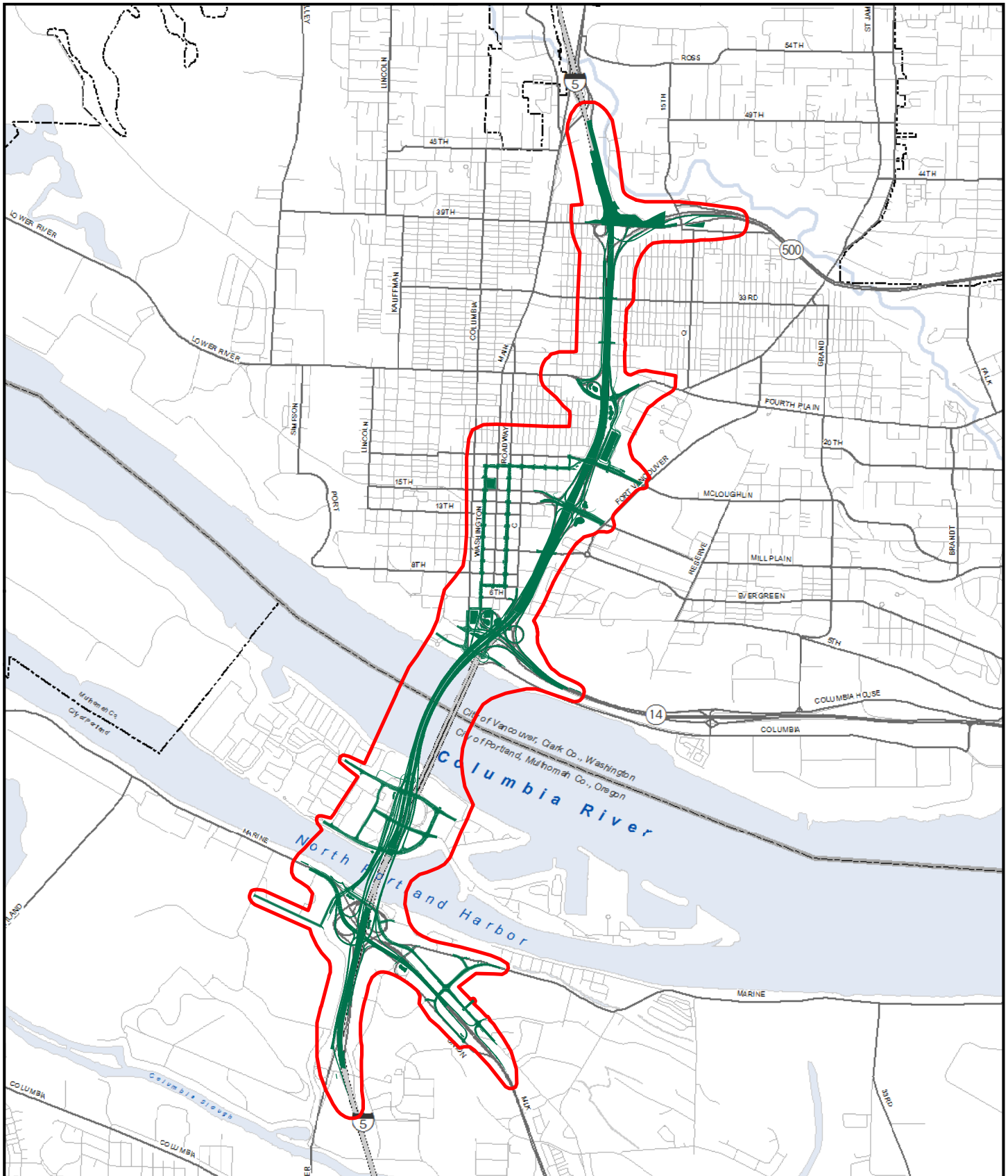
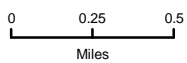


Exhibit 2-1. Primary Study Area

- Primary Study Area
- Project Footprint



3. Affected Environment

3.1 Introduction

This section describes the existing land uses, recent and pending development, planned land uses, zoning and overlay districts, and development trends in the primary and secondary API as shown in Exhibits 3-1 through 3-5. It also identifies the state, regional, and local transportation and land use plans and development regulations that apply to the project. It discusses the consistency of the project alternatives with those plans and development regulations. This section also identifies the current land use patterns and zoning districts of the API.

Sophisticated transportation and land use plans and development regulations that implement those plans are part of this region's character. Oregon's state-wide planning laws, described below, and Washington State's Growth Management Act (GMA) agree on general principles of compact urban form, preservation of rural areas, use of urban growth boundaries, and multimodal transportation systems. Regional plans help to tailor these goals for the Portland-Vancouver area. Local plans refine the goals further and establish policies to implement them. Zoning and other development regulations are adopted through ordinances to implement these planning principles. Zoning in the study area includes numerous overlays for the protection of historic, scenic, and other resources.

3.2 Oregon

Comprised of several neighborhoods, the Oregon portion of the secondary API is largely residential, with commercial activity on the major transportation corridors such as Interstate Avenue and Martin Luther King Jr. Boulevard. Exhibits 3-1 through 3-3 show the existing land uses in the primary and secondary APIs of the areas in Portland being affected.

3.2.1 Existing Land Uses

The southern end of the secondary API, as shown in Exhibit 3-2, includes the Lloyd District, which is predominantly commercial in character and includes regional facilities such as the Rose Garden Arena, the Memorial Coliseum, and the Oregon Convention Center. This area is a major employment center for the region and includes several large office buildings, including the Bonneville Power Administration (BPA), State of Oregon, Metro, TriMet offices, and the Lloyd Center Mall. Light rail runs east-west along NE Holladay Street in the Lloyd District, and travels north along Interstate Avenue. The existing MAX light rail transit system runs between Gresham and Hillsboro, traveling through downtown Portland, and connects to the Portland International Airport. The area is also well served by a large number of bus routes.

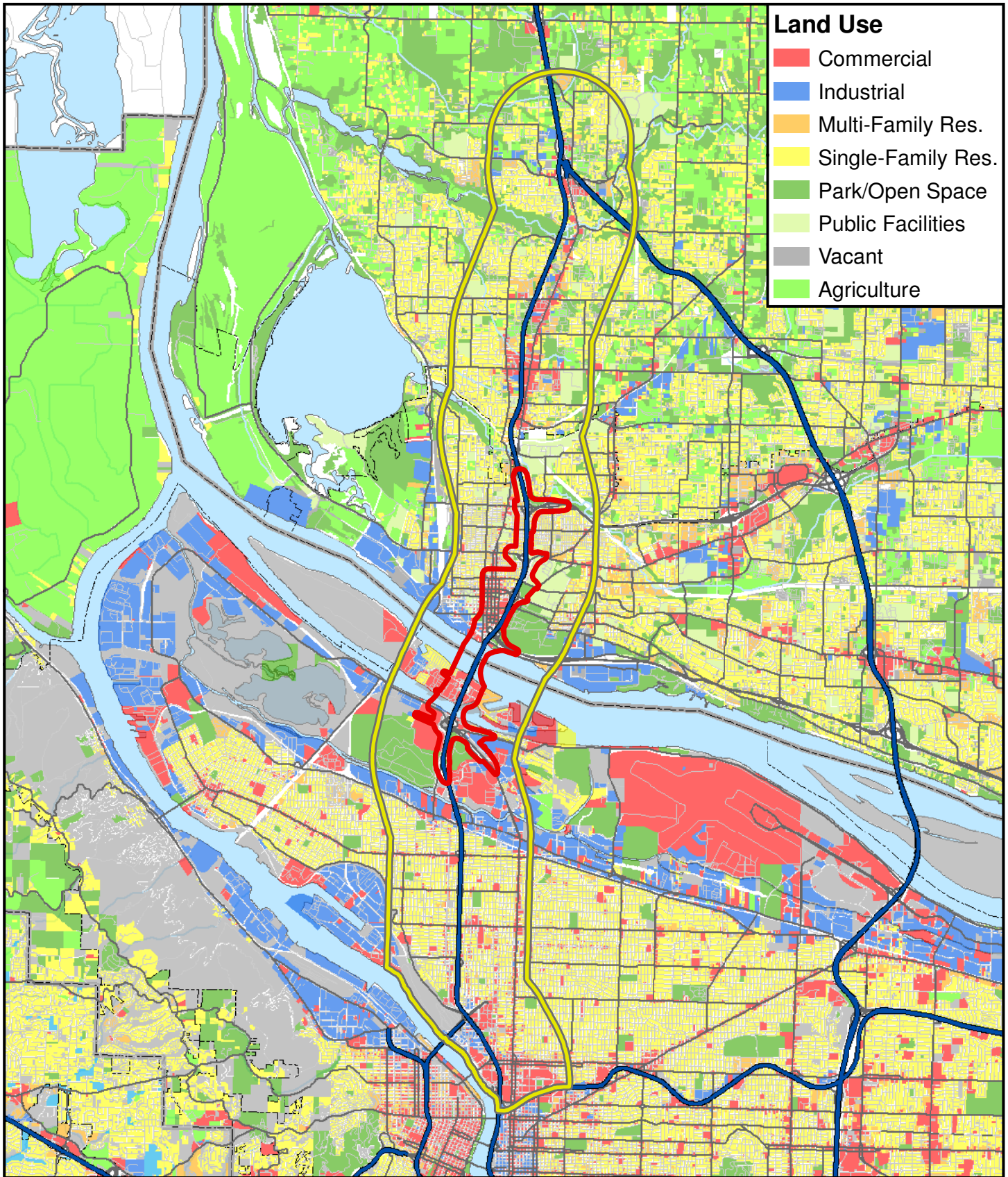
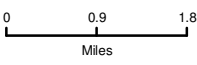
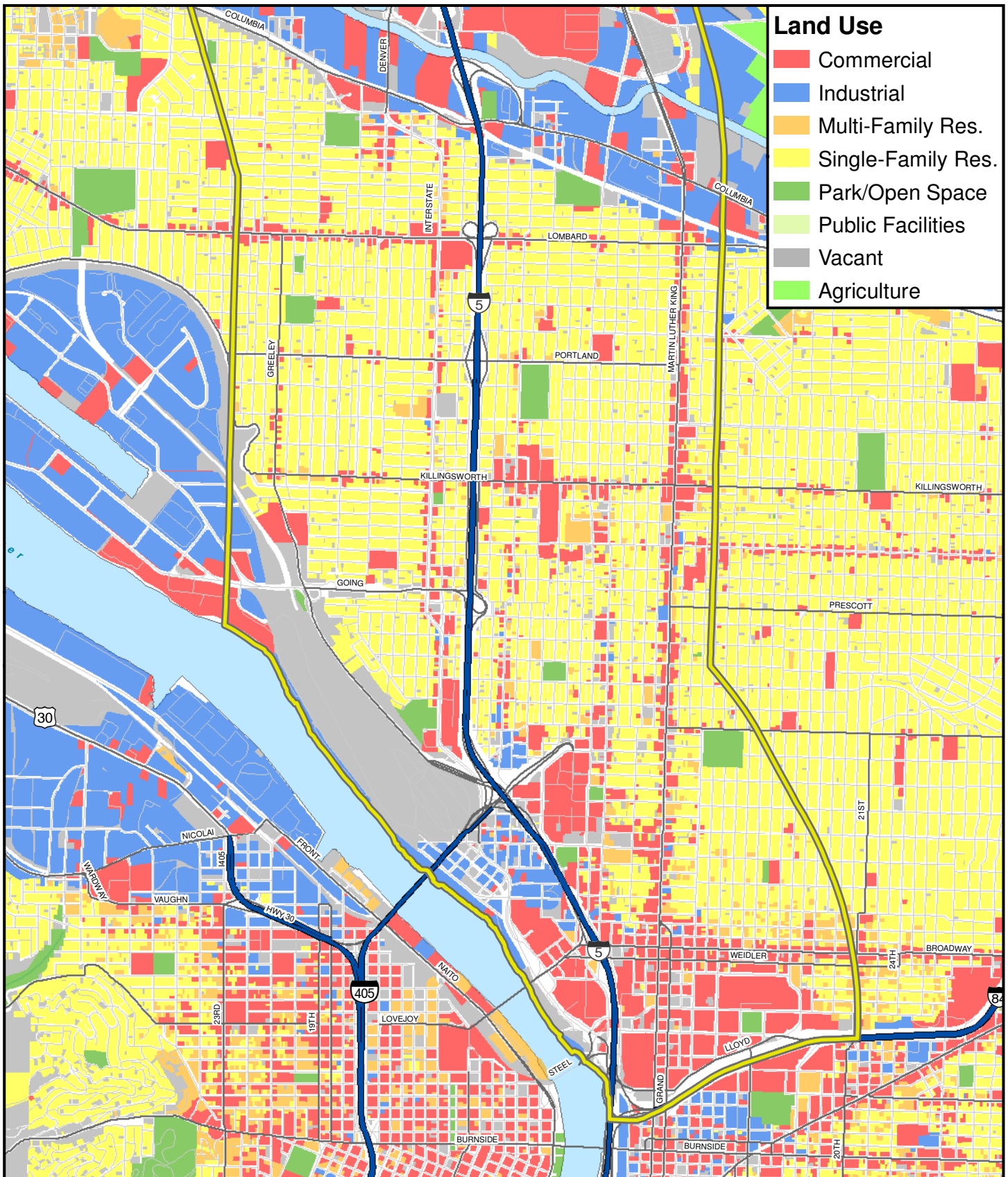


Exhibit 3-1. Existing Land Uses - Portland-Vancouver Area



Areas of Potential Impact
 Primary API
 Secondary API





Land Use

- Commercial
- Industrial
- Multi-Family Res.
- Single-Family Res.
- Park/Open Space
- Public Facilities
- Vacant
- Agriculture

Areas of Potential Impact

- Primary API
- Secondary API

Exhibit 3-2. Existing Land Uses - North Portland/East Central Portland



The area between N Columbia Boulevard and the Columbia River, as shown in Exhibit 3-3, is primarily comprised of industrial and commercial uses, with multi-family housing, parks, public facilities, and open space present as well. A number of large properties in this area have single uses, such as the Portland International Raceway, Portland Meadows, and the Exposition (Expo) Center. This area includes the Columbia Slough and Hayden Island. Currently MAX light rail line ends at the Expo Center just south of the Columbia River.

Hayden Island (Exhibit 3-3) is located in the Columbia River and is only accessible via I-5. Hayden Island Drive is the main road within the neighborhood. The west side of Hayden Island and the far eastern tip of the island are predominantly open space and the western side is unincorporated. In the eastern portion, the primary use is commercial, including the Jantzen Beach Center (a large shopping mall) and surrounding retailers. Residential uses in the area include multi-family residential areas, manufactured homes, and floating homes associated with small marinas, as well as other low to medium density developments. The Columbia River forms the boundary between Oregon and Washington. It is lined on both sides by marinas, homes, hotels, restaurants, and public facilities.

3.2.2 Recent and Pending Development

Information on recent and pending development was compiled from stakeholder interviews with City of Portland staff, field reconnaissance, and previous data gathering exercises.

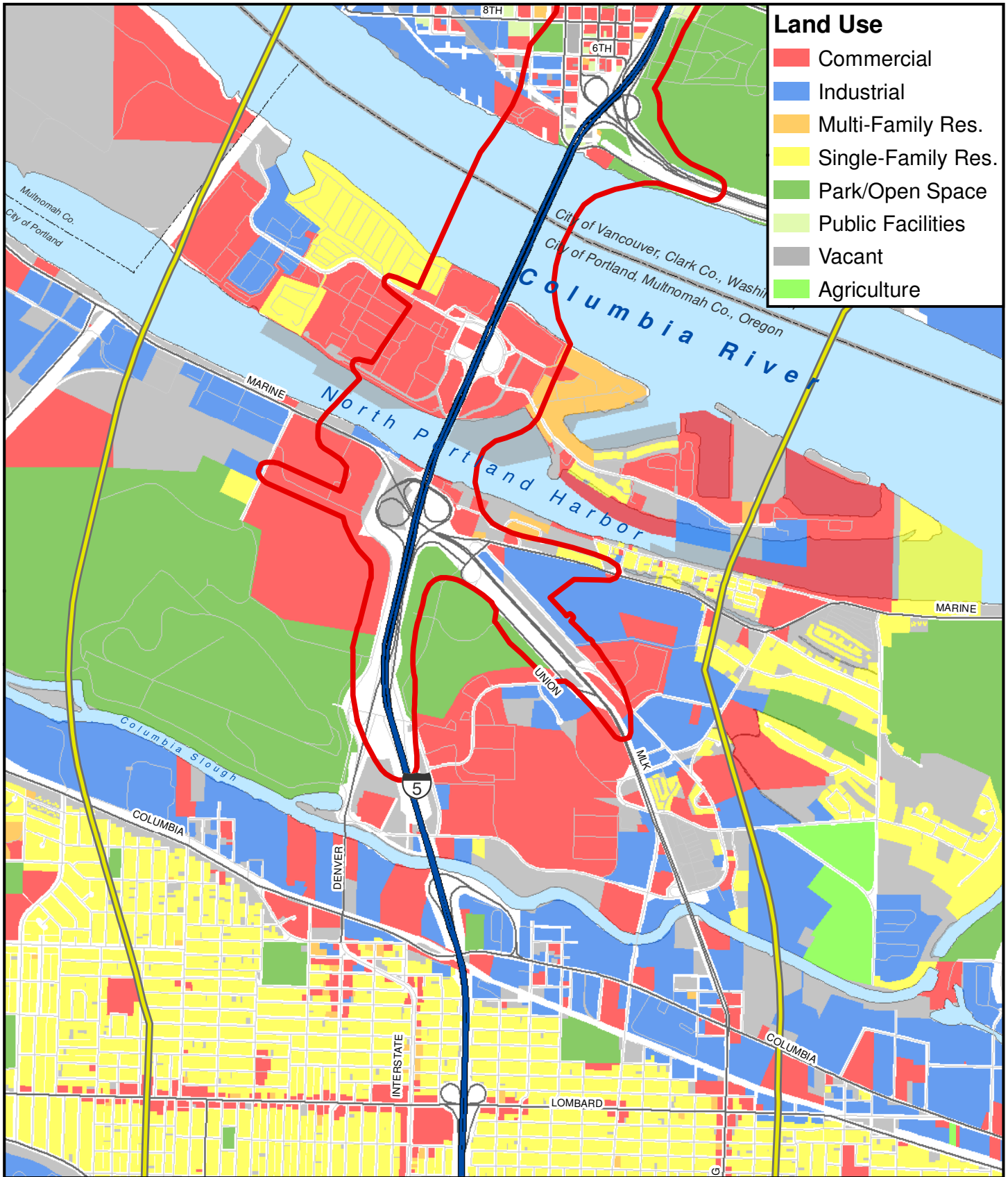
North Portland has experienced more stable land use patterns as it has been more fully built-out than much of Vancouver. However, there has been increased construction along the waterfront, of both hotel and condominium projects. Industrial activity along Columbia Boulevard has remained strong. The 2004 completion of the Interstate MAX Yellow Line has significantly changed Interstate Avenue and immediately surrounding neighborhoods.

On Hayden Island there have been changes in businesses, though the general pattern of use has remained the same for many years. An amusement park occupied Hayden Island between 1928 and 1970, and the Jantzen Beach shopping center opened in 1972. The City of Portland has recently completed a subarea planning project for East Hayden Island.

The Waterside. This new (2007) large condominium development is located east of the Doubletree Hotel and the I-5 alignment. The Waterside has 84 condominium units at 1,600 to 2,400 square feet.

Salpare Bay. At 499 N Tomahawk Island Drive, the new Salpare Bay condos have 204 units, ranging from 1,000 to 4,000 square feet in size. The first phase was completed in June 2007.

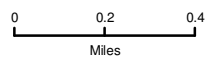
Light rail. Recent development in the API in Oregon includes the MAX light rail terminus at the Expo Center. This was completed in 2004, with the extension of the Yellow Line through North Portland. The station includes a park and ride facility, public art, and bike facilities. The Portland International Raceway (PIR) station includes a C-TRAN – TriMet transfer center and a park and ride lot.



- Land Use**
- Commercial
 - Industrial
 - Multi-Family Res.
 - Single-Family Res.
 - Park/Open Space
 - Public Facilities
 - Vacant
 - Agriculture

- Areas of Potential Impact**
- Primary API
 - Secondary API

Exhibit 3-3. Existing Land Uses - Columbia Blvd/Hayden Island/ Columbia River



Hayden Island Plan Project. In April 2008, the Bureau of Planning completed the Draft Hayden Island Neighborhood Plan. In the summer of 2009, the recommended Final Plan was approved by City Council. The purpose of the Hayden Island Neighborhood Plan Project was to develop a plan for the Island while working cooperatively with residents, business owners, and other stakeholders. The Hayden Island Plan addresses the unique situation of the Island while considering the best plan for its future. It also envisions growth in ways that create a resident population that is large enough to support local-serving businesses and amenities. This plan accomplishes this vision by preserving existing uses while promoting new mixed-use development to meet the future needs of the community.

Jantzen Beach Center Redevelopment. Redevelopment plans for the shopping center are in preliminary stages. The project intends to transform the area from a conventional suburban shopping center to a more Main Street atmosphere. The City of Portland, the developers, and the CRC project team are sharing information, such as the preliminary transportation circulation plan for the Center. A significant element of the plan is to construct a connecting facility that would allow traffic to move across the Interstate alignment without interfering with traffic on the I-5 ramps. The redevelopment plans were incorporated into the Hayden Island Plan. In the summer of 2010, initial plans were submitted to the City of Portland to redevelop the mall, which would renovate or remove many of the existing buildings. Preliminary plans call for inclusion of a new grocery store in the redevelopment.

3.3 Washington

Downtown Vancouver, as shown on Exhibit 3-4, includes the central business district (south of Mill Plain Boulevard and west of I-5), residential areas, and the Central Park neighborhood, which includes National Park Service (NPS) property and the Vancouver National Historic Reserve. Land uses in the area are primarily commercial, including retail, offices, industrial, governmental, and residential uses. The downtown serves as the governmental and cultural center of Clark County, and southwest Washington. Community facilities located in the downtown area include a train station, Esther Short Park, and government offices. The current I-5 corridor is a significant divide in the downtown area, with the commercial/office center on the west, and the Vancouver National Historic Reserve, and Clark College on the east. A robust network of bus routes serves the downtown and inner neighborhoods of Vancouver.

North of the central city, commercial development is centered on I-5 and Highway 99, as shown on Exhibit 3-5. Spreading east and west away from I-5, much of the secondary API is designated single-family residential with some multi-family districts scattered along major roadways. Public facilities, parks, and open spaces are found throughout the secondary API. The Vancouver urban growth boundary is just to the north of this segment. The boundary currently intersects I-5 at approximately 209th Street.

The Uptown commercial district (between Mill Plain and Fourth Plain Boulevards on Main Street) is the transitional area between downtown and the lower-density lands to the north. Residential uses predominate, with major transportation corridors (primarily Fourth Plain Boulevard and Main Street) supporting commercial uses. The neighborhoods directly on each side of I-5, Arnada, Shumway and Rose Village, have many vintage homes and a tight street grid. The current municipal boundaries of the City of Vancouver run roughly along 63rd Street.

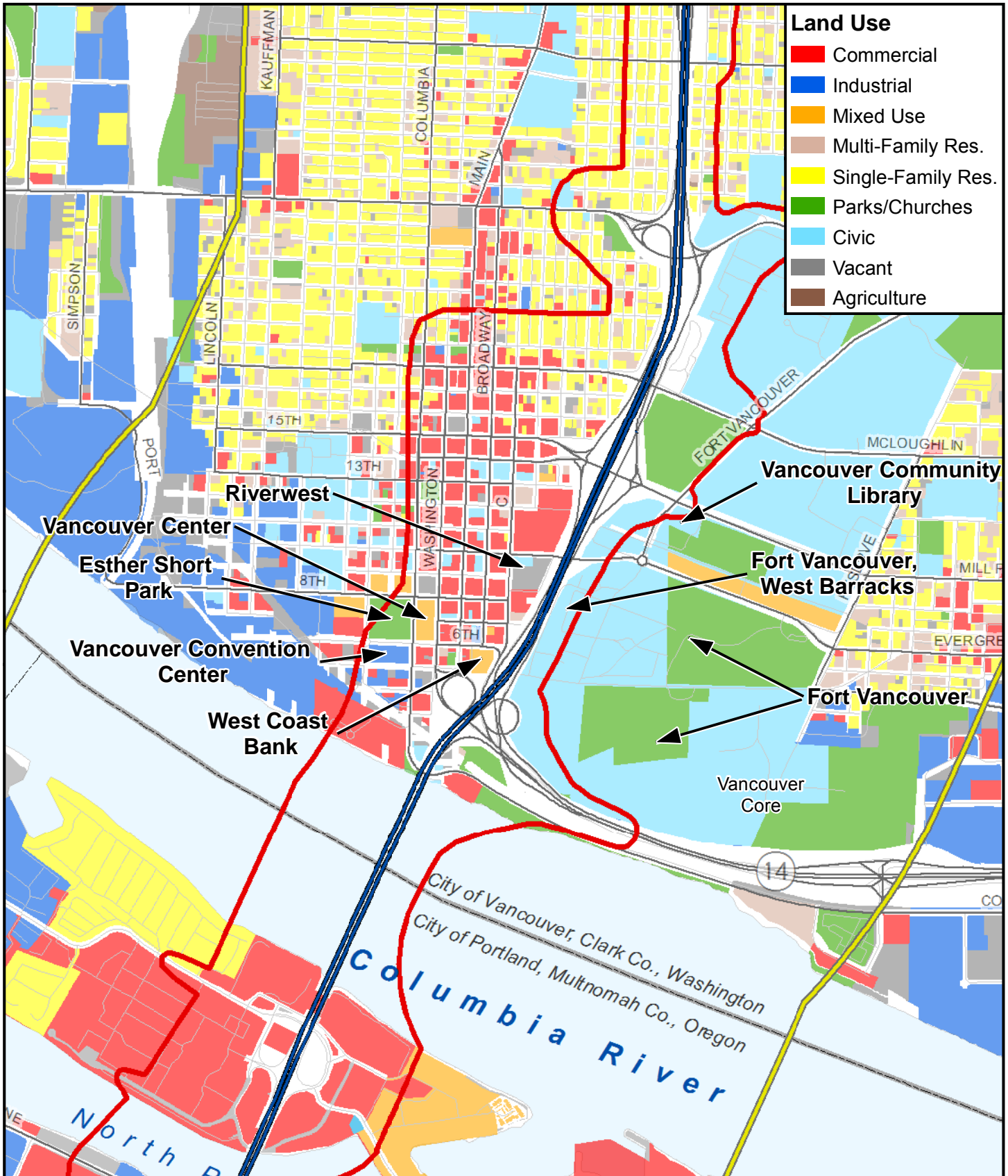


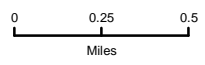
Exhibit 3-4. Existing Land Uses - Vancouver



Source: Clark County, WA, Assessors Office, GIS Digital Data, landuse.shp, 2010. Includes edits based on existing conditions.



Exhibit 3-5. Existing Land Uses - Clark County



Hazel Dell is primarily a suburban residential area and includes areas north of 63rd and south of Salmon Creek and 119th Street. The residential areas are heavily single-family with larger lots than are found in areas further south. The commercial areas (along Highway 99 and Hazel Dell Avenue) have frequent bus service but are primarily auto-oriented. Infill development has maintained a healthy pace in the Felida and Hazel Dell areas, with single housing units as well as very small subdivisions being built on previously overlooked parcels.

The northernmost portion of the secondary API is suburban in character and has developed more recently. It includes some undeveloped areas with a rural character. Residential areas are predominately large-lot single-family parcels. Commercial areas along 134th Street and Highway 99 are auto-oriented. This area includes a number of regional facilities, including the Exposition Center, the Clark County Fairgrounds, the Clark County Amphitheater, and the new Legacy Hospital. The Washington State University Vancouver campus is located just outside the secondary API. I-5 and I-205 come together in this area, as do 134th Street, Salmon Creek Avenue (serving the University) and Highway 99. The confluence of these major roadways has resulted in significant congestion. This congestion has twice led to development moratoria in the area and a moratorium on new construction is currently in effect. A major park and ride facility exists on 134th Street, and is planned for relocation nearby in coming years. The Stockford Village Park and Ride opened in 2008, next to the Hazel Dell Town Center.

3.3.1 Recent and Pending Development

Information on recent and pending development was compiled from stakeholder interviews with City of Vancouver staff, field reconnaissance, and previous data gathering exercises.

Vancouver's downtown development has changed greatly during the past decade. The focus of the downtown and waterfront areas has broadened from employment-related uses to tourism and recreation development, retail shopping, meeting and convention activities, housing, and entertainment. Along with revitalizing overall downtown activity, development has emphasized new residential opportunities and revitalization of the retail core and central waterfront. New office and mixed-use development has increased in the last decade, with projects such as the Vancouver Center, West Coast Bank Building, Public Service Center, Convention Center, and numerous smaller projects. New and growing uses in the downtown include eateries, bars/taverns, a new playhouse, and personal services.

In addition to private and public-private partnered projects, the City has recently adopted the Vancouver City Center Vision (VCCV), and subarea plans for the lower Grand Avenue area and Central Park. The Historic Reserve Trust has completed and adopted a reuse and management plan for the West Barracks in Fort Vancouver. These projects have value commercially, in terms of tax revenue, and in terms of providing inner-urban opportunities for family-wage jobs.

Esther Short Park and Propstra Square are located in downtown Vancouver between Esther and Columbia and 6th and 8th Streets. Esther Short Park is the oldest public square in Washington and is considered the oldest city park in the West. Private donations of \$3.6 million and city investment of \$2 million were used in 1998 to redevelop the park featuring new a plaza (Propstra Square), gardens, and amenities. The site hosts events year round with a variety of events, programs, concerts, food vendors, and other activities.

Heritage Place is located just north of Esther Short Park on 8th Street. The development includes 137 condominium units; covered, gated parking; and 14,500 square feet of retail space. Current

retail includes a coffee shop, boutiques, restaurants, children's stores and gift shops. The project represents an investment of \$25 million.

The Vancouver Center is located between 6th and 8th Streets and Columbia and Washington Streets. It includes mixed-uses with 200,000 square feet of office space, 20,000 square feet of retail, more than 200 condominiums and an 800-car garage. The development represents an investment of \$100 million. The final phase of the development will begin in 2011, erecting a fourth tower on the site.

The Frontier Building is proposed for the southernmost block of Main Street: The former site of the old Monterey Hotel and the Frontier Building is a grassy lot next to the West Coast Bank Building, which serves as the headquarters for developer Killian Pacific.

The Lewis and Clark Plaza is located at 621 Broadway, and includes an interpretive center that features a grouping of life-size bronze figures depicting Meriwether Lewis, William Clark, Sacagawea, a Native American Chief, and the Jefferson Peace Medal. Completed in 2004, it is a four-story, 46-unit affordable senior housing project.

The Esther Short Commons is a two-square-block development with 139 work force apartments, 21 market rate apartments, 20,000 square feet of retail and 100 parking spaces. The project is located at the corner of 8th and Esther Streets and is an \$18.6 million investment.

The Vancouver Convention Center and Hilton Hotel is the only publicly-owned convention center and four-star hotel in the Pacific Northwest. It is located at 6th and Columbia (south of Esther Short Park). It includes an upscale restaurant, a 30,000 square foot convention center, and 226 guest rooms.

The Columbian Building is located on 6th Street between Esther and Columbia. The \$30 million project opened in late 2007 and is a six-story 118,000 square foot tower. Columbian news, advertising, circulation and administrative staff had planned to occupy four floors of the building, with the two top floors available for office lease. Some ground-level space is planned for retail tenants. The Columbian has cancelled plans to occupy the building. Vancouver City Hall is planning on moving into the building in 2011.

The West Coast Bank Building, located at W 6th & Broadway, represents an investment of \$23 million. This project is highly visible for northbound I-5 travelers. The development includes 71,000 square feet of commercial space, 21 luxury condominiums and a 267-space public parking structure. Tenants include a bank, a law firm, and the University of Phoenix.

400 Mill Plain Center (referred to as "The Denny's Site" in the DEIS) is an \$18 million development by the Al Angelo Company that has recently been completed in downtown Vancouver. The 5-story building is located on the block between Mill Plain and 15th at D Street, and greets I-5 traffic exiting west into downtown. The Angelo Company has moved into the building's top floor and is working to lease the rest of the building to other office and retail users. There are plans for the company to complete a companion project to the west of the building.

The **Riverwest** site adjoins the I-5 right-of-way, just south of Evergreen Boulevard. The development will include a new main library for the Fort Vancouver Regional Library System. Riverwest is a \$165 million public-private mixed-use development that includes four multi-story buildings. In addition to the library, Riverwest will offer a new civic plaza, 200 multi-family residences, 100,000 square feet of offices, 17,000 square feet of retail, a boutique hotel, and a 900-stall underground parking garage. Water features, public arts, and greenspaces will be

featured in this project. Though some components of the project have been put on hold by the developer, the Main Library is currently under construction.

Columbia West Renaissance. The recently sold Boise Cascade site along the western waterfront in Vancouver's downtown represents a significant increase in buildable area and in waterfront access. The project is expected to represent a \$60 million investment. The site was purchased by Gramor development, who is working with the City of Vancouver on permits for a large-scale mixed-use development. The development will include shoreline-oriented uses with retail, dining, entertainment, and coffee shops. Significant amounts of new office space, public space, and residential uses are planned. The Vancouver City Center Vision (VCCV) projected the area would accommodate 5,000 condo units and an upscale hotel with 200 rooms. There will be approximately 450,000 square feet of office space, more than double that provided in the recent Vancouver Center project. Mostly at the ground-floor level, there will be 125,000 square feet of retail space. An additional 100,000 square feet will be used for light industrial uses and professional offices. Pedestrian amenities from the east side of the Vancouver shoreline would cross under the CRC improvements and extend through the Columbia West development.

West Barracks. The federally-established Vancouver National Historic Reserve (VNHR) includes many buildings previously used by the United State military. Hoping to revive the area, the VNHR partners—including the City of Vancouver, National Parks Service, State of Washington, U.S. Army, and the VNHR Trust—are working with private sector partners to renovate 16 historic buildings on the West Barracks for a variety of uses, from education and the arts to recreation and hospitality.

The West Barracks includes a fully-restored 1919 Red Cross building that is now used as a reception hall and for classroom space. Other historic structures in the West Barracks include Barnes Hospital, the Artillery Barracks and the Infantry Barracks. The Reuse and Management plans for the West Barracks have been reviewed as part of this report. However, the plans are evolving over time. Recent inquiries with City of Vancouver staff have revealed the current intended uses for certain sites near the interstate.

The Barracks Hospital is planned to be used for the arts, including studios, galleries, and group work space. The Artillery Barracks is intended for use as a hotel or hostel. The duplexes south of the Hospital and the Artillery Barracks will be used for hospitality. To realize these plans, the City of Vancouver has invested over \$6 million in infrastructure. Numerous related projects are part of the plans for the area, including the Confluence Land Bridge (a pedestrian overpass), reconstructions in the historic fort Village, and commercial and public uses in the Reserve.

Planning is underway for transferring the south and east barracks from the United States Army to the National park Service. These areas will the subject of subsequent master planning and will be later integrated with the master plans for the West Barracks and that of Central Park.

Prestige Development demolished the former Vancouver Police Department building at 13th and "C" streets to make way for the \$25 million Prestige Plaza. Prestige Plaza will be a six-story building with five floors of office space, five condominiums on the top floor and 149 underground parking spaces.

Uptown Area. There is a trend of increased redevelopment in the Uptown area, with recent renovations of a drug store, hardware store, and small shops along Main and Broadway. The surrounding residential neighborhoods seem to be experiencing increased investment as well, with much rehabilitation of housing. There are no planned projects of such a size or impact that warrant inclusion in this analysis.

3.4 Transportation and Land Use Plans

This section discusses the applicable plans and implementing regulations that the project has been reviewed for consistency with. State plans are covered first, followed by bi-state, regional, and local transportation and land use plans.

3.4.1 Oregon

In 1973, the Oregon Legislature enacted Senate Bill 100,¹ which requires all cities and counties to adopt and implement comprehensive land use plans that comply with 19 statewide goals and guidelines. Adopted comprehensive plans are implemented by a variety of ordinances used to enforce the provisions of the plans, capital facility plans, as well as other programs.

There are goals to provide infrastructure to urban areas and for directing high-density growth to urbanized locations. In 1978, to comply with Statewide Goal No. 14, Urbanization, Metro adopted a regional urban growth boundary (UGB) for the Portland metropolitan area. The UGB defines the area within the three Oregon metro counties, Multnomah, Clackamas, and Washington, where urban-level zoning, infrastructure, and development may occur. Local jurisdiction comprehensive plans and implementing ordinances must provide urban services necessary to achieve the urban level of development envisioned in the UGB assumptions. During the first 20 years of the plan, the boundary has expanded by about 1.5 percent. By comparison, population within the three-county Portland metropolitan region has increased by approximately 60 percent (1978 to 1996), and employment has increased by approximately 73 percent (1978 to 1996). In 2002, Metro expanded the UGB by approximately 18,000 acres. The UGB has profoundly affected the land use and development patterns in the Oregon by promoting infill and redevelopment rather than expansion.

Local comprehensive plans are based on the regional transportation policy set in 1976. At that time, the policy shifted from emphasizing automobile accommodation to a broader approach aimed the efficient use of land and integration with the transportation system. A 1973 Governor's task force on transportation concluded that fiscal and environmental realities made it impractical to rely on new radial highways to meet future travel demand, and that most of the new commuter growth into the central city needed to be accommodated with mass transit. As a result, for over 20 years land use and transportation plans have been based on the policy that no new radial highway capacity would be built in the region. Instead, future capacity and level-of-service to and from the central city would depend primarily on high-capacity transit.

In 1991, the Land Conservation and Development Commission (LCDC) adopted the Transportation Planning Rule (TPR) to further enhance the planning connection between land use and transportation. The TPR requires local jurisdictions to: consider changes to land use densities as a way to meet transportation needs; adopt changes to subdivision and development ordinances to encourage more transit-, pedestrian-, and bicycle-friendly development and street patterns; review comprehensive plan amendments to ensure that the transportation system is adequate to support planned land uses; and amend comprehensive plans to allow transit-oriented development (TOD) along transit routes. The TPR also requires that Metro reduce vehicle miles traveled (VMT) per capita by 10 percent over 20 years, and 20 percent over 30 years. The TPR was updated in 2006 to:

¹ ORS 197.175(2)

- Revise the TPR “purpose statement” to more accurately express the overall policy, and to be consistent with Statewide Goal 12 regarding public health.
- Update requirements for metropolitan area planning.
- Revise rule provisions for transportation project development to clarify that decisions made in Transportation System Plans (TSP) need not be revisited as projects undergo detailed design and approval.
- Consolidate requirements into the TPR for exceptions to goals for transportation projects. (Currently exceptions must address the Exceptions Rule as well as the TPR).

A series of minor and housekeeping amendments were also adopted.

The Oregon Transportation Plan

The Oregon Transportation Plan (OTP) is the overarching policy document among a series of plans that together form the state transportation system plan. The OTP considers all modes of Oregon’s transportation system as a single system and addresses the future needs of Oregon’s airports, bicycle and pedestrian facilities, highways and roadways, pipelines, ports and waterway facilities, public transportation, and railroads through 2030. It assesses state, regional, and local public and private transportation facilities. The OTP establishes goals, policies, strategies, and initiatives for transportation. The Plan provides the framework for prioritizing transportation improvements based on varied future revenue conditions, but it does not identify specific projects for development. The plan adopted September 20, 2006, supersedes the 1992 OTP.

Many of the plan policies have a bearing on the CRC project, especially the following:

Policy 1.1 – Development of an Integrated Multimodal System

It is the policy of the State of Oregon to plan and develop a balanced, integrated transportation system with modal choices for the movement of people and goods.

Policy 1.2 – Equity, Efficiency and Travel Choices

It is the policy of the State of Oregon to promote a transportation system with multiple travel choices that are easy to use, reliable, cost-effective and accessible to all potential users, including the transportation disadvantaged.

Policy 4.1 – Environmentally Responsible Transportation System

It is the policy of the State of Oregon to provide a transportation system that is environmentally responsible and encourages conservation and protection of natural resources.

Strategy 4.1.5

In the construction and maintenance of transportation infrastructure and facilities, reduce the consumption of non-renewable construction materials, promote their efficient use and reuse, and reduce other environmental impacts such as stormwater impacts where appropriate.

Policy 6.2 – Achievement of State and Local Goals

It is the policy of the State of Oregon to plan and manage the transportation finance structure to contribute to the accomplishment of state and local environmental, land use and economic goals and objectives.

The Oregon Highway Plan

The Oregon Highway Plan (OHP) includes contextual statements and policies that may have an impact on the alternatives analysis for the CRC project. The updated OHP was adopted by the Oregon Transportation Commission (OTC) at their September 20, 2006 meeting.

Several policies in the OHP establish general mobility objectives and approaches for maintaining mobility. It includes the following policies from the Policy Element.

- Policy 1A (State Highway Classification System) describes the functions and objectives for several categories of state highways. Greater mobility is expected on Interstate and Statewide Highways than on Regional and District Highways.
- Policy 1B (Land Use and Transportation) has an objective of coordinating land use and transportation decisions to maintain the mobility of the highway system. The policy identifies several land use types and describes the levels of mobility appropriate for each.
- Policy 1C (State Highway Freight System) has an objective of maintaining efficient through movement on major truck freight routes. The policy identifies highways that are freight routes.
- Policy 1G (Major Improvements) has the purpose of maintaining highway performance and improving highway safety by improving system efficiency and management before adding capacity.

Alternate standards for the Portland metropolitan area have been included in the policy. These standards have been adopted with an understanding of the unique context and policy choices that have been made by local governments in that area, including:

- A legally enforceable regional plan prescribing minimum densities, mixed-use development and multimodal transportation options.
- Primary reliance on high-capacity transit to provide additional capacity to the radial highway corridors serving the central city.
- Implementation of an advanced, including highway ramp meters, real time traffic monitoring and incident response to maintain adequate traffic flow.
- An air quality attainment/maintenance plan that relies heavily on reducing auto trips, through land use changes and increases in transit service.

The alternate standards were granted to the Portland metropolitan area with a mutual understanding that reduced mobility standards would result in congestion that could not be reduced by state highway improvements.

Action 1F.1 provides highway mobility standards using volume-to-capacity (v/c) ratios that new facilities need to meet. It gives standards for signalized intersections, traffic queues on off-ramps, and more.

Action 1G.2 states that ODOT will support any major improvements to state highway facilities in local comprehensive plans and transportation system plans only if the improvements meet nine specific conditions.

Action 1G.3 requires an intergovernmental agreement implementing cost-sharing when a project has major benefits to the local system, especially when local sponsors of the project envision purposes beyond those needed to meet state transportation objectives.

Policy 3C: Interchange Access Management Areas

It is the policy of the State of Oregon to plan for and manage grade-separated interchange areas to ensure safe and efficient operation between connecting roadways. The following Actions provide specific guidance for the I-5 CRC project. These requirements have implications for land use authorities as well as transportation system planners.

Action 3C.1: Develop interchange area management plans to: protect the function of interchanges, provide safe and efficient operations between connecting roadways, and minimize the need for major improvements of existing interchanges.

Action 3C.2: To improve an existing interchange or construct a new interchange requires:

- Necessary supporting improvements, such as road networks, channelization, medians and access control in the interchange management area must be identified in the local comprehensive plan and committed with an identified funding source, or must be in place;
- The design of urban interchanges must consider the need for transit and park and ride facilities, along with the interchange's effect on pedestrian and bicycle traffic; and
- When possible, access control shall be purchased on crossroads for a minimum distance of 1320 feet (400 meters) from a ramp intersection or the end of a free flow ramp terminal merge lane taper.

Policy 4C: High-Occupancy Vehicle (HOV) Facilities

It is the policy of the State of Oregon to utilize HOV facilities to improve the efficiency of the highway system in locations where travel demand, land use, transit, and other factors are favorable to their effectiveness. A systems planning approach shall be taken in which individual HOV facilities complement one another and the other elements of the multimodal transportation system.

Actions for this policy include those that promote HOV lanes, park and ride facilities with preferential HOV parking, the development of high-occupancy toll (HOT) lanes, and light duty commercial truck buy-in for HOV lanes.

Policy 4D: Transportation Demand Management

It is the policy of the State of Oregon to support the efficient use of the state transportation system through investment in transportation demand management strategies.

There are three major implications for this policy. TDM programs need to be, and are, in place and supported. Additional TDM strategies may need to be employed during the construction of the new facility. Lastly, Action 4D2 calls on ODOT to investigate further the effectiveness, feasibility, and impacts of tolling and congestion-based pricing.

Policy 5A: Environmental Resources

It is the policy of the State of Oregon that the design, construction, operation, and maintenance of the state highway system should maintain or improve the natural and built environment including air quality, fish passage and habitat, wildlife habitat and migration routes, sensitive habitats (e.g., wetlands, designated critical habitat, etc.), vegetation, and water resources where affected by ODOT facilities.

Action 1B.5: Develop and implement plans that support compact development, including but not limited to highway segment designations. Support plans, strategies and local ordinances that include:

- *Parallel and interconnected local roadway networks to encourage local automobile trips off the state highway;*
- *Transit, bicycle and pedestrian facilities, including street amenities that support these modes;*
- *Design and orientation of buildings and amenities that accommodate pedestrian and bicycle use as well as automobiles use;*
- *Provision of public and shared parking;*
- *Infill and redevelopment;*
- *Expansion of intensive urban development guided away from state highways rather than along state highways; and*
- *Other supporting public investments that encourage compact development and development within centers.*

Action 1B.6 requires ODOT to develop design guidelines for highways that describe a range of automobile, pedestrian, bicycle or transit travel alternatives. The guidelines should include appropriate design features such as lighted, safe and accessible bus stops, on-street parking, ample sidewalks, pedestrian crossings, pedestrian scale lighting, street trees and related features. These guidelines will be applicable to the mix of transportation modes and to the design of pedestrian amenities.

3.4.2 Washington

The State of Washington adopted the GMA in 1990. This act requires most local jurisdictions to define and implement a land use policy framework that emphasizes reducing inappropriate conversion of land to sprawling, low-density development. This emphasis is evident in statewide requirements to coordinate land use and transportation plans and strongly supports multimodal transportation systems. The law also requires designation of urban growth areas (UGA) around cities.

In Oregon, the Portland Area Metro serves as the Metropolitan Planning Organization (MPO) and has jurisdiction over both transportation and land use issues. By contrast, in Washington the RTC, has regional authority over transportation only. Clark County provides regional services, which

end at the County line. The County has significant authority over land use planning in the county, and governs legislative changes to the urban growth boundaries.

The RTC has adopted the Metropolitan Transportation Plan (MTP) for Southwest Washington, which incorporates light rail as a component of the multimodal transportation system in the Vancouver metropolitan region. The adopted Clark County Comprehensive Growth Management Plan and City of Vancouver Comprehensive Plan identify the location of the UGB that encompasses the lands planned for urban development. Implementation of high-capacity transit within the UGA is supportive of City and county plans and will help the region achieve anticipated development without expanding the urban growth area.

Urban growth boundaries function similarly in Washington and Oregon, but the processes differ for changing boundaries. Through the Oregon LCDC, the state exercises more control than in Washington. In Washington, the Department of Commerce (previously the Department of Community, Trade and Economic Development) serves in a more advisory capacity. The Western Washington Growth Management Hearings Board hears appeals to the plans and makes decisions that are binding on the local jurisdictions.

Washington Transportation Plan

This plan, developed by WSDOT was updated in 2007. The following goals are part of the plan.

Goal 4: Congestion Relief

The Washington Transportation Plan (WTP) corridors operate with minimal delay and continual reduction in the societal, environmental, and economic costs of congestion for people and freight.

Objectives:

- Reduce person and freight delay on WTP corridors.

Goal 5: Increased Travel Options

Throughout the state, travelers have viable alternatives to the privately owned automobile for their trips.

Under this Goal's objectives, WSDOT states that "Alternatives such as transit, passenger rail, and pedestrian and bicycle travel need to be as effective, convenient, and accessible as private automobile travel." Goal 6 is similar, requiring easy connections between transportation facilities and services.

Goal 11: Competitive Freight Movement

Freight movement is reliable and transportation investments support Washington's strategic trade advantage.

Objectives:

- Reduce barriers that delay the effective and reliable movement of freight.
- Maintain the ability to move freight and goods in the event of alterations to the Columbia/Snake River system as a transportation right-of-way.

Under the section on Stewardship of the Environment, the following goal applies to construction of the project.

Goal 17: Reuse and Recycle Resource Materials

Transportation services and facilities prudently use, reuse, and recycle resource materials.

Objective:

- Minimize the use of resources and increase the use of recycled materials.

The WTP was updated and re-adopted by the Washington Transportation Commission on November 14, 2006. The section previously dedicated to the Stewardship of the Environment is now referred to as Environmental Quality and Health.

The policies therein include:

- Minimize, and avoid when practical, air, water, and noise pollution; energy usage; use of hazardous materials; flood impacts; and impacts on wetlands and heritage resources from transportation activities.
- When practical, and consistent with other priorities, protect, restore, and enhance fish and wildlife habitats and wetlands impacted by transportation facilities.
- Coordinate and take the lead in partnering with other agencies on environmental issues affecting transportation to reduce costs and increase effectiveness.
- Transportation plans and actions will support and encourage partnering with local communities to achieve our mutual interests in promoting livable communities.

Together, these policies provide significant direction for this project. The preferred alternative should reduce barriers that delay the movement of freight, reduce congestion, and include travel options. The planning process should include public involvement and arrive at a decision that minimizes impacts on communities and their resources.

3.4.3 Bi-State

The Portland-Vancouver I-5 Transportation and Trade Partnership brought Washington and Oregon citizens and leaders together to respond to concerns about congestion on I-5 between Portland and Vancouver. Between January 2001 and June 2002, the I-5 Partnership worked to develop a long-range strategic plan to manage and improve transportation in the I-5 corridor between I-405 in Portland, and I-205 north of Vancouver. Governors Gary Locke and John Kitzhaber appointed a bi-state Task Force of community, business, and elected representatives in January 2001 to develop the plan. The Task Force adopted a Final Strategic Plan on June 18, 2002. Local plans have referenced or fully incorporated aspects of the final recommendations.

These recommendations alone are non-binding:

- *Three through-lanes in each direction on I-5, including southbound through Delta Park.*
- *A phased light rail loop in Clark County in the vicinity of I-5, SR 500/Fourth Plain, and I-205 corridors.*
- *An additional span or a replacement bridge for the I-5 crossing of the Columbia River, with up to two additional lanes for merging and two light rail tracks.*

- *Interchange improvements and additional merging lanes where needed, between SR 500 in Vancouver and Columbia Boulevard in Portland. These include a new interchange at Columbia Boulevard.*
- *Freight rail capacity improvements.*
- *Bi-state coordination of land use and management of our transportation system to reduce demand on the highway and to protect the corridor investments.*
- *Community involvement along the corridor to ensure that the final project outcomes are equitable.*

3.4.4 Regional

Metro, established in 1979 and whose charter was approved in 1992, is charged with regional planning of transportation systems and urban growth areas. In cooperation with local jurisdictions in the service district Metro has developed and adopted the Regional Urban Growth Goals and Objectives (RUGGO) that include the Region 2040 Growth Concept and Concept Map. Metro has also adopted the Urban Growth Management Functional Plan, a Regional Framework Plan, and a Regional Transportation Plan. These plans call for “targeting public investments to reinforce a compact urban form” and state that “A regional transportation system shall be developed which reduces reliance on a single mode of transportation through development of a balanced and cost-effective transportation system.” Fundamental to the implementation of these plans is a multimodal transportation system that assures mobility and supports the integration of higher density centers of employment and housing with transit service.

The effect of these plans is to focus future development into specific areas, including the Portland central city, regional centers, and along transit corridors and main streets connected by a balanced transportation system, including light rail and bus transit.

2040 Growth Concept and the Regional Framework Plan

The Metro 2040 Growth Concept defines regional growth and development in the Portland metropolitan region. Metro adopted the growth concept in December 1995 as part of the Region 2040 planning and public involvement process. Policies in the 2040 Growth Concept encourage efficient use of land, protection of farmland and natural resources, a balanced transportation system, a healthy economy, and diverse housing options. The 2040 Growth Concept includes land use and transportation policies that will allow the cities located within the Portland metropolitan area to manage growth, protect natural resources, and make improvements to facilities and infrastructure while maintaining the region’s quality of life.

The 2040 Growth Concept is the unifying concept around which the Regional Framework Plan is based. The Regional Framework Plan sets forth regional growth management policies for the area within Metro’s jurisdiction. The Plan also incorporates goals, objectives, and policies established in other documents, including the RUGGOs and the Greenspaces Master Plan. The Regional Framework Plan creates an integrated framework to meet the goals identified in the 2040 Growth Concept.

There are policies in Chapter 2 (Transportation) of the Regional Framework Plan that generally pertain to the CRC project. These policies are identified below.

Policy 2.4 – Consistency between Land Use and Transportation Planning

Ensure that function, capacity, and level-of-service of transportation facilities are consistent with applicable regional land use and transportation policies and adjacent land use patterns.

- *Provide adequate transportation facilities to support a land use plan that implements the 2040 Growth Concept.*
- *Provide transportation facilities that enhance jobs and housing as well as the community identity of neighboring cities.*

Policy 2.13 – Regional Motor Vehicle System

Provide a regional motor vehicle system of arterials and collectors that connect the central city, regional centers, industrial areas and intermodal facilities, and other regional destinations, and provide mobility within and through the region.

Policy 2.14 – Regional Public Transportation System

Provide an appropriate level, quality, and range of public transportation options to serve the region and support implementation of the 2040 Growth Concept, consistent with the Regional Transportation Plan.

Policy 2.15 – Regional Freight System

Provide efficient, cost-effective and safe movement of freight in and through the region.

Policy 2.19 – Regional Transportation Demand Management

Enhance mobility and support the use of alternative transportation modes by improving regional accessibility to public transportation, carpooling, telecommuting, bicycling, and walking options.

- *Investigate the use of HOV lanes to improve system reliability and reduce roadway congestion.*
- *Investigate the use of market-based strategies that reflect the full costs of transportation to encourage more efficient use of resources.*

Policy 2.19.2 – Peak Period Pricing

Manage and optimize the use of highways in the region to reduce congestion, improve mobility, and maintain accessibility within limited financial resources.

- *Apply peak period pricing appropriately to manage congestion. In addition, peak period pricing may generate revenues to help with needed transportation improvements.*
- *Consider peak period pricing as a feasible option when major, new highway capacity is being added to the regional motor vehicle system, using the criteria used in Working Paper 9 of the Traffic Relief Operations study.*

Policy 2.20.0 – Transportation Funding

Ensure that the allocation of fiscal resources is driven by both land use and transportation benefits. Improve the efficiency of the existing transportation system.

Policy 2.20.1 – 2040 Growth Concept Implementation

Implement a regional transportation system that supports the 2040 Growth Concept through the selection of complementary transportation projects and programs. Place the highest priority on projects and programs that best serve the transportation needs of the central city, regional centers, intermodal facilities, and industrial areas.

Regional Transportation Plan (Metro)/ 2035 Regional Transportation Plan

The 2004 Regional Transportation Plan (RTP) is a 20-year blueprint for the Portland metropolitan region's transportation system. In 2008, Metro began updating the RTP, and developing it as the 2035 RTP. The Metro Council adopted the 2035 RTP on June 10, 2010. The RTP establishes policies and priorities for all forms of transportation and anticipates the region's current and future transportation needs. These policies focus on ensuring that the region's transportation system works in the most effective way, and they recognize the importance of the movement of goods and services for the regional economy. The RTP includes two project lists; a financially constrained system and a preferred system. The CRC highway project is included as projects 4002 and 4003 on the preferred system list. The preferred system does not have funding identified for all projects. The RTP also has specific language and recommendations about the I-5 corridor and for all projects (see below). These are linked to the TPR project requirements. Mapping adopted as part of the RTP shows an extension of the light rail system into downtown Vancouver.

From Chapter 6, Implementation (2035 Plan)

Columbia River Crossing Project

This heavily traveled route is the main connection between Portland and Vancouver. The Metro Council has approved a Locally Preferred Alternative for the Columbia River Crossing project (CRC). It creates a multi-modal solution for the Interstate 5 corridor between Oregon and Washington to address the movement of people and freight across the Columbia River. A replacement bridge with three through lanes in each direction, reconstructed interchanges, tolls priced to manage travel demand as well as provide financing of the project construction, operation and maintenance, light rail transit to Vancouver, and bicycle and pedestrian investments have been identified for this corridor. As project details are evaluated and implemented in this corridor, the following shall be brought back to the Joint Policy Advisory Committee on Transportation (JPACT) and the Metro Council for a subsequent RTP amendment:

- *The number and design of auxiliary lanes on the I-5 Columbia River bridge and approaches to the bridge, including analysis of highway capacity and induced demand.*
- *More generally in the I-5 corridor, the Portland Metro region should:*
- *Consider the potential adverse human health impacts related to the project and existing human health impacts in the project area, including community enhancement projects to address environmental justice.*
- *Consider managed lanes.*
- *Maintain an acceptable level of access to the central city from Portland neighborhoods and Clark County.*
- *Maintain off-peak freight mobility, especially to numerous marine, rail and truck terminals in the area.*

- *Consider new arterial connections for freight access between Highway 30, port terminals in Portland and port facilities in Vancouver, Washington.*
- *Maintain an acceptable level of access to freight intermodal facilities and to the Northeast Portland Highway.*
- *Address freight rail network needs.*
- *Develop actions to reduce through-traffic on MLK and Interstate to allow main street redevelopment.*
- *Provide recommendations to Bi-State Coordination Committee prior to JPACT and Metro Council consideration of projects that have bi-state significance.*

Like the Southwest Washington RTC's MTP, complex regional modeling substantiates the balance of land use and transportation changes in the RTP. Projected land uses are converted into model inputs that reflect the intensity, type, and location of new development. The planned transportation improvements, in all modes, are then added to the model network so that the impacts of the projected land uses can be determined. As system failures are identified, additional transportation, and sometimes land use, changes are made to achieve optimal system function. This foundation of iterative modeling gives the list of projects significance beyond just financing. The list represents the transportation side of the balanced transportation and land use plans.

Transit Investment Plan (TriMet)

The Transit Investment Plan (TIP) identifies TriMet's strategies and programs to meet regional transportation and livability goals through focused investments in service, capital projects, and customer information. The TIP provides a framework for forming regional partnerships between TriMet and other agencies to improve access to transit and transit service. The TIP plans for a 5-year period and is updated annually. The TIP follows Metro's long-term goals and strategies to implement the transit portion of the Regional Transportation Plan. In addition, the TIP guides transit-related investment based on certain priorities: build the total transit system; expand high-capacity transit; expand frequent service; and improve local service. Priority 2 pertains to the I-5 CRC project.

Priority 2: Expand High-Capacity Transit

High-capacity transit influences and supports land development identified in the 2040 Growth Concept. The TIP states that high-capacity transit is not limited to light rail, it may include commuter rail, streetcar and bus rapid transit, or other modes. The Priority 2 section of the TIP identifies the I-5 CRC project as the process used to identify highway and transit improvements across the Columbia River at or near the current I-5 bridges.

C-TRAN's 20-year Transit Development Plan

C-TRAN provides transit services in Clark County, with routes into Portland as well. C-TRAN's system is largely made up of fixed routes, with limited dial-a-ride shuttle service in outlying areas. In 2010, C-Tran adopted a 20-Year Transit Development Plan (TDP). Major elements of the plan include a Preferred Service Alternative, a Service Improvement Program, Americans with Disabilities Act (ADA) Paratransit Cost Containment Strategies, Capital and Technology Improvements, and a Financial Plan. The plan includes high capacity transit planning and its integration with other services. Both light rail transit and Bus Rapid Transit improvements are in the plan.

The finance and capital plan associated with C-TRAN's Preferred Alternative assumes two separate votes over the life of the 20-year plan. The first increase of 0.3 percent sales tax is for the first ten years (Phase I). An additional 0.2 percent sales tax increase would provide funding for the final ten years (Phase II).

Metropolitan Transportation Plan for Southwest Washington

As stated previously, the MPO serving regional transportation planning needs in Clark County is the RTC. The RTC regularly updates the MTP. The MTP's Goals were revised in 2007 and include the following that apply to the CRC project. A 2010 draft amendment is being reviewed and will likely be given final approval in early 2011.

MTP Goals

The MTP is a long-range plan that outlines how the transportation system and services will provide for the mobility and accessibility of people and freight within and through the region. The Goals of the MTP are:

- Maintain, preserve, and improve the existing regional transportation system.
- Provide a safe and secure transportation system that allows for the movement of people and freight.
- Support economic development and community vitality.
- Provide an efficient, balanced, multimodal regional transportation system including highway, bus transit, high-capacity transit, rail, aviation, marine, bicycle and pedestrian modes as well as transportation demand management and transportation system management strategies.
- Provide an acceptable level of mobility for personal travel and freight movement throughout the regional transportation network and adequate access to locations throughout the region.
- Provide a transportation system that is sensitive to the quality of the environment and natural resources.
- Provide for the development of a financially viable and sustainable transportation system.
- Provide a transportation system that reflects community vision and community values.

The MTP is based on travel demand modeling results that included the development of a 2030 transportation system.

3.4.5 Local

Multnomah County Comprehensive Plan

The Multnomah County Comprehensive Plan is composed of three separate plans: the Comprehensive Framework Plan, the Development Plan, and the Operations Plan. The Comprehensive Framework Plan (Framework Plan) guides land use decisions by the County and sets the framework for incorporating Oregon's statewide planning goals and Metro's regional

goals into a statement of policy. Three policies in the Framework Plan pertain to the I-5 CRC project and are identified below. These policies support an efficient transportation system, mobility, safety, and public transportation. This plan has direct application only to the west end of Hayden Island. Only a small corner of this unincorporated land is inside the secondary API.

Policy 33a – Transportation System: Implement a balanced, safe and efficient transportation system. In evaluating parts of the system, the County will support proposals that:

- *Support economic growth*
- *Provide a safe, functional and convenient system*
- *Provide optimum efficiency and effectiveness of investment*

Policy 34 – Trafficways: Develop the existing trafficway system to maximize efficiency, and consider the mobility of pedestrians by providing safe crossings. The County's policy is to develop a safe and efficient trafficway system using the existing road network, and by:

- *Improving streets to the standards established by the classification system, where necessary and/or appropriate, to mitigate identified transportation problems and to accommodate existing implemented and planned pedestrian, bicycle and transit facilities as established in the county, regional, and local transportation plans;*
- *Placing priority on maintaining the existing trafficways; and*
- *Developing additional transportation facilities to meet community and regional transportation needs where capacity of the existing system has been maximized through transportation system management and demand management measures.*

Policy 35 – Public Transportation: Support a safe, efficient and convenient public transportation system by:

- *Making improvements to public transportation corridors which enhance rider convenience, comfort, access and reduced travel time.*

City of Portland Comprehensive Plan

Adopted in 1980, the Comprehensive Plan is the land use plan for the City of Portland. It provides a coordinated set of guidelines for decision making on the future growth and development in Portland. Its goals and policies provide the context and guidance for future City programs, major capital projects, and other funding decisions. It also provides the City with a map and a set of regulations for development, a revised zoning code, a guide for the major public investments required to implement the Plan, and a process for review and amendment of the Plan. The Comprehensive Plan map officially describes where, and to what level, future zoning should be permitted. The Plan and its ordinances comply with Oregon's Statewide Planning Goals, and is periodically reviewed to assure that it remains a workable framework for development. Exhibit 3-6 shows the Portland Comprehensive Plan land use designations within the project API.

There are goals and policies in the Comprehensive Plan that pertain to and support the I-5 CRC project. These goals and policies generally support multimodal transportation and mobility, as identified below.

Policy 5.4 – Transportation System: Promote a multimodal regional transportation system that encourages economic development.

Goal 6 – Transportation: Develop a balanced, equitable, and efficient transportation system that: provides a range of transportation choice; reinforces the livability of neighborhoods; supports a strong and diverse economy; reduces air, noise, and water pollution; and lessens reliance on the automobile while maintaining accessibility.

Policy 6.12 – Regional and City Travel Patterns: Support the use of the street system consistent with its State, regional, and City classifications and descriptions.

- *Direct interregional traffic to use Regional Trafficways and Regional Transitways, and manage these facilities to maximize their existing capacity.*
- *Minimize the impact of interregional and long intraregional trips on Portland neighborhood and commercial areas, while supporting the travel needs of the community.*

Policy 6.17 – Coordinate Land Use and Transportation: Implement the Comprehensive Plan Map and the 2040 Growth Concept through long-range transportation and land use planning and development of efficient and effective transportation projects and programs.

Policy 6.24 – Public Transportation: Develop a public transportation system that conveniently serves city residents and workers 24 hours a day, seven days a week, and can become the preferred form of travel to major destinations, including the Central City, regional and town centers, main streets, and station communities.

- *Support light rail transit and bus connections as the foundation of the regional transit system, with completion of the system to connect all regional centers, downtown, major attractions, and intermodal passenger facilities as a high priority for the region.*
- *Expand primary and secondary bus service to meet the growing demand for trips, operate as the principal transit service for access and mobility needs, help reduce congestion, and support the economic activities of the City.*

Policy 6.29 – Freight Intermodal Facilities and Freight Activity Areas: Develop and maintain an intermodal transportation system for access and circulation in Freight Districts and for the safe, efficient, and cost-effective movement of freight, goods, and commercial vehicles within and through the city on Truck Streets.

- *Address freight movement and access needs when conducting multimodal transportation studies or designing transportation facilities.*
- *Participate in the interjurisdictional planning for improvements to the I-5 transportation and trade corridor.*

Policy 6.31- Regional Trafficways: Accommodate future increases in regional through-traffic in Portland on existing Regional Trafficways.

Policy 6.32 – Multimodal Passenger Service: Participate in coordinated planning, development, and interconnection of Portland, regional and intercity transportation services for passenger travel.

Policy 6.33 – Congestion Pricing: Advocate for a regional, market-based pricing system for auto trips during peak hours.

Policy 6.34 – North Transportation District: Reinforce neighborhood livability and commercial activity by planning and investing in a multimodal transportation network, relieving congestion through measures that reduce transportation demand, and routing non-local and industrial traffic along the edges of the residential areas.

Policy 7.6 – Energy Efficient Transportation: Provide opportunities for non-auto transportation including alternative vehicles, buses, light rail, bikeways and walkways.

- *Promote the construction of a regional light rail system.*

City of Portland Transportation System Plan

Updated in 2004, the TSP guides the City of Portland's transportation network and investments. The TSP provides the framework for developing and implementing transportation projects. The TSP addresses local transportation needs for streets, transit, freight, bicycle, and pedestrian improvements to provide a balanced transportation system to support neighborhood livability and economic development. The policies mirror those in the Transportation Element (Chapter 6) of the City of Portland's Comprehensive Plan.

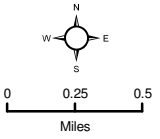
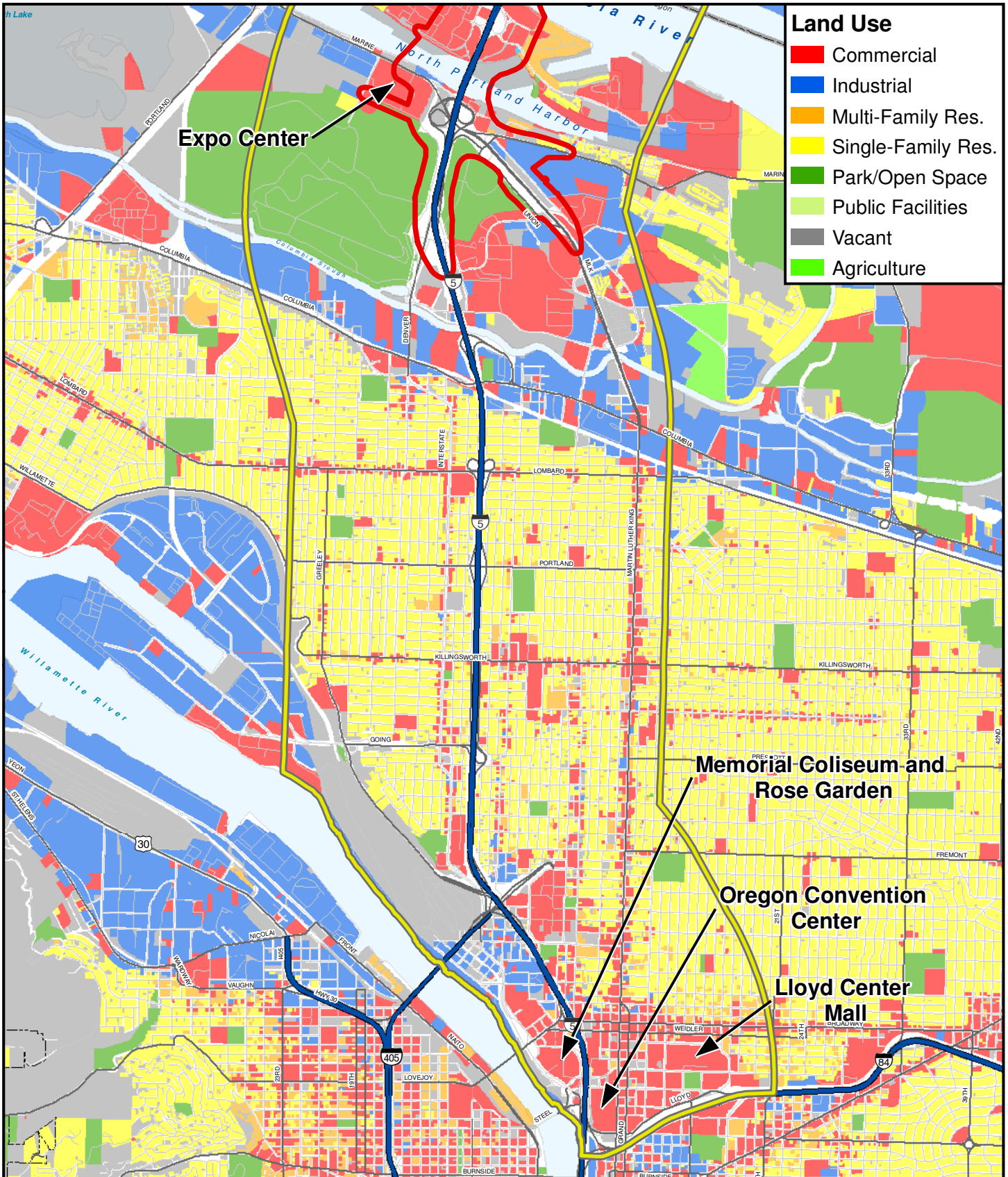
City of Portland Central City Plan

Adopted in 1988, the Central City Plan promoted goals for eight identified districts that make up Portland's Central City area. The Central City Plan identifies an urban core that extends across the Willamette River to the Central Eastside, Lloyd District, and Lower Albina areas. These three districts are within the I-5 CRC project's secondary API. The Plan advocates stimulating the city center by increasing jobs and housing in the downtown core. The Central City Plan is part of the City's Comprehensive Plan, and it updates and incorporates the Downtown Plan of 1972.

Transportation plays a major role in shaping the central city and implementing the Central City Plan. Policy 4 (Transportation) pertains to and supports the I-5 CRC project.

Policy 4 – Transportation: Improve the Central City's accessibility to the rest of the region and its ability to accommodate growth by extending the light rail system and by maintaining and improving other forms of transit and the street and highway system, while preserving and enhancing the city's livability.

- *Develop the Central City as the region's transportation hub through construction of a regional light rail transit system.*
- *Support transportation facility improvements that improve the flow of traffic to, within, and through the Central City.*
- *Improve the movement of goods to, from, and within the Central City.*
- *Develop an integrated transportation system where each mode, and the system as a whole, is both efficient and practical.*



City of Portland Albina Community Plan

In 1993, the Portland City Council adopted the Albina Community Plan as part of the City's Comprehensive Plan Goals and Policies, to be implemented through the enactment of the associated zoning code and map amendments. This Plan is a framework for revitalizing a 19-square mile area in North and Northeast Portland. Development of the Albina Plan completed many neighborhood plans, which are reviewed in the Neighborhoods Technical Report.

Policy II (Transportation) pertains to the I-5 CRC project. This policy supports light rail investment and improved highway access in the Albina Community Plan study area.

Policy II – Transportation: Take full advantage of the Albina Community's location by improving its connections to the region. Emphasize light rail transit as the major transportation investment while improving access to highways that serve industrial and employment centers. Protect neighborhood livability and the viability of commercial areas when making transportation improvements. Provide safe and attractive routes for bicyclists and pedestrians.

Lloyd District Partnership Plan

The Lloyd District Partnership Plan was an effort by the Lloyd District Transportation Management Association (LDTMA), City of Portland, and TriMet to address issues that affect economic vitality in the Lloyd District, such as parking meter installation, transit service improvements, and a comprehensive implementation plan. The Partnership Plan is non-binding.

The Lloyd District is located within the secondary API. However, there are no goals or policies in the Lloyd District Partnership Plan that are directly applicable to the I-5 CRC project. The goals and objectives were created to reflect local transportation and parking requirements, regional transit ridership, commute option targets, and specific needs of the LDTMA and associated businesses.

Central City Plan: Lloyd Center-Coliseum

A number of plans provide guidance for development, transportation, and design in the Lloyd District. The Central City Plan includes the Lloyd District, but also addresses issues throughout the downtown area west of the Willamette River. Relevant policies from the Plan include:

- *Improve the environment for pedestrians throughout the district and create a regional civic facilities campus that joins the Convention Center and Coliseum.*

Proposals for Action:

- *Create a connection from the Convention Center to the riverbank.*
- *Buffer the Sullivan's Gulch neighborhood from through auto and truck traffic.*

Special Design Guidelines for the Design Zone of the Lloyd District of the Central City Plan

This non-binding plan calls for improving the environment for pedestrians. No goals in this plan are likely to directly apply to the LPA. The Design Guidelines include:

- Fostering superblock formation throughout the district south of Weidler Street.
- Emphasizing light rail transit service and facilities as an urban design feature in the district.

- Developing a comprehensive circulation system – of pedestrians, bicyclists, motorists, and transit service – that is logical, easily understandable, and distinguishes the intended functions of streets in the district.
- Improving the pedestrian links between the river, residential neighborhoods, Broadway/Weidler Corridor, Lloyd Center, Convention Center, and the Coliseum.

Lloyd Crossing Sustainable Urban Design Plan and Catalyst Project

The Portland Development Commission (PDC) sponsored this non-binding plan, completed in July 2004. It sets some goals for the area that could be affected by the CRC project. It calls for habitat pockets and corridors that connect to Sullivan’s Gulch. The plan also sets a goal for 25 to 30 percent tree coverage in the District in 2050.

The PDC Interstate Corridor Urban Renewal Plan

The Interstate Corridor URA is located in North Portland and incorporates regional features such as I-5, the Willamette River, and the Columbia Slough. Developed by the PDC and adopted in 2000, the Interstate Corridor Urban Renewal Plan sets forth a comprehensive program to address economic and social challenges, and to capitalize on the opportunities of the community. The goals and objectives are to improve livability, increase job opportunities, assist small businesses, and benefit from major infrastructure projects, including the Interstate MAX light rail line. The following goals in the Interstate Corridor Urban Renewal Plan pertain to the I-5 CRC project.

Economic Development/Jobs – Goal 10 – Job Access: Optimize access of area residents to employment opportunities both inside and outside of the URA.

Transportation – Goal 7 – Transportation Modes: Encourage alternatives to auto travel by improving facilities for pedestrians, bicyclists, buses, and light rail, while still accommodating auto travel in the area.

Transportation – Goal 8 – Truck Access: Maintain good truck access to businesses within the urban area, but discourage truck movement from passing through the area on residential streets.

Hayden Island Plan

In April 2008, the Bureau of Planning completed the Draft Hayden Island Plan. In the summer of 2009, the recommended Final Plan was approved by City Council. The purpose of the Hayden Island Plan Project was to develop a plan for the Island while working cooperatively with residents, business owners, and other stakeholders. The Hayden Island Plan addresses the unique situation of the Island while considering the best plan for its future. It also envisions growth in ways that create a resident population that is large enough to support local-serving businesses and amenities. This plan accomplishes this vision by preserving existing uses while promoting new mixed-use development to meet the future needs of the community. The Plan has numerous provisions specific to the CRC project. The plan has been developed in close collaboration with the evolving project designs for the highway and transit components. In most ways, the CRC designs are consistent with the Plans Vision (innovative stormwater management, traffic patterns, light rail station design, etc.).

City of Vancouver Comprehensive Plan

The City of Vancouver's Comprehensive Plan, adopted May 2004, encourages compact urban centers, transit, and supportive development regulations for areas along the defined high-capacity transit corridors identified along I-5 and SR 500. The City of Vancouver maintains a separate Transportation Plan that includes policy statements. The Comprehensive Plan applies to the downtown Vancouver and North Vancouver project subareas. Exhibit 3-7 shows the land use designations of the City of Vancouver Comprehensive Plan for the API.

Community Development:

CD-2. Efficient Development Patterns: Encourage efficient development throughout Vancouver to achieve average densities of eight units per acre. Encourage higher density and more intense development in areas that are more extensively served by public facilities, particularly by transportation and transit services.

CD-4. Urban Centers and Corridors: Achieve the full potential of existing and emerging urban activity centers and the corridors that connect them, by:

- Promoting or reinforcing a unique identity or function for individual centers and corridors.*
- Planning for a compact urban form with an appropriate mix of uses.*
- Establishing connectivity and accessibility within each center and to other areas.*
- Providing a range of transportation options.*

CD-11. Archaeological and Historic Resources: Protect and preserve cultural, historic and archaeological resources. Promote preservation, restoration, rehabilitation, and reuse of historically or architecturally significant older buildings. Increase knowledge and awareness of historic and archaeological resources. Work with Clark County to maintain State certified Local Government status.

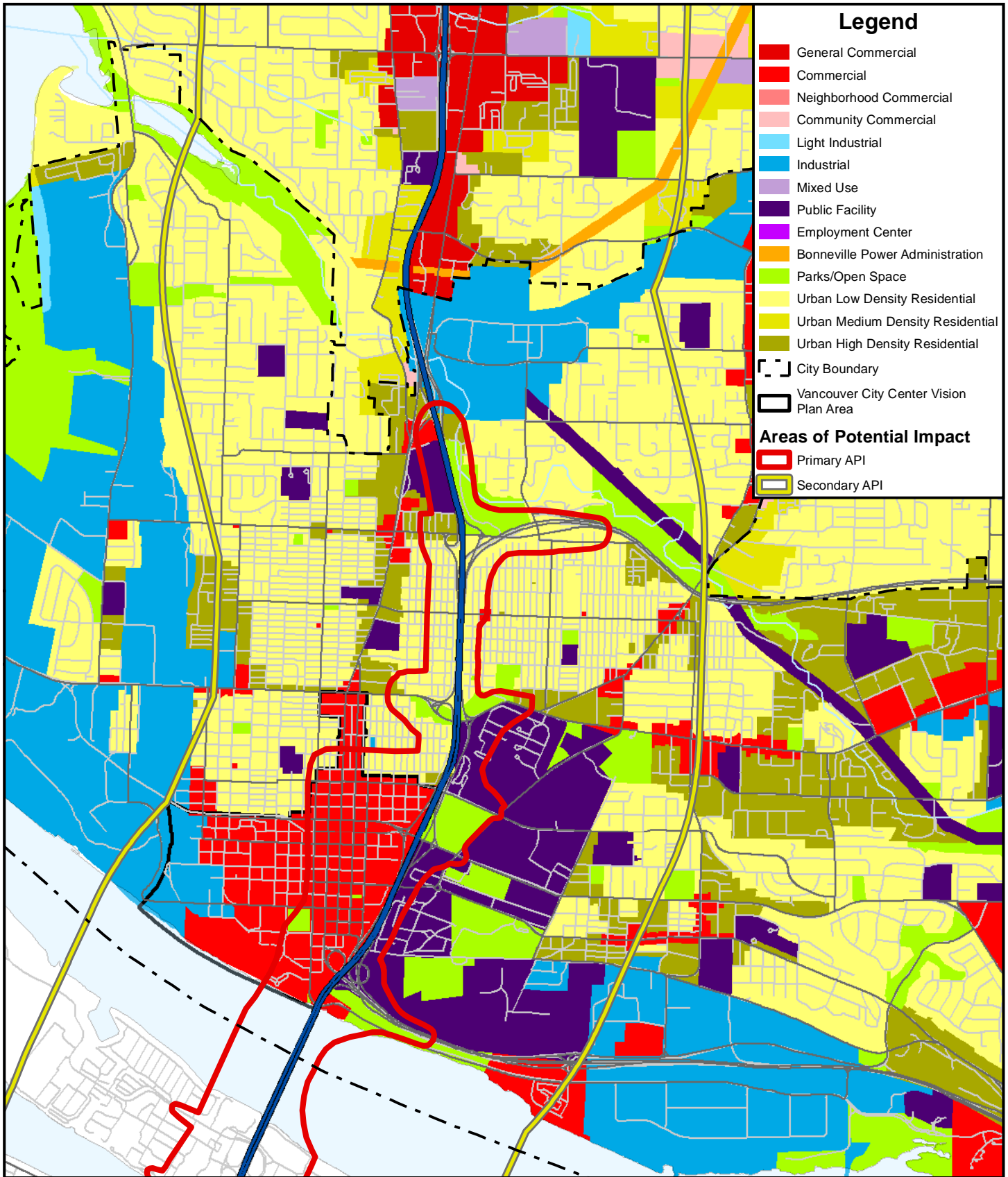
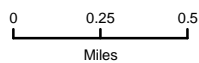


Exhibit 3-7. Comprehensive Plan - Vancouver



Source: Clark County, WA, Assessors Office, GIS Digital Data, complan.shp, 2010.

The following two polices are intended to protect employment opportunities, especially where they may yield family-wage jobs.

EC-5. No Net Loss Of Employment Capacity: Restrict zone changes or legislative approvals which lessen long-term capacity for high wage employment, unless accompanied by other changes within the same annual review cycle that would compensate for the lost capacity, or unless the proposed change would promote the long-term economic health of the city.

ED-6. Efficient Use Of Employment Land: Maximize utilization of land designated for employment through more intensive new building construction, and redevelopment and intensification of existing sites.

The Plan also calls for protecting historic structures and trees. Many of these immediately adjoin the existing I-5 right-of-way. Although transportation issues are addressed more fully in the City's Transportation Plan, the Comprehensive Plan refers to a balance of transportation choices, human scale, livable design, and efficiency.

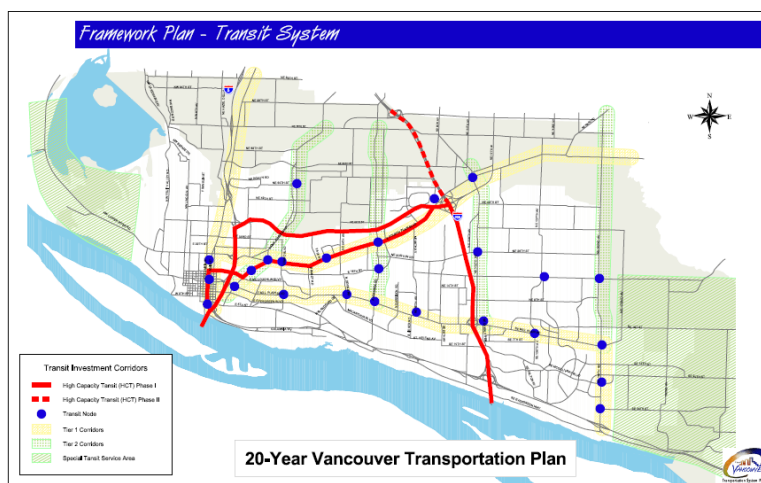
PFS-17. Use transportation and land use measures to maintain or reduce single-occupant motor vehicle miles traveled per capita to increase system efficiency and lower overall environmental impacts. Further analysis will be needed to determine whether increased vehicular capacity on I-5 will encourage urban sprawl and vehicle miles traveled.

City of Vancouver's Transportation Plan

The City's Transportation Plan, effective in 2001, includes vision statements for the City's evolving transportation system. The vision is one of accessibility, not just mobility, emphasizing system efficiency, connectivity, multimodalism, and a walkable community.

The Plan includes a future transit system map (Exhibit 3-8). The map shows high-capacity transit running north along I-5, east across Fourth Plain Boulevard or SR 500, and south on I-205. There is also a longer-term project shown headed north along I-205. The Plan designates Main Street as a Tier 1 Transit Corridor, meaning that Main Street is targeted for short-term improvement to enhance transit service. These improvements would include signalization changes and pedestrian improvements. The Transportation Plan lists light rail as a Strategic Option.

Exhibit 3-8. City of Vancouver Long Range Transit Plan



Downtown Vancouver Transportation System Plan

The City of Vancouver adopted a subarea plan and redevelopment plan in 1996 for the Esther Short neighborhood, which includes most of downtown and updated it in 2007 with the VCCV. It has significance for the project beyond that of most neighborhood plans. The Downtown Vancouver TSP addresses transportation conditions and plans from Fourth Plain Boulevard south to the Columbia River. Transit service objectives pertain directly to the project as quoted below:

Objective 7.6: Provide sufficient downtown street and intersection capacity to accommodate future potential light rail transit operations along a preferred rail alignment.

Objective 7.7: Provide sufficient sidewalk capacity in the downtown area to accommodate transit facilities such as passenger shelters.

Objective 7.8: Provide key pedestrian links between major activity areas (current and future) and transit focal points such as the 7th Street transit center.

About light rail transit, the plan states:

“The extension of MAX service into Vancouver is a key ingredient to the region’s growth management strategy and the overall I-5 Corridor plan. ... LRT in Vancouver would directly benefit the downtown area by improving access to downtown Vancouver, particularly during the peak commuter hours. LRT service would also greatly improve the City’s ability to collect and disperse Special Event Center crowds. Key issues involving LRT include identifying an appropriate terminal location in Vancouver, which should be addressed as part of the City of Vancouver’s city-wide Transportation System Plan. Other, more regional issues revolve around funding and timing, which should be addressed in the I-5 Trade Corridor Study. The City of Vancouver should take actions now that will support the Plan and help make transit more successful for downtown Vancouver. These include:

- Designating Main and Washington Streets as transit streets — Main Street for local transit service and Washington Street for regional transit service.
- Restricting curb cuts along both Washington and Main Streets to improve the pedestrian environment, making it easier for people to avoid using their cars.
- Supporting increases in density and activity in the transit corridor.
- Allowing reduced parking requirements in the transit corridor.”

Objective 12.1: This objective strongly asserts the use of the TSP in City decision making, including financing and prioritization of projects.

The City of Vancouver Strategic Plan

In addition to a Comprehensive Plan, the City of Vancouver has completed a strategic planning project. The goals are similar to those in the Comprehensive Plan. The City consulted over 2000 citizen stakeholders to update the Strategic Plan to address current needs of the community in 2007. The plan makes a number of pledges, including a pledge regarding managed growth and one regarding transportation.

Vancouver City Center Vision Plan

The VCCV divides the downtown into six areas and includes a list of goals and guiding principles. Land use goals include: focusing waterfront redevelopment on residential uses, with significant public access, recreation, cultural, hospitality, entertainment, and limited commercial uses. The plan advocates protecting key historic buildings and established residential neighborhoods. Detailed goals include:

- Strengthen the primary street connections, (Columbia and Esther) to the waterfront.
- Support a secondary connection to the waterfront (e.g., Daniels).
- Connect downtown with the Vancouver National Historic Reserve via a 7th Street (Heritage Way) pedestrian bridge.
- Ensure that expansion of I-5 and Columbia River crossing improvements improve access to the city center and minimize potentially negative effects.
- Overcome the barrier-like feeling of the BNSF railroad berm between downtown and the waterfront.
- Provide improved access into the southern and western areas of the city center.
- Focus waterfront redevelopment on residential uses supported by significant public access, recreation, cultural, hospitality, entertainment, and limited commercial uses.
- The Plan specifically addresses the CRC project with the following directions:
 - Analyze proposed engineering designs that could potentially affect adjoining properties negatively and result in wasteful use of downtown land.
 - Enhance existing connections between the Vancouver National Historic Reserve and downtown.
 - In addition to the I-5 southbound ramp to 6th Street, explore other opportunities to improve access to downtown.
 - Integrate the Heritage Way Bridge concept into the I-5 improvements project.
 - Integrate all modes of transportation, including high-capacity transit, bicycle, and pedestrian circulation, to achieve a true regional multimodal corridor.
 - Coordinate I-5 improvements with city center access and circulation needs.

City of Vancouver, Heritage Tree Program

In 1998, the City of Vancouver established the Heritage Tree program in order to preserve and recognize the significant trees in the community. Portland has a similar program. Vancouver has designated a number of significant trees within the primary API. One goal of the program is to provide a way for people to save trees on private property from unnecessary removal and aggressive maintenance actions. With the consent of the property owner, trees receive Heritage Tree status if they meet at least one of the following requirements; at least 36 inches in diameter; located on a special site; related to a historical event; an unusual species for the area; or an exemplary form of the species. All Heritage Trees are inventoried and can be easily identified by plaques with their designation either on or adjacent to the tree.

City of Vancouver Shoreline Management Master Program

Implementing the Washington State Shoreline Management Act of 1971, the City of Vancouver adopted its Shoreline Management Master Program in 1975. The program was completely updated in 1997 and amended in 2006 to incorporate critical areas protections. The program is meant to protect natural values and functions of the shorelines while guiding and allowing appropriate development. Development in this area must meet goals of the program, and the respective code requirements. The goals of the program that most pertinent to land use include:

- The Circulation Element, with goals for good transportation networks, strong bike and pedestrian circulation, and building facilities away from the shoreline.
- The Design Element, with goals for a “visually coherent” design and for a design that enhances the waterfront.
- The Long Range Planning Element, with emphasis on an integrated trail system.

The section of the program that addresses transportation projects includes regulations that require transportation systems to be built within an existing transportation corridor, unless the alternative would have less environmental impact. For the project API, Vancouver has adopted a Columbia River Shoreline Enhancement Plan District (Vancouver Municipal Code [VMC] 20.620) that specifically implements the Shoreline Management Act south of the BNSF railroad between the railroad bridge and Wintler Park. This plan district emphasizes public access.

Central Park Plan

The Central Park Plan was adopted in 1979, and since then, the area has seen dramatic changes, recognized by recent collaborative updates to the plan. On January 28, 2008, the Vancouver City Council adopted the updated Central Park Subarea Plan replacing the 1979 Central Park Plan, “A Park for Vancouver” and its design guidelines. The plan concept calls for a unified sense of place by celebrating a shared historic landscape and emphasizing design of key features such as a “great street” network. The Plan was created following a community planning process involving local citizens, stakeholders and public agencies.

Key features identified in the planning process were prioritized by participants. Gateway features ranked highest, meaning that the CRC project should contribute to the planned gateway design on McLoughlin just south of the proposed park and ride. The plan describes gateways as “attractive entry points to the Subarea that visually signal arrival and differentiate the Subarea from the surrounding areas...and will likely include special signage, landscaping, paving, and structures.” The plan policies address the construction of a station/park and ride facility and seek to integrate it as a service for Central Park users: “CP-17 New Park and Ride facilities shall be located and built to facilitate shared non-peak-hour parking with Central Park institutions and to minimize impervious surface and land used for parking”². The plan also includes the following language specific to the CRC.

Vision: The I-5 Columbia River Crossing improves access to Central Park from all parts of the city and region.

CP-22 Work with Project Partners to ensure that the Columbia River Crossing project is consistent with the goals and policies of the Central Park Plan and by addressing the following:

² City of Vancouver, Central Park Plan Update, page 23.

- A. Create new linkages between Central Park and the Vancouver City Center;
- B. Enhance the Mill Plain connection as the primary gateway to the Central Park Subarea;
- C. Enhance the Evergreen, McLoughlin, and Fourth Plain Boulevard connections as gateways between the City Center and the Central Park Subarea;
- D. Integrate all modes of transportation, including high-capacity transit, bicycle and pedestrian circulation, to achieve a true regional multimodal corridor;
- E. Coordinate I-5 improvements with Central Park Subarea access and circulation needs;
- F. Any new interchanges that are to be built due to the realignment of I-5 shall provide multi-modal access on all sides and shall provide smooth connections to existing paths, sidewalks and bike lanes between Central Park and the City Center; and
- G. To reduce potential impacts of an expanded I-5 freeway and bridge, a cap(s) over I-5 should be provided linking Central Park and the City Center.

Clark College Facilities Master Plan

Enrollment at Clark College has increased from 15,149 in 1990/91 to 19,100 in 2005/06, an increase of 26 percent. In the fall of 2006, a Facilities Master Plan Task Force was chartered by the Executive Cabinet to update the 2001 Facilities Master Plan. The Plan focuses considerable attention on growth and potential sites for future growth projects. The main campus has limited space to accommodate new buildings, and capital projects will therefore focus on renovation and replacement projects. The acquisition of the seven-acre “Triangle” property in June, 2007 added the space on the west side of Fort Vancouver Way, between McLoughlin Street and Fourth Plain Boulevard. Based on conservative population growth projections from the Office of Financial Management, Clark College will need to add 120,000 square feet of building space by 2020 just to maintain the current level of service. In order to close the gap between the current level of service and the state average by 50 percent, Clark College would need to add 196,000 square feet of building space by 2020. There are three elements to the Campus Master Plan that may be impacted by the CRC project.

Parking

A Clark College Main Campus “Theme” is to “provide adequate access to the campus by adding parking structures and other commuter options.

The main campus has a total of 2,806 parking spaces, many of which have been constructed in the past 15 years to accommodate growth. Parking on the main campus is fully utilized during prime daytime hours when the college is operating at full capacity. The Plan calls for modest improvements in surface level lots and a larger expansion with a structured parking facility.

Land Use

Another Clark College Main Campus “Theme” is to “preserve and enhance green space, art, and plazas.

The Visitor Center property (part of the Triangle) was purchased by the College in 1999 and includes a small 1,610 square foot wood frame building built in 1982. The building is currently utilized to provide space for athletic offices and storage. Proposed development of this five acre

site includes demolition of the existing building and construction of a large multi-floor mixed use building located on the site adjacent to McLoughlin Boulevard.

The plan goes on to note that “Regional transportation planners have indicated an interest in acquiring this property for a large structured parking facility and/or a light rail terminal to support the Columbia Crossing project.

Clark County Comprehensive Growth Management Plan

The Clark County Comprehensive Growth Management Plan directly governs the unincorporated portions of the County, but has a regional function in that it represents the coordinated land use/transportation system plans for the County and seven cities. The following policies and strategies were derived from the adopted Plan of 2007. Exhibit 3-9 shows the designated land uses in the API for the Clark County Comprehensive Plan.

Framework Plan Policies

The Framework Plan is the foundation of the County’s and each City’s Comprehensive Plans. It was developed in the early 1990s. These policies have relevance to the entire Clark County area, not just the unincorporated portions.

Section 5.0 – Transportation: Policy 5.1.3 represents the County’s commitment to integrated transportation and land use planning. Within the transportation section, the policy encourages mixed land use and locating as many other activities as possible within easy walking and bicycling distances from public transit stations. It also explicitly encourages use of alternative transportation types. Policy 5.1.10 calls for a coordinated effort to develop park and ride sites along regional transportation facilities.

Section 8.0 – Historic Preservation: requires programs to identify archaeological and historic resources, protect them, and educate the public about the history of the region. This policy could impact the development of new highways and the movement of rights-of-way into cultural landscapes and historic structures.

Section 10 – Community Design: calls for development of high-quality design and site planning standards for publicly funded projects (e.g., civic buildings, parks, etc.). This policy encourages considering aesthetic values in the design and selection process for the I-5 CRC project.

Comprehensive Plan Policies

The following policies refer specifically to the unincorporated areas of Clark County.

Land Use and Housing: Clark County’s planning policies encourage compact urban forms with an emphasis on mixed uses and urban centers. Higher intensity uses should be located on or near streets served by transit, and streets, pedestrian paths and bike paths should contribute to a system of fully connected routes to all destinations. The Housing section commits to a multimodal transportation system that would serve new and existing neighborhoods. It commits to preserving and building additional affordable housing. Strategies listed under the Land Use Policies include:

- Coordinate a business revitalization plan for the Hazel Dell/Highway 99 commercial corridors reflecting incentives for: reconfiguring commercial uses from strips to larger centers; transit orientation of both commercial and residential developments; and conversion of excess commercial sites to multi-family housing.

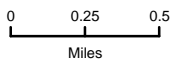
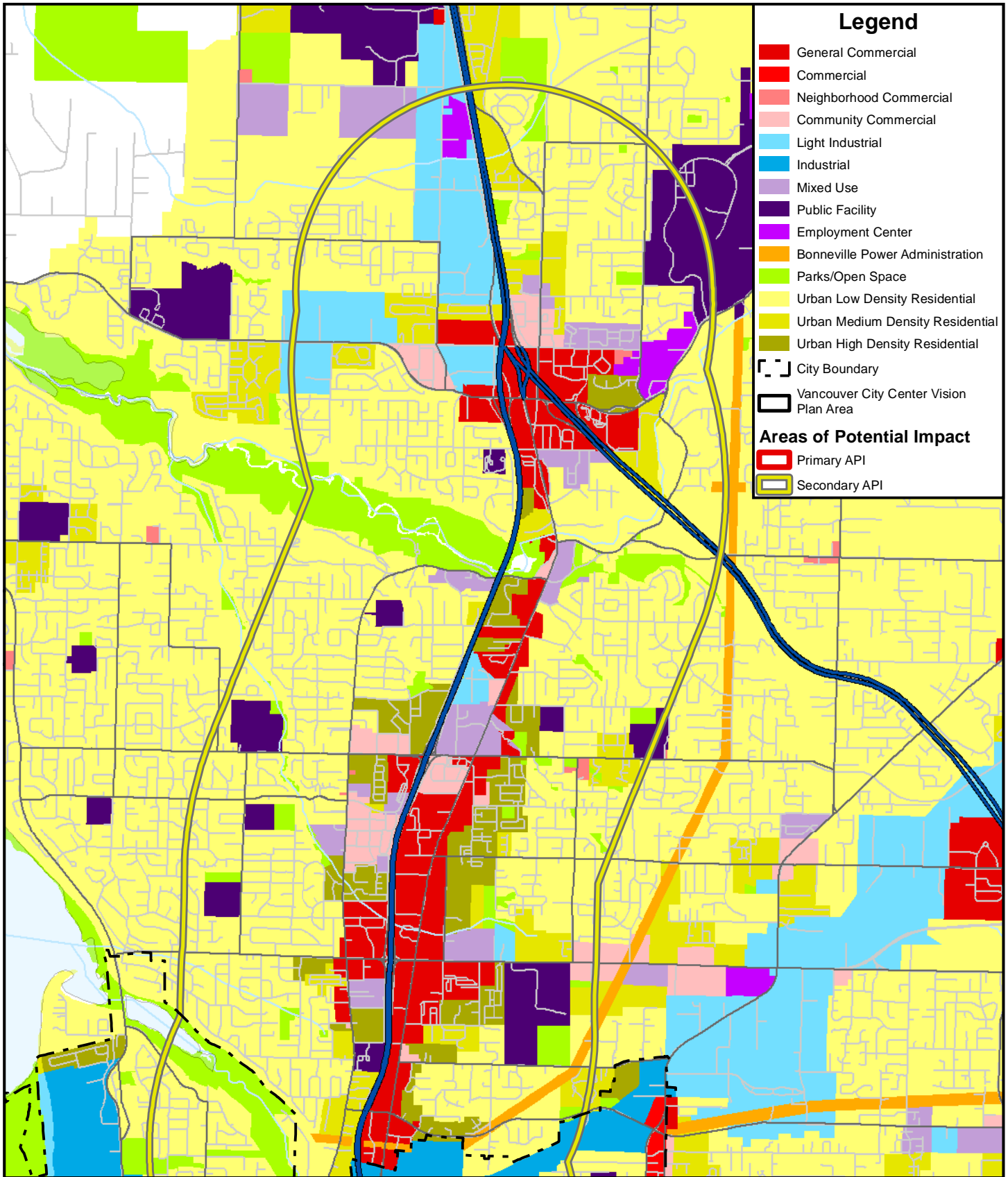


Exhibit 3-9. Comprehensive Plan - Clark County



Source: Clark County, WA, Assessors Office, GIS Digital Data, complan.shp, 2010.

The Highway 99 Focused Public Investment Area Action Plan is described further later in this report.

Environment: Policy 4.1.2 The county and each municipality shall cooperate to ensure the preservation and protection of natural resources, critical areas, open space, and recreational lands within and near the urban area through adequate and compatible policies and regulations.

Transportation: Policy 5.0.1 - Clark County, Metropolitan Planning Organization (MPO) and the Regional Transportation Planning Organization (RTPO), state, bi-state, municipalities, and C-TRAN shall work together to establish a truly regional transportation system which:

- *Reduces reliance on single occupancy vehicle transportation through development of a balanced transportation system, high-capacity transit, bicycle and pedestrian improvements, and transportation demand management;*
- *Encourages energy efficiency;*
- *Minimizes environmental impacts of the transportation systems development, operation and maintenance.*

A commitment to a multimodal system, which is emphasized in Policy 5.1.2: “Long range land use and transportation plans shall be coordinated with high-capacity transit plans.” Policy 5.2.1 makes it clear that roadway improvements which provide for additional capacity for the automobile shall also include design accommodations for alternative travel modes.

Economic Development: Policy 9.1.12 - Encourage use of a multimodal transportation system that facilitates the reduction of travel times and reduces the need for additional road construction within the region.

Highway 99, Focused Public Investment Area Action Plan

In 2004, Clark County completed an Action Plan for the area from 63rd Street north to approximately 134th Street. This plan serves as a guide for public investments and for Team 99, a group of business leaders in the corridor.

Transportation: Improve safety, comfort and circulation for pedestrians, bicyclists, transit riders and motor vehicle users.

- Develop public support to secure funding for a ten block pilot project.
- Build partnerships to locate, design, fund and construct safe mid-block pedestrian crossings and to remove obstructions in the sidewalk area.

Landscape and Environmental Design: Implement landscaping and other visual enhancements on public and private land to improve the image, identity and aesthetic environment of Hazel Dell.

- Design and develop partnerships to fund and construct entry features south of the railroad bridge and on the north end near Salmon Creek. Investigate the potential for a community plaza or entry feature on NE 78th Street between Highway 99 and I-5.
- Coordinate with WSDOT and community organizations to landscape the I-5 right-of-way from Main to NE 99th Street.

3.5 Zoning and Overlay Districts

Zoning districts for Portland, Multnomah County, Vancouver, and Clark County are based on the principle of separating uses such as residential, commercial, industrial, etc. The codes dictate allowed uses, building heights, and off-site impacts. Both Portland and Vancouver use overlays to protect natural resources, urban form, and historic properties. The zones found within the primary API are described in and depicted in Exhibits 3-10 through 3-18.

3.5.1 City of Portland Zoning

Exhibit 3-10 shows the zoning designations for the project API in Portland.

General Commercial Zone (CG) – General Commercial zones allow a range of both retail and services businesses. These zones are generally auto-oriented except when near transit facilities, and are intended to be aesthetically pleasing to motorists, pedestrians, transit users, and other businesses. This zone applies to most of the primary API on Hayden Island and along the south bank of the North Portland Harbor east of I-5.

General Industrial 2 (IG2) – The General Industrial 2 designation provides for large lots developed in a larger or irregular block pattern with medium to low coverage, with development generally set back from the street. This zone applies to areas west of I-5 near the Marine Drive interchange and along the Columbia Slough.

General Employment 2 (EG2) – This designation provides for large lots developed in larger or irregular block patterns with medium to low coverage, with development generally set back from the street. This zone applies to the area directly east of I-5, from the Columbia Slough to N Hayden Meadows Drive.

Mixed Commercial/Residential Zone (CM) – This designation allows commercial and residential development on a single site. It is intended for busier streets with an emphasis on transit-friendly and pedestrian-oriented development. This encourages first floor retail development with residences on the upper floors. This zone applies to the area between N Marine Drive and the commercial district along North Portland Harbor.

Residential 2 (R2) – The R2 designation allows for low-density multi-dwelling structures, including duplexes, townhouses, row houses, and garden apartments. Housing in this zone is usually one to three stories and is located along streets with moderate traffic. This zone applies to a small area on Hayden Island along the eastern border of the primary API.

Open Space Zone (OS) – This designation provides for the enhancement and preservation of public and privately owned open, natural, and improved parks and recreational areas. Open Space can be found on the east side of I-5 between N Martin Luther King Jr. Boulevard and N Hayden Meadows Drive, and on the west side near the Expo Center exit. Open space also borders the N Columbia Boulevard interchange at the southern end of the primary API.

3.5.2 City of Portland Overlay Zones

Exhibits 3-11, 3-12, and 3-13 show Portland overlay zones in the API.

Environmental Protection & Conservation Zones (p & c) – The Environmental Protection & Conservation designation protects the most important resources and functional values through identification, inventory, and analysis. This designation limits development, permitting it only in

rare or unusual circumstances. Within the primary API, the conservation zone applies to the riparian corridors and aquatic habitat along the Columbia River, North Portland Harbor, Columbia Slough, and the Vanport Wetlands. The overlay zone regulations at Vanport Wetlands are superseded by the regulations of The Peninsula Drainage District 1. An 11-person staff manages all four adjacent districts as a single environmental system. The districts' responsibilities have grown in scope and complexity over the years. The districts are managed to remove and direct stormwater to protect lives, property, and the environment; and lead efforts to return the districts' waterway network to a more natural condition.

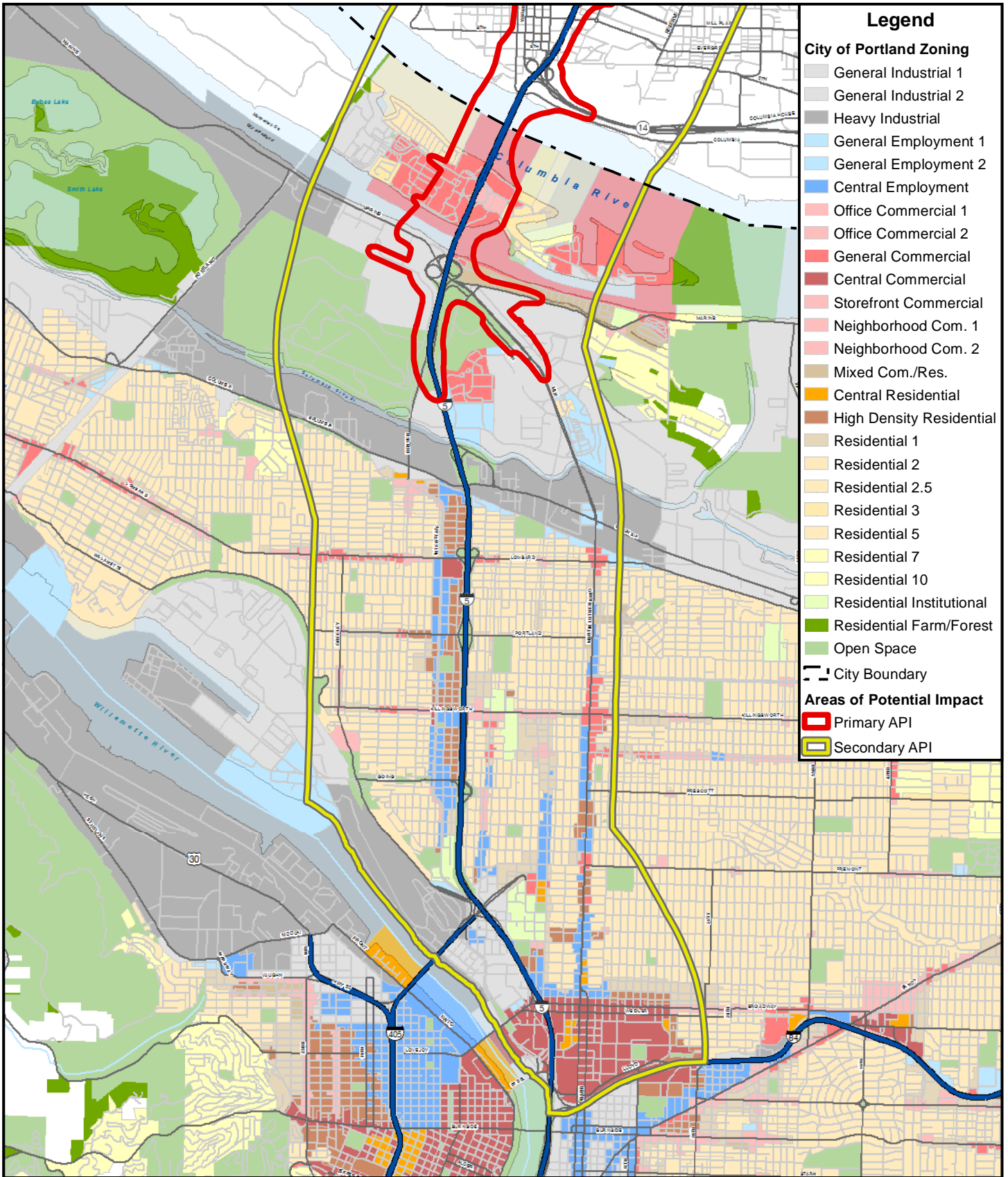
Design Overlay Zone (d) – This designation promotes conserving and enhancing scenic, architectural or cultural values within new and pre-existing development; building quality high-density development near transit facilities; and requires compliance with Community Design Standards or a design review to ensure that the development is compatible with its surrounding area. The design overlay applies to areas along North Portland Harbor and around the Marine Drive interchange, covering most of the Bridgeton neighborhood and parts of the Albina community.

Aircraft Landing Overlay Zone (h) – This designation provides safer operating conditions near the Portland International Airport by restricting the height of structures and vegetation. It applies to almost the entire area between the Columbia River and Columbia Slough.

Portland International Airport (PDX) Noise Impact Zone (x) – This designation is intended to reduce noise impacts from aircraft in the area surrounding PDX. Reducing noise impacts is achieved by limiting residential development, and requiring noise insulation, easements and disclosure statements. This overlay applies to all of Hayden and Tomahawk Islands, as well as the North Portland Harbor and its shorelines.

Light Rail Transit Station Overlay Zone (t) – This overlay zone encourages a mix of uses within identified light rail station areas. The zone allows for more intense and efficient use of land at increased densities. Uses and development are regulated to create an environment oriented to pedestrians, and ensure a density and intensity that is transit supportive. There is not currently a Light Rail Transit Station Overlay on Hayden Island. There is currently a regional effort to develop new guidance and regulations for station area plans.

Public Recreational Trail Designations – The City also has adopted regulations pertaining to Public Recreational Trails. These regulations apply to areas along Marine Drive, and are in addition to those of the base zones and other overlays.



- ### Legend
- City of Portland Zoning**
- General Industrial 1
 - General Industrial 2
 - Heavy Industrial
 - General Employment 1
 - General Employment 2
 - Central Employment
 - Office Commercial 1
 - Office Commercial 2
 - General Commercial
 - Central Commercial
 - Storefront Commercial
 - Neighborhood Com. 1
 - Neighborhood Com. 2
 - Mixed Com./Res.
 - Central Residential
 - High Density Residential
 - Residential 1
 - Residential 2
 - Residential 2.5
 - Residential 3
 - Residential 5
 - Residential 7
 - Residential 10
 - Residential Institutional
 - Residential Farm/Forest
 - Open Space
- City Boundary**
- Areas of Potential Impact**
- Primary API
 - Secondary API

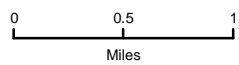
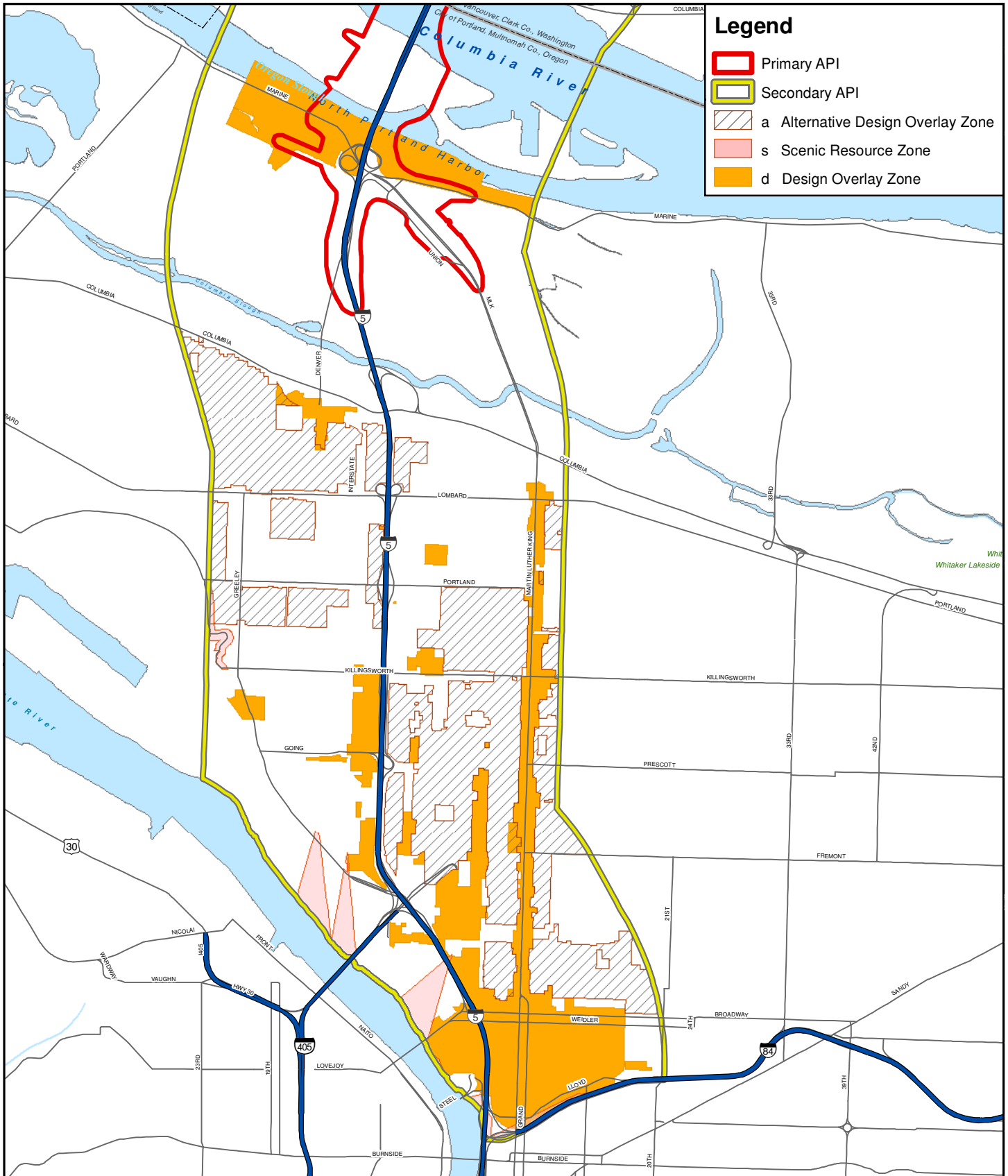







Exhibit 3-10. Zoning - Portland



Source: Clark County, WA, Assessors Office, GIS Digital Data, zoning.shp, 2010.



Legend

-  Primary API
-  Secondary API
-  a Alternative Design Overlay Zone
-  s Scenic Resource Zone
-  d Design Overlay Zone

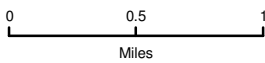
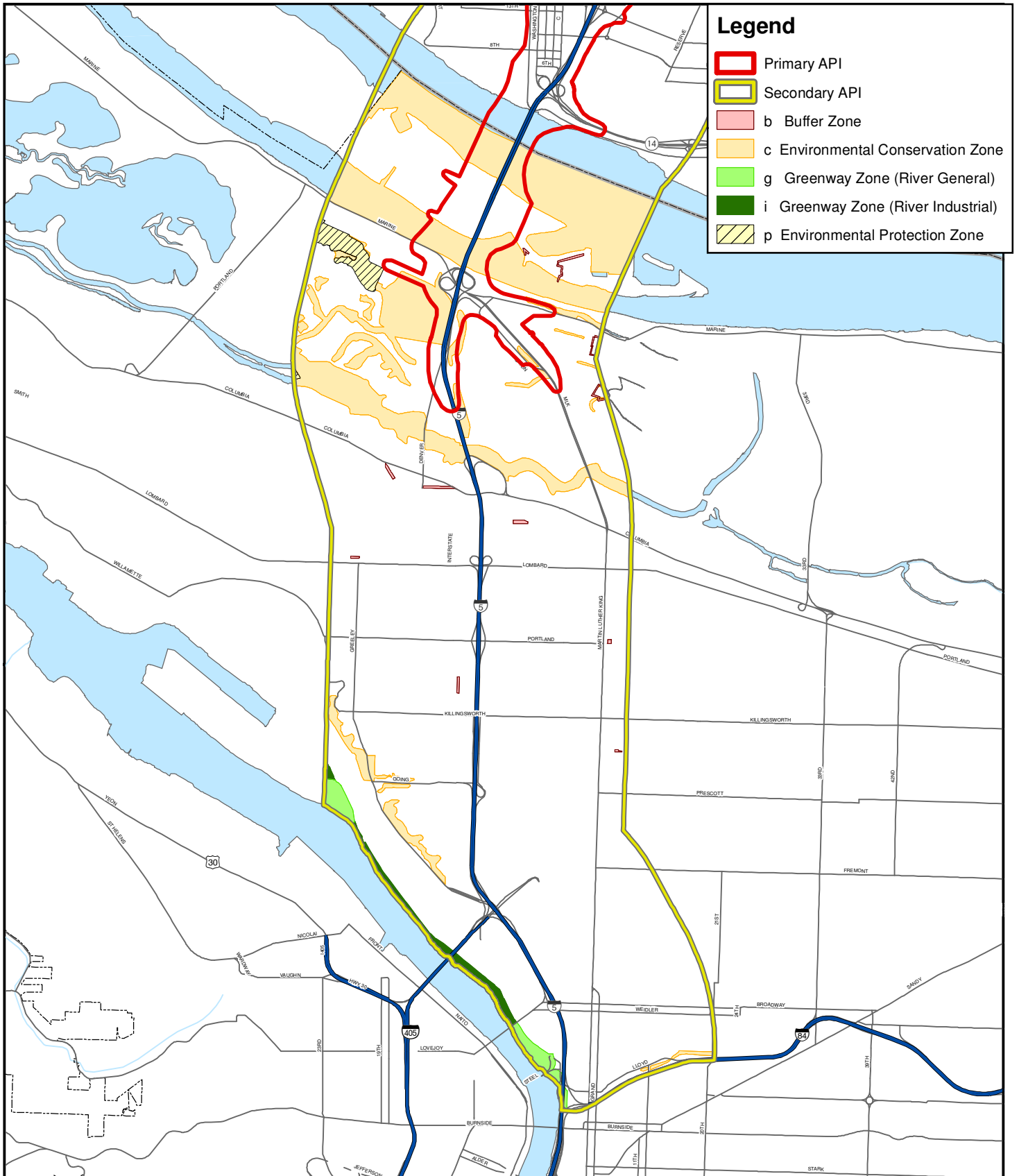


Exhibit 3-11. Overlay Zones -
Design Overlay Zones,
Portland, Oregon





Legend

- Primary API
- Secondary API
- b Buffer Zone
- c Environmental Conservation Zone
- g Greenway Zone (River General)
- i Greenway Zone (River Industrial)
- p Environmental Protection Zone

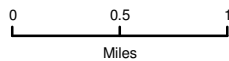
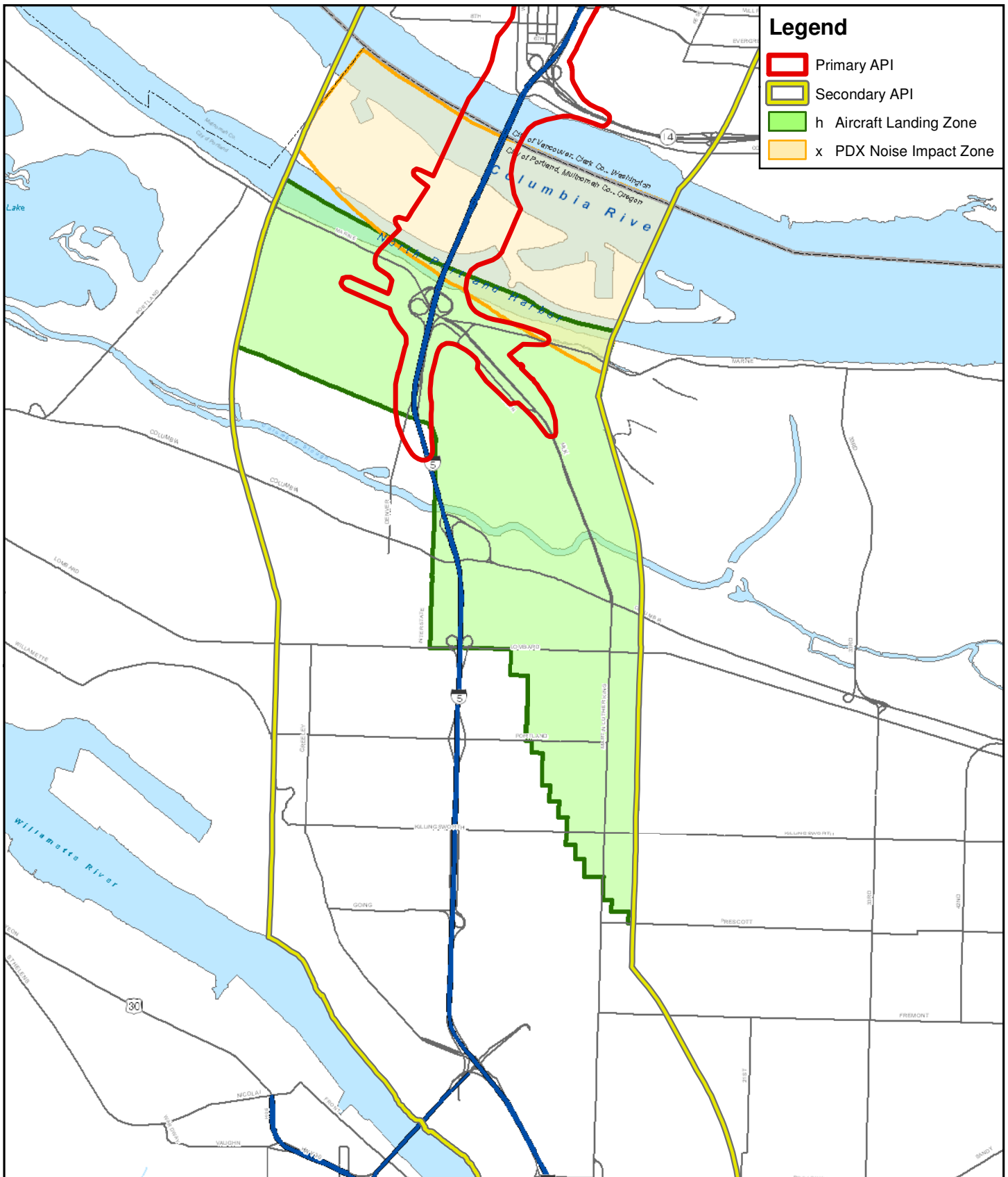


Exhibit 3-12. Overlay Zones - Environmental Protection and Conservation Zones, Portland, Oregon



Analysis by J. Koloszar; Analysis Date: Dec. 21, 2010; File Name: Zover_Or_Zones_bcgip_DC212.mxd



Legend

- Primary API
- Secondary API
- h Aircraft Landing Zone
- x PDX Noise Impact Zone

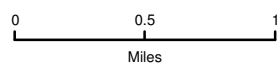


Exhibit 3-13. Overlay Zones -
Noise and Aircraft Zones,
Portland, Oregon



3.5.3 City of Vancouver Zoning Districts

Exhibit 3-14 shows zoning in the project API within Vancouver.

Community Commercial (CC) – This designation is intended for retail development near residential neighborhoods. This designation allows for structures that include some offices, institutions, and upper floor housing, but cannot exceed 50 feet in height. Development is intended to be pedestrian-friendly, while promoting bicycle and transit travel. Community Commercial zoning is located in the Uptown area along Broadway Street, Main Street and McLoughlin Boulevard, and exists in patches at the intersections of 39th and Main Street, 45th and Main Street, and 33rd Street on the eastern edge of the primary API.

General Commercial (CG) – The CG zoning district allows for a full range of retail, office, and civic uses. This zone has no height limits and allows for housing above the ground floor. Some light industrial uses are allowed, but is limited so as not to detract from the predominant commercial character of the district. This zone is located north of the intersection of 45th and Main Street.

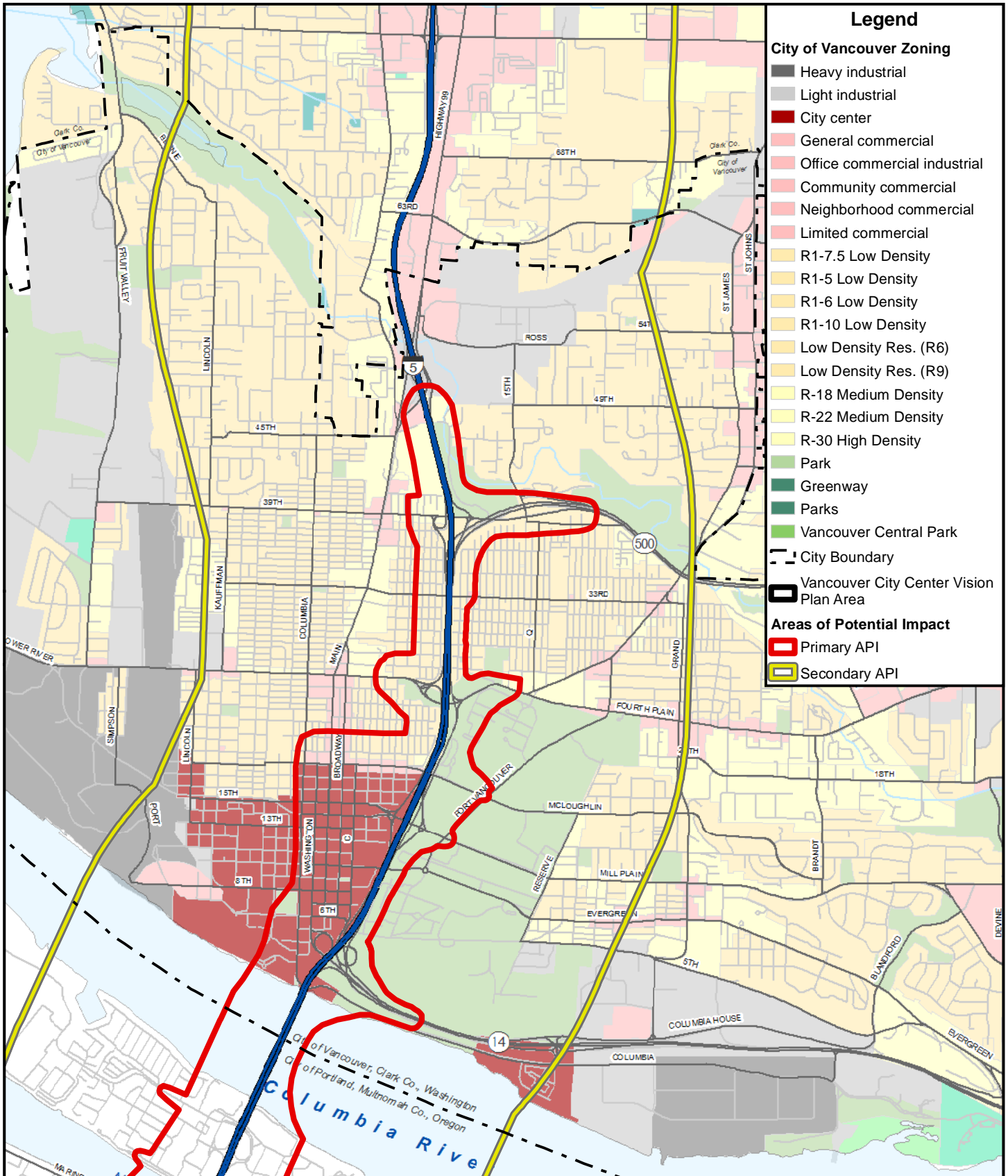
Commercial Downtown District (CX) – The CX zoning district provides for a concentrated mix of retail, office, civic and housing uses in downtown Vancouver. The broad range of allowed uses is intended to promote Vancouver as the commercial, cultural, financial and municipal center of Clark County. Typical uses include, but are not limited to retail sales; hotels/motels; restaurants; professional offices; educational, cultural, and civic institutions; public buildings; commercial parking; and above-grade housing. This zone encompasses most of the area west of I-5 between McLoughlin Boulevard and the Columbia River, and is located at both ends of the Waterfront Park area east of I-5 along the Columbia River.

Vancouver Central Park Mixed Use (CPX) – The CPX zone is the base zoned designation for all land located within the Vancouver Central Park Plan District that contains a number of parks, government, institutional, and educational facilities. The district also contains the Vancouver National Historic reserve including Officers' Row, Vancouver Barracks, Fort Vancouver, Pearson Airfield and other resources. The district is designed to enhance and protect the existing facilities and permit new uses that are compatible in design and scale.

Office Commercial Industrial (OCI) – This designation provides office, light industrial, and small-scale commercial development with no off-site impacts. Review of proposed site plans for design and development standards ensure that development integrates into its surroundings. This district straddles I-5 at the northern end of the primary API.

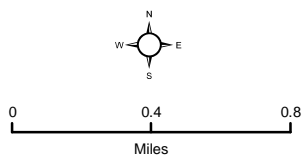
Light Industrial (IL) – This designation provides locations for light or clean industrial uses with office and retail businesses. These uses would not require marine or rail access and contain limited outdoor storage. This district applies to the area at the northern end of the project from 49th Street to the city limits.

Heavy Industrial (HL) – The Heavy Industrial Zone provides appropriate locations for intensive industrial uses that involve the use of raw materials and require significant outdoor storage. These zones can generate heavy truck and rail traffic. This district is located at the western edge of the secondary API along the Columbia River.



- ### Legend
- City of Vancouver Zoning**
- Heavy industrial
 - Light industrial
 - City center
 - General commercial
 - Office commercial industrial
 - Community commercial
 - Neighborhood commercial
 - Limited commercial
 - R1-7.5 Low Density
 - R1-5 Low Density
 - R1-6 Low Density
 - R1-10 Low Density
 - Low Density Res. (R6)
 - Low Density Res. (R9)
 - R-18 Medium Density
 - R-22 Medium Density
 - R-30 High Density
 - Park
 - Greenway
 - Parks
 - Vancouver Central Park
 - City Boundary
 - ▭ Vancouver City Center Vision Plan Area
- Areas of Potential Impact**
- ▭ Primary API
 - ▭ Secondary API

Exhibit 3-14. Zoning - Vancouver



Source: Clark County, WA, Assessors Office, GIS Digital Data, zoning.shp, 2010.

Lower Density Residential Districts – These districts are designed to preserve and promote neighborhoods of detached single dwellings at low intensities. Flexibility in housing type is promoted by allowing manufactured homes, duplexes, and planned unit developments under special conditions. The only Lower Density district in the primary API is the R-9. The R-9 zoning district accommodates detached single dwellings with or without accessory residential units at a minimum lot size of 5,000 square feet and a density of 5.9 to 8.7 units/net acre. Some civic and institutional uses are permitted as limited or conditional uses. Within the API, this district is located along the I-5 corridor from Fourth Plain Boulevard to 39th Street.

Higher Density Zoning Districts – These districts promote medium- to high-density in residential neighborhoods. Housing types include manufactured homes, duplexes, row houses, and multi-unit structures. Non-residential uses, such as professional office and limited commercial, civic, or institutional use, are permitted subject to certain provisions. In the primary API, Higher Density zones include: R-18, R-22, and R-30. The R-18 district accommodates attached homes such as duplexes and row houses, and garden-type apartments at a minimum lot size of 1,800 square feet per unit. The R-22 zoning district accommodates similar structures, plus lower-density multi-dwelling structures, at a minimum lot size of 1,500 square feet per unit. The R-30 zoning district accommodates multi-dwelling structures at a minimum lot size of 1,500 square feet per unit. High Density residential development is concentrated along Main Street from Fourth Plain Boulevard to the north end of the primary API, north of Fourth Plain east of Main Street, along 39th Street between Main Street and I-5, and directly west of I-5 along McLoughlin Boulevard.

Greenway (GW) – The Greenway District is intended to preserve, conserve, and enhance natural features and support water quality, habitat, public access, and education. Low impact, low-intensity uses and activities are appropriate for these areas. The Greenway District consists of a set of greenways, some of which are regulated individually to achieve their special purposes. The Burnt Bridge Creek Greenway is located along SR 500 toward the northern extent of the primary API.

Park – Consisting of neighborhood, community, and regional parks, this designation provides for the environmental preservation, conservation and enhancement of park districts. These parks provide for passive, low, medium, and high intensity recreational activities. Parks are located throughout the primary API, the largest being Vancouver Central Park on the east side of I-5, which encompasses the Waterfront Park, the Old Apple Tree Park, Fort Vancouver, Officers Row, and Marshall Park.

3.5.4 City of Vancouver Overlay Districts

Exhibits 3-15, 3-16, and 3-17 show the Vancouver Overlay Districts in the project API.

Heritage Overlay District – These two districts preserve the unique architectural character and historic or cultural significance of specific areas within downtown. They ensure that all new development is compatible in scale, character, and design with existing structures, and that older buildings are preserved and their original character restored. One overlay applies to the House of Providence Academy on Evergreen Boulevard, and the other applies to the most southern blocks of Main Street.

Hough Neighborhood Overlay District – This district protects the low-density residential character of the Hough neighborhood, while allowing for the continued use of multi-family and non-residential structures currently in place. It also allows for rebuilding these structures if they

become damaged. This overlay applies to approximately 20 blocks north of Mill Plain Boulevard, between Daniels and Markle Streets.

Noise Impact Overlay District – This district is in place to inform property owners within the district of unusually high noise levels from nearby airports, railroads, and highways. It applies to a section of the Columbia River shoreline beginning at Columbia Shores Boulevard and extending west to the Esther Short Park neighborhood, and those blocks that abut I-5 up to McLoughlin Boulevard. The overlay requires that any new residential construction within the district employ construction techniques that insulate residents from this high noise level.

Office Development Overlay District – This district requires careful review of any non-residential development planned along major streets to protect neighborhoods from increased pedestrian and automotive traffic, noise and light pollution, or changes to community aesthetic. This overlay is located along Main Street from Fourth Plain Boulevard to 45th Street.

Transit Overlay District – This district provides financial incentives to promote high-density residential and commercial development along main traffic corridors that is both pedestrian and transit-friendly. It provides specific guidelines for desired uses, densities, orientation, setback, and floor-area ratios for non-residential and residential structures. The overlay is broken into two tiers. The stricter, Tier 1 zoning is located in patches along Main Street and Fourth Plain Boulevard, often at major intersections or interchanges. Tier 2 zoning applies to a much larger area along Main Street, from Mill Plain Boulevard to 159th Street, and along Fourth Plain Boulevard.

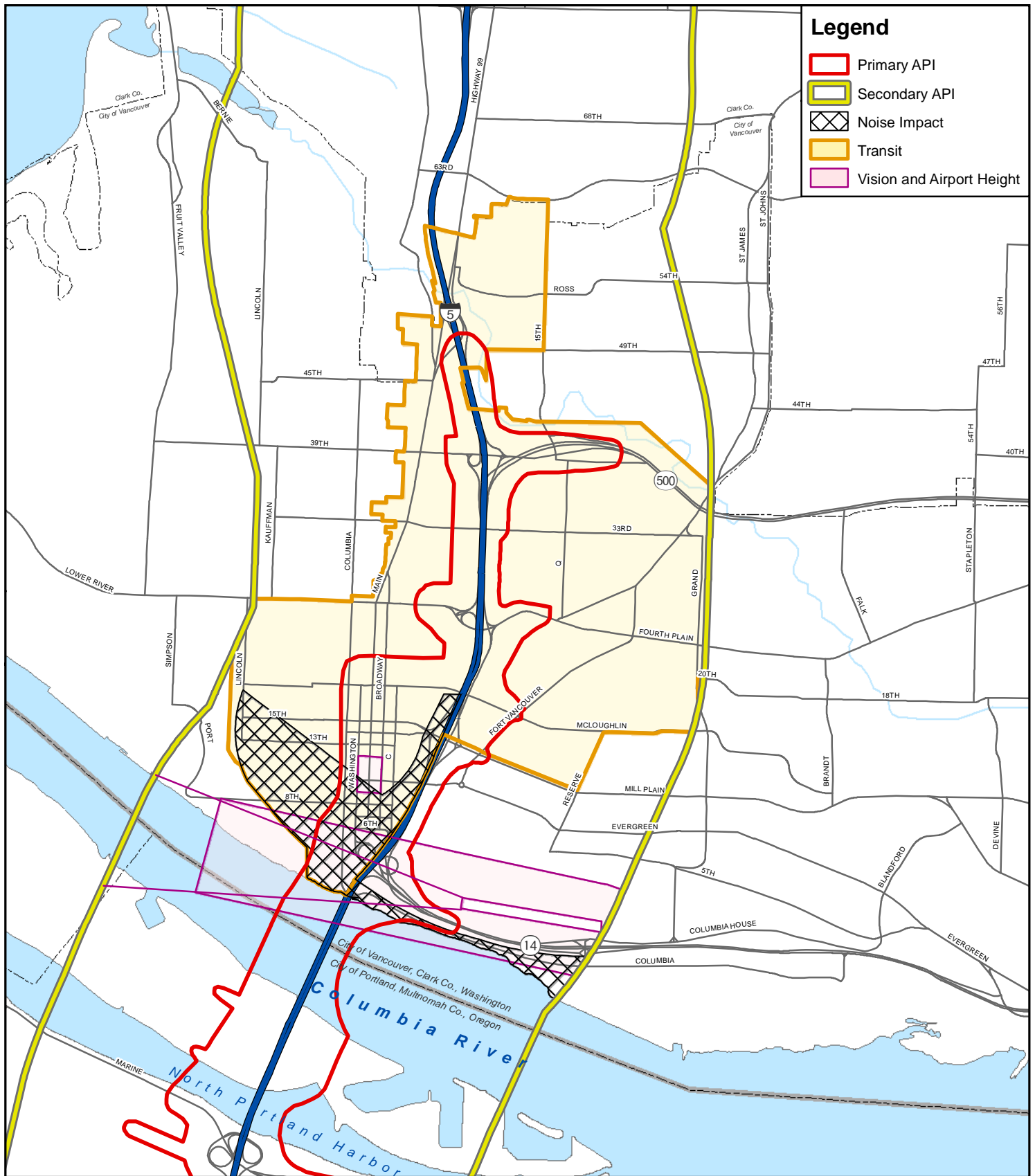
Vision Overlay District – This district protects against structures that could interfere with views from the residential slopes east of I-5. This overlay applies to the area bounded by 5th, 6th, U, and Z Streets.

Airport Height Overlay District – This district protects against structures that could obstruct the airspace associated with Pearson Airfield. This overlay applies to the Pearson Airfield approach and take-off zones that extend south into the Columbia River and west across the I-5 to the SR 14 interchange.

Shoreline Management Area – This overlay is in place to implement the policies and procedures set forth by the Shoreline Management Act of 1971. It prevents uncoordinated development of valuable shorelines, and promotes land use that preserves and protects water quality, the natural environment, and public access. In the API, shorelines regulations are implemented by the Columbia River Shoreline Enhancement Plan District.

Central Park Plan District – This Plan District was established in 2008 to preserve and enhance the established urban civic character of the area and its significant historical, natural, educational, recreational, public utility and social service resources. This Plan District implements the adopted goals and policies of the Central Park Plan, (Ordinance M-3865); Fort Vancouver National Historic Site General Management Plan; Vancouver National Historic Reserve Cooperative Management Plan; and the Vancouver National Historic Reserve Long Range Plan.

Downtown District – This zone provides an implementing mechanism for the City's Design Review Committee functions. New development, redevelopment, signage, and more are reviewed by the committee to ensure consistency with design principles for downtown. Section 20.630.010 includes these different principles, though more are provided in design-related documents adopted by the City (e.g., Central Park Plan). Design regulations pertain to building lines, rain protection, blank walls, maximum building heights, parking, waterfront development, and more.



Legend

- Primary API
- Secondary API
- Noise Impact
- Transit
- Vision and Airport Height

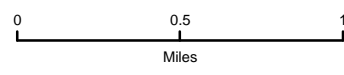
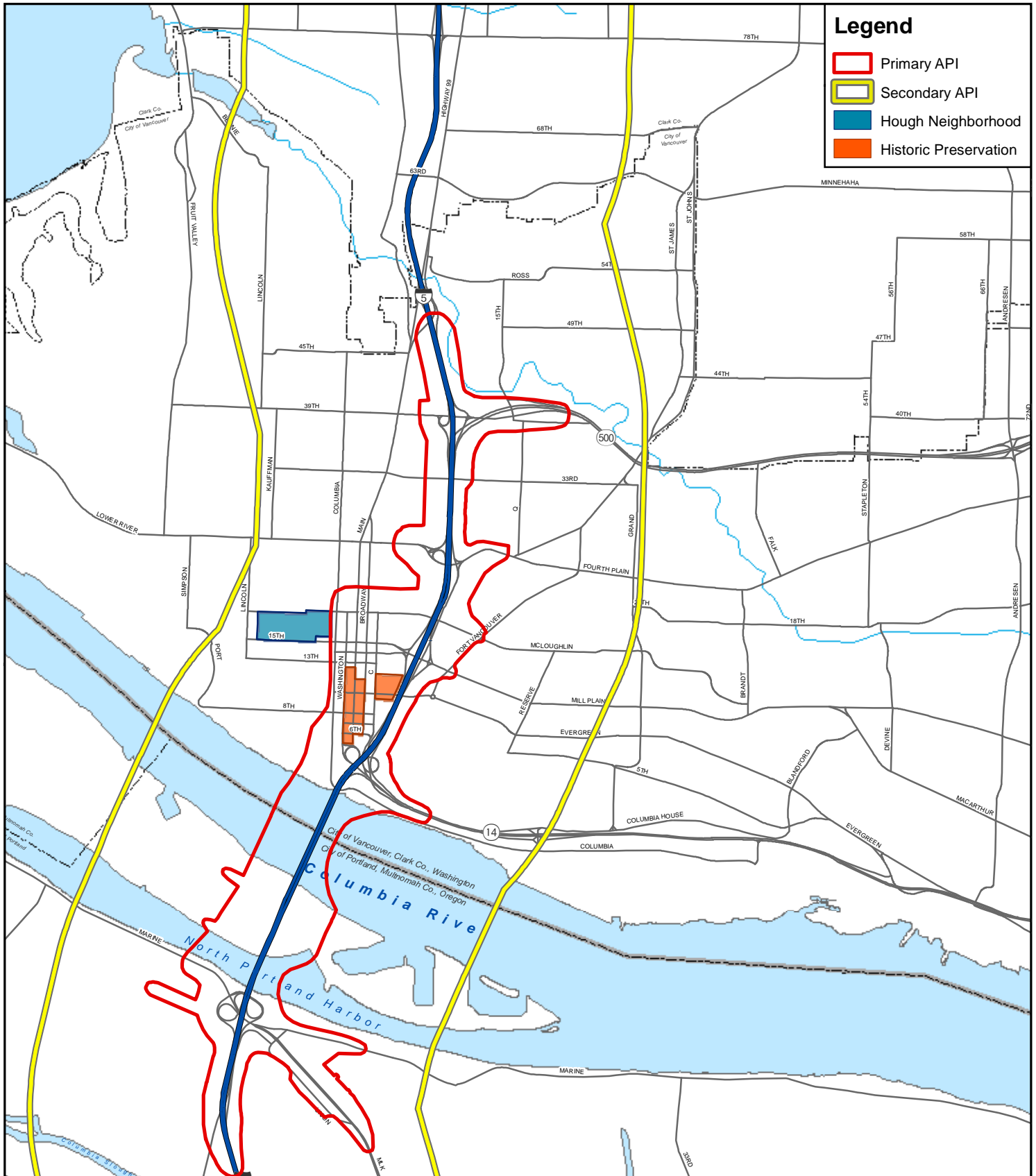


Exhibit 3-15. Overlay Districts - Noise and Transportation - Vancouver, Washington





Legend

- Primary API
- Secondary API
- Hough Neighborhood
- Historic Preservation

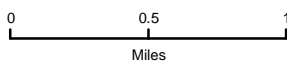


Exhibit 3-16. Overlay Districts - Neighborhood, Historic Preservation, and Greenway District - Vancouver, Washington



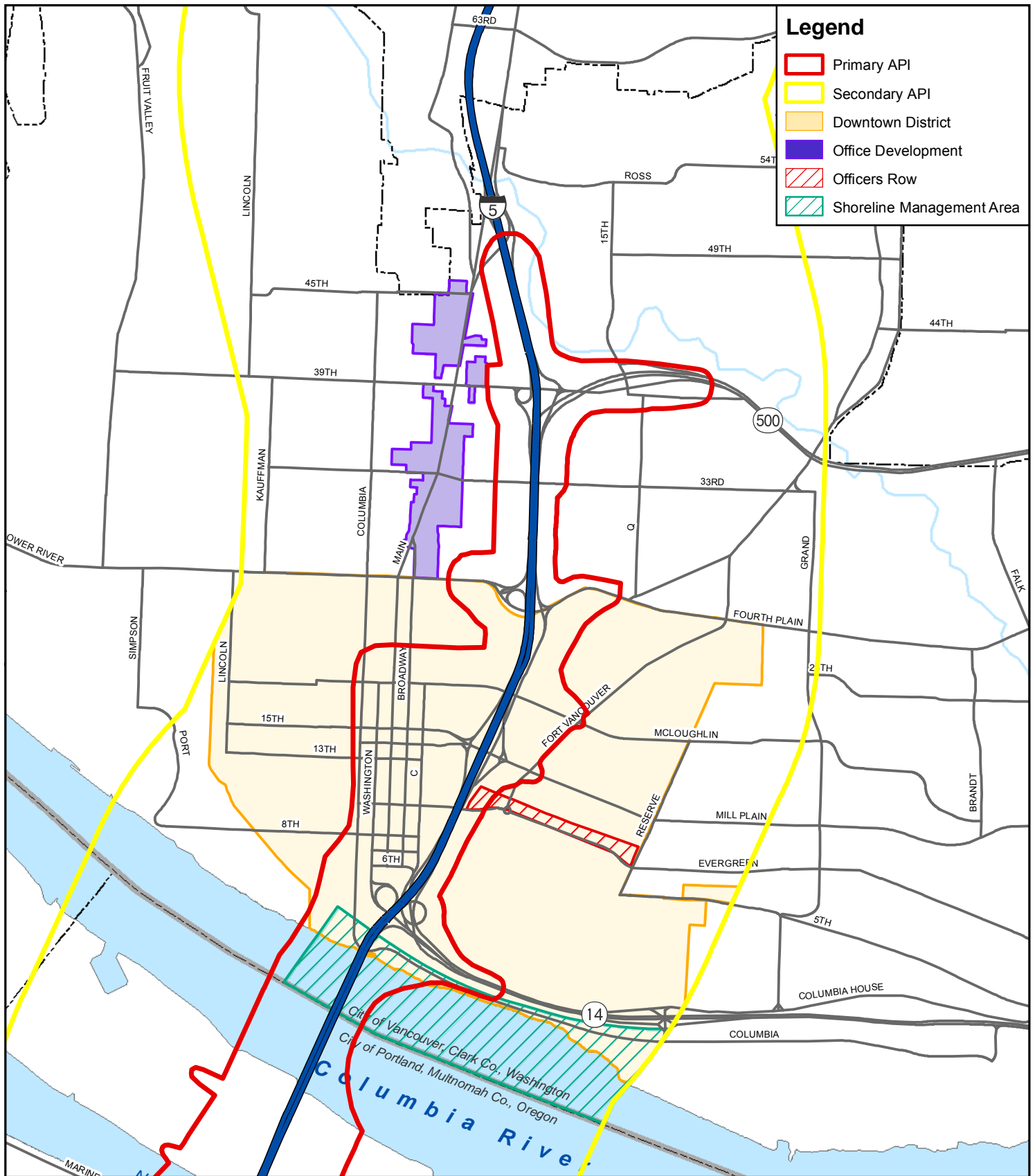
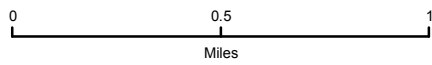
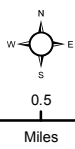


Exhibit 3-17. Overlay Districts - Development and Shoreline Vancouver, Washington



3.5.5 Clark County Zoning

Exhibit 3-18 shows the Clark County Zoning in the secondary API in Washington.

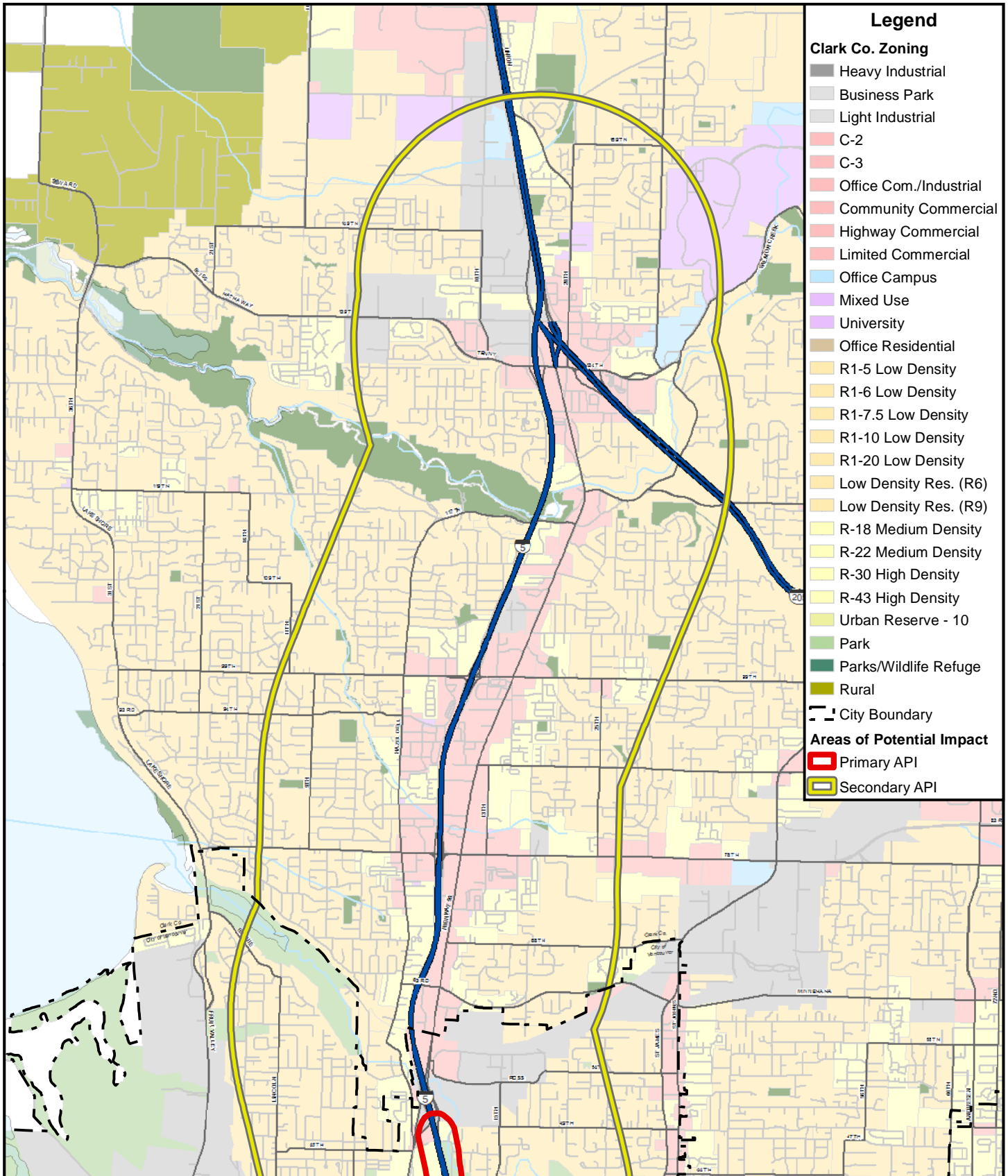
Low Density Residential (R1-20, R1-10, R1-7.5, R1-6 and R1-5) – This designation provides for predominantly single-family residential development with densities of between five and ten units per gross acre. Minimum densities assure that new development will maximize the efficiency of public services. Duplex and attached single-family homes may be permitted through in-fill provisions or approval of a Planned Unit Development. In addition, public facilities, churches, institutions and other special uses may be allowed in this designation if certain conditions are met. The zones may be applied in a manner that provides for densities slightly higher than existing urban development, but the density increase should continue to protect the character of the area.

Medium Density Residential (R-12, R-18 and R-22) – This designation provides land for single-family attached housing, garden apartment, and multi-family developments ranging from ten to 22 dwelling units per gross acre. Minimum densities assure that areas build out to the density planned, ensuring that the urban areas accommodate anticipated residential needs. Areas planned for urban medium residential use and assisted living facilities shall be located near commercial uses and transportation facilities in order to efficiently provide these services. Public facilities and institutions are allowed under certain conditions.

High Density Residential (R-30 and R-43) – These areas provide for the highest density housing in the urban area with 43 units per gross acre. Minimum densities assure that these areas build out to the density planned, ensuring that the urban areas accommodate anticipated residential needs including assisted living facilities. Areas with this designation shall be located in transit corridors and near commercial and employment centers to provide demand for commercial and transportation services while providing easy access to employment. Institutions and public facilities are allowed in this zone under certain conditions.

General Commercial (CG) – This designation is applied to existing strip commercial areas as highway or limited commercial zoning. The strip commercial areas are generally characterized as narrow bands of commercial uses adjacent to major and minor arterial roadways. The 20-Year Plan strongly discourages additional strip commercial (highway or limited commercial base zones) being applied to new areas or extending existing strip commercial areas.

Mixed Use (MX) – Areas within this designation are implemented with the list of uses allowed in the mixed use (MX) zone and are intended to provide the community with a mix of compatible urban retail service, office, and residential uses. The mix of uses should be mutually supporting and pedestrian and transit-oriented. Pedestrian and transit orientation shall be accomplished through design requirements governing such elements as scale, bulk, street orientation, landscaping, and parking.



- Legend**
- Clark Co. Zoning**
- Heavy Industrial
 - Business Park
 - Light Industrial
 - C-2
 - C-3
 - Office Com./Industrial
 - Community Commercial
 - Highway Commercial
 - Limited Commercial
 - Office Campus
 - Mixed Use
 - University
 - Office Residential
 - R1-5 Low Density
 - R1-6 Low Density
 - R1-7.5 Low Density
 - R1-10 Low Density
 - R1-20 Low Density
 - Low Density Res. (R6)
 - Low Density Res. (R9)
 - R-18 Medium Density
 - R-22 Medium Density
 - R-30 High Density
 - R-43 High Density
 - Urban Reserve - 10
 - Park
 - Parks/Wildlife Refuge
 - Rural
- City Boundary**
- - - City Boundary
- Areas of Potential Impact**
- Primary API
 - Secondary API

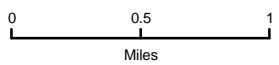


Exhibit 3-18. Zoning - Clark County



Source: Clark County, WA, Assessors Office, GIS Digital Data, zoning.shp, 2010.

Employment Center (EC) – Areas within this designation are implemented with Office Campus (OC) and Business Park (BP) base zones and are intended to provide the community with a compatible office and attractive new non-polluting industries. Office and Business Park areas are designated for more intensive job-related land uses that pay family wages, such as professional offices, research, and technology related industries located in a campus like setting. Business Park areas may also be targeted by special public or private incentive programs that provide up front public service improvements or other inducements to attract family wage employment where higher job densities are encouraged. These areas are specifically targeted by local government and private sector job development organizations to consider special incentives to attract large scale businesses with public improvements, tax incentives, expedited development review or other considerations.

Light Industrial (ML) – Areas within this designation provide for light manufacturing, warehousing, and other land intensive uses. Services and uses which support industrial uses are allowed in these areas but limited in size and location to serve workers within the light industrial area. Industrial lands are located in areas of compatible land uses with arterial access to the regional transportation network.

Heavy Industrial (MH) – This designation is implemented with a heavy industrial base zone and provides land for heavy manufacturing, warehousing, and industrial uses that may be incompatible with other categories of land use. This designation is appropriate for areas that have extensive rail and shipping facilities.

Public Facilities (PF) – This designation is applied to land uses that have facilities or are for public use. Public schools, government buildings, water towers, sewer treatment plants, and other publicly owned uses are included in this designation. The implementing base zone may be Public Facilities.

Open Space – These areas provide visual and psychological relief from man-made development in the urban area. Open space also provides opportunities for recreational activity and environmental preservation, maintenance, and enhancement. Open space may include, but is not limited to developed parks, trails and greenways, special areas, public and private recreational facilities, critical lands, and public gathering spaces. Open space is not implemented with a base zone but may be implemented with specific overlay, combining district or development review standards.

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4. Long-term Effects

4.1 No-Build Alternative

The No-Build Alternative would not directly address current deficiencies in the bridge structure, design, or capacity. As such, existing land uses served by the structure, as well as interstate commerce and daily commute patterns would remain vulnerable to high levels of congestion, unsafe conditions, and potential earthquake-induced failure.

There would also be no high-capacity transit service between the regional centers of downtown Vancouver and downtown Portland.

The No-Build Alternative would result in a level of traffic congestion that would impair freight movement and reduce area productivity. Each of these impacts may have indirect impacts on land use plans and goals. For example, high levels of traffic congestion may undermine economic development opportunities. A loss in the growth of local jobs would have an impact on housing prices, downtown revitalization, and more.

For more information on the changing traffic conditions between existing and the No-Build scenario, refer to the Traffic Technical Report.

Regional transportation plans, as well as the numerous plans developed by the City of Vancouver, call for high-capacity transit in Vancouver, which would not be provided by the no-build. Further details are provided below. The following discussion is organized topically rather than by jurisdiction, as there are many plans that are pertinent and there are many similarities in their policies. Representative policies are referenced with each topic. Please refer to Section 3.4, Plans and Policies, for more details on specific plans.

4.1.1 Consistency with Plans and Policies

4.1.1.1 Mobility

The current and projected levels of congestion on I-5 make the No-Build Alternative inconsistent with policies and goals for acceptable levels-of-service. In the Oregon Highway Plan, Action 1F.1 provides a standard for the level-of-service (LOS) required for an Oregon highway of this type. These standards are largely based on v/c ratios. The Metro 2040 Growth Concept and the Regional Framework Plan include sections on transportation that require an “acceptable” LOS and a “reasonable and reliable” travel time for moving freight.

Capacity constraints along I-5 limit the vehicular and person demand that can be served along the corridor in the peak travel directions (southbound during the a.m. peak, northbound during the p.m. peak). This demand is measured as vehicle and person throughput at the I-5 crossing.

During the morning peak, southbound vehicle throughput reaches 19,100 vehicles at the I-5 crossing. However, actual southbound vehicle demand is about 5 percent greater, as the bottleneck at the bridge limits the number of vehicles that can cross during the peak. For the westbound SR 14 to southbound I-5 movement, vehicle demand exceeds the amount of traffic

that is served by about 600 vehicles, resulting in congestion and delay on the SR 14 ramp. Some traffic volumes divert to alternative connections (such as downtown Vancouver streets).

Northbound vehicle throughput on I-5 during the afternoon/evening peak reaches 20,500 vehicles at the I-5 crossing. This represents only 96 percent of the actual peak demand (21,400 vehicles).

Length of time for southbound congestion on the Interstate Bridge is expected to increase from 2 hours currently to over 7 hours in 2030 under No-Build conditions (during the 2-hour morning peak), southbound I-5 travel times are forecast to increase by 3 minutes (19 percent) for a vehicle-trip along I-5 from SR 500 to Columbia Boulevard, and by 15 minutes (48 percent) for a vehicle-trip from 179th Street to I-84.

Under 2030 No-Build conditions, northbound congestion periods on the Interstate Bridge are expected to increase from 4 hours to almost 8 hours. During the 2-hour afternoon peak, northbound I-5 travel times are forecast to increase by 2 minutes (17 percent) for a vehicle-trip from Columbia Boulevard to SR 500 and by 6 minutes (16 percent) from I-84 to 179th Street.

The No-Build Alternative (representing conditions in 2030) would be accompanied by many intersection failures in both Portland and Vancouver. In both cities, 8 intersections will not meet standards and 24 would have unacceptable impacts associated with traffic queuing (back-ups) in the morning peak. During the afternoon peak, 12 intersections will no longer meet standards and 25 would have unacceptable impacts associated with traffic queuing.

The No-Build Alternative is predicted to increase congestion to 15 hours/day by 2030.

4.1.1.2 Multimodalism

A number of policies in many plans refer to a balance of transit modes. This includes the WTP, Metro 2040 Growth Concept, Regional Framework Plan, Vancouver Comprehensive Plan, and Clark County Comprehensive Plan. The existing bridge has no accommodations for high-capacity transit. The existing bike and pedestrian facilities are substandard and are sufficiently unpleasant (with narrow pathways and high noise levels from nearby high speed traffic) to discourage bike and pedestrian trips on the bridge. The No-Build Alternative would be inconsistent with policies requiring a balanced transportation system.

4.1.1.3 High-Capacity Transit

The No-Build Alternative would be inconsistent with the need and plan for a regional high-capacity transit (HCT) system. Priority 2 of the Metro TIP requires the expansion of HCT, defined as light rail, commuter rail, streetcar, bus rapid transit, or other modes; and clearly promotes a regional light rail system. The regional light rail system is also supported in Portland's Central City Plan, Policy 4 A. The Vancouver Transportation Plan supports all travel modes, including high-capacity transit. These and numerous other plans call for HCT in Vancouver, connecting Vancouver and Portland.

4.2 Locally Preferred Alternative

4.2.1 Direct Impacts

The CRC project would convert existing land uses to transportation right-of-way. Although these conversions would reduce the area of land available to a small extent, it would convert only a small portion of the total land in the Portland/Vancouver area. The project's contribution of

approximately 90 converted acres would not be substantial in a regional context, but does contribute to lasting trends from other past, present, or reasonably foreseeable actions that would have a cumulative effect on land use. These changes, which result from the extension of light rail transit, the development of mixed-use parking structures, and other transportation infrastructure, are consistent with the goals and policies of adopted plans. Transportation is an allowed use in all zones in which the LPA would be built.

4.2.1.1 Oregon

Exhibits 4-1 and 4-2 show the direct impacts of all acquisitions in Oregon. Partial acquisitions would leave a remainder parcel after acquisition and may or may not require the acquisition of buildings. These remainder parcels may still be buildable and available for redevelopment. The Acquisitions Technical Report includes much more detailed information about the right-of-way acquisitions. While the Acquisitions Technical Report discusses each temporary and permanent acquisition, this report has considered the land use implications of these acquisition has determined whether the acquisitions (individually or as a whole) would have an effect on broader land use patterns, balances between land uses, land use plans, etc.

Exhibit 4-1. Oregon Right-of-Way Acquisitions by Zone

Zoning	Full Acquisitions		Partial Acquisitions		Just Easement Acquisitions		Total Parcels		Total Acres	
	Opt A	Opt B	Opt A	Opt B	Opt A	Opt B	Opt A	Opt B	Opt A	Opt B
Mainland										
CG	0	0	1	1	0	0	1	1	1.25	1.25
CM	0	0	4	4	0	0	4	4	0.18	0.17
IG2	1	1	24	15	1	1	26	17	15.90	9.22
N/A ^a	0	0	1	0	0	0	1	0	0.03	0.00
HI ^b	14	14	1	1	0	0	15	15	10.50	10.50
Hayden Island										
CG	16	16	14	13	0	0	30	29	40.09	46.11
CN2	4	4	7	6	0	0	11	10	2.00	2.19
R2	0	0	1	1	0	0	1	1	0.13	0.02
Total	35	35	53	43	1	1	89	77	70.08	69.46

a N/A properties are parcels that do not have zoning designations.

b This zoning designation covers the 10.5 acres located near the Ruby Junction Maintenance Facility area.

4.2.1.2 Oregon Mainland

The permanent acquisition of property would be required in this area to accommodate the reconstruction of the Marine Drive interchange, and the extension of light rail from its current terminus at Portland Exposition Center over North Portland Harbor. With LPA Option A, approximately 17.36 acres of property would need to be permanently acquired in this area, including 0.13 acres of permanent property easements, impacting a total of 32 different parcels. LPA Option B would permanently acquire 10.64 acres of property, including .37 acres of permanent property easements, impacting a total of 22 different parcels.

Most of the permanent property impacts in this portion of the project area are due to the highway portion of project, specifically, the realignment of Marine Drive and the addition of local street connections beneath the Marine Drive interchange. These roadway improvements impact parcels on both sides of the interchange, and results in the displacement of some parking and the parking attendant booth at the Portland Exposition Center. The realignment of I-5 at the Marine Drive interchange and over North Portland Harbor results in the displacement of five businesses along the harbor, including four marine businesses, two east of I-5 and one west of I-5, and one billboard.

The transit alignment over North Portland Harbor would result in the displacement of one floating home associated with the parcel adjacent to and west of I-5. The remaining portion of this parcel, not impacted by transit, would be permanently acquired for the highway alignment, which would displace a single-family home on land and two additional floating homes in the harbor. The single-family home consists of two separate households. A total of five households would be displaced in this portion of the project area.

Option A and Option B would not differ in the displacements they would require. However Option A would require more property from the Portland Exposition Center parcel for the realignment of Expo Road and from industrial and residential properties on the east side of the interchange due to a different design of local street connections in this area.

For both options, the permanent acquisition of approximately 10.50 acres of property would be required surrounding TriMet's Ruby Junction Maintenance Facility in Gresham, Oregon. The facility would need to expand to accommodate the expansion of the existing maintenance facility to accommodate the additional light rail vehicles generated by the LPA and the Portland-Milwaukie Light Rail Project in Oregon.

Of the acquired parcels in Oregon mainland for Option A, one is for an easement, 15 are full acquisitions, and another 31 are partial acquisitions. For Option B, one is for an easement, 15 are full acquisitions, and 21 are partial acquisitions. The acquisition areas on the Oregon mainland are comprised of many different zoning designations: General Commercial (CG), Mixed Commercial (CM), General Industrial 2, (IG2), Vacant and Heavy Industrial (HI). As Exhibit 4-2 indicates, Option A would acquire 27.86 total acres of right-of-way and Option B would acquire 21.14 acres for mainland Oregon. Both options include 10.5 acres of off-site property needed for the Ruby Junction Maintenance Facility.

The critical question for land use is whether these acquisitions, collectively, would constitute an impact to the any single land use category, the mix of uses, or the planned land use pattern and intensity in the area. The acquisition of new right-of-way, displacement of active land uses, and other impacts on the Oregon mainland would not lead to a change in land use patterns, zoning, or land use plans.

Differences in Property Acquisitions with the LPA with Highway Phasing

If construction of the Victory Braid ramp and Marine Drive interchange flyover ramp were delayed, a 0.21 acre permanent acquisition of TriMet property would be deferred.

Exhibit 4-2. Oregon Mainland Right-of-Way Acquisitions by Zone

Zoning	Full Acquisitions		Partial Acquisitions		Just Easement Acquisitions		Total Parcels		Total Acres	
	Opt A	Opt B	Opt A	Opt B	Opt A	Opt B	Opt A	Opt B	Opt A	Opt B
Mainland Oregon - I-5 Vicinity										
CG	0	0	1	1	0	0	1	1	1.25	1.25
CM	0	0	4	4	0	0	4	4	0.18	0.17
IG2	1	1	24	15	1	1	26	17	15.90	9.22
N/A ^a	0	0	1	0	0	0	1	0	0.03	0.00
Mainland Oregon – Ruby Junction										
HI ^b	14	14	1	1	0	0	15	15	10.5	10.5
Total	15	15	31	21	1	1	47	37	27.86	21.14

a HI zoning designation (10.5 acres) is located in the Ruby Junction Maintenance Facility area.

4.2.1.3 Hayden Island

LPA Option A would permanently acquire approximately 42.22 acres of property on Hayden Island to accommodate the reconstruction of the Hayden Island interchange and the extension of light rail over Hayden Island. LPA Option B would permanently acquire slightly more, 48.32 acres, on Hayden Island.

The light rail alignment, in combination with the highway realignment for both options, would displace an office supply store and restaurant from the Jantzen Beach SuperCenter property, as well as a small complex of four retail/services at the intersection of N Hayden Island Drive and N Center Avenue. The highway alignment, in combination with a bicycle and pedestrian connection to the island, would result in the displacement of the Safeway grocery store, a restaurant and cellular array south of Safeway.

The vacant Thunderbird Hotel would need to be partially demolished to accommodate the construction of the I-5 bridges. The displacement of an inflatable marine craft business along N Jantzen Avenue would be required to accommodate the redesign of N Jantzen Drive. Additionally, one marine consulting business located in one of the displaced floating homes, two businesses, and a cell phone tower located on the upland parcel associated with the Jantzen Beach Moorage would also be displaced.

Acquisition on Hayden Island would occur within the General Commercial (CG) zoning designation, Neighborhood Commercial 2 (CN2) and Residential 2 (R2). Option A would require 16 full acquisitions and 14 partial in the CG zone, 4 full and 7 partial in the CN2 zone, and 1 partial in the R2 zone. Option B would require 16 full acquisitions and 13 partial in the CG zone, 4 full and 6 partial in the CN2 zone, and 1 partial in the R2 zone. A total of 42 parcels would be impacted with Option A and 40 with Option B. Exhibit 4-3 illustrates the impacts to zoning on Hayden Island.

Exhibit 4-3. Hayden Island Right-of-Way Acquisition by Zoning Designation

Zoning	Full Acquisitions		Partial Acquisitions		Just Easement Acquisitions		Total Parcels		Total Acres	
	Opt A	Opt B	Opt A	Opt B	Opt A	Opt B	Opt A	Opt B	Opt A	Opt B
CG	16	16	14	13	0	0	30	29	40.09	46.11
CN2	4	4	7	6	0	0	11	10	2.00	2.19
R2	0	0	1	1	0	0	1	1	0.13	0.02
Total	20	20	22	20	0	0	42	40	42.22	48.32

There are several different land uses on Hayden Island that would be impacted by the project including retail, service, and lodging. The displacements include 32 single family residences (floating homes), 39 retail/ service businesses for Option A and 40 for Option B, and 3 medical/ professional offices. Roadway improvements result in the displacement of all the 17 retail/service businesses and the ODOT Permit Center currently located between I-5 and N Center Avenue, as well as a restaurant, cigar shop, and a mailing service business at the south end of the island. A bank, car wash, and gas station on the east side of I-5 may also be displaced by similar improvements. In this same area, Option A would displace one fast-food restaurant, while Option B would displace two, due to a differing alignment of N Jantzen Drive between the two options. The Safeway grocery store, and adjacent restaurant and cellular array, would also be displaced due to the redesign of the Hayden Island interchange, which is shifted slightly to the east to accommodate the retention of the existing bridges over North Portland Harbor. Additionally, one marine consulting business located in one of the displaced floating homes, two businesses, and a cell phone tower located on the upland parcel associated with Jantzen Beach Moorage would also be displaced.

On Hayden Island, unlike the remainder of the project study area, there is potential for the direct impacts of the LPA to lead to a significant change in the land use pattern of the area. The changes have significance because of the displacements of commercial businesses (retail, service, and dining) and the displacement of many floating homes.

The displacement of so many commercial businesses could disrupt the overall commercial significance of the Jantzen Beach SuperCenter and surrounding regional commercial center. Centers such as these are able to draw patrons from throughout the region, partly because of the ease of having so many different types of products and services all offered in one location. It is possible for the displacement of these businesses to undermine the collective stability of the SuperCenter “mall” itself and the surrounding shopping center.

The potential to transition the island from a “big-box” regional shopping center to a more walkable, mixed use “lifestyle” shopping center has been preliminarily designed and incorporated into the adopted Hayden Island Plan. The SuperCenter property owners have also expressed (at meetings with CRC staff as well as with a pre-application with the City of Portland) their interest in such a redevelopment project. Regardless of later redevelopment, the projects direct impacts to the island are significant. There would be a loss in commercial services, a loss of the employment opportunities associated with these businesses, a loss of tax revenue, and potential impacts to the viability of the remaining commercial activities. These issues are explored in greater detail in the Economics Technical Report.

The displacement of many floating homes and eight boathouses has a similar disruptive effect on an established land use which has become integral to the island's identity. The immediate neighborhoods of floating homes, would, as a whole, be impacted. Remaining residents will be required to support lease rates to finance the debt and maintenance for the infrastructure that serves the moorage. With fewer residents, the costs, per resident, will be higher than current rates. These impacts to the floating home communities are discussed in greater detail in the Neighborhoods and Population Technical Report.

4.2.1.4 Washington

Exhibits 4-4 and 4-5 show the comparative direct impacts of all acquisitions in Washington. Partial acquisitions would leave a remainder parcel after acquisition and may or may not require the acquisition of buildings. These remainder parcels may still be buildable and available for redevelopment. There is no difference in impacts between LPA Option A and LPA Option B in Washington. The Acquisitions Technical Report includes detailed information about the right-of-way acquisitions for the LPA. Exhibit 4-4 shows acquisitions by count and by acreage for zones within Washington.

Exhibit 4-4. Washington Right-of-Way Acquisitions by Zone

Zoning	Full Acquisitions	Partial Acquisitions	Just Easement Acquisitions	Total Parcels	Total Acres
Uptown					
R-9	0	18	32	50	2.54
R22	0	2	2	4	0.40
Park	0	3	0	3	0.32
CX	4	5	0	9	0.46
CPX	1	3	0	4	6.09
CC	1	0	0	1	0.23
Total	6	31	34	71	10.03
Downtown					
CPX	0	4	1	5	0.67
CX	32	11	0	43	8.85
Park	0	3	0	3	1.19
N/A	0	2	1	3	0.95
Total	32	20	2	54	11.65
Grand Total	38	51	36	125	21.68

4.2.1.5 Downtown Vancouver

Impacts summarized in this section include those from the Columbia River North to McLoughlin Boulevard, though not including impacts on 17th Street and McLoughlin Boulevard. The permanent acquisition of property would be required in this area to accommodate the reconstruction of the SR 14 and Mill Plain interchanges, the realignment of I-5 between those two interchanges, the construction of the Columbia Park and Ride, and the extension of light rail through downtown Vancouver. Approximately 11.65 acres of property would need to be permanently acquired in this area.

The reconstruction of the SR 14 interchange would require small permanent property acquisitions from the Old Apple Tree Park and the VNHR. A permanent airspace easement and permanent property easement would be required at both locations, respectively, for the ongoing maintenance of SR 14 ramps. Additionally, the placement of the SR 14 eastbound to City Center exit at 4th and Columbia Streets would result in the displacement of a car repair business and electric business.

As shown in Exhibit 4-5, the project would acquire land from 54 parcels in downtown Vancouver. Of those parcels, two are easements, 32 are full acquisitions, and 20 are partial acquisitions. The acquisition areas in downtown Vancouver are comprised of three zoning designations: Park, Commercial Downtown District (CX) and Vancouver Central Park Mixed Use (CPX). There are 1.19 acres of Park, 0.67 acres of the CPX zone and 8.85 acres of CX acquired, and additional parcels that do not have zoning designations. These unzoned areas are part of the Burlington Northern Santa Fe Railway or other public rights of way. Much of the required land is already within the WSDOT right-of-way.

Exhibit 4-5. Downtown Vancouver Right-of-Way Acquisitions by Zone

Zoning	Full Acquisitions	Partial Acquisitions	Just Easement Acquisitions	Total Parcels	Total Acres
CPX	0	4	1	5	0.67
CX	32	11	0	43	8.85
Park	0	3	0	3	1.19
N/A	0	2	1	3	0.95
Total	32	20	2	54	11.65

a N/A properties are existing railroad right-of-way parcels or other parcels that do not have zoning designations.

A significant change in land use would occur directly under the bridges. The existing bridges footings occupy all of the land under the bridge, allowing for only a two-lane roadway and wide sidewalk to pass underneath. Because of the height and design of the new bridges, this area could be opened up for new uses, probably open space. The image in Exhibit 4-6 presents a conceptual use of the land under the bridge-head. Final designs for this space would be developed by the City of Vancouver.

Main Street Connectivity

Providing connections between Main Street and the Vancouver Waterfront project (west of the Interstate) is very important to the City of Vancouver, is called for in their plans, and is an important element to the private developers of the Vancouver Waterfront Development project. The LPA would vacate the existing I-5 mainline right-of-way passing under the railroad berm. This space would then be used to provide a roadway connection, extending Main Street south toward the Columbia River, and intersecting with Columbia Way.

Park and Ride Facilities

Three park and rides would be built in Vancouver along the light rail alignment. There are three critical issues to assess in the determination of whether a downtown park and ride facility represents an adverse impact to land use. An adverse impact would occur if the facility displaces uses that are critical to the downtown. These might include civic uses (like a City Hall) or clusters of necessary housing, retail, etc. An adverse impact would occur if the facility “absorbs” local street capacity in a manner that greatly impedes vehicular access to the more primary land uses in

the downtown (entertainment, civic, retail, residential condominiums, etc.). Lastly, an adverse impact would occur if the facility is radically different in scale, massing, or visual appearance, undermining the urban form and density of the downtown.

The first (most southern) park and ride would be built within the block bounded by Washington and Columbia Streets and 4th and 5th Streets, with five floors above ground that include 570 parking stalls.

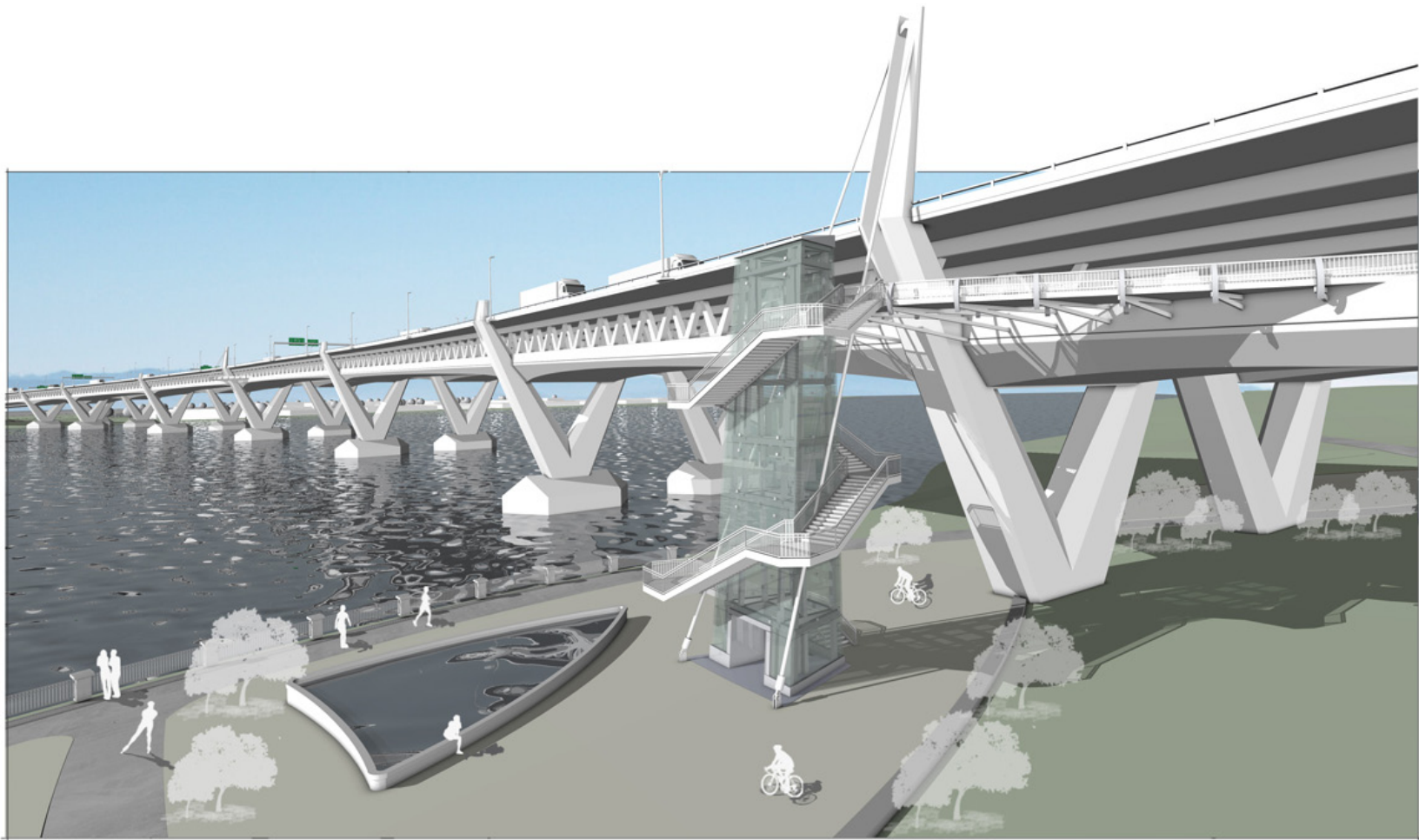
There would also be a park and ride constructed between Broadway and Main Streets next to the stations between 15th and 16th Streets. The Mill Park and Ride would have space for retail on the first floor, and four floors above ground that include 420 parking stalls. There is also a chance that this facility would be incorporated with a larger public-private project. At Clark College, just north of the terminus station, the third park and ride would be constructed with five floors that include 1,910 parking stalls.

Displacing Uses

The Columbia Park and Ride would require the displacement of 11 professional offices that provide a variety of services in the fields of law, engineering, construction, architecture, land use, and energy, and as well as a food cooperative. Most of these are very small professional offices located in one building. The Mill Park and Ride would occupy a currently vacant site that is used for parking, though it is not a legally created parking lot. Visual inspections from project staff have seldom identified more than a dozen vehicles using the site. More importantly, the site provided the City with a key urban development opportunity. This opportunity could largely be lost if the site were to be only used for transit rider parking. The site also occupies an important space linking the central business district (downtown) with the Uptown area. Currently, these spaces are not well connected, as there is a deficit of active uses between these areas. If the park and ride is well-integrated with retail and other uses, the Uptown and downtown areas would benefit from the reconnection of the urban fabric in this area. The Clark Park and Ride displaces limited current college uses and would not preclude the college from redeveloping this area in the future as planned. The college has a deficit of parking and may be able to benefit from the use of this facility, subject to as-yet undeveloped shared use agreements. It is also possible that a mixed use facility could be incorporated within the park and ride garage, subject to a shared use agreement.

Introducing Incompatible Structures and Forms

The construction of multi-story buildings in downtown Vancouver and in Central Park is consistent with the planned intensity of development. However, only in the case of the Columbia Park and Ride is the structure consistent with the existing scale of buildings in the immediate area. This issue is addressed in greater detail in the Visual and Aesthetics Technical Report.



**Exhibit 4-6. Proposed Bridge, SR 14 Interchange, and
Transit Guideway Simulation showing Open Shoreline Areas**
Land Use Technical Report

4.2.1.6 Upper Vancouver

Impacts summarized in this section include those occurring on McLoughlin Boulevard and 17th Street to the northern terminus of the project area, defined for the purposes of this report as Upper Vancouver. The permanent acquisition of property would be required in this area to accommodate the reconstruction of the Fourth Plain and SR 500 interchanges, the realignment of I-5 between these two interchanges, and the extension of light rail to the new Clark Park and Ride.

Approximately 10.03 acres of property would need to be permanently acquired in this area, including 2.7 acres of permanent subsurface easements. A total of 71 different parcels would be impacted. Permanent property impacts in Upper Vancouver are due in large part to the necessary widening of 17th Street to accommodate light rail and the new Clark Park and Ride. The transit alignment would require the displacement of five single-family homes where the light rail track must cross over from 17th Street to McLoughlin Boulevard immediately west of I-5.

The Clark Park and Ride would acquire an entire parcel currently owned by Clark College, as well as a passive portion of the Clark College Recreational Fields. Please refer to the previous section for a discussion of the park and rides.

Property would need to be permanently acquired from Marshall Community Center, Luepke Senior Center, and Marshall Park to accommodate the construction of a highway ramp connecting the Mill Plain and Fourth Plain interchanges, and to accommodate the widened cross-section of McLoughlin Boulevard at Fort Vancouver Way. A small permanent acquisition would be required from the parcel that the Veteran's Administration is located on to accommodate the widening of Fourth Plain; no uses would be displaced. Properties located further north at the west and east ends of the 29th and 33rd Streets overpasses would be impacted by small permanent property acquisitions for reconstruction of these overpasses and associated sidewalks.

Additionally, all residential properties on the east side of I-5 from 26th Street to 33rd Street, and on the west side of I-5 from 31st Street to 37th Street, and then north of 39th Street, would be impacted by permanent subsurface easements for the construction of a retaining wall. Four residences located between 31st and 32nd, 33rd and 34th, and 35th and 36th Streets on the west side of I-5 would be displaced due to severe access restrictions that result from the placement of a ramp from SR 500 or direct building impacts from retaining wall construction.

North of the SR 500 interchange, the parcel on which Discovery Middle School resides would be impacted by a minor permanent property acquisition and a larger subsurface easement for the construction of a retaining wall. On the opposite side of I-5, property would have to be permanently acquired from Leverich Park for the construction of the SR 500 westbound to I-5 northbound elevated ramp. The property acquisitions at Leverich Park as discussed above, would be avoided by deferring the construction of the north legs of the SR 500/I-5 interchange as recommended under the LPA with highway phasing.

Exhibit 4-7 shows that the project would acquire land from 71 parcels north of downtown, or in upper Vancouver. Of those parcels, 34 are easements, 31 are partial acquisitions, and 6 are full acquisitions. The acquisitions in upper Vancouver would take place in six different zoning designations: Residential – Single Family 5,000 square foot minimum (R-9), Residential – 1,500 square foot unit (R-22); Park, Commercial Downtown District (CX), Vancouver Central Park Mixed Use (CPX), and Community Commercial (CC). The majority of acquisitions in the residential areas would be easements. The zoning designation with the largest acquisition impact would be the Vancouver Central Park Mixed Use (CPX) zone with 6.09 acres spanning over four parcels.

Exhibit 4-7. Upper Vancouver Right-of-Way Acquisitions by Zone

Zoning	Full Acquisitions	Partial Acquisitions	Just Easement Acquisitions	Total Parcels	Total Acres
R-9	0	18	32	50	2.54
R22	0	2	2	4	0.40
Park	0	3	0	3	0.32
CX	4	5	0	9	0.46
CPX	1	3	0	4	6.09
CC	1	0	0	1	0.23
Total	6	31	34	71	10.03

The question for land use is whether these acquisitions, collectively, would constitute an impact to the any single land use category, the mix of uses, or the planned land use pattern and intensity in the area. The acquisition of new right-of-way, displacement of active land uses, and other impacts in Vancouver would not lead to a significant change in the mix of land uses, land use patterns, zoning, or land use plans. However, there are potential impacts associated with the traffic around stations and park and rides, redevelopment around stations, and the presence of light rail transit.

4.2.2 Parking and Access

Downtown Vancouver is planned to become, and is becoming, a vibrant, high density mixed use center. To achieve such a goal requires robust planning, investment in infrastructure, incentives, and public-private partnerships. It is possible to undermine such goals by having significant impacts to parking and property access.

The project team completed a parking utilization analysis as well as an assessment of the impacts to on-street parking. The purpose of the study was to identify baseline on-street parking conditions and to ascertain potential parking-related impacts associated with light rail transit development in Vancouver. The study area boundaries include not only the Washington/Broadway Couplet and 17th Street alignments, but they also include a one to two block buffer area on either side of these streets. This buffer area was included so that the parking utilization and impact analysis would incorporate all available spaces within a reasonable walking distance of the affected streets and their individual blocks. In commercial areas, a two block buffer was evaluated. Within residential areas, a one block buffer was considered.

The inventory conducted for the CRC project found that there were 1,341 on-street parking spaces within the study area. These spaces are largely signed and metered, but also include unregulated spaces. Peak occupancy for a parking space is expressed as the percent of parking spaces occupied within a limited area for a specific period of time. For this study, the peak occupancy was calculated on an hourly basis for each alignment. It should be noted that for the blocks studied with each alignment, different peak occupancy hours were identified but all occurred during the study period from 10:00 a.m. to 2:00 p.m.

During the peak hour of on-street parking utilization, 43.2 percent of the total on-street spaces were occupied in the CRC study area, leaving 762 spaces out of 1,341 available for use. This peak occupancy finding closely correlates with the findings of the City of Vancouver’s study of the core area. In the city’s study, a peak parking occupancy of 46.0 percent was identified for the core of downtown for the same noon to 1 p.m. time period. A comparison of 43.2 percent in the

larger study area and 46.0 percent in the core area shows that the occupancy during the peak hour for these two studies is within a 3 percent margin of error which is relatively minor. These peak occupancy percentages are also much lower than the 85 percent occupancy goal³ typically used to determine parking saturation.

The downtown core area study was conducted in August of 2009 before the start of the school year, while data for the larger Vancouver area was collected in November/January. Even with this difference in observation times, parking in Vancouver appears to be relatively constant throughout the year. Seasonal changes do not appear to have an impact on existing patterns of on-street parking in the downtown area. Given that both studies had the same peak hour and had similar peak occupancy rates, data from both studies has been combined to analyze parking impacts from the CRC project.

Based on the on-street parking inventory, the assessment of parking utilization patterns, and the evaluation of parking impacts associated with the proposed project, the resulting conclusions for the downtown Vancouver study area are as follows:

- The City of Vancouver has 1,995 on-street parking spaces in the downtown study area (including both the area studied for the CRC project and from an earlier study of core area parking).
- The majority of on-street parking in downtown Vancouver is intended for customers and is designated as 2-hour or less.
- The common peak hour of vehicle occupancy is 12 p.m. to 1 p.m. for all on-street parking in the study area.
- The peak hour occupancy rate of the study area is 43 percent for the portion of downtown studied for the CRC project. For the portion of downtown previously studied (the core area) peak occupancy is 46 percent.
- The average length of stay for the CRC study area is 2 hours and 13 minutes.
- In the business core area, the Washington-Broadway Couplet alignment has a peak hour occupancy rate of 43.6 percent.
- North of the business core area, the 17th Street alignment has a peak hour occupancy rate of 33.0 percent.
- Occupancy rates for the transit alignments are much lower than the 85 percent threshold which is typically used in parking analysis to represent full occupancy.

4.2.2.1 Parking Impact Findings

- With the loss of on-street parking spaces along Washington Street for the proposed project, the aggregate demand for parking on this street is expected to exceed supply by approximately 7 percent. When parking space availability within a one to two block corridor along the light rail transit alignment is considered, existing demand would consume only 59 percent of available supply.

³ The 85% peak occupancy is a standard level for measuring parking surpluses and deficiencies. Having an occupancy rate of 85% is considered full; the additional 15% is a buffer for unexpected peaks.

- Along Broadway Street, five blocks immediately adjacent to the project are expected to see parking displacement which can readily be accommodated within a one block walking distance from the corridor. In the aggregate, existing parking demand would consume only 73 percent of available parking supply, dropping to 51 percent if available parking within a one to two block radius is considered.
- Along 17th Street there would be parking displacement along seven blocks. With light rail transit, demand would exceed available supply along 17th Street by 400 percent. However, when consideration is given to available replacement parking within one to two blocks of each displaced block, all parking demand can be readily accommodated. In the aggregate, demand along 17th Street would equate to 61 percent of available supply within this one- to two-block area. After meeting the needs of parking demand displaced by light rail transit, 70 on-street parking spaces would remain to accommodate future demand in the area.
- Based on these findings, the current supply of parking is sufficient to meet the demand during peak parking hours along the proposed light rail transit alignment.

4.3 Consistency with Plans and Policies

The proposed project would support GMA policies and the Oregon State-wide Planning Goals pertaining to transportation and infrastructure improvements. The project would accommodate and integrate with a variety of planned transportation facilities throughout the study area. The project would be consistent with goals for providing infrastructure to urban areas and for directing high-density growth to urbanized locations. Regional plans, adopted by the Southwest Washington RTC, Clark County, and Metro would also be supported by improved infrastructure in the urban core and the extension of a high-capacity transit system.

The LPA would comply with the direction of the Vancouver Comprehensive Plan to provide infrastructure to city centers and to provide a range of transportation facilities that would accommodate transit, bicycles, and pedestrians. Comprehensive Plan goals include improved access to the I-5 and the introduction of HCT to Vancouver, and improving connections to the Historic Reserve and waterfront areas. The Comprehensive Plan for the City of Vancouver would likely need to undergo some minor updates to incorporate the proposed alignment of the light rail into the Plan. The Comprehensive Plan for the City of Portland would likely need minor updates to incorporate the local street improvements in the Marine Drive area. The project would meet some, but not all, goals and objectives in local neighborhood plans. Consistency with neighborhood plans is addressed in the Population and Neighborhoods Technical Report.

Goals in the state highway plans, the OHP and the WTP, clearly state objectives for mobility, congestion relief, and freight movement. The proposed project would support these goals, where the No-Build Alternative would not.

A number of policies in many plans refer to a balance of transit modes. This includes the Washington Transportation Plan (WTP); Metro 2040 Growth Concept, Regional Framework Plan, and RTP; Portland Comprehensive Plan and Transportation System Plan; Vancouver Comprehensive Plan, and Clark County Comprehensive Plan. The existing bridge has no accommodations for high-capacity transit. The existing bike and pedestrian facilities are substandard and are sufficiently unpleasant (with narrow pathways and high noise levels from nearby high speed traffic) to discourage bike and pedestrian trips on the bridge.

The two regional transportation planning agencies, Metro and RTC, adopted the LPA into their Regional Transportation Plan and Metropolitan Transportation Plan, respectively, in summer 2008 (Metro 08-3960B; RTC 07-08-10). The CRC project is in the Oregon 2010-2013 Statewide Transportation Improvement Program (STIP), the draft 2012-2015 Oregon STIP, and the Washington 2011-2014 STIP. The Oregon statewide planning goals (including Goal 5, which calls for protection of significant natural resources) are implemented by state, regional and local plans, including the City of Portland Comprehensive Plan.

The following is an overview of state, regional, and local plans with which the CRC project complies. As addressed in Section 3, state, regional, and local plans implement and are consistent with Oregon statewide planning goals and Washington GMA goals. The LPA is consistent with each of the plans discussed below:

Oregon Highway Plan

Several policies in the OHP establish general mobility objectives and approaches for maintaining mobility. It includes the following policies from the Policy Element.

Policy 1A (State Highway Classification System) describes the functions and objectives for several categories of state highways. Greater mobility is expected on Interstate and Statewide Highways than on Regional and District Highways.

Policy 1B (Land Use and Transportation) has an objective of coordinating land use and transportation decisions to maintain the mobility of the highway system. The policy identifies several land use types and describes the levels of mobility appropriate for each.

Policy 1C (State Highway Freight System) has an objective of maintaining efficient through movement on major truck freight routes. The policy identifies highways that are freight routes.

Policy 1G (Major Improvements) has the purpose of maintaining highway performance and improving highway safety by improving system efficiency and management before adding capacity.

Metro 2040 Growth Concept and the Regional Framework Plan

Policy 2.13—Regional Motor Vehicle System: Provide a regional motor vehicle system of arterials and collectors that connect the central city, regional centers, industrial areas and intermodal facilities, and other regional destinations, and provide mobility within and through the region.

Policy 2.14 – Regional Public Transportation System: Provide an appropriate level, quality, and range of public transportation options to serve the region and support implementation of the 2040 Growth Concept, consistent with the Regional Transportation Plan.

Policy 2.15 – Regional Freight System: Provide efficient, cost-effective and safe movement of freight in and through the region.

Policy 2.19.2 – Peak Period Pricing: Manage and optimize the use of highways in the region to reduce congestion, improve mobility, and maintain accessibility within limited financial resources.

Apply peak period pricing appropriately to manage congestion. In addition, peak period pricing may generate revenues to help with needed transportation improvements.

Consider peak period pricing as a feasible option when major, new highway capacity is being added to the regional motor vehicle system, using the criteria used in Working Paper 9 of the Traffic Relief Operations study.

City of Portland Comprehensive Plan

Policy 5.4 – Transportation System: Promote a multimodal regional transportation system that encourages economic development.

Goal 6 – Transportation: Develop a balanced, equitable, and efficient transportation system that: provides a range of transportation choice; reinforces the livability of neighborhoods; supports a strong and diverse economy; reduces air, noise, and water pollution; and lessens reliance on the automobile while maintaining accessibility.

Policy 6.29 – Freight Intermodal Facilities and Freight Activity Areas: Develop and maintain an intermodal transportation system for access and circulation in Freight Districts and for the safe, efficient, and cost-effective movement of freight, goods, and commercial vehicles within and through the city on Truck Streets.

Address freight movement and access needs when conducting multimodal transportation studies or designing transportation facilities.

Participate in the interjurisdictional planning for improvements to the I-5 transportation and trade corridor.

Policy 6.33 – Congestion Pricing: Advocate for a regional, market-based pricing system for auto trips during peak hours.

Policy 6.34 – North Transportation District: Reinforce neighborhood livability and commercial activity by planning and investing in a multimodal transportation network, relieving congestion through measures that reduce transportation demand, and routing non-local and industrial traffic along the edges of the residential areas.

Policy 7.6 – Energy Efficient Transportation: Provide opportunities for non-auto transportation including alternative vehicles, buses, light rail, bikeways and walkways.

Promote the construction of a regional light rail system.

City of Vancouver Comprehensive Plan

CD-4. Urban Centers and Corridors: Achieve the full potential of existing and emerging urban activity centers and the corridors that connect them, by:

Promoting or reinforcing a unique identity or function for individual centers and corridors.

Planning for a compact urban form with an appropriate mix of uses.

Establishing connectivity and accessibility within each center and to other areas.

Providing a range of transportation options.

The LPA's principle components are identified in Metro's RTP and in the City of Portland TSP and are therefore consistent with those transportation system plans. Below is a list and description of the RTP and TSP projects for which the project would build the improvements:

Regional Transportation Plan (Metro)

- **RTP Project 10893: Improve I-5/Columbia River Bridge (Victory Boulevard to Washington State Line):** *Replace I-5/Columbia River bridges and improve interchanges on I-5.* New bridges will replace the existing I-5 bridges and the following I-5 interchanges in Oregon will be improved: Victory Boulevard, Marine Drive, Hayden Island/Jantzen Beach.
- **RTP Project 10902: MAX Light Rail: Yellow Line: CRC/I-5 North Extension** *CRC: Expo to Vancouver, north on Main to Lincoln.* Light rail will be extended from the Expo Center MAX station in Portland to a station and park-and-ride lot at Clark College in Vancouver.
- **RTP Project 11032: Ruby Junction light rail operating base expansion:** *LRV maintenance and storage facility, including expansion on the west side of Eleven Mile Avenue. Capital cost is included in Milwaukie and CRC projects.* Ruby Junction maintenance facility in Gresham will be expanded to accommodate a new operations facility, new storage tracks and additional light rail vehicles.

City of Portland Transportation System Plan

- **TSP Project 30018: Hayden Island: Street Network Improvements.** *Provide a street network plan for improvements that implement the Region 2040 connectivity standards and improve multi-modal access for Hayden Island.* The Hayden Island Street Plan is described in more detail in the Hayden Island Plan, which was adopted into the City Comprehensive Plan in August 2009. The Hayden Island Plan recommends amending the TSP to implement the street network as shown in the document. The project would build these improvements consistent with the Hayden Island Street Plan.
- **TSP Project 30020: I-5 (Columbia River-Columbia Blvd): Bridge Widening** *Improve I-5/Columbia River bridge (local share of joint project) based on recommendations in I-5 Trade Corridor Study. Project addresses a high congestion location.* The project would build these improvement.
- **TSP Project 30033: Light Rail Extension - Phase 2.** *Extend light rail service from Expo Center to Vancouver WA.* The project would build these improvements.
- **TSP Project 40080: Marine Dr. (6th - 33rd & Gantenbein - Vancouver Way) Bikeway** *Retrofit bike lanes to existing street and complete off-street paths in missing locations.* The project would build these improvements.

The LPA would convert existing land uses to transportation right-of-way. Although these conversions would reduce the area of land available to a small extent, they would convert only a small portion of the total land in the Portland/ Vancouver area. The project's conversion of approximately 90 acres would not be substantial in a regional context, but does contribute to lasting trends from other past, present, or reasonably foreseeable actions that would have a

cumulative effect on land use. These changes, which result from the extension of light rail transit, the development of mixed-use parking structures, and other transportation infrastructure, are consistent with the goals and policies of adopted plans.

In order to ensure consistency with plans from multiple jurisdictions, Metro is authorized to approve land use final orders (LUFOs) on projects in its region, and has specifically done so for the South-North Light Rail Transit Project. The LUFO consolidates the determination of consistency with Oregon Statewide Planning Goals into one process instead of requiring findings from every jurisdiction. The original LUFO for the South-North light rail transit line included plans for a light rail extension to the Oregon state line. The South-North project called for the light rail extension into Vancouver, but the LUFO only included the Oregon portion of the project. It was established in 1998 and has been amended in 1999 to include the Interstate MAX project, 2004 to amend for the I-205 MAX project to Clackamas Regional Center, and 2008 to amend for the Portland to Milwaukie MAX project. Each Oregon jurisdiction participates in the Project Steering Committee and can review the projects. The Metro Council is expected to approve the LUFO for the CRC project inclusive of all the elements of the LPA. It will also require the City of Portland TSP and Metro RTP to be amended to come into conformance with the LUFO. The LPA is consistent with Oregon statewide planning goals and the respective comprehensive plans for jurisdictions in Oregon.

4.3.1.1 Construction and Design

WTP, Goal 17 pertains to reuse and recycling of materials. During construction, there would be an effort to reuse and recycle materials and waste, and to use recycled materials where prudent. There has also been a bridge marketing plan developed, which is being circulated to find a potential buyer for one or more spans of the bridge.

The VCCV specifically addresses the CRC and calls for integration and accommodation of the Heritage Way Bridge concept into the I-5 improvements project. The Heritage Way Bridge has been a planned element in Vancouver plans for years, and is in their TIP. The pedestrian bridge is intended to join downtown to the Fort Vancouver National Historic Reserve, and would enable pedestrian movement from Esther Short Park to the Reserve. At this time, the Heritage Way concept would not be built by the CRC project but would not be precluded by it either.

Nearly all of the plans refer to environmental protection, such as the protection of shorelines, habitat, threatened and endangered species, etc.

4.3.1.2 Congestion Pricing and Tolls

The Metro Regional Framework Plan calls for peak period pricing. The policy seeks to optimize the use of highways by applying peak pricing to manage congestion. It establishes criteria for a decision regarding peak period pricing in Working Paper 9 of the Traffic Relief Operations Study. Goal 6.33 of Portland's Comprehensive Plan also calls for congestion pricing. The proposed tolling structures include peak period pricing.

4.3.1.3 Historic Preservation

Any build alternative would require the demolition of the historic 1917 bridge, a resource that is on the National Register of Historic Places (NRHP), and that currently serves as the northbound bridge. This is inconsistent with numerous policies regarding preservation of historic structures.

4.3.1.4 HOV and HOT Lanes

HOV lanes encourage ride sharing and are an implementation technique for transportation demand management. HOV lanes are supported in a number of plans. OHP Action 4c.4 requires the support of HOV and HOT lanes when consistent with local plans. This OHP Action also supports park and ride lots and preferential HOV parking to complement the HOV/HOT lanes. At this time, the project does not include HOV lanes, and is not fully consistent with these policies. The proximity and frequency of interchanges within this section of the I-5 renders HOV lanes infeasible. The interchanges are so near to one another that the HOV lanes would attract drivers from the other lanes with such frequency that adverse weaving would occur, resulting in a safety problem.

4.3.1.5 Local Government Participation

The OHP contains a great number of conditions that relate to this project. Action 1G.2 includes conditions to receive ODOT support of major improvements to state highway facilities that are projected by local plans. Most conditions require environmental analysis, public involvement, and other requirements that are either planned or underway. The Action also requires that local jurisdictions include the funds needed to complete related local street projects in their transportation capital facilities planning. It is possible that local government would be required to further restrict land use changes that could place additional demand on the new facility, beyond what was foreseen during the design phase of the project. With the completion of the Hayden Island Neighborhood Plan, the VCCV, other studies, and much collaboration with local jurisdictions, the full build-out demand on the crossing would be well established. However, additional measures may still be required. Some of these are included in the Mitigations section of this report. Some measures are required by law, such as the ODOT Refinement Plan and Interchange Area Management Plan.

OHP Action 1G.3 requires an interlocal agreement to implement cost-sharing when a project has major benefits to the local system. It could be argued that any capacity increase on I-5 would have “major benefits” to the local system. For the bridge portion of the project, there are no local alternate routes. However, the bridge connection to Hayden Island serves the purpose of a local route.

4.3.1.6 Park and Ride Integration with the Urban Environment

The VCCV, Central Park Plan, and Fourth Plain Corridor Plan encourage improved transit service and direct staff to ensure that the facilities needed to serve this enhanced transit service fit with the goals of these subarea plans. Code amendments to address these policies were adopted by the City in 2009. The following excerpts are now part of the VMC. The excerpts are provided in italicized text, with the assessments of project impacts following in normal text.

2. Transportation Management. All Park & Ride facilities shall submit a Transportation Management Plan that, at a minimum describes on-site management systems and operations and...

d. assures that the facility will contribute to an active urban center or corridor by providing parking opportunities during non-peak hours for non-transit riders and as a resource for reducing overall parking need within ½ mile, by for example, executing a shared parking agreement.

e. ensures that the park & ride facility will be managed so that it is used only by those authorized to park in such facilities.

Whether the project meets the above requirements cannot yet be determined. The park and ride structures, and their management, are still in the early stages of design. A shared parking agreement would be necessary to comply with these regulations. In the analysis in section 4.2.1.5, there is a brief discussion of the issues of the park and ride facilities “absorbing” the land and the traffic capacity of the downtown area. The downtown area will have to include high-intensity parking for office, retail, and other uses. With agreement on shared park and ride facilities, the LPA may have a positive impact on access in the downtown regardless of the transit supportive intent of the park and rides.

3. Active Uses. Park & Ride facilities within corridors and urban centers designated in the Vancouver Comprehensive Plan must be designed and constructed to accommodate active uses on the street level of streets designated for active pedestrian use. Areas designed to accommodate active uses shall be developed at the time of construction.

a. This standard must be met along 100% of the ground floor walls that front onto active pedestrian streets in centers and corridors, except where used for the auto entry/exit lanes for the parking structure, or plazas, or other public open spaces.

b. CX and RGX zones: In park & ride facilities located in these zone districts, at least 50 percent of the ground floor area in each building must be designed and constructed to accommodate the active uses allowed by the base zone. Active uses include lobbies, retail or service commercial and visitor services. The Planning Official may make an adjustment to the active use requirements for park & ride facilities when it can be demonstrated that the topography of the ground or location adjacent to highway ramps makes it infeasible.

c. Spaces designed to accommodate active pedestrian uses shall have a minimum floor to ceiling height of 15 feet, a minimum street front bay width of 15 feet and a minimum active use space depth of 20 feet.

Whether the project meets the above requirements can only be partially determined. The park and ride structures, and their management, are still in the early stages of design. The Mill Park and Ride is being designed to accommodate active uses on the ground floor. The Columbia Park and Ride is also being designed to accommodate active uses on the ground floor. There has been some indication that the ground floor of the Clark Park and Ride may also include a small C-Tran rider services office. It is the intent of the CRC to attempt to comply with these requirements to the extent possible. The project should work with City of Vancouver to determine and implement methods which would similarly serve to integrate the facilities into the urban fabric.

7. Preserving on-street parking by requiring replacement of spaces lost to development. Replacement parking should be located as close as possible to the place it is removed, but no more than 750 feet. Payment in lieu of providing replacement spaces should be allowed only if it is sufficient to provide structural parking.

The project will partially meet the above requirements. When on-street parking is removed, City of Vancouver policy calls for replacement parking to be provided within 750 feet of the parking that is removed. Given the constrained nature of the downtown area, it is very challenging to identify areas for replacement parking that would not displace businesses, travel lanes, parks, or other current uses. As described earlier in this section, the existing parking supply is greatly underutilized. The introduction of light rail will enable greater use of transit and reduce the need

for parking spaces. Additionally, coordination between C-Tran and the City would occur to develop shared parking use agreements that would allow non-transit riders to use the new park and ride facilities. The project team has worked with property owners and the City of Vancouver to identify the following mitigations for the loss of on-street parking:

1. The addition of 50 stalls within the SR 14 loop.
2. The acquisition of the existing city parking lot south of Smith Tower, which will be repurposed to serve Smith Tower residents.
3. An analysis of the ability to maintain access to the parking spaces beneath Smith Tower's structure.

4.4 Impacts from Other Project Elements

4.4.1 Ruby Junction Maintenance Facility Options

TriMet's existing Ruby Junction maintenance base in Gresham would be expanded to support the extra light rail service. The expansion of the current Ruby Junction Maintenance Facility would require the full acquisition of 14 parcels, and the partial acquisition of one parcel. This partial acquisition would be required for the construction of a cul-de-sac and would not displace the use on the property. In many cases there appears to be multiple uses occurring on a single property. Surveys conducted of the impact area indicated that nine single-family residences and eight light industrial businesses would be displaced as a result of the expansion. These parcels are zoned for heavy industrial, yet currently support residential, commercial, and light industrial uses. This expansion would be more consistent with the Heavy Industrial zoning than the SFR and small service businesses currently located in this area.

4.4.2 Preliminary Tolling Scenarios

As a part of the LPA, all motor vehicle users on I-5 crossing the Columbia River would pay a toll. Open road tolling (ORT) technology would be used. ORT allows the collection of tolls without the use of lane dividing barriers or toll-booths. With ORT, users are able to drive through at highway speeds without having to slow down at barriers or to physically pay a toll. Full use of ORT eliminates the need for toll plazas.

Because the use of ORT technology requires no additional right-of-way, there are no direct impacts associated with its use.

The proposed toll rates, for passenger cars with transponders, would range from \$1.00 during the off-peak to \$2.00 during the peak travel times (in 2006 dollars) (Exhibit 4-8). Actual toll rates would depend on a final finance plan and would be set by the Oregon and Washington state transportation commissions. Rates would be adjusted to keep pace with inflation.

Exhibit 4-8. I-5 Tolls Collected North- and Southbound

	Variable Toll Rate Range	
Base Toll	\$1.00 to \$2.00 in 2006 dollars	\$1.31 to \$2.62 in 2017 dollars

Tolling during construction is also being studied. This option could be added to any scenario to raise additional funds and manage congestion. The tolls for the project would not cause any direct

land use impact. However, the tolls are a critical component of both traffic management and growth management. This issue has been addressed in the Indirect Effects Technical Report.

The effect of tolling can significantly mitigate the potential land use impacts of increased highway capacity. Highway capacity increases provide to the commute a savings in travel time. This savings is one of many factors with financial implications and which may influence locational decisions for residential and commercial growth. The monetary cost of transportation (especially of the home to work commute) is also a factor. The travel time savings provided in the possible build scenarios (from I-84 to 179th Street) ranges from 8 to 20 minutes. These savings are likely offset by the costs of tolling. The collection of tolls would serve to reduce the demand for vehicular capacity. In this way, it mitigates potential “induced growth” which could otherwise result from improved travel times. Furthermore, the use of tolls is consistent with adopted transportation policies, especially when it enables peak period (congestion) pricing. Please refer to the Indirect Effects Technical Memorandum for further discussion of induced growth.

5. Temporary Effects

5.1 Introduction

Temporary construction impacts would be unlikely to have any lasting, significant impacts on land uses, land use patterns, or plans. Construction-related impacts from noise, dust, lighting (for nighttime construction), and traffic delays may have secondary impacts to land uses, especially commercial uses which may rely upon easy access and a pleasant driving experience, and residential uses. It is unlikely that many long-term decisions regarding housing or employment would be affected by the construction related delays.

5.2 Construction Sequence and Duration

Construction of the CRC project is expected to take between 6 and 7 years. Interchanges on each side of the bridges must be partially constructed before any traffic can be transferred onto the new structures. Construction duration for the SR 14 interchange would be approximately 4 years for completion of the full interchange. Construction of the Hayden Island interchange would be approximately 5 years for completion of the full interchange. Each interchange would need to be completed at the same time in order to move traffic to the new southbound lanes and to allow construction of the remaining northbound lanes and ramps.

Without construction of a new Marine Drive interchange, the light rail system cannot be completed. The Marine Drive Interchange would take approximately 3 years to construct, including work at the Victory Boulevard interchange (unless the Victory Blvd ramps were not constructed until a later year).

Demolition of the existing river crossing would take approximately 1.5 years. It would commence after traffic can be rerouted to the new bridges. However, work would need to be completed at SR 14 and Hayden Island interchanges before the existing bridge can be decommissioned. The northbound bridge and the northbound off-ramp to SR 14 would need to be completed and opened before traffic can be routed to the new bridge structures.

The light rail component of this project would require about 4 years for completion. A shorter construction period is possible if work on either side of the river precedes the completion of the new bridges. Light rail is proposed to share the southbound bridge across the river. Any bridge structure work would be separate from the actual light rail construction activities and must be completed first.

The shortest construction timeline is approximately 6.3 years if the project sequencing is staged as efficiently as possible. This would require construction of all interchanges before the completion of the new bridges. Funding would be a large factor in determining the overall sequencing and construction duration. Contractor schedules, weather, materials, and equipment could also influence construction duration.

With a construction period of this duration and construction-related impacts of this magnitude, there are implications for land use. It has been asserted by the proponents of the plans on both Hayden Island and in Vancouver, that the completion of the project is critical to achieving the adopted plan goals. The VCCV, for example, requires the completion of the light rail system in

downtown Vancouver. However, the duration of and impacts associated with construction would potentially delay other aspects of these plans. Construction impacts would, temporarily, reduce the livability and desirability of these planned areas. This could potentially postpone investment, relocations to the area, and new commercial start-ups. These construction related impacts would be mitigated as discussed in the Economics and Traffic technical reports.

5.3 Oregon Mainland

In order to accommodate the construction of the southern-most end of the project, a temporary construction easement would need to be acquired from 28 parcels totaling 1.8 acre with Option A, and from nine parcels totaling 1.1 acres with Option B. Option A involves a different local street configuration in the Bridgeton Neighborhood (east of I-5), requiring more temporary acquisitions from more parcels than in Option B. Both options would temporarily impact approximately 175 parking spaces at the Expo Center. This loss of parking could negatively impact the Expo Center's ability to provide parking for attendees to its events. The Economics Technical Report addresses this in greater detail. Both options would require temporary construction easements from East Delta Park.

5.4 Hayden Island

To accommodate the construction of the Hayden Island interchange, associated local roadway improvements, and the extension of light rail over Hayden Island, temporary construction easements would need to be acquired from 15 parcels, totaling approximately 8.1 acres from commercial properties east of I-5 for Option A. Option B would require 3.1 acres of temporary construction easements from 6 parcels. These temporary construction easements include land currently used for parking at the Jantzen Beach SuperCenter.

Bridge construction would disturb land use activities on Hayden Island. The existing commercial use pattern on the island is predominantly auto-oriented, "big-box" retail. One compelling reason to shop and eat on Hayden Island is its efficient auto-oriented pattern. Washington shoppers seeking to avoid sales tax on large purchases, as well as Oregon shoppers and visitors to the area, would likely face delays, detours, and other inconveniences. This may temporarily reduce the attraction of the shopping center, especially when compared to similar shopping centers nearby. This is not likely to lead to a long-term or permanent change in land use. The Economics Technical Report addresses this in greater detail.

5.5 Downtown Vancouver

Approximately 2.8 acres from 63 parcels would need to be temporarily acquired to accommodate the construction of the bridge landing in downtown Vancouver, retaining walls along I-5, and reconstruction of sidewalks along the transit alignment from where the light rail touches down and runs north to 17th Street. Additionally, a vacant parcel on Washington Street currently owned by the City of Vancouver would be temporarily acquired as a materials staging location for the construction of light rail.

Downtown Vancouver has benefited from significant, recent public and private investment. Numerous mixed-use, mid- to high-rise buildings have been constructed, and more are planned. This progress has been the result of numerous contributing factors.

Downtown Vancouver is a cultural and governmental center for the City, the County, and for southwest Washington. Also, I-5 is only one of many ways to access downtown. Many land uses

in downtown Vancouver, particularly businesses which rely heavily on pass-by traffic, would be negatively impacted by the construction activities due to detours and access difficulties. Outreach to businesses affected by construction and assistance programs could help mitigate potential negative construction related effects. Programs to help affected businesses could include business planning assistance, marketing and retail consulting, and special promotions to generate patronage in construction areas. The City of Vancouver is planning to establish a Growth and Transportation Efficiency Center (GTEC). The GTEC could develop a construction communication plan to tell drivers, transit riders, cyclists, and pedestrians about detours and road closures, and provide directions to downtown businesses. Long-term changes in land use downtown are not anticipated. If any businesses close due to construction impacts, the location would likely be filled by a new business after project completion in a similar land use category given zoning requirements and building and location characteristics.

5.6 Upper Vancouver

With the 17th Street transit alignment, approximately 3.6 acres from 77 parcels would need to be temporarily acquired to accommodate the reconstruction of sidewalks, the construction of the terminal transit station, and a park and ride on McLoughlin east of I-5, as well as the construction of retaining walls along I-5 and ramps associated with the SR 500 interchange.

5.7 Casting and Staging Yards

Construction activities would require at least one large site to stage equipment and materials, and may also require a large site for use as a casting yard for fabricating segments of the bridges. Staging of equipment and materials would occur in many areas along the project corridor throughout the construction period, generally within existing or newly purchased right-of-way or on nearby vacant parcels. However, at least one large site would be required to stage the larger equipment, such as cranes, and materials, such as rebar and aggregate, as well as for construction offices.

Three sites have been identified as possible major staging areas as shown in Exhibit 5-1:

1. Port of Vancouver site: This 52 acre site is along SR 501 and near the Port of Vancouver's Terminal 3 North facility. Activities could consist of material storage, material fabrication, equipment storage and repair, and temporary buildings. This site is currently used as a staging area for windmill components, and has heavy industrial zoning.
2. Red Lion Hotel site: This 2.6 acre site would be partially acquired as a result of this project, requiring the demolition of most of the building on this site. As such, it could make an ideal staging area, used for staging materials and equipment, and some small fabrication. Temporary buildings such as trailers or other mobile units could be used as construction offices. This location has City Center (mixed use-downtown) zoning. The adopted code for this zoning district does not list any use that would be specific to project staging. And, the City's definition of "Temporary use" may not enable this kind of activity. Further discussions with the City of Vancouver are necessary to permit the use of this site.
3. Vacant Thunderbird Hotel site on Hayden Island: This 5.6 acre site is much like the Red Lion Hotel site in that a large portion of the parcel is required for new right-of-way necessary for the LPA. The same types of activities could occur on this site as on the Red

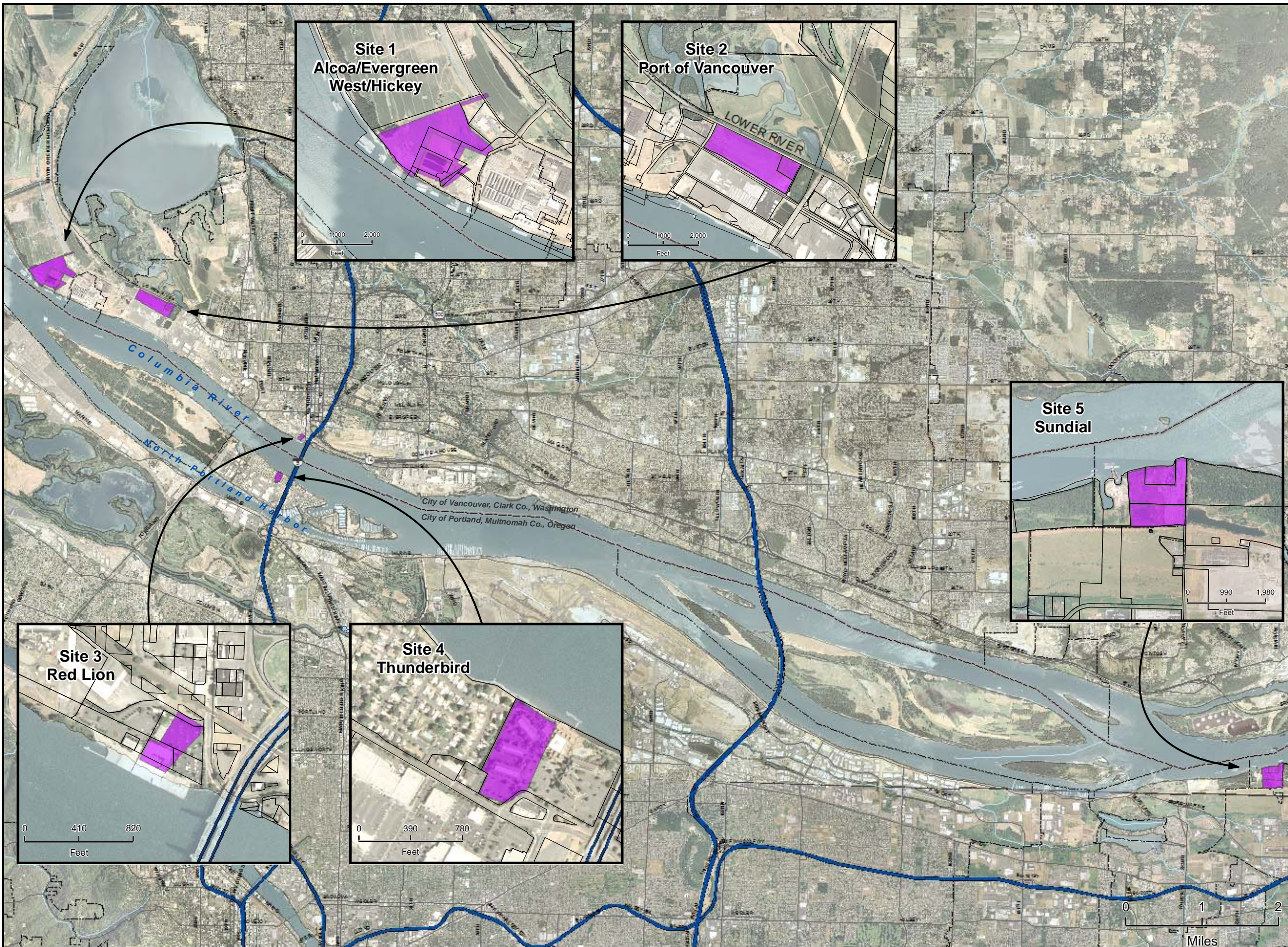
Lion Hotel site. This site has commercial zoning, the code for which is not explicit about project staging areas. Further discussions with the City of Portland are necessary to permit the use of this site.

A casting yard could be required for construction of the over-water bridges if a precast concrete segmental bridge design is used. A casting yard would require similar characteristics as the major staging areas, specifically access to the river for barges, a large area suitable for a concrete batch plant and associated heavy machinery and equipment, and access to a highway and/or railway for delivery of materials.

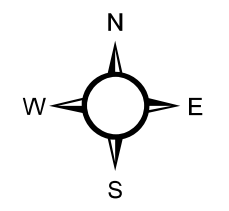
Two sites have been identified as possible casting/staging yards:

1. Port of Vancouver Alcoa/Evergreen site: This 95 acre site was previously used as an aluminum factory and is currently undergoing environmental remediation, which should be completed before construction of this project is anticipated. The western portion of this site, which is best suited for a casting yard, currently contains two large settling ponds. However, long-term plans call for acquisition of nearby land and relocation of these ponds. Casting would be an allowed use on this site, zoned heavy industrial.
2. Sundial site: This 50 acre site is between Fairview and Troutdale, just north of the Troutdale Airport, and has direct access to the Columbia River. Recently, it has been used by Gresham Sand and Gravel as an aggregate quarry. Casting would be an allowed use on this site, zoned heavy industrial.

Exhibit 5-1. Proposed Staging and Casting Areas



- Parcel Boundaries
- Proposed Staging and Casting Areas



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6. Mitigation for Long-term Effects

This section describes measures that could be considered for reducing potential direct effects on land use. Indirect effects, such as effects from the introduction of transit oriented development, are addressed in the Indirect Effects Technical Report. There is little mitigation recommended in this section because the project is largely consistent with local plans, is supportive of the existing and/or evolving land uses in both cities, and has not been found to have other adverse effects. Please refer to the Economics, Neighborhoods, Traffic, Acquisitions and Indirect Effects Technical Reports for additional mitigations, closely related to the following land use mitigations.

6.1 Interchange Area Management Plans

An Interchange Area Management Plan (IAMP) is a joint ODOT and local government long-term transportation and land use plan to balance and manage decisions in interchange areas, and is an important tool in protecting the functions of state highway interchanges and the supporting local street network. Two IAMPs are being completed--one for the Marine Drive interchange and one for the Hayden Island interchange. An IAMP identifies local and state transportation and land use objectives for the interchange area and guides the management of the transportation system and land use development patterns. It also guides subsequent decisions by the affected local government and ODOT about land uses, the street network, and access. An Interchange Justification Report in Washington, which is also underway and is nearing completion, would serve similar purposes. More information regarding the IAMPs can be found on the ODOT website: http://www.oregon.gov/ODOT/HWY/REGION1/Hayden_IAMP/index.shtml and http://www.oregon.gov/ODOT/HWY/REGION1/MarineDrive_IAMP/.

6.2 Hayden Island Plan

The LPA displaces sufficient commercial and residential activities on the island to constitute and adverse impact. Much of this discussion is found in the Neighborhoods and Population Technical Report regarding impacts to floating homes, and in the Economics Technical Report. The displacements, provision of a light rail station, the completion of Tomahawk Drive, and the improved access and capacity of the Hayden Island interchange all may contribute to the viability and success of the redevelopment plans for the island. To mitigate for the land use impacts on the island, the project would also provide a portion of the street network consistent with the Neighborhood Plan, including Tomahawk Drive, which would serve as the island's new "Main" street.

There are also a number of "themes" specific recommendations identified in the plan on page 12. Within this section, the plan calls for the CRC project to address the following issues. The Plan text is provided in italicized text. Project team responses and potential mitigations are described in normal text.

Light Rail Transit (LRT) is the high capacity transit mode that will effectively support a station community. The project would provide light rail transit to, and a station on, Hayden Island.

The LRT alignment adjacent to the freeway is preferred over a separated alignment in order to minimize the barrier effect of the CRC project as a whole. The preferred light rail alignment on Hayden Island is adjacent to I-5 on the west side.

The CRC project must provide the capability to access local street systems south of North Portland Harbor without using the freeway. Both LPA Option A and LPA Option B would meet this aspect of the Plan. Option A would provide vehicular access between Marine Drive and Hayden Island on an arterial bridge. Option B would provide that local access on collector-distributor lanes separate from the I-5 mainline.

6.3 Park and Rides

There are a number of mitigation measures which would help the park and rides to better fit within existing and planned land uses in Vancouver. Some of these measures are addressed in the Visual and Aesthetics Technical Report. Within this report, it has been stated that there would be general compliance with the new City of Vancouver requirements for active uses and shared parking agreements. The CRC project will come to a documented agreement on the shared parking provisions for each of the park and ride facilities. The Mill and Clark Park and Rides occupy a significant amount of land and in key locations within the City. If these facilities provided no support to surrounding commercial uses, and were not open for use on the weekends, the land use impact would be much greater.

The code additionally requires active uses to be incorporated into the ground floors of the park and rides. The project has worked together with the City of Vancouver to determine and implement methods which would similarly serve to integrate the facilities into the urban fabric.

6.4 Parking

When on-street parking is removed, City of Vancouver policy calls for replacement parking to be provided within 750 feet. Given the constrained nature of the downtown area, it is very challenging to identify areas for replacement parking that would not displace businesses, travel lanes, parks, or other current uses. As described earlier in this section, the existing parking supply is greatly underutilized. The introduction of light rail will enable greater use of transit and reduce the need for parking spaces. Additionally, coordination between C-Tran and the City would occur to develop shared parking use agreements that would allow non-transit riders to use the new park and ride facilities. The project team has worked with property owners and the City of Vancouver to identify the following mitigations for the loss of on-street parking:

1. The addition of 50 stalls within the SR 14 loop.
2. The acquisition of the existing city parking lot south of Smith Tower, which will be repurposed to serve Smith Tower residents.
3. An analysis of the ability to maintain access to the parking spaces beneath Smith Tower's structure.

7. Mitigation for Temporary Effects

Land uses are potentially impacted by construction effects to traffic flow and patterns, noise levels, and other disruptions. Outreach to businesses affected by construction and assistance programs could help mitigate potential negative construction related effects. Programs to help affected businesses could include business planning assistance, marketing and retail consulting, and special promotions to generate patronage in construction areas. The City of Vancouver is planning to establish a Growth and Transportation Efficiency Center (GTEC). The GTEC could develop a construction communication plan to tell drivers, transit riders, cyclists, and pedestrians about detours and road closures, and provide directions to downtown businesses. These issues are explored in greater detail in the Traffic and Economics Technical Reports. There are no specific land use mitigations recommended for temporary effects.

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8. Permits and Approvals

The proposed project would require a number of permits and approvals from state and local agencies. The following list includes the permits specific to land use. This section does not review approvals necessary as part of the formal NEPA, or FTA New Starts process. This section includes a summary of the necessary, zoning related approvals.

8.1 State

An IAMP would need to be completed and approved.

8.2 Local

Listed below are some of the known permits needed for the LPA. General transportation facilities are not often listed in the typical use lists of zoning code. Certain specific facilities, like park and rides and transit stations, often are listed.

8.2.1 Vancouver

The proposed project would need a determination to be an allowed use in base and overlay zones. Not all of the Vancouver zones specifically mention transportation facilities. The following criteria and requirements are clear:

1. In early 2008, the Vancouver City Council adopted the updated Central Park Subarea Plan replacing the 1979 Central Park Plan, “A Park for Vancouver” and its design guidelines. The plan concept calls for a unified sense of place by celebrating a shared historic landscape and emphasizing design of key features such as a “great street” network. The implementing regulations are part of the Central Park Mixed Use District (CPX) and would govern the development of the Clark Park and Ride facility. The City, working with C-TRAN also developed a set of regulations specific to park and ride facilities. The facilities had not previously been a specific use with specific regulations. With the adoption of the new regulations, surface level park and rides have become prohibited in the CX (City Center) and CPX (Central Park) zones. Structured park and ride facilities have become a Limited Use in both zones subject to the provisions of the amended title 20.430.040. The standards require compatible design, transportation management plans, and a mix of uses with “active” ground floor uses along major roadways that serve high numbers of pedestrians.
2. Internal circulation permits would be required for park and rides.
3. Temporary use approvals would be needed for temporary offices for contractors, staging areas, and casting yards.
4. A Vancouver Substantial Shorelines Development Permit is required. The project is a permitted use in all of the Shoreline Programs “environmental” classifications, except for Urban Natural and Aquatic. These classifications were developed to enable different kinds of shoreline uses to be considered in different environmental contexts, including high-intensity urban, urban conservancy, etc.). The Shorelines Management Master Program has goals and policies and use regulations. Transportation projects are allowed as a permitted use in the

Urban High Intensity Areas, which covers much of the shoreline in the primary API. Regulation 62 requires that projects use existing corridors unless there is an alternative with less environmental impact. At the shoreline, the project would vary from the existing corridor alignment very slightly. Each of the bridge alignments would likely be considered as being within the existing transportation corridor. From the ordinary high water mark to the state line in the middle of the Columbia River, the area is classified as Aquatic. In this area, transportation projects are considered to be prohibited unless specifically allowed for in the text of the Program Master Plan. There is such text that allows for a facility so long as it is within previously established right-of-way for the corridor, and of no feasible, less environmentally detrimental alternative exists.

5. Critical Areas Ordinance (CAO) Permits would be needed. These permits are coordinated with the Shorelines permit and the regulatory requirements were made consistent in 2007. The proposed project would possibly impact a Riparian Management Area, and other areas covered by the CAOs.
6. A Tree Plan would need approval, addressing the plantings for the roadway segments, park and rides, and other facilities.
7. Other permits required include those for flood plain development and geohazard development.

A summary list of necessary permits through the City of Vancouver is listed below:

- Internal circulation permits
- Vancouver Substantial Shorelines Development Permit
- Critical Areas Ordinance Permits
- Approval of A Tree Plan
- Floodplain Development
- Geohazard Development

8.2.2 Portland

The proposed project would need a determination that it is an allowed use in the base and overlay zones. Not all of the zones specifically mention transportation facilities. Further discussions with the City of Portland would be needed. Transportation right-of-way is not considered a use in the Portland Zoning code. Transit stops and stations fall within the category of Basic Utilities. Basic Utilities are limited or require conditional use review approval in the Open Space zone and Commercial zones. They are allowed in industrial zones.

Land Use Approvals would be required. The permitted use lists in the General Commercial, Open Space, and General Industrial zones do not specifically address transportation facilities. Further discussions would be required with the City of Portland. As part of the land use approval process, numerous issues, from internal circulation to design, would also be addressed. This would be most significant in the review of the facilities planned for Hayden Island. If there is any disturbance in the Environmental Conservation Overlay Zones, an Environmental Review and approval would be necessary.

There is currently no light rail transit station (t) overlay zone on Hayden Island. This overlay zone has been used by the City to improve the compatibility with land developments that follow the

installation of a light rail station, and to guide the development of pedestrian systems and amenities so as to provide a safer and more pleasant pedestrian experience. If this zone is implemented before projected construction and permitting, compliance issues would need to be addressed. Regardless of the implementation of this zone, or the Station Area overlay which is in development, there may need to be a Design Review for changes at the Expo Center.

The northbound, existing bridge is listed on the National Register of Historic Places. It is therefore covered by Chapter 846, Historic Reviews. The Portland Historic Landmarks Commission implements the 120-day delay period for demolitions and conducts demolition reviews. These would be needed for the LPA options. The Landmarks Commission recommendation is advisory to City Council.

Other permits required include a Street Use Permit, Public Improvement Permit, Site Development Permit, and Tree Cutting Permit.

A summary list of necessary permits through the City of Portland is listed below:

- Land Use Review in the General Commercial, Open Space, and General Industrial Zones
 - Potential compliance with Light Rail Transit Station overlay
 - Potential compliance with future Station Area overlay
- Potential Design Review
- Potential Environmental Review
- Historic Review
- Street Use Permit
- Public Improvement Permit
- Site Development Permit
- Tree Cutting Permit

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9. References

Note – many of these references have been cited as part of the indirect impacts analysis for land use, which is now found in the Indirect Effects Technical Report.

APTA. 2007. Public Transportation Facts: Public Transportation Provides Economic Opportunity. Accessed June 21, 2007 at: <http://www.apta.com/media/facts.cfm>.

California Department of Transportation. 2002. Statewide Transit-Oriented Development Study – Factors for Success in California Final Report. Business, Transportation and Housing Agency.

Cervero, Robert. 2004. Development in the United States: Experiences, Challenges, and Prospects. TCRP Report 102.

Cervero, Robert. 2003. Road Expansion, Urban Growth, and Induced Travel: A Path Analysis. Journal of the American Planning Association. Chicago, Illinois.

Cervero, Robert. 1993. Transit-Supportive Development in the United States: Experiences, and Prospects. DOT-T-94-08, University of California, Berkeley.

CH2M Hill. 2006. I-80 and Alice's Road/105th Street Interchange Indirect and Cumulative Impact Analysis: Technical Report.

City of Ottawa. 2003. Rapid Transit Expansion Study: Final Report. Ottawa Planning and Development Department. Nepean, ON.

Cohen, Scott, and B. Kinkley. 2007. The Historic Streetcar Network's Impact on Urban Development in Portland, Oregon. Portland State University. Portland, OR.

Outwater, Maren. 2008. Travel Demand Model Review Panel Report, Columbia River Crossing. Portland OR.

Cura, Federico. 2003. Transit Agencies Seeing Increased Interest in Transit-Oriented and Joint Development. Passenger Transport. Washington, DC.

Dittmar, H. and S. Poticha. 2004. Defining Transit-Oriented Development: The New Regional Building Block *in* Dittmar H & Ohland G The New Transit Town: Best Practices in Transit-oriented Development. Island Press.

Economic Development Research Group. 2005. The Cost of Congestion to the Economy of the Portland Region. Prepared for the Portland Business Alliance, Metro, the Port of Portland, and the Oregon Department of Transportation. Available at: http://clackamas.us/docs/business/congestion_report.pdf.

- ECONorthwest et al. 1998. Seattle Station Area Planning, Market Analysis, and Development Strategies. Prepared for the City of Seattle.
- Henry, L. 1989. Ridership forecasting considerations in comparisons of light rail and motor bus modes *in* Light Rail Transit: New Systems at Affordable Prices Special Report 221, Transportation Research Board, Washington DC 163-189.
- Kenworthy, Jeff. 2000. Techniques of Urban Sustainability: Quality Transit. Institute for Sustainability and Technology Policy. Accessed June 27, 2007 at: http://www.sustainability.murdoch.edu.au/casestudies/Case_Studies_Asia/qtrans/qtrans.htm.
- Levinson, D. and W. Chen. 2005. Paving New Ground: A Markov Chain Model of the Change in Transportation Networks and Land Use. Transportation Research Board Annual Meeting CD-ROM. Washington, D.C.
- Levinson, Herbert, S. Zimmerman, J. Clinger, S. Rutherford, R. L. Smith, J. Craknell, and R. Soberman. 2003. Bus Rapid Transit Volume One: Case Studies in Bus Rapid Transit. TCP Report 90. Accessed June 21, 2007 at: http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_90v1.pdf.
- Light Rail Now. 2006. American Public Says: Let's Have More Rail. Accessed June 27, 2007 at: http://www.lightrailnow.org/news/n_lrt_2006-06a.htm.
- Litman, T. 2005. Evaluating Transportation Land Use Impacts. Victoria Transport Policy Institute. Victoria, BC. Available at www.vtpi.org/landuse.pdf.
- MaryPIRG Foundation. 2003. Rail Transit Works: Light Rail Success Stories from Across the Country. Accessed July 3, 2007 at: <http://marypirg.org/reports/railtransitworks03.pdf>.
- Miller, J., L.A. Hoel, and D.B. Ellington. 2005. Using Highway Investments to Shape Growth: Assessing Intentions and Reality in Virginia. Transportation Research Board Annual Meeting CD-ROM. Washington, D.C.
- Moore, T and T. Sanchez. 2001. A Guidebook for Evaluating the Indirect Land Use and Growth Impacts of Highway Improvements: Final Report. SPR Project 327. ODOT Research Group, Salem OR.
- Parsons Brinckerhoff. 2001. Land Use-Transportation Literature Review For the I-5 Trade Corridor Regional Land Use Committee. I-5 Trade Corridor Project. Portland, Oregon.
- Parsons Brinckerhoff Quade & Douglas, Inc. 2006. Alaska Way Viaduct and Seawall Replacement Project Land Use and Shoreline Technical Report. Available at: <http://www.wsdot.wa.gov/projects/viaduct/sdeis/>

- Portland Office of Transportation and Portland Streetcar, Inc. 2006. Portland Streetcar Development Oriented Transit Accessed June 21, 2007 at: <http://www.portlandstreetcar.org/pdf/development.pdf>.
- Seskin, Samuel N. 1996. Development near Transit: An International Perspective. Taken from TCRP Project H-1, Transit and Urban Form, Volume 2, Public Policy and Transit-oriented Development: Six International Case Studies. Accessed June 21, 2007 at: http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_16-4.pdf.
- Swope, Christopher. 2006. L.A. Banks on Buses. Journal of the American Planning Association. Chicago, IL.
- Targa, F., K.J. Clifton, and H.S. Mahmassani. 2006. Influence of Transportation Access on Individual Firm Location Decisions. Transportation Research Record: Journal of the Transportation Research Board. Washington, D.C.
- Thomas A. Garrett. 2004. Light-Rail Transit in America: Policy Issues and Prospects for Economic Development.” Federal Reserve Bank of St. Louis. Accessed June 21, 2007 at: http://www.stlouisfed.org/community/assets/pdf/light_rail.pdf.
- TriMet. 2007. MAX Light Rail Project History. Accessed June 21, 2007 at: <http://www.trimet.org>.
- USDOT (U.S. Department of Transportation, Federal Highway Administration). 1987. Guidance for Preparing and Processing Environmental and Section 4(f) Documents. Washington, D.C.
- Weinstein, Bernard. Et. al. 1999. The Initial Economic Impacts of the DART LRT System. University of North Texas.
- Weiss, M. 2005. Economic Growth from Transportation Improvements: Does it or Doesn't it? FHWA. Washington, DC.
- WMATA (Washington Metropolitan Area Transit Authority). 2005. Columbia Pike Transit Alternatives Analysis Final Report. Arlington, VA. Accessed June 21, 2007 at: <http://www.piketranis.com/media/publications.aspx#Reports>.

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