3.6 Public Services and Utilities

Public services such as schools, emergency response services, government offices, and hospitals are vital to the health of a community and can be affected by large construction projects and changes to the transportation network. Similarly, utilities such as electricity, water, sewer, natural gas, telephone, data, fiber optic, and other communications services can be temporarily disrupted by construction activities. This section identifies the public services and utilities in the study area and evaluates the potential long-term and temporary effects of the Modified LPA on these resources. The information presented in this section is based on the Public Services Technical Report and the Utilities Technical Report.

3.6.1 Changes or New Information Since 2013

The Columbia River Crossing (CRC) Final EIS and Record of Decision were completed in 2011, and design refinements were addressed in subsequent NEPA reevaluations in 2012 and 2013. Since then, the following changes and new information have affected the potential impacts to public services and utilities:

- Changes in development, population and employment, transportation, demographics, and other aspects of the built environment and urban setting.
- Changes to design of the CRC project's LPA to develop a Modified LPA, including design options.

Table 3.6-1 compares the impacts and benefits of the CRC LPA as identified in the Final EIS (2011) and the IBR Modified LPA. Based on the analysis described in this section, the effects of the Modified LPA would be similar to the effects of the CRC LPA. A detailed description of impacts and benefits to public services and utilities from the Modified LPA and associated design options follows.

Table 3.6-1. Comparison of CRC LPA Effects and IBR Modified LPA Effects

Technical Considerations	CRC LPA Effects Identified in the 2011 Final EIS	Modified LPA Effects Identified in this Section	Explanation of Differences
Traffic effects on emergency services	The CRC LPA would improve traffic conditions on I-5; thus, response times for mobile public services relying on I-5 would be positively affected.	Similar to CRC LPA.	N/A
Displacement of public services	• ODOT Permit Station and Field Office, Clark Public Utilities building, and Clark College Annex would be displaced. • Partial acquisitions would include property from FHWA Western Federal Lands office, Discovery Middle School, Kiggins Bowl, and Clark College Athletic Annex. No uses would be displaced.	• ODOT Permit Station and Field Office would be displaced. • Partial acquisitions would include property from FHWA Western Federal Lands office and Discovery Middle School. No uses would be displaced.	The reduction in the displacement of public services is due to both changes in land uses and design modifications, including replacing the full interchange on Hayden Island with a partial interchange and moving the LRT alignment along I-5 instead of a couplet in downtown Vancouver and past Clark College.

Technical Considerations	CRC LPA Effects Identified in the 2011 Final EIS	Modified LPA Effects Identified in this Section	Explanation of Differences
Utilities	Utilities would be protected in place or relocated.	Same as CRC LPA.	N/A

CRC = Columbia River Crossing; FHWA = Federal Highway Administration; LPA = locally preferred alternative; LRT = light-rail transit; ODOT = Oregon Department of Transportation; N/A = not applicable

3.6.2 Existing Conditions

Public Services

There are several medical centers, schools, solid waste management facilities, and other public service facilities in the study area, as shown on Figure 3.6-1 and Figure 3.6-2. Table 3.6-2 lists the types of services and the providers in the study area.

Figure 3.6-1. Public Services in North Portland and Hayden Island

Figure 3.6-2. Public Services in Downtown and Upper Vancouver

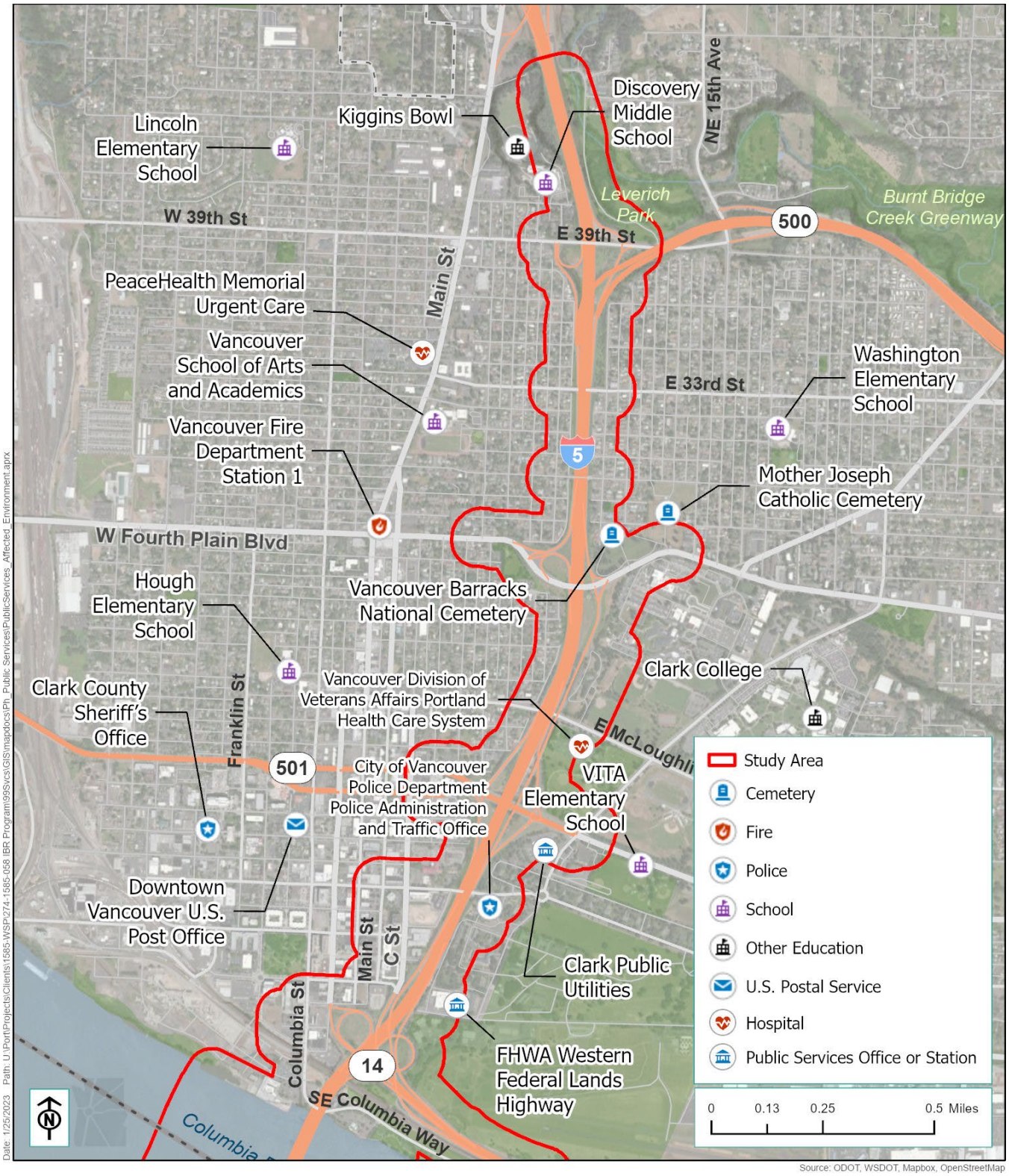

Table 3.6-2. Public Service Providers in the Study Area

Public Service	Providers
Fire and Life Safety	Portland Fire & Rescue Vancouver Fire Department Clark County Fire Marshal U.S. Coast Guard
Law Enforcement	Portland Police Multnomah County Sheriff TriMet (Transit Police Division) Oregon State Police Vancouver Police Department Clark County Sheriff Washington State Patrol
Medical Centers	Legacy Emanuel Hospital and Health Center Kaiser Permanente Vancouver Division of Veterans Affairs Portland Health Care System PeaceHealth Memorial Urgent Care Southwest Washington Medical Center Legacy Salmon Creek Southwest Washington Memorial Hospital and Urgent Care Center
Public Schools	Portland Public Schools Vancouver Public Schools and Colleges Washington State-funded Schools for the Blind and the Deaf Ridgefield School District
Cemeteries	Vancouver Barracks National Cemetery Mother Joseph Catholic Cemetery City of Vancouver Old City Cemetery City of Vancouver Park Hill Cemetery Clark County Poor Farm Cemetery Salmon Creek United Methodist Cemetery St. John Lutheran Cemetery Manor Wilson Bridge Cemetery Memory Memorial Cemetery

Both Portland and Vancouver operate fire and police stations in the study area. In addition, Portland, Clark County, and the U.S. Coast Guard have rescue and emergency services stations with watercraft and response teams serving the Columbia River. The Washington State Patrol and the Oregon State Police have jurisdiction over interstate and other state highways. There are mutual response agreements in place with emergency service providers outside of the study area to provide additional support when necessary, particularly for incidents on the Columbia River (Leek 2023; White 2021).

Emergency service providers designate critical emergency access routes for providing rapid response. I-5 is an important north-south access route through the area, and it is the only access route to and from Hayden Island. In Portland, other critical north-south access routes include N Interstate, N Vancouver, and N Williams Avenues and NE Martin Luther King Jr. Boulevard. In Vancouver, additional critical north-south access routes

include NW Hazel Dell Avenue and SR 99. Table 3.6-3 describes the critical emergency access routes used by public service providers in the study area.

Table 3.6-3. Mobile Public Service Critical Emergency Access Routes

Mobile Public Service	Critical Emergency Access Routes
North Precinct Portland Police	N Interstate Avenue, N Denver Avenue, NE Martin Luther King Jr. Boulevard, and N Greeley Avenue. I-5 is the only critical access route to/from Hayden Island.
Portland Fire & Rescue Station 17	N Interstate Avenue, N Denver Avenue, NE Marine Drive, NE Martin Luther King Jr. Boulevard, N Tomahawk Island, N Hayden Island Drive, N Jantzen Drive, and N Center Avenue.
Vancouver Fire Department Downtown Station (1)	Main Street/SR 99, W Fourth Plain Boulevard, Kauffman Avenue, 39th Street, 15th Street, St. Johns Boulevard, McLoughlin Boulevard, Mill Plain Boulevard, Evergreen Boulevard.
Vancouver Fire Department Westside Station (2)	E Fourth Plain Boulevard, E 18th Street, Grand Boulevard.
Clark County Fire Marshal (District 6)	I-205, SR 99, and NW Hazel Dell Avenue.
West Precinct City of Vancouver Police	Main Street/SR 99, Fort Vancouver Way, P Street, SR 500 to I-205.
Clark County Sheriff's Office	NW Fruit Valley Road, NE Hazel Dell Road, NE St. Johns Boulevard, and NE Andresen Road (SR 500).

Sources: Leek 2023; Lawson 2021.

Four Portland schools serve students within the study area. Seven Vancouver School District schools and three other district facilities are located within or serve the study area. Two specialty schools that require special consideration in the design of transportation facilities, the Washington State School for the Blind and the Washington State School for the Deaf, are located outside of the study area but serve communities within the study area. While the main campus of Clark College, a private two-year junior college, is located outside of the study area, the Clark College Athletic Annex building is in the study area. Clark College athletic facilities at this location include tennis courts, a softball diamond, and a baseball diamond. The students, faculty, and staff that attend and support these schools rely on safe and efficient transportation facilities and services.

No other public services or facilities were identified outside the study area that would require special transportation considerations for service within the study area. See the Public Services Technical Report for further discussion.

Utilities

Utilities in the study area are identified in Table 3.6-4.

Table 3.6-4. Utilities within the Study Area

Utility Owner	Type of Utility	Comments
AT&T	Communications	Local network services; cellular telecommunications antennae.
Clark Public Utilities	Power	Serves the area north of the Columbia River.
Comcast	Communications	Cable and fiber optic network.
Integra Telecom	Communications	Fiber optic network formerly owned by Electric Lightwave.
NW Natural	Natural gas	Natural gas service provider for the area.
Pacific Power & Light	Power	Generally serves the area east of I-5 and south of North Portland Harbor.
Portland, City of	Water, sewer, stormwater, and communications	None.
Portland General Electric	Power	Generally serves Hayden Island and the area west of I-5 and south of North Portland Harbor.
Qwest	Communications	General telephone service provider for the area.
Time Warner Telecom	Communications	Fiber optic network.
Verizon Wireless	Communications	Cellular telecommunications antennae.
Vancouver, City of	Water, sewer, stormwater and communications	None.

Note: The list of utility owners is based on CRC project information. Later phases of the IBR Program will include additional studies and confirmation of utility providers and locations. The list will be updated and confirmed with appropriate regulatory agencies as the project progresses.

Several important utility lines cross the Columbia River and North Portland Harbor to provide services to Hayden Island. The presence of bridges across these two water bodies, combined with the narrow 2,200-foot width of Hayden Island at this location, result in a concentration of utilities along the I-5 right of way. Utilities in this area include:

- A water transmission main across the North Portland Harbor bridge (Portland Water Bureau).
- A main natural gas feed line across the North Portland Harbor bridge (NW Natural).
- An underwater power cable (Portland General Electric) and telephone lines located under the bed of North Portland Harbor, immediately west of the I-5 bridges.

- Underground communication cables across North Portland Harbor, Hayden Island, and the Columbia River. A trunk line crosses the Columbia River, 500 feet east of the Interstate Bridge, and includes telephone, television, data, and fiber optic from multiple utility providers.

Other utility lines or structures in the study area, all in Vancouver, include water mains that cross I-5 at SE Columbia Way, 5th Street, Mill Plain Boulevard, 16th Street, McLoughlin Boulevard, E 29th Street, E 32nd Street, 39th Street, and 40th Street. Another major water line is located parallel to the western right-of-way line of I-5 between McLoughlin Boulevard and E 16th Street. The City of Vancouver Waterfront Pump Station is also within the study area.

ODOT, WSDOT, and TriMet also maintain infrastructure in the study area for their agencies' uses, but do not provide direct service to the public. These utilities include power, stormwater, water, and sanitary sewer. These agencies also maintain signal and communication systems for transportation management and transit operations.

See the Utilities Technical Report for further discussion.

3.6.3 Long-Term Benefits and Effects

No-Build Alternative

With the No-Build Alternative, no physical impacts to public services (including medical centers and school sites) are anticipated. There would be no change in intersection operations on critical access routes in Portland during either the AM or PM peak periods. In Vancouver, three intersections would not meet level of service standards during the AM peak period, and seven intersections would not meet level of service standards during the PM peak period, which could slow response times for emergency vehicles (see Section 3.1, Transportation, for further discussion). In addition, bridge lifts to allow ship passage would continue to disrupt traffic and cause potential delays for emergency vehicles.

The No-Build Alternative would not involve any changes to existing utilities in the study area. However, damage to the Interstate Bridge from a seismic event could have adverse impacts to utilities located on or near the bridge and could hinder the provision of emergency services.

Modified LPA

Public Services

Most effects on public services would not differ among the Modified LPA design options. Where differences would occur, they are described in the subsections below.

Effects on Public Service Facilities

Most public services would not experience direct long-term impacts to facilities as a result of the Modified LPA, including:

- Fire and life safety
- Solid waste management
- Postal service
- Cemeteries

The ODOT Permit Station and Field Office on Hayden Island would be permanently displaced by the Modified LPA. The new Columbia River bridges would pass directly above the current location of the facility. ODOT has not yet determined where to relocate the functions of the station.

The Modified LPA with C Street ramps at the SR 14 interchange would partially acquire the parcel that contains the FHWA Western Federal Lands office, north of 5th Street and immediately east of I-5. This would affect six marked parking stalls, adjacent asphalt and curbing, landscaping, parking area illumination, and an electronic swing gate. The Modified LPA without C Street ramps would move building access to the south from E 5th Street.

None of Portland Public Schools' facilities are near areas that would be directly affected by the Modified LPA. In Vancouver, the Modified LPA would directly affect Discovery Middle School, located at the northern end of the study area in the Lincoln neighborhood, with a minor acquisition of part of the southeastern portion of the parcel for a retaining wall. The retaining wall would require a permanent subsurface easement with some long-term surface use restrictions. No structures would be displaced, and the long-term use of the site would not be changed.

The property housing the Vancouver Police Department administrative offices, located east of I-5 and south of E Evergreen Boulevard, is planned for partial acquisition to accommodate I-5 and sidewalk improvements to E Evergreen Boulevard. No impacts to the building on the property are anticipated.

Traffic Effects on Public Services

Traffic congestion along critical emergency routes can cause delays for emergency service providers. The transportation analysis for the Modified LPA evaluated 2045 levels of service at 66 local street intersections along critical emergency access routes (49 in Vancouver and 17 in Portland). In Portland, all but 1 intersection along the critical emergency access routes would meet level of service standards in the AM peak period with the Modified LPA; in the PM peak period, 3 intersections would not meet the standards. In Vancouver, 5 intersections would not meet level of service standards in the AM peak period with the Modified LPA; in the PM peak period, 7 intersections would not meet the standard.

In Vancouver, the local streets with the most changes to level of service compared to the No-Build Alternative would be Main Street and 39th Street. During the AM and PM peaks, response times for mobile public services relying on Mill Plain Boulevard or 39th Street as critical access routes could increase. All design options of the Modified LPA would provide full-width shoulders on the Columbia River bridges, which could improve response times by allowing emergency providers using I-5 to bypass congestion while crossing the Columbia River or accessing Hayden Island. The addition of an auxiliary lane would also reduce congestion and facilitate emergency response by improving traffic flow on I-5 through the study area. A second auxiliary lane would further reduce congestion and improve multimodal operations on I-5. This would lead to a decrease in response times for emergency vehicles using I-5 as an emergency route.

The fixed-span double-deck bridge configuration would provide emergency access to the transit guideway and shared-use path on the lower decks of the Columbia River bridges for rescue trains and first responders. The single-level fixed-span bridge configuration would improve emergency response times to transit and shared-use path incidents compared to the fixed-span double-deck bridge configurations because all the facilities being located on a single level would allow response teams to access the incidents directly from the highway lanes. The single-level movable-span bridge configuration would cause delays and disruptions to emergency response due to bridge lifts, but with less frequency than under the No-Build Alternative.

See the Public Services Technical Report for further discussion of traffic effects on public services and the Transportation Technical Report for a full description of the traffic analysis completed.

Utilities

The Modified LPA would cross or be in close proximity to a number of major utility lines in Portland, on and near the Interstate Bridge, and in Vancouver. These include water supply, natural gas, and sewer mains, communications cables and infrastructure, a high-voltage electrical transmission line, a cellular antenna array, and potentially a wastewater lift station. Utility infrastructure on the North Portland Harbor bridge is

particularly sensitive because in several cases these facilities are the only link between Hayden Island and the mainland. The effects would generally be similar across the design options, except that utilities at the park-and-ride locations at W 4th Street and W 3rd Street could require relocation or replacement.

Utilities affected by construction of the Modified LPA would either be protected in place or relocated. Once relocated, the utilities would be more robust and reliable. Therefore, no long-term adverse impacts to utilities are expected. See the Utilities Technical Report for additional information.

3.6.4 Temporary Effects

No-Build Alternative

Under the No-Build Alternative, no temporary impacts to public services or facilities (including medical centers and school sites) are anticipated. The No-Build Alternative would not result in temporary utility disruptions from construction.

Modified LPA

Public Services

Traffic Effects on Public Services

Detours, increased delays, and traffic on streets with construction may cause response time delays for mobile public services including police, fire, medical emergency, school transportation, and solid waste services. In Portland, temporary effects on public services include increased delays for the fire services stationed on Hayden Island, which must use I-5 when serving North Portland. Other services, such as law enforcement, would also experience delays accessing Hayden Island from North Portland or Vancouver. More information about traffic impacts during construction can be found in Section 3.1, Transportation.

Construction on emergency transportation routes may cause delays in emergency services' response times and must be communicated with those service providers in advance. Construction on school routes could cause delays for school transportation providers and advance coordination with school transportation services would be necessary. Construction noise and vibration may affect Discovery Middle School; Vancouver Innovation, Technology and Arts Elementary School; and the Athletic Annex at Clark College. More information can be found in Section 3.11, Noise and Vibration.

Temporary Construction Easements

Temporary construction easements would be needed from several properties that contain public service facilities. The buildings on these properties would not be affected, and their ongoing functions would not change.

- A temporary construction easement is planned for the northwestern corner of the City of Portland Fire Department property (PF&R Station 17) on Hayden Island. No modifications to the building, parking lot, or driveway are planned.
- A temporary construction easement and a construction staging area would be needed on the western portion of the Clark College Athletic Annex and recreation fields property. The easement would not interrupt the function or public use of the recreation fields or modify the building on the western portion of the property. Chapter 5, Draft Section 4(f) Evaluation, has more information on this temporary construction easement.
- A temporary construction easement would be needed for the northwestern corner of the Clark Public Utilities District property, located on the east side of the existing northbound Interstate Bridge abutment.

The building functions as an information center with energy conservation staff. Some landscaping would be lost, but there would be no modification to the building, parking lot, or access roads.

- A temporary construction easement is planned along the northwestern boundary of the Vancouver Division of Veterans Affairs Portland Health Care System. The impact would be limited to the northwestern corner of the site adjacent to East Fourth Plain Boulevard and the far western portion of the site along the I-5 frontage road.

Utilities

Temporary impacts to utilities during construction would result from the need to relocate the utilities or protect them in place to prevent damage from, or conflict with, new IBR infrastructure. The largest temporary utility impacts would occur in the area between Marine Drive and the SR 14 interchange. Between these interchanges, utilities are concentrated in a relatively narrow corridor parallel to or under I-5; the utilities would require temporary relocation during construction. Throughout the study area, utility providers would be contacted during design regarding temporary utility relocations and/or staging and sequencing provisions, many of which could occur in the early phase of construction, prior to heavy civil construction phases.

The following major utilities in Oregon on the North Portland Harbor bridge may be temporarily affected:

- A water main that supplies water to Hayden Island, including for fire flows, would be affected by a new span to accommodate the Jantzen Drive realignment.
- A natural gas feed main serving Hayden Island would be affected by the new North Portland Harbor bridges.
- Communication cables across the North Portland Harbor bridge, Hayden Island, and on the southbound Columbia River bridge, including several trunk lines, would be affected by the new North Portland Harbor bridges and Marine Drive and Hayden Island interchanges.

Additionally, underwater communication and power cables west of the North Portland Harbor bridge would be affected by construction of the new North Portland Harbor bridges and ramps. Sanitary sewer force mains crossing Marine Drive and Jantzen Drive could also be affected.

Other potentially affected utilities include:

- Water, power, gas, and communications infrastructure would be affected by Marine Drive interchange reconstruction.
- Electrical feeds and switches and the main gas feed adjacent to I-5 on Hayden Island would be affected by reconstruction of the Hayden Island interchange, construction of light-rail, and roadway realignments.
- The existing cellular antenna array in the vicinity of Jantzen Drive would be affected by reconstruction of the Hayden Island interchange.

Major utilities that cross I-5 in Washington and would be temporarily affected include:

- A sanitary interceptor sewer crossing I-5 around 5th and 6th Streets in Vancouver would be affected by construction of new ramps at the SR 14 interchange.
- Communications infrastructure, a sewage lift station and force main, and a high-pressure gas line between the SR 14 interchange and the Columbia River may be affected by bridge construction, improvements to SR 14, and local street improvements.
- A water supply main crossing I-5 at Mill Plain Boulevard would be affected by street reconstruction.
- A communications duct bank crossing I-5 at Fourth Plain Boulevard could be affected by the construction of additional lanes.

- A high-voltage electrical transmission line crossing I-5 at 33rd Street could be affected by over-crossing reconstruction. One or both poles at either end of the existing Interstate Bridges could conflict with construction of the new, longer Columbia River bridges.
- A water supply main crossing I-5 at McLoughlin Boulevard may be affected when the street is modified to allow for the widened highway and transit guideway, and by construction of the guideway S-curve between 17th Street and McLoughlin.
- A communications cable and duct bank crossing I-5 at Fourth Plain Boulevard would be affected by the construction of additional lanes.
- A sewage lift station at Columbia Street could be affected by new bridge foundations.
- A water supply main crossing I-5 at NE 40th Street would be affected by construction of a new ramp at NE 39th Street.
- Communication trunk lines on Washington Street south of W 6th Street would be affected by road reconstruction.

3.6.5 Indirect Effects

Public service and utility providers generally plan based on forecast population and development patterns found in the long-range comprehensive plans of the jurisdictions they serve. They evaluate future population growth and calculate needed future service increases such as increased numbers of police officers, new equipment, or new station locations. Since, in Vancouver and Portland, future land uses and growth would be consistent with the Cities' current comprehensive plans, the Modified LPA would not change those growth or land use patterns and would not have an indirect impact to long-range public service and utility plans. See Section 3.4, Land Use and Economics, for a discussion of the objectives of growth management planning and the IBR Program's consistency with applicable plans.

As described in Section 3.4, the Modified LPA could support transit-oriented development that is anticipated in the plans of local jurisdictions. Any such development would be consistent with local land use plans, and therefore, consistent with the long-term service planning efforts of public and private utilities; no additional indirect impacts are anticipated. Increased services for such new development would occur in urbanized areas that already have public services and utilities.

3.6.6 Potential Avoidance, Minimization, and Mitigation Measures

Long-Term Effects

Regulatory Requirements

There are no specific regulatory requirements for mitigating long-term impacts to public services. For utilities, ODOT and WSDOT would develop agreements with affected utility owners to specify the locations of utilities within the right of way, access and maintenance requirements, etc.

Project-Specific Mitigation

Project -specific mitigation measures for effects on public services and utilities include:

- Implement mitigation strategies for increased travel times along emergency service routes as described in Section 3.1, Transportation, of this Draft SEIS.
- Protect utilities in place where feasible and cost-effective.

- Work with utility providers to relocate utilities when protection in place is not feasible, with the goal of relocating facilties only once to reduce service disruptions.

Temporary Effects

Regulatory Requirements

- Measures to maintain traffic flow and access during construction and to avoid and minimize temporary utility service disruptions would be incorporated into contract specifications.
- The IBR Program would comply with current federal Dig Once laws (23 CFR 645.307) and associated state regulations and guidelines, which require advanced coordination with the broadband/fiber industry to invite these providers to participate in highway improvement projects.

Project-Specific Mitigation

Project-specific mitigation for temporary effects on public services and utilities would include:

- Develop a preconstruction communications plan with all affected emergency response agencies to detail how detour and road closure information would be communicated.
- Provide advance notice of temporary access restrictions to highway on-ramps, off-ramps, and critical emergency access routes, particularly for emergency responders.
- Before construction, evaluate the need for backup on-call emergency helicopter service to transport patients across the river during bridge construction to mitigate highway delays, especially for emergencies on Hayden Island during bridge construction.
- If unacceptable emergency response delays occurred due to construction, meet with emergency service representatives to address their concerns and develop solutions.
- Conduct public outreach campaigns before construction to ensure that detours and traffic routing plans during construction are available to public service providers and the communities they serve. In addition, where construction activity requires detours on routes typically used by the public to access public service locations (police and fire stations, hospitals, public schools, and post offices), detour signs would be provided.
- Coordinate closely with utility owners during project design to identify temporary facility needs and minimize temporary construction disruptions.