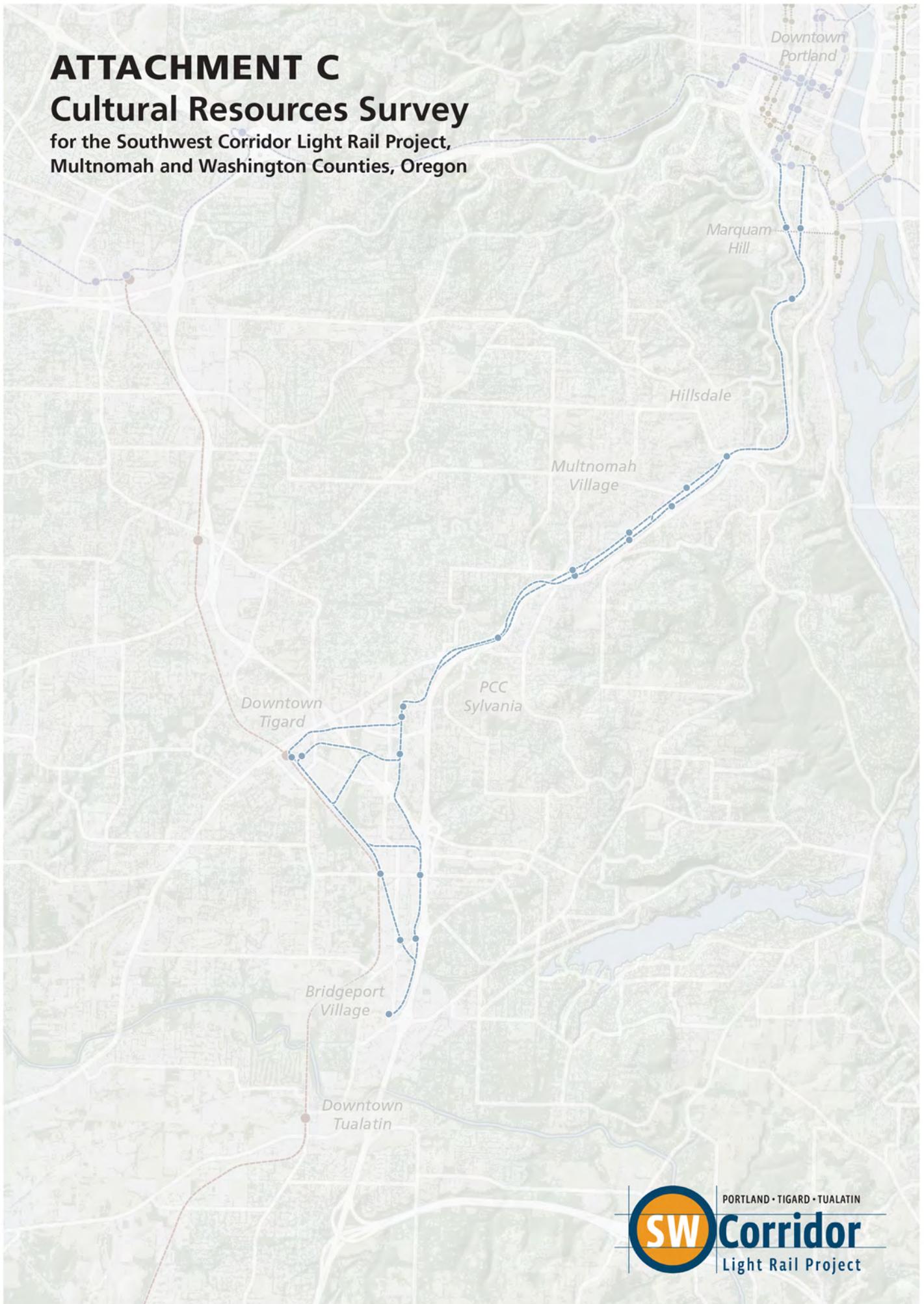


ATTACHMENT C

Cultural Resources Survey

for the Southwest Corridor Light Rail Project,
Multnomah and Washington Counties, Oregon



**CULTURAL RESOURCE SURVEY FOR THE
SOUTHWEST CORRIDOR LIGHT RAIL PROJECT,
MULTNOMAH AND WASHINGTON COUNTIES, OREGON**



Prepared for:
Parametrix
Portland, Oregon

November 22, 2017

REPORT NO. 3869

Archaeological Investigations Northwest, Inc.

**CULTURAL RESOURCE SURVEY FOR THE
SOUTHWEST CORRIDOR LIGHT RAIL PROJECT
MULTNOMAH AND WASHINGTON COUNTIES, OREGON**

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PROJECT SUMMARY INFORMATION

PROJECT: Southwest Corridor Light Rail

LOCATION: Portland, Multnomah County; Tigard and Tualatin, Washington County

Township	Range	Sections
1 South	1 East	3, 4, 9, 10, 15, 16, 20, 21, 22, 29, 30, 31
1 South	1 West	35, 36
2 South	1 West	1, 2, 12, 13

USGS QUADS: *Portland, Oregon-Washington, 7.5-minute, 1990*
Lake Oswego, Oreg., 7.5-minute, 1961
Beaverton, Oreg., 7.5-minute, 1961 (Photorevised 1984)

STUDY: Cultural resource survey done in support of the Southwest Corridor Light Rail Project Draft Environmental Impact Statement. The Area of Potential Effects includes light rail alignment alternatives, stations, operation and maintenance facilities, and ancillary improvements along the alignment and in the immediate vicinity of the stations.

PROJECT AREA: 659.6 acres (Area of Potential Effects)

AREA SURVEYED: 26.4 acres – Archaeological Resources
659.6 acres – Historic Resources

FINDINGS: There are **600 cultural resources** in the Area of Potential Effects. In addition, 28 archaeological High Probability Areas have been identified.

- Of the 600 cultural resources identified, 584 are historic built environment resources.
- Of the 16 archaeological resources in the Area of Potential Effects, 5 are newly identified and 11 were previously recorded.

SUMMARY OF RECOMMENDATIONS:

- Once a Preferred Alternative is selected for the Southwest Corridor Light Rail Project, intensive-level documentation is recommended for historically significant resources that have the potential to be affected by the project.
- Additional archaeological survey and testing of the Preferred Alternative will be done where access is allowed.
- The project will have an adverse effect on historic properties.

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Appendix F

Light Rail Project Alternatives for Environmental Review

EXECUTIVE SUMMARY

This report summarizes preliminary cultural resource investigations done in support of a Draft Environmental Impact Statement (DEIS) for the Southwest Corridor Light Rail Project. The purpose of this project is to provide high quality transit and community investments that will improve mobility between downtown Portland in Multnomah County, and Tigard and Tualatin in Washington County, Oregon (see Figure 1). A key component of this project would be the construction of a new Metropolitan Area Express (MAX) light rail line measuring approximately 19.3 kilometers (12 miles) in length. This new light rail line would be complemented with upgrades to surrounding and integrated infrastructure for pedestrians and cyclists.

The Federal Transit Administration (FTA), Metro, and the Tri-County Metropolitan Transportation District of Oregon (TriMet) are the co-lead agencies for the environmental review process. The project will comply with the National Environmental Policy Act, Section 106 of the National Historic Preservation Act and its implementing regulations (36 Code of Federal Regulations [CFR] 800), and Section 4(f) of the Department of Transportation Act.

Archaeological Investigations Northwest, Inc. (AINW), is subcontracted by Parametrix, Inc., to provide cultural resource consulting services for the Southwest Corridor Light Rail Project. All AINW staff who complete and direct cultural resource investigations and reporting meet the Secretary of the Interior's Professional Qualifications Standards in the fields of Archaeology, Architectural History, History, and Historic Preservation.

AINW surveyed the Area of Potential Effects (APE) for the project and identified 600 cultural resources in 2017: 584 are historic built environment resources and 16 are archaeological resources.

- Of the 584 historic resources identified in the APE, 144 are listed in or are recommended to be eligible for listing in the National Register of Historic Places (NRHP). Each historic resource has a designated Map ID number that corresponds to a map atlas in Appendix A. This same Map ID number has been used to order a baseline table that provides identifying information, NRHP eligibility recommendations, and resource photographs, included in Appendix B.
- There are 11 previously identified archaeological resources in the APE; a partial survey of the APE identified an additional 5 archaeological sites. AINW recommends 28 archaeological High Probability Areas (HPAs) be further investigated. A map atlas in Appendix C shows the location of identified archaeological sites, pedestrian survey areas in the APE, and areas previously surveyed for archaeological resources. Appendix D is an atlas of maps showing the location of archaeological HPAs, and Appendix E provides summary information for each HPA.

A preliminary analysis of potential impacts on cultural resources has been completed in support of the DEIS. This information is summarized in the "Affected Environment" chapter of this report; further discussion of build alternatives and design options under consideration for the Southwest Corridor Light Rail Project and accompanying maps are in Appendix F. Once a Preferred Alternative is selected for the project from these alternatives and options, intensive-level investigations are planned to identify and evaluate potential adverse effects on historic properties. Detailed recommendations for further cultural resource tasks are included in the "Recommendations" chapter of this report.

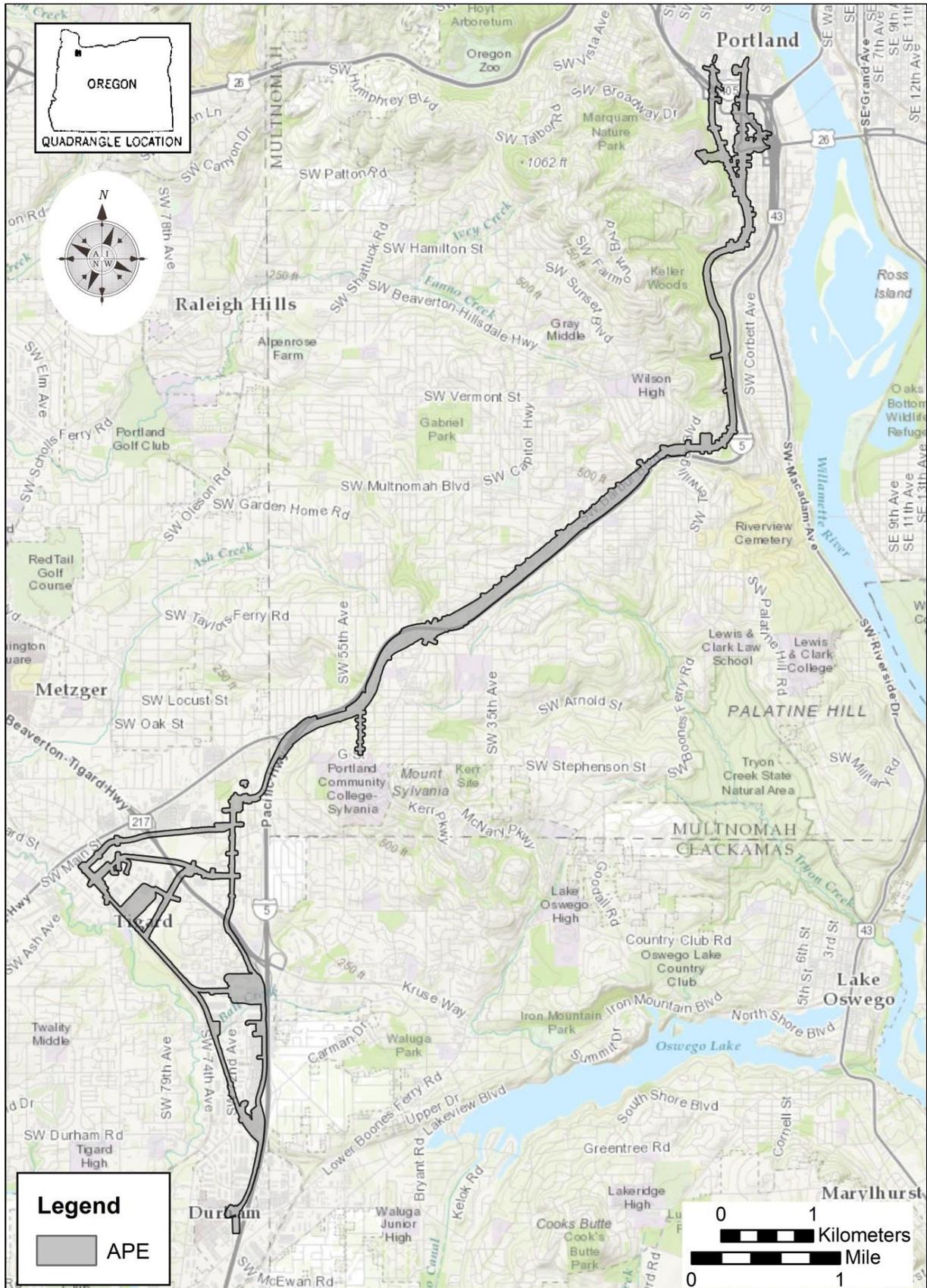


Figure 1. The Southwest Corridor Light Rail Project APE in Multnomah and Washington Counties, Oregon.

PROJECT AND APE DESCRIPTION

The Area of Potential Effects (APE) for the Southwest Corridor Light Rail Project defines the area in which historic properties have the potential to be both directly and indirectly affected by project construction. It includes the construction footprints of build alternatives for three proposed light rail segments (A, B, and C) and options for a Marquam Hill connection in Portland and an operations and maintenance (O&M) facility in Tigard. A 15.2-meter (50-foot) buffer extends out from the alternatives and options to account for potential indirect effects on historic resources. The Federal Transit Administration (FTA) defined the APE and Oregon State Historic Preservation Office (SHPO) concurred on it. In addition, this APE has been sent to the Confederated Tribes of Grand Ronde Community of Oregon, Confederated Tribes of Siletz Indians of Oregon, the Confederated Tribes of the Warm Springs Reservation of Oregon, and the Cowlitz Indian Tribe of Washington.

Each segment of the Southwest Corridor Light Rail Project represents a confined geographic area with multiple build alternatives under consideration. From these alternatives, a Preferred Alternative will be selected for further analysis and study. These segments are oriented from northwest to southeast along the corridor's path from Portland to Tualatin (see Appendix F).

- **Segment A** is generally defined as inner Portland; it extends from SW Lincoln Street to SW Brier Place. The light rail alternatives for Segment A are:
 - Alternative A1: Barbur
 - Alternative A2-BH: Naito with Bridgehead Reconfiguration
 - Alternative A2-LA: Naito with Limited Access
- **Segment B** encompasses the outer Portland area, connecting to Segment A at SW Brier Place and continuing southwest to SW 68th Parkway, and with some alternatives along Interstate 5 (I-5). Light rail alternatives for Segment B are:
 - Alternative B1: Barbur
 - Alternative B2: I-5 Barbur Transit Center to 60th
 - Alternative B3: I-5 26th to 60th
 - Alternative B4: I-5 Custer to 60th
- **Segment C** includes the communities of Tigard and Tualatin. It connects to Segment B at SW 68th Parkway and continues to Bridgeport Village, which is located north of the Tualatin River between I-5 and SW Upper Boones Ferry Road. Light rail alternatives for Segment C are:
 - Alternative C1: Ash to I-5
 - Alternative C2: Ash to Railroad
 - Alternative C3: Clinton to I-5
 - Alternative C4: Clinton to Railroad
 - Alternative C5: Ash and I-5 Branched
 - Alternative C6: Wall and I-5 Branched

Metro and TriMet are exploring options that would improve connecting infrastructure for pedestrians, cyclists, and vehicles to provide safe and efficient access to the new light rail line along its alignment. Some of these improvements are integrated into the light rail alternatives, while others are

separate options that may or may not be included in the Preferred Alternative. Improvements that have been integrated into light rail build alternatives include bypasses for buses to avoid congestion in Segment A, park and ride facilities in Segments B and C, and new roadway connections in Segments A, B, and C.

Two design options overlap the project APE: Marquam Hill connection options and O&M facilities options. The Marquam Hill connection options would provide access to the proposed light rail line from medical facilities on Marquam Hill in Segment A (including Oregon Health & Science University [OHSU]), while the O&M facilities options would provide a location in Tigard for the storage, cleaning, and maintenance of light rail vehicles.

Other design options, such as station access projects, are not under consideration for effects on cultural resources at this time. Many are partially located both within and outside of the FTA-defined project APE. Any design option that is included as part of the Preferred Alternative for the Southwest Corridor Light Rail Project will be the subject of investigation for significant cultural resources for the final DEIS. For more detailed information on project alternatives, please refer to the *Light Rail Alternatives for Environmental Review* document in Appendix F.

ENVIRONMENTAL SETTING

The segments of the project APE that are in downtown Portland and the Tualatin Valley, a broad plain located west of the Tualatin Mountains that is traversed by the Tualatin River, are on terraces of fine-grained Pleistocene-era flood deposits capped by later floodplain alluvium and historic period fill (Beeson et al. 1989). The flood deposits date to no later than between 14,271 and 13,739 calendar years (cal yrs) before present (B.P.), and were laid down by a series of glacial lake outburst floods known as the Missoula (or Bretz) Floods (Benito and O'Connor 2003; Minor and Peterson 2013). The Missoula Floods reworked much of the landscape below an elevation of 120 meters (393 feet) above sea level (Evarts et al. 2009; Gannett and Caldwell 1998). On the Portland end, the project APE lies at elevations between 40 and 49 meters (130 and 160 feet) above sea level, while the Tualatin Valley portion is between 49 and 60 meters (160 and 200 feet) above sea level. Despite the extensive impacts of these floods, the terrace soils are contemporary with human settlement in the area, and traces of human settlement immediately post-dating the flooding have been found in the vicinity (for example, Bajdek et al. 2016).

The midsection of the project crosses the Tualatin Mountains, which are formed from the Miocene-era Columbia River Basalt Group (Gannett and Caldwell 1998). The mountains are the result of deformation of the basalt bedrock between the Sylvan Fault and the Portland Hills Fault, leading to elevations of up to 305 meters (1,000 feet) above sea level (Walsh et al. 2011). The project APE reaches elevations of between 80 and 120 meters (400 and 600 feet) through the mountains. Because of steep slopes and the unstable interface between basalt bedrock and topsoil, landslides are common. Several large prehistoric slides are mapped along SW Barbur Boulevard and I-5 on the eastern slopes of the Tualatin Mountains (Oregon Department of Geology and Mineral Industries [Oregon DOGAMI] 2017a). The western slopes of the Tualatin Mountains are mantled by a remnant lava flow from Mount Sylvania, an extinct volcano in the Boring Lava Field (Beeson et al. 1989). Upland terraces are common within the project APE, and these might have prehistoric archaeological sites.

The vegetation within the vicinity of the project APE is characteristic of the *Tsuga heterophylla* vegetation zone (Franklin and Dyrness 1973). Douglas-fir (*Pseudotsuga menziesii*) forest is typical in the uplands, grading to a mixed Douglas-fir and Oregon oak (*Quercus garryana*) woodland on the outskirts of Tigard, and mixed grassland and riparian forest near Fanno Creek and Red Rock Creek. This vegetation is common within the Puget Trough physiographic province, which forms a broad, low basin between the Cascade Mountain Range to the east and Coast Mountain Range to the west (Franklin and Dyrness 1973). General Land Office (GLO) surveyors encountered the landscape during the mid-19th century, before urbanization. They recorded closed Douglas-fir forest across the Tualatin Mountains, open Douglas-fir and oak woodland on the eastern edge of the Tualatin Valley, and closed ponderosa pine forest adjacent to Fanno Creek (Christy and Alverson 2011).

Pollen records indicate that closed conifer forest dominated the project vicinity beginning 5,200 years ago (Walsh et al. 2008; Walsh et al. 2010). Before this, oak savannah dominated the area during warm, dry conditions that prevailed between 10,800 and 5,200 cal yrs B.P. (Barnosky 1985; Walsh et al. 2008; Whitlock 1992). These dry years may have had the effect of concentrating human populations around seasonally-wet meadows, where camas and other edible plants thrived (Barnosky 1985; Walsh et al. 2008; Whitlock 1992). Ethnographic records indicate that camas meadows continued to be an important food resource for Native people until the time of Euroamerican contact (Silverstein 1990).

CULTURAL SETTING – PREHISTORY AND NATIVE PEOPLES

PREHISTORY OF THE PROJECT APE

The earliest occupation of the project APE and the greater Portland and Tualatin basins likely began during the Paleoarchaic period more than 12,000 years ago. Small groups of hunter-gatherers were using diverse landscapes within the surrounding region as evidenced by early occupations at Paisley Caves (Jenkins et al. 2012) and the presence of fluted (Clovis) projectile points in the Willamette Valley (Ozbun and Fagan 1996) and across the Columbia Plateau (Aikens et al. 2011; Meltzer 2009). Evidence of Paleoarchaic-era hunter-gatherers in the Portland and Tualatin basins was recently obtained from the Burnett Site (35CL96), approximately 4.8 kilometer (3 miles) southeast of the APE on the east side of Oswego Lake (Bajdek et al. 2016). The presence of Windust, Cascade, and Great Basin stemmed projectile points at the site indicate an initial occupation of approximately 11,400 B.P. or earlier. Remains of Pleistocene megafauna have been identified within the northern Willamette Valley (Cressman and Laughlin 1941; Cressman; 1947; Hansen and Packard 1949). However, no definitive evidence has yet been found that links megafauna remains in the valley with human predation (Gilmour et al. 2014), although such evidence is found in Washington State (Waters et al. 2011).

The broad-spectrum, hunter-gatherer subsistence patterns established in the Late Pleistocene continued into the Early Archaic period, dating to 6,000 years ago and earlier (Aikens et al. 2011). Archaeological sites dating to this period typically reflect small camps that were used for several weeks or a few months at the most and there is little to no evidence of the widespread use of storage technology during the period (Ames 1992). Projectile point technology during the period was characterized by lanceolate-shaped Cascade projectile points (Aikens et al. 2011). Most Early Archaic sites in the region have been identified in the foothills and upland environs at the edges of the Willamette Valley (Aikens 1993; Aikens et al. 2011). Analyses of Cascade points, groundstone implements, and obsidian from site 35CL376, located approximately 2 kilometers (1.25 miles) east of the APE and currently submerged beneath the waters of Oswego Lake, provides ample evidence of long-term utilization and occupation within the vicinity of the project APE throughout the Early, Middle, and Late Archaic periods (Punke et al. 2011).

The Middle Archaic period, approximately 6,000 to 2,000 years ago, saw a shift from broad-spectrum, highly mobile subsistence patterns to semi-sedentary and logistically mobile patterns similar to those documented in the latter half of the 19th century (Aikens 1993; Aikens et al. 2011; Ames 1991). These new subsistence patterns put a greater emphasis on seasonally available resources in the region, including anadromous fish and plant foods. Long-term villages began to appear during this time as well. Winter villages were established in lowland environs along the Columbia and Willamette rivers, usually at the confluence of streams and a major tributary. Early Archaic populations utilized salmon and steelhead. However, a strong focus on catching and processing anadromous fish, not seen in earlier times, appears to take root within the Middle Archaic period (Aikens et al. 2011; Ames 1992; Butler and O'Connor 2004).

The archaeological record indicates that in the summer months, residents of the villages would disband and travel to upland areas, not unlike the southern portion of the project APE, for collecting and processing seasonally available plant foods including camas (*Camassia*), bitterroot (*Lewisia rediviva*), and

balsamroot (*Balsamorhiza*) (Aikens et al. 2011). Evidence of camas ovens and groundstone implements, which were used to process these seasonally available foods, become increasingly common during the Middle Archaic period (Thoms 1989). Projectile points from the period are characterized by large notched and stemmed forms (Aikens et al. 2011).

The Late Archaic period, from 2,000 to approximately 200 years ago, saw an increase in populations throughout the Portland Basin and a continued emphasis on seasonally available resources (Ames 1992; Aikens et al. 2011). With the need to feed an increasing population and more settled lifeway, there also came a need to store excess quantities of seasonally available resources (dried fish, roots, etc.) in order to feed the population year-round without moving substantial distances (Ames 1991). Native peoples used fire to foster the growth of many seasonal plants; evidence of such intervention has been found near Lake Oswego, where an anthropogenic-influenced fire regime best explains changes in vegetation over the past 1,200 years (Walsh et al. 2010).

There was a major shift in hunting technologies during the Late Archaic period from dart and atlatls to the bow and arrow. This change was reflected by the introduction of smaller, notched projectile points. Trade networks began to flourish during the period; the most prolific evidence of these networks comes from the sourcing and dating of obsidian found at archaeological sites across the Pacific Northwest. Obsidian at sites with Late Archaic occupations in the Portland and Tualatin basins, including site 35CL376, have been linked to sources in the Upper Willamette Valley and Eastern Oregon (Aikens et al. 2011; Baxter et al. 2015; Connolly et al. 2015; Punke et al. 2011).

NATIVE PEOPLES

The project APE extends through the traditional lands of Chinookan-speaking people and Kalapuyan-speaking people. While distinctly different Native American groups, they shared similar subsistence resources and interacted extensively through intermarriage and trade. Chinookan-speaking peoples lived along the Lower Columbia River and the Willamette River below Willamette Falls at present-day Oregon City, and relied upon these rivers for subsistence and for travel. Kalapuyan-speaking people occupied the Willamette Valley above Willamette Falls, and had a more terrestrial focus on hunting and gathering.

Chinookan-speakers

The traditional territories of Chinookan-speaking people included areas along the lower Columbia River, on the Willamette River up to Willamette Falls, and on the Clackamas River (Silverstein 1990:533-534). The Clackamas, who spoke an Upper Chinookan dialect, lived in villages located along the east side of the Willamette River, along the Clackamas River, and along their major tributaries (Silverstein 1990:533-535). Woodward (1974:210) notes that there are no accounts of the Clackamas west of the Willamette River or south of the Willamette Falls. The project APE, which is situated adjacent to and west of the Willamette River, may have been within the territory of the Clowewalla (also called Tumwater) subgroup. Their territory is reported to be at the Willamette Falls and along the western banks of the Willamette River between the Molalla River (near present-day Canby) and present-day Portland to the north (Kent 1977). This subgroup might have been part of the Clackamas or a close relation (Woodward 1974).

The Clackamas had close ties to Native groups of the Columbia River Gorge, with whom they shared the same Upper Chinookan dialect (Silverstein 1990:533-545). The Clackamas also intermarried and traded with the Tualatin, who were Kalapuyan speakers. The Tualatin visited the Willamette Falls, controlled by the Clowewalla, to trade for salmon (Zenk 1990; Gatschet et al. 1945). The Tualatin maintained close ties with the Clowewalla through marriage, gaining them fishing rights at the falls (Thorsgard 2013:310). Native groups throughout the region gathered at Willamette Falls; it was an important meeting place to trade salmon (abundant at the falls), to socialize, and to reinforce important social, economic, and political alliances (Thorsgard 2013; Jacobs 1958:526-527). Willamette Falls is located approximately 11 kilometer (7 miles) east-southeast of the south end of the project APE.

Clackamas peoples oriented their village and camp locations toward the procurement of seasonally available resources. Semi-permanent winter villages were established along rivers, where spring and early summer runs of anadromous fish (salmon and steelhead trout) were harvested, dried, and stored. Fish, particularly salmon, dominated the diet of these groups. Winter village dwellings consisted of oblong, gabled-roof cedar plank houses (Ray 1938:124-126). Former State Archaeologist Le Gilsen recorded a possible Clackamas village location at a gulch below SW 3rd Avenue and SW Caruthers Street, placing it at the now infilled Marquam Gulch in downtown Portland that is within the project APE. A group of 500 Native people residing at this location were moved by the government to the Grand Ronde reservation after 1856 (Hajda 1992).

Subsistence activities shifted to upland locations later in the summer. Clackamas people established temporary dwellings at summer villages near fishing, hunting, and root-gathering localities. Edible plants were commonly used, and included camas, wapato (*Sagittaria latifolia*), horsetail shoots (*Equisetum*), bracken fern (*Pteridium*), cattail roots (*Typha*), as well as edible nuts and berries. Large to small mammals were hunted by the Clackamas people in both the upland and lowland valleys in the area. Autumn fish runs brought people back to the rivers in the fall (Hajda 1994; Silverstein 1990). The abundance of resources available in the Portland Basin may have allowed some people to reside in the village year-round (Saleeby 1983; Ellis 2013:51). Chinookans traded extensively with Euroamericans following the 1825 establishment of Fort Vancouver on the north shore of the Columbia River.

Kalapuyan-speakers

Kalapuyan-speaking people occupied the Willamette Valley, its tributaries, and portions of the Umpqua River drainage. Kalapuyan-speaking people were divided into 13 dialectally distinct regional groups, part of a Kalapuyan linguistic stock unrelated to the languages spoken by the surrounding Native American groups (Swanton 1952). The Tualatin, or Atfalati, were the northernmost Kalapuyan-speaking sub-group, and were known to have traditionally inhabited the project APE and its vicinity. The territory of the Tualatin people was within the Tualatin River Basin from its headwaters in the Coast Range to the Willamette River, including Chehalem Creek, and the North Yamhill River south to the Yamhill River at Lafayette.

During the colder months of the year, the Tualatin inhabited winter villages consisting of one or more extended family groups. During the winter, people sheltered in long houses with a dugout earthen floor, cedar bark or fir boughs for a roof, and split cedar plank siding. Village groups were politically and economically autonomous; however, interaction and exchange between groups often occurred through marriage. Women married and moved outside of their villages to establish alliances and relationships

with families from surrounding groups, including Chinookan-speaking peoples (Zenk 1990; Hajda 1994; Gatschet et al. 1945: 160-163).

Present-day Tigard, Beaverton, Hillsboro, and Forest Grove were established near former Tualatin village locations (Swanton 1952; Zenk 1976: 144-154). A historic-period Tualatin village or camp is reported in the vicinity of the project APE, near the intersection of Oregon Highway 217 (OR-217) and SW Pacific Highway (Benson n.d.). This settlement may be the winter village of *čhačhimahíyuk* (meaning “place in front of *híyuk* [an aromatic herb growing in marshy places]”) which is reported as being near the Tualatin River and under the chieftainship of the Beaverton-area hunter *xé/uba* (Zenk 1976:144, 146). Zenk (1976:86) translates *híyuk* as a wild mint (*Mentha arvensis* L.) that was used for tea.

The Tualatin were also known to frequent the area around present-day Oswego Lake, which is located approximately 1.6 kilometer (1 mile) east of the southern end of the project APE, as evidenced in a collection of Kalapuyan oral histories collected in the late 19th and early 20th centuries (Thorsgard 2011; Gatschet et al. 1945). Thorsgard (2011) discusses how Clackamas Chinookan-speaker myths describe a harmful being that resided at Oswego Lake. He suggests that this myth may have served to create social space between the Clackamas Chinookan-speakers and the Tualatin Kalapuya. This myth enforces Oswego Lake as a taboo location. Oswego Lake was situated near the interface between Tualatin and Chinook territory. Chinookan-speakers may have avoided the lake because of the myth, but it might have also served as a territorial buffer to reduce conflict between the two groups (Thorsgard 2011).

During the warmer months of the year, individuals and small family task groups set out to hunt and gather seasonally available food resources (Zenk 1990). The Willamette Valley was a focus of these activities, and areas were regularly burned to maintain open space, to sustain healthy plant populations, and to attract animals to forage (Boyd 1999; Whitlock and Knox 2002). The Kalapuya hunted deer, elk, black bear, birds, and small mammals; they also collected lamprey eels, grasshoppers, and caterpillars. However, plant foods were heavily relied upon. Surpluses of nuts, seeds, berries, and roots were harvested for trade, and were stored for food reserves for the winter. Camas was abundant in the valley and was an important resource. Camas bulbs were roasted in pit ovens, then dried, pressed into cakes, and stored for winter or traded (Zenk 1990).

People would also congregate at Wapato Lake (near Gaston) and the swamps along the Tualatin River to gather wapato in the fall (Zenk 1976: 17, 39-40). In addition, each village group owned rights-of-access to a tarweed plot divided into family-managed sub-plots. The plot was set afire in August and harvested soon after by women who beat the seeds into rawhide buckets with wooden paddles. The seeds were roasted and then ground into a meal with mortar and pestle.

Euroamerican contact greatly affected and influenced Native Americans in the project vicinity because of their proximity to major rivers, which were the transportation corridors. These peoples were among the first groups of Native people who experienced decimation from European diseases. A series of malaria outbreaks between 1830 and 1833 was especially devastating, killing the majority of the Native population in the Portland Basin (Boyd 1990; Hajda 1994). Native American populations also underwent major cultural changes during this time as a result of the introduction of European goods and emphasis on the fur trade. However, Native peoples have maintained their cultural traditions into the present time. The Portland area office of the Confederated Tribes of the Grand Ronde Community of Oregon is within the project APE on SW Barbur Boulevard, attesting to the important connection the people have to the project vicinity.

CULTURAL SETTING – HISTORIC-PERIOD CONTEXT

The Southwest Corridor Light Rail Project would connect southwest Portland in Multnomah County with Tigard and Tualatin in Washington County to the southwest. Although these communities are currently connected by roadways such as SW Barbur Boulevard (completed in 1936) and I-5 (completed in 1961), they have different histories of development and growth that are reflected in the cultural resources identified within the APE. Portland, with its location on the Willamette River near the confluence with the Columbia River, is a much larger city that featured an urban environment within the APE by the late 19th century. Tigard and Tualatin, which were first connected to the Portland area by rail in 1908, thereafter experienced residential, industrial, and commercial growth as Portland’s municipal boundary and population extended farther south and west during the 20th century (Thompson 2014).

This chapter will discuss significant themes of development that correlate with known and potential cultural resources in the APE dating from the historic period, the era for which written records exist and that is defined by environmental and cultural changes that occurred after contact between Native and non-Native people. These themes will explore settlement patterns, the evolution of public infrastructure, and other major events that have helped to shape the cultural setting of the APE during the 19th and 20th centuries.

19TH CENTURY SETTLEMENT

The City of Portland is located between two early Euroamerican population centers: Oregon City to the south and Fort Vancouver to the north. Both were outposts of the Hudson’s Bay Company, a fur trading business based in London that began an expansion into the disputed Oregon Country in 1821 with the purchase of four trading outposts from the rival North West Company (Jones & Jones 2005). Britain and the United States jointly occupied the Oregon Country; it encompassed the Pacific Northwest region of the United States and the present-day Canadian province of British Columbia.

From 1824 to 1825 the Hudson’s Bay Company established Fort Vancouver on the Columbia River at the site of present-day Vancouver, Washington. The Chief Factor of the Columbia District, John McLoughlin, established the company’s outpost in Oregon City. In 1829 McLoughlin claimed land on behalf of the company near Willamette Falls, where he built a sawmill and several cabins (Tate 2013). He would later reclaim the land in his own name to establish Oregon City (Tate 2013).

The incorporation of Oregon City in 1844 coincided with an influx of people traveling on the Oregon Trail after the Provisional Government of Oregon authorized free land claims in 1843 (Holman 1912:123). In 1846, the Oregon Treaty established the 49th parallel as the boundary between British and American lands in the Oregon Country. Shortly thereafter, Congress enacted the Donation Land Claim Act of 1850. It allowed individuals and married couples to claim upwards of 640 acres of land to promote settlement of the newly formed Oregon Territory. Oregon achieved statehood in 1859.

Those early arrivals who traveled between Fort Vancouver and Oregon City on the Willamette River knew the future townsite of Portland as “The Clearing” (Snyder 1970:30). William Overton and Asa Lovejoy filed a claim for “The Clearing” with the Provisional Government of Oregon in 1844 (Snyder

1970:31). Overton would later sell his share of the developing claim to Francis Pettygrove, who succeeded in naming the townsite Portland after Portland, Maine.

The project APE is situated south of this original townsite. Early settlers who had land claims that overlapped the APE in the South Portland area include Stephen Coffin, Finice Caruthers, Elizabeth Caruthers, James Terwilliger, and Thomas Stephens. An 1852 map of Township 1 South, Range 1 East, Willamette Meridian, depicts the farms of these early settlers as being clustered along the west bank of the Willamette River; a north-south oriented trail or road, likely a macadam toll road under construction by the Portland and Milwaukie Macadamized Road Company (completed in the early 1860s) provided land-based transportation between these farms and Portland (GLO 1852a). However, river transport would remain a popular mode of transportation until the next generation of settlers developed a reliable road network during the late 19th century (Habersham 1894).

The few early roads that crossed through the project APE usually connected rural farms and communities with the larger cities clustered along the Willamette River. For instance, a road that connected Milwaukie (located on the east bank of the Willamette River) to the Tualatin Plains to the west crossed the project APE near the present-day intersection of I-5 with SW Barbur Boulevard and SW Capitol Highway (GLO 1852a).

Farther west, the “Road from Oregon City to Hillsborough” crossed through the APE near present-day Tigard and the farm of George Richardson (GLO 1852b). Farther south, near the I-5 and OR-217 interchange, John Hickland situated his house near Ball Creek, within the APE (GLO 1852c). William Graham also had a house in this general area, near the proposed location of a project O&M facility in Tigard (GLO 1852c). The Tualatin Valley and its surrounding plains were well known for their agricultural production during the mid-19th century; immigrants from Germany, Austria, Russia, Switzerland, and Italy came to this area to grow onions and nut and fruit orchards (Buan 1999).

TRANSPORTATION SYSTEMS

During the 19th century people traveled through the project APE and its vicinity by river, roads, and rail. Ferries and steamboats were popular modes of transportation during the mid-19th century, but obstructions to navigation, such as Willamette Falls, limited their reach. A failed bid to connect the Willamette River to the Tualatin River via locks and a canal at Sucker (Oswego) Lake also hindered travel (Buan 1999). The construction of new roads and railroads would eventually connect the agricultural bounty of the Tualatin Valley with the deep-water port of Portland.

One early and important road connection between Portland and the Tualatin Valley was present-day Canyon Road. Beginning in 1851, the Portland & Valley Plank Road Company used wooden planks to make this important transportation link, which is north and outside of the APE, passable for much of the year (Buan 1999). Early transportation connections such as Canyon Road adequately met the needs of local communities along their path; however, they were not efficient, nor were they fast. The area was in need of a railroad infrastructure that could transport both people and goods more cheaply and reliably than was possible on early roadways.

The Southern Pacific stepped in to answer this call, playing an outsized role in the development of railroad infrastructure during Portland's early history. By the late 19th century, major rail lines in the APE included the Westside Line from Portland to Beaverton (completed in 1875); the Portland Union Station to Cook narrow gauge line (completed in 1888 by the Portland and Willamette Valley Railroad and fully controlled by Southern Pacific by 1892); and the Tigard Branch, which connected Cook to the south and Beaverton to the north (completed circa 1910) (Austin and Dill 1987). The new rail network led to a rapid expansion of Portland's industrial capabilities.

For present-day Tigard, which was known as both East Butte and Tigardville during the late 19th and early 20th centuries, the arrival of a rail connection fundamentally changed the local residents' way of life. First freight, and then passenger lines of the early 20th century, brought with them opportunities to better connect the community with the outside world (Buan 1999). Passenger service in particular began to increase in the early 20th century with the advent of electric-powered interurban rail lines. During this period the Southern Pacific would come to embrace electrified local trains because of the increasing resistance in the growing Portland area to steam trains that travelled through densely populated areas (Dill and Grande 1994).

In 1912, Southern Pacific announced that it would electrify several western Willamette Valley lines including the Westside Line, which overlapped the project APE in South Portland along present-day SW Barbur Boulevard and within a railroad right-of-way corridor in Tigard (Dill and Grande 1994). This put Southern Pacific in direct competition with the Oregon Electric Railway, which constructed an interurban line in 1908 that began in Portland and continued on to Tigard within a corridor that roughly follows present-day I-5 and SW Multnomah Boulevard (Thompson 2014). The Metropolitan Railway Company also operated an electric trolley service through the APE along a former horse-drawn rail line that connected South Portland to the downtown area to the north in 1886 (Harrison et al. 1997). The line was electrified in 1889 and extended from its original terminus at SW 1st Avenue and SW Gibbs Street to Fulton Park, with an alignment that travelled along SW Corbett Avenue and SW Virginia Avenue (see Figure 2) (Portland Railway Light and Power 1914).

URBANIZATION OF SOUTH PORTLAND

Like many other cities in the western United States, Portland grew in its early years with little to no planning (MacColl 1976). Considering that Portland's population increased to more than 300,000 people in 1930 from just 46,358 in 1890, this usually meant that long delayed but needed improvements in sanitation, transportation, and other public interests would cause momentous change once initiated (Abbott 1994). The modernization of the South Portland neighborhood was no less dramatic, as swaths of 19th century housing disappeared over time to make way for new roads, buildings, and open spaces.

An Immigrant Community

Near the end of the 19th century, the north end of the project APE was a dense landscape of tenement housing, small businesses, and social gathering places. Refuse was disposed of wherever it was most convenient, including the city dump at Marquam Gulch and several other gulches that crossed through the APE from west to east. Interurban trolleys and trains carrying freight crossed through the



Figure 2. The Gem Hotel on SW 1st Street between SW Sheridan Street and SW Arthur Street in 1918. The photograph was taken from a steel bridge that crossed Marquam Gulch; the bridge railing is visible at left. The Metropolitan Railway's electric trolley line is visible at the center of the roadway. City of Portland (OR) Archives, A2012-003.28.

area, mixing with pedestrians and horses. In 1894, graded roads had surfaces that were a mixture of gravel, Macadam, and wood planks; many modest bridges conveyed traffic over the gulches (Habersham 1894) (see Figure 2).

Since this neighborhood was located near factories and the industrial waterfront of Portland, South Portland was a lower-income working class community. Its affordable accommodation provided a gateway for immigrants who came to Portland seeking better lives, and who brought vibrant cultural traditions with them. This gave the South Portland neighborhood a distinctive feel from others nearby; the languages, foods, and traditions were a direct reflection of local immigrant groups, which included large numbers of Italians and Jews from Poland and Russia (Abbott 1994).

Once initial waves of these settlers made South Portland their home later arrivals were more likely to choose to live in this neighborhood, as they were surrounded by people who might be friends or relatives, or who might simply be familiar to and supportive of a new arrival in Portland (Harrison et al. 1997). As recalled by Augusta Kirshner Reinhardt, the close-knit area of South Portland felt to her and others like a *shtetl*, a small Jewish town in Central or Eastern Europe.

People chose to live close to each other and it was a wonderful way to live, really, very much as we think of a *shtetl* because in this small area, anything that anybody needed for good living was available within walking distance. There was the library within a few blocks, there was the synagogue within a few blocks, there were the grocery stores, the laundry, the hospital, the

community center, you name it and we had it in our so-called ghetto. It was sweet living and really everybody helped each other [Lowenstein 1987].

After the turn of the 20th century, residents made a greater push to improve the living conditions of South Portland. The community sought better amenities for local children, and the current built environment of the APE reflects this effort to the present day. For instance, Marquam Gulch was not only a city dump, but a place where many people lived and children played for lack of better options (*The Morning Oregonian* 1916). After a public outcry, the city established Duniway Park in 1918 and worked for several years thereafter to fill and level the former dump to make it an open space for public benefit.

Similarly, the city established Lair Hill Park at the former location of a Multnomah County hospital. This hospital provided emergency services to treat influenza during an epidemic that began in 1918 and continued through 1920 (City of Portland 1984). A former nurse's quarters building remains at the park; during the 1940s it housed the Youth Administration of the Federal Security Agency, and from 1949 to 2001 was used as children's museum (City of Portland 2017). The city constructed the South Portland Library at Lair Hill Park in 1921 and provided books in Yiddish, German, and Italian (Leflar 2007; *The Sunday Oregonian* 1921). Farther south, the NRHP listed Jewish Shelter Home at 4133 SW Corbett Avenue stands as a reminder for those who had lost family, or struggled with illness or other adversity, and how the local community came to their aid. The shelter home operated from 1919 to 1937 and received support from prominent Portlanders such as Jeanette Hirsh Meier, wife of Meier & Frank founder Aaron Meier (McCabe 1983).

Road Improvements Impact the Community

The push to provide greater social services and amenities within the South Portland neighborhood came at a time of rapid growth. The city was beginning to expand far outside of its early footprint, and the South Portland neighborhood was significantly impacted by projects that were undertaken to connect the downtown area to surrounding suburbs. Interurban rail lines had met the transportation needs of the greater Portland community during the early 20th century; however, during the dawning age of the automobile existing infrastructure was no longer adequate. Due to the presence of the Willamette River to the east and the Tualatin Mountains to the west, any significant changes to the local infrastructure to better connect South Portland to suburbs to the south, west, and east resulted in lasting changes within this community.

Construction of the Ross Island Bridge was one of the first signs of this impending change. Multnomah County completed the Ross Island Bridge in 1926 to connect South Portland with East Portland across the Willamette River. Construction of the western approach to the bridge was minimally invasive, as it was completed in an area with natural depressions where building had largely been avoided (see Figures 3 and 4). The design of the bridge approach allowed cars to get both on and off the bridge from SW Corbett Avenue.

Even more disruptive to the fabric of the historic South Portland neighborhood was construction of SW Barbur Boulevard during the 1930s. The city constructed the road along the former Southern Pacific Westside Line right-of-way. It eventually became the SW 4th Avenue Extension. This project began within the APE at the intersection of SW 4th Avenue and SW Sheridan Street; extending south and



Figure 3. The western approach to Ross Island Bridge as captured in 1932. This aerial view is facing east. City of Portland (OR) Archives, A199-004-530.



Figure 4. The Ross Island Bridge west approach as viewed from a garbage dump near SW Water Avenue and SW Woods Street in 1936. The Julius Heubner House at 3204 SW Corbett Avenue is at right; the house is a contributing resource of the South Portland Historic District. City of Portland (OR) Archives, A2009-009.



Figure 5. The Southern Pacific electric interurban on SW 4th Avenue crossed Marquam Gulch atop a timber trestle visible from SW Arthur Street at SW 3rd Avenue in 1931. The trestle was removed for the SW 4th Avenue Extension project, when the Oregon State Highway Department constructed present-day SW Barbur Boulevard. City of Portland (OR) Archives, A2000-025-160.

west, the roadway then transitioned into the Pacific Highway West (today's Oregon Highway 99W) near the present-day intersection of SW Barbur Boulevard and I-5. Construction of this roadway through the South Portland area required removing wood pile railroad trestles (like the one that once spanned Marquam Gulch [see Figure 5]), and thus required significant earth-moving activities to fill these landforms for road construction (Figures 6 through 8). The Oregon State Highway Department constructed several new bridges in the APE, including the SW Newbury Street and SW Vermont Street viaducts, as part of this effort (see Figure 9). Pacific Highway West opened in 1936, bringing heavy commuter traffic through the South Portland community.

Portland struggled with traffic congestion in the downtown area for many years before the opening of initial segments of I-5 in 1961. In 1940, the city won approval of a bond issue to construct Harbor Drive. The road would connect SW Barbur Boulevard to the south with the Steel Bridge to the north. Construction was already underway when Japan bombed Pearl Harbor in December 1941 (*The Oregonian* 1942a). Wartime restrictions limited the scope of the project, but the state completed Harbor Drive in the early 1950s (*The Oregonian* 1942b, 1950a). Within the project APE the construction of Harbor Drive necessitated the widening of SW Front Avenue (present-day SW Naito Parkway); this divided the neighborhood in two, creating separate Corbett and Lair Hill neighborhoods to the east and west. To make matters worse, a reconfiguration of the west approach of Ross Island Bridge to accommodate greater traffic volume further divided the Corbett neighborhood (Harrison et al. 1997). It created an additional north-to-south buffer through an already changing neighborhood (see Figure 10).



Figure 6. Construction of SW Barbur Boulevard at an unnamed gulch near SW Lane Street in 1932. The likely remnants of a wood bridge that once crossed this gulch at the present-day intersection of SW Barbur Boulevard and SW Naito Parkway are visible at right; the curving alignment at right is likely that of the former Southern Pacific electric interurban line that was removed for road construction. City of Portland (OR) Archives, A1999-004.419.

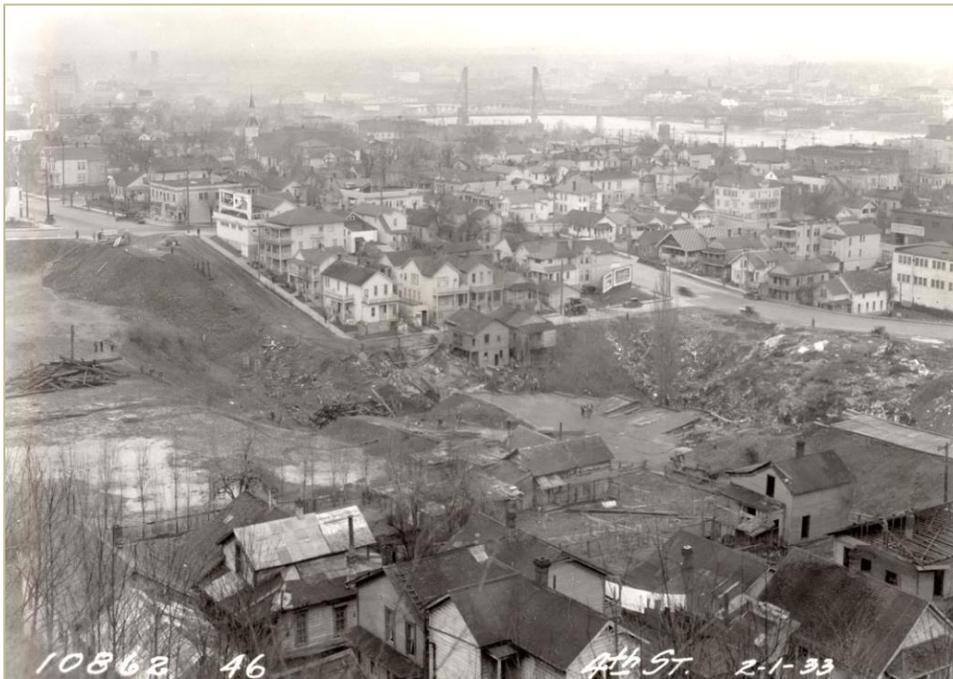


Figure 7. Aerial view from 1933 of demolition and fill activities in-process for SW Barbur Boulevard construction at Marquam Gulch. The unpaved alignment at center is the current location of SW Barbur Boulevard; SW Sheridan Street is at upper left; and SW 3rd Avenue is the paved road at right. City of Portland (OR) Archives, A2000-025.550.

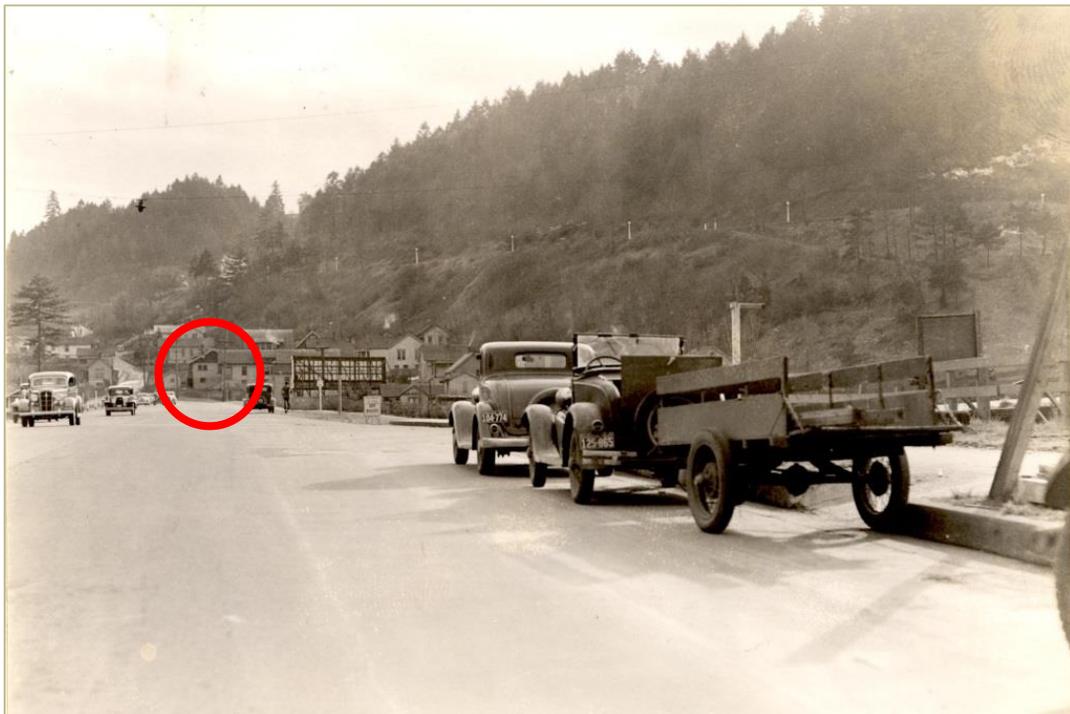


Figure 8. Excavation and grading at Marquam Gulch during construction of SW Barbur Boulevard in 1933 (top) and the finished roadway in 1937 (bottom). The view is facing towards the south-southwest from SW Sheridan Street; the same house is highlighted in each photograph for orientation. City of Portland (OR) Archives, A2000-025.549 and A2005-001.884.



Figure 9. To convey SW Barbur Boulevard through a sloped and elevated area of South Portland, the Oregon State Highway Department constructed new bridges and viaducts, including the SW Newbury Street Viaduct at left. The state completed the span in 1934; this west-facing photograph reportedly captures the bridge in 1932. City of Portland (OR) Archives, A1999-004.535.



Figure 10. The widening of Front Avenue (present-day SW Naito Parkway, at upper right) led to a reconfiguration of the west approach to the Ross Island Bridge (at center and left). This 1952 photo is facing southwest, and captures the Josiah Failing School at right. City of Portland (OR) Archives, A2005-001.817.



Figure 11. This aerial north-looking view from 1963 captures the impacts of the South Auditorium Urban Renewal project and several road improvement projects on South Portland. The unfinished east-to-west road cut is for the Stadium Freeway, present-day I-405. The north-to-south road at center is SW 1st Avenue, while the overpass under construction to the right now conveys SW Naito Parkway over I-405. Harbor Drive is at far right. City of Portland (OR) Archives, A2004.002.3582.

South Auditorium Urban Renewal and Interstate Highway Construction

Concurrent with upgrades of the city's road infrastructure the City of Portland applied for and received funds to complete the South Auditorium Urban Renewal project. The South Auditorium area overlapped the northern portion of the APE, and instigated major changes that have left a lasting impact in the South Portland area (see Figure 11). The city chose the South Portland neighborhood for urban renewal as the result of an analysis that the firm of Skidmore, Owings & Merrill completed in 1958. It factored in accessibility, parking, eligibility for federal funds, and expansion opportunities (*The Oregonian* 1958). South Portland's low percentage (6.2%) of home ownership weighed heavily into this decision, as the city would need to relocate displaced residents as a condition of accepting federal funds (*The Oregonian* 1958).

To the east, the state highway department initially constructed I-5 as the Baldock Freeway during the late 1950s and early 1960s. The agency completed the Baldock Freeway through downtown Portland on December 1, 1961, making the stretch of I-5 between Portland and Eugene the longest continuous piece of the Federal Interstate Highway System in the United States at that time (*The Oregonian* 1961). To construct the connecting Stadium Freeway, now known as Interstate 405 (I-405), the state highway department cleared buildings from the South Portland area and forced residents to relocate.

This dramatic change to the landscape occurred during the 1960s, the same period in which the City of Portland was removing buildings from several blocks of the urban renewal project area to purge deteriorating building stock and facilitate the construction of new, modern developments. An article published in *The Oregonian* on January 17, 1960, noted that the Portland Development Commission was “about one-third of the way through its job of clearing the two million square feet of the South Auditorium project for eventual replatting and development,” and that 470 families and 1,000 single persons had been identified as living in the 54-block area slated for redevelopment (Bauer 1960).

In the place of 19th century houses new apartment blocks, commercial buildings, and parks would soon rise on blocks north and south of SW Lincoln Street and west of SW Naito Parkway. Some examples of this 1960s infill are present in the northern portion of the APE between SW Harrison Street to the north down to SW Arthur Street to the south. Likewise, TriMet contractors encountered remnants of buildings demolished to make way for the urban renewal project below sidewalks and on adjacent land parcels during construction of the Portland-Milwaukie Light Rail Project on SW Lincoln Street (Chapman et al. 2014). During the urban renewal project, contractors reduced some demolished building remnants through controlled fires, but they often left behind debris and covered it with fill to create new surfaces for building construction (*The Oregonian* 1960).

SW BARBUR BOULEVARD AND SUBURBAN RESIDENTIAL EXPANSION

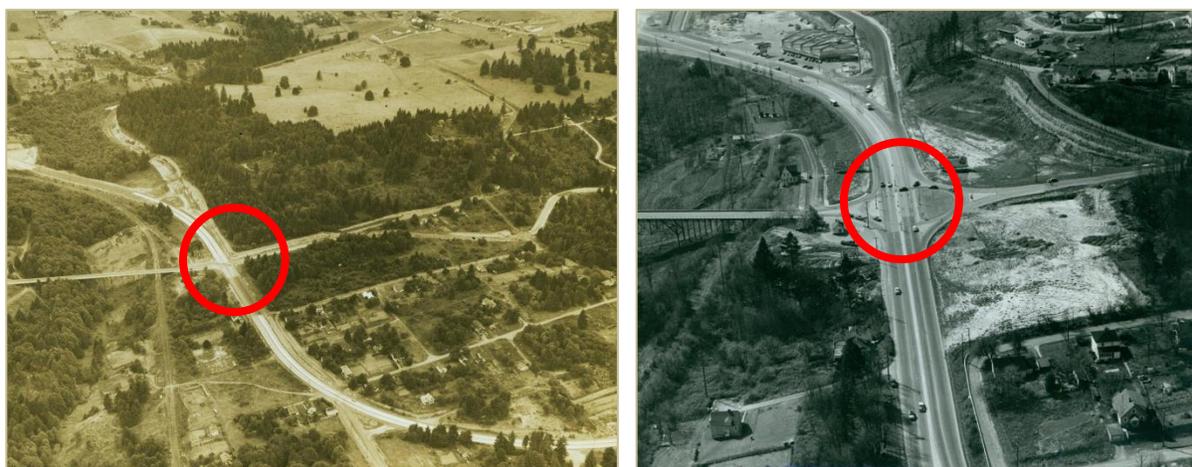


Figure 12. The intersection of SW Barbur Boulevard and SW Terwilliger Boulevard as it evolved over a twenty-year period between 1932 (left) and 1952 (right). City of Portland (OR) Archives, A1999-004.534 and A2005-001.52.

The completion of SW Barbur Boulevard in South Portland in the mid-1930s set off a chain reaction of infrastructure projects and other public improvements that would have a lasting impact on the fabric and character of the community (see Figures 12 through 14). For suburban neighborhoods located farther south and west, the construction of this roadway also instigated great change, but in a different way. The new road arrived at a time when driving was gaining in popularity, and developers were constructing new building types and styles that catered to the needs of motorists. The earlier completion of the John Olmsted-designed Terwilliger Parkway and its scenic driving route, Terwilliger Boulevard, clinging to the eastern slopes of the Tualatin Mountains, had already introduced the idea of recreational

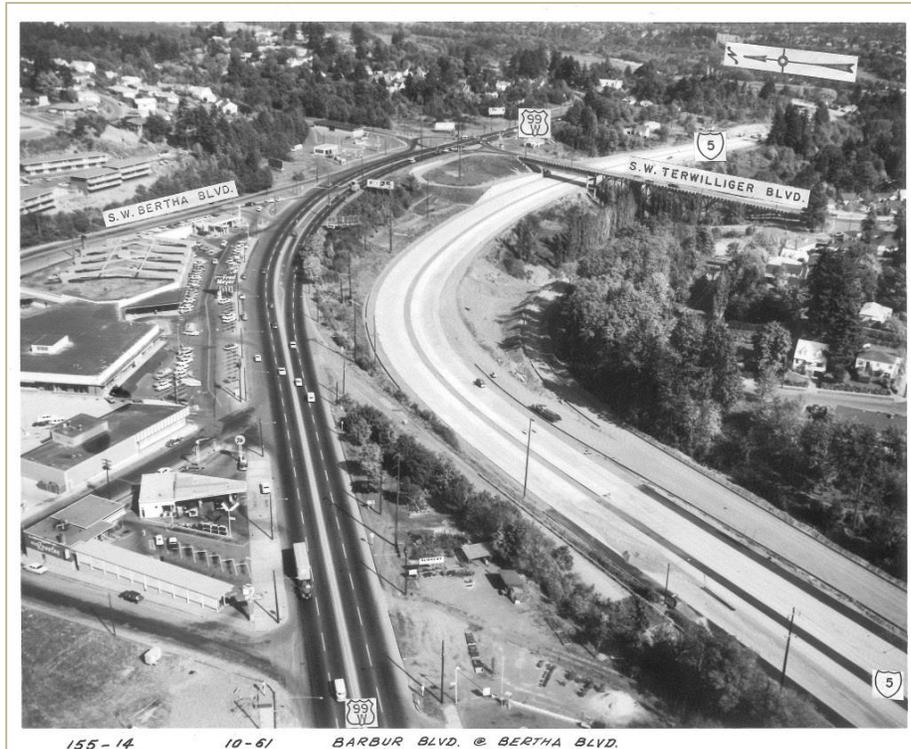


Figure 13. The intersection of SW Barbur Boulevard and SW Terwilliger Boulevard in 1961. The Burlingame Fred Meyer is at left, below SW Bertha Boulevard. Photograph courtesy of the Oregon Department of Transportation (ODOT).



Figure 14. A street-level view of SW Barbur Boulevard at the Burlingame Fred Meyer in 1961. City of Portland (OR) Archives, A2005-001.42.

driving to the public. Although the state constructed SW Barbur Boulevard/Pacific Highway West to meet increasing demands of the motoring public, the commercial businesses that popped up along its path often embraced the modern idea of driving for fun and entertainment.

In 1950, the popular local grocer Fred Meyer opened his newest store on SW Barbur Boulevard in the Burlingame neighborhood (*The Oregonian* 1950b). To prepare a level building platform at the site, the contractor moved 160,000 cubic yards of earth during cut and fill activities (*The Oregonian* 1950c). The new store featured 43,000 square feet of floor space uninterrupted by pillars or support posts, a roof suspended from concrete trusses, and a parking lot with capacity for 700 cars (*The Oregonian* 1950b). Although the store was remodeled in 2013 and no longer retains its historical appearance, a portion of its historic neon sign remains in place at the northwest edge of SW Barbur Boulevard.

During this same period entrepreneurs constructed several “motor hotels,” or “motels,” along SW Barbur Boulevard to provide lodging in the age of the automobile (see Figure 15). Remaining examples include the former Frontier Hotel (1945), the Capitol Hill Motel (1940), and the Ranch Inn (1945), which are located at 8715, 9110, and 10138 SW Barbur Boulevard, respectively. All three had distinctive designs focused on accommodating travelers arriving by car, and that often featured neon signs that lured potential customers in from the busy roadway.



Figure 15. An undated post card advertising the Capitol Hill Motel on SW Barbur Boulevard. The back of the post card notes that the motel has “14 De Luxe units with garages,” to accommodate road-weary travelers.

With the increase in lodging and storefronts along SW Barbur Boulevard, restaurants also became more frequent along the roadway. One example that remains to this day is the Original Pancake House at 8601 SW 24th Avenue. The popular Portland restaurant has operated from this location since 1941, and first gained critical acclaim when the food writer James Beard included the Original Pancake House on

his 1955 list of favorite American restaurants (Russell 2013). The restaurant now has over 100 franchises in the United States, and recently expanded to Tokyo, Japan.

In areas immediately adjacent to SW Barbur Boulevard, developers transformed former fields, farms, and sloping hillsides into new residential neighborhoods. They built both single-family homes and multi-family housing units. Local architect Ernst Kroner designed the Rasmussen Village at 4950 SW Barbur Boulevard, which opened in 1941. At the time of its completion, the *Sunday Oregonian* hailed the apartment complex as part of a new Portland trend of building campus-like multi-family housing units that were private like a home, but provided the amenities and convenience of a traditional apartment structure. The apartments are a good example of Art Deco architecture in the project APE.

Despite this uptick in residential construction, mid-20th century commercial development defines the SW Barbur Boulevard corridor. In addition, the construction of I-5 parallel to and south of this roadway in 1961 has solidified the corridor's strong association with transportation between Portland and outlying suburbs and cities to the southwest, a trend that will continue with the construction of the Southwest Corridor Light Rail Project.

TIGARD'S LONG AWAITED INCORPORATION

This evolution of road infrastructure in the 20th century had both positive and negative impacts on Tigard. During the 19th century, this community relied upon historic wagon roads such as Taylor's Ferry Road, Boones Ferry Road, and Canyon Road to access Portland and other nearby towns. However, as Tigard's population began to increase with the introduction of freight and passenger rail service during the early 20th century, greater demand was placed on this aging road infrastructure (Marschner 2008). During the 1910s, needed road improvements were initiated when the state constructed SW Capitol Highway along portions of Taylor's Ferry Road and through Tigard's historic downtown area (present-day SW Main Street). To make way for the highway, which was completed in 1916, several older businesses in Tigard's commercial core were forced to relocate (Buan 1999).

In 1927, the state highway department merged SW Capitol Highway with the West Side Highway; this highway later became part of the permanent route for the Pacific Highway West (ODOT 2017a). In 1940, the state realigned the highway northwest of Tigard's downtown area to remove at-grade crossings of the adjacent Southern Pacific Railroad and Oregon Electric Railway corridors (Blaser and O'Brien 2010). This diversion of through traffic from what is now SW Main Street has since helped to preserve historic commercial buildings in downtown Tigard, and created a new commercial thoroughfare along the through highway, which is officially referred to as Pacific Highway West No. 1W and Oregon 99W in ODOT records.

In addition to an increase in commercial activity in Tigard, industry began to flock to the area after the town incorporated in 1961. There was ample open space for development, especially in areas adjacent to where the Beaverton-Tigard Highway (OR-217) was constructed during the 1960s and completed in its entirety in 1971. As a result of this build-up of road, commercial, and industrial infrastructure, Tigard experienced rapid growth during the mid- to late-20th century. In 1950, the town's population was just 2,200 (Sanborn Map & Publishing Company 1950). By 2010, U.S. Census Records documented the town's population at 41,000 (Blaser and O'Brien 2010).

PREVIOUS CULTURAL RESOURCE STUDIES

Previous cultural resource studies within the APE are listed in the SHPO's Online Archaeological Geographic Information System (GIS). Relatively few cultural resource studies, 17 in total, have been conducted in the project APE. Most of these studies were done in the northern and central portions of the APE and were completed in support of infrastructure projects such as the Portland-Milwaukie Light Rail Project, which constructed the MAX Orange Line from 2011 to 2015. Other studies include ODOT's Iowa Street Viaduct Project that documented historic resources in the project APE (Ruiz and Connolly 2009) and an outdated pedestrian survey of a large portion of SW Barbur Boulevard for the FTV Western Build fiber optic project (Sharp et al. 1998). Table 1 provides summary information for each of these studies, and their geographic extent is mapped in Appendix C.

TABLE 1. PREVIOUS CULTURAL RESOURCE STUDIES COMPLETED IN THE PROJECT APE

Year	Title	Authors	Work Reported:			Resources Identified in APE
			Ped. Survey	Shovel Testing	Monitoring	
1990	Archaeological Survey of the I-5 at Highway 217/Kruse Way Project, Washington County (Report No. 10934)	Richard D. Cheatham	X	-	-	-
1992	Cultural Resource Assessment of the Proposed Dartmouth Road Extension, Tigard, Oregon (Report No. 13469)	David V. Ellis	X	-	-	-
1996	Cultural Resources Survey of Four Portland Area Watersheds, Portland, Oregon (Report No. 15865)	Julie A. Ricks, Laura C. White	X	-	-	-
1998	Cultural Resources Inventory of the Proposed FTV Western Build, Part 1: Oregon (Report No. 16744)	Nancy D. Sharp, Terri P. Fulton, Philip A. Fulton, Kenneth E. Juell	X	-	-	-
1999	Supplemental Site Investigations for the FTV Western Build, Oregon (Report No. 16745)	Terri P. Fulton, Philip A. Fulton	-	-	-	-
1999	Eagle Hardware & Garden, Inc. Cultural Resources Survey (Report No. 16841)	Julie Schablitsky, John L. Fagan	X	-	-	-

TABLE 1, continued

Year	Title	Authors	Work Reported:			Resources Identified in APE
			Ped. Survey	Shovel Testing	Monitoring	
2004	Archaeological Survey and Subsurface Testing of the Wall Street Extension Project (Report No. 19054)	R. Todd Baker, David V. Ellis	X	X	-	-
2007	Portrait from a Privy: A 19th Century Working Class Household Naito Parkway Privy, Portland, Oregon (35MU129) (Report No. 21358)	Chelsea Rose, Christopher L. Ruiz, Tom Connolly, Julie Schablitsky	-	-	-	35MU129
2008	Portland-Milwaukie Light Rail Project, Archaeological Resources Reconnaissance Study (Report No. 22958)	Jo Reese, Michael J. Boynton	X	-	-	-
2009	Cultural Resource Survey and Evaluation of the I-5 SW Iowa Street Viaduct Project (MP 298.2), Multnomah County (Report No. 22560)	Christopher L. Ruiz, Tom Connolly	X	X	-	35MU116 35MU199 35MU200 35MU206
2010	Archaeological Resources Study of Six 2009 ITS Rural and Urban Improvement Work Areas, Clackamas, Clatsop, Multnomah, and Washington Counties, Oregon. (Report No. 24021)	Jessica A. Hale, Aimee A. Finley	X	-	-	-
2011	Archaeological Survey for the Portland-Milwaukie Light Rail Project, Multnomah and Clackamas Counties, Oregon, Addendum One: Supplemental Survey Area along Naito Parkway (Report No. 24492)	Andrea Blaser, Michele Punke	X	-	-	-
2011	Cultural Resource Survey for the Portland-Milwaukie Light Rail Project, Multnomah and Clackamas Counties, Oregon, Addendum Two: Expanded APE Locations (Report No. 25097)	Andrea Blaser, Cameron Walker, Michele Punke	X	-	-	IBM Building (2000 SW 1st Avenue)

TABLE 1, continued

Year	Title	Authors	Work Reported:			Resources Identified in APE
			Ped. Survey	Shovel Testing	Monitoring	
2014	Archaeological Monitoring and Site Testing for the Construction Phase of the Portland-Milwaukie Light Rail Project, Multnomah and Clackamas Counties, Oregon (Report No. 27121)	Judith A. Chapman, Andrea Blaser, Lucie Tisdale, Nicholas J. Smits, Sarah Jenkins, Jo Reese	-	-	X	35MU220 35MU222 35MU223 35MU226 35MU237 35MU238
2015	Archaeological Survey of 110 SW Arthur Street, Portland, Multnomah County, Oregon (Report No. 27832)	Nicholas Smits	X	X	-	-
2015	Cultural Resource Survey for the Wall Street Industrial Park Project, Tigard, Oregon (Report No. 28291)	Karla Hotze, Elizabeth J. O'Brien, John L. Fagan	X	X	-	-



Figure 16. The NRHP-listed Taylor, Peter & Haehlen, John & Gotlieb House #1 (left), Holt-Saylor-Liberto House (middle), and the Jewish Shelter Home (at right).

PREVIOUSLY DOCUMENTED HISTORIC RESOURCES

To identify previously documented historic resources in the APE, AINW conducted a search of the Oregon Historic Sites Database. Records from the City of Portland Historic Resource Inventory (HRI) (completed in 1984) were checked by AINW, as were the City of Portland Historic Landmarks list and other local government heritage lists and zoning overlays.

This search identified 128 previously recorded historic resources in the project APE.¹ Of these 128 resources, 104 are contributing or non-contributing resources to the South Portland Historic District. The district is listed in the NRHP under Criteria A and C; its significance is derived from its history as a gateway neighborhood for ethnic groups (particularly Jewish and Italian immigrants) arriving in Portland during the late 19th and early 20th centuries, in addition to its collection of Victorian-era dwellings (Harrison et al. 1997).

The South Portland Historic District is located near the northern terminus of the APE, and is roughly bounded by SW Arthur Street to the north, SW Pennoyer Street to the south, SW Hood Avenue to the east, and SW Barbur Boulevard to the west. The project APE overlaps a large portion of the historic district boundary, but some areas will be outside of the project footprint. For instance, several blocks along SW 2nd Avenue between SW Barbur Boulevard and SW Naito Parkway will be avoided, as will an area east of SW Corbett Avenue that is south of the Ross Island Bridge.

The South Portland Historic District is the only NRHP-listed historic district in the APE. However, there are three individual properties in the APE that are listed in the NRHP (Figure 16). Each of these individually-listed properties is located in Portland, in the northern portion of the APE.

- **Taylor, Peter & Haehlen, John & Gotlieb House #1 (2806 SW 1st Avenue).** This house is individually listed in the NRHP (Newville 1983), contributes to the eligibility of the South Portland Historic District (Harrison et al. 1997), and is a City of Portland Historic Landmark. Peter Taylor completed this Italianate-design house in 1882. Taylor was a founder of the

¹ Resources that were originally documented as two separate buildings but are now considered to be one resource (i.e. 3325 SW Water Avenue, 3334 SW Water Avenue, and Lair Hill Park in Portland) were counted as one previously documented resource. In addition, this total does not include ranked bridges from Oregon's Historic Bridge Field Guide (Burrow et al. 2013) unless they have been formally documented or evaluated for NRHP eligibility.

Willamette Iron Works, which became a major producer of Portland's once famous cast iron building facades.

- **Holt-Saylor-Liberto House (3625 SW Condor Avenue, Portland).** This Queen Anne house was listed in the NRHP in 1978 and is a City of Portland Historic Landmark (Hutton 1976). William Holt, a Presbyterian missionary to China, completed the house in 1888. A year later, Dr. William Saylor and his wife Carrie purchased the house. The Saylor family resided there until 1911, when Carrie sold the house to Italian contractor Antonio Liberto. The Liberto family purchased five adjacent properties and created a communal space known as "Little Italy" with the Holt-Saylor-Liberto House as its anchor (Hutton 1976). These houses shared a vineyard, a wine vat, and a bread house.
- **Jewish Shelter Home (4133 SW Corbett Avenue, Portland).** U.S. Marshall Elmer Colwell completed this house in 1902 as a private residence. From 1919 to 1937 it operated as a shelter home for Jewish children (McCabe 1983). The home and its volunteers assisted children in times of need; this help ranged from short-term relief for struggling or ill parents to assistance with adoption for orphaned or abandoned children. Prominent individuals of Portland's Jewish community who generously supported the shelter home and its mission included Jeanette Hirsh Meier, wife of Meier & Frank founder Aaron Meier. The shelter home was one of eight agencies of the Federated Jewish Societies of Portland, and was later merged with the Jewish Service Association in 1947. The house was listed in the NRHP in 1984 and is a City of Portland Historic Landmark (McCabe 1983).

Other previously documented resources within the APE include more modern buildings associated with the South Auditorium Urban Renewal Project, such as the IBM Building at 2000 SW 1st Avenue, the University Place Motel at 310 SW Lincoln Street, and the Boy Scouts of America building at 2145 SW Naito Parkway. Several historic parks also overlap the APE including Terwilliger Parkway, Lair Hill Park, and George Himes Park. Transportation-related resources include structures such as the Ross Island Bridge and historic motels located on SW Barbur Boulevard, including the Capitol Hill Motel. The only previously documented resource in the APE that is not located in Portland is the Tigard Branch of the Southern Pacific Railroad; it is located at the far southwestern extent of the project APE near downtown Tigard.

Previously documented resources in the APE are listed in Table 2. A Map ID number is provided for each resource; this number marks the resource location on maps attached in Appendix A. The reported name and NRHP status of each historic resource reflect up-to-date information on-file at the Oregon SHPO. Only those resources of the South Portland Historic District that have also been individually documented or evaluated for NRHP eligibility are included in Table 2; a comprehensive accounting of contributing and non-contributing resources of the South Portland Historic District is included in the table of historic resources in Appendix B of this report.

Several historic resources included in Table 2 were documented in 1984 for the City of Portland's HRI. The HRI ranked resources to provide an indication of their eligibility for listing in the NRHP at that time. Rank I and Rank II resources are likely eligible for listing in the NRHP as individual resources. Rank III resources have the potential to be eligible for listing in the NRHP as a contributing resource of a historic district. "No Rank" resources are considered less likely to be eligible for listing in the NRHP.

TABLE 2. PREVIOUSLY RECORDED HISTORIC RESOURCES IN THE APE

Map ID	Address	Name	NRHP Status/ Recommendation	City of Portland HRI Rank
2	2000 SW 1st Avenue, Portland	IBM Building	Eligible/Contributing (2009, 2012)	No Rank
5	2145 SW Naito Parkway, Portland	Boy Scouts of America (Columbia River Council Boy Scouts of America Service Center)	--	No Rank
6	310 SW Lincoln Street, Portland	University Place Hotel	--	No Rank
7	2000 SW 5th Avenue, Portland	--	Not Eligible/Out of Period (2007)	--
11	2525 SW 3rd Avenue	Marquam Plaza	Eligible/Contributing (2011 - Portland Central City Modern Resources RLS 1945-1985)	--
12	2501 SW 1st Avenue	Marquam Building	Eligible/Contributing (2011 - Portland Central City Modern Resources RLS 1945-1985)	--
28	049 SW Porter Street, Portland	National University of Natural Medicine Academic Building (Failing, Josiah, School)	--	Rank II
43	2806 SW 1st Avenue, Portland	Taylor, Peter & Haehlen, John & Gottlieb House #1	Listed in NRHP (1984); Contributing Resource, South Portland Historic District (1998)	City of Portland Historic Landmark
48	3037 SW 2nd Avenue, Portland	Lair Hill Park (Multnomah County Hospital Nurses' Quarters; South Portland [Carnegie] Library)	Documented as Two Contributing Resources, South Portland Historic District (1998)	Nurses' Quarters: Rank III Carnegie Library: Rank II
100	3325 SW Water Avenue, Portland	Klump, William, House #1 and #2	Documented as Two Contributing Resources, South Portland Historic District (1998)	Rank III
103	0106 SW Gibbs Street, Portland	Lamberson, G. H., House	Contributing Resource, South Portland Historic District (1998)	Rank III
112	16 SW Whitaker Street, Portland	Foulkes, Laura, House #2	Contributing Resource, South Portland Historic District (1998)	Rank III
127	3404 SW Water Avenue, Portland	Harmar, W.C., Ensemble	Contributing Resource, South Portland Historic District (1998)	Rank III

TABLE 2, continued

Map ID	Address	Name	NRHP Status/ Recommendation	City of Portland HRI Rank
128	3410 SW Water Avenue, Portland	Harmar, W.C., Ensemble	Contributing Resource, South Portland Historic District (1998)	Rank III
129	3414 SW Water Avenue, Portland	Harmar, W.C., Ensemble	Contributing Resource, South Portland Historic District (1998)	Rank III
130	Portland	Terwilliger Parkway	Eligible/Significant (1985, 2006)	Rank I
147	3225 SW Barbur Boulevard, Portland	Congregation Ahavath Achim Synagogue	--	Rank III
157	3625 SW Condor Avenue, Portland	Holy-Saylor-Liberto House	Listed in NRHP (1978)	City of Portland Landmark
159	Portland	Ross Island Bridge	Determined Eligible (1985)	Rank III
160	Portland	South Portland Historic District	Listed in NRHP (1998)	--
170	3935 SW Corbett Avenue, Portland	--	--	Rank III
187	4133 SW Corbett Avenue, Portland	Jewish Shelter Home	Listed in NRHP (1984)	City of Portland Landmark
188	4145 SW Corbett Avenue, Portland	--	--	Rank III
239	Portland	George Himes Park (Fulton Park)	Eligible/Significant (2006 – Portland Parks Intensive Level Survey)	Rank III
268	68 SW Miles Street, Portland	Fulton Park	--	Fulton Park School, Rank II
358	8414 SW Barbur Boulevard, Portland	Multnomah Bank	--	No Rank
370	8715 SW Barbur Boulevard, Portland	Budget Lodge (Frontier Motel)	--	No Rank
379	9110 SW Barbur Boulevard, Portland	Capitol Hill Motel	Eligible/Contributing (1998)	--
404	10531 SW Capitol Highway, Portland	Edwin Markham Elementary School (Markham School)	Eligible/Significant (2009 – Portland Public Schools Historic Building Assessment)	--
542	Tigard	Southern Pacific Railroad, Tigard Branch	Eligible/Contributing (2010)	--

PREVIOUSLY DOCUMENTED ARCHAEOLOGICAL RESOURCES

A majority of previously recorded archaeological sites within and surrounding the project date to the historic period. Sites within and surrounding the northern portion of the project APE reflect the urban environment of South Portland, and include remnants of trolley and railroad infrastructure, foundations, privies, brick-lined cesspools, and assorted debris scatters. Historic-period sites in the southern portion of the project APE primarily consist of the remains of structures and associated debris scatters.

There are few recorded pre-contact archaeological sites within the vicinity of the project APE. Most of these sites are located near the southern portion of the project in the Tigard area and along the Tualatin River. There are also two *reported* village locations within the project. One village is in Southwest Portland, and the other is in Tigard between SW Hall Boulevard and OR-217. Ethnographic accounts refer to the Tigard location as the “Place of Aromatic Herbs” (Benson n.d.). Table 3 lists the 11 previously recorded archaeological sites in the APE. Those sites in the table not bolded have been determined to be not eligible for listing in the NRHP. Archaeologists recorded an additional five sites when they were completing fieldwork for the present project. These sites are discussed in another section of this report. Locations of the 16 sites in the APE are shown on the maps in Appendix C.

TABLE 3. DOCUMENTED ARCHAEOLOGICAL RESOURCES IN THE APE

Site Number	Type	Description	NRHP Eligibility
35MU116	Historic-Period	Residential building remnants (concrete foundation and walls)	Not Eligible
35MU129	Historic-Period	Excavated 1880s wood-lined privy feature and household domestic items	Unevaluated
35MU199	Historic-Period	Iowa Street Trestle Site (ca.1920 concrete piers)	Not Eligible
35MU200	Historic-Period	Demolition debris	Not Eligible
35MU206	Historic-Period	Remnant foundation	Not Eligible
35MU220	Historic-Period	Excavated brick-lined cesspool	Not Eligible
35MU222	Historic-Period	Buried streetcar rails	Not Eligible
35MU223	Historic-Period	Buried interurban rails	Not Eligible
35MU226	Historic-Period	Refuse disposal and privy vault	Eligible
35MU237	Historic-Period	Brick-lined shaft feature	Non-Contributing (Unevaluated for this project)
35MU238	Historic-Period	Building remnants, Smith and Watson Iron Works/ Iron Fireman Manufacturing Co.	Non-Contributing (Unevaluated for this project)

- **Site 35MU116** consists of the concrete walls and foundation of a former single-family dwelling dating to ca. 1940. The site is located along the east side of SW Barbur Boulevard immediately north of the SW Capitol Highway overpass (Appendix C: Sheet 3). The site was mapped and an intensive survey was conducted with a metal detector. Archaeologists encountered no artifacts dating to the historic use of the site (Ruiz and Connolly 2009).
- **Site 35MU129** was a privy feature dating between the mid-1880s and early-1900s. The site is located along the east side of SW Naito Parkway immediately south of the intersection with SW Lincoln Street (Appendix C: Sheet 1). The privy shaft extended 3 meters (10 feet) below surface and was intact under several feet of disturbed sediment prior to its excavation. Rose (2006) recommended that the block is very likely to contain additional shaft features (cisterns, wells, and privies) that may be intact 3 meters (10 feet) below the surface. The SHPO expanded the site boundary in 2014 in response to nearby looting of artifacts.
- **Site 35MU199** consists of 32 concrete piers representing the remains of the former Southern Pacific Railroad trestle constructed ca. 1920. The piers are immediately east of the existing bridge structure along SW Barbur Boulevard and immediately south of the SW Capitol Highway overpass (Appendix C: Sheet 3). Archaeologists mapped and documented the piers (Ruiz and Connolly 2009).
- **Site 35MU200** consists of a pile of hand-cut stone blocks representing demolition debris from a late 19th or early 20th century building. The site is located immediately east of SW Barbur Boulevard at the SW Capitol Highway overpass (Appendix C: Sheet 3). The site represents a surface dumping episode and it is unlikely that it retains buried archaeological deposits (Ruiz and Connolly 2009).
- **Site 35MU206** consists of a buried concrete slab, buried structural debris, and fragments of bottle glass and tile. The site is located along the east side of SW Barbur Boulevard approximately 200 meters (656 feet) south of the SW Capitol Highway overpass (Appendix C: Sheet 3). The slab represents the remains a former residential structure dating to ca. 1950s. Archaeologists made sixteen shovel probes in the vicinity of the slab and encountered no significant archaeological deposits (Ruiz and Connolly 2009).
- **Site 35MU220** is a brick-lined cesspool feature located within a vacant lot at the northwest corner of SW 4th Avenue and SW Lincoln Street (Appendix C: Sheet 1). In 2015, AINW conducted data recovery excavations for TriMet, which owned the parcel, bisecting and excavating the northern half of the feature. Historic artifacts and faunal remains were found in a secondary context alongside modern items (Chapman et al. 2014; Smits et al. 2015).
- **Site 35MU222** consists of two parallel metal rails located under the paved road surface at SW 1st Avenue and SW Lincoln Street (Appendix C: Sheet 1) that were removed to construct the Portland-Milwaukie Light Rail Project. The rails were part of a trolley line, likely installed by the City & Suburban Railway Company during the early 20th century (Chapman et al. 2014).
- **Site 35MU223** consists of two parallel steel rails located below pavement at the intersection of SW Lincoln Street and SW 4th Avenue that contractors removed to construct the Portland-Milwaukie

Light Rail Project (Appendix C: Sheet 1). The rails represent the former Southern Pacific West Side Branch railroad constructed in 1871, which later became the Southern Pacific Red Electric Line (Chapman et al. 2014).

- **Site 35MU226** is a sheet trash deposit, a building foundation, an excavated privy vault feature, and a collection of bottles and jars at the northwest corner of SW Lincoln Street and SW 4th Avenue (Appendix C: Sheet 1). The site is associated with the operation and subsequent demolition of a former grocery store and attached residence dating between the late 1800s and early 1900s (Chapman et al. 2014). It was discovered by AINW during construction of the Portland-Milwaukie Light Rail Project.
- **Site 35MU237** is a brick-lined shaft feature located below SW Lincoln Street between SW 1st and SW 4th Avenues (Appendix C: Sheet 1). The feature likely represents a sewer line constructed in 1890 and abandoned in 1963 (Chapman et al. 2014). The site was found by AINW during construction of the Portland-Milwaukie Light Rail project.
- **Site 35MU238** consists of the remains of the former Smith and Watson Iron Works machine shop building that was located along the east side of present-day SW Naito Parkway immediately south of SW Harrison Street (Appendix C: Sheet 1). The site was found by AINW during the construction of the Portland-Milwaukie Light Rail Project (Chapman et al. 2014).

FIELD INVESTIGATIONS FOR HISTORIC RESOURCES

METHODOLOGY

Historic properties are cultural resources that are listed in or are eligible for listing in the NRHP. To facilitate an assessment of the Southwest Corridor Light Rail Project's potential effects on historic properties of the built environment, AINW has identified previously documented historic built features of the APE and has completed field investigations to identify historic resources. For the purpose of this survey, "historic resources" are defined as buildings, structures, sites, objects, and districts that were constructed in or before 1970, or at least 47 years ago. Although historic resources must generally be 50 years in age or older to meet minimum eligibility criteria for listing in the NRHP, using this lower age threshold allows for an assessment of potential impacts on historic resources that will reach 50 years of age in or before 2020, the anticipated start date for project construction. An exception to this minimum age requirement was made for younger features of the built environment that appeared to have potential to be locally significant.

To identify previously documented historic resources in the APE, AINW searched the SHPO Historic Sites Database; checked the City of Portland HRI and Landmarks list; and reviewed similar lists and historic resource overlay districts that Multnomah County, Washington County, and the cities of Tigard and Tualatin maintain. As discussed in the "Previous Cultural Resource Studies" chapter of this report, these searches identified 128 previously documented historic resources. Four of these resources are listed in the NRHP.

Several staff members from AINW conducted field investigations to identify historic resources in the APE. They included Senior Architectural Historian/Historian Andrea Blaser, M.S., and Architectural Historian Holly Borth, M.S., with the assistance of AINW archaeologists Karla Hotze, M.A., R.P.A., and Carmen Sarjeant, Ph.D., R.P.A. The party conducted survey work on March 13 through 17, 20 through 22, 24, and 30; and on April 26, May 11, and June 6, 2017. Ms. Blaser and Ms. Borth meet the Secretary of the Interior's Professional Qualifications Standards in the fields of Architectural History, History, and Historic Preservation.

AINW staff completed the survey of the APE for historic resources using an online application developed by Parametrix Planner/GIS Analyst Josh Ahmann. His application allowed AINW architectural historians to electronically input information pertaining to historic buildings, structures, objects, sites, and districts into preselected data fields, and to have this data and accompanying photographs be tied to a mapped location, usually a building's land parcel. Mr. Ahmann imported county tax assessor information to populate addresses, tax parcel numbers, and dates of construction for historic resources. For those features of the built environment that have no publicly available build date on-file with a county tax assessor, AINW performed a field check and historical research to determine whether the feature was of historic-period or modern construction.

The AINW staff also conducted additional research to identify historic resources that are not accounted for in county tax assessor records. For instance, a review of current ODOT and Portland Bureau of Transportation (PBOT) bridge inventories and Oregon's Historic Bridge Field Guide were completed to identify all historical bridges in the APE (Burrow et al. 2013; ODOT 2017b; PBOT 2015). The

staff also identified several parks and transportation-related resources and added them to the historic resource survey application. Once the staff had completed the survey of the APE, they checked all of the parcels that had no identified historic resources to ensure that any extant built features were indeed of modern construction.

As this project is currently in planning and design stages, AINW staff have done a preliminary evaluation of NRHP eligibility for each historic resource in the APE; these evaluations were completed using reconnaissance-level survey information and limited historical research. ODOT Senior Historian Robert W. Hadlow, Ph.D., reviewed their work and methodology. Once the client selects a Preferred Alternative for the project, AINW technical staff will conduct intensive-level documentation of all historic resources that they recommended eligible for listing in the NRHP and that are located where there is the potential for the project to affect them. The staff will provide additional details pertaining to periods of significance, resource boundaries, and areas of significance. This information, once it has received concurrence from reviewing agencies, will help the federal agency determine whether the Southwest Corridor Light Rail Project will adversely affect each historic property in the APE.

RESULTS

There are 584 historic resources in the project APE. Each resource has a Map ID number that corresponds to the map set attached in Appendix A. A table that identifies each resource location and its name (or names), that provides reconnaissance-level information pertaining to physical features and historical integrity, and that presents a preliminary NRHP eligibility recommendation and a representative photograph is attached in Appendix B. Preliminary NRHP eligibility recommendations fall into one of the four categories below, following Oregon SHPO guidelines (SHPO 2011).

- **Eligible/Significant:** A resource that is over 45 years old, retains historic physical materials, and/or design and architectural features, and appears to be of a notable architectural style, architect-designed, or associated with significant events or persons. Resources that are categorized as Eligible/Significant are usually listed in the NRHP or have been determined eligible for listing in the NRHP.
- **Eligible/Contributing:** A resource that is over 45 years old and retains historic physical materials and/or design and architectural features.
- **Not Eligible/Non-Contributing:** A resource over 45 years old and that does not retain historic physical materials and/or design or architectural features.
- **Not Eligible/Out of Period:** A resource that is not yet 45 years old or older.

There are only eight Eligible/Significant resources in the APE (Table 4). However, 136 Eligible/Contributing resources were also identified for an overall total of 144 resources that are listed in the NRHP or have been recommended or determined to be eligible for listing NRHP. A majority of these resources are concentrated in Segment A, which encompasses the northern portion of the APE in South Portland (Table 5). A total of 18 NRHP-eligible resources are located within Segment B, while only 5 are within Segment C.

TABLE 4. HISTORIC RESOURCES IDENTIFIED

NRHP-Eligibility	Total
Eligible/Significant	8
Eligible/Contributing	136
Not Eligible/Non-Contributing	438
Not Eligible/Out of Period	2
Total	584

TABLE 5. DISTRIBUTION OF HISTORIC RESOURCES IN THE APE

Light Rail Segment	Historic Resources Identified:		
	Not Eligible for NRHP	NRHP-Listed or Eligible	Total
Segment A	144	121	265
Segment B	194	18	212
Segment C	102	5	107
Historic Resource Totals:	440	144	584

Segment A: Inner Portland

The NRHP-listed and eligible resources in Segment A are either encompassed within or are associated with similar historical events and architectural styles that define the South Portland Historic District. The district and its contributing resources account for 52% (n=75) of the 144 historic properties in Segment A; most of these resources are historic houses built in the 1880s and 1890s, many of which were completed in the Queen Anne style. Representative examples of Queen Anne houses include the Foulkes, Laura, Houses #1 and #2 at 14 and 16 SW Whitaker Street; the Robertson, John, House at 018 SW Grover Street; and the adjacent Drake, John M. & Angeline, House and Wallace, Hugh M. & Catherine E., House #1 at 025 and 031 SW Gibbs Street, respectively (see Figure 17).

The historical urban context of this area is also exemplified through multi-family residential buildings that continue to serve that function today. Good examples of multi-family dwellings include adjacent buildings at 3317-3319 SW Water Avenue (Colonial Revival, 1908); 3325 SW Water Avenue (Queen Anne, 1897); and 031-037 SW Whitaker Street (Italianate/Colonial Revival, 1909) (see Figure 18).

Italianate stylistic influences were observed throughout this area, but they were generally mixed with other Victorian-era architectural styles, predominately the Queen Anne style. The most notable example of an Italianate house in the South Portland Historic District is the Taylor, Peter & Haehlen, John & Gotlieb House #1, which contributes to the significance of the historic district and is also individually listed in the NRHP. It dates from 1882, and is located at the intersection of SW Meade Street and SW 1st Avenue.



Figure 17. Queen Anne houses in Segment A. From left to right: the Foulkes, Laura, House #1 at 14 SW Whitaker Street; Robertson, John, House at 018 SW Grover Street; Drake, John M. & Angeline, House at 025 SW Gibbs Street.



Figure 18. Multi-family dwellings in Segment A. From left to right: 3317-3319 SW Water Avenue; 3325 SW Water Avenue; and 031-037 SW Whitaker Street.

The South Portland Historic District is significant, in part, for its associations with the settlement history of distinct ethnic groups in Portland. However, there are several buildings within the immediate vicinity of the district that also convey this aspect of the area’s history. Two representative examples are the Congregation Ahavath Achim Synagogue at 3225 SW Barbur Boulevard and the NRHP-listed Jewish Shelter Home at 4133 SW Corbett Avenue. The Congregation Ahavath Achim Synagogue, which dates from 1965, features a Post-Modern design by Church & Shiels and John Storrs. The Jewish Shelter Home is a Colonial Revival design from 1902; it is one of four historic properties in Segment A of the APE that are listed in the NRHP. Another individually listed house in this area, the Holt-Saylor-Liberto House, has a history of communal use by an Italian family during the 20th century. This house, which dates from 1888, is in the Queen Anne style.



Figure 19. The Helen Kelly Manley Center at 2828 SW Naito Parkway is now an administration building for the National University of Natural Medicine.

Several other buildings and parks of this area are associated with immigrant history. The former Helen Kelly Manley Center, at 2828 SW Naito Parkway, dates from 1929. It was originally part Methodist mission and part community space. It housed religious and educational activities. Also known as the South Portland Settlement Center, it was a popular venue for Italian immigrants living in the South Portland area (*The Morning Oregonian* 1929). The National University of Natural Medicine now uses the Manley Center as an administration building (see Figure 19) (Leflar 2007).

The City of Portland created Duniway Park, located south of SW Sheridan Street between SW Barbur Boulevard and SW Terwilliger Boulevard, in 1918, in response to a public outcry over garbage that had accumulated in Marquam Gulch. *The Morning Oregonian* (1916) noted, “In the midst of these dumps are houses and a large number of children, mostly of foreigners. The conditions are deplorable and will be much worse when warm weather comes.” A city commissioner commented that “there is no part of the city in greater need of a place for children to play,” (*The Morning Oregonian* 1916). The city constructed the South Portland Library at Lair Hill Park in 1921 using funds from the Carnegie Corporation. This branch library provided a refuge for immigrant children. Its collections included books in Yiddish, German, and Italian that had been part of the collection at the library’s former location (Leflar 2007; *The Sunday Oregonian* 1921).

The 1960s South Auditorium Urban Renewal Project demolished many buildings within the South Portland neighborhood that shared an association with this immigrant history. However, several buildings that replaced these older buildings in the project APE are themselves likely eligible for listing in the NRHP. They include the Addressograph-Multigraph Building at 2510 SW 1st Avenue, which was the second new building in the urban renewal area in 1964 (see Figure 20); Paul Kirk’s IBM Building, from 1965, at 2000 SW 1st Avenue; and the Farley Building, now known as Duniway Plaza, which was completed in 1967 at 2400 SW 4th Avenue from a design by the firm Fletcher and Finch.



Figure 20. Addressograph-Multigraph Building dates from 1964 and was part of the South Auditorium Urban Renewal Project. It is located at 2510 SW 1st Avenue.

These distinctive buildings, and others like them both within and outside of the APE, have a strong association with patterns of events related to urban renewal activities in Portland in the 1960s. There is a potential for a South Auditorium Urban Renewal Historic District to be present in South Portland that may overlap the project APE. However, given how far this potential district might extend outside of the project APE, the effort required to fully identify, define, and evaluate this district goes beyond basic cultural resource reporting requirements for the Southwest Corridor Light Rail Project.

Terwilliger Parkway is a wooded linear park. It begins south of the southern end of SW 6th Avenue near Duniway Park. The parkway winds along the western edge of the APE in Segment A before connecting to George Himes Park at SW Capitol Highway. SW Terwilliger Boulevard is the roadway that runs through the park. South of Terwilliger Parkway, the boulevard extends southward along the west side of George Himes Park towards SW Barbur Boulevard at SW 7th Avenue, in Segment B. Terwilliger Parkway is one of several parks that John Charles Olmsted envisaged for the City of Portland in his 1903 report to the city's Park Board (Hawkins 2014). He approached the parkway as an avenue that would "preserve some of the characteristic hill landscape west of the city, and afford fine views of the snowy peaks." The parkway is on land that the heirs of James Terwilliger donated for its construction. The city dedicated Terwilliger Parkway in 1912 (Hawkins 2014). Its road and trails are part of Portland's 40-Mile Loop trail system, as is George Himes Park to the south. Charles Ladd, Henry Pittock, and S. B. Lombard donated land for George Himes Park, originally called Fulton Park, to the City of Portland in 1903.

Several transportation-related resources are located within Segment A of the APE, including the Gustav Lindenthal-designed Ross Island Bridge, which dates from 1926. In 1985, the Keeper of the NRHP concurred on the bridge's eligibility for listing in the NRHP in 1985 as part of a thematic grouping of Historic Highway Bridges of Oregon (see Figure 21) (National Park Service 1985). The project will



Figure 21. The Ross Island Bridge is a National Register-eligible historic property. It is at the eastern edge of the Project APE in Segment A. The view is towards the southeast from SW Hood Avenue.



Figure 22. The SW Newbury Street Viaduct is located south of the intersection of SW Barbur Boulevard and SW Capitol Highway. It is one of two similarly designed viaducts situated on SW Barbur Boulevard that the Southwest Corridor Light Rail project will replace. The view is facing southeast.

remove two other bridges in Segment A of the APE—the SW Newbury Street Viaduct (see Figure 22) and the SW Vermont Street Viaduct. These timber and concrete composite bridges date from 1934 and are Category II Bridges in Oregon’s Historic Bridge Field Guide (Burrow et al. 2013). This Category II status indicates that the bridges are likely eligible for listing in the NRHP.

Segment B: Outer Portland

Of the 212 historic resources that AINW identified in Segment B of the APE, only 18 (or 8%) are eligible for listing in the NRHP. One of these resources, the Richard Sundleaf-designed Markham Elementary School at 10531 SW Capitol Highway, has a status of Eligible/Significant that results from its determination of NRHP eligibility for the Portland Public Schools Historic Building Assessment in 2009. Segment B is defined by a mixture of residential and commercial development that has largely taken place since the completion of SW Barbur Boulevard in 1936. Several historic properties within this section of the APE share an association with the development of SW Barbur Boulevard as a major transportation thoroughfare during the mid-20th century.

One of the more representative resources of this history of development along SW Barbur Boulevard is the Burlingame Fred Meyer Sign (see Figure 23). The Burlingame Fred Meyer Store was the subject of a recent remodel and no longer reflects its historical appearance. Yet, its original neon advertising sign remains intact as a reminder of the store’s long history at SW Barbur Boulevard. AINW staff also observed notable advertising signs at the Capitol Hill Motel (9110 SW Barbur Boulevard) and the Ranch Inn (10138 SW Barbur Boulevard). These two motels date from the 1940s; they have since been modified but remain as representative examples of mid-20th century roadside architecture of SW Barbur Boulevard.



Figure 23. The Burlingame Fred Meyer Sign was erected in 1950. A secondary portion of the sign that read “My-Te-Fine Foods/Drugs” was removed at an unknown date, but the sign retains its historical character and appearance.

Another example of this roadside history is the Original Pancake House at 8601 SW 24th Avenue. The building was constructed in 1942 as a house, and it first operated as the “Pancake House” restaurant in 1953. The restaurant has gone on to achieve international acclaim, and is associated with the history of Portland’s rapidly evolving restaurant industry.

Segment C: Tigard and Tualatin

There are 102 historic resources in Segment C of the APE, of which only five are eligible for listing in the NRHP. There are no NRHP-listed resources in this segment, which is located in Tigard, Washington County. Just one of the NRHP-eligible resources in this segment of the project APE, the Tigard Branch of the Southern Pacific Railroad, is associated with this area’s early history of development. It was completed circa 1910 and was purchased by Southern Pacific in 1912 for incorporation into the company’s “red electric” interurban railway network (Austin and Dill 1987).

Remaining resources in this segment that are eligible for listing in the NRHP are from the 1960s. Two are near Tigard’s downtown area, and include the former Knauss Chevrolet dealership at 11880 SW Pacific Highway (1964; see Figure 24) and the Williamsburg Townhouse Apartments at 12265 SW Hall Boulevard (1969). The car dealership is a good example of mid-century modern commercial architecture with Googie-inspired design details, while the Williamsburg Townhouse Apartments are an interesting local example of the Neo-Colonial style.



Figure 24. Now operated as Fidelity Fleet & Finance Auto Sales, this former Knauss Chevrolet dealership at 11880 SW Pacific Highway in Tigard dates from 1964. It is recommended eligible for listing in the NRHP.

Finally, the headquarters for Gerber Gear at 14200 SW 72nd Avenue and Fought & Company at 14255 SW 72nd Avenue date from the 1960s and are near I-5 and SW Bonita Road. Both companies have had a significant impact on the Tigard economy by strengthening its industrial base (Bulkeley 2016; *The Oregonian* 1962). Gerber Gear has produced knives at its Tigard headquarters since moving to Washington County from Portland in 1966. Fought & Company, a producer of fabricated steel components, moved to its Tigard location from Swan Island in 1962.

The section titled Field Investigations for Archaeological Resources (pages 44 to 81) has been redacted because it contains sensitive archaeological information.

AFFECTED ENVIRONMENT

HISTORIC RESOURCES

The historic resource reconnaissance survey of the APE inventoried 584 buildings, structures, historic districts, sites (e.g. parks), and objects in the APE. Of these 584 resources, 144 are listed in or are recommended eligible for listing in the NRHP, and are therefore considered to be historic properties that have the potential to be affected by the Southwest Corridor Light Rail Project (see Table 6).

TABLE 6. DISTRIBUTION OF HISTORIC PROPERTIES IDENTIFIED IN LIGHT RAIL SEGMENTS

Light Rail Segments	Historic Properties Identified
Segment A	121
Segment B	18
Segment C	5
<i>Total Historic Properties:</i>	<i>144</i>

A majority of the historic properties (84%) are in Segment A; 13% are in Segment B; and only 3% are in Segment C. The following discussion analyzes which of the proposed light rail alternatives and options would best avoid potential adverse effects on historic properties.

No Build

The No Build alternative would avoid all impacts on historic properties. No effects, including adverse effects, would occur, and no avoidance, minimization, or mitigation measures would be required.

Light Rail Alternatives

Each of the three light rail segments has several associated light rail alignment alternatives that will require full and partial acquisitions of land from nearby buildings and structures. The project will also require temporary construction easements from adjacent landowners to construct the project. If these land acquisitions and easements overlap the locations of historic properties, there is potential that the project will adversely affect those historic properties.

Anticipating the number and severity of direct effects on historic resources therefore allows for a comparative analysis of the light rail alternatives and their sensitivity to the historic built environment. Full acquisitions are direct effects that are most likely to result in adverse effects; partial acquisitions are less likely to be adverse; and temporary construction easements are the least likely to be adverse. Indirect effects (i.e. those effects that the action caused, but are later in time or farther removed in distance) could also occur as a result of project construction, but are less likely to result in adverse effects.

**TABLE 7. LAND ACQUISITIONS AND EASEMENTS AT
NRHP-LISTED AND NRHP-ELIGIBLE HISTORIC RESOURCE LOCATIONS**

Light Rail Alternatives and Options	Acquisitions (Full and Partial) and Easements at NRHP-Listed and NRHP-Eligible Resource Locations			
	Full	Partial	Easement	Total
No Build	0	0	0	0
Segment A - Light Rail Alternatives				
A1: Barbur	5	18	10	33
A2-BH: Naito with Bridgehead	7	20	25	52
A2-LA: Naito with Limited Access	15	13	5	33
Segment A – Marquam Hill Connection Options				
1A: Elevator/Bridge and Path	0	1	0	1
1B: Elevator/Bridge and Recessed Path	0	1	0	1
1C: Elevator/Bridge and Tunnel	0	1	0	1
2: Full Tunnel	1	1	0	2
Segment B – Light Rail Alternatives				
B1: Barbur	5	5	1	11
B2: I-5 Barbur Transit Center (TC) to 60th	4	3	1	8
B3: I-5 26th to 60th	3	5	1	9
B4: I-5 Custer to 60th	2	4	1	7
Segment C – Light Rail Alternatives				
C1: Ash to I-5	0	3	0	3
C2: Ash to Railroad	0	3	0	3
C3: Clinton to I-5	0	3	0	3
C4: Clinton to Railroad	0	3	0	3
C5: Ash and I-5 Branched	0	3	0	3
C6: Wall and I-5 Branched	0	2	0	2
Segment C – O&M Facilities Options				
Hunziker Full	0	0	0	0
Hunziker Partial Facility	0	0	0	0
Branched 72nd Facility	1	0	0	1
Through 72nd Facility	0	0	0	0

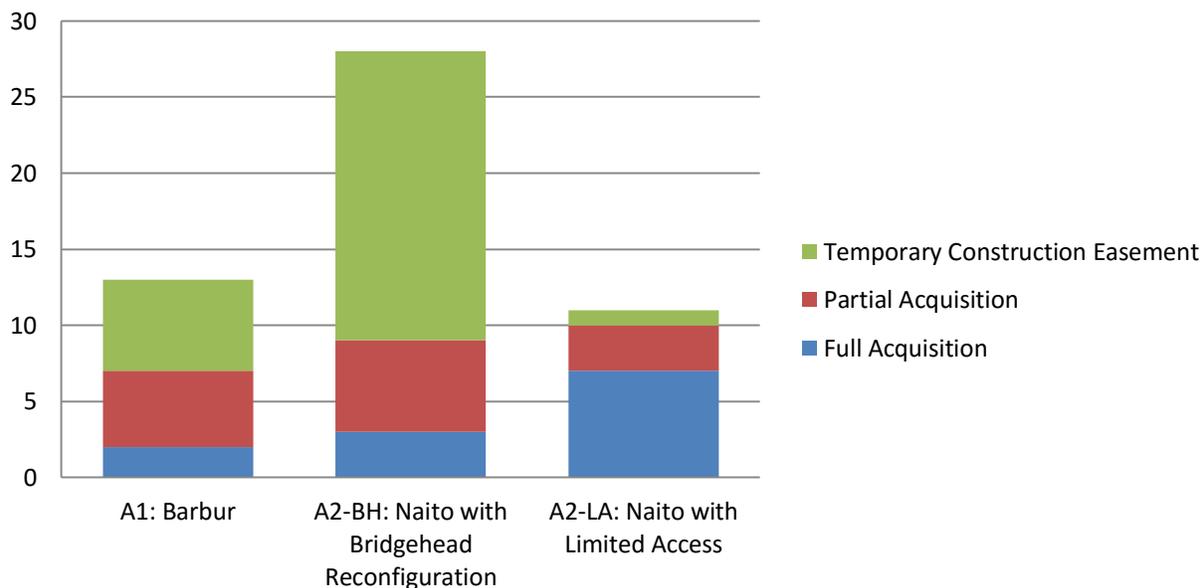
With the exception of three of the O&M facilities options, land acquisitions and easements are proposed at historic properties situated in all surveyed build alternatives and options (Table 7). The greatest concentration of direct effects on historic properties will occur in Segment A, regardless of the light rail build alternative that is selected.

Segment A: Light Rail Alternatives A1, A2-BH, and A2-LA

Segment A will present the greatest number of direct effects on historic properties in the APE because of the segment’s high concentration of NRHP-listed and NRHP-eligible historic resources. All four NRHP-listed properties in the APE are situated within this segment, including the South Portland Historic District. In total, 75 properties that contribute to the significance of this historic district overlap the APE in Segment A.

These contributing resources and the historic district itself make up 63% of the 121 NRHP-listed and eligible properties in Segment A and 43% of properties that have the potential to be directly affected by Alternatives A1, A2-BH, and A2-LA (see Figure 62). Looking specifically at potential direct effects on the South Portland Historic District and its contributing properties, Alternative A1 would require the smallest number of full acquisitions and the second lowest number of overall direct impacts.

Figure 62. Acquisitions and Easements, South Portland Historic District and Contributing Properties



This finding is consistent with overall direct impacts anticipated for the Segment A alternatives. Although Alternatives A1 and A2-LA would result in the same overall number of acquisitions and easements at historic property locations, Alternative A1 would require only five full acquisitions while Alternative A2-LA would require fifteen.

In addition, three of the five full acquisitions that would occur at historic property locations for Alternative A1 are proposed for all three Segment A light rail alternatives. The properties that the project would fully acquire for the three light rail alternatives are:

- SW Newbury Street Viaduct (Bridge #01983) on SW Barbur Boulevard, Portland
- SW Vermont Street Viaduct (Bridge #01984) on SW Barbur Boulevard, Portland
- Tudor Revival house at 5910 SW Ralston Drive, Portland.

Alternative A2-LA would require seven full acquisitions of contributing properties in the NRHP-listed South Portland Historic District. It would also require full acquisition of the NRHP-listed Jewish Shelter Home (4133 SW Corbett Avenue, Portland); only Alternative A1 would avoid a full acquisition of this significant historic property. None of the three Segment A build alternatives will have direct effects on the NRHP-listed Holt-Saylor-Liberto House (3625 SW Condor Avenue, Portland). Alternative A2-BH would require a temporary construction easement from the Taylor, Peter & Haehlen, John & Gotlieb House #1 (2806 SW 1st Avenue, Portland); otherwise, the project will not directly impact this property.

Based on this analysis, Alternative A1 would be the most sensitive to NRHP-listed and NRHP-eligible resources. It is the only build alternative for Segment A that avoids a full acquisition of the NRHP-listed Jewish Shelter Home, and it is the least likely of the three alternatives to result in an adverse effect on the NRHP-listed South Portland Historic District.

Segment A: Marquam Hill Connection Options

Pedestrian improvement options for a Marquam Hill connection are included in the APE. The four options under consideration will all affect two historic properties Terwilliger Parkway and the Congregation Ahavath Achim Synagogue at 3225 SW Barbur Boulevard, Portland. All four Marquam Hill connection options would require a partial acquisition at Terwilliger Parkway, while all but Connection 2 would avoid a full acquisition of the Congregation Ahavath Achim Synagogue. Thus, Connections 1A, 1B, and 1C would be the most sensitive to historic properties.

Segment B: Light Rail Alternatives B1, B2, B3, and B4

Of the 212 historic resources that AINW identified in Segment B, there are only 18 historic properties that project construction would have the potential to affect. Eleven of the 18 would likely be directly affected.

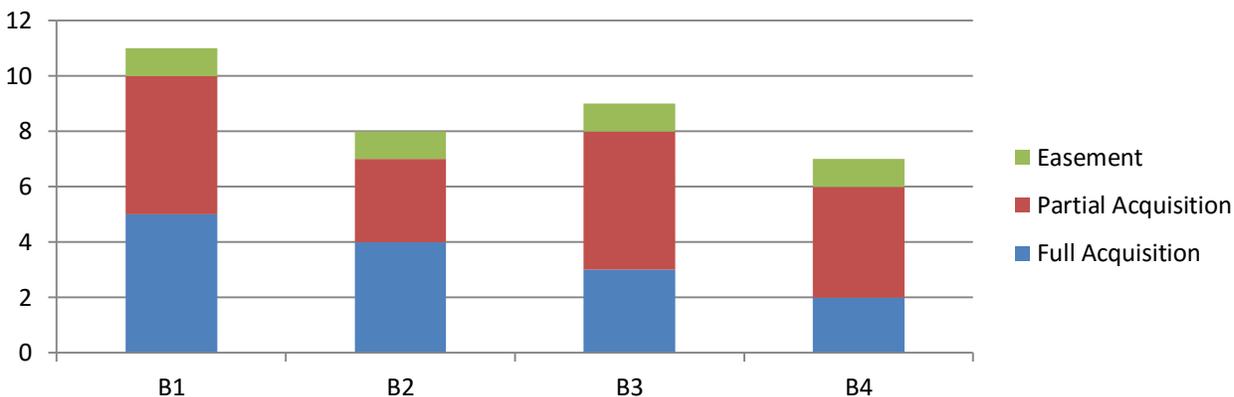
Alternative B4 would avoid the greatest number of full acquisitions and overall direct effects at historic property locations (see Figure 63). Full acquisitions would occur at two historic properties that are also slated for full acquisitions under all of the other Segment B alternatives:

- Tudor Revival house at 5350 SW Pasadena Street, Portland
- Modern Period commercial building at 11125 SW Barbur Boulevard, Portland.

Alternative B4 would also have the second-lowest number of partial acquisitions from historic properties; Alternative B2 has the lowest number of partial acquisitions with three required at historic properties. Although Alternative A2 has the second-lowest number of overall potential direct effects on

historic properties (n=8), it would result in the second-highest number of full acquisitions (n=4), which are much more likely to result in adverse effects on historic properties than partial acquisitions or temporary easements.

Figure 63. Segment B: All Acquisitions and Easements at Historic Property Locations



Segment C: Light Rail Alternatives C1, C2, C3, C4, C5, and C6

Only five of the 107 historic resources that AINW identified in Segment C are eligible for listing in the NRHP and there is potential that project construction could affect them. However, the difference in impacts on historic properties among the six different alternatives for Segment C (C1 through C6) is negligible. Alternatives C1 through C5 would result in three partial acquisitions, while Alternative C6 would result in just two. All six alternatives would require a partial acquisition from the Tigard Branch of the Southern Pacific Railroad.

Segment C: O&M Facilities

Of the four design options for O&M facilities, only the Branched 72nd Facility option would result in a direct effect on a historic property. That option would require a full acquisition of the Gerber Legendary Blades headquarters building and manufacturing facility at 14200 SW 72nd Avenue, Tigard. Because the Hunziker Full Facility, Hunziker Partial Facility, and Through 72nd Facility options would require no direct effects at historic property locations, they present the best opportunities to avoid possible adverse effects on historic properties.

Summary

Table 8 presents a detailed accounting of historic properties in the APE where there is a potential for direct effects from construction of the Southwest Corridor Light Rail Project. There are 83 in total; these are shown on Figure 64. The table identifies each property and the potential for direct effects under applicable build alternatives and options. Appendix A shows the location of each resource; Appendix B presents a table that provides additional information and a photograph of each resource.

TABLE 8. HISTORIC RESOURCES: DIRECTLY AFFECTED ENVIRONMENT

Map ID No.	Historic and Common Names	Address	NRHP Status	City of Portland HRI Rank	Segment	Light Rail Alternatives												Marquam Hill Connection Options				O&M Facilities															
						A1	A2 - BH	A2 - LA	B1	B2	B3	B4	C1	C2	C3	C4	C5	C6	1A	1B	1C	2	Hunziker Full	Hunziker Partial	Branched 72nd	Through 72nd											
2	IBM Building	2000 SW 1ST AVE, PORTLAND	E/C	No Rank	A	-	T	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
4	Building	2112 SW 1ST AVE, PORTLAND	E/C	-	A	-	P	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
10	Farley Building; Duniway Plaza	2400 SW 4TH AVE, PORTLAND	E/C	-	A	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
11	Marquam Plaza	2525 SW 3RD AVE, PORTLAND	E/C	-	A	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
13	Addressograph-Multigraph Building; Summa Institute	2510 SW 1ST AVE, PORTLAND	E/C	-	A	-	P	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
21	Helen Kelly Manley Community Center (South Portland Settlement Center); National University of Natural Medicine Administration Building	2828 SW NAITO PKWY, PORTLAND	E/C	-	A	-	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
28	Failing, Josiah, School; National University of Natural Medicine Academic Building	049 SW PORTER ST, PORTLAND	E/C	Rank II	A	-	P	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
32	House	036-038 SW PORTER ST, PORTLAND	E/C	-	A	-	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
160	South Portland Historic District	-	Listed	-	A	P	P	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
36	Tartarimi, Gaetano & Victoria, House #1	338 SW MEADE ST, PORTLAND	SPHD E/C	-	A	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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39	Lakefish, B & Mary, House (2721) and Lamberson, CE House (2725)	2721-2725 SW 1ST AVE, PORTLAND	SPHD E/C	-	A	-	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
42	Marquam, Philip Augustus, House #1	2740 SW 1ST AVE, PORTLAND	SPHD E/C	-	A	-	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
43	Taylor, Peter & Haehlen, John & Gotlieb House #1	2806 SW 1ST AVE, PORTLAND	SPHD Listed	HL	A	-	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
44	Rosenfeld, Maris Sophia, House	26 SW MEADE ST, PORTLAND	SPHD E/C	-	A	-	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
46	Warren, Mary, House	25 SW HOOKER ST, PORTLAND	SHPD E/C	-	A	-	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
48	Multnomah County Hospital Nurses' Quarters; Lair Hill Park; South Portland (Carnegie) Library	3037 SW 2ND AVE, PORTLAND	SPHD E/C	Rank III (Nurses' Quart.) Rank II (Library)	A	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
51	Perlot, John N & Harriet E, House	26 SW PORTER ST, PORTLAND	SPHD E/C	-	A	-	T	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
52	Baldwin, LeGrand M, House	16 SW PORTER ST, PORTLAND	SPHD E/C	-	A	-	T	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
53	Jolly, William B, House	25 SW WOODS ST, PORTLAND	SPHD E/C	-	A	-	T	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
59	Fiebigler, Victoria, House	3124 SW BARBUR BLVD, PORTLAND	SPHD E/C	-	A	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
69	Robertson, John, House	018 SW GROVER ST, PORTLAND	SPHD E/C	-	A	-	F	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
70	Carlson, John & Sophia, House	015 SW GIBBS ST, PORTLAND	SPHD E/C	-	A	-	F	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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71	Watkins, George and Rood, E. H., House	3213-3215 SW WATER AVE, PORTLAND	SPHD E/C	-	A	-	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
73	Drake, John M. & Angeline, House	025 SW GIBBS ST, PORTLAND	SPHD E/C	-	A	-	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
74	Wallace, Hugh M. & Catherine E., House #1	031 SW GIBBS ST, PORTLAND	SPHD E/C	-	A	-	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
75	Wallace, Hugh M & Catherine E, House #2	039 SW GIBBS ST, PORTLAND	SPHD E/C	-	A	-	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
77	Cardwell, B. P., House	0110 SW GROVER ST, PORTLAND	SPHD E/C	-	A	-	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
92	Fear, W.H., House, #3	117 SW WHITAKER ST, PORTLAND	SPHD E/C	-	A	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
93	Boyd, Narcissa and Thomas, House #2	3333 SW 1ST AVE, PORTLAND	SPHD E/C	-	A	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
94	Rudy, Marcus, House #2	3334 SW 1ST AVE, PORTLAND	SPHD E/C	-	A	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
95	Maxwell, Mary L., House	3323 SW NAITO PKWY, PORTLAND	SPHD E/C	-	A	-	P	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
97	Tillman, Constance and Frank, House	5 SW WHITAKER ST, PORTLAND	SPHD E/C	-	A	-	P	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
98	Driskell, C. E., House	017 SW WHITAKER ST, PORTLAND	SPHD E/C	-	A	-	F	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
101	Rummeline, Frank and Louise R., House #1	023 SW WHITAKER ST, PORTLAND	SPHD E/C	-	A	-	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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102	Rummeline, Frank and Louise R., House #2	031-037 SW WHITAKER ST, PORTLAND	SPHD E/C	-	A	-	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
103	Lamberson, G. H., House	0106 SW GIBBS ST, PORTLAND	SPHD E/C	Rank III	A	-	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
110	Strauss, R. F., House	3404 SW 1ST AVE, PORTLAND	SPHD E/C	-	A	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
113	Foulkes, Laura, House #1	14 SW WHITAKER ST, PORTLAND	SPHD E/C	-	A	-	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
114	Long, H. R. and S. E., House	3405 SW NAITO PKWY, PORTLAND	SPHD E/C	-	A	P	P	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
115	Foulkes, Robert, House	3417 SW NAITO PKWY, PORTLAND	SPHD E/C	-	A	P	T	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
121	Francone, Marie, House	036 SW WHITAKER ST, PORTLAND	SPHD E/C	-	A	-	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
127	Harmar, W.C., Ensemble	3404 SW WATER AVE, PORTLAND	SPHD E/C	Rank III	A	-	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
137	Sussman, Osias, House	23 SW PENNOYER ST, PORTLAND	SPHD E/C	Rank III	A	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
138	Gundoph, Ferdinand, House #2	19 SW PENNOYER ST, UN A, PORTLAND	SPHD E/C	-	A	T	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
68	Wolfman, A., Building	11 SW GIBBS ST, PORTLAND	E/C	-	A	-	P	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
85	Duniway Park	-	E/C	-	A	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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						A1	A2 - BH	A2 - LA	B1	B2	B3	B4	C1	C2	C3	C4	C5	C6	1A	1B	1C	2	Hunziker Full	Hunziker Partial	Branched 72nd	Through 72nd
130	Terwilliger Parkway	SW TERWILLIGER BLVD, PORTLAND	E/S	Rank I	A	T	-	-	-	-	-	-	-	-	-	-	-	-	P	P	P	P	-	-	-	-
147	Congregation Ahavath Achim Synagogue	3225 SW BARBUR BLVD, PORTLAND	E/C	Rank III	A	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	F	-	-	-	-
155	House	3605 SW CONDOR AVE, PORTLAND	E/C	-	A	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
159	Ross Island Bridge	-	Det. El. E/S	Rank III	A	-	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
162	House	3811 SW BARBUR BLVD, PORTLAND	E/C	-	A	P	P	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
168	House	3926 SW WATER AVE, PORTLAND	E/C	-	A	-	-	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
178	House	4019 SW CORBETT AVE, PORTLAND	E/C	-	A	T	T	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
179	House	0123 SW LOWELL ST, PORTLAND	E/C	-	A	T	T	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
180	House	022 SW LOWELL ST, PORTLAND	E/C	-	A	-	T	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
187	Jewish Shelter Home	4133 SW CORBETT AVE, PORTLAND	Listed	HL	A	P	F	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
188	House	4145 SW CORBETT AVE, PORTLAND	E/C	Rank III	A	P	P	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
189	House	4205 SW CORBETT AVE, PORTLAND	E/C	-	A	P	P	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
190	House	4215-4217 SW CORBETT AVE, PORTLAND	E/C	-	A	P	P	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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192	Building	4231-4237 SW CORBETT AVE, PORTLAND	E/C	-	A	P	P	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
223	House	218-220 SW HAMILTON ST, PORTLAND	E/C	-	A	P	P	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
231	Building	4820 SW BARBUR BLVD, PORTLAND	E/C	-	A	P	P	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
232	Rasmussen Village	4950 SW BARBUR BLVD, PORTLAND	E/C	-	A	P	P	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
238	House	5910 SW RALSTON DR, PORTLAND	E/C	-	A	F	F	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
239	Fulton Park; George Himes Park	-	E/S	Rank III	A	P	P	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
572	Bridge #01983; SW Newbury St Viaduct, Hwy 1W	-	E/C	-	A	F	F	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
573	Bridge #01984; SW Vermont St Viaduct, Hwy 1W	-	E/C	-	A	F	F	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
268	Fulton Park	-	E/C	Rank II (Fulton Park School)	B	-	-	-	P	P	P	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
331	House	1801 SW EVANS ST, PORTLAND	E/C	-	B	-	-	-	P	P	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
367	Pancake House; Original Pancake House	8601 SW 24TH AVE, PORTLAND	E/C	-	B	-	-	-	P	P	P	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
379	Capitol Hill Motel	9110 SW BARBUR BLVD, PORTLAND	E/C	-	B	-	-	-	F	F	P	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

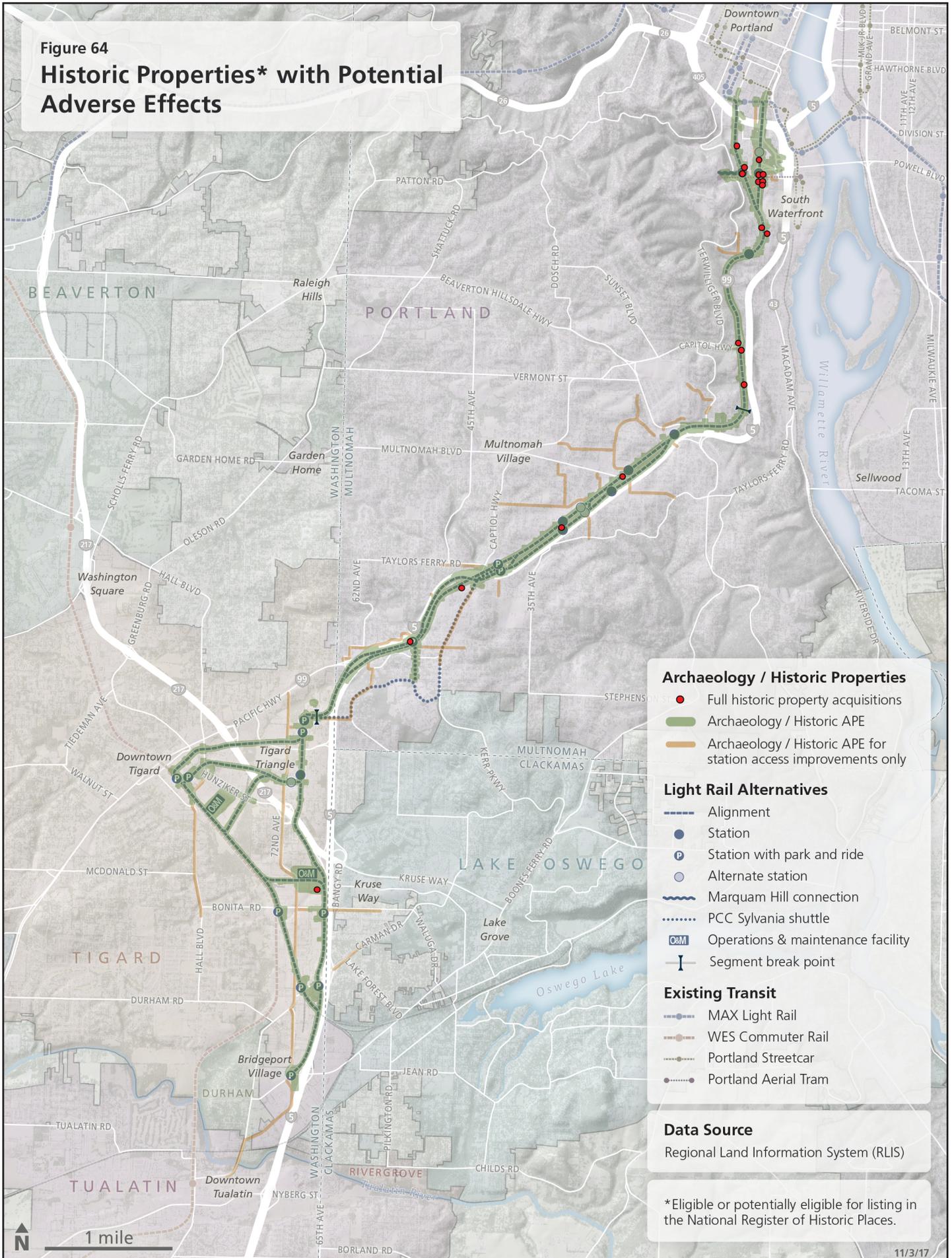
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						A1	A2 - BH	A2 - LA	B1	B2	B3	B4	C1	C2	C3	C4	C5	C6	1A	1B	1C	2	Hunziker Full	Hunziker Partial	Branched 72nd	Through 72nd										
381	Good Shepherd Lutheran Church; Good Shepherd Lutheran Church and Little Lambs Preschool/Daycare	3405 SW ALICE ST, PORTLAND	E/C	-	B	-	-	-	T	T	T	T	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
390	Gas Station	9803 SW BARBUR BLVD, PORTLAND	E/C	-	B	-	-	-	P	-	P	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
400	Stash's Hollywood Motel; Antler Motel; Ranch Inn	10138 SW BARBUR BLVD, PORTLAND	E/C	-	B	-	-	-	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
404	Markham School; Edwin Markham Elementary School	10531 SW CAPITOL HWY, PORTLAND	E/S	-	B	-	-	-	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
411	House	5350 SW PASADENA ST, PORTLAND	E/C	-	B	-	-	-	F	F	F	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
412	Building	11125 SW BARBUR BLVD, PORTLAND	E/C	-	B	-	-	-	F	F	F	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
574	Bridge #02010; Oregon Electric Railway Overcrossing; Hwy 1W over SW Multnomah Blvd	-	E/C	-	B	-	-	-	F	F	F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
500	Knauss Chevrolet; Fidelity Fleet & Finance Auto Sales	11880 SW PACIFIC HWY, TIGARD	E/C	-	C	-	-	-	-	-	-	-	-	-	P	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
521	The Williamsburg Townhouse Apartments	12265 SW HALL BLVD, TIGARD	E/C	-	C	-	-	-	-	-	-	-	P	P	-	-	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
542	Southern Pacific Railroad, Tigard Branch	-	E/C	-	C	-	-	-	-	-	-	-	P	P	P	P	P	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
546	Gerber Legendary Blades; Gerber Gear	14200 SW 72ND AVE, TIGARD	E/C	-	C	-	-	-	-	-	-	-	P	-	P	-	P	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	F	-	-	-
547	Fought & Company; Fought & Company, Inc.	14255 SW 72ND AVE, TIGARD	E/C	-	C	-	-	-	-	-	-	-	-	P	-	P	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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Figure 64
Historic Properties* with Potential Adverse Effects



Archaeology / Historic Properties

- Full historic property acquisitions
- Archaeology / Historic APE
- Archaeology / Historic APE for station access improvements only

Light Rail Alternatives

- Alignment
- Station
- P Station with park and ride
- Alternate station
- ~ Marquam Hill connection
- ... PCC Sylvania shuttle
- O&M Operations & maintenance facility
- ⊥ Segment break point

Existing Transit

- MAX Light Rail
- WES Commuter Rail
- Portland Streetcar
- Portland Aerial Tram

Data Source
 Regional Land Information System (RLIS)

*Eligible or potentially eligible for listing in the National Register of Historic Places.

ARCHAEOLOGICAL RESOURCES

To account for unknown archaeological and cultural resources within each segment, the archaeological impacts study emphasizes the amount of archaeological work that AINW would recommend for each light rail alternative if it were selected as the Preferred Alternative. The acreage of each light rail alternative that intersects archaeological HPAs is an appropriate estimate of the area likely to need archaeological monitoring during construction, with more acreage requiring more monitoring. However, early testing of raw land (i.e. unpaved or undeveloped areas) within each alternative for archaeological sites, in advance of project construction, reduces the likelihood of unanticipated discoveries and the need for archaeological monitoring. Thus, the alternatives most likely to avoid inadvertent impacts on archaeological resources are those with the maximum amount of raw land and the minimum acreage within HPAs. The HPAs are shown on Figure 65.

This affected environment analysis also identifies possible construction-related effects on NRHP-eligible archaeological sites and sites that currently remain unevaluated for listing in the NRHP (Table 9). The effects would result from the long-term (permanent) loss of the archaeological deposits due to displacement. Unevaluated sites will need further study, including archaeological testing in order to determine their eligibility for the NRHP. Knowing the proposed construction footprint will help determine the specific site impacts that archaeologists will need to evaluate. The locations of the nine eligible or unevaluated archaeological sites within the APE (Table 9) are shown in Figure 66.

TABLE 9. NRHP-ELIGIBLE AND UNEVALUATED ARCHAEOLOGICAL SITES OF THE APE

Site Number	Description	NRHP Eligibility	Impact Location in APE
Previously Recorded Sites			
35MU129	Excavated 1880s wood-lined privy feature and household domestic items	Unevaluated	A2-BH, A2-LA
35MU226	Refuse disposal and privy vault	Eligible	A1
35MU237	Brick-lined shaft feature	Non-Contributing (Unevaluated for this project)	A1
35MU238	Building remnants, Smith and Watson Iron Works/ Iron Fireman Manufacturing Co.	Non-Contributing (Unevaluated for this project)	A2-BH, A2-LA
Newly Identified Sites (2017)			
17/2534-1	Debris scatter (pre-1920 to 1950s)	Unevaluated	Connection 1A, Connection 1B, Connection 1C, Connection 2
17/2534-2	Remnant roadbed corresponding to Homestead Railway	Unevaluated	Connection 1A, Connection 1B, Connection 1C, Connection 2
17/2534-3	Remnant roadbed	Unevaluated	Connection 2
17/2534-4	Remnant roadbed	Unevaluated	A1, A2-BH, A2-LA
17/2534-5	Remnant roadbed	Unevaluated	A1, A2-BH, A2-LA

Figure 65
Archaeological High Probability Areas

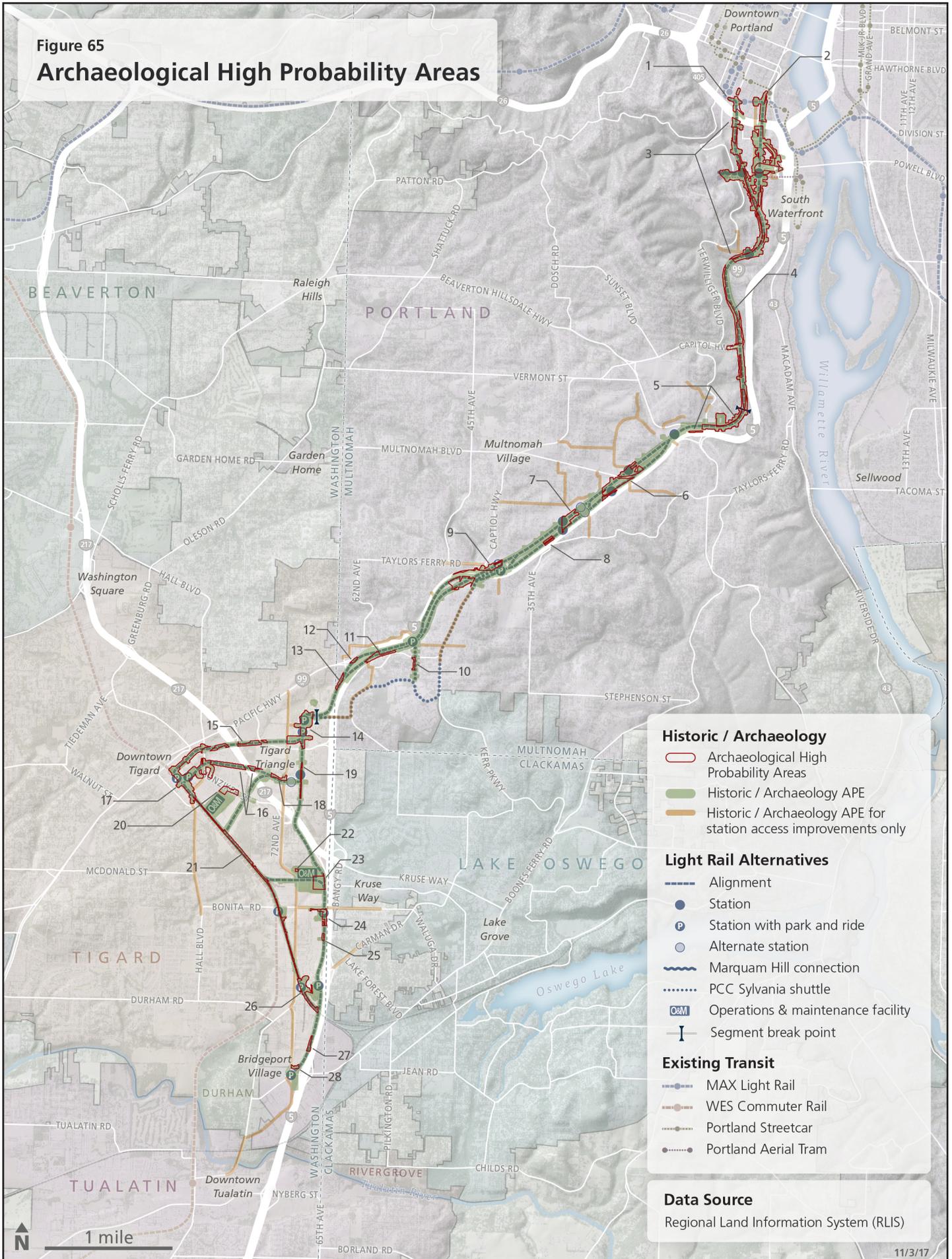


Figure 66 (page 97) has been redacted because it contains sensitive archaeological information.

No Build Alternative

Under the No Build Alternative, there would be no direct impacts to historic-period or Native American archaeological sites. There is the potential for future impacts to unidentified historic-period or Native American archaeological resources as a result of the development of other transportation projects that might still occur even if this light rail project is not developed. These potential effects cannot be quantified.

Light Rail Alternatives

Segment A: Light Rail Alternatives A1, A2-BH, and A2-LA

Five HPAs (HPA-1 through HPA-5) and all nine NRHP-eligible and unevaluated archaeological sites within the project APE are located within Segment A. Of these nine, six are associated with Alternatives A1, A2-BH, or A2-LA, and the remaining three are related to the Marquam Hill connection options and are discussed below. The concentration of historic-period archaeological sites in this segment is a direct reflection of over 100 years of urban development within South Portland and the surrounding area. Archaeologists have not completely surveyed the three light rail alternatives in Segment A for archaeological resources, but Alternative A1 is 9.4% raw land, while Alternatives A2-BH and A2-LA are 7.6% and 8.3% raw land, respectively. Alternative A1 has a slight advantage in the amount of survey that can be done in advance of construction.

The selection of Alternative A1 could result in construction-related impacts to four of the five HPAs (HPA-1, HPA-3, HPA-4, and HPA-5) within Segment A. Four historic-period archaeological sites could be impacted with the selection of Alternative A1. Of these four archaeological sites, two are unevaluated for listing in the NRHP (17/2534-4, and 17/2534-5). For one site (35MU237), the portion within the Portland-Milwaukie Light Rail Project APE was evaluated and determined not contribute to the eligibility of the site; however, the portion of the site within the Southwest Corridor Light Rail APE is unevaluated. These three sites would need to be evaluated for NRHP eligibility, if alternative A1 is selected. The fourth (35MU226) is eligible for listing in the NRHP. The total HPA area measures 30.8 acres. The HPA acreage represents the maximum area where archaeological monitoring might be recommended to take place during construction.

The selection of Alternatives A2-BH or A2-LA will also result in potential impacts on four of the five HPAs (HPA-2 through HPA-5) in Segment A, with a total HPA area of 36.7 acres (Alternative A2-BH) or 35.1 acres (Alternative A2-LA). Four historic-period archaeological sites could be impacted with the selection of either of the two alternatives. Three of the four archaeological sites are unevaluated for listing in the NRHP (35MU129, 17/2534-4, and 17/2534-5). Site 35MU129 may require considerable testing and evaluation work. For the fourth site, 35MU238, archaeologists evaluated the portion within the Portland-Milwaukie Light Rail Project APE and recommended that it did not contribute to the eligibility of the site. The portion of the site within the Southwest Corridor Light Rail Project APE is unevaluated. Archaeologists will need to evaluate all four sites for NRHP eligibility.

Of the three Segment A alternatives, Alternative A1 would result in the least amount of construction monitoring, and has the largest amount of raw land. Although Alternative A1 could have an adverse effect on an eligible archaeological site (35MU226), unevaluated sites within Segment A, such

as 35MU129, could prove to be eligible during testing and evaluation work. Therefore, one cannot compare impacts to eligible sites for the alternatives within Segment A at this time. For this project, the portion of the site within the APE is unevaluated. All four sites would need additional evaluation for NRHP eligibility.

Segment A: Marquam Hill Connection Options

The construction of pedestrian improvements at Marquam Hill could result in impacts to HPA-3 and three unevaluated historic-period archaeological sites within the project APE (17/2534-1, 17/2534-2, and 17/2534-3). Most of this raw land has been included in AINW's pedestrian survey, and subsurface survey of the alternatives in advance could eliminate some or most of the need for construction monitoring. Archaeologists will need to evaluate the three sites for NRHP eligibility. The Marquam Hill connection options have not been completely surveyed for archaeological resources, and between 87% and 94% of each construction footprint consists of raw land. Connection 1B has the most raw land, at 94%.

Selection of Connections 1A, 1B, or 1C could result in construction-related impacts to sites 17/2534-1 and 17/2534-2 with a total HPA area of 1.4 acres (Connection 1A), 1.7 acres (Connection 1B), or 2.6 acres (Connection 1C). A selection of Connection 2 could result in impacts to all three historic-period sites with a total HPA area of 2.4 acres. Of the four alternatives, Connection 1A is the surface option and would have the smallest footprint to be monitored, but the Connection 2 full tunnel may ultimately need less monitoring because a portion of the alignment will be subsurface.

Segment B: Light Rail Alternatives B1, B2, B3, and B4

There are nine HPAs (HPA-5 through HPA-13) that construction activities have the potential to impact within Segment B. There are no recorded archaeological sites along the alignments of the four light rail alternatives within Segment B (Alternatives B1, B2, B3 and B4). However, the alternatives need additional archaeological survey work for archaeological resources. Each of the Segment B alternatives is approximately 2% raw land. No alternative has a clear advantage in terms of advance survey work.

Of the four light rail alternatives, a selection of Alternative B1 would impact seven HPAs (HPA-5 through HPA-7, HPA-9 through HPA-11, and HPA-13) with a total HPA area of 22.4 acres. Alternative B2 would impact eight HPAs (HPA-5 through HPA-7 and HPA-9 through HPA-13) with a total HPA area of 19.7 acres. Selection of Alternatives B3 or B4 would impact all nine HPAs within Segment B. The total HPA area for Alternative B3 is 17.6 acres; the total HPA area for Alternative B4 is 16 acres. Selection of Alternative B4 would result in the smallest amount of recommended construction monitoring.

Segment C: Light Rail Alternatives C1, C2, C3, C4, C5, and C6

Construction activities within Segment C could impact 15 HPAs (HPA-14 through HPA-28). There are no recorded archaeological sites within the alignments of the six light rail alternatives for Segment C (Alternatives C1, C2, C3, C4, C5, and C6). However, archaeological survey work for these alternatives is not complete. Alternative C1 is 17.5% raw land; Alternative C2 is 27.4%; Alternative C3 is 18.3%; Alternative C4 is 29.4%; Alternative C5 is 13.6%; and Alternative C6 is 9.7%. Archaeologists can survey more of Alternative C4 than any of the other Segment C alternatives prior to construction.

Alternative C2 would impact nine HPAs (HPA-14, HPA-16 through HPA-19, HPA-21, and HPA-26 through HPA-28), and would have a total HPA area of 29.2 acres. Alternative C3 would impact ten HPAs (HPA-14, HPA-15, HPA-17, HPA-21, and HPA-23 through HPA-28), and would have a total HPA area of 23.2 acres. Alternative C4 would impact seven HPAs (HPA-14, HPA-15, HPA-17, HPA-21, and HPA-26 through HPA-28), and would have a total HPA area of 28.1 acres.

Alternatives C1, C5, or C6 would each impact twelve HPAs, but the acreage to be monitored varies widely. Alternative C1 would impact HPA-14, HPA-16 through HPA-19, HPA-21, and HPA-23 through HPA-28, for a total HPA area of 24.3 acres. Alternative C5 would impact HPA-14, HPA-16 through HPA-19, HPA-21, and HPA-23 through HPA-28, for a total HPA area of 21.7 acres. Alternative C6 would impact HPA-14, HPA-17 through HPA-21, and HPA-23 through HPA-28, for a total HPA area of 15.7 acres. Of the six alignment alternatives in Segment C, Alternative C6 would have the smallest HPA area that would require monitoring during construction.

Segment C: O&M Facilities Options

There are no recorded archaeological sites within any of the O&M facilities options footprints; however, AINW recommends archaeological survey for all of the O&M facilities options. The footprints for the options have little to no raw land, because they are within filled industrial parcels.

Selection of the Hunziker Full Facility would result in construction-related impacts on HPA-20 and -21, for a total HPA area of 1.7 acres. Selection of the Hunziker Partial Facility would result in construction-related impacts on HPA-21, for a total HPA area of 0.03 acre. The Branched 72nd Facility would impact HPA-23, for a total HPA area of 5 acres. The selection of the Through 72nd Facility option could result in impacts on HPA-22 and HPA-23 and would have a total HPA area of 1.6 acres. The selection of the Hunziker Partial Facility would have least HPA impact and the least need for construction monitoring.

Summary

Table 10 summarizes impacts on NRHP-eligible and unevaluated archaeological resources. This table also includes HPA acreage within each alternative and the percentage of each HPA acreage that archaeologists could survey for archaeological resources prior to project construction.

**TABLE 10. IMPACTS ON NRHP-ELIGIBLE AND UNEVALUATED
ARCHAEOLOGICAL RESOURCES AND HPAS**

Light Rail Alternatives and Options	NRHP-Eligible and Unevaluated Resources	HPAs	
		Acreage (Monitor)	Percent Raw Land (Survey)
Segment A – Light Rail Alternatives			
A1: Barbur	4	30.8	9.4%
A2-BH: Naito with Bridgehead	4	36.7	7.6%
A2-LA: Naito with Limited Access	4	35.1	8.3%
Segment A – Marquam Hill Connection Options			
1A: Elevator/Bridge and Path	2	1.4	92.2%
1B: Elevator/Bridge and Recessed Path	2	1.7	94%
1C: Elevator/Bridge and Tunnel	2	2.6	87.8%
2: Full Tunnel	3	2.4	87.1%
Segment B – Light Rail Alternatives			
B1: Barbur	-	22.4	1.9%
B2: I-5 Barbur Transit Center (TC) to 60th	-	19.7	2.4%
B3: I-5 26 th to 60th	-	17.6	2.5%
B4: I-5 Custer to 60th	-	16	2.5%
Segment C – Light Rail Alternatives			
C1: Ash to I-5	-	24.3	17.5%
C2: Ash to Railroad	-	29.2	27.4%
C3: Clinton to I-5	-	23.2	18.3%
C4: Clinton to Railroad	-	28.1	29.4%
C5: Ash and I-5 Branched	-	21.7	13.6%
C6: Wall and I-5 Branched	-	15.7	9.7%
Segment C – O&M Facilities			
Hunziker Full	-	1.7	0%
Hunziker Partial	-	0.3	0%
Branched 72nd	-	5	0%
Through 72nd	-	1.6	0%

RECOMMENDATIONS

AINW has completed preliminary cultural resource investigations for the Southwest Corridor Light Rail Project. These investigations identified 584 historic resources and 16 archaeological resources in the APE. In addition, AINW identified 28 HPAs where buried archaeological resources may be located.

The project APE includes several light rail alternatives and design options that project sponsors are considering for a DEIS. AINW has analyzed these alternatives and design options for their potential to impact historic properties and offers the following recommendations.

- **Of the Segment A light rail alternatives, Alternative A1 is recommended.** This alternative would limit the project's overall number of direct and adverse effects on historic properties. Segment A contains the largest number of historic properties identified in the APE; it is where all four NRHP-listed properties in the APE are located. Alternative A1 would result in only five full acquisitions of historic properties; Alternative A2-BH proposes seven; Alternative A2-LA proposes fifteen. Alternative A1 would also avoid the greatest number of overall impacts to the NRHP-listed South Portland Historic District.

The construction footprint of Alternative A1 will have the smallest HPA acreage to be archaeologically monitored. Furthermore, Alternative A1 has slightly more raw land that can be surveyed in advance of construction. All of the Segment A light rail alternatives could impact unevaluated archaeological sites 17/2534-4 and 17/2534-5. All of the Segment A light rail alternatives could impact recorded archaeological sites that are not eligible for listing in the NRHP. Alternative A1 has one NRHP-eligible archaeological site (35MU226), and one unevaluated site (35MU237), while Alternatives A2-BH and A2-LA overlap at another unevaluated site (35MU129). One or more of the unevaluated sites could prove to be eligible for listing in the NRHP.

- **Of the Marquam Hill connection options in Segment A, avoidance of the Connection 2 option is recommended.** This is the only option of the four under consideration for the Marquam Hill connection that would lead to a full acquisition of a historic property.

All four connection options pass through raw land, and archaeologists can determine most archaeological impacts in advance. Impacts to unevaluated archaeological sites (17/2534-1, 17/2534-2, and 17/2534-3) will be similar for all four options, although Connections 1A and 2 would have the smallest construction footprints, if monitoring is recommended.

- **In Segment B, Alternative B4 may be preferable, although the four light rail alternatives for this segment will have similar impacts on cultural resources.** Alternative B4 would avoid all but two full acquisitions of historic properties. Although Alternative B4 would result in one more partial acquisition of a historic property than Alternative B2, Alternative B4 would result in a total of just 7 historic property acquisitions and easements, the lowest of all four alternatives for this segment.

The construction footprint of Alternative B4 will impact the smallest archaeological HPA acreage to be monitored. The percentage of raw land that archaeologists could survey in advance is similar for all of the four alternatives.

- **In Segment C, Alternative C6 is recommended.** The Segment C light rail alternatives for Segment C have very little variation in their potential to adversely affect historic properties. Five of six build alternatives for Segment C (Alternatives C1 through C5) would result in three partial acquisitions at historic property locations, while Alternative C6 would result in two.

In Segment C, the alternatives vary widely in the HPA acreage that each may impact, and in percentage of each that can be surveyed in advance. The construction footprint of Alternative C6 will impact the smallest HPA acreage that will require monitoring. Alternative C6 will also avoid the reported location of a Native American camp.

- **Of the O&M facilities options in Segment C, the Hunziker Partial Facility is recommended.** This option will avoid direct effects to historic properties and will impact the smallest HPA acreage, thus minimizing the need for construction monitoring.

A refinement of cultural resource recommendations will take place once the project sponsor selects a Preferred Alternative. AINW recommends the following actions to identify and evaluate cultural resources that construction of the project and long-term operation of the light rail line could affect.

- Pedestrian survey of the project footprint in areas not covered by this survey.
- Identification and evaluation of archaeological resources within the HPAs to the extent practically and logistically possible; targeted subsurface testing to identify buried archaeological sites within raw land areas during project planning phases; and advance subsurface testing to allow for completion of necessary documentation, NRHP eligibility evaluations, and data recovery excavations, if needed, prior to light rail construction.
- Preparation of a Monitoring and Inadvertent Discovery Plan.
- Preparation of Determinations of Eligibility for historic resources recommended eligible for listing in the NRHP that the project may affect, and Findings of Effect for these historic properties.
 - Determinations of Eligibility evaluate the historical integrity and associations of historic properties; they identify which National Register Criteria for Evaluation (A through D) apply to a property in addition to defining period(s) of significance, boundaries, and character-defining features. Findings of Effect assess the how project activities might affect historic properties, based on integrity and significance information compiled in Determinations of Eligibility.
 - Completion of this intensive-level documentation will identify adverse effects on historic properties under Section 106 of the National Historic Preservation Act in addition to potential uses of “historic sites” under Section 4(f) of the U.S. Department of Transportation Act. This documentation effort will also consider whether historic

properties within the APE constitute a cultural landscape or previously unidentified historic district; if identified, these resources will be addressed accordingly in cooperation with project stakeholders.

It is unlikely that the selected Preferred Alternative will be able to avoid all historic properties, and it is likely that the selected Preferred Alternative will have adverse effects on historic properties. The project sponsor will need to resolve identified adverse effects on historic properties through avoidance, minimization, or mitigation measures. A formal Memorandum of Agreement (MOA) and possibly a Programmatic Agreement (PA) between FTA, the SHPO, and possibly others, will address specific impacts and mitigation commitments for the Preferred Alternative. The Final Environmental Impact Statement will include fully signed and executed copies any MOAs and PAs associated with the Preferred Alternative. FTA will lead this process in coordination with Metro, TriMet, appropriate Tribes, the SHPO, and other consulting parties.

Certain stipulations of the MOA might need to be completed before the undertaking. For instance, mitigation for adverse effects on historic buildings and structures is typically achieved through intensive documentation of the properties before they are modified for the project; likewise, pre-construction data recovery is often the best option to retrieve data from NRHP-eligible archaeological sites. Other mitigation measures might include contributions to the preservation of cultural heritage in the affected community, kiosks on-site with historical information, interpretative exhibits at local museums that highlight information gained about cultural resources, and online history articles. Project sponsors should select mitigation strategies on a case-by-case basis to ensure that resulting activities or products are appropriate for the properties, the adverse effects being mitigated, and the communities in which the effects will take place.

Other mitigation measures might be completed concurrent to the undertaking, such as archaeological monitoring of excavations conducted within paved areas of HPAs. If archaeological monitoring is stipulated in a PA for the project, AINW recommends that a monitoring and inadvertent discovery plan be prepared for inclusion in that document. This plan would outline procedures for the identification and documentation of archaeological resources and human remains encountered during project construction. Having procedures in place for notifications, documentation, resource recovery, and site analyses would speed response times, limit construction delays, and help to prevent the inadvertent destruction of archaeological sites.

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