



Ross Island Bridgehead Reconfiguration Option Overview

July 31, 2017

Introduction

The Southwest Corridor Plan has considered a broad range of transportation projects in the corridor, including road, walking, biking and transit improvements. These projects were drawn from local Transportation System Plans (TSPs) and Metro's Regional Transportation Plan (RTP). Certain projects that are closely tied to the proposed Southwest Corridor light rail alignments are being studied in the light rail project's Draft Environmental Impact Statement (EIS). One of these projects – by most measures the most complex – is known as the Ross Island Bridgehead Project. This project would reconfigure the road network at the west end of the Ross Island Bridge in the South Portland/Lair Hill neighborhood to accomplish multiple transportation and land use objectives.

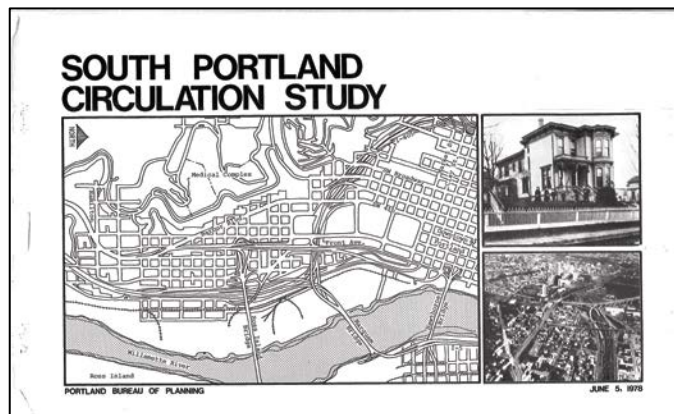
One potential alignment for the Southwest Corridor Light Rail Project would run on SW Naito Parkway through the Ross Island Bridgehead area. Building an at-grade light rail alignment on Naito would require reconstructing the roadway to accommodate the tracks, so project partners are considering different concepts for how the roadway could be configured with light rail. This document examines two design approaches for a light rail alignment on Naito Parkway: one that incorporates the Ross Island Bridgehead Project and one that accommodates light rail while largely maintaining the existing limited access roadway configuration and circulation patterns.

The light rail alignment could also run on SW Barbur Boulevard through the South Portland/Lair Hill area. A separate “decision briefing book” summarizes the trade-offs between the Barbur and Naito alignments, available on the project website at www.swcorridorplan.org/light-rail-study. A future version of the Barbur vs. Naito decision briefing book will also describe the trade-offs between the two design approaches for a Naito alignment.

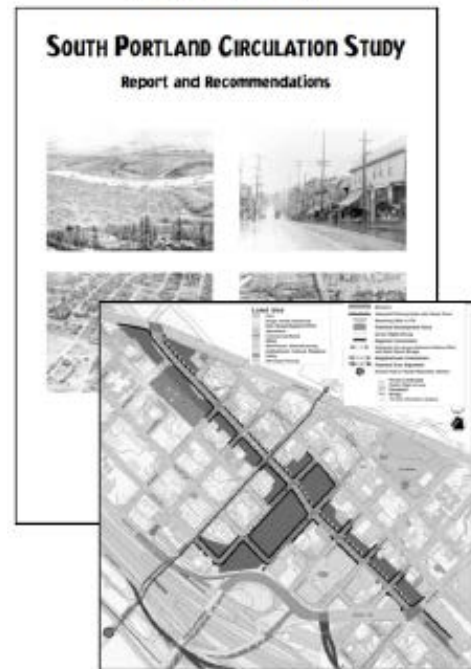
Planning Background

The current understanding of the Bridgehead Project is the genesis of a number of planning studies, including the South Portland Circulation Study (1978), the 2001 update to the South Portland Circulation Study, the I-405 Design Workshop (2010), the Barbur Concept Plan (2013), and the earlier phases of the Southwest Corridor Plan. These studies explored the transportation and land use challenges in this neighborhood, and recommended or suggested potential solutions.

June 1978



June 2001



March 2010



April 2013



South Portland History

Over the years, infrastructure projects have shaped and reshaped South Portland (see maps in Appendix A). In the late 1800s through the early 1900s, the neighborhood was “a settlement community for Italian Catholics and East European Jews emigrating to America” (South Portland Circulation Study, 1978). During this time, streetcar lines attracted commercial land uses along SW 1st Avenue, SW Front Avenue (now Naito Parkway) and SW Corbett Street. The surrounding residential areas had walking access to this commercial spine through the neighborhood, as well as to the industrial employment that developed along the Willamette River.

The rise in automobile popularity after WWI brought a series of changes to South Portland. The Ross Island Bridge opened in 1926, initially connecting to the existing street network, which was primarily a traditional grid layout. Around 1935, the rail line along the alignment of today’s Barbur Boulevard was abandoned and replaced by a highway, and the connections to the Ross Island Bridge were modified in order to serve increasing traffic volumes.

In 1943, Harbor Drive was constructed along the downtown waterfront as part of the federal highway system, serving as the primary north-south artery along the west coast. Front Avenue was widened to connect OR-99W to Harbor Drive, which “split the residential community in two, displaced homes and businesses, removed the street car line, and thus destroyed the neighborhood’s social and functional core” (South Portland Circulation Study, 1978). Later changes in the 1950s added interchanges and grade separations to improve traffic flow. According to the 1978 study, “the ‘band aid’ approach to roadway construction applied to this area for over 40 years had not only undermined the stability of a once strong community, but also produced a confusing tangle of arterial traffic routes.”

With the opening of I-5 on the Marquam Bridge in 1966 and I-405 on the Fremont Bridge in 1973, OR-99W was eclipsed in its function as the primary north-south artery. The Harbor Drive portion was removed in 1974 and replaced with Tom McCall Waterfront Park. The 1978 South Portland Circulation Study proposed removing the Front Avenue segment and associated ramps, reclaiming that land for redevelopment, and routing through traffic around the Corbett and Lair Hill neighborhoods via SW Kelly Avenue. The follow-up study in 2001 reached a similar conclusion.



Ross Island Bridgehead looking east, 1932



Ross Island Bridgehead looking southwest, 1952

Existing Conditions

Auto circulation in South Portland today remains similar to the conditions of the late 1970s. Because multiple freeways and highways converge in South Portland, travelers from throughout the region pass through the area.

With the current roadway configuration, much of this regional through traffic travels on surface streets in the neighborhood. For example, while the Ross Island Bridge and the Sunset Highway are both classified as US-26, the facilities connect via the surface street network. Neighborhood streets also serve as de facto highway ramps connecting I-5 traffic to the Ross Island Bridge, including Kelly Street, SW Whitaker Street and SW Curry Street.

Currently, much of the traffic on Naito Parkway south of downtown is accessing the Ross Island Bridge. Through traffic volumes are relatively low for an arterial street, at about 10,000 per day (2014 counts). In comparison, the overall average daily traffic volumes on Naito Parkway are about 14,000 per day north of the bridge and 22,000 south of the bridge (2015 counts). Much of the traffic using the Ross Island Bridge travels to other parts of the region. In 2035, about 45 percent of the bridge's traffic is projected to be traveling to or from Washington County, and 27 percent to or from Clackamas County.

Peak-hour traffic conditions are generally poor for vehicles accessing the Ross Island Bridge. Vehicle traffic queues extensively during the evening peak on Naito Parkway and neighborhood streets waiting to access the Ross Island Bridge. These queues typically extend to Barbur Boulevard for traffic from the south and to SW Sheridan Street and SW Fifth Avenue for traffic from the west (see the map on the following page). Traffic also queues on the bridge during the morning peak heading westbound to enter downtown.

As a result of its history connecting to the Harbor Drive freeway, the South Portland segment of Naito Parkway and its ramped connections to the Ross Island Bridge look and feel like a freeway interchange. Auto, walking and biking access across Naito Parkway is very constrained. Local auto traffic access on or off of Naito Parkway is allowed at only a few locations, and auto access across Naito Parkway is allowed only at an underpass at SW Grover Street. Walking access across Naito Parkway is provided by an undercrossing at Grover Street and an overcrossing at SW Hooker Street, though neither is accessible to people with disabilities, and both provide low-quality walking and biking improvements for all users. The effect these access limitations is to divide the area into three small neighborhoods.

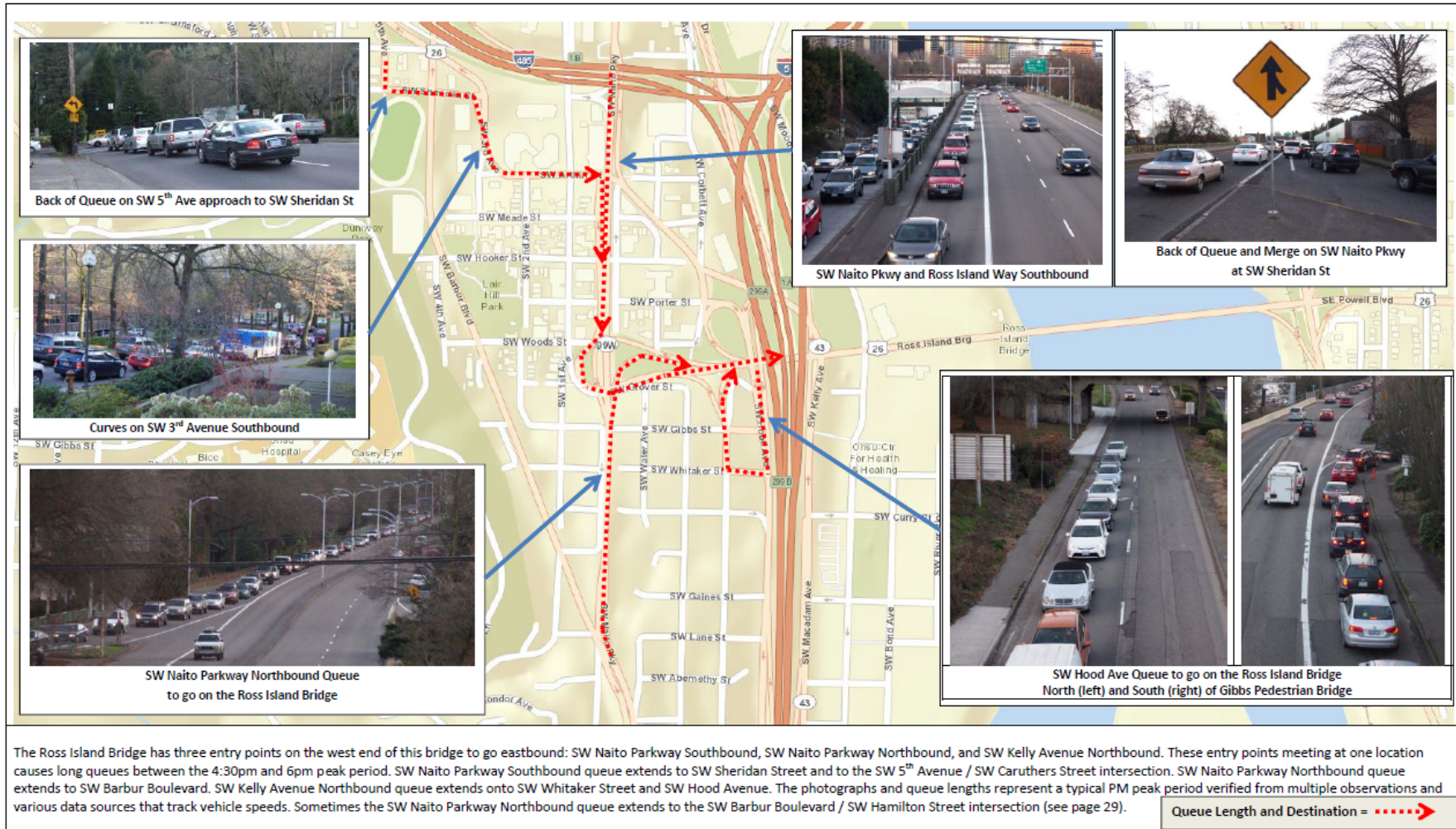


Existing pedestrian overcrossing at Hooker St.



Existing pedestrian undercrossing at Grover St.

SE Powell Boulevard (continue) – West End of Ross Island Bridge during the PM Peak Period



Daily peak-hour queues of vehicles wait on Naito and wind through neighborhood streets. (Courtesy of ODOT.)

Goals of the Bridgehead Project

The Bridgehead Project is intended to accomplish a range of land use and transportation goals from both the City of Portland and the Oregon Department of Transportation (ODOT). Project goals include:

City of Portland (from the 2001 South Portland Circulation Study):

- Reunite the Lair Hill community by reconnecting the east-west street grid across Naito Parkway.
- Provide a sense of community by turning former rights-of-way currently used as bridge ramps and travel lanes into developable land for private investment in housing and commercial uses.
- Take non-local, regional traffic out of the heart of the Lair Hill Neighborhood by providing improved connections between the Ross Island Bridge, I-405, I-5, and Downtown.
- Respect the historic character of the Lair Hill neighborhood by encouraging development that is in keeping with the urban design motif of the neighborhood.
- Increase opportunities for multi-modal travel, including access to the Willamette River.

ODOT:

- Preserve and enhance highway to highway connections (Powell, Sunset Highway, Naito, I-405, I-5, and OR-43) for regional traffic movement through South Portland.
- Maintain and/or improve safety and operations.
- Avoid precluding future potential improvements to this area, including along I-405 and US-26.

The current designs of the Bridgehead Project are based on the outcomes of ODOT and the City of Portland's I-405 Design Workshop in 2010. During that effort, three different design concepts were examined. The technical group involved reached agreement to proceed with Concept C, the Westbound Enhanced Grid, in future plans. Based on analysis to date on this concept, the Bridgehead project would:

- Implement the recommendations of Portland City Council, 2001.
- Potentially reduce vehicle delay (subject of ongoing traffic analysis).
- Restore street grid, including at-grade pedestrian/bike crossings.
- Remove through traffic from local streets.
- Restore land to tax rolls and provide opportunities for redevelopment.

Naito Light Rail Alignment with Bridgehead Reconfiguration

One option for a Naito light rail alignment includes the Bridgehead Project. This option, known as 'Alternative A2-BH' in the Draft EIS, aims to achieve the goals of the Bridgehead project while accommodating light rail. The map on the right depicts the new and removed roadway segments associated with this option, as well as roadways converted to local access. For the full map of Alternative A2-BH, see the *Light Rail Project Alternatives for Environmental Review* document, available at www.swcorridorplan.org/light-rail-study.

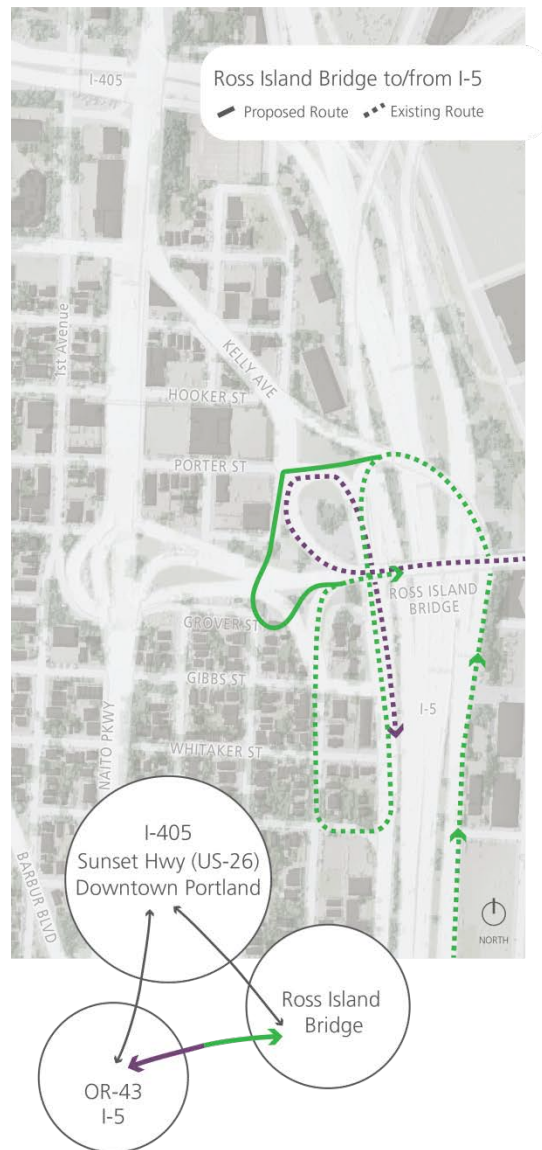
These designs are based on Concept C from ODOT and the City of Portland's I-405 Design Workshop in 2010, but have been refined somewhat as part of the Southwest Corridor Plan process to integrate the light rail line. The primary modifications proposed are:

- Redirect traffic from downtown Portland and I-405 (including eastbound US-26 traffic) along Kelly Avenue to a new ramp to the Ross Island Bridge, mirroring the route westbound US-26 traffic already uses, which would remove traffic from Naito Parkway. (See maps on the following page.)
- Convert Naito Parkway to a surface boulevard, including adding five new at-grade intersections with traffic signals or stop signs between Kelly Avenue and Barbur Boulevard, allowing crossings by vehicles and people walking or biking.
- Eliminate the use of neighborhood streets as ramps by creating more direct access from I-5 to a new ramp accessing the Ross Island Bridge. (See maps on the following page.)
- Convert the interchange at Barbur and Naito to a signalized surface intersection.
- Allow for the addition of light rail to Naito Parkway, including one station.
- Add bike facilities on Naito Parkway.
- Allow for redevelopment of about 2.8 acres of land by removing several highway ramps.

The maps on the following page highlight how through traffic circulation would differ from existing conditions with the Bridgehead Reconfiguration option. In addition, the maps in Appendix B isolate the individual paths of travel for through and local traffic under existing conditions and with the Bridgehead Reconfiguration.



Overview of Through Traffic Circulation: Existing Conditions and Changes with Bridgehead Reconfiguration



Naito Light Rail Alignment with Limited Access Roadway Configuration

The second option for the Naito light rail alignment would generally maintain the existing limited access roadway configuration of Naito while widening the roadway to accommodate light rail. This option, known as ‘Alternative A2-LA’ in the Draft EIS, was developed by ODOT in 2016. The map on the right depicts the new and removed roadway segments associated with this option, as well as ramps accessing the Ross Island Bridge that would be reconstructed to fit the increased roadway width. For the full map of Alternative A2-LA, see the *Light Rail Project Alternatives for Environmental Review* document, available at www.swcorridorplan.org/light-rail-study.

This configuration would retain the current limited-access facility and ramps along Naito Parkway, while adding one signalized intersection at Gibbs Street to facilitate access to a light rail station. The westbound-to-southbound ramp from the Ross Island Bridge to Naito Parkway would be widened to two lanes, and signalized at the intersection with Naito Parkway and Gibbs Street.

The goals for this concept include:

- Avoid significantly altering the roadway configuration.
- Retain highway configuration of Naito Parkway, Barbur Boulevard, and Ross Island Bridge.
- Allow crossing of Naito Parkway by vehicles and people walking and biking at Gibbs Street.
- Add bike facilities on Naito Parkway.
- Allow for the addition of light rail to Naito Parkway, including one station.

Auto access to and from the west end of the Ross Island Bridge would remain largely unchanged from existing conditions under this option.



Appendix A: South Portland History in Maps

The following maps from the 1978 South Portland Circulation Study illustrate how the neighborhood's transportation networks and land uses have changed over time.

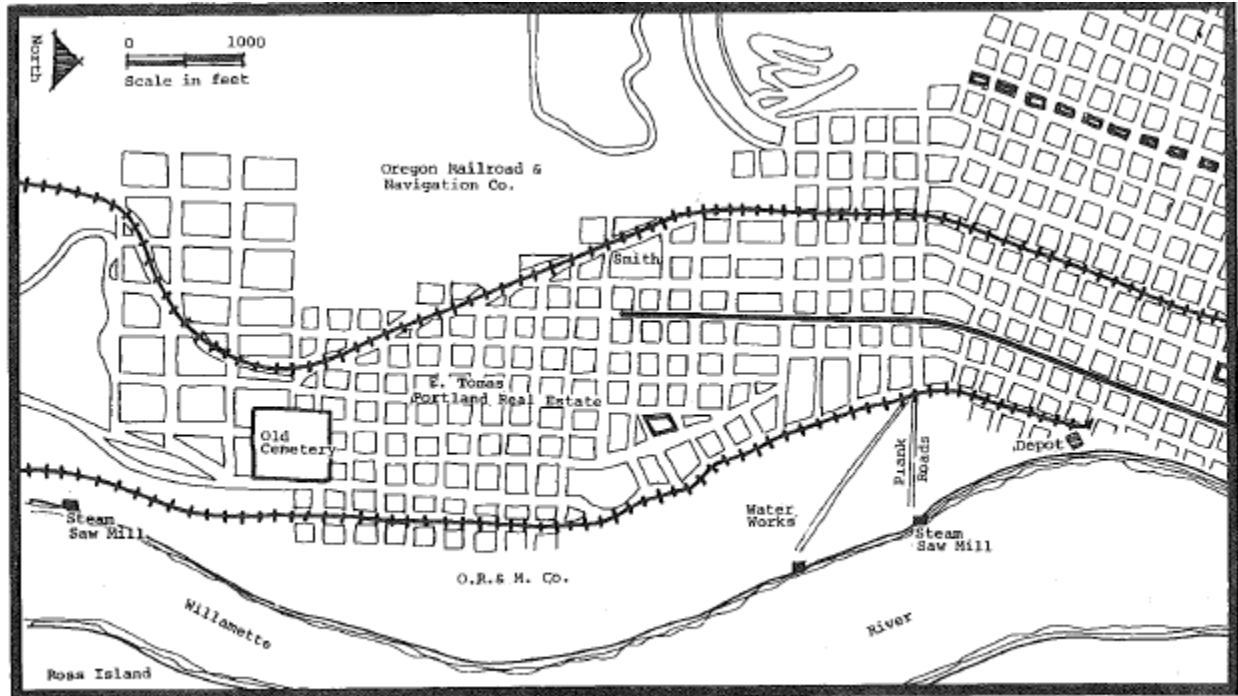


Figure 4; South Portland ca. 1886.

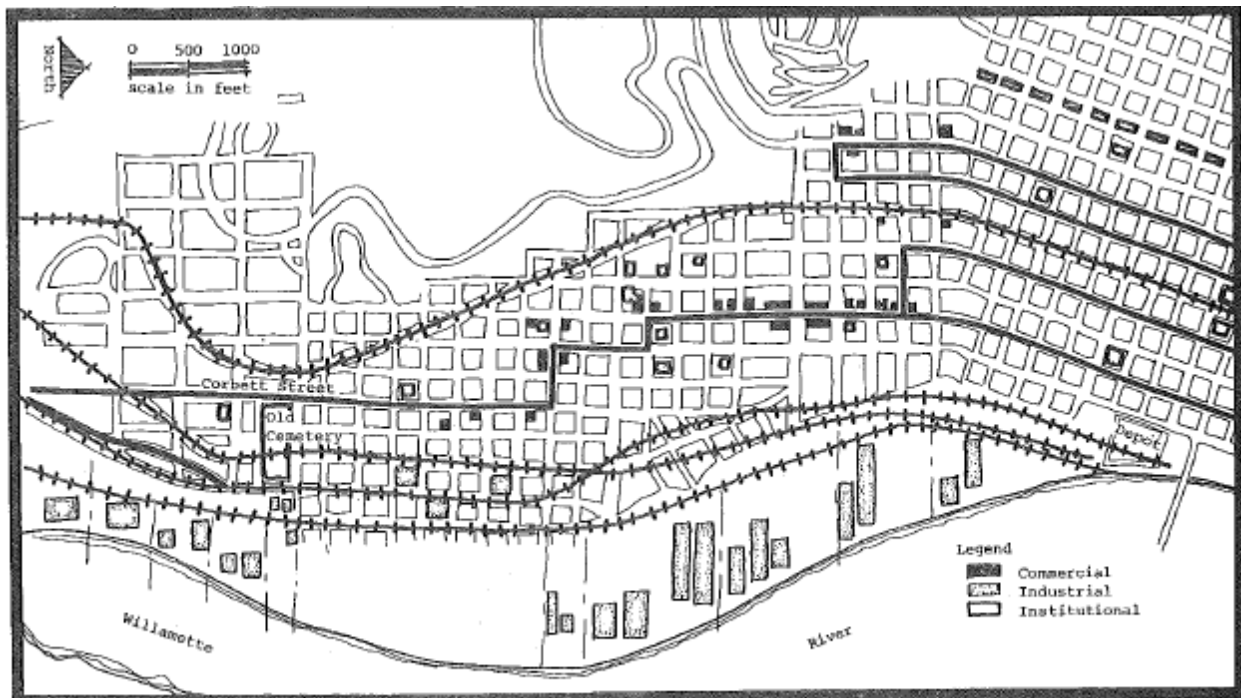


Figure 5; South Portland Land Use, ca. 1910-1923.

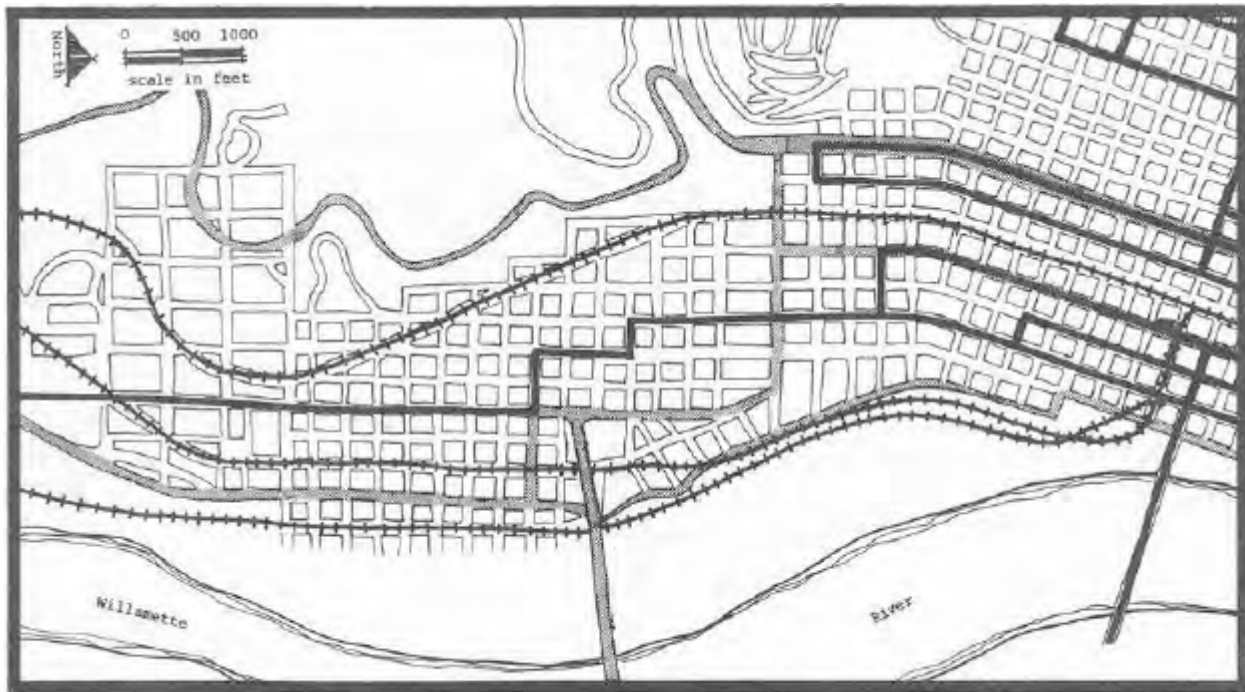


Figure 6; South Portland, ca. 1927.

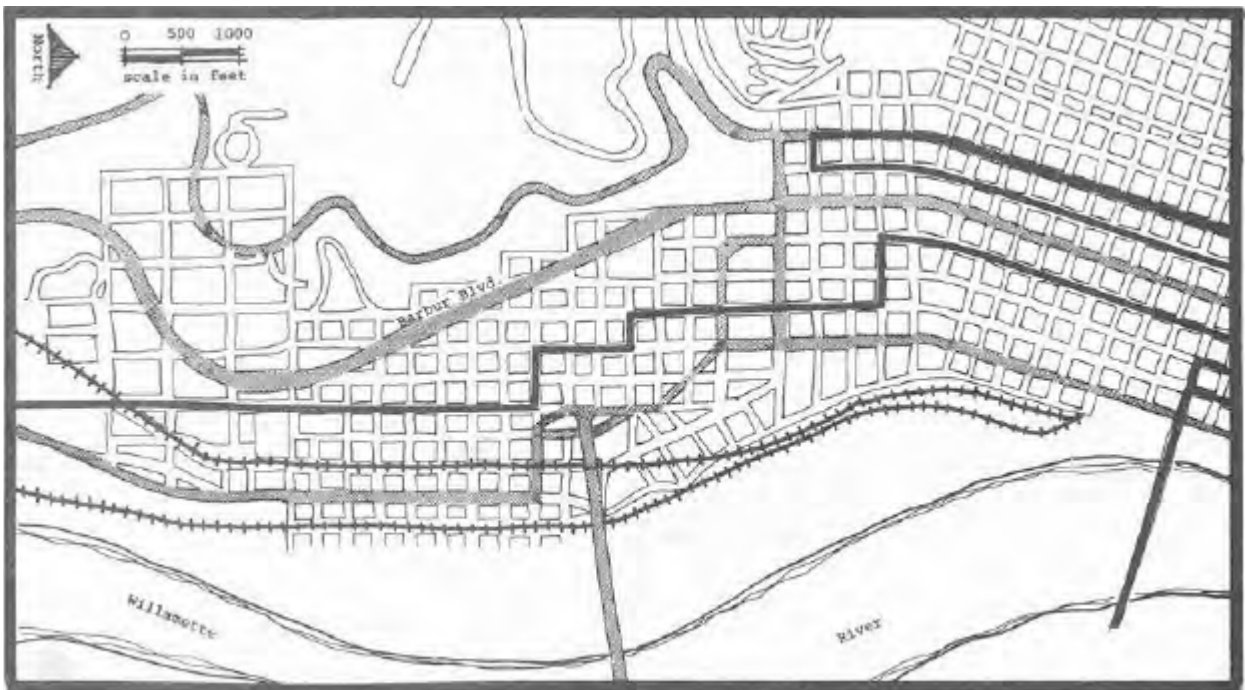


Figure 7; South Portland, ca. 1935

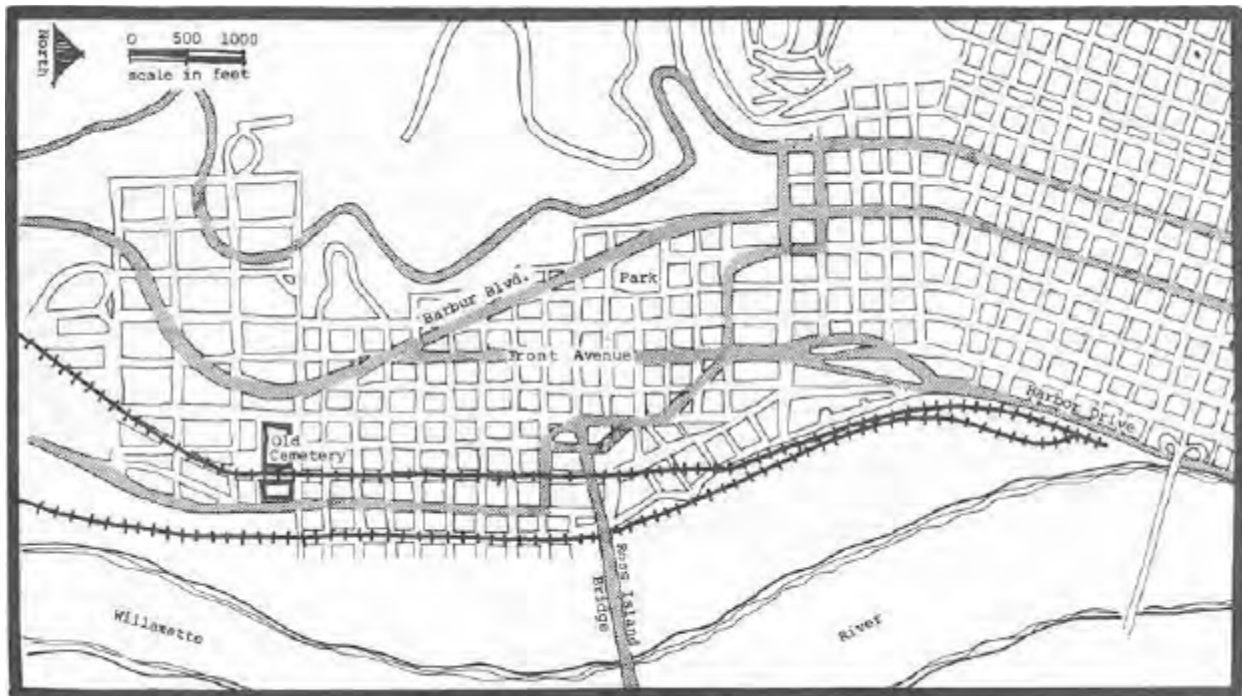


Figure 8; South Portland, ca. 1942.

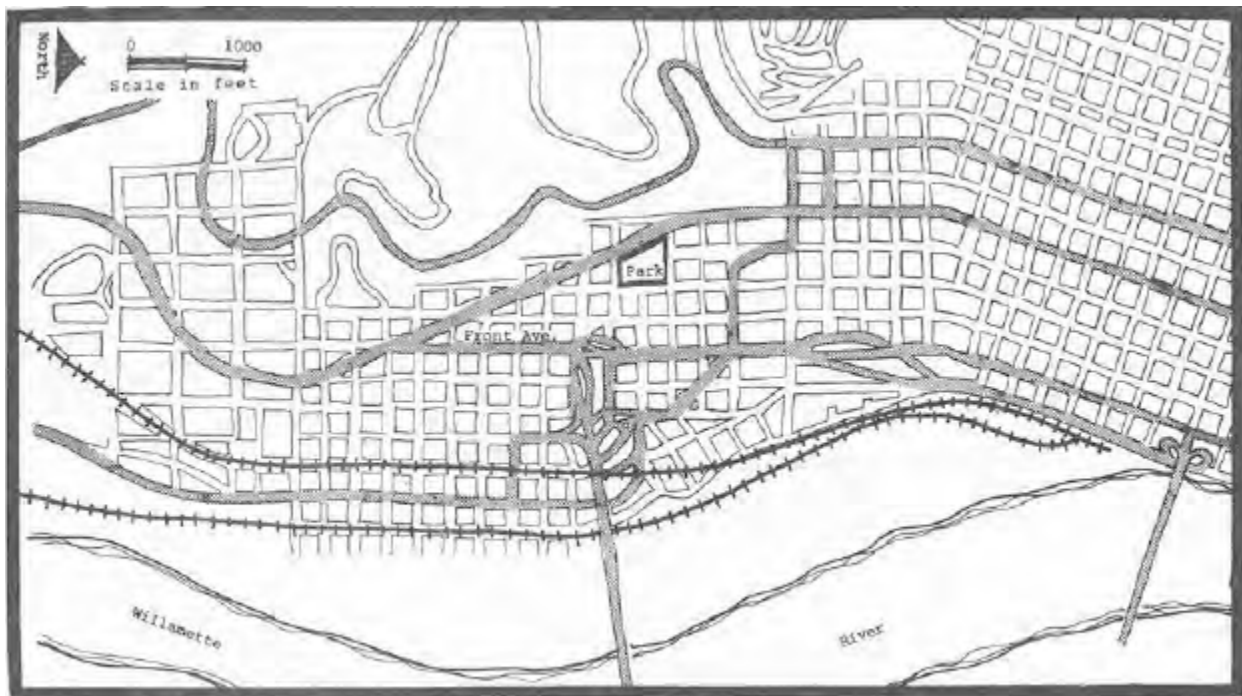


Figure 9; South Portland, ca. 1950.

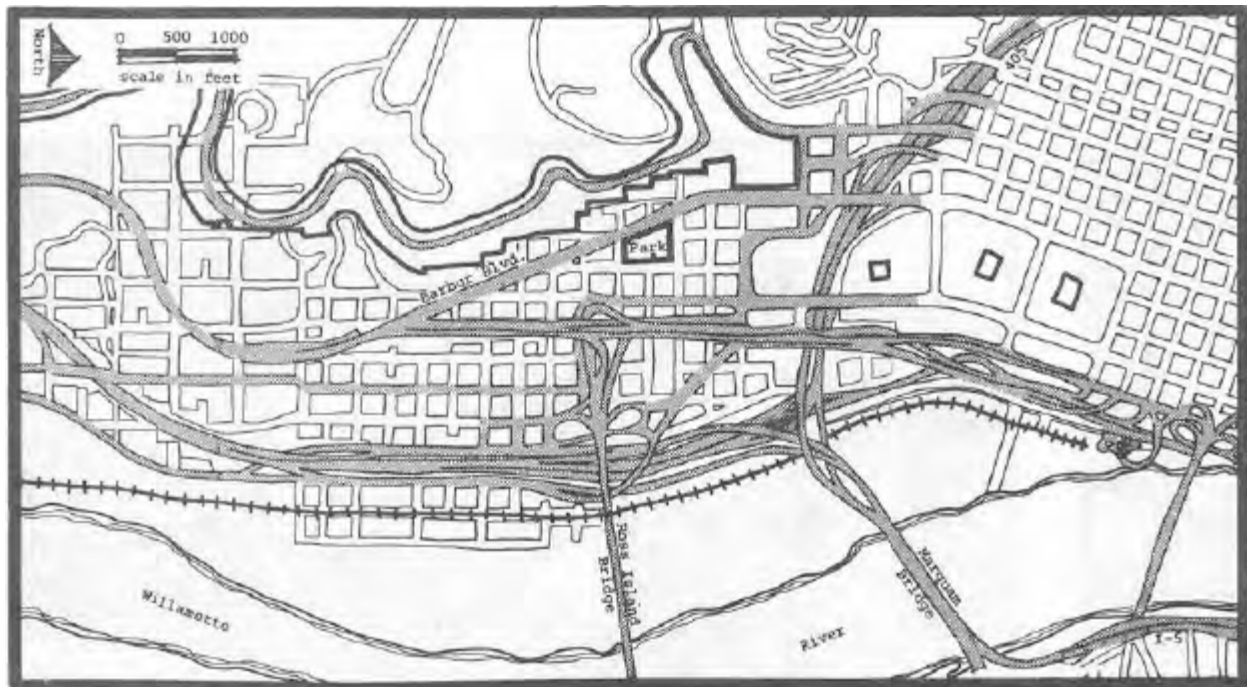


Figure 10; South Portland, ca. 1970.

Appendix B:

Auto Circulation for Naito Alignment with Bridgehead Reconfiguration

The following maps illustrate how auto traffic would circulate through the South Portland area with light rail on SW Naito Parkway including the Ross Island Bridgehead access reconfiguration.

