



Pacific Avenue || SR 7 Corridor

**HIGH CAPACITY TRANSIT**

FEASIBILITY STUDY

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# Environmental Critical Issues Report

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May 25, 2018

***DRAFT***

***Deliverable Task 9.1***

*Prepared for:*



*Prepared by:*



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**Acronyms and Abbreviations**

ADT	Average daily traffic
API	Application programming interface
APE	Area of Potential Effects
BAT	Business access and transit
BRT	Bus Rapid Transit
CE	Categorical exclusion
CT	Census tract
DAHP	Washington State Department of Archaeology and Historic Preservation
DCE	Documented categorical exclusion
EA	Environmental assessment
EIS	Environmental impact statement
FTA	Federal Transit Administration
GIS	Geographic Information System
GLO	General Land Office
HCT	High Capacity Transit
HRA	Historical Research Associates, Inc.
I-5	Interstate 5
LEP	Limited English proficiency
LPA	Locally preferred alternative
LRT	Light rail transit
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
PSRC	Puget Sound Regional Council
RCW	Revised Code of Washington
TSP	Traffic signal priority
USDOT	U.S. Department of Transportation
USGS	United States Geologic Survey
USSG	U.S. Surveyor General
v/c	Volume to capacity
WISAARD	Washington State Information System for Architecture and Archaeological Records Data
WSDOT	Washington State Department of Transportation
WSHR	Washington State Heritage Register

# 1 INTRODUCTION

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Pierce Transit, working in partnership with the City of Tacoma, Pierce County, Washington State Department of Transportation (WSDOT), Sound Transit, Puget Sound Regional Council (PSRC), and other agencies, is conducting a high capacity transit (HCT) study of an approximately 14-mile corridor along Pacific Avenue/SR 7 between downtown Tacoma and Spanaway (Figure 1). This corridor is currently served by the Route 1, which is Pierce Transit's highest fixed route ridership (nearly 20 percent) that carried almost 1.7 million passengers in 2016. Pierce Transit's *Destination 2040 Long Range Plan*, Sound Transit's *ST3 Plan*, and PSRC's *Transportation 2040 Long Range Plan* all identify this corridor for potential HCT service.

Currently, it is assumed that future transit improvements in the corridor will be, at least in part, federally funded by the Federal Transit Administration (FTA). Federal funding will require compliance with the FTA's policies and procedures for implementing the National Environmental Policy Act of 1969 as amended (NEPA) (23 CFR part 771). This Environmental Critical Issues Report evaluates the project's conceptual alternatives in regards to a select set of environmental resources that may be affected or have specific regulatory protection. The purpose of this report is to:

- Support the alternatives analysis process and selection of the Locally Preferred Alternative (LPA)
- Assist the FTA's determination of the project's NEPA class of action and inform the work that would be required to complete the NEPA process
- Support the project's future NEPA documentation

## 1.1 PURPOSE AND NEED

The purpose and need statement is a critical element of the study as it documents what Pierce Transit intends to accomplish with the project (purpose) and the problems affecting the current service that the project would address (need). In addition to the purpose and need statement 12 goals and 48 evaluation measures, linked to the project purpose, were developed to evaluate specific alternatives.

The purpose of the Pacific Avenue/SR 7 HCT project is to establish a north/south HCT link in the heart of Pierce County and serving Pierce Transit's busiest transit corridor. The project will:

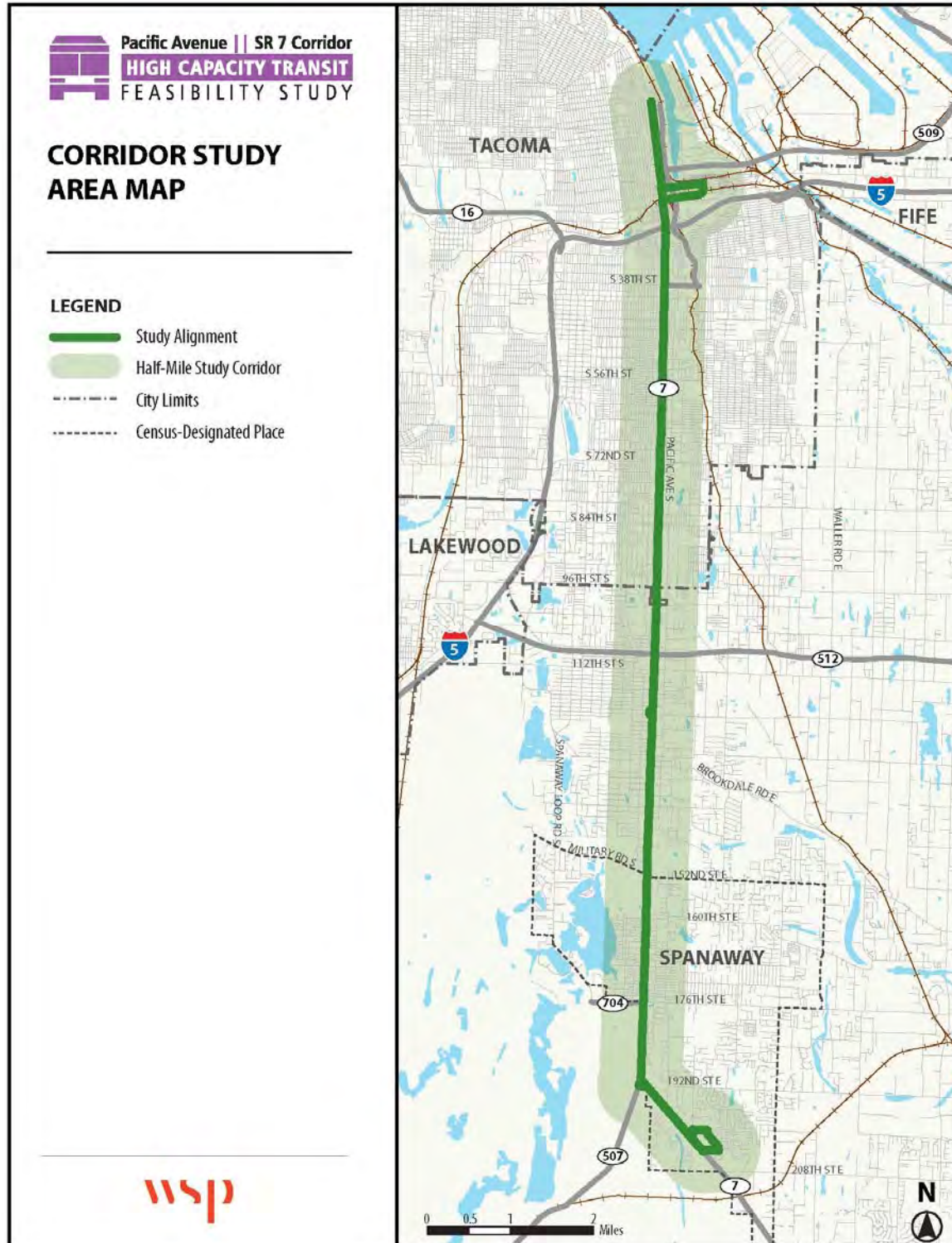
- Increase transit ridership through enhanced transit service
- Deliver cost-effective service that provides capacity to meet future demand
- Promote transportation equity in the corridor by ensuring that transit service is accessible to all populations
- Improve multi-modal access and connectivity
- Support a regional vision for the community as documented in land use and transportation plans
- Enhance safety and security for transit patrons and public health overall

The need for the project results from:

- High transit demand
- Decreasing transit travel speeds
- Poor service reliability
- High corridor population and population density
- Increased employment
- Transit dependency
- Safety concerns
- Growing transit communities' designation
- Corridor development potential

- Support existing economic activity and be a catalyst for sustainable economic growth and corridor redevelopment
- Promote environmental stewardship and sustainability

**Figure 1. Corridor Study Area Map**



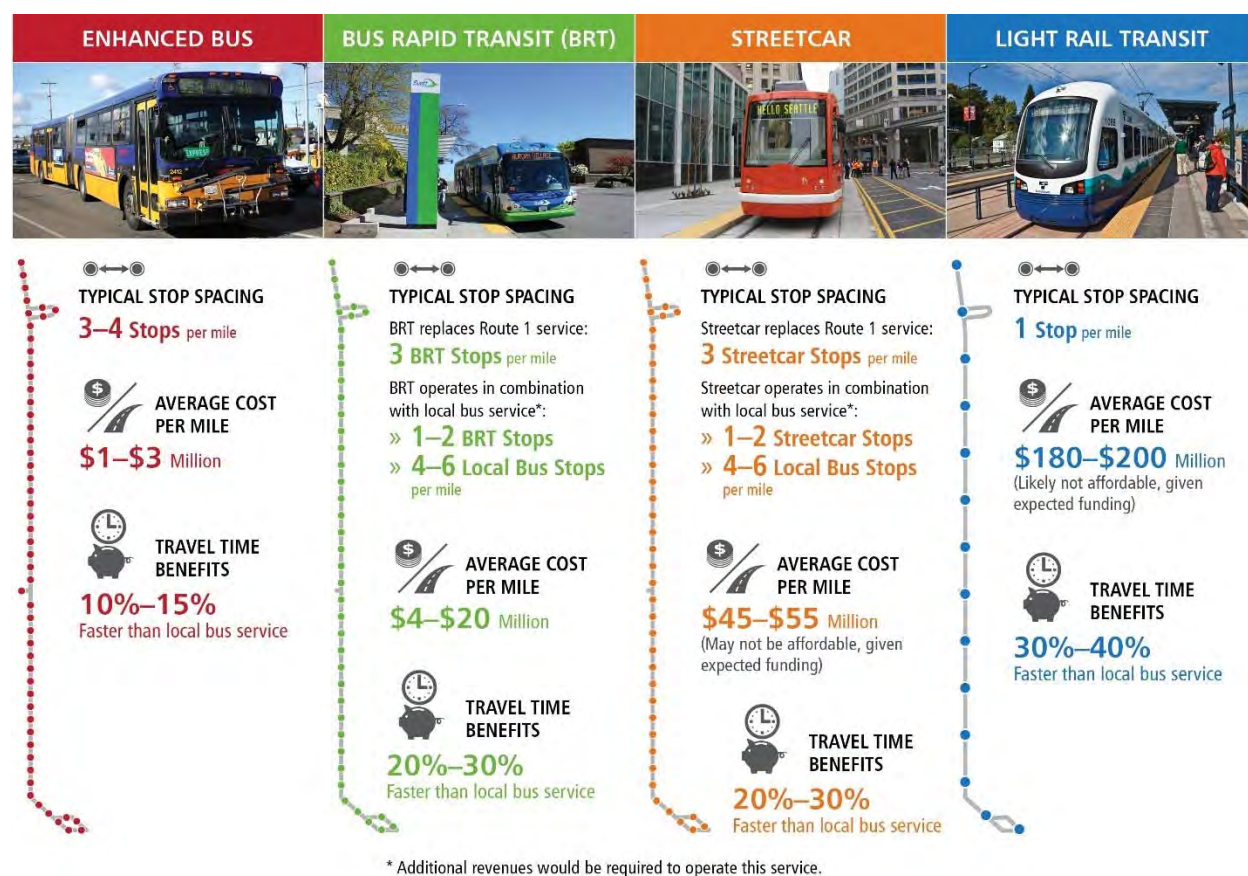


## 2 ALTERNATIVES ANALYSIS

### 2.1 HCT MODE EVALUATION

The study's alternatives analysis process began with an evaluation of HCT modes; including enhanced bus service, bus rapid transit (BRT), streetcar and light rail transit (LRT). Photographs of these HCT modes are shown in Figure 2. Each HCT mode was evaluated for how well it advances the project's goals from the purpose and need statement. After Pierce Transit and partners analyzed the HCT mode options, and obtained public input at several open house meetings held in September 2017, BRT was determined to be the HCT mode that best meet the project's purpose and need.

**Figure 2. HCT Modes Evaluated**



BRT was selected as the HCT mode that best serves the current and expected level of ridership, meets the existing land use and population distribution, and improves transit speeds, reliability and future investment along the corridor. BRT provides many of the features of LRT, but for a much lower capital construction cost, and it has greater flexibility to work within existing constraints and reduce impacts. Enhanced BRT stations would improve the passenger's transit experience in the corridor and reduce transit vehicle dwell time at stations. Compared to the existing service, transit speed and reliability would also be improved by increased station spacing and optimizing the traffic signals in the corridor. Additionally, while station spacing would increase from the existing Route 1 service, BRT's access profile still fits the context of the existing land use and population distribution.

## 2.2 FIRST SCREENING - BRT DESIGN CONFIGURATIONS

The next step in the study's alternatives analysis process was to evaluate different BRT design configurations. The current operation option and five (5) different design configurations were evaluated. The five design configurations, shown in Figure 3, included options where the bus would operate in a mixed traffic lane and in a more exclusive lane and whether the bus would travel in the right lane, near the curb, or within the center/median of the roadway.

As with the mode evaluation, the design configuration options were evaluated for how well they advanced the project's goals from the purpose and need statement. After analyzing the design configuration options, and obtaining public input at open house meetings held in November 2017, two primary options were carried forward: 1) a side-running option where the bus would operate in a mix of business access and transit (BAT) lanes and mixed traffic and 2) a center-running option where the bus would operate in a mix of exclusive lanes and mixed traffic.

**Figure 3. BRT Design Configurations Evaluated**



Mixed Traffic: Right Lane



Mixed Traffic: Left Lane



Business Access Transit (BAT) Lane



Median Lane: Right Side Boarding



Median Lane: Left Side Boarding

## 2.3 SECOND SCREENING – CONCEPTUAL ALTERNATIVES

The recommended design configurations were advanced and refined into two (2) conceptual alternatives for the whole corridor, including a more precise layout of the roadway configurations and station placement. These conceptual alternatives were identified as the Curbside Alternative and the Median Alternative. This Environmental Critical Issues Report evaluates these two conceptual alternatives as part of the study's alternatives second screening step. The conceptual alternatives are shown and described below in Section 3.

## 3 DESCRIPTION OF CONCEPTUAL ALTERNATIVES

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Two conceptual alternatives have been developed for the study corridor. These alternatives are generally described and shown below. More detailed figures of the two conceptual alternatives are included in Appendix A.

### 3.1 CURBSIDE ALTERNATIVE

The Curbside Alternative includes BRT vehicles in mixed traffic in less congested parts of the corridor and BAT lanes in congested segments, such as the SR 512 interchange area and other congested intersections. For all segments, the Curbside Alternative features enhanced curbside stations with unique brand identity, off-board fare collection, low-floor buses, traffic signal priority (TSP) for BRT vehicles, and no change to the existing center two-way left turn lane. The Curbside Alternative is schematically shown in Figure 4.

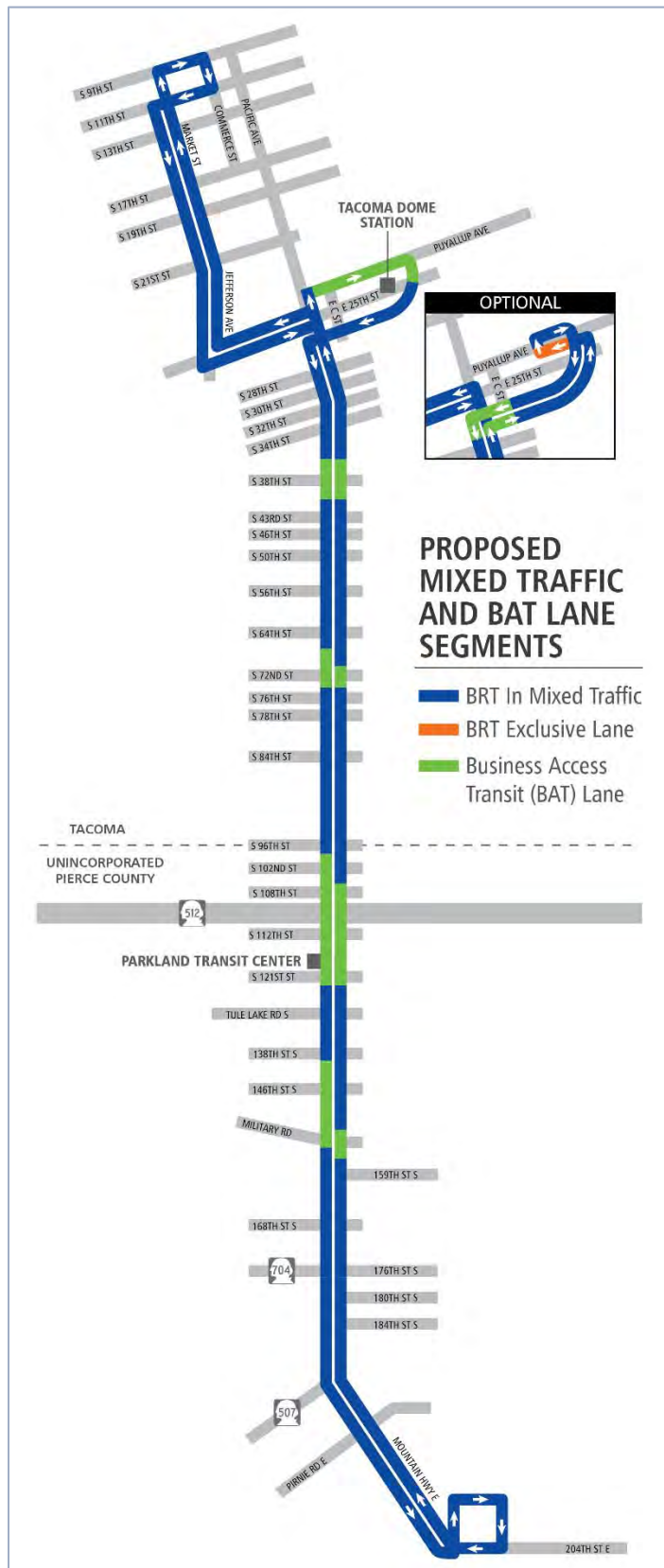
The segments where the BRT vehicle travels in mixed traffic are strategically located in areas that generally do not require significant transit priority treatments to maintain transit speed and reliability. Additionally, these sections would not require changes to the existing roadway. This would reduce the time and cost needed for construction and minimize impacts to property. However, the mixed-traffic segments would do less to spur economic development<sup>1</sup>, since development responds best to the creation of transit infrastructure that establishes greater “permanence” of the transit service.

The BAT lane segments would improve bus travel time and reliability and would add a buffer between pedestrians and bicyclists and vehicle traffic, except for slower-moving right-turning vehicles. The BAT lanes would not limit mid-block left turn access as there would be no change to the existing center left turn lane.

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<sup>1</sup> Cervero, Robert. “BRT TOD: Leveraging transit oriented development with bus rapid transit investments.” Transport Policy, Volume 36 (November 2014).



**Figure 4. Curbside Alternative**

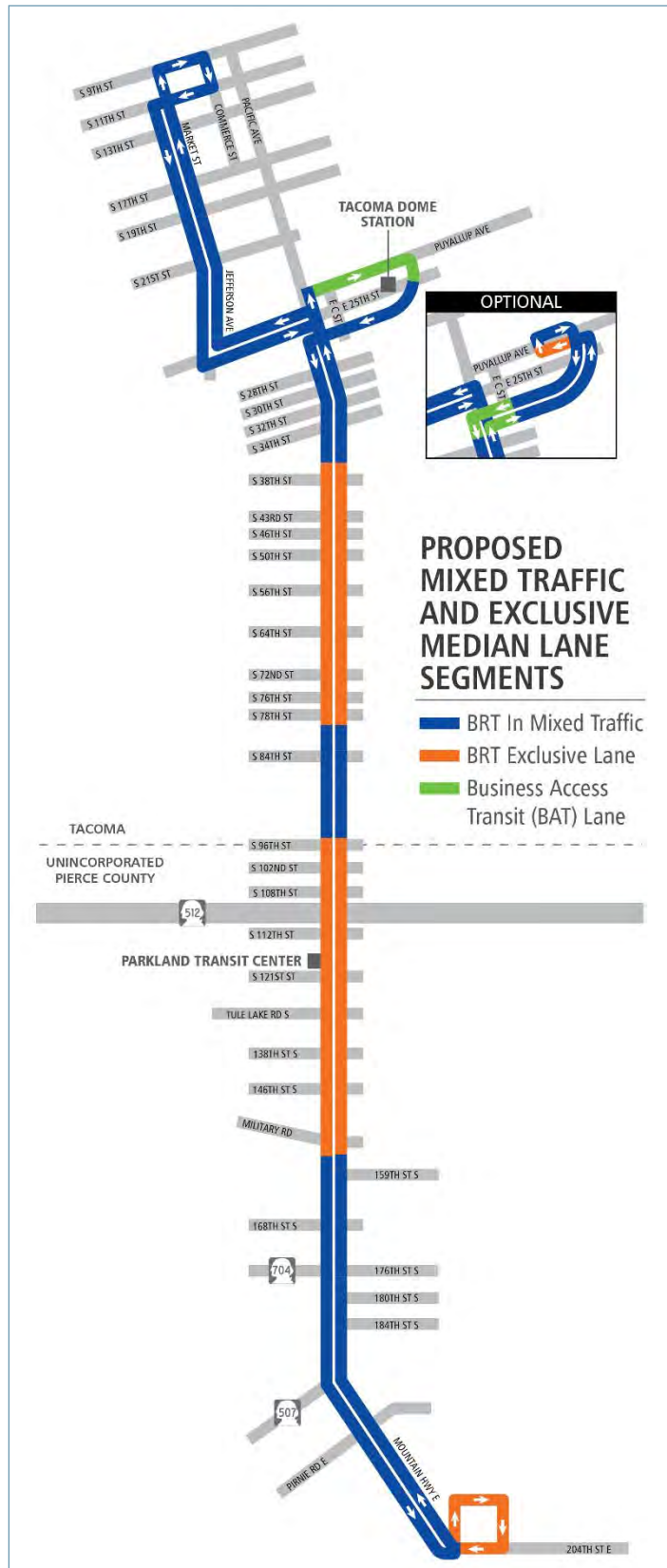


### 3.2 MEDIAN ALTERNATIVE

The Median Alternative includes BRT in median center lanes with mixed traffic in less congested parts of the corridor and in exclusive transit lanes in congested segments, such as the SR 512 interchange area and other congested intersections. Except for the southern portion of the corridor (south of 176th Street) the Median Alternative features enhanced median stations with unique brand identity, off-board fare collection, low-floor buses, TSP for BRT vehicles, and changes to the existing center left turn lane. At the southern extent of the corridor, this alternative would transition to curbside mixed traffic running BRT. The Median Alternative is schematically shown in Figure 5.

The segments where the BRT vehicles travel in mixed traffic would not require changes to the existing roadway. This would reduce the time and cost needed for construction and minimize impacts to property. However, the mixed-traffic segments would do little to spur economic development.

The segments where the BRT vehicles would travel in dedicated BRT lanes would have the highest benefit to travel. The Median Alternative would have more than twice the dedicated transit lanes of the Curbside Alternative for a similar cost. The permanence and branding of the new stations and roadway treatments would promote economic development, particularly transit-oriented development and Smart Growth, which is consistent with the region's plans for improved transportation and mixed use infill development.

**Figure 5. Median Alternative**

## 4 ASSESSMENT OF ENVIRONMENTAL CRITICAL ISSUES

This section provides an assessment of the environmental resources that were identified as a critical issue for the corridor. Potential critical issues identified within the study corridor and discussed in this report are:

- Property and access impacts (including identifying impacts to Section 4(f) properties)
- Traffic
- Environmental justice and Title VI
- Historic and cultural resources

### 4.1 COMPARISON OF PRELIMINARY IMPACTS

Table 1 provides a summary and comparison of the conceptual alternatives' potential impacts and benefits for each environmental critical resource. The environmental resources are discussed in more detail in Sections 4.2 through 4.5.

**Table 1. Summary of the Conceptual Alternatives' Potential Impacts to Environmental Critical Issues**

Environmental Critical Issue		Curbside Alternative	Median Alternative
<b>Property and Access</b>	<i>Total parcels with acquisition</i>	74	187
	<i>Total square footage of property acquisitions</i>	55,683	118,293
	<i>Land use displacements</i>	0	0
	<i>Access modifications</i>	<ul style="list-style-type: none"> <li>• BAT lane segments would add a lane for transit and vehicles turning right into driveways or other roadways</li> <li>• New traffic signals proposed at 6 intersections</li> </ul>	<ul style="list-style-type: none"> <li>• Exclusive median lane segments would restrict 66 percent of the driveways in the corridor (397 driveways) to right-in/right-out only</li> <li>• 50 unsignalized roadway intersections would be restricted to right turn only</li> <li>• Signalized intersections would be modified to provide for left turns and U-turns</li> </ul>
	<i>On-street parking spaces removed</i>	72	72
<b>Traffic</b>	<i>Congestion – Both alternatives</i>	<ul style="list-style-type: none"> <li>• Increased transit ridership on BRT could reduce congestion</li> <li>• Reduced number of BRT stations and improved passenger loading and unloading of BRT vehicles would reduce delays and congestion from buses stopping</li> <li>• Traffic signal coordination would be optimized throughout the corridor</li> <li>• No change to the existing number of general purpose traffic lanes</li> </ul>	

Environmental Critical Issue		Curbside Alternative	Median Alternative
	<i>Congestion – Exclusive lane treatments</i>	<ul style="list-style-type: none"> <li>BAT lane segments would separate BRT vehicles and right-turning vehicles, reducing congestion and delays to through traffic</li> </ul>	<ul style="list-style-type: none"> <li>Exclusive median lanes would prohibit mid-block left turns and left turns at unsignalized intersections. Travel distance would increase to make a U-turn at the nearest signalized intersection. Travel time may not be affected due to existing corridor congestion that requires waiting for gaps in traffic.</li> <li>Reduced traffic collisions from left turning vehicles would reduce congestion associated with accidents</li> </ul>
	<i>Safety</i>	<ul style="list-style-type: none"> <li>Potential reduction in rear-end crashes in BAT lane segments from separating right-turning vehicles</li> <li>BAT lane would serve as a buffer to pedestrians and bicyclists from higher traffic volumes in general purpose lanes</li> </ul>	<ul style="list-style-type: none"> <li>Eliminating mid-block left turns and left turns at unsignalized intersections reduces: <ul style="list-style-type: none"> <li>Left turn and right angle crashes from</li> <li>Conflict points with pedestrians and bicyclists</li> </ul> </li> </ul>
<b>Environmental Justice and Title VI</b>	<i>Transit service changes</i>	<ul style="list-style-type: none"> <li>Improved transit travel times, transit reliability and improved station amenities would benefit all riders, including environmental justice populations</li> <li>Pedestrian and bicycle access to proposed BRT stations would improve safety of non-motorized travel in the corridor</li> <li>Route 1 bus stops would be consolidated from 65 pairs to 32 BRT stations. The minor increases in walk times from a removed bus stop to the nearest BRT station would be offset by faster transit travel times for a net travel time reduction.</li> </ul>	
	<i>Property acquisitions</i>	No residential or business displacements. Minor acquisition of land on 1 parcel with a use that serves environmental justice populations; the use is not modified.	No residential or business displacements. Minor acquisition of land on 3 parcels with uses that serve environmental justice populations; the uses are not modified.
	<i>Preliminary determination of Environmental Justice impacts</i>	Not anticipated to have disproportionately high and adverse effects on minority or low-income populations.	
<b>Historic and Cultural Resources</b>	<i>Historic Districts</i>	The 9 <sup>th</sup> Street station is within the boundary of the Old City Hall Historic District and adjacent to a contributing structure at 901-909 Broadway	

Environmental Critical Issue		Curbside Alternative	Median Alternative
	<i>Parcels with architectural resources aged 45 years</i>	94	95
	<i>Stations adjacent to properties listed in, eligible for, or eligibility undetermined for, the National Register of Historic Places</i>	3	4
	<i>Archaeological Resources</i>	8 station areas with moderate to high likelihood of encountering archaeological resources	7 station areas with moderate to high likelihood of encountering archaeological resources

## 4.2 PROPERTY AND ACCESS

The design of the Curbside and Median Alternatives is primarily within the existing public road right-of-way for Pacific Avenue/SR 7. This section discusses the alternatives' potential to impact privately-owned properties along the corridor by right-of-way acquisitions, changes to property access and access changes to roadways that intersect the project corridor.

### 4.2.1 Applicable Regulations

NEPA requires that all actions sponsored, funded, permitted or approved by federal agencies be reviewed to ensure that environmental effects, including effects to property and access, are considered in the planning and decision making process. The FTA's Environmental Impact and Related Procedures (23 CFR 771) defines the agencies' policies and processes for complying with NEPA.

Section 4(f) of the Department of Transportation Act of 1966, 49 USC 303, provides protection for publicly owned park and recreation lands, wildlife and waterfowl refuges, and historic sites of national, state or local significance. The Secretary of Transportation has the authority to approve a transportation program or project requiring the use of these publicly owned lands only if:

- There is no prudent or feasible alternative;
- The program or project includes all possible planning to minimize harm to the property resulting from use, or
- It is determined that the use of the property would not affect the features, activities, attributes that qualify the property for Section 4(f) protection and the use is determined to be *de minimis*.

### 4.2.2 Methods

Potential property impacts were evaluated using Geographic Information Systems (GIS) by overlaying the conceptual plans for the proposed Curbside and Median Alternatives (including station locations, roadway design configurations, and identified right-of-way) with an aerial background of the study area, as well as georeferenced parcel data from Pierce County's *PublicGIS* database. This evaluation determined where the alternative concept designs extended beyond the existing right-of-way and parcel boundaries. For each property impacted GIS analysis tools were used to estimate the area of impact and the acquisition type; either partial or full. The property impact was calculated as a square foot area and as a percentage of the total area of each parcel.

In addition to the parcel impact, an analysis of existing parking was done along the corridor by overlaying the conceptual plans with the aerial background to identify areas of on-street parking that would potentially be impacted.

Similarly, the Curbside and Median Alternatives were evaluated for their potential to eliminate or restrict driveway access to properties. Access restrictions to intersecting roadways were also evaluated. The conceptual designs were used to determine the number and type of access restrictions along the corridor.

#### **4.2.3 Existing Conditions**

The following provides a summary of the existing land use of properties within the corridor and of the existing roadway characteristics. The existing conditions of the corridor's study area are discussed in greater detail in the *Existing and Future Conditions Report* (June 2017).

##### ***LAND USE***

The study area is an urbanized corridor that includes the City of Tacoma (Downtown Tacoma and South Tacoma) and unincorporated Pierce County (Parkland-Spanaway-Midland).

Properties within the corridor are comprised primarily of commercial, institutional and residential land uses. Downtown Tacoma is heavily developed with commercial use with some vacant and underutilized parcels. Property in the Parkland-Spanaway-Midland areas of unincorporated Pierce County is primarily comprised of residential land uses with a mixed use of residential and commercial at nodes along Pacific Avenue that are zoned as future "centers," which would support denser commercial development. Institutional and government land use, which primarily includes Joint Base Lewis-McChord and public recreation lands, is also located within the unincorporated area.

##### ***CORRIDOR ROADWAY CHARACTERISTICS***

Most of the corridor's study area is on Pacific Avenue/SR 7. SR 7 is a Washington State operated and maintained highway. The City of Tacoma and Pierce County are responsible for maintenance of the sidewalk within their respective jurisdictions.

Current access to properties within the corridor is provided by direct driveway access, a median turn lane that provides access for midblock left turns and merging, as well as signalized and unsignalized intersections that allow for through traffic movements and right and left turns. There are very few bike lanes present along the corridor; less than one mile within the downtown Tacoma area and approximately 6 miles south of S 122th Street.

There is existing on-street parking within downtown Tacoma along Pacific Avenue, Puyallup Avenue, and the E G Street and E 26<sup>th</sup> Street segments. There is very little on-street parking along the remainder of the Pacific Avenue/SR7 corridor.

Table 2 below identifies the existing roadway characteristics of the corridor study area, including length, travel lanes, bikes lanes, and parking. Table 3 shows the estimated existing right-of-way widths along the corridor.

**Table 2. Study Area Roadway Characteristics**

Study Corridor Roadway	From	To	Length (miles)	Number of Travel Lanes	Bike Lanes Present	On-Street Parking
Pacific Ave	S 9 <sup>th</sup> St	S 11 <sup>th</sup> St	0.15	2 NB, 2 SB, L Turn at Intersections	Y, sharrows*	Y, Parallel
Pacific Ave	S 11 <sup>th</sup> St	S 17 <sup>th</sup> St	0.43	2 NB, 2 SB, L Turn at some Intersections	Y, sharrows	Y, Parallel
Pacific Ave	S 17 <sup>th</sup> St	S 21 <sup>st</sup> St	0.29	1 NB, 1 SB, L Turn Lane, Transit in Median	N	Y, Parallel and Angle
Pacific Ave	S 21 <sup>st</sup> St	S 24 <sup>th</sup> St	0.22	2 NB, 2 SB, Transit in Median	N	N
Puyallup Ave	SR 7	E G St	0.51	2 EB, 2 WB, Median Turn Lane	N	Y, Parallel
E G St /E 26 <sup>th</sup> St	Puyallup Ave	SR 7	0.61	1 EB, 1 WB	N	Y, parallel
Pacific Ave	S 24 <sup>th</sup> St	S 25 <sup>th</sup> St	0.07	2 NB, 2 SB, Transit in Median	N	Y, parallel on west side
Pacific Ave	S 25 <sup>th</sup> St	S 27 <sup>th</sup> St	0.14	2 NB, 2 SB, L Turn at some Intersections	N	N
Pacific Ave	S 27 <sup>th</sup> St	S 32 <sup>nd</sup> St	0.48	2 NB, 2 SB, L Turn at some Intersections	N	N
Pacific Ave	S 32 <sup>nd</sup> St	S 38 <sup>th</sup> St	0.63	2 NB, 2 SB, Median Turn Lane	N	N
Pacific Hwy/SR 7	S 38 <sup>th</sup> St	S 40 <sup>th</sup> St	0.15	2 NB, 2 SB, Median Turn Lane	N	N
Pacific Hwy/SR 7	S 40 <sup>th</sup> St	S 46 <sup>th</sup> St	0.39	2 NB, 2 SB, L Turn at some Intersections	N	N
Pacific Hwy/SR 7	S 46 <sup>th</sup> St	S 55 <sup>th</sup> St	0.55	2 NB, 2 SB, Median Turn Lane	N	N
Pacific Hwy/SR 7	S 55 <sup>th</sup> St	S 57 <sup>th</sup> St	0.13	2 NB, 2 SB, Median Turn Lane		Y, parallel on west side
Pacific Hwy/SR 7	S 57 <sup>th</sup> St	S 63 <sup>rd</sup> St	0.35	2 NB, 2 SB, Median Turn Lane	N	N
Pacific Hwy/SR 7	S 63 <sup>rd</sup> St	S 65 <sup>th</sup> St	0.18	2 NB, 2 SB, Median Turn Lane	N	Y, parallel at S 64th St intersection
Pacific Hwy/SR 7	S 65 <sup>th</sup> St	S 82 <sup>nd</sup> St	1.04	2 NB, 2 SB, Median Turn Lane	N	N
Pacific Hwy/SR 7	S 82 <sup>nd</sup> St	S 84 <sup>th</sup> St	0.12	2 NB, 2 SB, Median Turn Lane	N	Y, parallel on west side
Pacific Hwy/SR 7	S 84 <sup>th</sup> St	S 112 <sup>th</sup> St	1.77	2 NB, 2 SB, Median Turn Lane	N	N
Pacific Hwy/SR 7	S 112 <sup>th</sup> St	204 <sup>th</sup> St E	6.10	2 NB, 2 SB, Median Turn Lane, L Turn at some Intersections	Y, striped	N
8 <sup>th</sup> Ave E	SR 7	200 <sup>th</sup> St E	0.10	1NB, 1 SB	Y, striped	N
200 <sup>th</sup> St E	8 <sup>th</sup> Ave E	Hidden Village Dr E	0.18	1 EB, 1 WB	N	N
Hidden Village Dr E	200 <sup>th</sup> St E	204 <sup>th</sup> St	0.30	1 NB, 1 SB, Median Turn Lane	N	N
204 <sup>th</sup> St	Hidden Village Dr E	SR 7	0.19	1 EB, 1 WB	N	N

Source: Googlemaps.

WB = westbound, EB = eastbound, NB = northbound, SB = southbound

\*Also known as Shared Lane Markings (SLM). Road markings used to indicate a shared lane environment for bicycles and automobiles. (Definition provided by National Association of City Transportation Officials (NACTO). Urban Bikeway Design Guide. <http://nacto.org/publication/urban-bikeway-design-guide/bikeway-signing-marking/shared-lane-markings/>.)

**Table 3. Existing Right-of-Way Widths**

Corridor Segment	Streets	Approximate Right-of-Way Width (Range in feet)
Downtown Tacoma	Pacific Avenue/Market Street	80 – 130
Tacoma Dome	Puyallup, E 26 <sup>th</sup> Street	80 – 100
South Tacoma	Pacific Avenue	80 – 100
Unincorporated Pierce County	Pacific Avenue	80 – 100
Unincorporated Pierce County (Spanaway)	Pacific Avenue/Mountain Hwy E/ 204 <sup>th</sup> Street E	65 - 120

Source: Pierce County, PublicGIS, Right of Way

#### 4.2.4 Preliminary Impact Evaluation

##### PROPERTY

Table 4 shows the total potential number of parcels that would require some amount of property to be acquired for additional right-of-way for the Curbside or Median Alternatives. Table 4 also shows the total square footage of property that would need to be acquired, the existing land use on the parcel, the percentage of the parcel to be acquired, and the total number of partial and full parcel acquisitions. Full acquisition involves the purchase of the entire parcel and a partial acquisition involves the purchase of a portion of the parcel. A displacement would occur when a full acquisition is required for a project or when the partial acquisition impacts the continued economic viability or use of the existing property. Figure 6 through Figure 22 shows the parcels potentially impacted for both the Curbside and Median Alternatives. A table of all potential parcel impacts for both alternatives, including parcel number and total area affected for each parcel, is included in Appendix B.

**Table 4. Summary of Potential Property Acquisitions**

Potential Property Impacts	Curbside Alternative		Median Alternative	
	Count	Percent	Count	Percent
Total Parcels with Acquisition	74		187	
Total Square Footage of Property Acquisitions	55,683		118,293	
<i>Number of Parcels by Land Use</i>				
Commercial	65	88%	154	82%
Residential	4	5%	25	13%
Other (Unknown, recreation, institution)	5	7%	10	5%
<i>Percent of parcel area to be acquired</i>				
Less than 2 percent	60	81%	141	75%
Between 2 and 5 percent	10	14%	29	16%
Between 5 and 15 percent	3	4%	12	6%
Between 5 and 30 percent	0	0%	4	2%
Greater than 30 percent	1	1%	1	1%
<b>Full Parcel Acquisition</b>	<b>1</b>		<b>1</b>	
<b>Partial Parcel Acquisition</b>	<b>73</b>		<b>186</b>	

Source: WSP, 2018



**Curbside Alternative**

The Curbside Alternative includes the construction of additional BAT lanes that would require widening the existing roadway and curbside stations that would require widening the existing sidewalk for the station platform. In some locations, this widening would require acquiring additional right-of-way width from adjacent properties. The Curbside Alternative would result in a total of approximately 56,000 square feet of property acquisitions, from a total of 74 parcels, along the entire length of the BRT alignment. As shown in Table 4, most of the properties with acquisitions are commercial uses (approximately 88 percent). Most of the property acquisitions would require less than 2 percent of the total property area.

The Curbside Alternative would require the full acquisition of one (1) parcel at the southern terminus of the alignment for the construction of the proposed transit layover area. This parcel is currently vacant, zoned for commercial use. Therefore, no displacements are anticipated for the Curbside Alternative.

The Curbside Alternative would require the acquisition of approximately 1,120 square feet from the Lake Spanaway Golf Course, at the southwest corner of the intersection of Military Road S. and Pacific Avenue/SR 7. The Lake Spanaway Golf Course is a Section 4(f) protected property because it is publicly owned recreation land. The area impacted includes a landscaped portion of the property outside of the fairway, near the roadway intersection, adjacent to the golf course signage. The potential area of acquisition would not impact the recreational use of the golf course and would likely be considered a *de minimis* use of a Section 4(f) property. During the project's NEPA process, the potential use of publicly owned land would be evaluated under Section 4(f).

**Median Alternative**

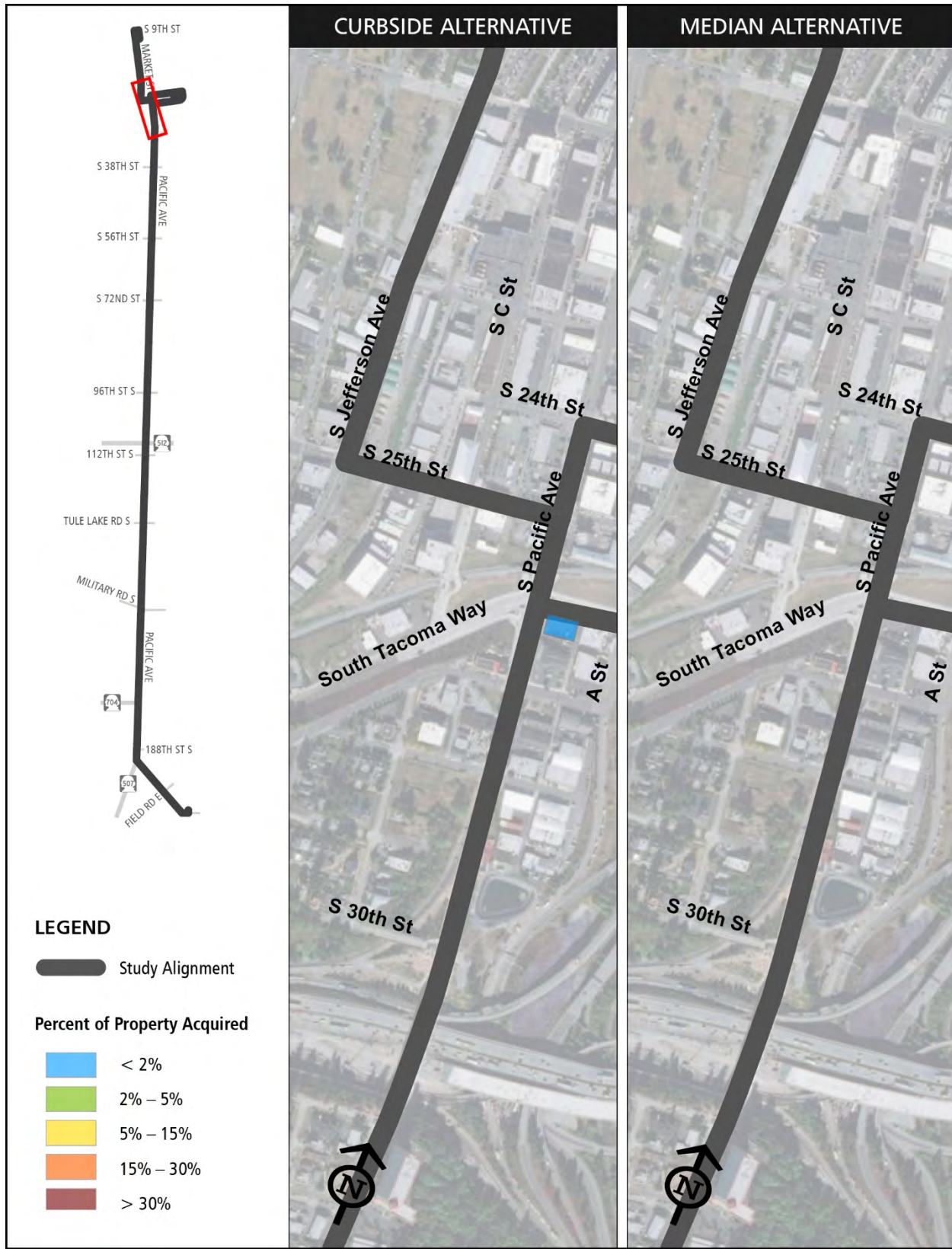
The Median Alternative involves the construction of median exclusive lanes, queue jumps and median stations that would require widening the existing roadway. In some locations, this widening would require acquiring additional right-of-way from adjacent properties. As shown in Table 4, the proposed design would result in a total of approximately 118,000 square feet of property acquisitions, from a total of 187 parcels, along the entire length of the BRT alignment. The Median Alternative impacts 113 more parcels (and approximately 62,000 square feet) than the Curbside Alternative. Much like the Curbside Alternative, most of the properties with acquisitions for the Median Alternative are commercial uses (approximately 82 percent). However, 13 percent are residential properties which is more the double the number of residential properties with the Curbside Alternative. Most of the property impacts with Median Alternative would require less than 2 percent portion of the total area of the property.

The Median Alternative would require partial acquisitions of 186 parcels and one (1) full acquisition of a commercially zoned parcel at the southwest corner of Tule Lake Road S and Pacific Avenue. The 145 by 5-foot rectangular parcel is a landscaped curb strip with a narrow sidewalk that fronts the parking area of the adjacent used car retail lot. While the parcel would likely be a full acquisition (the design of the Median Alternative requires approximately 92 percent of the parcel), it is not expected to impact the economic viability of the associated used car retail business. No displacements are anticipated for the Median Alternative.

The Median Alternative would also potentially impact the Lake Spanaway Golf Course property, approximately 770 square feet at the southwest corner of intersection of Military Road S. and Pacific Avenue/SR 7. The potential use of publicly owned land would be evaluated under Section 4(f) if the project requires federal funding or approval.

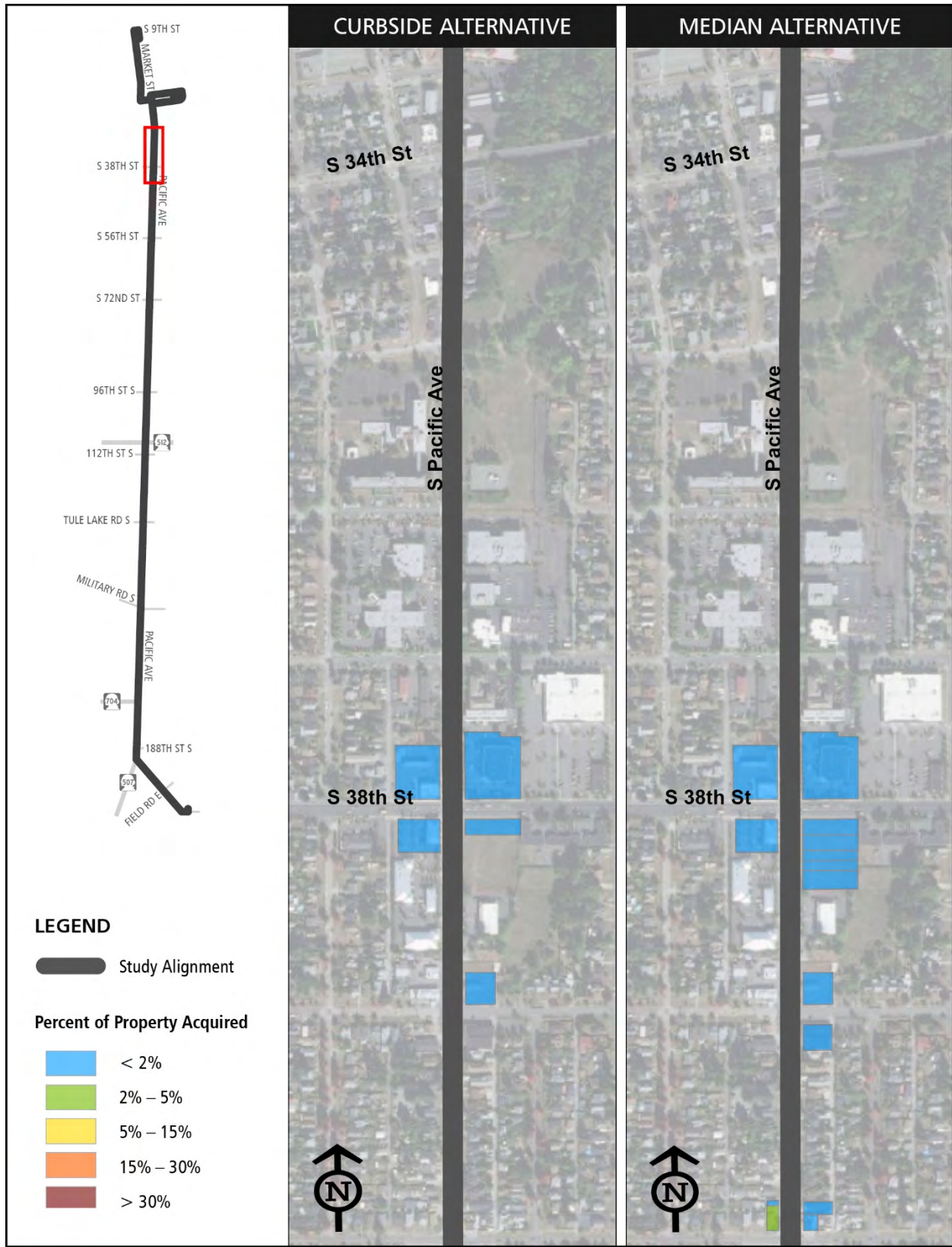
**Figure 6. Potential Property Acquisitions for the Curbside and Median Alternatives (1 of 17)**



**Figure 7. Potential Property Acquisitions for the Curbside and Median Alternatives (2 of 17)**

**Figure 8. Potential Property Acquisitions for the Curbside and Median Alternatives (3 of 17)**

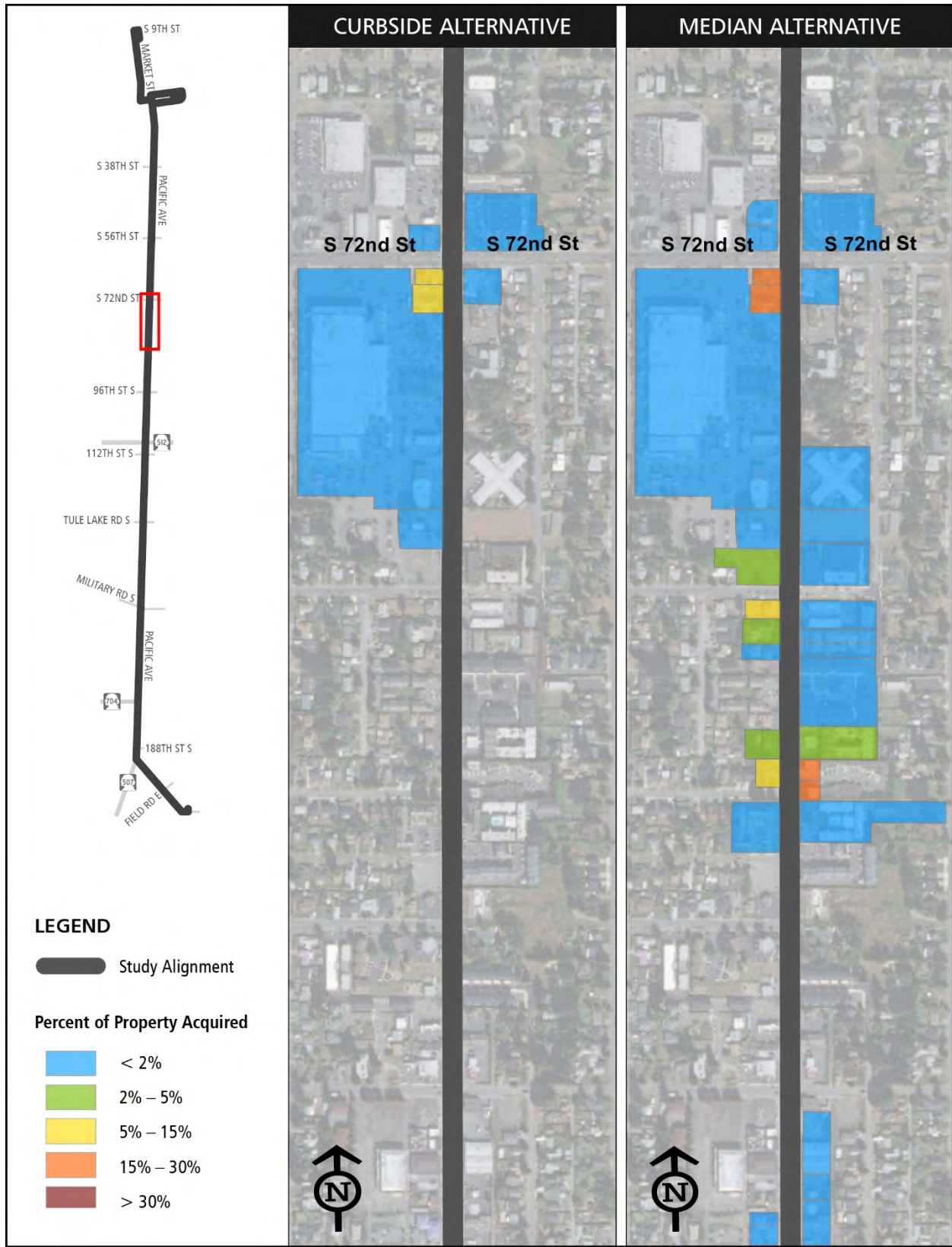


**Figure 9. Potential Property Acquisitions for the Curbside and Median Alternatives (4 of 17)**

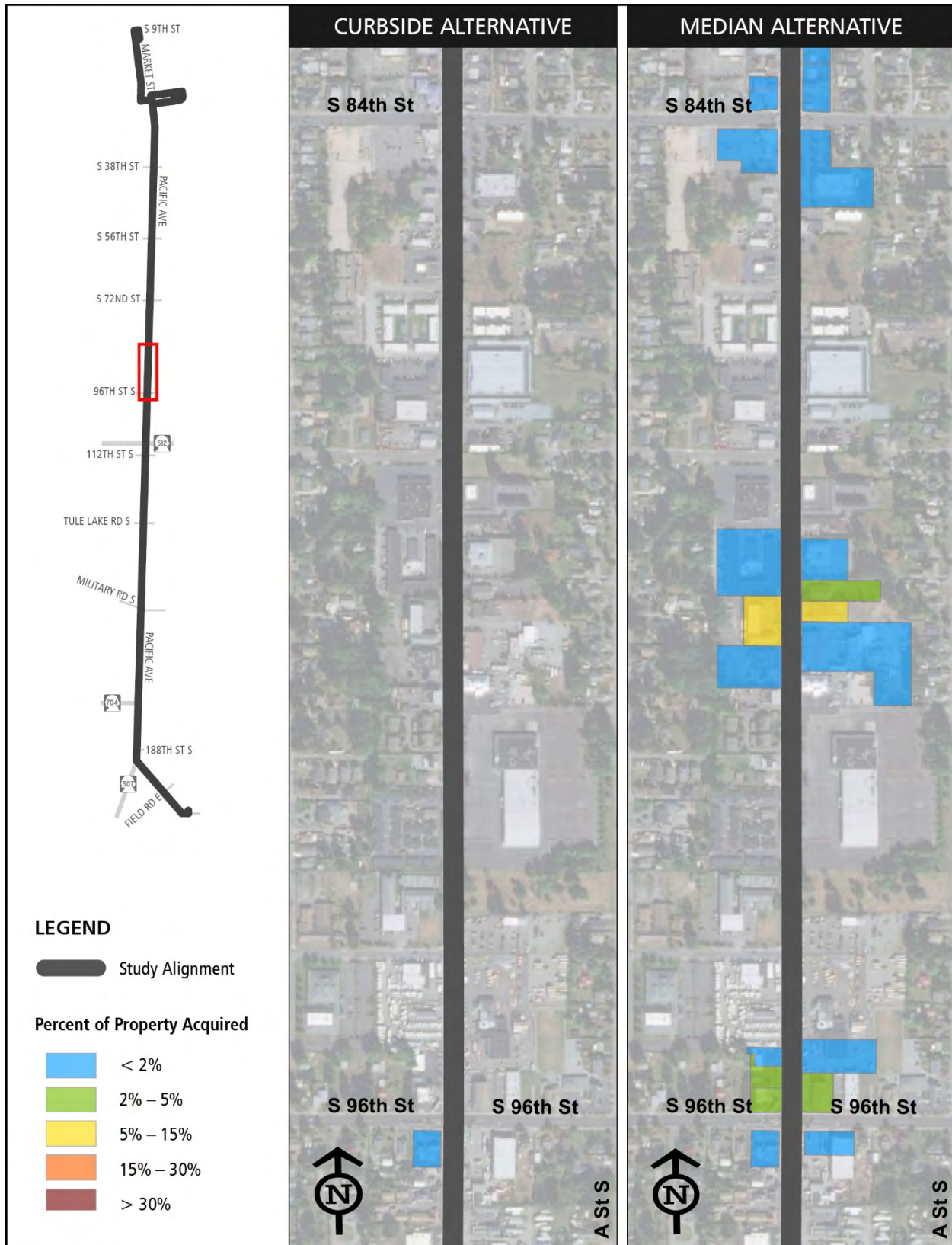
**Figure 10. Potential Property Acquisitions for the Curbside and Median Alternatives (5 of 17)**



**Figure 11. Potential Property Acquisitions for the Curbside and Median Alternatives (6 of 17)**

**Figure 12. Potential Property Acquisitions for the Curbside and Median Alternatives (7 of 17)**

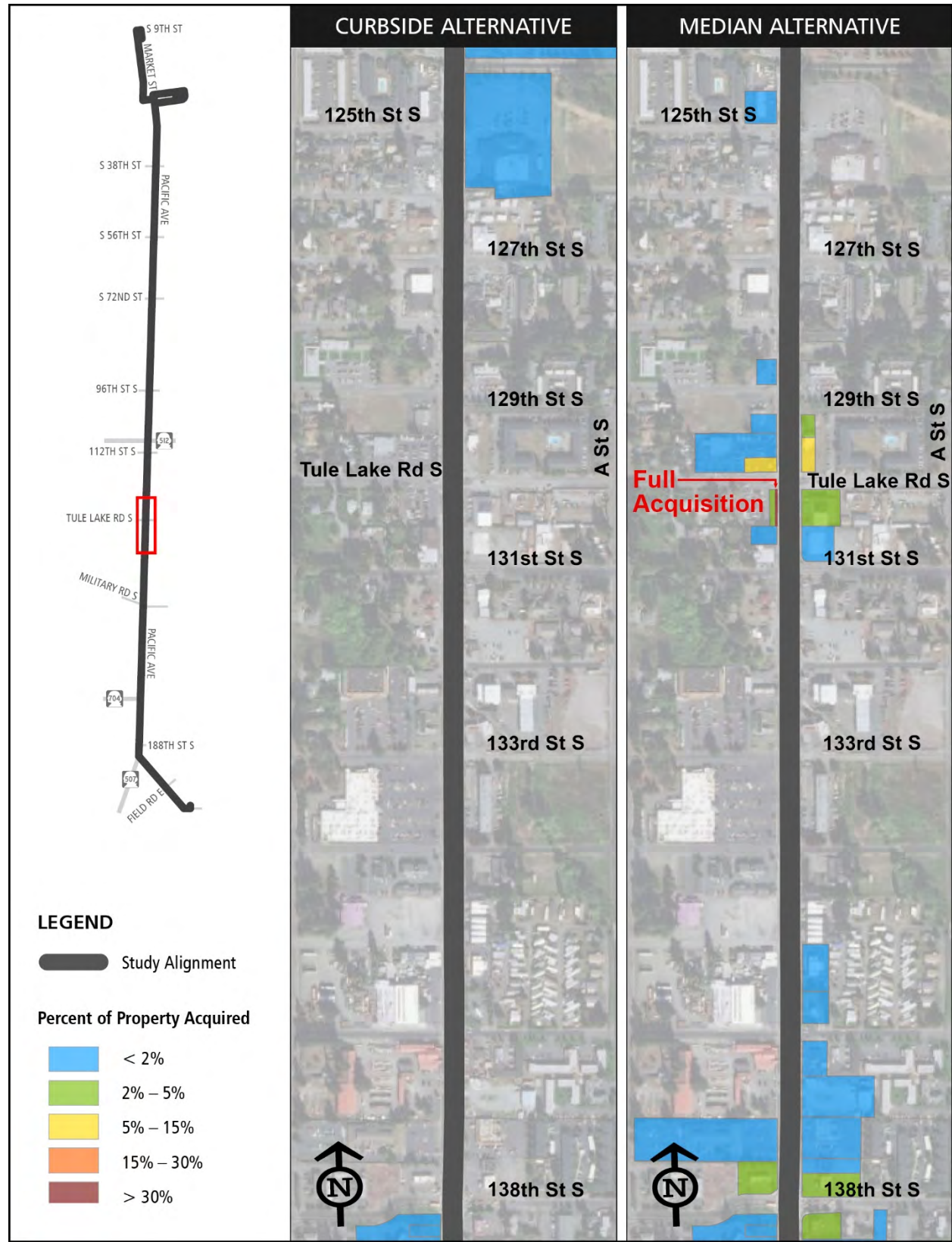


**Figure 13. Potential Property Acquisitions for the Curbside and Median Alternatives (8 of 17)**

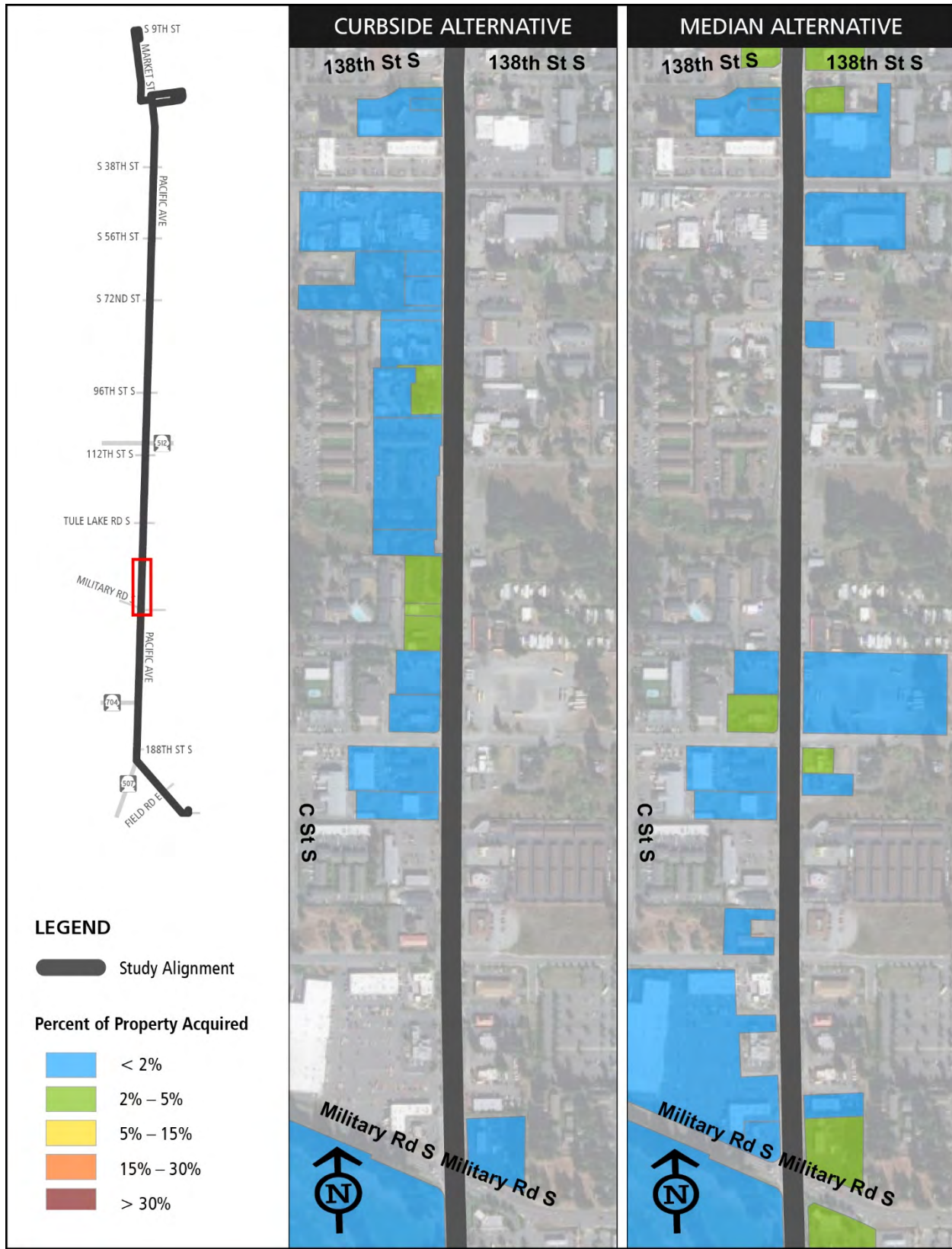
**Figure 14. Potential Property Acquisitions for the Curbside and Median Alternatives (9 of 17)**

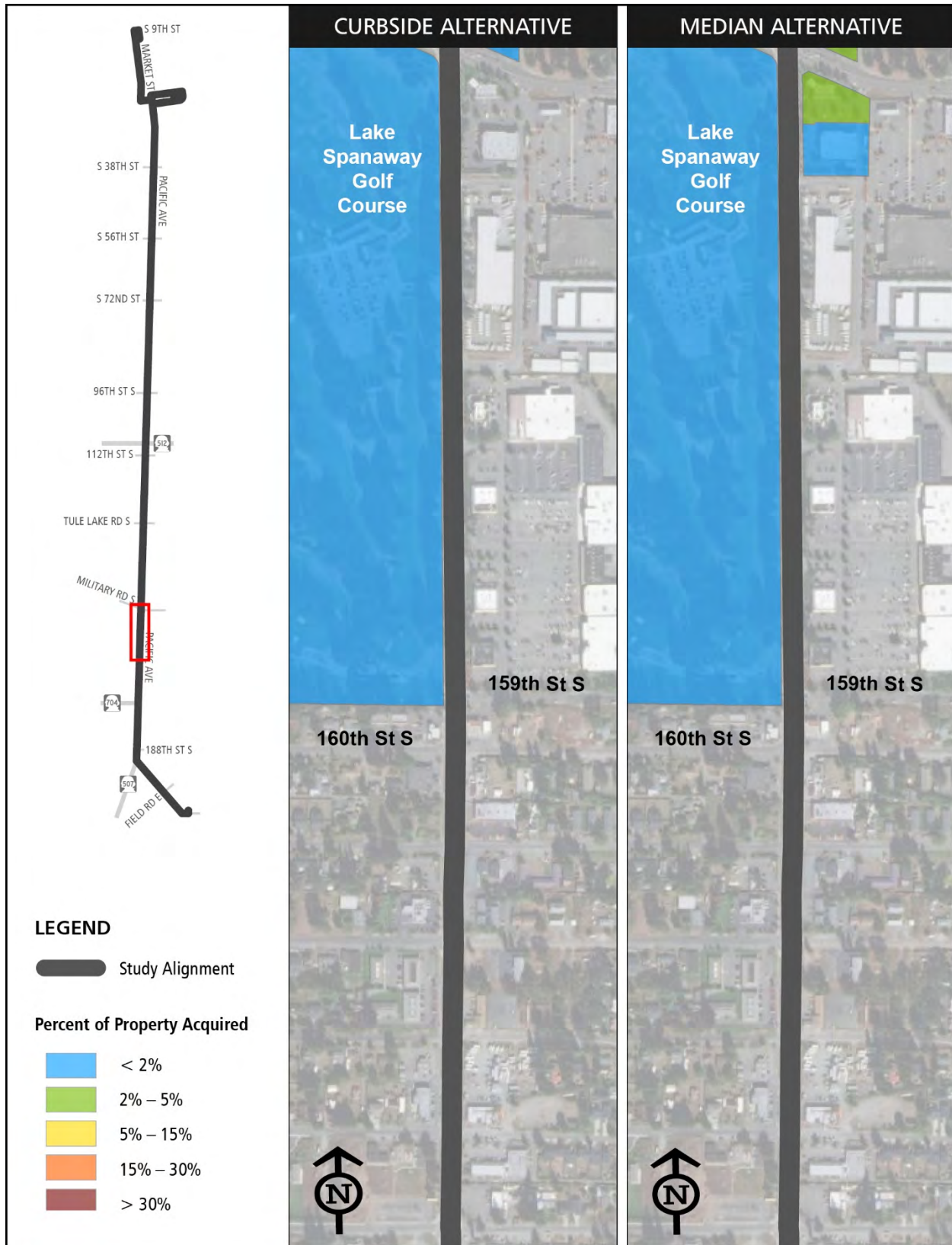


**Figure 15. Potential Property Acquisitions for the Curbside and Median Alternatives (10 of 17)**

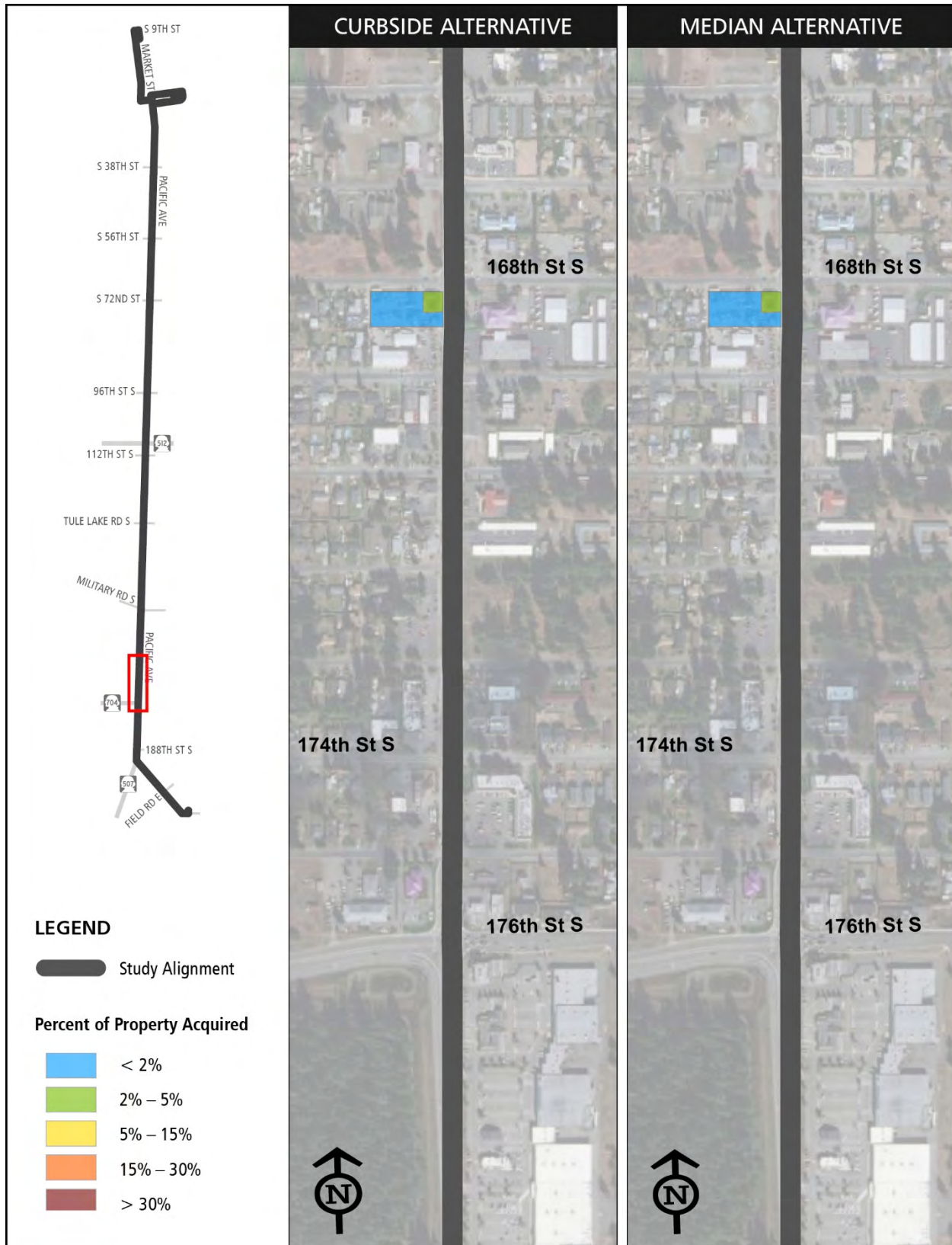
**Figure 16. Potential Property Acquisitions for the Curbside and Median Alternatives (11 of 17)**

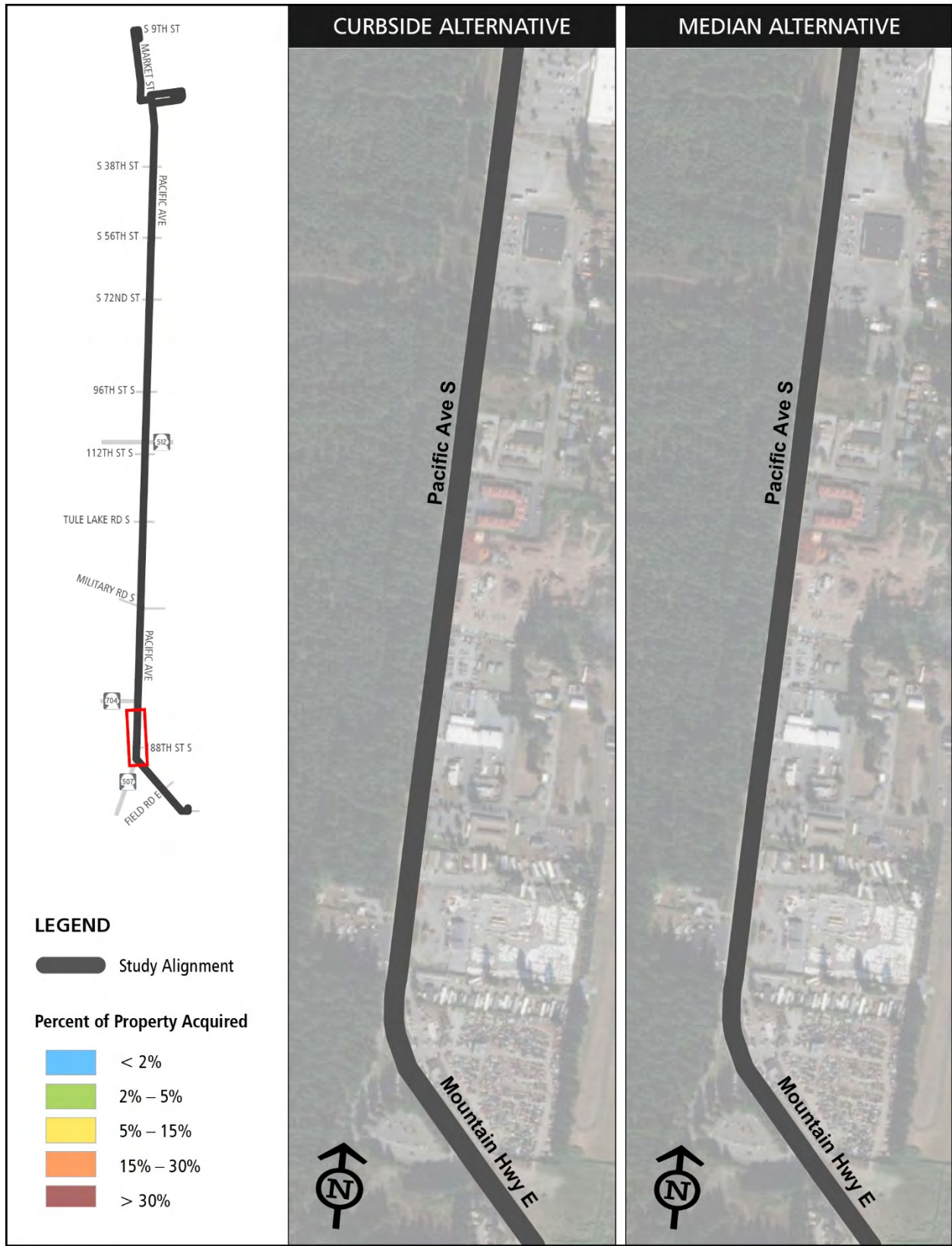


**Figure 17. Potential Property Acquisitions for the Curbside and Median Alternatives (12 of 17)**

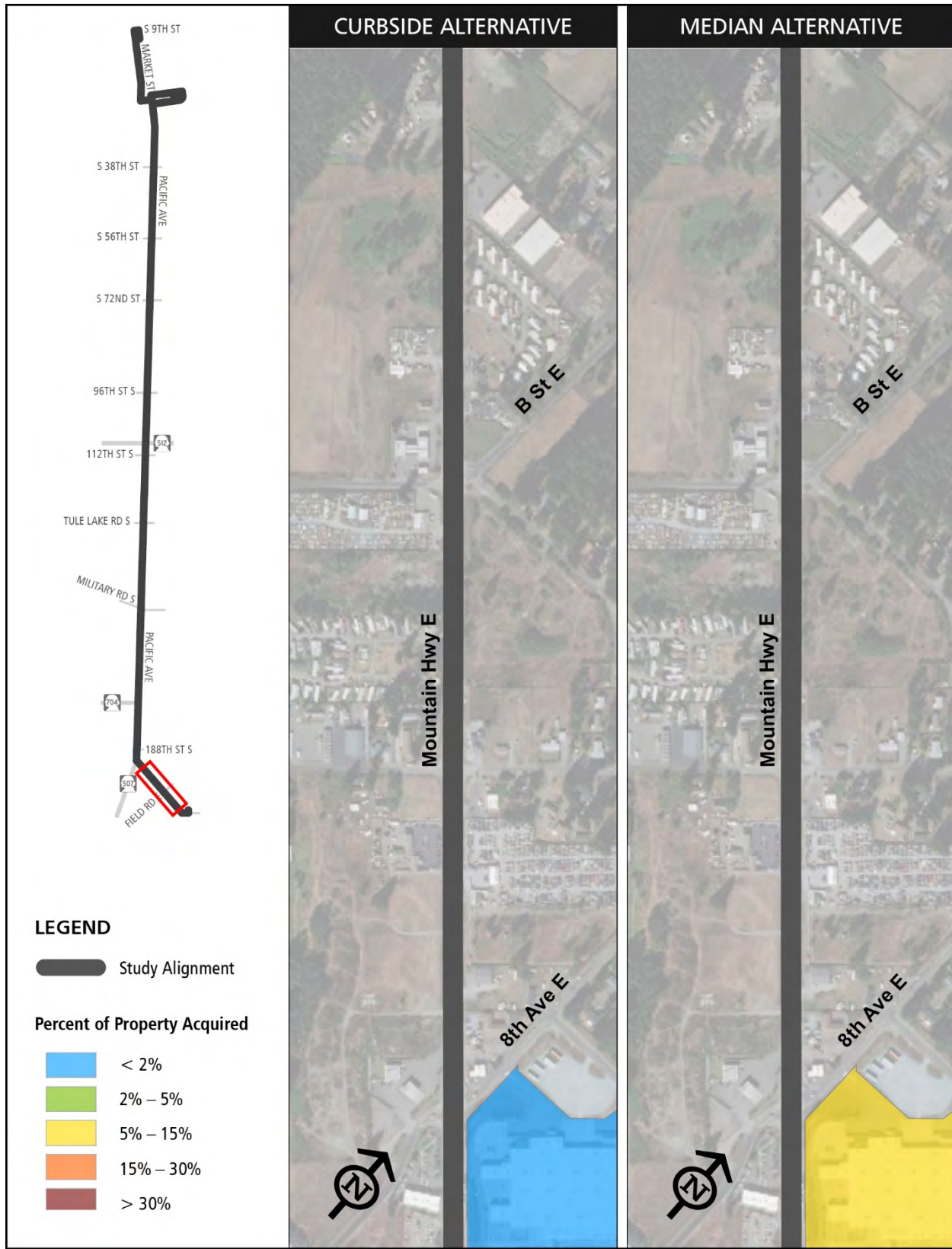
**Figure 18. Potential Property Acquisitions for the Curbside and Median Alternatives (13 of 17)**

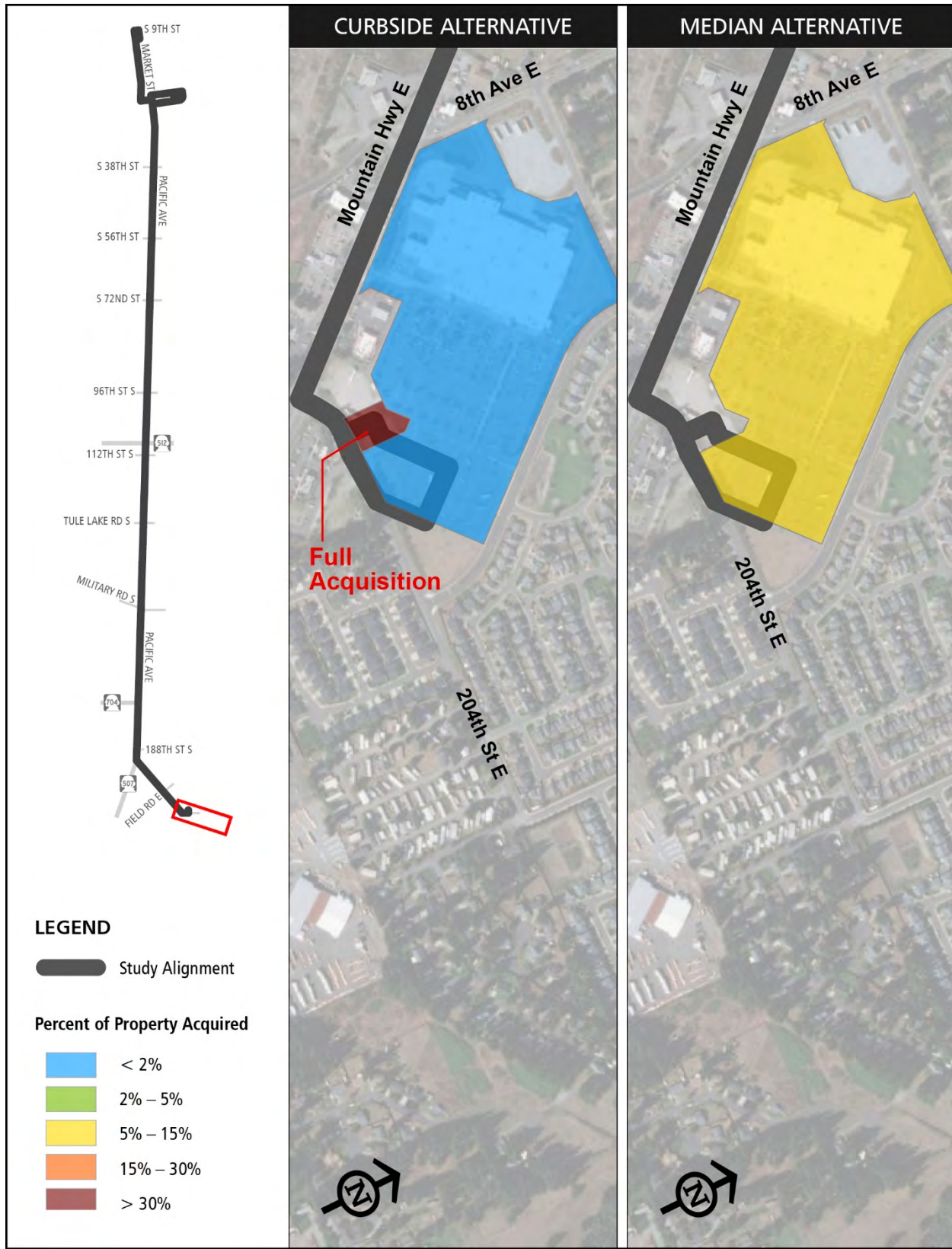


**Figure 19. Potential Property Acquisitions for the Curbside and Median Alternatives (14 of 17)**

**Figure 20. Potential Property Acquisitions for the Curbside and Median Alternatives (15 of 17)**



**Figure 21. Potential Property Acquisitions for the Curbside and Median Alternatives (16 of 17)**

**Figure 22. Potential Property Acquisitions for the Curbside and Median Alternatives (17 of 17)**

**ACCESS**

Existing access to properties within the corridor includes direct driveway access, center-turn lane access for midblock left turns, as well as signalized and un-signalized intersections that allow for through traffic movements and right and left turns. The proposed alternatives would impact existing access to properties adjacent to the corridor and at intersections as discussed below.

**Curbside Alternative**

With the Curbside Alternative there would be no access changes where the BRT service would operate in mixed traffic. In the segments with BAT lanes the Curbside Alternative would continue to allow right turns at driveways and intersections. The BAT lanes would only restrict vehicular travel in the lane to when making a right turn at an intersection or into a driveway. When leaving a driveway, vehicles could make a right turn into the BAT lane and then merge into a general traffic lane. Because the Curbside Alternative proposes to widen the existing roadway where a BAT lane is added, it would not modify the existing center turn lane and, therefore, does not impede mid-block left turn movements or left turns at signalized or unsignalized intersections. Driveway access within the BAT segments of the corridor would not be restricted because the center turn lane operation allowing left turns would not change and the BAT lane allows for business access use. While some driveways may require reconstruction due to BAT lane or BRT station construction, roadway widening, or construction of sidewalks, it is expected that existing property access would be maintained.

A total of six (6) new traffic signals are proposed at unsignalized intersections that would also provide for signalized pedestrian crossing.

**Median Alternative**

With the Median Alternative, within the median mixed traffic segments where the lanes are not exclusive to transit and the bus runs in general traffic, the unsignalized intersections would generally operate with no left turn restrictions with some exceptions at Pacific Avenue and 79<sup>th</sup> Street, Pacific Avenue and 82<sup>nd</sup> Street, and Pacific Avenue and 94<sup>th</sup> Street. Where the BRT service would operate in exclusive lanes, the center-turn lane would be replaced with the BRT-only lanes for approximately 6 miles of the corridor. The bus lanes would act as a median along these parts of the route. Figure 23 shows the potential access impacts for the Median Alternative.

Within the median exclusive lane segments midblock driveway access would be restricted to right in/right out only; midblock left turns into driveways would be prohibited. This restriction would impact approximately 66 percent of the driveways (397) within the corridor; the other 44 percent of driveways within the median mixed running way would have no access changes.

Within the median exclusive lane segments the unsignalized roadway intersections would be restricted to right turn only with left turns prohibited. Along the entire corridor, approximately 50 unsignalized intersections would be restricted to right turn only. Signalized intersections would be modified to provide for left turns and U-turns from the north and/or south leg of the intersection as well as left turns from the east and/or west intersecting roadways. The left turn restrictions would require drivers to travel to the next signalized intersection to execute left or U-turn movements for midblock access or access to unsignalized intersecting streets. The segment of the corridor between SR 512 and Military Road S exhibits the longest distances for out-of-direction travel. The average distance between signalized intersections in this segment of the corridor is approximately 0.48 miles, with the longest



distance being 0.56 miles. For the segment in the northern portion of the corridor between downtown Tacoma and SR 512, the average distance between signalized intersections is approximately 0.27 miles with the longest distance being 0.5 miles.

### **ON-STREET PARKING**

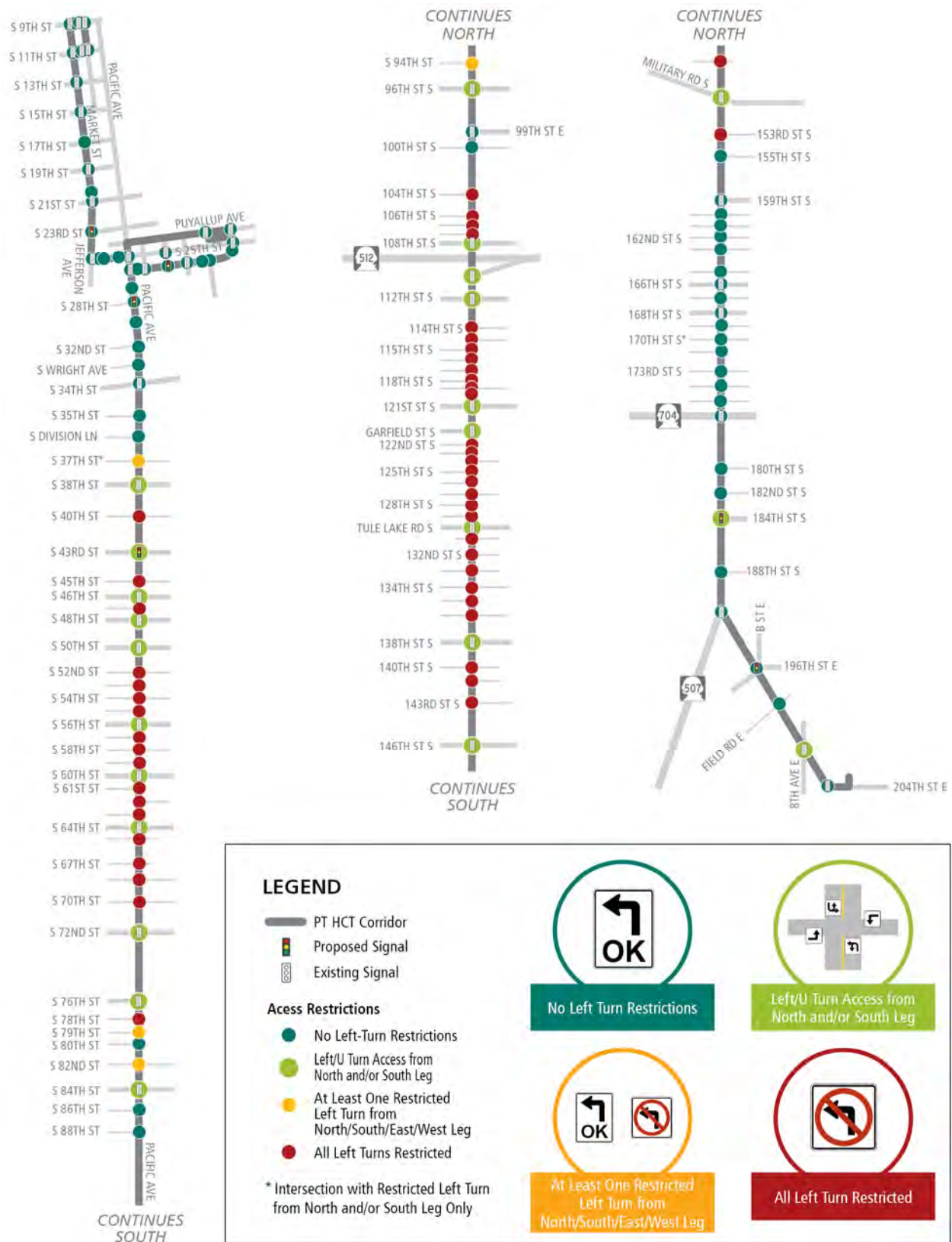
As shown in Table 2, existing on-street parking within the corridor is limited. With both the Curbside and Median Alternative, the potential removal of on-street parking would be limited to the segments south of downtown Tacoma where BAT lanes and/or median exclusive lane treatments are proposed. Table 5 below shows all the existing on-street parking within the corridor and indicates the approximate number of spaces that would be lost due to the proposed Curbside and Median Alternatives. The construction of either alternative would result in the loss of approximately 72 on-street parking spaces along the entire length of the corridor.

**Table 5. On-Street Parking Spaces Removed for both Curbside and Median Alternatives**

Study Corridor Roadway	From	To	Length (feet)	On-Street Parking?	Removed? (Y/N)	Approximate Number of On-Street Parking Lost*
Pacific Ave	S 9 <sup>th</sup> St	S 11 <sup>th</sup> St	790	Y, Parallel	N	0
Pacific Ave	S 11 <sup>th</sup> St	S 17 <sup>th</sup> St	2,270	Y, Parallel	N	0
Pacific Ave	S 17 <sup>th</sup> St	S 21 <sup>st</sup> St	1,530	Y, Parallel and angle	N	0
Puyallup Ave	SR 7	E G St	2,690	Y, Parallel	N	0
E G St/E 26 <sup>th</sup> St	Puyallup Ave	SR 7	3,220	Y, Parallel	N	0
Pacific Ave	S 24 <sup>th</sup> St	S 25 <sup>th</sup> St	370	Y, Parallel on west side	N	0
Pacific Hwy/SR 7	S 46 <sup>th</sup> St	S 48 <sup>th</sup> St	355	Y, Parallel on west side	Y	18
Pacific Hwy/SR 7	S 55 <sup>th</sup> St	S 57 <sup>th</sup> St	380	Y, Parallel on west side	Y	19
Pacific Hwy/SR 7	S 63 <sup>rd</sup> St	S 65 <sup>th</sup> St	255	Y, Parallel at S 64 <sup>th</sup> St intersection	Y	13
Pacific Hwy/SR 7	S 82 <sup>nd</sup> St	S 84 <sup>th</sup> St	430	Y, Parallel on west side	Y	22
<b>Total on-street parking spaces removed</b>						<b>72</b>

\*Approximate number of parking spaces is based on a 20-foot estimate for each space (Source:

[https://en.wikipedia.org/wiki/Parking\\_space](https://en.wikipedia.org/wiki/Parking_space))

**Figure 23. Access Restrictions at Roadways with the Median Alternative**

### 4.3 TRAFFIC

The project's proposed conceptual alternatives include using dedicated bus lanes (BRT-Only), BAT lanes, new station locations, changes to existing traffic operations, and roadway design modifications to improve transit travel time along the corridor. This section discusses the potential effects of the proposed conceptual alternatives to general purpose vehicular traffic congestion and safety.

#### 4.3.1 Methods

Existing conditions for general purpose traffic in the corridor was summarized based on observed traffic volumes and congestion and travel times gathered from Google Application Programming Interface (API) data. Conceptual plans for the proposed alternatives, including station locations and roadway changes were then reviewed to assess likely effects they would have on general purpose traffic operations.

#### 4.3.2 Existing Conditions

Existing traffic and transportation conditions are documented in the Pacific Avenue/SR 7 Corridor HCT's Existing and Future Conditions Report, June 2, 2017. Some key traffic and safety-related aspects of that document are summarized below.

#### **CONGESTION**

Pacific Avenue S is a major north-south corridor that connects Spanaway to Downtown Tacoma. Traffic volumes vary along the project's 14-mile length. Average Daily Traffic (ADT) on the south end of the corridor between the Roy 'Y' and Military Road is approximately 38,000 vehicles. Continuing northward, volumes on Pacific Avenue S decline steadily until they are below 10,000 daily vehicles in downtown Tacoma. Table 6 provides ADT data at key locations along Pacific Avenue within the study corridor. The following is a high-level assessment of corridor conditions based on a review of these daily volumes.

**Table 6. Existing Traffic Volumes at Key Locations along Pacific Avenue**

Pacific Avenue	ADT
South of 11th Street	9,000
South of 21st Street	15,000
South of 26th Street	11,000
South of 38th Street	19,000
North of 72nd Street	21,000
South of 96th Street	20,000
South of 112th Street	32,000
South of Military Road	38,000
South of Roy 'Y'	27,000

Source: WSDOT Olympic Region 2015

The traffic flow along Pacific Avenue is mostly directional, heading northbound in the AM peak and southbound in the PM peak. Table 7 below summarizes estimated volume to capacity (v/c) ratios at five screenlines along Pacific Avenue. Generally, any v/c ratio less than 0.60 reflects free-flow traffic conditions; greater v/c ratios reflect increasing congestion, with a v/c ratio of 1.00 being the worst. In the project corridor the highest levels of congestion, corresponding to the highest v/c ratios, occur north of Military Road in both the AM and PM peak periods. Traffic congestion in the off-peak direction is minimal, and similar, throughout the corridor.

**Table 7. Existing Corridor Congestion**

Pacific Avenue	Volume to Capacity (v/c) Ratio			
	AM		PM	
	NB	SB	NB	SB
North of S 19th Street	0.08	0.20	0.13	0.17
North of E 56th Street	0.71	0.25	0.41	0.68
North of SR 512	0.55	0.28	0.39	0.53
North of Military Road	0.95	0.31	0.57	0.85
North of 208th Street E	0.78	0.24	0.41	0.74

Source: WSDOT Olympic Region 2015

### **SAFETY**

The crash data for a five-year period between 2012 and 2016 was evaluated for the study corridor, extending from 8<sup>th</sup> Avenue E at the south end in Spanaway to S 9<sup>th</sup> Street in downtown Tacoma. The data set provides an overview of the travel safety issues along the proposed BRT corridor. Crash patterns were evaluated based on location, crash type, year, and severity.

A total of 2,931 crashes were recorded during the five-year period; an average of 1.6 crashes per day, or about three crashes every two days. There were 13 fatal crashes in the study corridor, with 12 fatal crashes along Pacific Avenue and one in the downtown Tacoma area. Figure 24 shows crash locations using graduated symbols corresponding with the increased number of crashes for both vehicle crashes and crashes involving pedestrians and bicyclists. The figure illustrates a clustering of vehicle crashes around key intersections and commercial districts, such as at the Cross Base Highway, Military Road, 112<sup>th</sup> Street S, SR 512, and S 72<sup>nd</sup> Street.

### **Pedestrian and Bicycle Crashes**

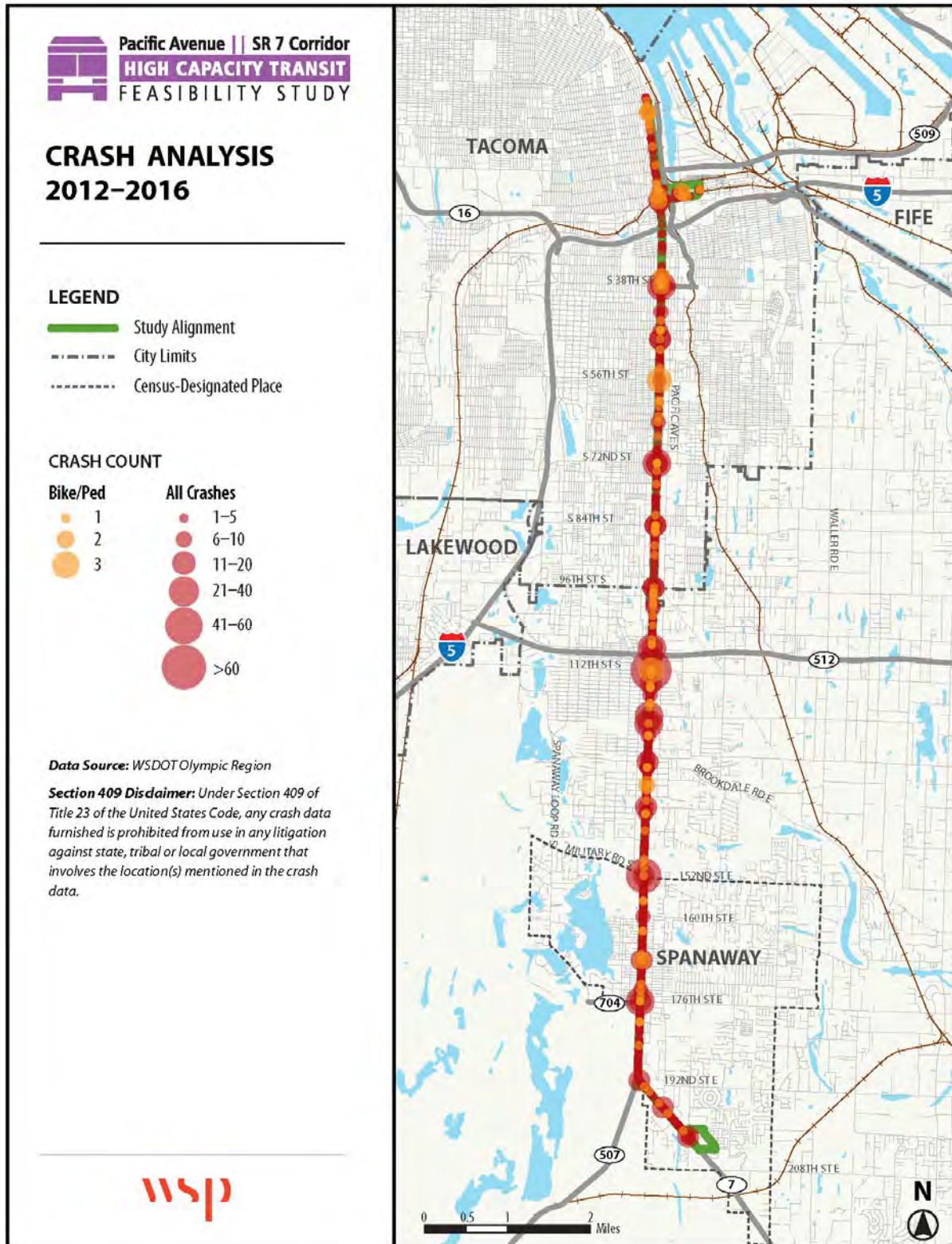
The existing corridor is a long stretch of five-lane roadway with occasional marked crossing locations and often long spacing between signalized crossings. Bicycle facilities along the existing Pierce Transit Route 1 are limited to a 0.15-mile segment of sharrows from 9<sup>th</sup> Street to 17<sup>th</sup> Street on Pacific Avenue and a 6.1-mile segment of striped bike lanes on Pacific Avenue/SR-7 from S 112<sup>th</sup> Street to 204<sup>th</sup> Street, extending for a 0.10-mile section on 8<sup>th</sup> Avenue to 200<sup>th</sup> Street E. Crashes involving pedestrians is of key interest since most transit riders are walking to access bus stops.

A total of 137 crashes involving pedestrians and bicyclists were recorded on Pacific Avenue during the five-year period; 89 crashes involving pedestrians and 48 crashes involving bicyclists. Another five pedestrian crashes and two bicycle crashes were reported within the downtown Tacoma loop. Pedestrian and bicycle crashes occurred primarily near intersections, but not always at the signalized crossings.

A total of five pedestrian crashes and one bicyclist crash resulted in fatalities. Two of the fatal pedestrian crashes occurred near a marked crossing adjacent to bus pullouts. All five of the pedestrian fatalities involved vehicles traveling straight along the roadway, striking the pedestrian; four at mid-block locations and one at an unsignalized intersection. The bicycle fatality occurred on E 25th Street near E G Street in downtown Tacoma where a turning truck struck the bicyclist.



Figure 24. Corridor Multimodal Crash Count



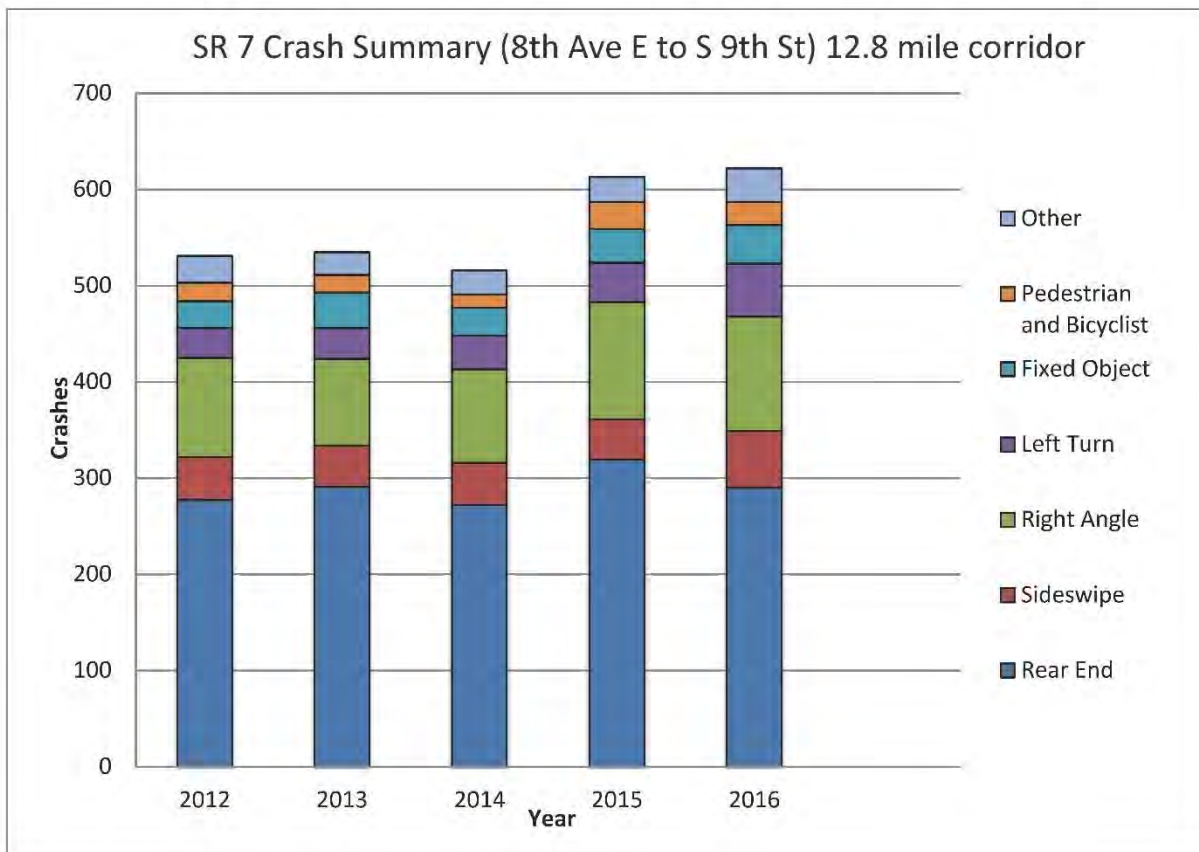


## Vehicle Crashes

Rear-end crashes are the most common type of vehicle crash in the study corridor, accounting for about half of the total crashes reported, approximately 300 annually. Along with sideswipe crashes, rear-end crashes are an indication of high volumes of traffic and high levels of congestion at major intersections, especially during peak travel periods.

Left turn and right angle crashes may be due to the high number of unprotected left turns at mid-block or unsignalized intersection locations. This may indicate a need for a higher level of traffic control, such as protected and signalized left turns at intersections or access management to limit mid-block left turns.

**Figure 25. Crash Type Summary**



**Table 8. Summary of 5 Years of Crash Data for the Study Corridor Intersections**

SR 7 Mile Post	Segment	Intersection Cross Street	Signalized (S) or Unsignalized (U)	Crashes over 5 years (2012-2016)	Average Crashes per Year	Severity		Pedestrian Crashes	Bicycle Crashes
						Fatal Crashes	Injury Crashes (Evident and Serious)		
46.45	SR 7, Mtn Hwy	8th Ave E	S	44	8.8	0	2		
47.36	SR 7, Mtn Hwy	SR 507 Junction	S	30	6	1	6		
48.31	SR 7/Pacific Ave S	Cross Base Highway	S	78	15.6	0	6*		2
48.82	SR 7/Pacific Ave S	168th Street S	S	28	5.6	0	2*	3	
48.96	SR 7/Pacific Ave S	166th Street S	S	21	4.2	0	3		
49.37	SR 7/Pacific Ave S	159th Street S	S	22	4.4	0	1*		
49.86	SR 7/Pacific Ave S	Military Road S	S	105	21	0	5*	1	
50.03	SR 7/Pacific Ave S	149th Street S	U	34	6.8	0	1		
50.19	SR 7/Pacific Ave S	146th Street S	S	13	2.6	0	0		
50.61	SR 7/Pacific Ave S	140th Street S	U	28	5.6	0	3		2
50.67	SR 7/Pacific Ave S	138th Street S	S	38	7.6	0	1		
50.97	SR 7/Pacific Ave S	134th Street S	U	19	3.8	0	3*	3	1
51.24	SR 7/Pacific Ave S	Tule Lake Road	S	22	4.4	0	2*		
51.7	SR 7/Pacific Ave S	Garfield Street	S	43	8.6	0	0		1
51.17	SR 7/Pacific Ave S	131st Street S	U	42	8.4	0	2		2
51.57	SR 7/Pacific Ave S	124th Street S	U	24	4.8	0	2		1
51.79	SR 7/Pacific Ave S	121st Street S	S	49	9.8	0	1		
52.18	SR 7/Pacific Ave S	114th Street S	U	58	11.6	0	2*		1
52.34	SR 7/Pacific Ave S	112th Street S	S	116	23.2	1	4*	3	2
52.5	SR 7/Pacific Ave S	SR 512 On/Off Ramp	S	94	18.8	1	5	2	3

SR 7 Mile Post	Segment	Intersection Cross Street	Signalized (S) or Unsignalized (U)	Crashes over 5 years (2012-2016)	Average Crashes per Year	Severity		Pedestrian Crashes	Bicycle Crashes
						Fatal Crashes	Injury Crashes (Evident and Serious)		
52.61	SR 7/Pacific Ave S	108th Street S and SR 512 WB ramps	S	58	11.6	0	3*		
53.35	SR 7/Pacific Ave S	S 96th Street	S	57	11.4	0	9*		1
53.76	SR 7/Pacific Ave S	Pedestrian Crossing with flasher	U	1	0.2	0	1	1	
54.03	SR 7/Pacific Ave S	Mid-block between 86th and 84th Street	U	3	0.6	0	5	3	
54.1	SR 7/Pacific Ave S	S 84th Street	S	49	9.8	0	8*	4	
54.61	SR 7/Pacific Ave S	S 76th Street	S	23	4.6	0	1		
54.85	SR 7/Pacific Ave S	S 72nd Street	S	94	18.8	0	11*	3	1
55.35	SR 7/Pacific Ave S	S 64th Street	S	16	3.2	0	2		1
55.6	SR 7/Pacific Ave S	S 60th Street	S	15	3	0	1	2	1
55.86	SR 7/Pacific Ave S	S 56th Street	S	24	4.8	0	4	3	
56.22	SR 7/Pacific Ave S	S 50th Street	S	3	0.6	0	1		
56.36	SR 7/Pacific Ave S	S 48th Street	S	27	5.4	1	2*	1	
56.46	SR 7/Pacific Ave S	S 46th Street	S	15	3	0	1	3	1
57.03	SR 7/Pacific Ave S	S 38th Street	S	55	11	0	6*	3	2
	Pacific Avenue S	S Tacoma Way/S 26th Street	S	14	2.8	1	2	2	0
	Pacific Avenue S	S 24th Street/S Puyallup	S	10	2	0	2	1	1
	Pacific Avenue S	S 21st Street/ SR 705 LX	S	36	7.2	0	2	0	1
	Pacific Avenue S	S 15th Street	S	5	1	0	0	0	0
	Pacific Avenue S	S 13th Street	S	13	2.6	0	2	2	0
	Pacific Avenue S	S 11th Street	S	14	2.8	0	4	2	2
	Pacific Avenue S	S 9th Street	S	8	1.6	0	1	0	1

#### 4.3.3 Preliminary Impact Evaluation

This section provides a preliminary assessment of safety and congestion effects to general purpose traffic for the current conceptual alternatives. A more detailed assessment of traffic operations and safety data, including expected changes to traffic operations such as intersection level of service, traffic delay, roadway capacity, average peak period speeds, and vehicle crashes, will occur once the LPA is selected.

##### **CONGESTION**

With both the Curbside and Median Alternative the decreased travel time and increased convenience, comfort, and reliability could result in a mode shift from automobiles, particularly single-occupancy vehicles, to transit. An increase in transit ridership would allow for additional person-throughput in the corridor while not increasing traffic congestion.

With both the Curbside and Median Alternative the 65 Route 1 bus pairs would be consolidated to 32 BRT station pairs. The reducing stopping in the corridor would reduce delays to traffic from the transit service.

With both the Curbside and Median Alternatives off-board fare collection and level-boarding of BRT vehicles would decrease the time BRT vehicles would need to load passengers at BRT stations. This benefit would grow through 2040 as ridership is estimated to grow between 27 percent and 60 percent. In sections of the corridor where the BRT service would operate in mixed traffic, the reduced passenger loading times would minimize the delay to general purpose traffic behind the BRT vehicles. However, the Curbside and Median Alternatives propose stations where the BRT vehicles would be stopped in the travel lane in mixed traffic, where currently Route 1 buses use a pull out to stop outside of the travel lane. With the Curbside Alternative, stations in mixed traffic segments could result in minor delays to general purpose traffic. With the Median Alternative BRT vehicles would not stop in a travel lane; therefore, there would be no delays to general purpose traffic.

##### **Curbside Alternative**

The Curbside Alternative would improve signal coordination for the BRT route, which would optimize the corridor for a higher flow of all traffic. In addition, the Curbside Alternative would not change the existing center left turn lane or place any restrictions on left turns.

In the BAT lane segments of the Curbside Alternative transit and traffic travel time would be improved as BRT vehicles would be separated from general traffic in segments that are currently congested. Since the Curbside Alternative does not reduce the number of general purpose traffic lanes, general traffic operations would operate similarly to, or better than it currently does.

In addition, the existing corridor has numerous driveway and intersecting roadways where turning movements from with vehicles entering and exiting local businesses to and from SR 7 result in some delay and congestion. The roughly three (3) miles of BAT lanes will provide a separate lane along Pacific Avenue/SR 7 for vehicles turning right into driveways and at intersections, which will improve the flow of through traffic and reduce congestion in the corridor. Therefore, the proposed BAT lanes would result in faster travel times for all vehicles and increased capacity in the corridor.

**Median Alternative**

The Median Alternative would have some similar benefits to traffic operations as the Curbside Alternative, such as optimizing traffic signal coordination for a higher flow of all traffic. In addition, in the approximately six (6) miles of exclusive median lanes transit and traffic travel time would improve by separating the BRT vehicles from general purpose traffic in segments that are currently congested. This option would not have the right-turn only lanes and separation of through traffic from vehicles entering and exiting business of the curbside alternative, and hence would not provide related benefits to general purpose traffic.

In the six (6) miles of exclusive median lane segments the existing center bi-directional left turn lane would be eliminated; the BRT exclusive lanes would act as a median, prohibiting mid-block left turns and left turns at unsignalized intersections. With the elimination of the center left turn lane, the exclusive median lanes would require vehicles that currently turn left at mid-block locations to access businesses to drive to the nearest signalized intersection to make a U-turn. In many cases the additional driving distance would be less than a block. Due to existing congestion in the corridor, designated left turn movements at signals could decrease the time to make the turning movement to access businesses along the corridor as vehicles would not have to wait for gaps in oncoming traffic.

A benefit of the median exclusive lanes to traffic congestion is that they would be expected to decrease traffic congestion that occurs because of traffic collisions along the corridor, particularly from left turning vehicles with oncoming traffic. Minor general traffic rerouting could occur as some vehicles would use adjacent streets to avoid U-turns while accessing businesses. This effect could be monitored. In moderation, this shift to side streets could decrease corridor congestion and better balance the road network.

**SAFETY****Curbside Alternative**

With the Curbside Alternative in the BAT lane segments the BAT lanes would act as a dedicated right-turn lane for vehicles turning right into businesses or at intersections. This would minimize the number of conflict points with through traffic; which would be expected to reduce rear-end crashes while improving both general traffic speeds and transit speeds. Additionally, the BAT lanes would provide a buffer for bicycle and pedestrian traffic from the general purpose traffic lanes that would be expected to have higher traffic volumes.

However, the Curbside Alternative would not restrict left turns out of driveways and at unsignalized roadways. The addition of the BAT lane for left turning vehicles to cross could exacerbate left turn conflicts at these locations.

**Median Alternative**

With the Median Alternative exclusive median lane segments would restrict mid-block left turn movements and left turns at unsignalized intersections. Drivers would make a U-turn at the nearest signalized intersection that would have a protected left turn/U-turn instead of making an unprotected left turn against oncoming traffic. This would standardize access and would be expected to reduce left turn and right angle crashes along the corridor, thereby improving safety in the corridor. The Median Alternative would improve pedestrian and bicycle safety by reducing conflict points from vehicle left

turn movements; however, it would not provide a buffer from through traffic as would be provided by the Curbside Alternative's BAT lanes.

#### 4.4 ENVIRONMENTAL JUSTICE AND TITLE VI

This section discusses potential project impacts to environmental justice populations, i.e., racial and ethnic minorities and low-income populations. Applicable federal, state, and Pierce Transit agency regulations and policies are described to provide background to the methodology used in the analysis. Existing conditions are described and public outreach and engagement with environmental justice populations is summarized. Because the two proposed alternatives follow the same route, with a different configuration within the roadway right-of-way, potential impacts that would be nearly the same are discussed once; potential differences are discussed in more detail. A preliminary determination of environmental justice impacts is also provided.

##### 4.4.1 Applicable Regulations

The following is a summary of applicable federal, state, and transit agency regulations related to environmental justice populations.

###### **FEDERAL**

The assessment of environmental justice impacts is required by Presidential Executive Order 12898, *Federal Actions to Address Environmental Justice to Minority<sup>2</sup> Populations and Low-Income<sup>3</sup> Populations* (February 11, 1994); the U.S. Department of Transportation (USDOT) Order 5610.2, *Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (April 5, 1997); and the USDOT Order 5610.2(a) (May 2, 2012), updating the USDOT policy to consider environmental justice principles in all programs, policies, and activities. The guiding principles followed by FTA, as described by FTA Circular 4703.1, are to (1) avoid, minimize, and mitigate disproportionately high and adverse effects on minority and low-income populations; (2) ensure full and fair opportunities for public involvement by members of minority and low-income populations during project planning; and (3) prevent the denial of, reduction in, or significant delay in the receipt of benefits by minority and low-income populations.

The FTA environmental justice policy guidance defines a disproportionately high and adverse effect as one that:

- Is predominantly borne by a minority or low-income population, or
- Will be suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority population and/or non-low-income population.

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<sup>2</sup> A minority person includes persons who belong to any readily identifiable racial or ethnic group, including the following: Black or African American, Asian American, American Indian and Alaskan Native, Native Hawaiian or Other Pacific Islander, as well as Hispanic or Latino.

<sup>3</sup> A low-income person is identified as a person whose median household income below the Department of Health and Human Services poverty guidelines. The U.S. Census Bureau updates poverty thresholds each year for use by the Department of Health and Human Services.



Related to the federal regulations is the Presidential Executive Order 13166, *Improving Access to Services for Persons with Limited English Proficiency*. This executive order requires agencies to conduct public outreach and public involvement activities to meaningfully engage members of the community.

The FTA Circular 4702.1B also requires transit agencies to comply with Title VI of the Civil Rights Act of 1964. Effective transportation decision-making also depends upon understanding the communities affected by a proposed project and community outreach activities that would create conditions that encourage meaningful engagement of all groups in the community. Efforts to encourage engagement include understanding what ethnic groups may live in the study area and what non-English languages may be spoken by residents. Special targeted community outreach can encourage their input and opinions on proposed project alternatives, perceived community impacts, and appropriate mitigation measures to avoid or minimize impacts. Active engagement in the public decision-making process not only includes effective presentation of the project information, but demonstrated involvement by community members as documented by the number of meeting attendees and comments submitted.

#### **STATE**

The State of Washington has adopted regulations similar to the federal regulations including the Washington Governor's Executive Order 93-07, *Affirming Commitment to Diversity and Equity in the Service Delivery and in the Communities of the State*. This executive order directs all state agencies to incorporate the principles of diversity into the delivery of services to the people of Washington and to take steps to value, encourage and seek out the participation in the state work force of persons with multiple language skills where it would better serve our pluralistic society.

#### **PIERCE TRANSIT**

FTA requires transit agencies that receive FTA funding to evaluate fare changes and major service changes at the planning and programming stages to determine whether the changes have a discriminatory impact. Pierce Transit has adopted the following three key policies in compliance with *Title VI Requirements and Guidelines for Federal Transit Administration Recipients* (effective October 1, 2012):

- *Major Service Change Policy* adopted in 2013, and amended in 2014, establishes a threshold for a major service change and adverse effect caused by a service change. A major service change is defined as any change lasting 12 months or more on any one route that would add or eliminate 20 percent or more of the route revenue miles or 20 percent or more of the revenue hours. An adverse effect is defined as a geographical or time-based reduction in service that includes frequency changes, re-routing, or route elimination.
- *Disparate Impact Policy* was also adopted in 2013 and establishes a threshold for adverse effects of a major service change or fare change that are borne disproportionately by minority populations. A disparate impact occurs when the minority population adversely affected by the change is 10 percent more than the average minority population of Pierce Transit's service area, which is defined as 35.3 percent (Pierce Transit 2015).
- *Disproportionate Burden Policy* establishes a threshold when adverse effects of a major service change or fare change disproportionately burden low-income populations. A disproportionate burden occurs when the low-income population adversely affected by the change is 5 percent more

than the average low-income population of Pierce Transit's service area, which is defined as 12.3 percent (Pierce Transit 2015).

#### **4.4.2 Methods**

The methodology to assess potential impacts to environmental justice populations follows FTA's guidance in Circular C 4703.1, which includes:

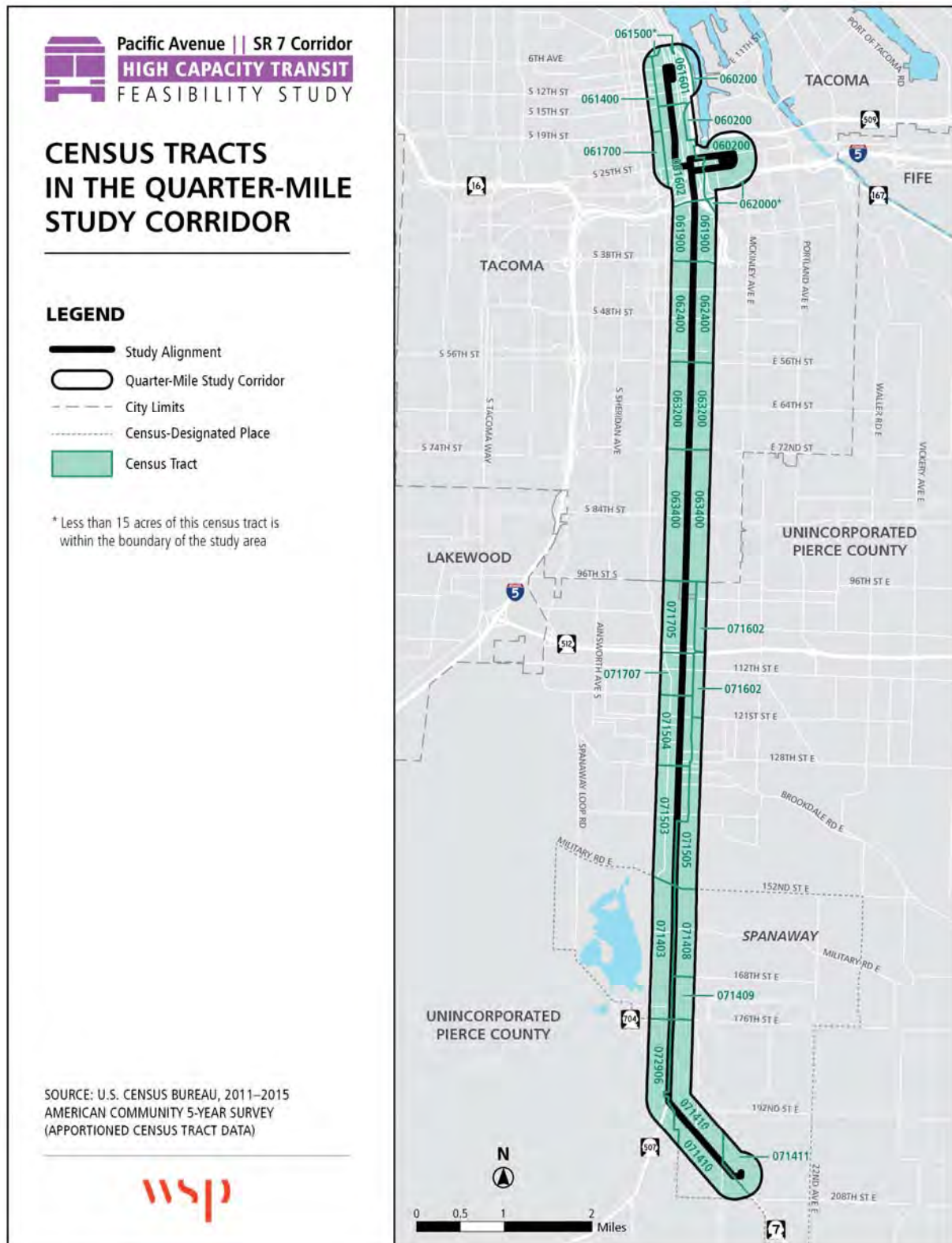
- Describe the minority and low-income populations within the study area.
- Discuss adverse effects of the project during construction and operations that would affect minority and low-income populations, including proposed mitigation and enhancement actions to avoid or minimize effects.
- Discuss the remaining effects, if any, and why further mitigation is not proposed.
- Discuss all positive effects for minority and low-income populations.
- For projects that are only partially located in predominately minority and low-income areas, provide a comparison of mitigation and environmental enhancement actions that could affect these populations versus those in predominantly non-minority and low-income areas.

Census tract data from the 2011-2015 American Community 5-Year Survey was used to describe the demographic characteristics of the 0.25-mile study area. In total, there are 23 census tracts (CT) that are located wholly or partially within the study area. The analysis includes all of the CT data if it was located entirely within the study area, but includes only a proportion of the data if only part of the CT is located within the study area. For example, if 25 percent of the geographic area covered by the census tract is in the study area, then 25 percent of the CT population was included in the study area population estimate. The exception was for the assessment of foreign languages spoken in the home when residents over the age of 5 years of age could not speak English "very well." In these cases, the data for the entirety of all CTs was used consistent with the analysis conducted for the public involvement plan.

GIS was used to categorize the study area CT demographic characteristics relative to county-wide demographics. In addition, where data for the Pierce Transit Benefit Area was available, that data was also cited in the analysis.

#### **4.4.3 Existing Conditions**

For the Pacific Avenue/SR 7 HCT study the population within the 0.25-mile study area is racially and ethnically diverse and includes a high proportion of the population living below poverty. Figure 26 shows the census tracts within the study area.

**Figure 26. Census Tracts in the 0.25-mile Study Area**

**TOTAL POPULATION**

Within the study area the estimated population is about 27,800, based on apportioned census tract data. Residences within the study area are primarily single-family housing, except in downtown Tacoma where many multi-story apartment buildings are mixed with the commercial and retail establishments. Within Joint Base Lewis-McChord, at the south end of the corridor, there are no residences and only a few businesses approximately one mile west of Pacific Avenue S.

**RACE AND ETHNIC MINORITY POPULATIONS**

The study area population is racially and ethnically diverse (see Table 9). The population is an estimated 66 percent White and 36 percent non-White. In addition, Hispanics or Latinos comprise an estimated 11 percent of the population. Together, an estimated 41 percent of the population is minority, either non-White or Hispanic or Latino. In comparison, an estimated 37.2 percent of the population of Pierce County and 35.3 percent of the Pierce Transit Benefit Area, which covers an estimated 70 percent of the county, is minority. Figure 27 shows total minority distribution within the study area.

**Table 9. Study Area Population Race and Ethnicity**

Race or Ethnicity	Study Area Estimated Population	Study Area Percentage	Pierce Transit Benefit Area
<b>Total</b>	<b>27,800</b>		
Race			
White	18,300	66%	67%
Black or African American	2,900	10%	26%
American Indian or Alaska Native	400	1%	11%
Asian	2,400	9%	6%
Hawaiian and Other Pacific Islander	600	2%	---
One other race or two or more races	3,200	12%	1%
Hispanic or Latino <sup>1</sup>	3,100	11%	12%
<b>Total Minority<sup>2</sup></b>	<b>11,300</b>	<b>41%</b>	<b>35.3%</b>

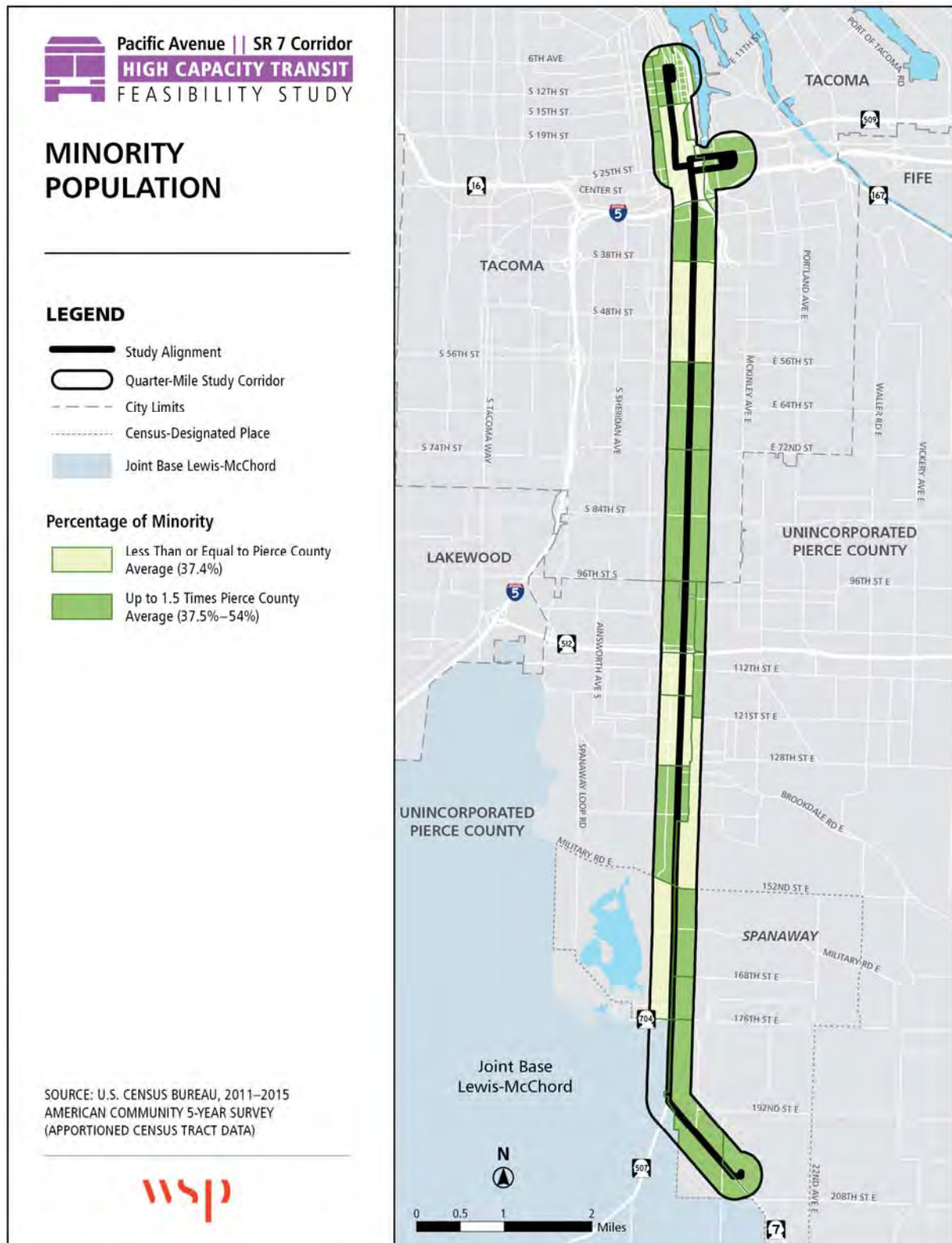
Source: 2015 ACS- 5 Year Data (B03002), Pierce Transit 2015.

Notes:

1. Hispanic or Latino persons may be of any race.
2. Total minority population includes all persons who are non-White and Hispanic/Latino.

The many ethnic religious facilities and service organizations within the study area reflect the diverse population. These community facilities include the following: Tacoma Buddhist Temple, East Asian Market, Japanese International Baptist Church, La Huerta International Market, Japanese Food Market, St. Nicholas Greek Orthodox Church; Macedonian Missionary Baptist Church, Elim Moldova Evangelical Church, Russian Center of Seventh-day Adventist Church, Korean Women's Association, Japanese Community Church, and Inglesia Ni Cristo Church of Christ.



**Figure 27. Minority Population**

Approximately 7 percent of the population over the age of 5 years speaks a language other than English in the home and they speak English less than very well (Pierce Transit 2017). Figure 28 shows the distribution of persons with limited English proficiency (LEP) in the study area. In comparison, an estimated 5.7 percent of Pierce County residents is LEP and an estimated 3.6 percent of the Pierce Transit Benefit Area is LEP. Research for the preparation of the project's public involvement plan identified the languages most frequently spoken in the home include: Spanish, Korean, Cambodian, and Vietnamese. The elementary public school non-English speaking portals at the local school district webpages included Spanish, Russian, Korean, Moldavian, Tagalog, Arabic, Cambodian, Ukrainian, Chinese, Khmer, Vietnamese, Hindi, and Lao.

#### ***LOW-INCOME POPULATIONS***

The 2015 ACS data indicates an estimated 6,000 or almost 22 percent of individuals in the study area are living below the poverty level. In comparison, this poverty rate is more than 70 percent higher than both Pierce County (12.4 percent) and the Pierce Transit Benefit Area (12.3 percent). Figure 29 shows the distribution of persons living in poverty.

Of the estimated 10,700 households in the study area, a substantial number are residing in either subsidized or very affordable housing. There are over 1,400 subsidized housing units located within the study area, predominantly in downtown Tacoma (National Housing Preservation Database 2017). Some sites have over 100 units, while others have as few as 4 to 20 units. In addition, there are 13 mobile home parks with an estimated 445 units located within the study area. These mobile home park units provide among the lowest market rates for renting single-family housing. These mobile home parks are all located south of 97<sup>th</sup> Street S in unincorporated Pierce County with several located within the Spanaway unincorporated community. As such, almost 18 percent of study area households reside in either subsidized or very affordable housing.

Another indicator of low-income populations is the number of households that do not have a vehicle available for personal use by residents. These persons are referred to as transit dependent. In the study area, an estimated 12 percent of the households do not have access to a personal vehicle (see Figure 30). In comparison, an estimated 5.8 percent of Pierce County households have no personal vehicles. At almost twice the rate compared to the county, the study area residents have a higher level of transit dependency. One population group that often does not have access to a vehicle are disabled persons. In the study area, an estimated 16 percent of the population is disabled (see Figure 31), which is slightly higher than the estimated 13.5 percent for all of Pierce County.

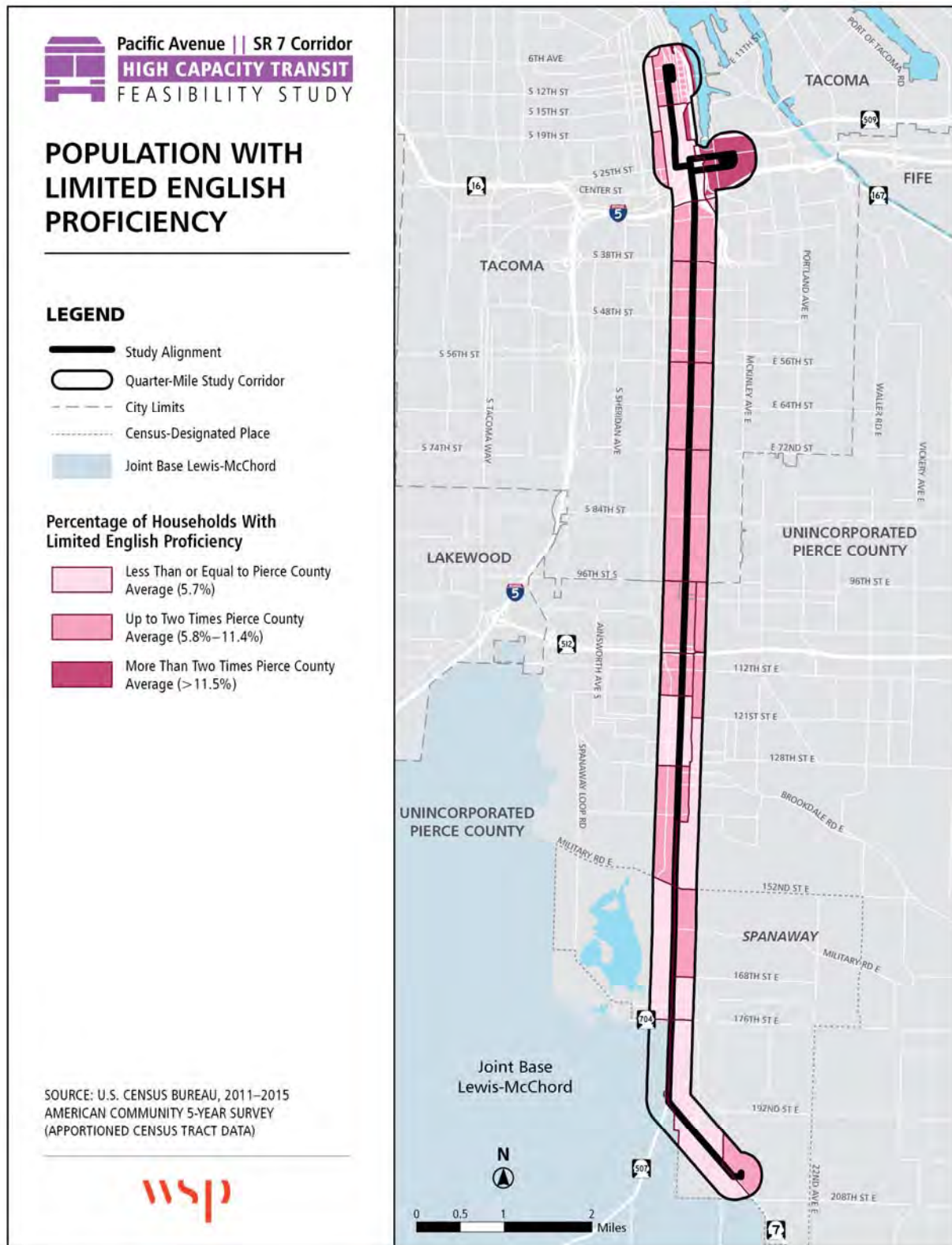
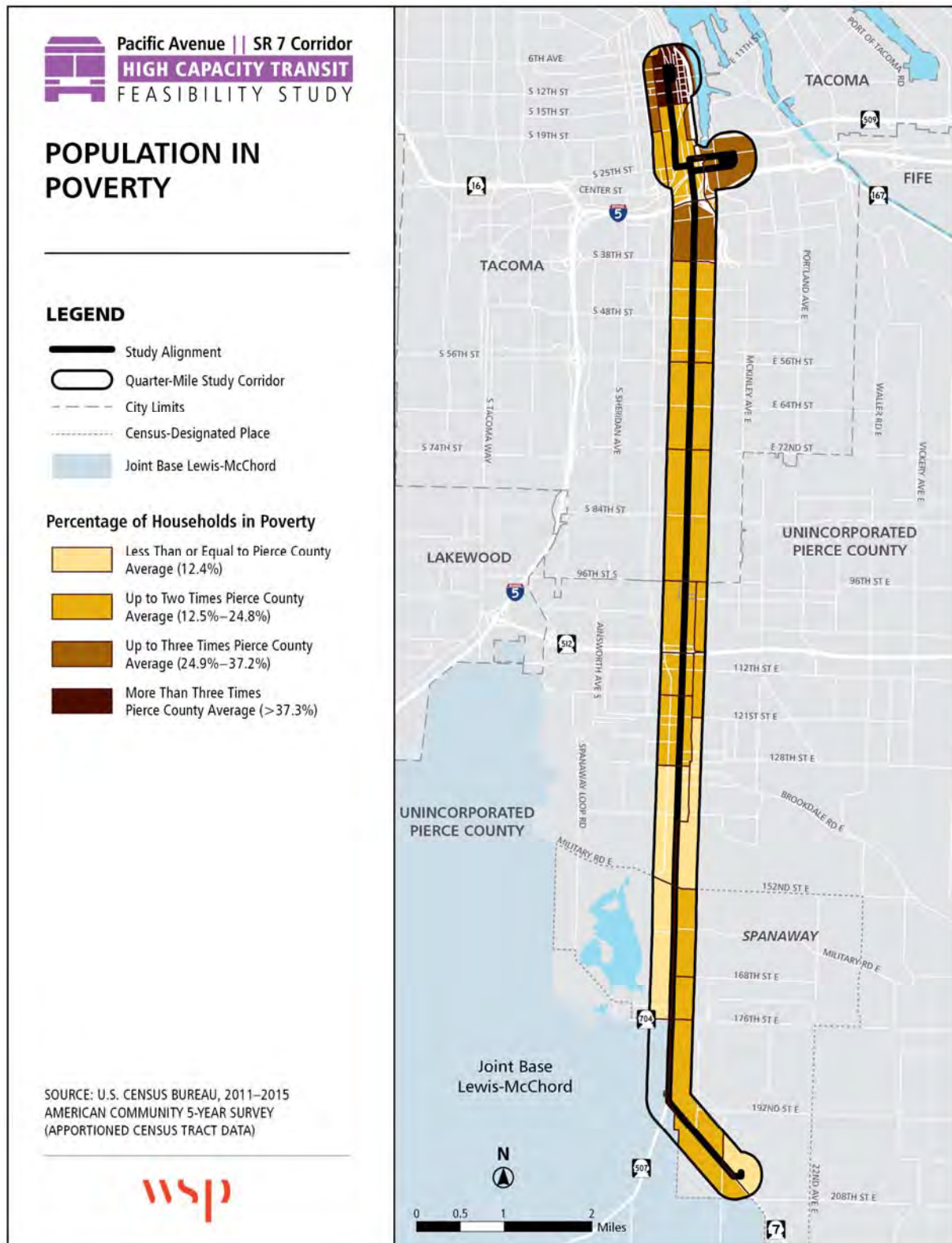
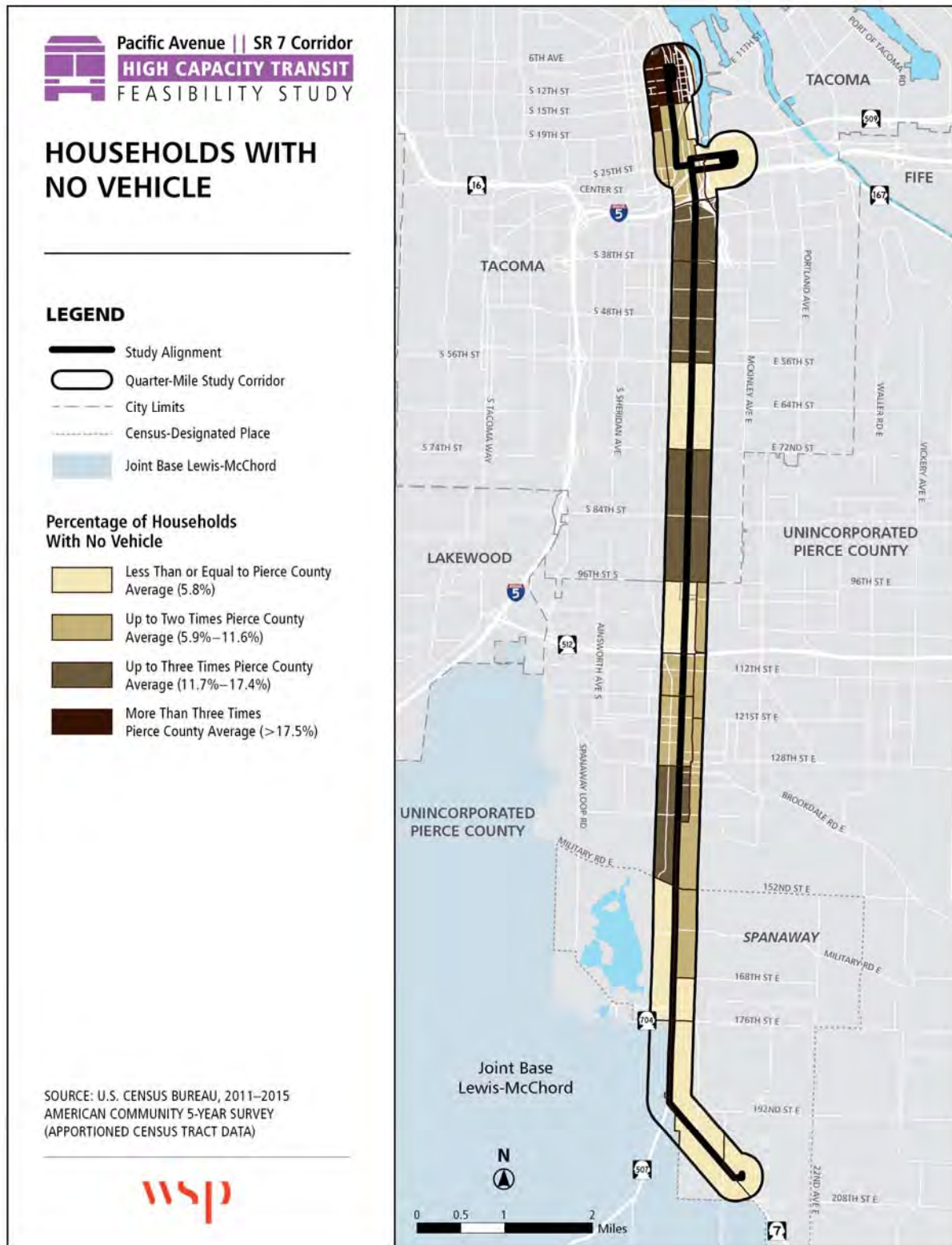
**Figure 28. Households with Limited English Proficiency**

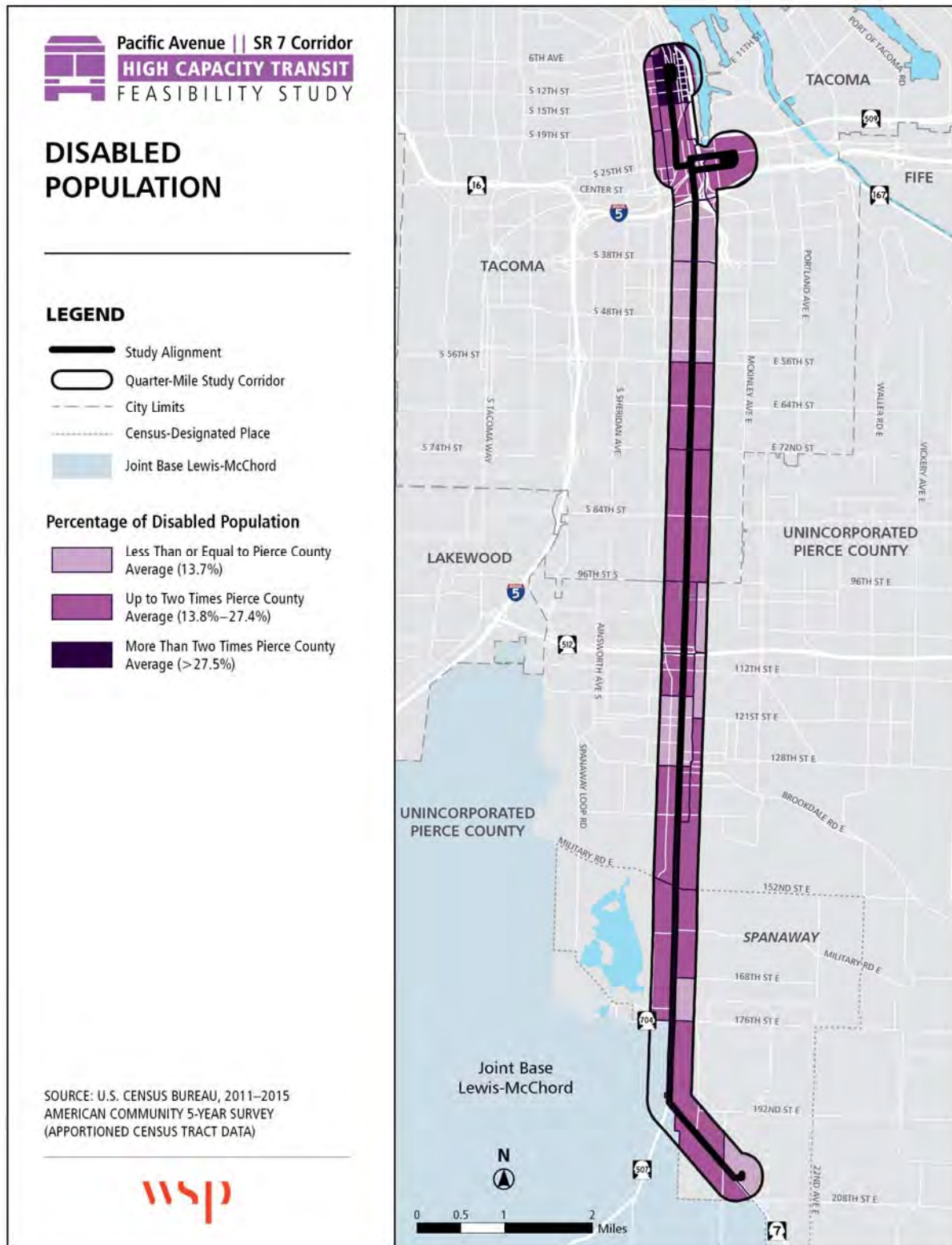


Figure 29. Population in Poverty





**Figure 30. Households with No Vehicle**

**Figure 31. Disabled Population**

### **COMMUNITY FACILITIES AND SERVICES**

The corridor is a major arterial connecting the county and downtown Tacoma. For those who do not have access to a personal vehicle, Pierce Transit Route 1 provides transit service, and connections to other transit routes, to residents as they travel to work, shops, community facilities and services, and the homes of friends and family. Though there are many commercial areas scattered along the corridor, none appear to be obviously serving the needs of any one of the many ethnic populations residing in the study area. The following paragraphs describe the many community facilities and services in study area. Figure 32 shows the distribution of these facilities and services along the north section of the study area and Figure 33 shows the south section.

Within the study area, community facilities and services within downtown Tacoma include:

- **Government offices:** Pierce County Veterans Bureau, Pierce County Corrections, Tacoma Municipal Court, the Washington State Employment Security Department, Work Source Offices of Pierce County.
- **Educational facilities:** University of Washington Tacoma, Bates Technical College, Tacoma Public Library, City University of Seattle, and the Northwest College of Art and Design.
- **Social services:** Tacoma Indian Center, Pierce County Family Support, Social Security Disability, Catholic Community Services Guadalupe House, and the Tacoma Rescue Mission shelter for homeless men.
- **Museums:** Tacoma Art Museum, the Washington State History Museum, Museum of Glass, Children's Museum of Tacoma, and the Lemay Car Museum.
- **Transportation facilities:** Greyhound bus station, the Sounder Tacoma Station, the Tacoma Link Dome Station, and the future Amtrak Cascade Station are all located in the study area near the Tacoma Dome.

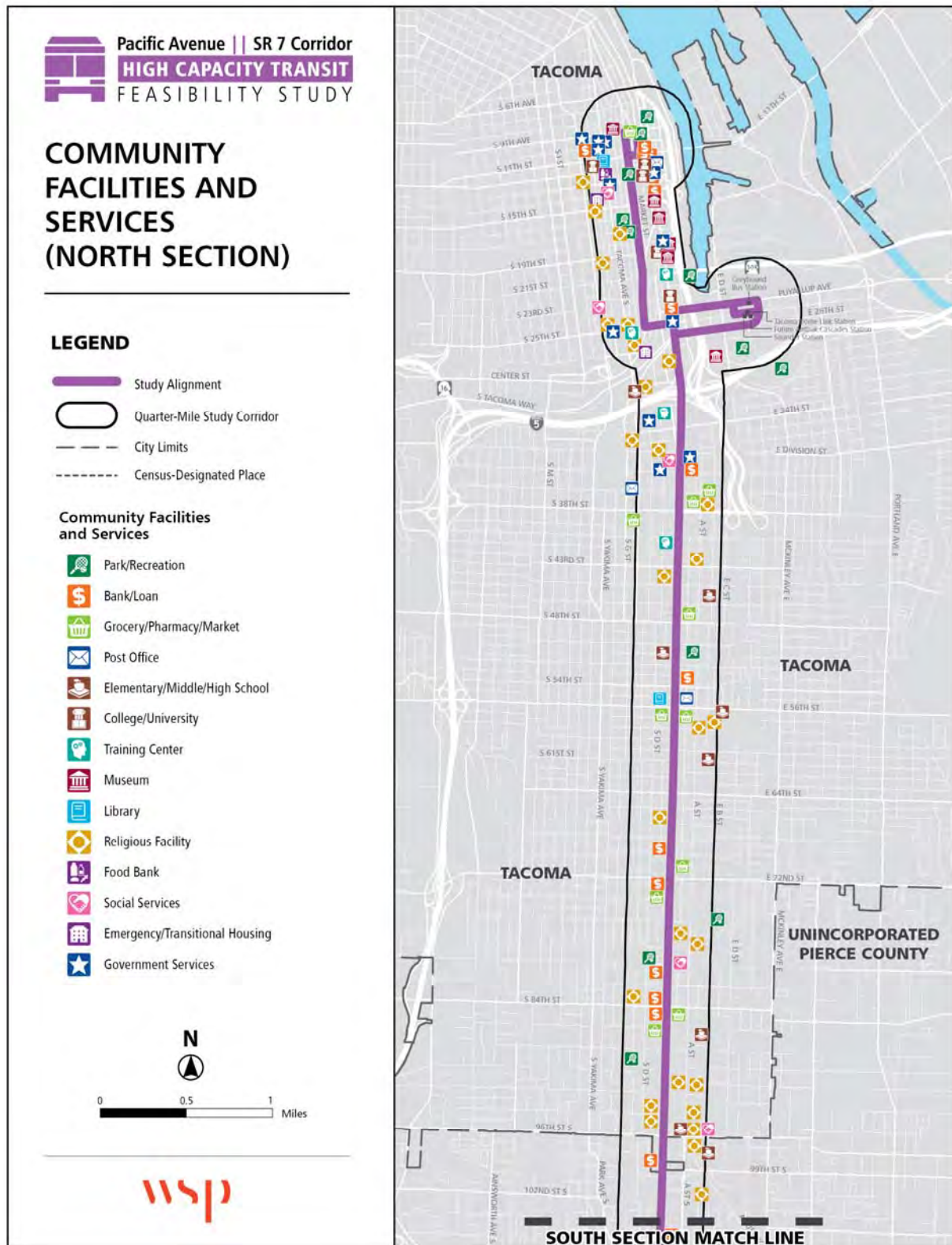
In addition, in downtown Tacoma there are several banks, a few small public parks, and a YMCA.

South of I-5, the number and variety of community facilities and services located within the study area are reduced. Government offices include the Tacoma-Pierce County Health Department, Pierce County Housing Programs, Pierce Community Corrections, Pierce County Medical Examiner, and a post office. A credit union and a pharmacy are located near the intersection of Pacific Avenue S and S 37<sup>th</sup> Street. Several religious institutions, a small market, and the Lyon Elementary School are located near Pacific Avenue S and S 45<sup>th</sup> Street. The Lighthouse Senior Activity Center and Stewart Middle School are located near Pacific Avenue S and S 50<sup>th</sup> Street.

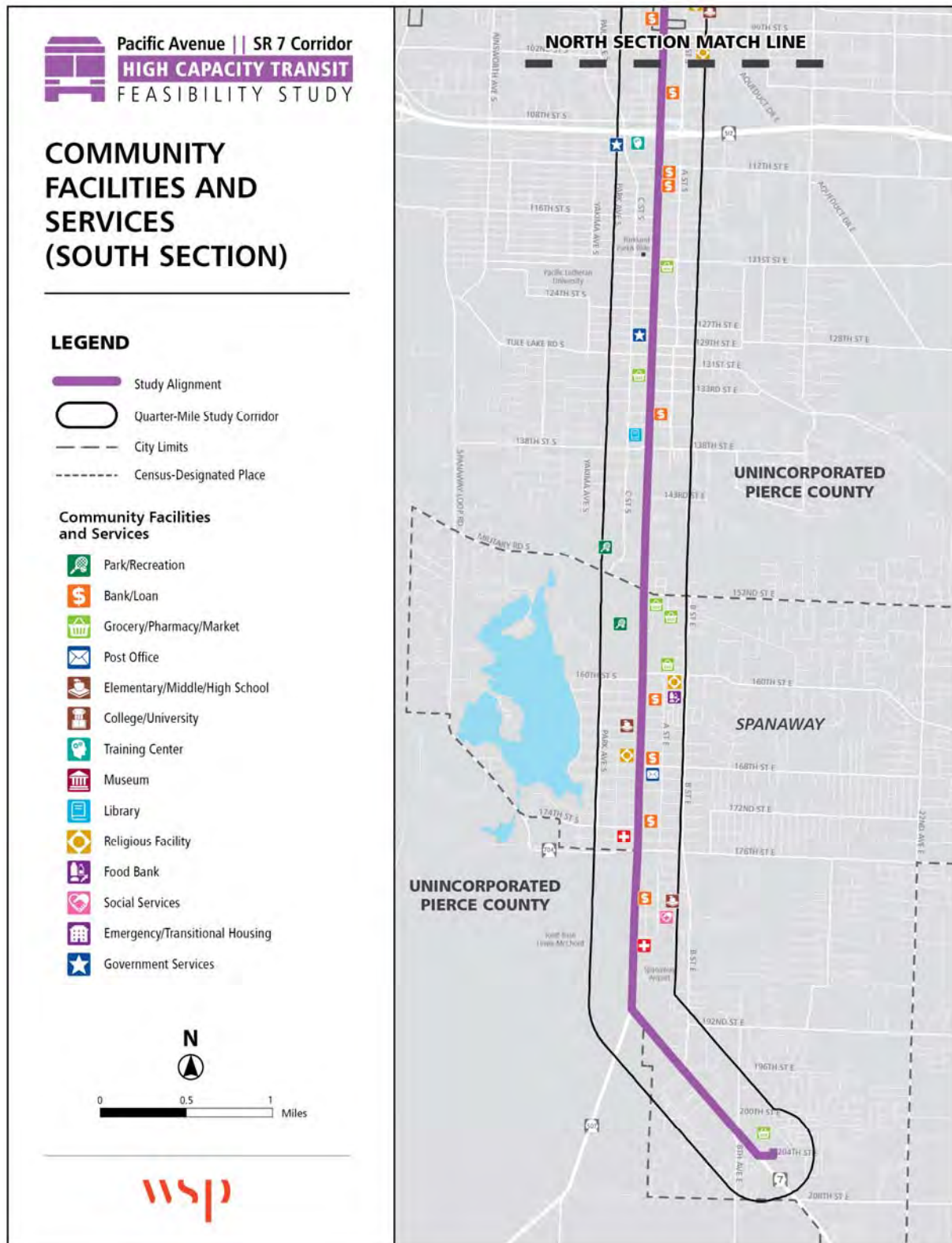
Between S 53<sup>rd</sup> Street and S 57<sup>th</sup> Street a commercial area includes several banks and two drug stores. The Moore Branch of the public library is located two blocks west of Pacific Avenue S at S 56<sup>th</sup> Street. Around the intersection of Pacific Avenue S and S 72<sup>nd</sup> Street the commercial district includes a Fred Meyers store, which has both a grocery store and a pharmacy, banks, a drug store and a rehabilitation facility. Metro Parks Tacoma's 20-acre Charlotte's Blueberry Park is southeast of this intersection. Between S 82<sup>nd</sup> Street and S 84<sup>th</sup> Street the commercial area includes several banks and a drug store. South to Highway 512 and S 112 Street a wide variety of small businesses that serve the community along the corridor are along both sides of Pacific Avenue S.



Figure 32. Community Facilities and Services – North Section





**Figure 33. Community Facilities and Services – South Section**

South of 121<sup>st</sup> Street S educational facilities include Pacific Lutheran University, the Mt. Rainier Lutheran High School, and the Parkland/Spanaway Pierce County Library. Government services include the Parkland Auto Licensing, a post office and the Pierce County Sheriff's Department. This area also includes the Asian Market Pacific.

Around 149<sup>th</sup> Street S there are a couple large-scale recreation facilities, with the Sprinkler Recreation Center and the Lake Spanaway Golf Course. Educational facilities include the Spanaway Middle School and the Spanaway Elementary School. The Spanaway food bank is located east of Pacific Avenue S near 160<sup>th</sup> Street S and a post office is at the corner of Pacific Avenue S and 168<sup>th</sup> Street S. Commercial services include Home Depot, grocery stores, the Multicare Spanaway Urgent Care Clinic is located at about 176<sup>th</sup> Street S, the Walmart Supercenter at the south end of the corridor.

#### **4.4.4 Public Outreach**

The following subsections describe the various public outreach events, methods used to encourage public participation by environmental justice populations, public comments received including issues raised by environmental justice populations.

##### ***Outreach Activities***

Pierce Transit has conducted many public involvement and outreach activities since project initiation in spring 2017, including specific efforts to reach out to environmental justice populations. Three rounds of public open house meeting occurred at several locations along the corridor in September 2017, November 2017 and March 2018, coinciding at key decision points during the study. In addition to these open houses, Pierce Transit has participated in meetings with many community groups, such as the Eastside Neighborhood Council and Spring Hill Safe Streets. A list of activities where Pierce Transit presented and discussed the project with the community is included in Appendix C. This list does not include community meetings and events where Pierce Transit staff distributed informational materials.

##### ***Methods Used to Encourage Participation***

The list below are key methods used in the implementation of the outreach activities to encourage public participation, particularly those from environmental justice populations.

- Notices for public meetings were published in local newspapers and on line social media, including Facebook posts in Spanish, the predominant language spoken in study area homes
- Open House notices, with bus route directions to locations, were distributed on bus rack cards; over 5,000 were distributed for each open house meeting
- On-bus audio announcements about the open houses were provided in English and Spanish
- All meeting advertising materials include a footnote regarding translation services, written in the top seven non-English languages spoken within the Pierce County Pierce Transit Benefit Area (Spanish, Russian, Vietnamese, Tagalog, Korean, Khmer, and German).
- Open house meetings held in buildings with Americans with Disabilities Act access
- An online "virtual open house" has meeting materials uploaded at <https://www.piercetransit.org/hct-virtual-open-house/> and where comments can be submitted at [hct@piercetransit.org](mailto:hct@piercetransit.org)

- Open house meetings times were schedule to accommodate a variety of work schedules
  - On-call translators were available for public meetings (upon request with advanced notice required)
  - Project fact sheets were prepared in English and Spanish and were distributed at Centro Latino in Tacoma
  - All outreach materials are posted on the project web page (<https://www.piercettransit.org/hct-feasibility-study/>), which can be translated into more than 90 languages using Google Translate

#### **PUBLIC INPUT**

Key input received from the public at the open house events is listed below:

##### **Open House 1**

- Study corridor would benefit from HCT service
- BRT would provide the most benefit
- Extend the BRT route to 6th Avenue and Tacoma Community College to eliminate transfers
- Improve existing Route 1 service

##### **Open House 2**

- Interested in frequent and reliable bus service and better station shelters and amenities
- Concerned about increased vehicle traffic congestion due to BRT service and crossing the street to access a median station

##### **Open House 3**

- Project should be selected based on better connections to other transit services, improved transit travel time reliability and increased transit ridership
- Median Alternative was the most preferred alternative
- Regardless of the alternative selected, there is support for the project

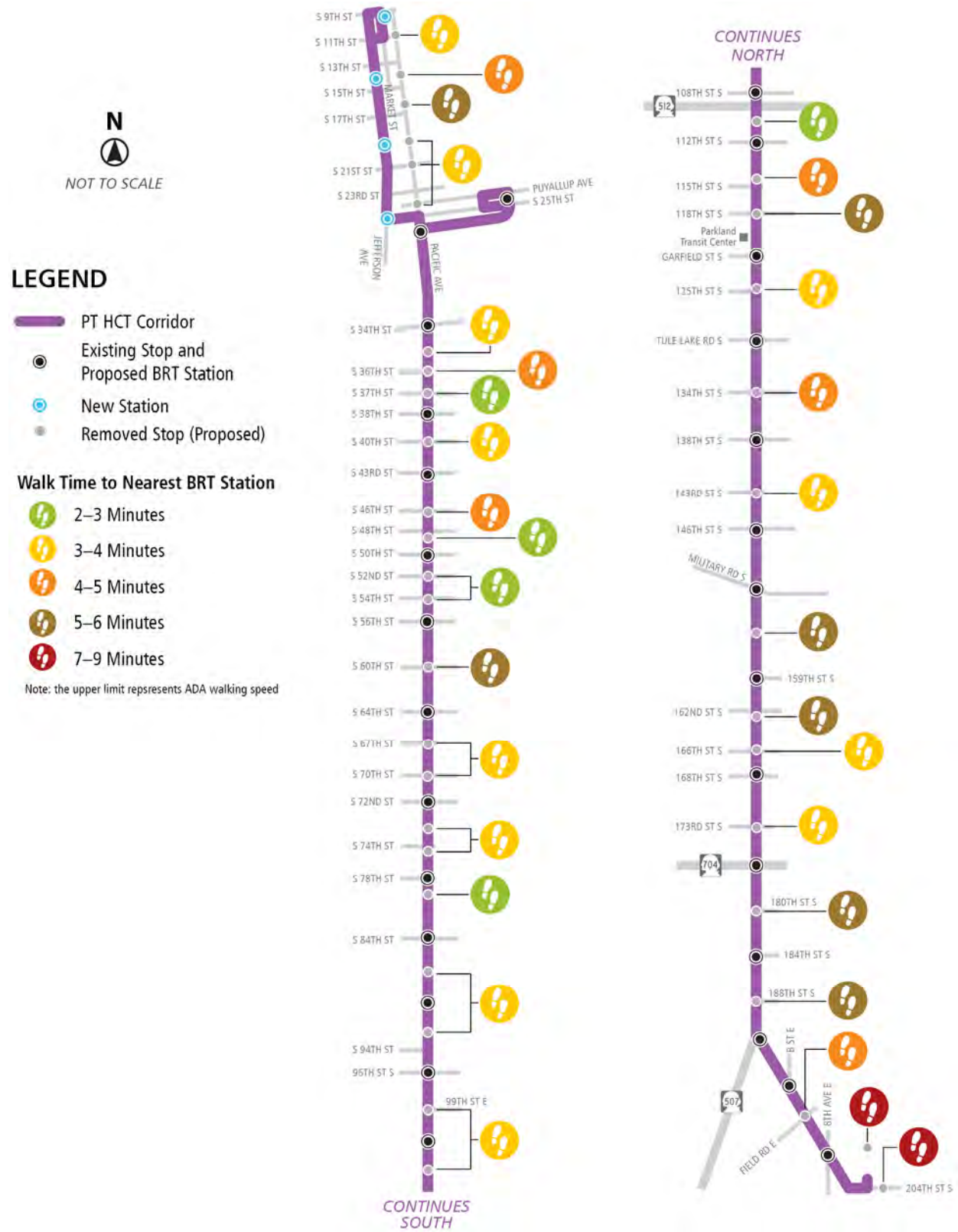
#### **4.4.5 Preliminary Impact Evaluation**

Because the two proposed alternatives follow the same route, with a different configuration within the roadway right-of-way, the following is a qualitative assessment of potential adverse and beneficial effects to environmental resources that environmental justice individuals would experience with both the Curbside and Median Alternative:

- The proposed transit service improvements, such as improved transit reliability, decreased transit travel times and station amenities and safety features (such as shelters, benches and lighting), are expected to have an overall benefit to all transit users, including environmental justice populations.
- Pedestrian and bicycle access to proposed BRT stations would be improved to include new and/or expanded sidewalks, new signalized pedestrian crossings, and bicycle facilities. These improvements are expected to have an overall benefit to all pedestrians and bicyclists in the corridor, including environmental justice populations.

- Route 1 bus stops would be consolidated from 65 pairs to 32 BRT station pairs, which would increase the average station spacing along the corridor to roughly one-half mile. An assessment of the additional walk times from an existing bus stop to the nearest new BRT station is provided in Figure 34. Increased walk times to BRT stations would affect all transit riders, which may include a greater percentage of low-income and transit dependent individuals. On Route 1 the existing travel time from the Spanaway Walmart to downtown Tacoma average 62 minutes. With either the Curbside or Median Alternative the transit travel time would decrease to an estimated 50 to 55 minutes. Therefore, even with the increase in walk times to BRT stations the decrease in transit travel time would reduce the overall travel time for most of the corridor.
- No business or residential displacements are anticipated.
- Minor acquisition at the Lake Spanaway Golf Course would not affect the recreational use.
- No historic buildings or archaeological sites are anticipated to be disturbed.
- Air quality within the corridor could be improved somewhat with fewer transit stops and reduced vehicle idling.
- Noise levels in the corridor could be reduced somewhat due to less deceleration and acceleration at fewer transit stops. In the segments with exclusive transit lanes, roadway widening could change noise levels at land uses immediately adjacent to the corridor, which may include sensitive noise receptors such as residences.
- Surface water run-off during construction and final design roadway improvements would be managed with best management practices.
- Potentially contaminated soils would be identified prior to construction and best management practices to excavate, contain, and dispose of any potential contaminated soils would be implemented.



**Figure 34. Increased Walk Times from Existing Route 1 Bus Stops to Proposed BRT Stations**

***CURBSIDE ALTERNATIVE***

The following describes the potential adverse and beneficial effects to environmental resources that environmental justice individuals would experience with the Curbside Alternative:

- Section 4.3 provides an assessment of traffic in the corridor for the Curbside Alternative. The changes to traffic would be the same for all populations residing and/or traveling within the corridor, including environmental justice individuals.
- Section 4.2 provides an assessment of property acquisitions and access changes associated with the Curbside Alternative. As almost all the required property acquisitions are narrow slivers of land adjacent to the edges of the existing roadway right-of-way, there would be no land use displacement. Property acquisition would be required on the parcel where the La Huerta International Market is located (southeast corner of the intersection at S 56<sup>th</sup> Street), but the market building would not be affected. All acquisitions would comply with the Uniform Relocation Act.
- Under the Curbside Alternative, the BRT transit buses would travel in the outside lane of the roadway. Transit riders would access curbside BRT stations from the sidewalk. In segments where a BAT lane is proposed they would provide an additional buffer between pedestrians on the sidewalk and general purpose through traffic; however, they would also increase the roadway width, which increases the crossing distance for pedestrians. Overall, the amenities and improvements of the proposed Curbside Alternative would provide a safety benefit to all populations within the corridor including environmental justice individuals.

***MEDIAN ALTERNATIVE***

The following describes the potential adverse and beneficial effects to environmental resources that environmental justice individuals would experience with the Median Alternative:

- Section 4.3 provides an assessment of traffic in the corridor for the Median Alternative. The changes to traffic would be the same for all populations residing and/or traveling within the corridor, including environmental justice individuals.
- Section 4.2 provides an assessment of property acquisitions and access changes associated with the Median Alternative. As almost all the required property acquisitions are narrow slivers of land adjacent to the edges of the existing roadway right-of-way, there would be no land use displacement. All acquisitions would comply with the Uniform Relocation Act. Minor property acquisitions may be required on the following parcels, with uses that serve environmental justice populations:
  - La Huerta International Market (southeast corner of the intersection at S 56<sup>th</sup> Street) – No displacement or building impacts are anticipated.
  - A low-income housing complex located on the southeast corner of the intersection with S 34<sup>th</sup> Street– No displacement or building impacts are anticipated.
  - A small office building with tenants including the Korean American Association of America and the Macedonia Missionary Baptist Church located on the east side of Pacific Avenue S just north of S 88<sup>th</sup> Street - May affect parking. No displacement or building impacts are anticipated.

- Under the Median Alternative, the BRT transit buses would travel in the center lane of the roadway. Transit riders would be required to cross half of the roadway width to access median BRT stations. The median station would also serve as a general pedestrian refuge for those crossing the entire roadway. In areas where there is exclusive median transit lanes, left turn restrictions could enhance pedestrian safety by limiting turning vehicles into driveways and unsignalized intersections. Overall, the amenities and improvements of the proposed Median Alternative would provide a safety benefit to all populations within the corridor including environmental justice individuals.

#### **4.4.6 Preliminary Determination of Environmental Justice Impacts**

The Pacific Avenue/SR 7 Corridor HCT Project is not anticipated to have disproportionately high and adverse effects on minority or low-income populations. For the most part, project impacts would be limited in scope and, after mitigation would not alter the character, functions or interactions of neighborhoods. Best management practices would be expected to minimize impacts on all populations, including minority and low-income individuals.

### **4.5 HISTORIC AND CULTURAL RESOURCES**

#### **4.5.1 Applicable Regulations**

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to consult on the effects of any federal undertaking on historic properties. The intent of the Section 106 process and consultations is to identify historic properties that would potentially be affected by the undertaking, assess the effects, and to avoid, minimize or mitigate any adverse effects on historic properties. Historic properties may include prehistoric or historic districts, sites, buildings, structures, or objects that could be considered eligible for listing on the National Register of Historic Places (NRHP).

The Pierce Transit BRT project as proposed would potentially be funded by the FTA and would be required to comply with Section 106 of the NHPA as implemented under 36 CFR 800 (as amended).

The proposed project is also subject to laws of the State of Washington, including the Revised Code of Washington (RCW), including RCW 27.44 regarding Indian Graves and Records and RCW 68.60 regarding Abandoned Historic Cemeteries and Historic Graves.

#### **4.5.2 Methodology**

The area of potential effects (APE) is the geographic area within which the undertaking may directly or indirectly effect historic properties. Indirect effects include visual or auditory effects to historic properties, while direct effects include physical alteration (e.g., ground disturbance) of historic properties. The APE for the Curbside and Median Alternatives are the tax parcels adjacent to the curbside or median stations. Historical Research Associates, Inc. (HRA), evaluated the effects on architectural resources for the entire APE while limiting the evaluation of archaeological resources to where ground disturbance will occur (i.e., proposed curbside and median station locations).

In April 2018, HRA architectural historian Libby Provost, MA, conducted a desktop survey of all tax parcels adjacent to the proposed station locations to identify those with architectural resources that are 45 years of age or older. Provost consulted records from the online Pierce County tax parcel research tool, as well as U.S. Geological Survey (USGS) maps, to date all architectural resources on tax parcels within or adjacent to the APE. A search of the Washington Department of Archaeology and Historic

Preservation's (DAHP) online database and the Washington Information System for Architectural and Archaeological Records Data (WISAARD) was conducted to determine if any of the resources had been previously surveyed for or listed in the National Register of Historic Places (NRHP) and the Washington Heritage Register (WHR). HRA also consulted the Tacoma Register of Historic Places (TRHP) to identify locally listed properties within the study area.

An archaeological archival record search was conducted using a research radius of 0.5 miles around the area of direct disturbance for the Curbside and Median Alternatives proposed station locations. The WISAARD database provided information on previous cultural resource studies, archaeological site records, and cemetery records within the research radius. The statewide predictive model layer in WISAARD was also examined for probability estimates of encountering archaeological resources within the Curbside or Median Alternative station areas of direct disturbance.

HRA's in-house library was searched for information on the environmental, archaeological, and historical context of the Project's vicinity. Historic-period plats from the U.S. Surveyor General (USSG) General Land Office (GLO), historic-period land patents, and historic-period maps and atlases (e.g., Metskers) were reviewed for the presence of structures, sites, and features that might be extant within area of direct disturbance for the Curbside and Median Alternative stations, and are indicators of potential archaeological sites and past land use patterns. Ethnographic sources (e.g., Hilbert et al. 2001) were reviewed for information regarding place names, burials, and land-use practices.

#### **4.5.3 Existing Conditions**

Existing archaeological and historic resources for the Curbside and Median Alternative APEs were evaluated. Because the proposed BRT station pair locations for both alternatives are the same, the APEs for both alternatives are generally the same with slight variations which account for placement of curbside stations versus median or center-lane stations. The existing resources below describe the conditions for both the Curbside and Median Alternative APEs and distinctions between the two are described when applicable.

##### ***ARCHITECTURAL RESOURCES***

The results of the HRA records search identified 94 parcels with architectural resources aged 45 years or older that have potential to be impacted by the proposed Curbside Alternative and 95 parcels for the proposed Median Alternative. Table 10 provides a listing of those properties that have been identified as individually listed in the NRHP, those eligible for listing, or with an undetermined eligibility within the APE for each proposed alternative. A complete list of all historic-period, including non-listed and non-eligible resources, identified in the Curbside and Median Alternative APEs is provided in Appendix D.



**Table 10. Summary of NRHP and WHR Status of Architectural Resources Identified within the APE**

Station Location	Tax Lot ID	Address	Build Date	NRHP and WHR Status	City of Tacoma Registry	APE (Curbside, Median, or Both)
S 9th St.	2009050010	901–909 Broadway	1917; 1919	Individually listed in NRHP (1976); Old City Hall Historic District (contributing)	Yes; individually	Both
Garfield St. S	319093002; 6762002501	214 121st St. S <sup>4</sup>	1908	Eligible (WSDOT 1999); Undetermined by DAHP	—	Median
S 50th St.	320212004	5010 Pacific Ave.	1924; 2016	Surveyed, eligibility not determined (2009)	Yes	Both
112th St. S	9375000202	11205 Pacific Ave.	1969	Surveyed, eligibility not determined (2003)	—	Both

Both the Curbside and Median Alternative APEs extend into two historic districts, the Old City Hall Historic District (listed in the NRHP in 1977) and the Union Depot–Warehouse Historic District (1980). Three buildings within the APE (901–909 Broadway, 745 Commerce Street, and 773 Broadway) are located along the southern border of the Old City Hall Historic District and contribute to the district. The proposed S 9<sup>th</sup> Street station is along the curb adjacent to 901–909 Broadway, on the east side. This is within the boundary of the historic district.

Three buildings within the APEs (1904 Jefferson Ave., 1910–1914 Jefferson Ave., and 1918–1926 Jefferson Ave.) are along the western border of the Union Depot–Warehouse Historic District; 1904 Jefferson Ave. contributes to the districts as a “primary property” and 1910–1914 Jefferson Ave. contributes to the district as a “secondary property” (Gallacci and Sias 1979). The proposed S 19<sup>th</sup> Street station is positioned across the street from these buildings and is not within the boundary of the historic district.

## Archaeological Resources

HRA identified a variety of archaeological sites, studies, and ethnographically recorded place names within 0.5 mile of the area of direct disturbance for the proposed BRT stations. The vast majority of information relates to the northern stations, north of Interstate 5.

### *Previous Cultural Resource Studies*

There have been 44 previous cultural resource studies within 0.5 mile of the area of direct disturbance for the proposed BRT stations. Previous cultural resource studies conducted in the area were related to project activities including railroad right-of-way work, Interstate 5 (I-5), or SR 7 maintenance or improvement; redevelopment of downtown Tacoma and waterway improvement; historic structure or building surveys within the city limits of Tacoma; construction of new cell towers; Clover Creek restoration projects; Spanaway area restoration projects; and one cultural resource study of 55 sites located on Joint Base Lewis-McChord. A complete list of previous cultural resource studies conducted within 0.5 mile of the area of direct disturbance for the BRT stations is provided in Appendix D.

Of the 44 previous cultural resource studies, a total of 6 studies overlap with the area of direct disturbance for either the Curbside or Median Alternative APEs. Those overlapping studies are also included in Appendix D. The findings of these studies did not identify any cultural resources within any of the areas of direct disturbance for the proposed BRT stations.

### *Archaeological Sites*

The area of direct disturbance for the proposed BRT stations are within 0.5 mile of 19 previously recorded listed or eligible archaeological sites for listing on the NRHP. All of the recorded archeological sites are listed in Appendix D-3. None of these previously recorded sites are within any of the area of direct disturbance for the proposed BRT stations.

### *Cemeteries*

There are 3 cemeteries within 0.5 mile of the area of direct disturbance for curbside stations. The first is located near the intersection of A Street and 25<sup>th</sup> Ave. and is a coffin discovered in 1890 while A Street was being graded. The exact location and condition of the coffin is unknown. The closest area of direct disturbance for the proposed BRT stations to the cemetery is the S 28<sup>th</sup> Street station, located 0.3 miles SW of the cemetery. The two other cemeteries are located near the intersection of 176<sup>th</sup> Street E and A Street S. The two cemeteries are adjacent to one another and are known as the Spanaway Cemetery. The 176<sup>th</sup> Street curbside station is located 0.1 miles west of the cemeteries.

### *Ethnographically Recorded Place Names*

Several ethnographically recorded place names are in the vicinity of the area of direct disturbance for the curbside stations. Near the intersection of Pacific Ave. and Jefferson Street is a place known in Lushootseed as *TsalalL-ali*, which translates to “place of lake,” where people used to camp temporarily (Hilbert et al. 2001:251). This place name is near the S 15<sup>th</sup> Street curbside station.

Another place name is at the mouth of a stream in a gully near S 24<sup>th</sup> Street, known in Lushootseed as *Tuxwa’dabcEb*, which translates to “place of tide; place of where the tide has gone out” (Hilbert et al. 2001:251). A tributary to that stream is known in Lushootseed as *Tca’tc*, which translates to “hide,” because trees arched over the stream (Hilbert et al. 2001:251). These place names are near the S 23<sup>rd</sup> Street curbside station.

Swan Creek is known in Lushootseed as *Bswa'qed*, which translates to “a place that has swans” (Hilbert et al. 2001:252). Another creek near Swan Creek is known in Lushootseed as *KE'labid*, which translates to “coming from the salmon eggs” (Hilbert et al. 2001:252).

Farther south, near the fork of the Clover Creek, is a village site with an unknown name, but the people were called *t'STEHL-eh-kuhb-ahbsh* and had a principal village at the present-day town of Steilacoom (Dailey 2018). This village is near the 138<sup>th</sup> Street S curbside station.

#### *Surface Geology*

The surface geology of the area of direct disturbance for the proposed BRT stations is described as different types of Vashon Till, a Pleistocene glacial deposit of the Vashon Stade of the Fraser Glaciation. The northern end of the BRT route Alternatives to approximately the 34<sup>th</sup> Street station is described as recessional outwash. Then from approximately the 34<sup>th</sup> Street station to the 112<sup>th</sup> Street station is Vashon Till. Finally, from approximately the 112<sup>th</sup> Street station to the 8<sup>th</sup> Street station, at the southern end of the route, is recessional outwash, Steilacoom gravel (Schuster et al. 2015). The presence of glacial sediments near the surface makes deeply buried archaeological resources unlikely.

#### *Historic-Period Maps*

The historic-period maps of the area provide information on the landownership and use of the areas of direct disturbance for the proposed BRT stations. The earliest depictions and landownership information comes from 1868, 1871, and 1873 GLO plats and BLM land patents (USSG 1868, 1871, 1873). More detailed landownership information is provided in several Pierce County Atlases dating between 1889 and 1960 (Metsker 1951, 1960; Plummer 1889; White 1928). Building and structure locations in the vicinity of the S 9<sup>th</sup> Street and S 15<sup>th</sup> Street stations are depicted as early as 1885 (Sanborn 1885). The 1896 edition of those maps expands the area mapped and includes the 19<sup>th</sup> St area of direct disturbance for the station, and the 1896 edition further expands the coverage to include the E G Street, S 28<sup>th</sup> Street, and the S 34<sup>th</sup> Street area of direct disturbance for the stations (Sanborn 1896). The 1912 edition of the Sanborn Fire Insurance map for Tacoma is the most expansive and includes depictions of the areas of direct disturbance as far south as the S 84<sup>th</sup> Street station (Sanborn 1912).

#### *Predictive Model*

The WISAARD predictive model indicates that the area of direct disturbance for the proposed BRT stations ranges from a very high likelihood to a low likelihood of encountering cultural resources. From the northern end of the route to the southern end of the route, the model predicts a high to very high likelihood of encountering cultural resources at the northern areas of direct disturbance until the S 56<sup>th</sup> Street station, where it decreases to a moderate likelihood of encountering cultural resources. The stations between the Spooner Street stations and the station located near 8800 Pacific Ave. have a high likelihood of encountering cultural resources. South of the station located near 8800 Pacific Ave., the likelihood decreases to moderate and transitions between moderate and low risk until the southern terminus of the proposed BRT route Alternatives.

#### **4.5.4 Preliminary Impact Evaluation**

Since the potential impacts to historic and archaeological resources for both the Curbside and Median Alternative are similar, they are discussed together.

***CURBSIDE AND MEDIAN ALTERNATIVE***

The Curbside Alternative APE includes 94 parcels and the Median Alternative APE includes 95 parcels with architectural resources aged 45 years or older that have potential to be impacted by the project. Of these, 2 have been surveyed within the past 10 years and therefore do not require resurvey for the purposes of this project. The 5 properties already listed (individually or as contributing to a district) also do not require resurvey. Both the Curbside and Median Alternative APEs cross into the Old City Hall Historic District and the Union Depot–Warehouse Historic District.

Once an LPA is selected, the remaining unsurveyed parcels within the APE would need to be surveyed at a reconnaissance level to evaluate their potential eligibility to the NRHP. Parcels located within the historic districts would be evaluated for potential adverse effects to the districts.

Based on the results of the archival research, there is a moderate to high likelihood of encountering archaeological resources at 8 of the areas of direct disturbance for the stations within the Curbside Alternative APE. The 8 curbside stations are located at S 9<sup>th</sup> Street, S 15<sup>th</sup> Street, S 19<sup>th</sup> Street, S 23<sup>rd</sup> Street, 25<sup>th</sup> Street, G Street, 28<sup>th</sup> Street, and 34<sup>th</sup> Street. There is a moderate to high likelihood of encountering archaeological resources at 7 of the areas of direct disturbance for the stations within the Median Alternative APE, located at S 9<sup>th</sup> Street, S 13<sup>th</sup> Street, S 19<sup>th</sup> Street, 25<sup>th</sup> Street, G Street, 28<sup>th</sup> Street, and 34<sup>th</sup> Street. The high likelihood of encountering archaeological resources is based on the proximity to previously recorded historic-period sites and the historic-period maps depicting buildings and structures in close proximity to the areas of direct disturbance for the proposed BRT stations.

Based on the results of the archival research, there is a low likelihood of encountering archaeological resources at the remaining areas of direct disturbance for the proposed BRT stations within the Curbside and Median Alternative APEs. The low likelihood of encountering archaeological resources within the areas of direct disturbance is based on the surface geology being glacial till, and the amount and intensity of the historic-period and modern land disturbance that has occurred in the area has likely destroyed any archaeological resources.

## **5 CONCLUSIONS**

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The Curbside Alternative and Median Alternative were evaluated for their potential to affect a select set of environmental resources that were identified as the project's "critical issues." Based on the existing built environment of the corridor, this report evaluated potential changes to property and access, traffic, environmental justice populations and Title VI compliance, and historic and cultural resources. Based on this assessment, neither the Curbside Alternative nor the Median Alternative have environmental impacts that would significantly affect the project's delivery.

Because the project will be pursuing Small Starts funds from the FTA, the NEPA process will be required to be completed for the alternative selected as the project's Locally Preferred Alternative (LPA). The NEPA process has three classes of action; Categorical Exclusion (CE)/Documented Categorical Exclusion (DCE), Environmental Assessment (EA), and Environmental Impact Statement (EIS). Generally, completing a CE/DCE requires the least amount of time and effort and completing an EIS requires the most. As shown in Table 11, a project's class of action depends on the type of work/action that is proposed and the following three main factors: impacts, public and agency controversy, and the number of alternatives/options being evaluated.



**Table 11. NEPA Class of Action Summary**

Factors	NEPA Class of Action		
	Documented Categorical Exclusion	Environmental Assessment	Environmental Impact Statement
<b>Impacts</b>	Known, Not Significant	Unknown if Significant	Known, Significant
<b>Public and Agency Controversy</b>	Low	Moderate	High
<b>Project Alternatives/Options</b>	1	1 or more	1 or more

Based on the evaluation of the environmental critical issues, it is anticipated that the FTA could determine that a DCE would be the appropriate NEPA class of action for the Curbside Alternative. With the Curbside Alternative, over the entire approximately 14-mile corridor length, the number of properties that would require some acquisition of land and the percent of the property acquired are not an intense impact and the addition of BAT lanes would result in improvements to general purpose traffic along Pacific Avenue/SR 7. Therefore, the impacts of the Curbside Alternative that are currently known are not significant and it would be expected to have low public and agency controversy.

With the Median Alternative, it is anticipated that the FTA could determine that an EA would be the appropriate NEPA class of action. Compared to the Curbside Alternative, the number of properties that would require some acquisition of land over the entire corridor length is notably higher. In addition, while the access changes that would occur with the Median Alternative would have safety benefits for the corridor, they would also restrict left turns to signalized intersections and would require some traffic to make U-turns at signalized intersections to get to their destination. Therefore, the FTA could determine that it is not known whether the property and access impacts of the Median Alternative are significant and they may have moderate public and agency controversy.

Ultimately, the FTA will make the determination on the project's NEPA class of action. Currently, it is anticipated that the time to complete either a DCE or an EA would not delay the project schedule.

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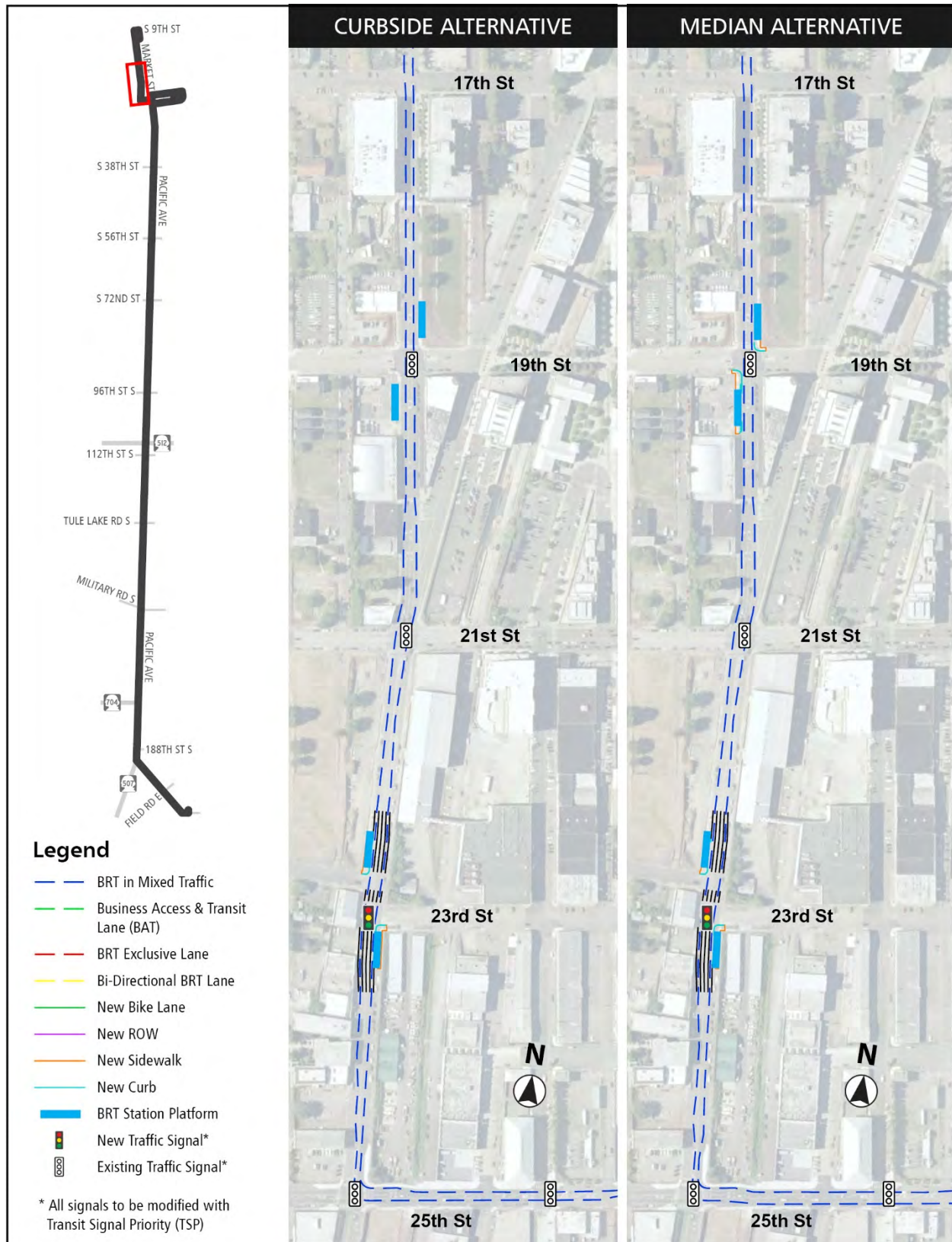
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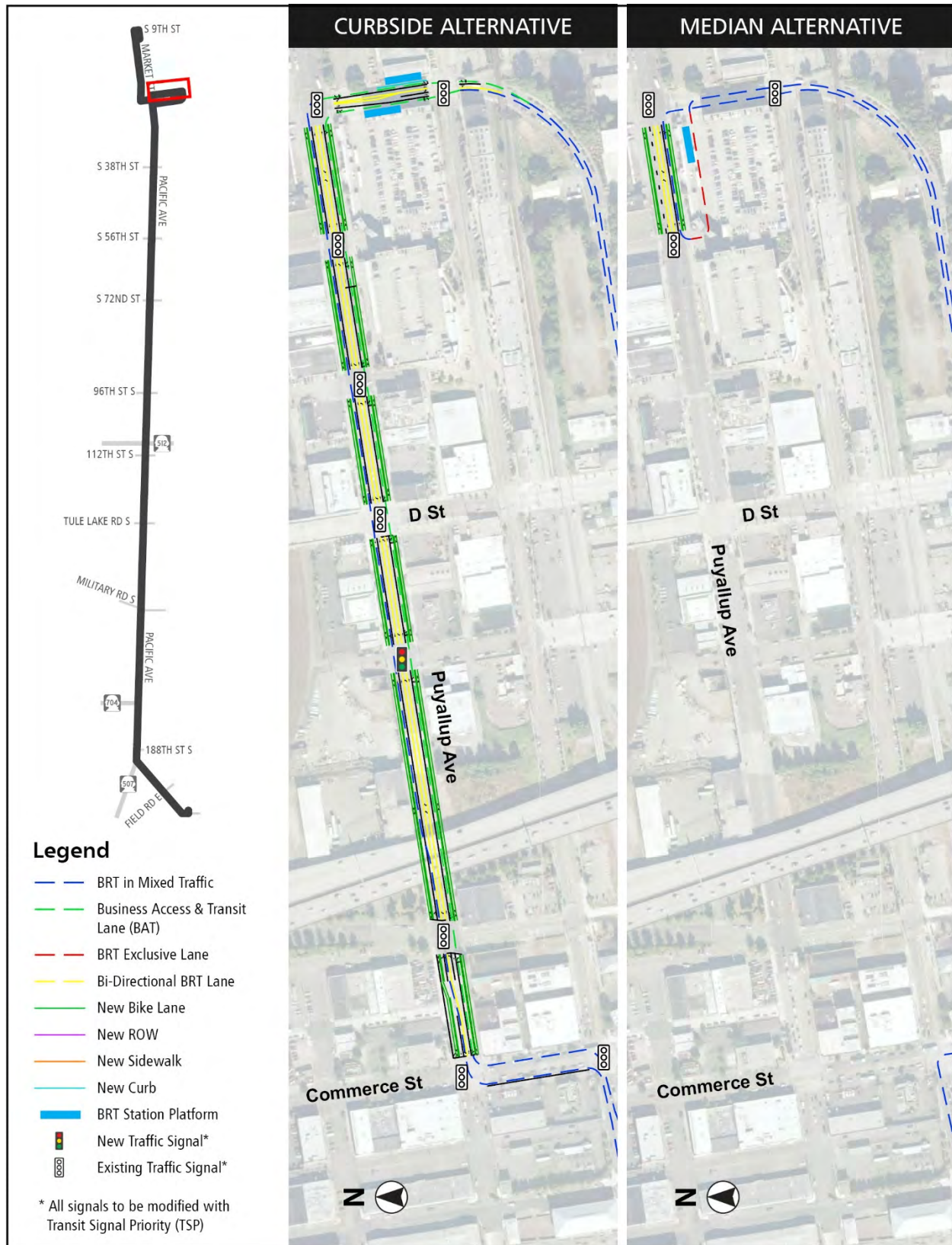
## **APPENDIX A: CONCEPTUAL ALTERNATIVES**

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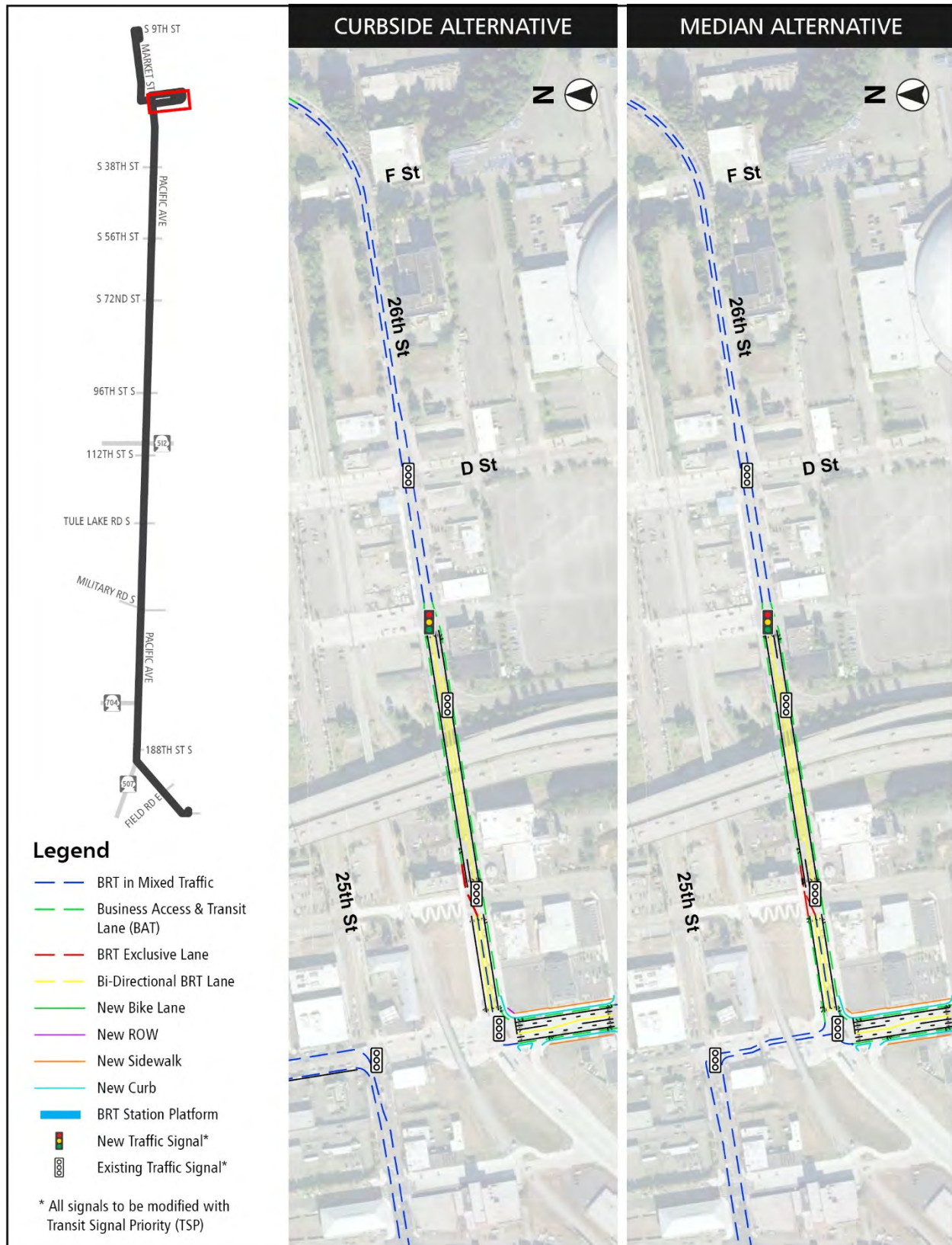


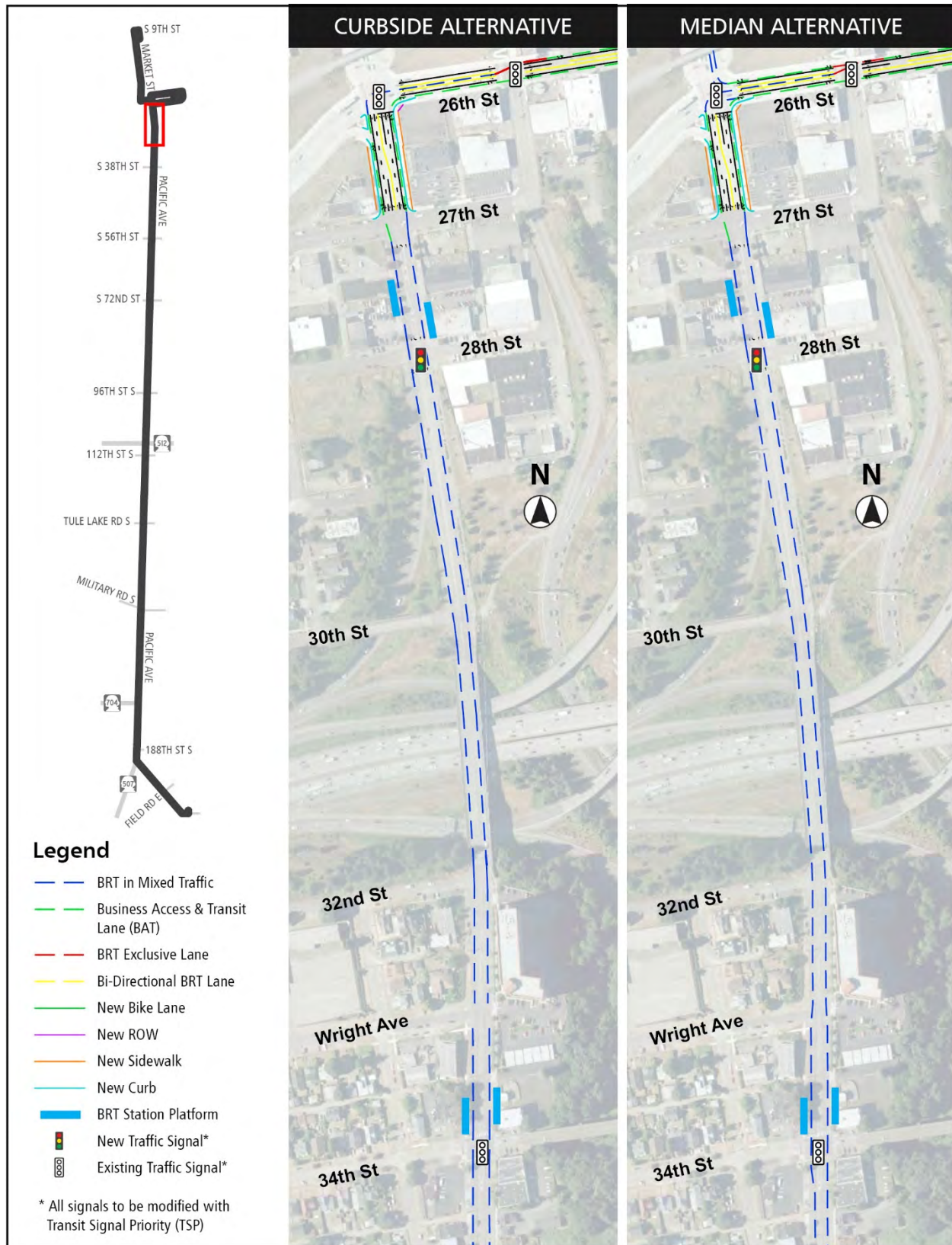




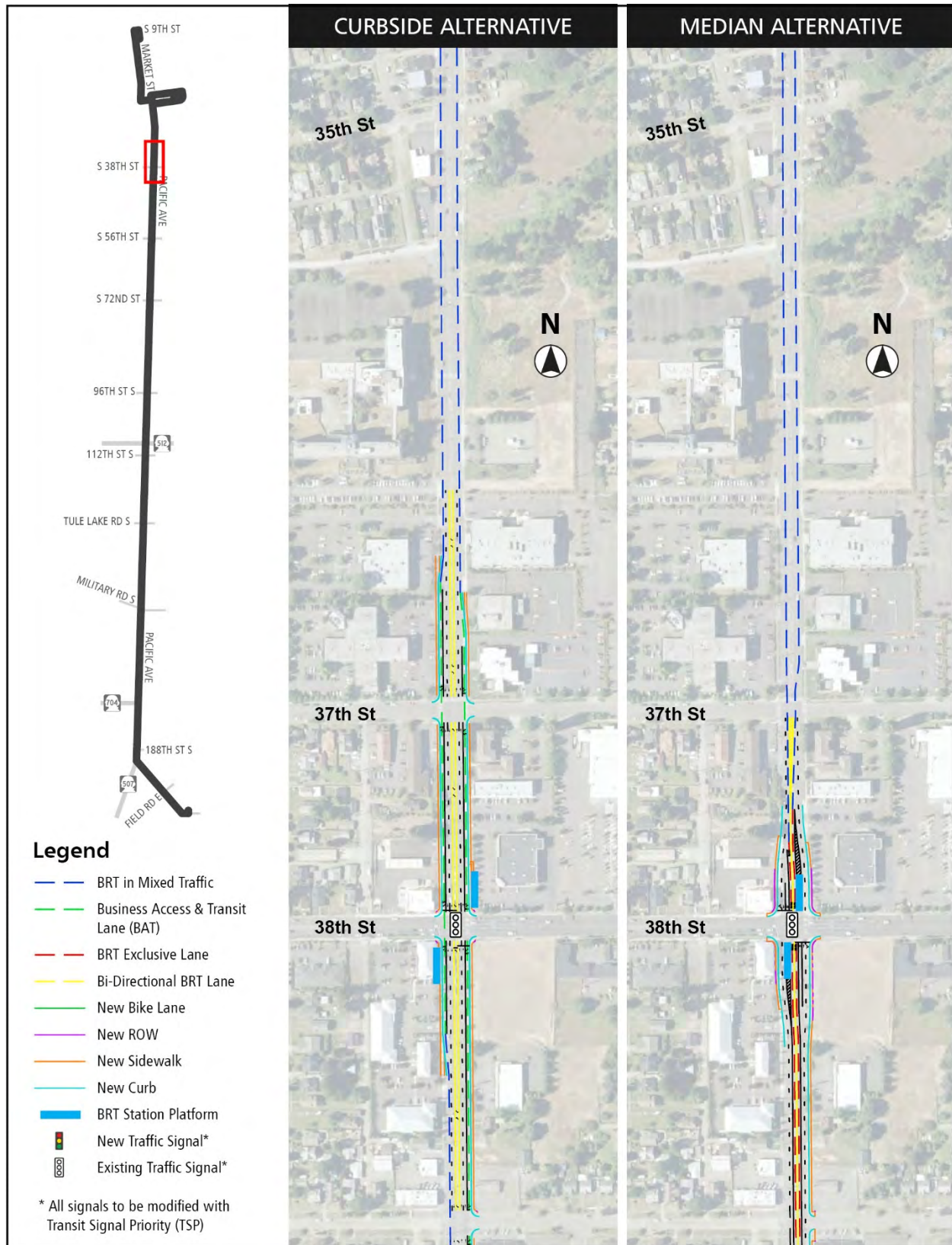


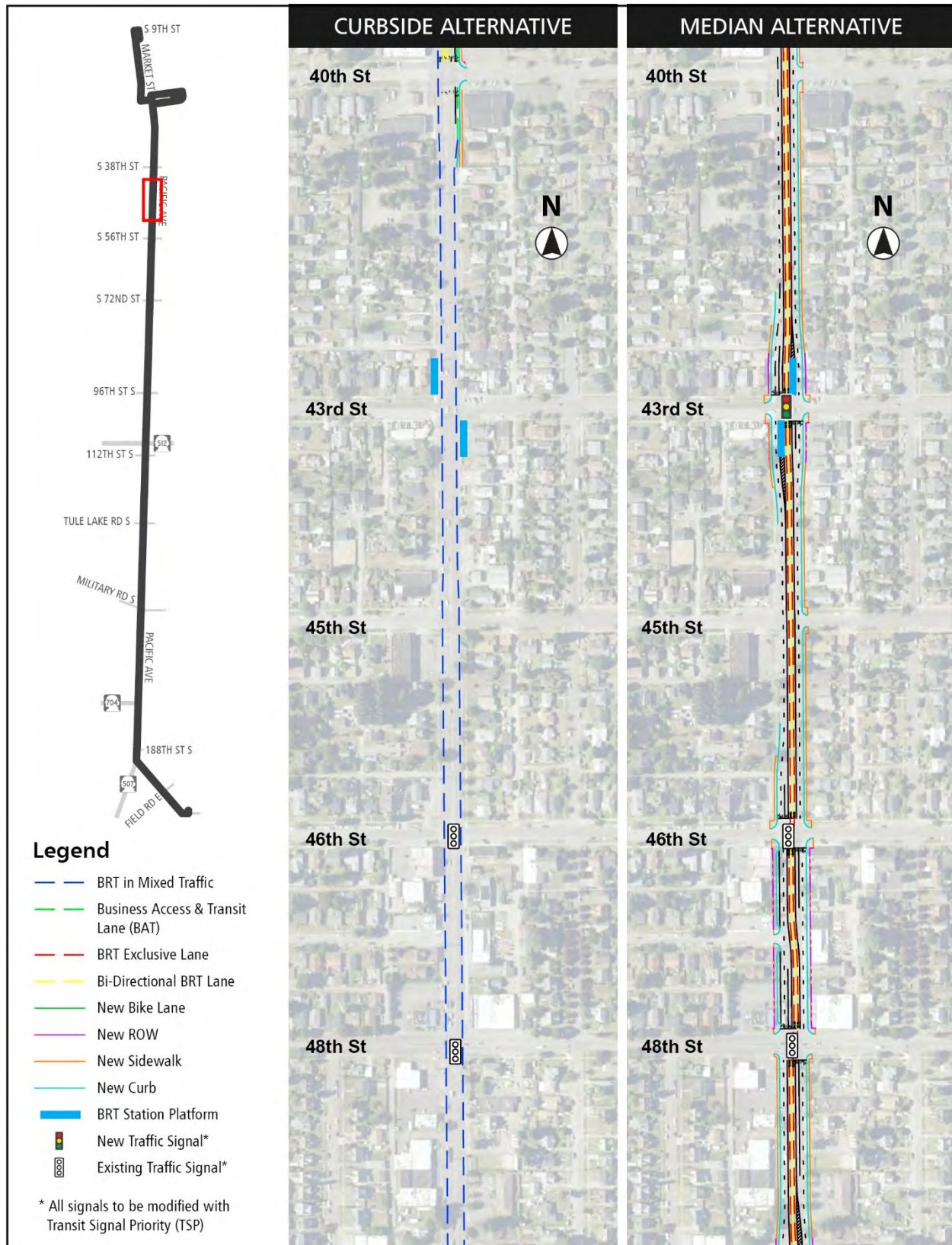




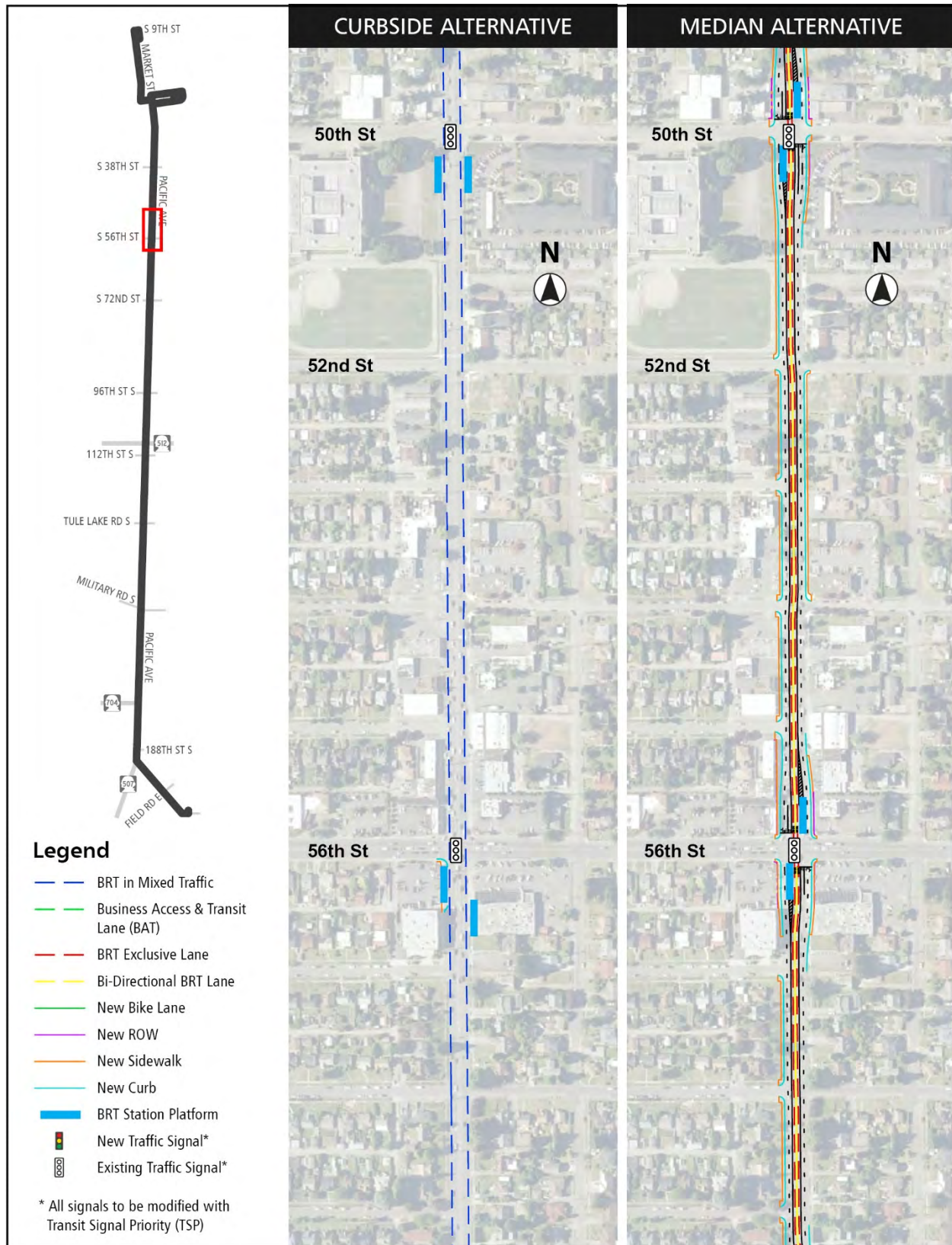


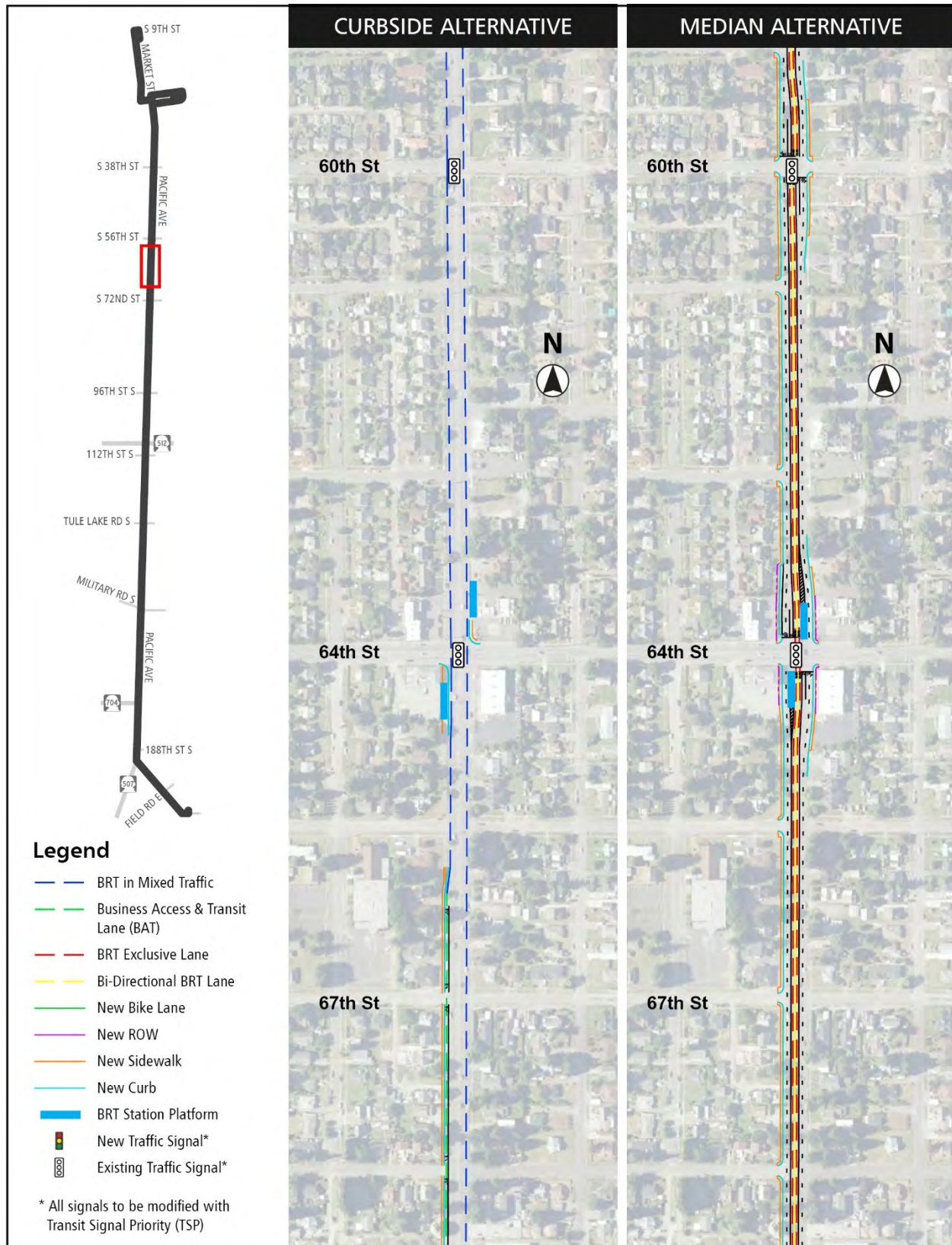




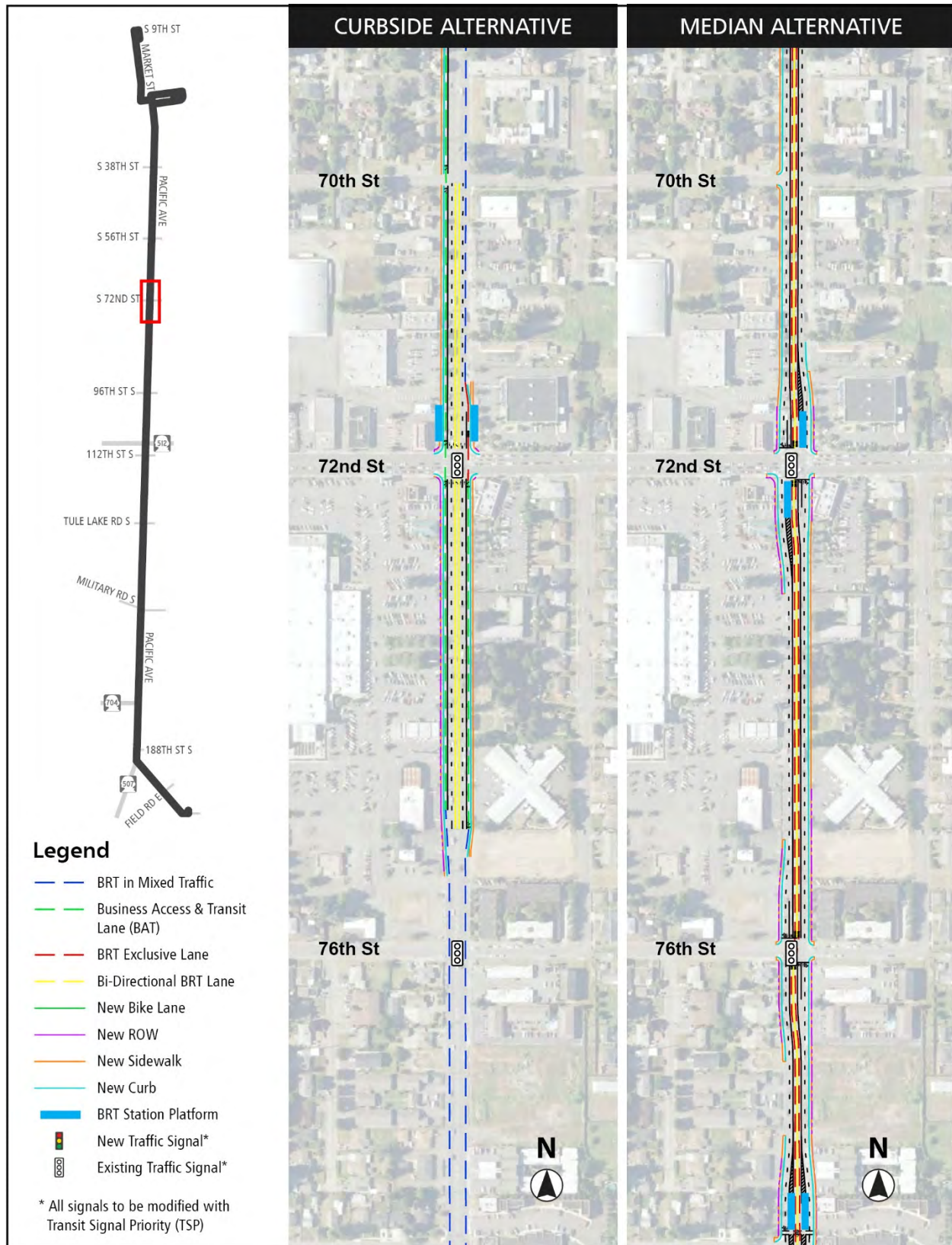


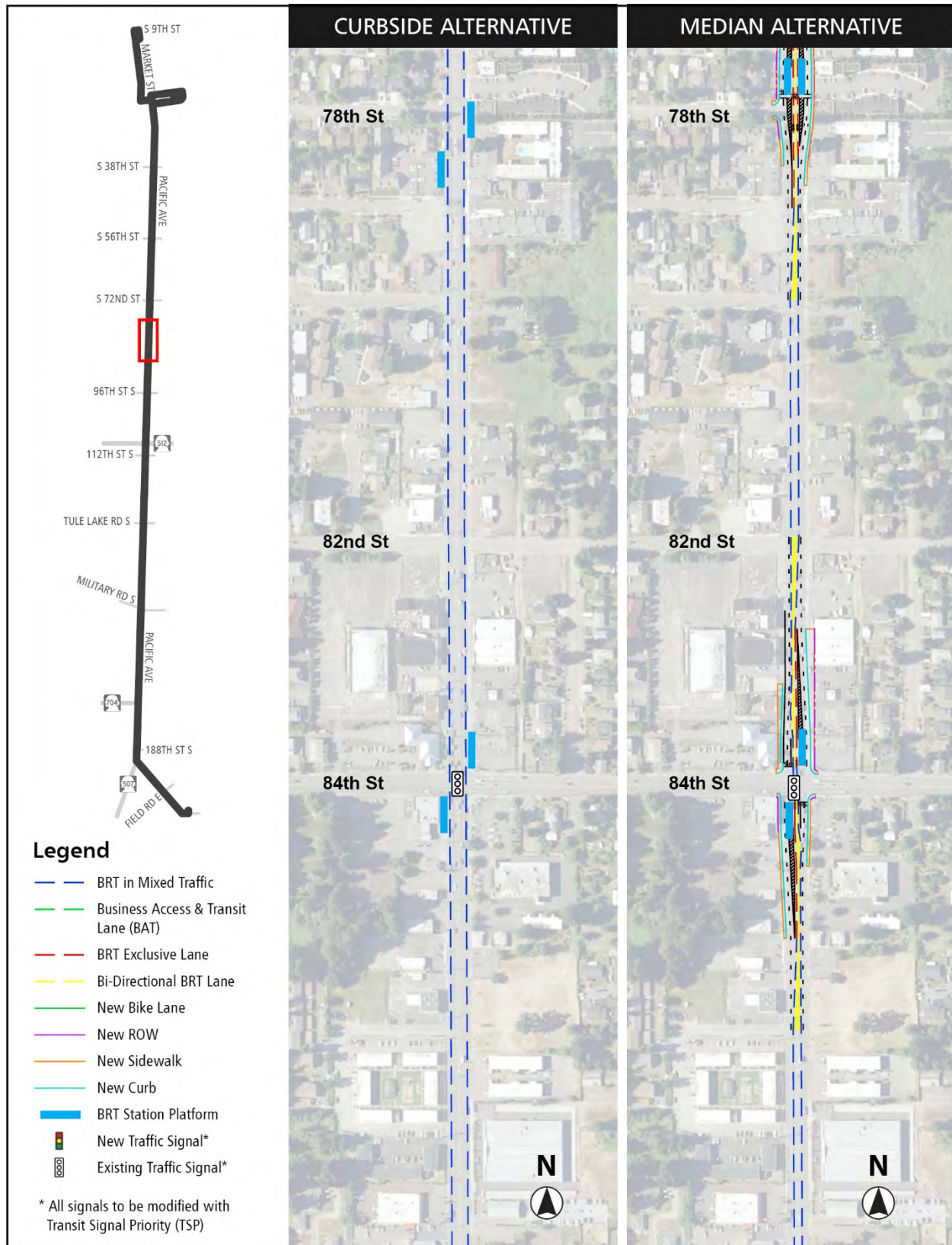




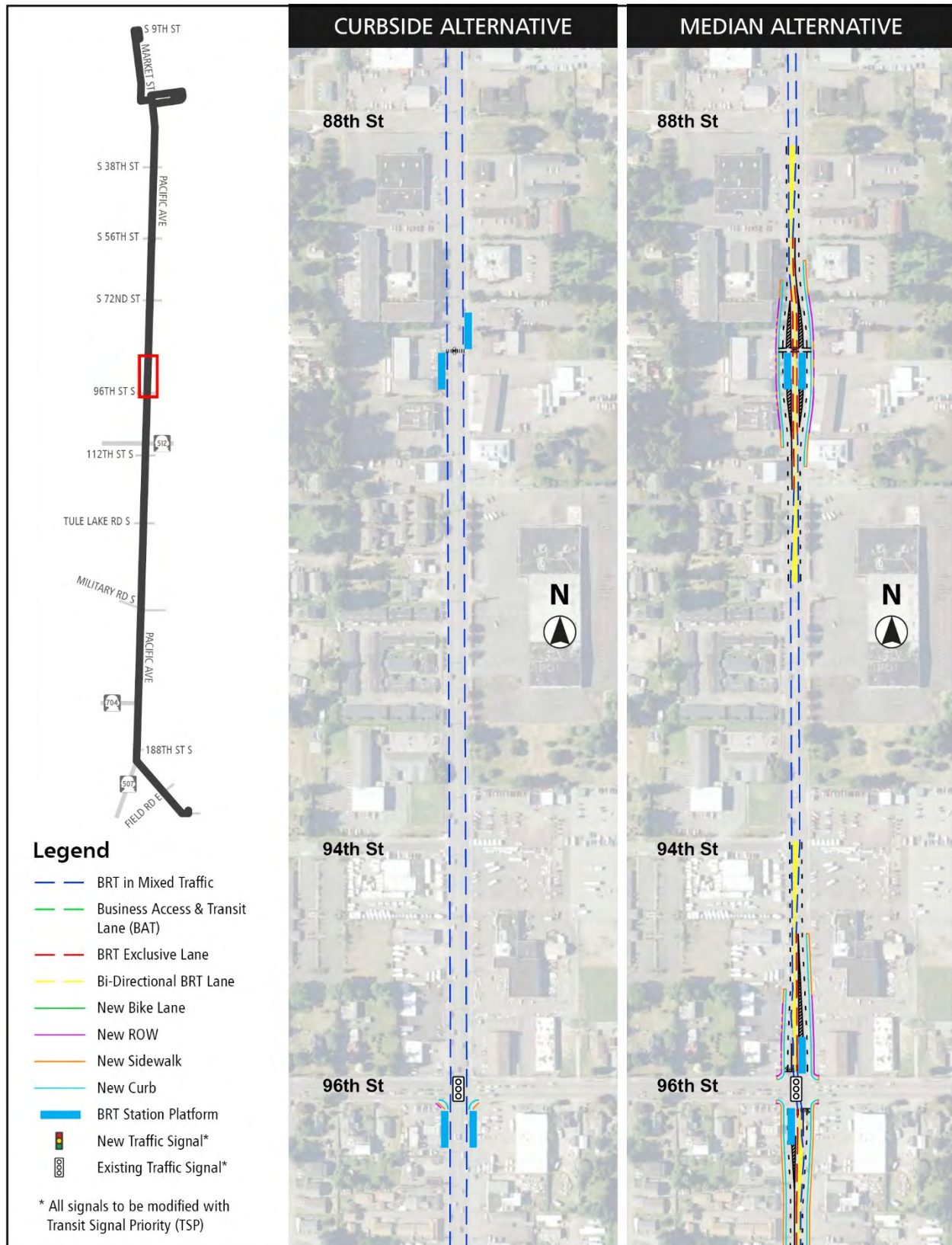


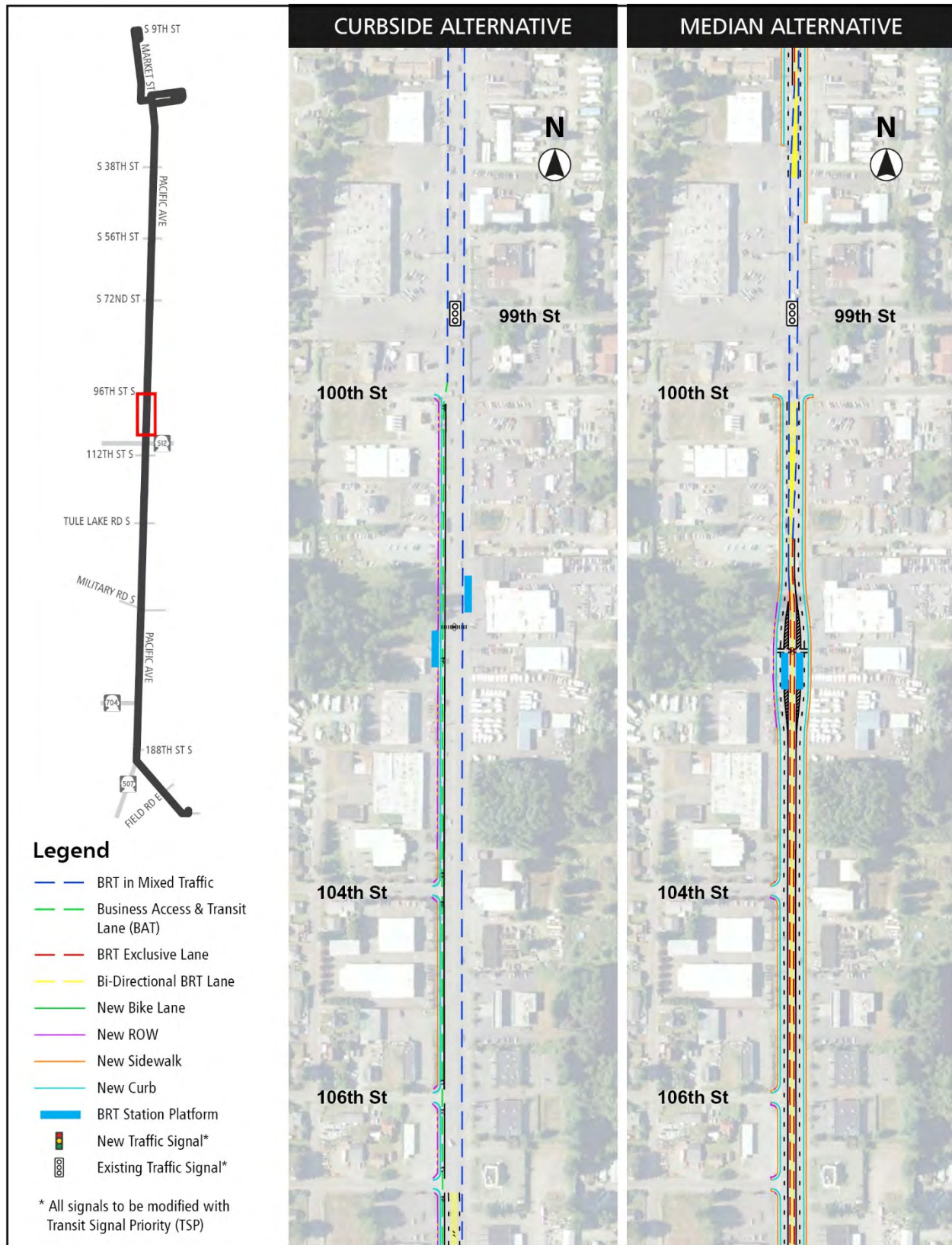




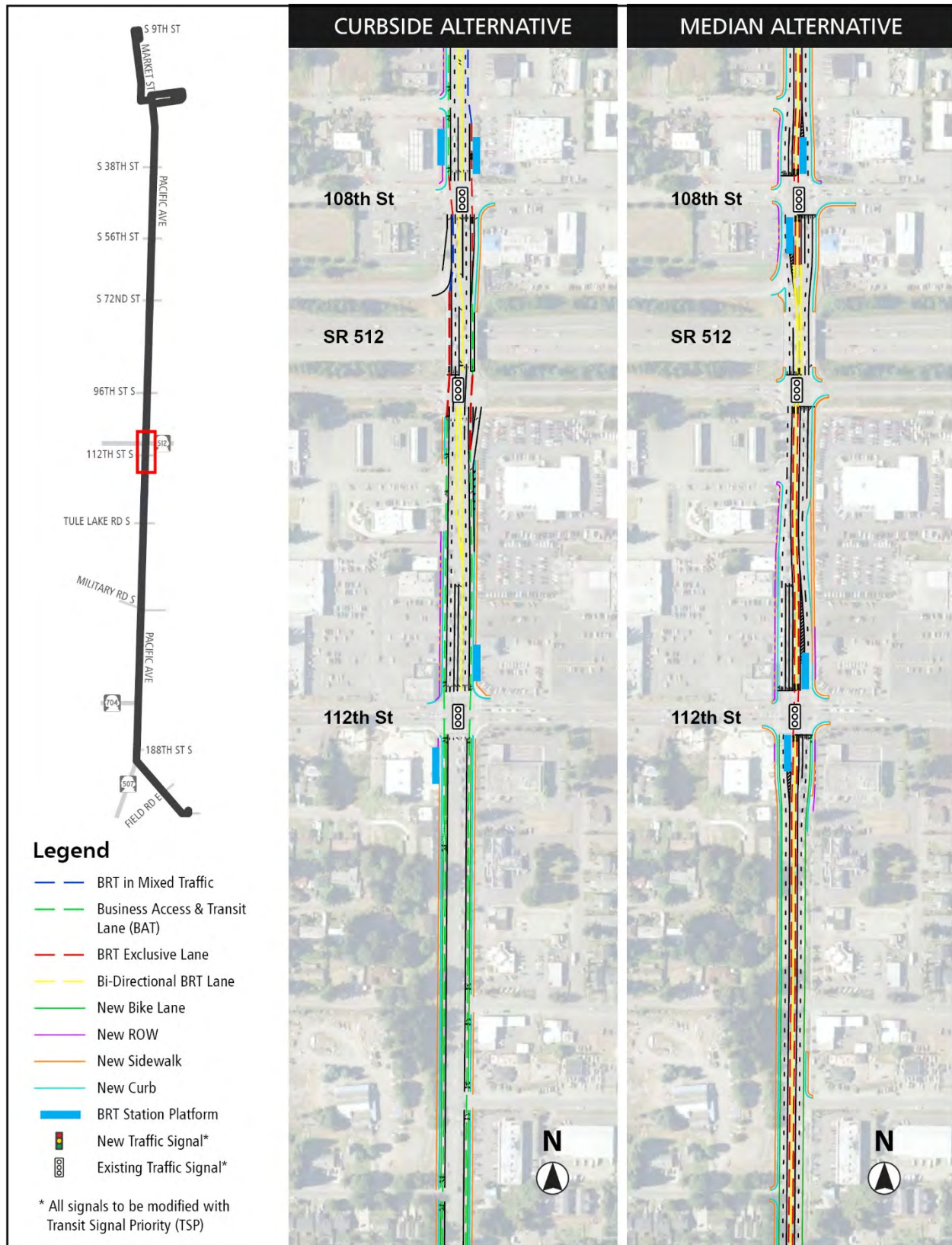


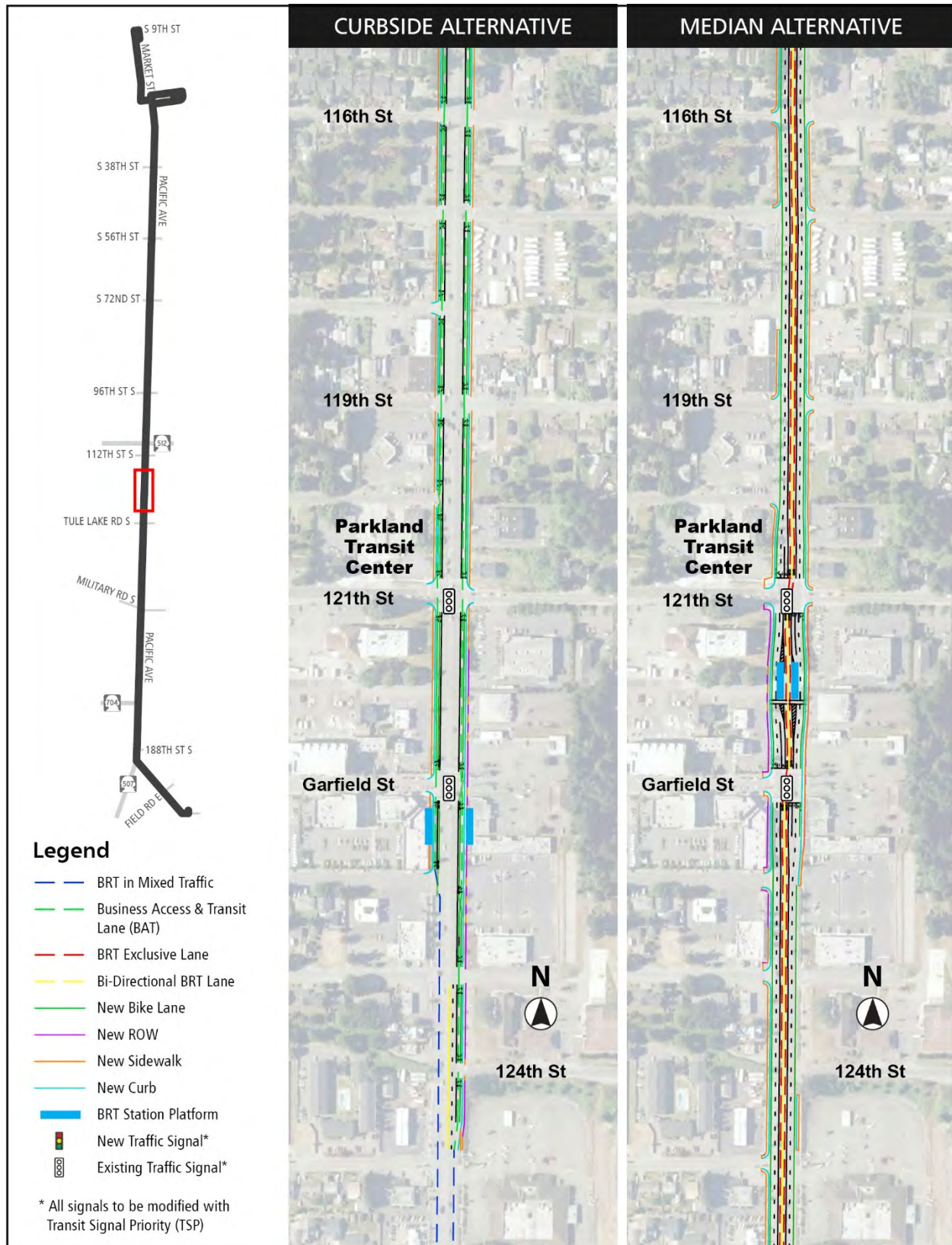




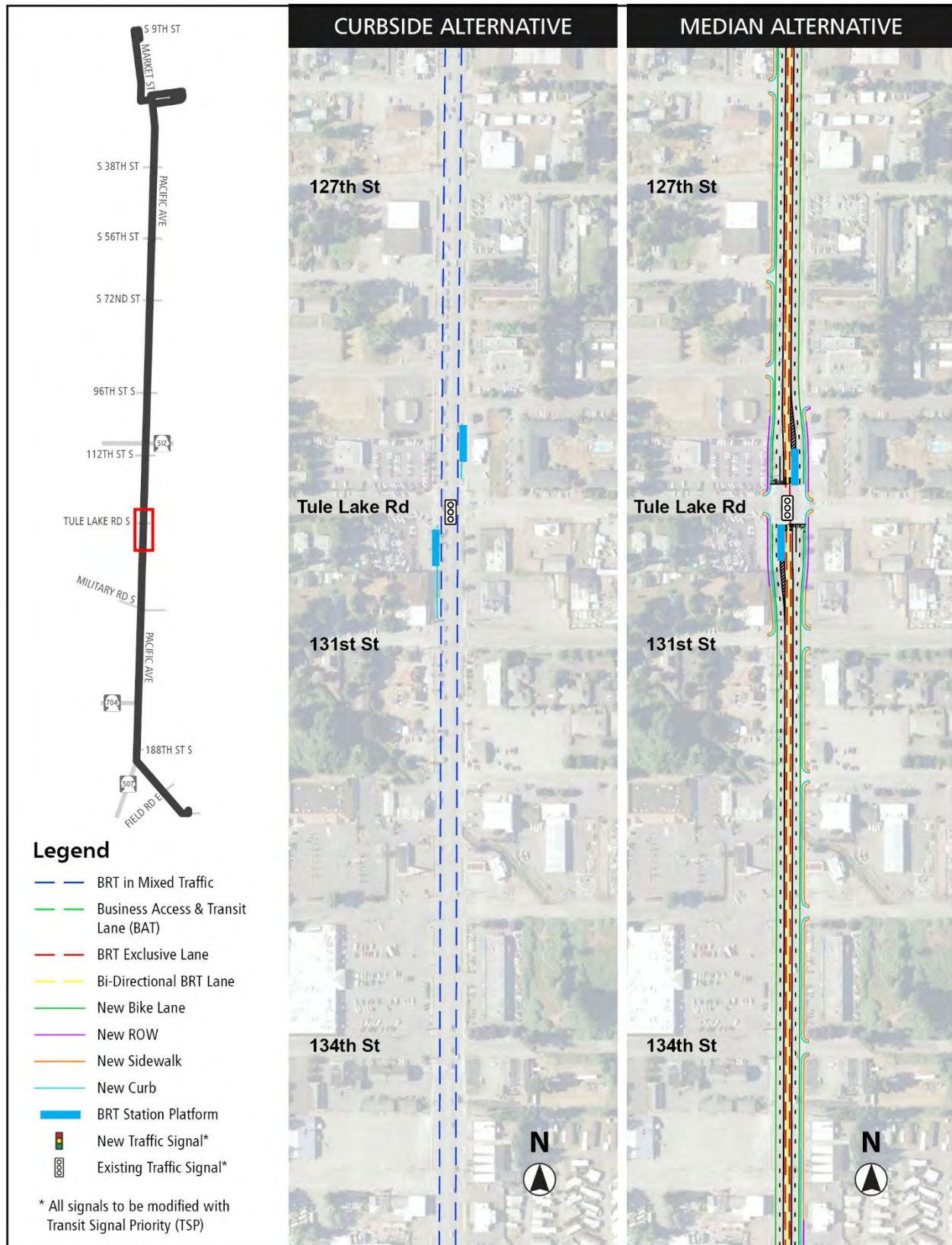


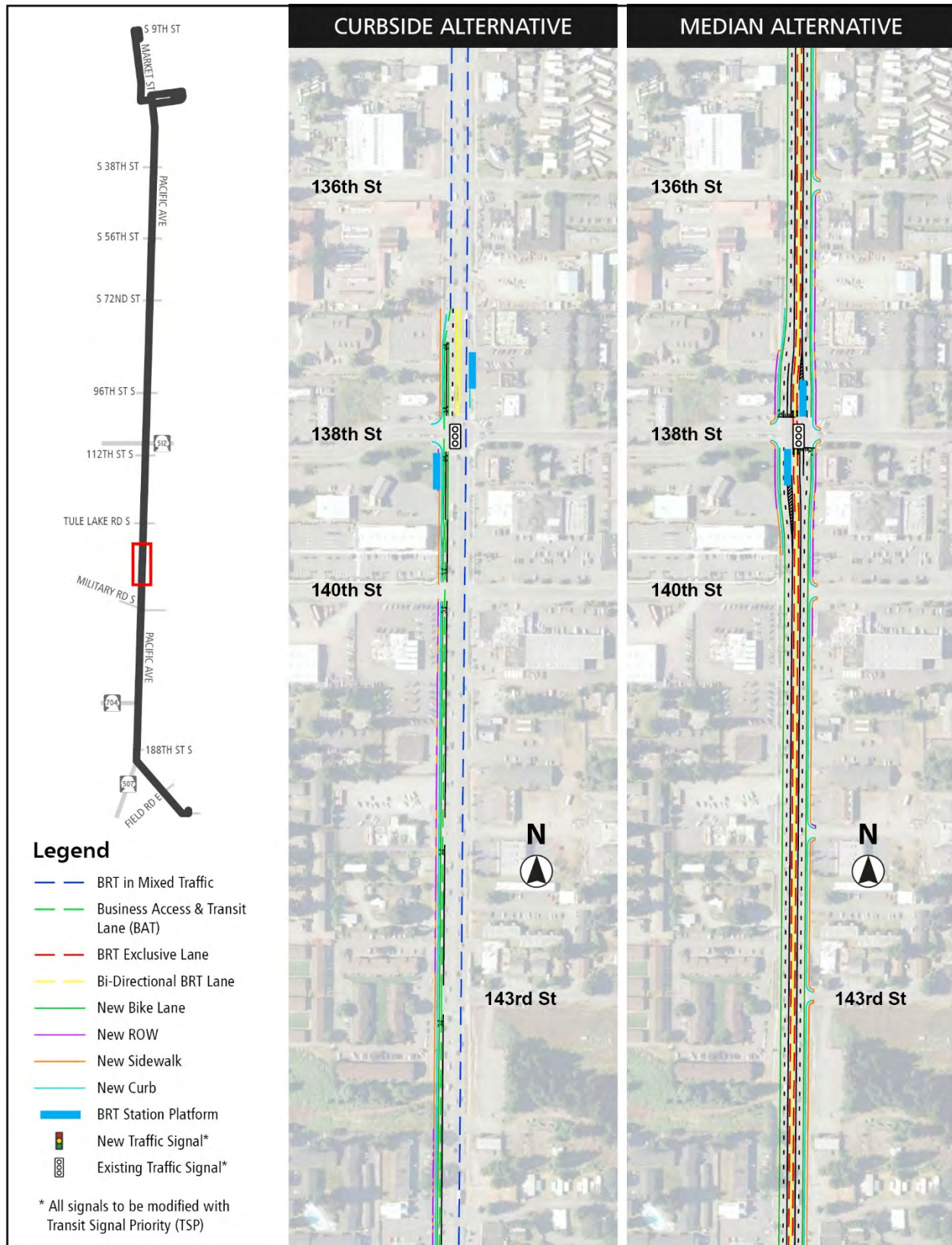




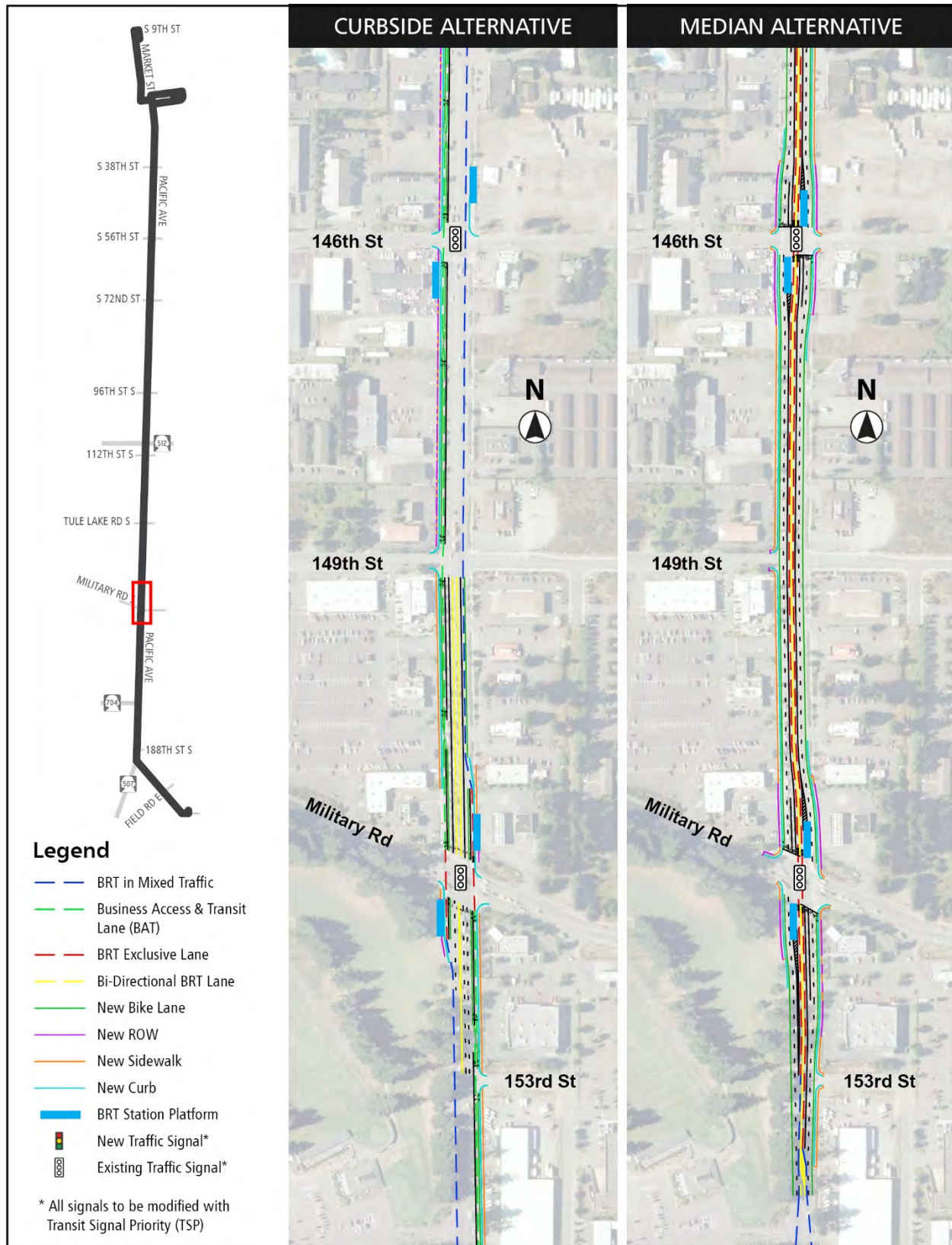




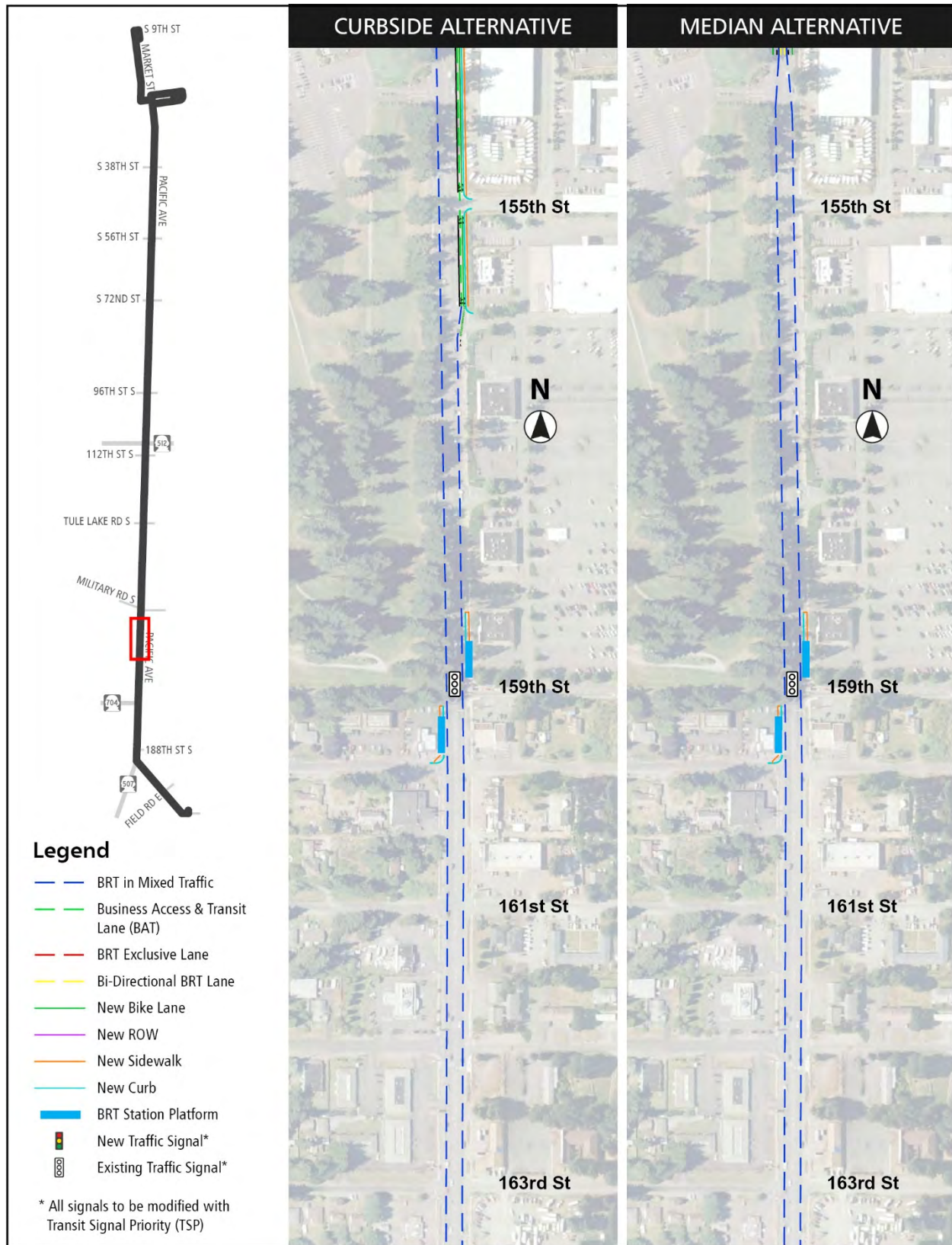


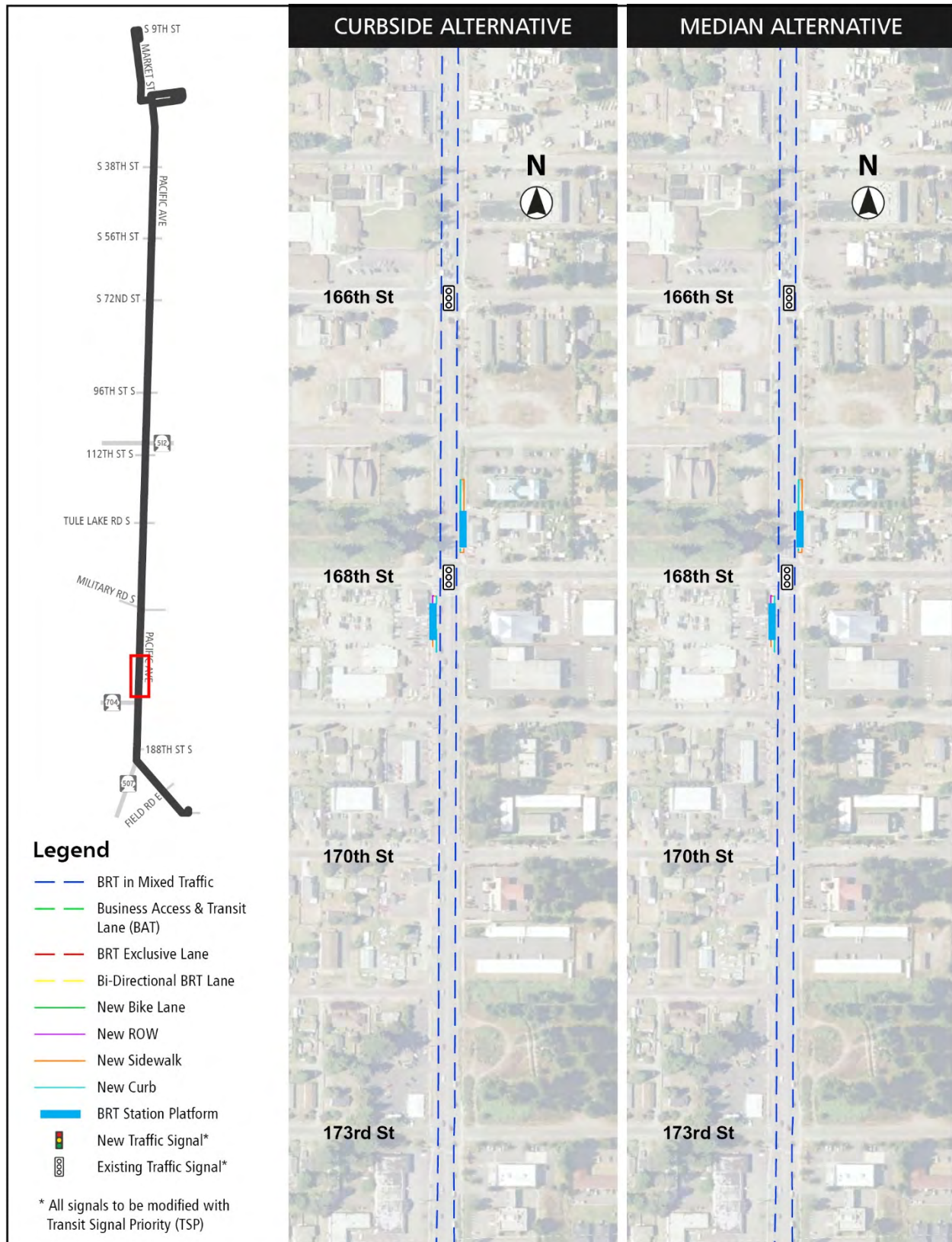




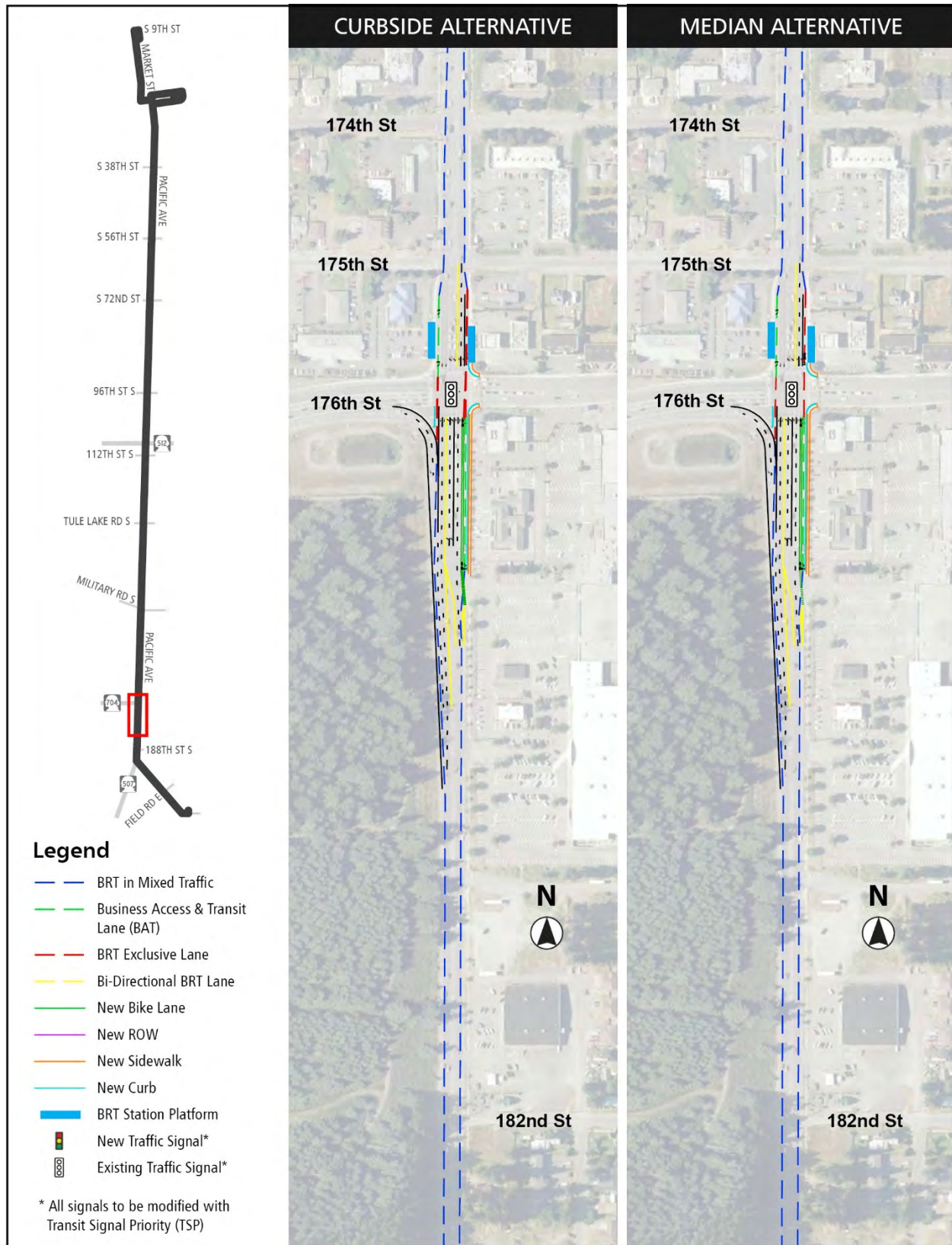




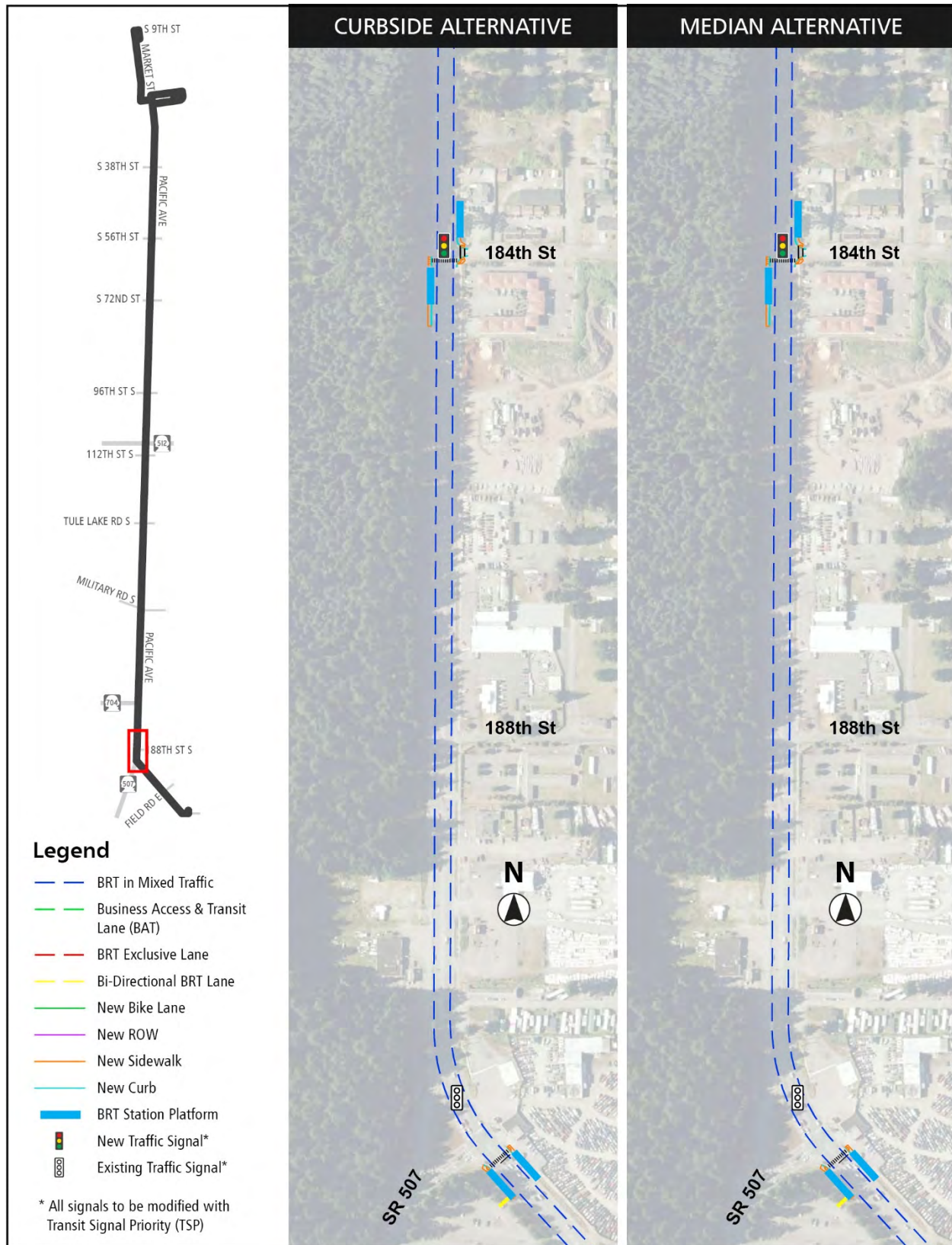


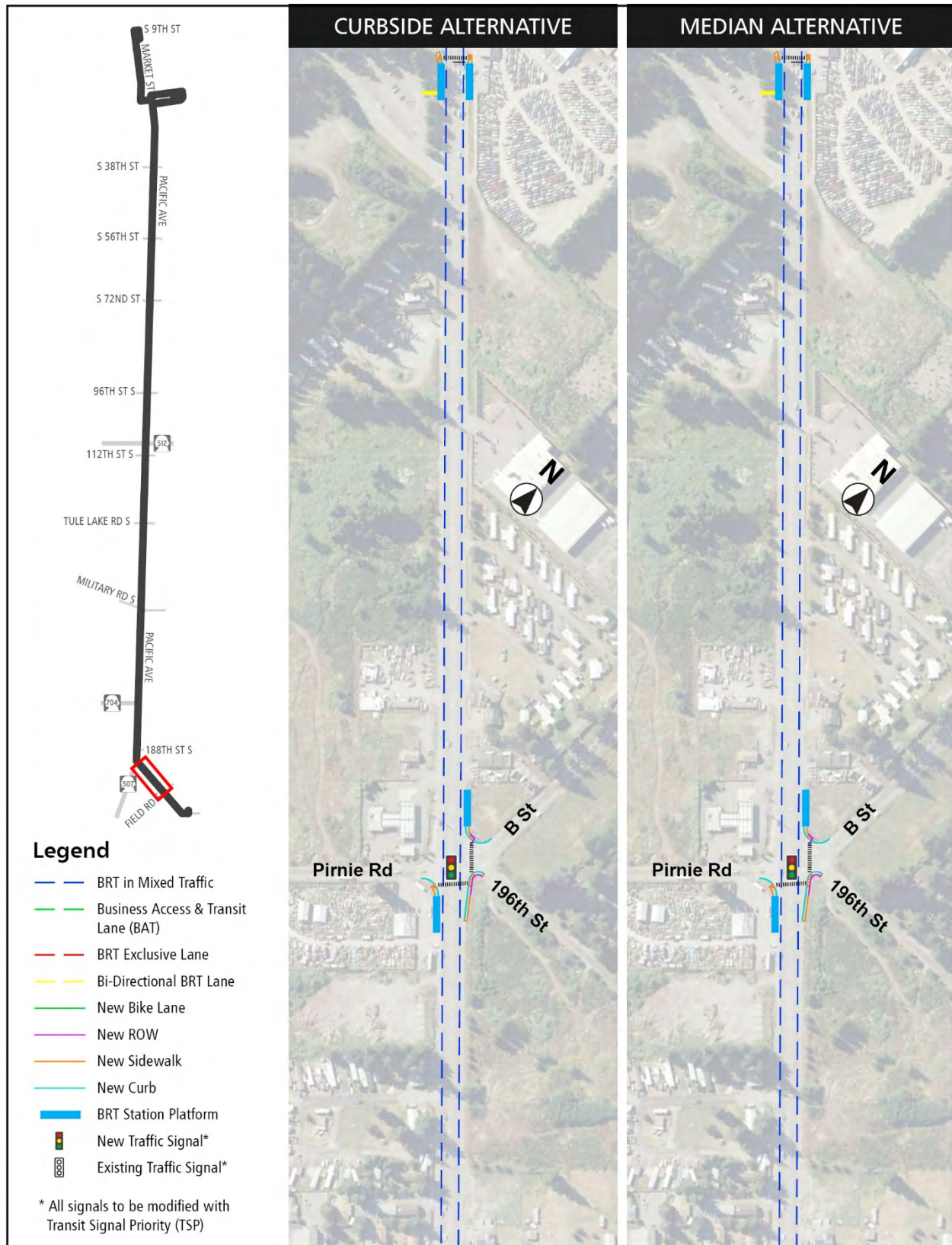




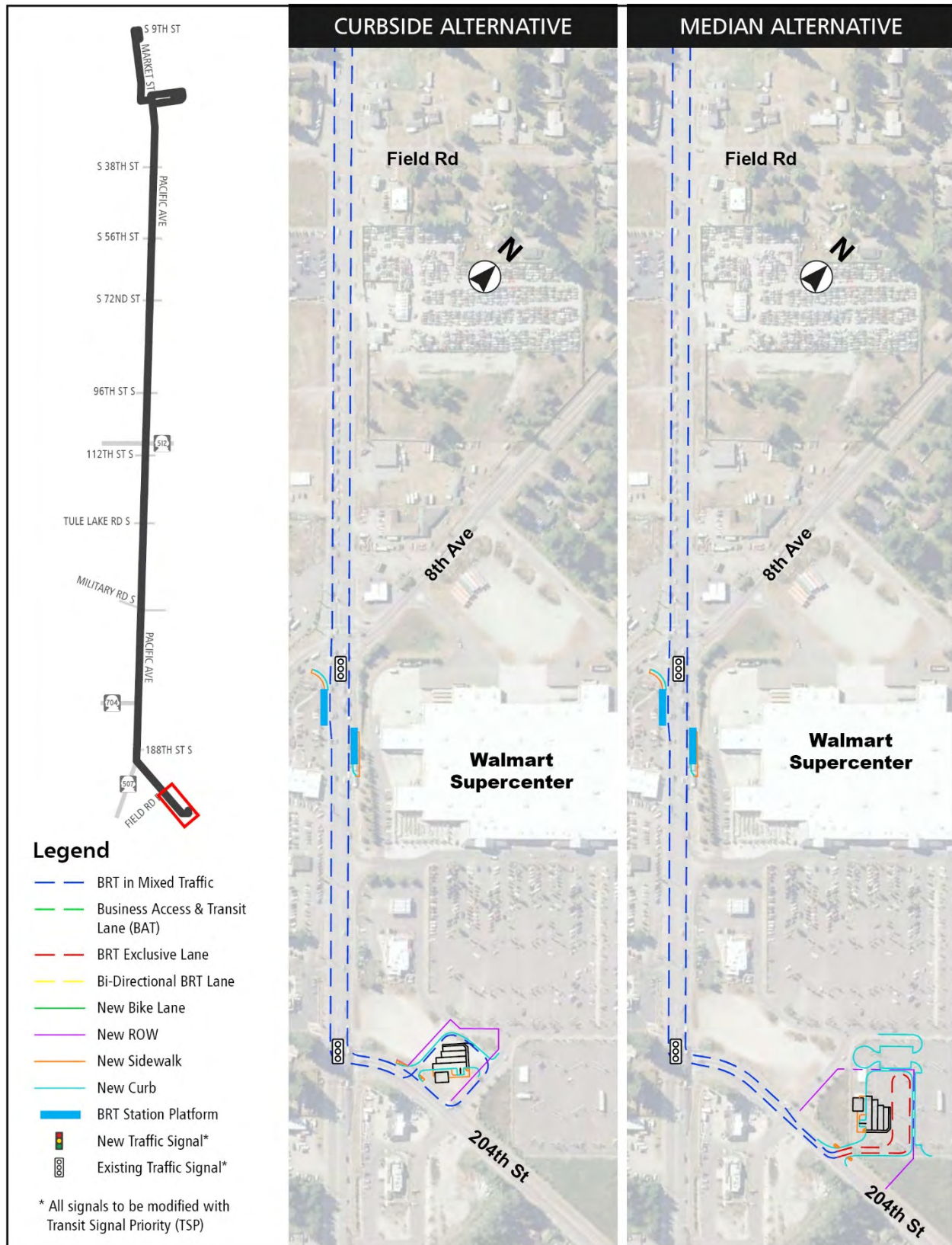
















## **APPENDIX B: PARCELS WITH POTENTIAL ACQUISITION**

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Table B-1. Curbside Alternative - Potential Property Acquisitions (1 of 2)

Parcel Number	Delivery Address	Site Address	City, State	Zip Code	Business Name (if applicable)	Landuse Description	General Land Use	Total Area of Parcel (SF)	Area of Impact (SF)	Percent of Parcel Impacted
319042088	9402 E D ST	9602 PACIFIC AV	TACOMA, WA	98445-2144	KARHU'S KARS	USED CAR LOTS ONLY RETAIL	Commercial	16010.17796	81.844298	1%
319043019	1635 E PORTLAND AVE	11122 PACIFIC AV S	TACOMA, WA	98421-2802	PARKLAND SLEEP CENTER	APPAREL ACCESSRS RETAIL	Commercial	8215.142041	102.031954	1%
319043055	11118 PACIFIC AVE	11118 PACIFIC AV	TACOMA, WA	98444	SHAMROCK TAVERN	TAVERNS	Commercial	5087.184052	37.564901	1%
319043080	11024 PACIFIC AVE S	11024 PACIFIC AV S	TACOMA, WA	98444-5738	TRACY & TRACY ATTORNEY AT LAW	PROFESSIONAL SERVICES	Commercial	7123.652126	72.291522	1%
319043113	11027 NE 116TH ST	11102 PACIFIC AV S	KIRKLAND, WA	98034-7015		NGB COMMUNITY SC	Other	95546.81452	248.680782	0%
319043133	PO BOX 98356	11012 PACIFIC AV S	LAKEWOOD, WA	98496		FAST FOOD	Commercial	52941.30929	35.932262	0%
319043141	7230 HIGHLANDS DR NE	11111 PACIFIC AV S	OLYMPIA, WA	98516-2134	LAKEWOOD FORD USED CAR SALES	USED CAR LOTS ONLY RETAIL	Commercial	28218.73189	132.494795	0%
319092061	123 S FRONT ST DEPT 8088	11202 PACIFIC AV S	MEMPHIS, TN	38103-3607	AUTO OZONE	AUTO ACCESSORIES RETAIL	Commercial	37244.20116	203.972709	1%
319093019	3000 WILMONT RD M53101	12105 PACIFIC AV S	DEERFIELD, IL	60015	WALGREENS	OTHER RETAIL TRADE	Commercial	67029.48984	25.851168	0%
319093031	12151 PACIFIC AVE S	12169 PACIFIC AV S	TACOMA, WA	98444-5124	MATTRESS RANCH	OTHER RETAIL TRADE	Commercial	13287.05016	143.217183	1%
319093032	12151 PACIFIC AVE S	12151 PACIFIC AV S	TACOMA, WA	98444-5124	LIEUS RESTAURANT	RESTAURANT	Commercial	30816.7665	89.417935	0%
319093041	12151 PACIFIC AVE S	12173 PACIFIC AV S	TACOMA, WA	98444-5124	MATTRESS RANCH	OLDER BUSINESS DIST	Commercial	7016.659211	150.570922	2%
319093044	PO BOX 45367	12201 PACIFIC AV S	TACOMA, WA	98448-5367	PARKLAND PLAZA	MISC OFFICE SPACE	Commercial	30340.72006	323.419427	1%
319093055	12151 PACIFIC AVE S	12169 PACIFIC AV S	TACOMA, WA	98444-5124	MATTRESS RANCH	OLDER BUSINESS DIST	Commercial	2981.537315	28.538943	1%
319093057	PO BOX 45367	12221 PACIFIC AV S	TACOMA, WA	98448-5367	PARKLAND PLAZA	GEN MERCHANDISE RETAIL TRADE	Commercial	9102.756451	86.646536	1%
319093060	PO BOX 45367	12221 PACIFIC AV S	TACOMA, WA	98448-5367	DOMINOS	GEN MERCHANDISE RETAIL TRADE	Commercial	68289.42812	511.340771	1%
319093068	3519 HARBOR VIEW DR STE 3	12505 PACIFIC AV S	GIG HARBOR, WA	98332	PARADISE BOWL & CASINO	REC ACTIVITIES	Other	166748.5237	684.760974	0%
319093074	116 123RD ST S	120 123RD ST S	TACOMA, WA	98444-5103	PARKLAND EVANGELICAL LUTHERAN CHURCH	RELIGIOUS SERVICES	Other	187049.8682	1116.609688	1%
319093077	12155 PACIFIC AVE S	12155 PACIFIC AV	TACOMA, WA	98444-5124	BASKIN ROBBINS ICE CREAM	FAST FOOD	Commercial	10164.78478	97.655261	1%
319097001	PO BOX 1145	12161 PACIFIC AV S	SPANAWAY, WA	98387	CAFE ELITE	ESPRESSO SHOP	Commercial	18665.0771	148.284749	1%
319163008	5902 77TH ST W STE B	14122 PACIFIC AV S	LAKEWOOD, WA	98499-8589	LADY LUCK'S STEAKHOUSE & SALOON	RESTAURANT	Commercial	44522.06913	389.539297	1%
319163091	PO BOX 45168	14212 PACIFIC AV S	TACOMA, WA	98448-5168		MULTI FAM APTS 5 UNITS OR MORE	Residential	33025.05344	56.0819	0%
319163092	PO BOX 45168	14204 TO 14208 PACIFIC AV S	TACOMA, WA	98448-5168		OFF INSURANCE REAL ESTATE FINANCE	Commercial	23385.30504	627.773905	3%
319167017	11916 58TH AVE SW	14218 PACIFIC AV S	TACOMA, WA	98499-4948		COMM VAC LAND	Commercial	25940.10806	66.789187	0%
319167018	11916 58TH AVE SW	14216 PACIFIC AV S	TACOMA, WA	98499-4948	NORTHWOOD APTS	MULTI FAM APTS 5 UNITS OR MORE	Residential	115865.5971	443.052342	0%
319212027	PO BOX 1294	15119 PACIFIC AV S	OAKLEY, CA	94561		GAS STATION MINI MART	Commercial	58112.6672	115.292518	0%
319213034	9112 LAKEWOOD DR SW STE 121	15602 PACIFIC AV S	LAKEWOOD, WA	98499-3998	SPANAWAY GOLF COURSE	GOLF COURSES	Commercial	6326873.783	1120.247333	0%
2076130012	3302 E SHORE DR	2601 PACIFIC AV	SEATTLE, WA	98112	TACOMA DESIGN MARKET	OLDER BUSINESS DIST	Commercial	9806.642398	131.280487	1%
3810000291	2605 N STARR ST	10004 PACIFIC AV	TACOMA, WA	98403-2938		ESPRESSO SHOP	Commercial	7455.898139	514.139963	7%
3810000311	315 NE 10TH AVE	10014 PACIFIC AV	PORTLAND, OR	97232-2712	WONDER BREAD	SPECIALTY FOOD MKTS	Commercial	18193.40204	432.541287	2%
3810000320	152 E 58TH ST	10018 PACIFIC AV	TACOMA, WA	98404-1218		RETAIL STAND ALONE	Commercial	11646.0831	411.921258	4%
3810000340	13512 30TH AVE E	10030 PACIFIC AV	TACOMA, WA	98446-1808	RICHS AUTO SALES	USED CAR LOTS ONLY RETAIL	Commercial	39516.47094	399.225268	1%
3810000350	2 BRIDLE WAY	10200 PACIFIC AV	FORT LEE, NJ	07024-6313		COMM VAC LAND	Commercial	38809.24508	371.456604	1%
3810000361	2 BRIDLE WAY	10116 PACIFIC AV	FORT LEE, NJ	07024-6313		COMM VAC LAND	Commercial	37428.5609	455.390083	1%
3810000371	10122 PACIFIC AVE S	10122 PACIFIC AV	TACOMA, WA	98444-6549	CASCADE CUSTOM JEWELERS	OTHER RETAIL TRADE	Commercial	10912.04488	293.789917	3%
3810000380	6524 CROMWELL BEACH DR NW	10202 PACIFIC AV S	GIG HARBOR, WA	98335-7513	PACIFIC BUSINESS PARK	MISC OFFICE SPACE	Commercial	19953.36738	169.310318	1%
4745000010	6524 CROMWELL BEACH DR NW	10202 PACIFIC AV S	GIG HARBOR, WA	98335-7513	PACIFIC BUSINESS PARK	MISC OFFICE SPACE	Commercial	11720.40225	315.26049	3%
4745000021	10228 PACIFIC AVE S	10228 PACIFIC AV	TACOMA, WA	98444-6048	PACIFIC RUN ANTIQUE MALL	RETAIL STAND ALONE	Commercial	67589.78751	266.674105	0%
4745000051	12401 W OLYMPIC BLVD	10234 PACIFIC AV	LOS ANGELES, CA	90064-1022	PACIFIC AVE VETERINARY HOSPITAL	VETERINARIAN SERVICES	Commercial	47873.75487	53.065807	0%
4745000111	3820 SPYGLASS DR NE	10422 TO 10428 PACIFIC AV S	TACOMA, WA	98422-2484		GEN MERCHANDISE RETAIL TRADE	Commercial	31597.34427	43.990268	0%
4745000293	REFERENCE	REFERENCE	TACOMA, WA			UNKNOWN	Other	83648.49313	88.194898	0%
4745000760	13215 SE MILL PLAIN BLVD STE C-8 #529	10610 PACIFIC AV	VANCOUVER, WA	98684		GAS STATION MINI MART	Commercial	19284.73205	96.985715	1%
4745001021	9330 BALBOA AVE	10656 PACIFIC AV	SAN DIEGO, CA	92123-1516	JACK IN THE BOX	FAST FOOD	Commercial	34655.4362	301.524617	1%
4745001162	3450 E COMMERCIAL CT	10716 PACIFIC AV	MERIDIAN, ID	83642-8915	SHELL	GAS STATION MINI MART	Commercial	41008.66753	769.608535	2%
5002710040	PO BOX 8050	20307 MOUNTAIN HWY E	BENTONVILLE, AR	72712-8055		COMM VAC LAND	Commercial	29574.10011	29574.10126	100%
5002710060	PO BOX 8050	20307 MOUNTAIN HWY E	BENTONVILLE, AR	72712-8055	WALMART	DISCOUNT STORES	Commercial	1017001.475	12.366313	0%
5025003290	16822 PACIFIC AVE S	16802 TO 16804 PACIFIC AV S	SPANAWAY, WA	98387-8255		GEN MERCHANDISE RETAIL TRADE	Commercial	6491.131226	160.231421	2%
5025003300	16822 PACIFIC AVE S	16808 PACIFIC AV S	SPANAWAY, WA	98387-8255	HI TECH COLLISION	AUTO REPAIR SERVICES	Commercial	33743.66765	131.716565	0%
6615001241	PO BOX 3165	7041 PACIFIC AV	HARRISBURG, PA	17105-3165	RITE AID	OTHER RETAIL TRADE	Commercial	68281.07429	44.076693	0%
6615001840	1422 EDINGER AVE STE 150	7056 PACIFIC AV	TUSTIN, CA	92780-6299	JIFFY LUBE	MINI LUBE SERVICE	Commercial	12855.12987	96.258889	1%
7130000043	1101 PACIFIC AVE STE A	13802 PACIFIC AV S	TACOMA, WA	98402-4396	KEY BANK	BANKS	Commercial	54625.61834	118.759414	0%
7130000071	1101 PACIFIC AVE STE A	13802 PACIFIC AV S	TACOMA, WA	98402-4396	KEY BANK	BANKS	Commercial	5764.196261	73.522871	1%
7130000260	1124 112TH ST E	14012 PACIFIC AV S	TACOMA, WA	98445-3710		BUSINESS SERVICES	Commercial	14510.46368	47.55625	0%
7130000270	30210 110TH PL SE	14102 TO 14106 PACIFIC AV S	AUBURN, WA	98092		RETAIL STAND ALONE	Commercial	17302.47095	119.609906	1%
7130000281	14209 PACIFIC AV S STE 44	14107 C ST S	TACOMA, WA	98444	WILLIAMSBERG COURT APTS	MULTI FAM APTS 5 UNITS OR MORE	Residential	71629.44489	24.090879	0%
7130000290	1124 112TH ST E	14012 PACIFIC AV S	TACOMA, WA	98445-3710		USED CAR LOTS ONLY RETAIL	Commercial	135189.861	13.738477	0%
7130000300	5902 77TH ST W STE B	14114 PACIFIC AV S	LAKEWOOD, WA	98499-8589		RESTAURANT	Commercial	9401.504896	59.689209	1%
7470021641	PO BOX 1159	3739 PACIFIC AV	DEERFIELD, IL	60015-6002	WALGREENS	OTHER RETAIL TRADE	Commercial	57912.73275	6.843226	0%
7470021770	PO BOX 8431	3801 PACIFIC AV	HARRISBURG, PA	17105-8431		COMM VAC LAND	Commercial	13891.6986	7.215293	0%
7470021840	32402 58TH AVE S	3855 PACIFIC AV	AUBURN, WA	98001-3871		FAST FOOD	Commercial	15251.5277	1.893054	0%



Table B-2. Curbside Alternative – Potential Property Acquisitions (2 of 2)

[illegible]

Table B-3. Median Alternative – Potential Property Acquisitions (1 of 4)

Site Address	City, State	Zip Code	Business Name (if applicable)	Landuse Description	General Land Use	Total Area of Parcel (SF)	Area of Impact (SF)	Percent of Parcel Impacted
9602 PACIFIC AV	TACOMA, WA	98445-2144	KARHU'S KARS	USED CAR LOTS ONLY RETAIL	Commercial	16010.17796	6.747443	0%
11122 PACIFIC AV S	TACOMA, WA	98421-2802	PARKLAND SLEEP CENTER	APPAREL ACCESSRS RETAIL	Commercial	8215.142041	525.572318	6%
11118 PACIFIC AV	TACOMA, WA	98444	SHAMROCK TAVERN	TAVERNS	Commercial	5087.184052	332.385455	7%
11024 PACIFIC AV S	TACOMA, WA	98444-5738	TRACY & TRACY ATTORNEY AT LAW	PROFESSIONAL SERVICES	Commercial	7123.652126	523.105706	7%
10802 PACIFIC AV S	LA PALMA, CA	90623-2530	DENNYS	RESTAURANT	Commercial	34458.73125	1452.213832	4%
11102 PACIFIC AV S	KIRKLAND, WA	98034-7015		NGB COMMUNITY SC	Other	95546.81452	2463.145496	3%
11012 PACIFIC AV S	LAKEWOOD, WA	98496		FAST FOOD	Commercial	52941.30929	3.541355	0%
11111 PACIFIC AV S	OLYMPIA, WA	98516-2134	LAKEWOOD FORD USED CAR SALES	USED CAR LOTS ONLY RETAIL	Commercial	28218.73189	148.297437	1%
9601 PACIFIC AV S	PHOENIX, AZ	85038-9046	U-HAUL	MINI WAREHOUSING	Commercial	18529.55945	6.257252	0%
11202 PACIFIC AV S	MEMPHIS, TN	38103-3607	AUTOZONE	AUTO ACCESSORIES RETAIL	Commercial	37244.20116	773.999742	2%
214 121ST ST S	TACOMA, WA	98447-0014	PLU EAST CAMPUS	UNIVERSITY/COLLEGES	Other	40145.16517	722.092361	2%
12105 PACIFIC AV S	DEERFIELD, IL	60015	WALGREENS	OTHER RETAIL TRADE	Commercial	67029.48984	728.984419	1%
12169 PACIFIC AV S	TACOMA, WA	98444-5124	MATTRESS RANCH	OTHER RETAIL TRADE	Commercial	13287.05016	67.172394	1%
12151 PACIFIC AV S	TACOMA, WA	98444-5124	LIEUS RESTAURANT	RESTAURANT	Commercial	30816.7665	636.573739	2%
12173 PACIFIC AV S	TACOMA, WA	98444-5124	MATTRESS RANCH	OLDER BUSINESS DIST	Commercial	7016.659211	37.054501	1%
12201 PACIFIC AV S	TACOMA, WA	98448-5367	PARKLAND PLAZA	MISC OFFICE SPACE	Commercial	30340.72006	30.439608	0%
12169 PACIFIC AV S	TACOMA, WA	98444-5124	MATTRESS RANCH	OLDER BUSINESS DIST	Commercial	2981.537315	14.793404	0%
12155 PACIFIC AV	TACOMA, WA	98444-5124	BASKIN ROBBINS ICE CREAM	FAST FOOD	Commercial	10164.78478	156.453753	2%
12161 PACIFIC AV S	SPANAWAY, WA	98387	CAFE ELITE	ESPRESSO SHOP	Commercial	18665.0771	81.106576	0%
13718 PACIFIC AV S	TACOMA, WA	98446-2215	LIBRARY	LIBRARIES	Other	98617.89137	133.910962	0%
13621 PACIFIC AV S	PUYALLUP, WA	98372-3146	BUNCE RENTAL	RENTAL EQUIP AUTO TRUCK	Commercial	47769.0273	116.079473	0%
13723 PACIFIC AV S	DALLAS, TX	75221-0711	7-11 STORE #16918	CONVEN STORE MAY HAVE GAS	Commercial	22511.9786	566.381135	2%
13721 PACIFIC AV S	SALT LAKE CITY, UT	84117	SKIPPERS	FAST FOOD	Commercial	13444.37882	287.823824	2%
13719 PACIFIC AV S	TACOMA, WA	98444-4745	EL TORO RESTAURANT	RESTAURANT	Commercial	39022.46279	174.075132	0%
13720 PACIFIC AV S	TACOMA, WA	98448-5037	PAPA MURPHY'S PIZZA	RESTAURANT	Commercial	20256.72627	683.349266	3%
14117 PACIFIC AV S	TACOMA, WA	98444-5113		GEN MERCHANDISE RETAIL TRADE	Commercial	12230.0235	47.660811	0%
XXX 141ST STCT S	TACOMA, WA	98402-3526		COMM VAC LAND	Commercial	22751.77452	0.122245	0%
15114 PACIFIC AV S	SCOTTSDALE, AZ	85261-4900	JACK IN THE BOX	FAST FOOD	Commercial	20800.89155	336.275784	2%
15119 PACIFIC AV S	OAKLEY, CA	94561		GAS STATION MINI MART	Commercial	58112.6672	2011.584317	3%
15211 PACIFIC AV S	OLYMPIA, WA	98507-1578	HERITAGE FEDERAL S & L BANK	BANKS	Commercial	42450.22805	1092.785759	2%
15027 PACIFIC AV S	SAN DIEGO, CA	92130	CASH AMERICA	OTHER RETAIL TRADE	Commercial	22004.64302	47.897905	0%
14906 PACIFIC AV S	TACOMA, WA	98409-8130	SPANAWAY SHOPPING CENTER	BIG BOX POWER CTR	Commercial	358728.4187	20.74407	0%
15225 PACIFIC AV S	DEERFIELD, IL	60015-4620	WALGREENS	OTHER RETAIL TRADE	Commercial	55180.60599	533.442199	1%
15602 PACIFIC AV S	LAKEWOOD, WA	98499-3998	SPANAWAY GOLF COURSE	GOLF COURSES	Commercial	6326873.783	771.626053	0%
5525 PACIFIC AV	SAN DIEGO, CA	92123-1516	JACK IN THE BOX	FAST FOOD	Commercial	14178.82626	142.867304	1%
5001 PACIFIC AV	GIG HARBOR, WA	98335-1778	GIBSON HOUSE	MULTI FAM HIGH RISE 5 UNITS OR MORE	Residential	128336.2193	103.103747	0%
5435 PACIFIC AV	TACOMA, WA	98406	COST LESS PRESCRIPTIONS / PO	RETAIL STAND ALONE	Commercial	11831.6931	0.021294	0%
5606 PACIFIC AV	SEATTLE, WA	98115-5412	OREILLY AUTO PARTS / LA HUERTA 2 MARKET	GEN MERCHANDISE RETAIL TRADE	Commercial	49283.63989	119.365134	0%
6329 PACIFIC AV	TACOMA, WA	98408-7422	PHILLIPS 76 FOODMART	GAS STATION MINI MART	Commercial	10434.57077	96.480723	1%
6329 PACIFIC AV	TACOMA, WA	98408-7422	PHILLIPS 76 FOODMART	GAS STATION MINI MART	Commercial	9188.02399	17.182011	0%
8403 PACIFIC AV	DEERFIELD, IL	60015-4614	WALGREENS	RETAIL STAND ALONE	Commercial	63758.26598	29.714236	0%
8849 PACIFIC AV	TACOMA, WA	98444-6474	ATTORNEYS OFFICE	MISC OFFICE SPACE	Commercial	15262.86693	1098.919097	7%
9446 PACIFIC AV	TACOMA, WA	98444	PACIFIC AUTO AIR / M & M AUTO SALES	REPAIR SERVICES	Commercial	8975.258408	5.666993	0%
8820 PACIFIC AV	TACOMA, WA	98404	WESTWOOD SQUARE APARTMENTS	MULTI FAM APTS 5 UNITS OR MORE	Residential	68677.78491	224.731802	0%
9433 PACIFIC AV	TACOMA, WA	98448-0250	NAPA AUTO PARTS	AUTO ACCESSORIES RETAIL	Commercial	19586.267	683.984236	3%
9002 PACIFIC AV	TACOMA, WA	98444-6232	ANANUAC	RESTAURANT	Commercial	42945.71484	421.681124	1%
9450 PACIFIC AV	DALLAS, TX	75221-0711		CONVEN STORE MAY HAVE GAS	Commercial	12178.83428	458.227683	4%
9448 PACIFIC AV	PUYALLUP, WA	98374-4531	PACIFIC AUTO AIR / M & M AUTO SALES	REPAIR SERVICES	Commercial	11342.82229	222.045825	2%
8833 PACIFIC AV	FEDERAL WAY, WA	98003-4823	PACIFIC MANOR OFFICES	MISC OFFICE SPACE	Commercial	30710.71562	14.067265	0%
8843 PACIFIC AV	TACOMA, WA	98406-2506	HONG KONG RESTAURANT	RESTAURANT	Commercial	26030.5866	634.839679	2%
9415 PACIFIC AV	GIG HARBOR, WA	98329-5802	EHU AUCTIONS	USED CAR LOTS ONLY RETAIL	Commercial	39924.44296	75.444194	0%

Table B-4. Median Alternative – Potential Property Acquisitions (2 of 4)

Site Address	City, State	Zip Code	Business Name (if applicable)	Landuse Description	General Land Use	Total Area of Parcel (SF)	Area of Impact (SF)	Percent of Parcel Impacted
9001 PACIFIC AV	SEATTLE, WA	98107	NORTHWEST DOOR	CONTRACTOR SERVICES	Commercial	106586.4995	1998.994816	2%
8844 PACIFIC AV	SANTA MONICA, CA	90402-2818	CASH AMERICA PAWN	NGB COMMUNITY SC	Other	29840.61607	1947.137273	7%
6400 PACIFIC AV	GIG HARBOR, WA	98335-6872	WELCHERS GUN SHOP	RETAIL STAND ALONE	Commercial	5752.182473	51.932372	1%
4001 TO 5 PACIFIC AV	LAS VEGAS, NV	89119	BAXTER AUTO PARTS	RETAIL STAND ALONE	Commercial	11797.59069	1.287595	0%
4059 PACIFIC AV	UNIVERSITY PLACE, WA	98466-4820		SINGLE FAMILY DWELLING	Residential	5746.90222	29.569635	1%
4065 PACIFIC AV	TACOMA, WA	98443-2570	CONNIES DONUTS & ESPRESSO	ESPRESSO SHOP	Commercial	3685.84396	62.237052	2%
13014 PACIFIC AV S	TACOMA, WA	98404-5455	TOPKICK PAWN SHOP	GEN MERCHANDISE RETAIL TRADE	Commercial	7596.817261	98.167296	1%
13006 PACIFIC AV S	TACOMA, WA	98404		USED CAR LOTS ONLY RETAIL	Commercial	712.090838	712.102592	92%
13006 PACIFIC AV S	TACOMA, WA	98404		USED CAR LOTS ONLY RETAIL	Commercial	3592.335111	125.798984	3%
12910 PACIFIC AV S	SURPRISE, AZ	85374	BEST WAYS TRANSPORTATION	MISC OFFICE SPACE	Commercial	7820.50304	81.616933	1%
12920 PACIFIC AV S	TACOMA, WA	98448-0010	PARKLAND AUTO CENTER	USED CAR LOTS ONLY RETAIL	Commercial	7518.170648	383.151551	6%
12918 PACIFIC AV S	TACOMA, WA	98448-0010	PARKLAND AUTO CENTER	USED CAR LOTS ONLY RETAIL	Commercial	43397.58156	555.692196	1%
17901 PACIFIC AV S	TACOMA, WA	98407-3419	BRFW IT 4U	ESPRESSO SHOP	Commercial	4988.019865	196.134177	4%
12907 TO 12909 PACIFIC AV S	TACOMA, WA	98448-0076	MAREK INSURANCE	OFF INSURANCE REAL ESTATE FINANCE	Commercial	7585.176591	793.971845	10%
13001 TO 13005 PACIFIC AV S	TACOMA, WA	98444-4857	THE GALLERY	RETAIL STAND ALONE	Commercial	22365.32676	881.984629	4%
13021 PACIFIC AV S	TACOMA, WA	98444-5124		COMM VAC LAND	Commercial	18335.64122	110.722801	1%
13505 PACIFIC AV S	OLYMPIA, WA	98507-0700	COMMUNITY CREDIT UNION	BANKS	Commercial	19884.07639	7.502727	0%
13521 PACIFIC AV S	PACIFIC, WA	98047-1002	BIG FOOT COFFEE	ESPRESSO SHOP	Commercial	13648.30506	15.846448	0%
13601 PACIFIC AV S	GRAHAM, WA	98338	JRS AUTO SALES	RETAIL STAND ALONE	Commercial	13705.03074	69.32069	1%
8238 PACIFIC AV	TACOMA, WA	98401	COLUMBIA STATE BANK	BANKS	Commercial	5656.819599	0.542073	0%
201 S 84TH ST	TACOMA, WA	98401	COLUMBIA STATE BANK	BANKS	Commercial	9328.139358	9.54907	0%
10005 PACIFIC AV	LAKEWOOD, WA	98499-1719	BLACKSTAR BAR AND GRILL PARKING LOT	SPORTS BAR REST LARGER TAV	Commercial	20394.93353	1.312305	0%
10004 PACIFIC AV	TACOMA, WA	98403-2938		ESPRESSO SHOP	Commercial	7455.898139	0.408037	0%
10200 PACIFIC AV	FORT LEE, NJ	07024-6313		COMM VAC LAND	Commercial	38809.24508	32.037428	0%
10116 PACIFIC AV	FORT LEE, NJ	07024-6313		COMM VAC LAND	Commercial	37428.5609	806.723851	2%
10122 PACIFIC AV	TACOMA, WA	98444-6549	CASCADE CUSTOM JEWELERS	OTHER RETAIL TRADE	Commercial	10912.04488	768.188991	7%
10202 PACIFIC AV S	GIG HARBOR, WA	98335-7513	PACIFIC BUSINESS PARK	MISC OFFICE SPACE	Commercial	19953.36738	590.408833	3%
8402 PACIFIC AV	TACOMA, WA	98402-4396	KEY BANK	BANKS	Commercial	37359.97209	72.118104	0%
10202 PACIFIC AV S	GIG HARBOR, WA	98335-7513	PACIFIC BUSINESS PARK	MISC OFFICE SPACE	Commercial	11720.40225	403.521898	4%
10234 PACIFIC AV	LOS ANGELES, CA	90064-1022	PACIFIC AVE VETERINARY HOSPITAL	VETERINARIAN SERVICES	Commercial	47873.75487	2.385808	0%
10422 TO 10428 PACIFIC AV S	TACOMA, WA	98422-2484		GEN MERCHANDISE RETAIL TRADE	Commercial	31597.34427	1.673264	0%
REFERENCE	TACOMA, WA			UNKNOWN	Other	83648.49313	50.871732	0%
10656 PACIFIC AV	SAN DIEGO, CA	92123-1516	JACK IN THE BOX	FAST FOOD	Commercial	34655.4362	3.912238	0%
10716 PACIFIC AV	MERIDIAN, ID	83642-8915	SHELL	GAS STATION MINI MART	Commercial	41008.66753	1994.387009	5%
20307 MOUNTAIN HWY E	BENTONVILLE, AR	72712-8055	WALMART	DISCOUNT STORES	Commercial	1017001.475	58978.79805	6%
16802 TO 16804 PACIFIC AV S	SPANAWAY, WA	98387-8255		GEN MERCHANDISE RETAIL TRADE	Commercial	6491.131226	160.231421	3%
16808 PACIFIC AV S	SPANAWAY, WA	98387-8255	HI TECH COLLISION	AUTO REPAIR SERVICES	Commercial	33743.66765	131.716565	0%
5506 PACIFIC AV	EDMONDS, WA	98026-5123	FELINE HYPER THYROID TREATMENT CENTER	GEN MERCHANDISE RETAIL TRADE	Commercial	6380.803266	112.300321	2%
5510 TO 5512 PACIFIC AV	UNIVERSITY PLACE, WA	98466-1219	BIG JOHNS TROPHIES	OTHER RETAIL TRADE	Commercial	5750.058618	51.116628	1%
5514 PACIFIC AV	TACOMA, WA	98445-5441		OLDER BUSINESS DIST	Commercial	2875.08829	25.564178	1%
5520 PACIFIC AV	TACOMA, WA	98408-7641	MOUNTAIN TAVERN	TAVERNS	Commercial	9200.625873	83.291187	1%
5602 PACIFIC AV	DEERFIELD, IL	60015-6002	WALGREENS	RETAIL STAND ALONE	Commercial	9191.035238	84.05336	1%
5608 PACIFIC AV	DEERFIELD, IL	60015-6002	WALGREENS	RETAIL STAND ALONE	Commercial	2872.345956	21.490648	1%
5612 PACIFIC AV	DEERFIELD, IL	60015-6002	WALGREENS	RETAIL STAND ALONE	Commercial	17809.91931	8.019904	0%
6328 PACIFIC AV	TACOMA, WA	98408-7421		SINGLE FAMILY DWELLING	Residential	9087.526699	245.400141	3%
6332 PACIFIC AV	KENT, WA	98032-6230		GEN MERCHANDISE RETAIL TRADE	Commercial	15668.94847	923.514996	6%
7041 PACIFIC AV	HARRISBURG, PA	17105-3165	RITE AID	OTHER RETAIL TRADE	Commercial	68281.07429	121.596923	0%
6401 PACIFIC AV	TACOMA, WA	98408-7320	NORTHWEST SPAY & NEUTER CENTER	VETERINARIAN SERVICES	Commercial	9370.707061	94.04219	1%
6401 PACIFIC AV	TACOMA, WA	98408-7320		VETERINARIAN SERVICES	Commercial	18747.51389	37.016854	0%
7056 PACIFIC AV	TUSTIN, CA	92780-6299	JIFFY LUBE	MINI LUBE SERVICE	Commercial	12855.12987	129.31367	1%
7052 PACIFIC AV	CLACKAMAS, OR	97015-6240	THE PUFF & STUFF KRONIC CONNECTION	HORTICULTURAL SPECIALTIES	Commercial	11863.60052	8.382538	0%



Table B-5. Median Alternative – Potential Property Acquisitions (3 of 4)

Site Address	City, State	Zip Code	Business Name (if applicable)	Landuse Description	General Land Use	Total Area of Parcel (SF)	Area of Impact (SF)	Percent of Parcel Impacted
10707 PACIFIC AV	SEATTLE, WA	98111-2602		GEN MERCHANDISE RETAIL TRADE	Commercial	84442.76566	107.464098	0%
12816 PACIFIC AV S	RENTON, WA	98056-2099		GEN MERCHANDISE RETAIL TRADE	Commercial	8001.702132	10.196826	0%
207 125TH ST S	TACOMA, WA	98406-2649	SPEEDI CAR WASH	CAR WASH	Commercial	16553.28623	1.093052	0%
12212 PACIFIC AV S	LAKEWOOD, WA	98496-8210		GEN MERCHANDISE RETAIL TRADE	Commercial	25568.86743	34.309954	0%
208 GARFIELD ST S	SEATTLE, WA	98121	GARFIELD COMMONS	GEN MERCHANDISE RETAIL TRADE	Commercial	32023.36335	179.972119	1%
12166 PACIFIC AV S	TACOMA, WA	98444-5154		MISC OFFICE SPACE	Commercial	10383.11863	144.300177	1%
12154 PACIFIC AV S	TACOMA, WA	98444-4252		FAST FOOD	Commercial	11772.05335	556.448438	5%
4837 PACIFIC AV	TACOMA, WA	98422-2034		SINGLE FAMILY DWELLING	Residential	6243.131508	3.49801	0%
4841 PACIFIC AV	RENTON, WA	98055-4418		FOURPLEX 4 UNITS	Residential	6245.150489	44.372524	1%
4845 PACIFIC AV	TACOMA, WA	98404-5455	TIENDA MEXICANA/STORAGE	OLDER BUSINESS DIST	Commercial	6247.19621	56.718932	1%
4840 PACIFIC AV	LAKEWOOD, WA	98498-1109		SINGLE FAMILY DWELLING	Residential	5712.123792	2.672665	0%
4844 PACIFIC AV	LAKEWOOD, WA	98496-8922		SINGLE FAMILY DWELLING	Residential	5708.502036	45.638851	1%
4848 PACIFIC AV	LAKEWOOD, WA	98496-8922	DRIVE N SEND	RETAIL STAND ALONE	Commercial	2998.565076	57.596375	2%
8219 PACIFIC AV	ORLANDO, FL	32819	BUDDYS HOME FURNISHINGS	GEN MERCHANDISE RETAIL TRADE	Commercial	27548.90294	97.936577	0%
8225 PACIFIC AV	CALABASAS, CA	91301-2304	PAPA MURPHYS	FAST FOOD	Commercial	11019.30694	99.322292	1%
8247 PACIFIC AV	HOUSTON, TX	77094-9935		GAS STATION MINI MART	Commercial	20965.95636	200.422163	1%
13802 PACIFIC AV S	TACOMA, WA	98402-4396	KEY BANK	BANKS	Commercial	54625.61834	472.75113	1%
13802 PACIFIC AV S	TACOMA, WA	98402-4396	KEY BANK	BANKS	Commercial	5764.196261	238.715039	2%
13803 PACIFIC AV S	HOUSTON, TX	77252-2967	JIFFY LUBE	MINI LUBE SERVICE	Commercial	15838.86929	557.022642	4%
13819 PACIFIC AV S	TACOMA, WA	98448-0017	PARKLAND CENTER	OTHER RETAIL TRADE	Commercial	93167.21809	421.357935	0%
14001 PACIFIC AV S	TACOMA, WA	98448-0250	NAPA AUTO PARTS / POCHELS APPLIANCES /COPE BROS	GEN MERCHANDISE RETAIL TRADE	Commercial	86490.95363	22.348216	0%
3739 PACIFIC AV	DEERFIELD, IL	60015-6002	WALGREENS	OTHER RETAIL TRADE	Commercial	57912.73275	142.624826	0%
3801 PACIFIC AV	HARRISBURG, PA	17105-8431		COMM VAC LAND	Commercial	13891.6986	107.932537	1%
3807 PACIFIC AV	HARRISBURG, PA	17105-8431		COMM VAC LAND	Commercial	13908.23344	60.738366	0%
3815 PACIFIC AV	HARRISBURG, PA	17105-8431		COMM VAC LAND	Commercial	8790.30577	33.361196	0%
3817 PACIFIC AV	HARRISBURG, PA	17105-8431		COMM VAC LAND	Commercial	16499.97431	2.265013	0%
3811 PACIFIC AV	HARRISBURG, PA	17105-8431		COMM VAC LAND	Commercial	8809.727381	38.741595	0%
3855 PACIFIC AV	AUBURN, WA	98001-3871		FAST FOOD	Commercial	15251.5277	1.674434	0%
4301 PACIFIC AV	TACOMA, WA	98418		SINGLE FAMILY DWELLING	Residential	3746.819432	55.59267	1%
4305 PACIFIC AV	TACOMA, WA	98418-7735		SINGLE FAMILY DWELLING	Residential	4597.450957	36.156378	1%
4309 PACIFIC AV	TACOMA, WA	98418-7735		SINGLE FAMILY DWELLING	Residential	4597.503515	6.74815	0%
4605 PACIFIC AV	TACOMA, WA	98408-7739	SYDS SHOE REPAIR	GEN MERCHANDISE RETAIL TRADE	Commercial	3500.017294	24.333421	1%
4615 PACIFIC AV	TACOMA, WA	98404-2092	PACIFIC AVENUE AUTO SPA	AUTO REPAIR SERVICES	Commercial	10875.02091	97.325221	1%
4631 PACIFIC AV	TACOMA, WA	98408-7739		SINGLE FAMILY DWELLING	Residential	5750.217626	48.671985	1%
4637 PACIFIC AV	OLYMPIA, WA	98502-4903	TROPICAL FISH PET STORE	RETAIL STAND ALONE	Commercial	10628.20942	101.047875	1%
4601 PACIFIC AV	OLYMPIA, WA	98502-9611	HAPPY DAYS MARKET	FOOD RETAIL TRADE	Commercial	5749.980952	58.590717	1%
4627 PACIFIC AV	TACOMA, WA	98408		SINGLE FAMILY DWELLING	Residential	4312.636812	36.498652	1%
4625 PACIFIC AV	TACOMA, WA	98404-1222		GEN MERCHANDISE RETAIL TRADE	Commercial	10151.26619	85.398145	1%
4617 TO 4619 PACIFIC AV	SPANAWAY, WA	98387-4019		GEN MERCHANDISE RETAIL TRADE	Commercial	5749.995276	48.648256	1%
3740 PACIFIC AV	MERIDIAN, ID	83642-8915	JACKSONS	GAS STATION SERV GAR	Commercial	38423.1821	143.824612	0%
3802 PACIFIC AV	LAKEWOOD, WA	98496-8922		NGB COMMUNITY SC	Other	22220.19448	162.615126	1%
4058 PACIFIC AV	MCKENNA, WA	98558-0449		RETAIL STAND ALONE	Commercial	936.953893	1.780119	0%
201 S 43RD ST	MCKENNA, WA	98558-0449		SINGLE FAMILY DWELLING	Residential	4685.426755	92.441152	2%
4302 PACIFIC AV	TACOMA, WA	98418-7734	U BETCHA PUB	TAVERNS	Commercial	5156.149553	53.085941	1%
4306 PACIFIC AV	TACOMA, WA	98418		SINGLE FAMILY DWELLING	Residential	3837.184572	32.792847	1%
4312 PACIFIC AV	TACOMA, WA	98418-7734		SINGLE FAMILY DWELLING	Residential	9593.123727	19.990607	0%
4602 PACIFIC AV	TACOMA, WA	98418-3717		GEN MERCHANDISE RETAIL TRADE	Commercial	6499.984086	56.154666	1%
4606 TO 4608 PACIFIC AV	TACOMA, WA	98418-3717		GEN MERCHANDISE RETAIL TRADE	Commercial	4971.25549	40.828876	1%
4610 PACIFIC AV	TACOMA, WA	98404-1222		MISC SERVICES	Commercial	5374.990301	44.151603	1%
4614 PACIFIC AV	TACOMA, WA	98404-1222		MISC SERVICES	Commercial	5374.999281	44.151967	1%
4620 PACIFIC AV	GRAHAM, WA	98338-7935	PACIFIC VISION	RETAIL STAND ALONE	Commercial	5353.900881	43.030017	1%

Table B-6. Median Alternative – Potential Property Acquisitions (4 of 4)

Site Address	City, State	Zip Code	Business Name (if applicable)	Landuse Description	General Land Use	Total Area of Parcel (SF)	Area of Impact (SF)	Percent of Parcel Impacted
4702 PACIFIC AV	LAKEWOOD, WA	98499-4057	LA MEJICANA GROCERY	GEN MERCHANDISE RETAIL TRADE	Commercial	11000.09166	90.339815	1%
4710 PACIFIC AV	SILVERDALE, WA	98383-1386	SKIPPERS	FAST FOOD	Commercial	16575.68926	135.819771	1%
7656 PACIFIC AV	TACOMA, WA	98408-7013		SINGLE FAMILY DWELLING	Residential	10890.28782	978.194265	9%
REFERENCE	UNKNOWN CITY, WA			UNKNOWN	Other	38580.81276	148.672515	0%
7217 PACIFIC AV	COLUMBUS, OH	43218-2571	MCDONALDS	FAST FOOD	Commercial	21340.33504	109.557511	1%
7250 PACIFIC AV	CINCINNATI, OH	45202	FRED MEYER #385 72ND & PACIFIC AVE	DISCOUNT STORES	Commercial	519859.082	889.892644	0%
7202 PACIFIC AV	KIHEI, HI	96753-8504	CHECKMATE	RETAIL STAND ALONE	Commercial	7413.217807	1405.4661	19%
7210 PACIFIC AV	CINCINNATI, OH	45202		RESTAURANT	Commercial	14063.97625	2157.828799	16%
7411 PACIFIC AV	PHOENIX, AZ	85050	AVAMERE HERITAGE REHAB	NURSING CONVALESCENT HOSPITALS	Other	69511.10056	15.901275	0%
7430 PACIFIC AV	CINCINNATI, OH	45202	PAPA JOHNS PIZZA	FOOD RETAIL TRADE	Commercial	28070.80082	410.370058	1%
7448 PACIFIC AV	CINCINNATI, OH	45202	VACANT PAD SITE	OTHER RETAIL TRADE	Commercial	32102.82475	1287.086788	4%
7447 PACIFIC AV	GIG HARBOR, WA	98335	ZURICH HOUSE TOWNHOMES	MULTI FAM APTS 5 UNITS OR MORE	Residential	46181.10048	154.597356	0%
7431 PACIFIC AV	WILSONVILLE, OR	97070-9697		COMM VAC LAND	Commercial	36599.73559	64.631278	0%
7613 PACIFIC AV	TACOMA, WA	98448-0609	PACIFIC MANOR APARTMENTS	MULTI FAM APTS 5 UNITS OR MORE	Residential	16272.11319	93.065611	1%
7611 PACIFIC AV	TACOMA, WA	98448-0609	PACIFIC MANOR APARTMENTS	MULTI FAM APTS 5 UNITS OR MORE	Residential	17620.26131	110.744573	1%
7603 PACIFIC AV	BURNABY, BC	V5H 4R5	MADRONA APARTMENTS	MULTI FAM APTS 5 UNITS OR MORE	Residential	34784.45088	169.944851	0%
7616 PACIFIC AV	LAKEWOOD, WA	98496-0867		SINGLE FAMILY DWELLING	Residential	9861.495531	94.361451	1%
7608 PACIFIC AV	TACOMA, WA	98446-1808		SINGLE FAMILY DWELLING	Residential	15129.01472	738.588069	5%
7602 PACIFIC AV	TACOMA, WA	98408-7028		SINGLE FAMILY DWELLING	Residential	10661.15786	647.307156	6%
7642 PACIFIC AV	TACOMA, WA	98408-7051	ROE INSURANCE / FARMERS INSURANCE / APARTMENTS	MISC OFFICE SPACE	Commercial	16292.57531	468.652126	3%
7637 PACIFIC AV BLDG A-F	TACOMA, WA	98408-7028	MACINTOSH COURT APARTMENTS	MULTI FAM APTS 5 UNITS OR MORE	Residential	84187.1209	655.481359	1%
XXX PACIFIC AV	UNKNOWN CITY, WA		ROYAL PACIFIC II	UNKNOWN	Other	40597.25032	1215.171388	0%
XXX PACIFIC AV	UNKNOWN CITY, WA		ROYAL PACIFIC I	UNKNOWN	Other	72697.69424	761.703088	0%
7803 PACIFIC AV UNIT A-C	TACOMA, WA	98422-4505	PACIFIC PROFESSIONAL CENTER	PROFESSIONAL SERVICES	Commercial	6720.601665	1262.944779	19%
7817 PACIFIC AV	SEATTLE, WA	98118-4927	PACIFIC PROFESSIONAL CENTER	PROFESSIONAL SERVICES	Commercial	6713.029159	1231.440997	18%
11205 PACIFIC AV	CARLSBAD, CA	92018-2609		BANKS	Commercial	59560.29835	626.776005	1%
14609 PACIFIC AV S	SPANAWAY, WA	98387-0128	PARKSIDE REALTY	OFF INSURANCE REAL ESTATE FINANCE	Commercial	17633.94599	260.332698	2%
14605 PACIFIC AV S	TACOMA, WA	98466-2910		MINI LUBE SERVICE	Commercial	12466.14075	545.150534	4%
14620 PACIFIC AV S	SONOMA, CA	95476		GEN MERCHANDISE RETAIL TRADE	Commercial	36976.49785	12.664786	0%
14606 PACIFIC AV S	FIRCREST, WA	98466-7102	SMITH INDUSTRIAL PARK	FAB METAL PRODUCTS	Commercial	64220.14802	906.798838	1%
14820 PACIFIC AV S	HOUSTON, TX	77008	NYVALL DENTAL	DENTAL SERVICES	Commercial	30724.92148	32.190701	0%
139 146TH ST S	LAKEWOOD, WA	98499-4478		COMM VAC LAND	Commercial	185311.4265	871.746783	0%
14522 PACIFIC AV S	SALT LAKE CTY, UT	84157-2530	KENTUCKY FRIED CHICKEN	FAST FOOD	Commercial	30164.2451	668.828885	2%
14512 PACIFIC AV S	LAKEWOOD, WA	98499-8589	EL PATIO TAQUERIA / GRECO	RESTAURANT	Commercial	31008.34267	36.036136	0%
					<b>Total</b>	<b>12,783,040.52575</b>	<b>118,292.74387</b>	





## **APPENDIX C: STAKEHOLDER OUTREACH LOG**

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Pacific Avenue | SR 7 Corridor HCT Feasiblity Study & BRT Project - Stakeholder Outreach: 2017

Date	Event Name	Location	Type	Additional Information or Comments	Study Team Attendance
6/8/2017	Pierce County Planning for Growth & Development Community Plan Update	Spanaway Elementary School	Open House	Provided Fact Sheet to attendees, available for questions, also brought study area (map) presentation board	Darin Stavish, Jeff Mann, Shawn Phelps
6/12/2017	Pierce County Planning for Growth & Development Community Plan Update	Pierce County Library Administration Building (Tacoma)	Open House	Provided Fact Sheet to attendees, available for questions, also brought study area (map) presentation board	Darin Stavish, Jeff Mann, Shawn Phelps
6/27/2017	City of Tacoma Council Meeting	Tacoma Municipal Building	Study Session	Presented HCT Study Purpose and Need, provided Fact Sheet to attendees, took questions	Darin Stavish, Alex Fastle, Dan Pike
7/18/2017	Pacific Avenue Business District Meeting	Moore Library (Tacoma)	Roundtable Format	Presented information on open houses in September and November, provided Fact Sheet to attendees, took questions	Darin Stavish
9/5/2017	Spring Hill Safe Streets	Home of Lennie Long (Tacoma)	Roundtable Format	Presented information on open houses in September and November, provided Fact Sheet to attendees, took questions	Darin Stavish
9/7/2017	Tacoma TV CityLine Program	Tacoma	On Air (Televised)	Introducing the study to the public and encouraging them to attend an open house or visit the wesbite for more information, including Virtual Open House availability	Darin Stavish, Rebecca Japhet
9/13/2017	Open House #1	UW-Tacoma	Open House		Darin Stavish, Jason Kennedy, Jay Peterson, Stef Viggiano, Lesley Maurer, Shawn Phelps
9/13/2017	New Tacoma Neighborhood Council	People's Center (Tacoma)	Meeting	Presented information on open houses in September and November, provided rack card to attendees, took questions, referred to website	Penny Grellier (PT's Business Partnership Administrator)
9/14/2017	Open House #2	Pacific Lutheran University	Open House		Darin Stavish, Peter Stackpole, Jay Peterson, Stef Viggiano, Larissa King-Rawlins, Jeff Mann
9/18/2017	Eastside Neighborhood Council	Eastside Neighborhood Council	Meeting	Presented information on open houses in September and November, provided rack card to attendees, took questions, referred to website	Penny Grellier (PT's Business Partnership Administrator)
9/19/2017	Open House #3	Stewart Middle School	Open House		Darin Stavish, Jason Kennedy, Jay Peterson, Chris Wellander, Lesley Maurer, Shawn Phelps
9/20/2017	Open House #4	Spanaway Elementary School	Open House		Darin Stavish, Jason Kennedy, Sue Dreier, Alex Mather, Jay Peterson, Chris Wellander, Larissa King-Rawlins, Jeff Mann
10/2/2017	Livable City Year Project Initiation	UW-Tacoma	Classroom	Discussed study's purpose and objectives. Planning and Urban Design (Master's) students evaluating the Pacific Avenue corridor from S. 38th to S. 56th Streets for infill and transit-supportive development over Fall 2017 semester	Darin Stavish, Stephen Atkinson, Jennifer Kammerzell
10/9/2017	Pierce County Council Study Session	Tacoma	Presentation and QA	Briefed Pierce County Council members on the study's purpose, goals and objectives, secured funding, explained BRT mode (the most likely LPA), and took follow-up questions from the members	Max Henkle, Darin Stavish
10/18/2017	Tacoma Transportation Commission	Tacoma	Presentation and QA	Briefed new group of City's Transportation Commission members on the study's purpose, goals and objectives, secured funding, explained BRT mode (the most likely LPA), and took follow-up questions from the members	Darin Stavish, Jennifer Kammerzell
10/19/2017	Downtown: On the Go! Link & Drink	Harmon Brewery Restaurant (Tacoma)	Informational (PT) Table	Handed out rack cards advertising the November open houses along with Fact Sheets. This is an annual event designed to introduce the public to downtown Tacoma transit modes and options; both current and future	Darin Stavish, Janine Robinson
11/9/2017	Tacoma TV CityLine Program	Tacoma	On Air (Televised)	Introducing the initial corridor BRT concepts to the public and encouraging them to attend an open house or visit the wesbite for more information, including Virtual Open House availability	Max Henkle, Rebecca Japhet
11/9/2017	Tacoma Dome District Meeting	Tacoma	Presentation and QA	Presented information on open houses in November, provided Fact Sheet, took questions, referred to website including Virtual Open House availability	Janine Robinson
11/13/2017	Pierce Transit Board of Commissioners Meeting	Lakewood	Presentation and QA	Presented information on status of study plus second round of open houses this week, provided Fact Sheet, took questions, referred to website including Virtual Open House availability	Darin Stavish
11/14/2017	Open House #5	UW-Tacoma	Open House		Darin Stavish, Max Henkle, Jay Peterson, Stef Viggiano, Larissa King-Rawlins
11/15/2017	Open House #6	Pacific Lutheran University (Parkland)	Open House		Darin Stavish, Jay Peterson, Jason Kennedy, Chris Wellender, Larissa King-Rawlins, Jeff Mann
11/16/2017	Open House #7	Stewart Middle School (Tacoma)	Open House		Darin Stavish, Jason Kennedy, Jay Peterson, Chris Wellander, Lesley Maurer
11/16/2017	Open House #8	Spanaway Elementary School	Open House		Darin Stavish, Peter Stackpole, Stef Viggiano, Larissa King-Rawlins, Jeff Mann

Pacific Avenue | SR 7 Corridor HCT Feasibility Study & BRT Project - Stakeholder Outreach: 2018

Date	Event Name	Location	Type	Additional Information or Comments	Study Team Attendance
2/8/2018	Tacoma Dome District Business Owners	Tacoma	Presentation and Discussion	Informal discussion with a handful of local business owners	Darin Stavish, Janine Robinson
2/10/2018	Tacoma Metro Parks Environmental Learning Center	Tacoma	Open House	Manned PT information booth, then scheduled to speak on the study for a half-hour, including a QA session afterwards	Darin Stavish
2/22/2018	Pierce Transit CTAG	Lakewood	Presentation and Discussion	Advised CTAG they need to appoint a new member to the TAC to replace Chris Karnes	Darin Stavish
2/21/2018	Tacoma Transportation Commission	Tacoma	Presentation and Discussion	They asked to have us present again in April, once the runningways and stations are determined by segment with the City of Tacoma limits	Darin Stavish, Alex Mather
2/27/2018	Step it Up Walkability Team (with Downtown: On the Go!)	Tacoma	Presentation and Discussion	Looking to schedule a walking tour and sidewalks audit this summer in the corridor. Advised that it's a great way to include LEP and transit-dependent populations too, especially if a light lunch were provided.	Darin Stavish
3/19/2018	Downtown: On the Go! Transportation Advocacy Day	Tacoma - Courthouse Square	Presentation and Discussion	At roundtable break-out session (table) regarding transit and transportation in Tacoma	Rebecca Japhet
3/21/2018	Parkland-Spanaway-Midland LUAC Study Session	Tacoma	Presentation and Discussion	Updated Pierce County planning partners on the project and inviting them to next week's open houses	Darin Stavish
3/22/2018	Tacoma Dome District Business Owners	Tacoma	Presentation and Discussion	Showing design (roll plots) of proposed access and circulation to/from/around Tacoma Dome Station to local business owners, residents, and key stakeholders	Darin Stavish, Peter Stackpole, Mazadur Hossain
3/27/2018	Open House #9	Spanaway Middle School	Open House		Darin Stavish,Max Henkle, Peter Stackpole, Alex Mather, Ryan Wheaton, Jay Peterson, Rebecca Japhet, Stef Viggiano, Chris Wellander, Lesley Maurer, Larissa King-Rawlins, Jeff Mann, Shawn Phelps
3/28/2018	Open House #10	Garfield Book Company (Parkland)	Open House		
3/29/2018	Open House #11	UW-Tacoma	Open House		
3/29/2018	Pierce Transit Board of Commissioners' Retreat	Lakewood	Presentation and Discussion	Asked for concurrence on project team's recommendation to terminate in Downtown Tacoma, as orginally planned. Also briefed BoC on FTA Entry Into Project Development and Small Starts funding criteria.	Darin Stavish, Stef Viggiano
4/2/18	Pierce County Council	Tacoma	Presentation and QA Session	Also met individually with Councilmembers Roach, Richardson, and McCune. BRT tour being with Community Transit on 5/18.	Darin Stavish, Alex Mather, Ryan Wheaton
4/17/18	Tacoma City Council	Tacoma	Presentation and QA Session	Asked to be involved in further outreach activities.	Alex Mather, Ryan Wheaton
4/18/18	Tacoma Transportation Commission	Tacoma	Presentation and Discussion	Project update, including further describing running way options and the LPA design process. Asked to measure proposed station distances and show current R1 boardings at each location. Suggestion is we may be proposing BRT stops too close together outside (south of) of downtown Tacoma.	Darin Stavish, Ryan Wheaton
5/3/18	Sound Transit - Citizen Oversight Panel	Seattle	Presentation and QA Session	First time presenting to this group, per ST's request.	Darin Stavish, Eric Chipps, Chris Wellander
5/3/18	Parkland-Spanaway Kiwanas Club Luncheon	Tacoma	Presentation and QA Session	Asked for a follow-up presentation once the LPA is available for public review and comment. Will invite other civic organizations from the area too.	Darin Stavish
5/10/18	Tacoma Dome District Business Owners	Tacoma	Showed recommended routing alternative to serve TDS	Attendees unhappy with this recommendation, even though it's clearly shown in the City's South Downtown Subarea Plan (p.160). Need follow-up meeting ASAP with City and WSP Traffic Engineers depicting new sidewalk widths and any bicycle lanes, if part of this design concept. Although they've stated they want <u>all</u> HCT buses off of Puyallup Avenue eventually as part of a pedestrian and bicycle oriented redesign (i.e., much more calm).	Darin Stavish, Pat Beard & Kristen Ely (City of Tacoma)
5/10/18	Tacoma School Board	Tacoma	Presentation and QA Session		Alex Mather





## **APPENDIX D: HISTORIC AND ARCHAEOLOGICAL RESOURCES**

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**Table D-1. Historic-period Architectural Resources within the APE**

Station Location	Tax Lot ID	Address	Build Date	NRHP and WHR Status	City of Tacoma Registry	APE (Curbside, Median, or Both)
S 9th St.	2009050010	901–909 Broadway	1917; 1919	Individually listed in NRHP (1976); Old City Hall Historic District (contributing)	Yes; individually	Both
S 9th St.	2009050020	911–913 Broadway	1919	—	—	Both
S 9th St.	2009040011	902 Pacific Ave.	1970	—	—	Both
S 9th St.	2007040140	745 Commerce St.	1925	In the Old City Hall Historic District (contributing)	Yes; as part of a district	Both
S 9th St.	2007050150	773 Broadway St.	1924	In the Old City Hall Historic District (contributing)	Yes; as part of a district	Both
S 13th St.	2011070054	1149 Market St.	1951	—	—	Median
S 19th St.	2017080090	1742 Market St.	1919	—	—	Both
S 19th St.	2019080010	1902 Market St.	1919	—	—	Both
S 19th St.	2019080030	1914 Market St.	1919	—	—	Both
S 19th St.	2019070030	1918–1926 Jefferson Ave.	1918	In the Union Depot/Warehouse Historic District (non-contributing)	Yes; as part of a district	Both
S 19th St.	2019070020	1910–1914 Jefferson Ave.	1918	In the Union Depot/Warehouse Historic District (contributing)	Yes; as part of a district	Both



Station Location	Tax Lot ID	Address	Build Date	NRHP and WHR Status	City of Tacoma Registry	APE (Curbside, Median, or Both)
S 19th St.	2019070010	1904 Jefferson/1901 Marke Ave.	1918	In the Union Depot/Warehouse Historic District (contributing)	Yes; as part of a district	Both
S 23rd St.	2021070010	2101 Jefferson Ave.	1919; 1976	—	—	Both
S 23rd St.	2805000020	2316 Jefferson Ave.	1890	—	—	Both
S 23rd St.	2805000030	2324 Jefferson Ave.	1929	—	—	Both
S 23rd St.	2023080010	Jefferson Ave.	1970	—	—	Both
E G St.	2074280010	704 Puyallup Ave.	1965	—	—	Curbside
E G St.	2075270010	725 E 25th St.	1918	Not eligible (2014)	Yes; individually	Curbside
E G St.	2075240013	602 E 25th St.	1956	—	—	Curbside
E G St.	2074250010	603–605 Puyallup Ave.	1950	—	—	Median
S 28th St.	2077130053	2725 Pacific Ave.	1950	—	—	Both
S 28th St.	2077120030	2718 Pacific Ave.	1946; 1977	—	—	Both
S 28th St.	2078130020	2817 Pacific Ave.	1926; 1980	—	—	Both
S 34th St.	2084130030	3319 Pacific Ave.	1911	—	—	Both
S 34th St.	2084130010	3317 Pacific Ave.	1948	—	—	Both
S 34th St.	2084110030	201 S 34th St.	1963	—	—	Both
S 34th St.	2084120010	3402 Pacific Ave.	1964	—	—	Both
S 34th St.	2084140010	3401 Pacific Ave.	1925	—	—	Both
S 43rd St.	2415000570	4065 Pacific Ave.	1926	—	—	Both
S 43rd St.	2415000560	4059 Pacific Ave.	1921	—	—	Both
S 43rd St.	7470024320	201 S 43rd St.	1922; 1951	—	—	Both
S 43rd St.	7470024331	4302 Pacific Ave.	1932; 1970	—	—	Both
S 43rd St.	7470024332	4306 Pacific Ave.	1925	—	—	Both
S 43rd St.	7470024340	4312 Pacific Ave.	1929	—	—	Both

Station Location	Tax Lot ID	Address	Build Date	NRHP and WHR Status	City of Tacoma Registry	APE (Curbside, Median, or Both)
S 43rd St.	7470022400	4309 Pacific Ave.	1922; 1932	—	—	Both
S 43rd St.	7470022390	4305 Pacific Ave.	1921	—	—	Both
S 43rd St.	7470022380	4301 Pacific Ave.	1923	—	—	Both
S 43rd St.	7470024101	4058 Pacific Ave.	1931	—	—	Both
S 50th St.	6805000810	4845 Pacific Ave.	1940	—	—	Both
S 50th St.	6805000910	4848 Pacific Ave.	1931	—	—	Both
S 50th St.	320212004	5010 Pacific Ave.	1924; 2016	Surveyed, eligibility not determined (2009)	Yes	Both
S 50th St.	6805000790	4837 Pacific Ave.	1925	—	—	Median
S 50th St.	6805000890	4840 Pacific Ave.	1931	—	—	Median
S 56th St.	5620000160	5520 Pacific Ave.	1939	—	—	Both
S 56th St.	320213000	5606 Pacific Ave.	1952	—	—	Both
S 56th St.	320212078	5453 Pacific Ave.	1945	—	—	Both
S 64th St.	320213001; 0320213088	6329 Pacific Ave.	1958	—	—	Both
S 64th St.	2390000230	6400 Pacific Ave.	1946; 1960	—	—	Both
S 64th St.	2390000260	6414 S Pacific Ave.	1920	—	—	Curbside
S 72nd St.	6615001851	7052 Pacific Ave.	1947	—	—	Curbside
S 78th St.	7680000010	7656 Pacific Ave.	1926; 1971	—	—	Both
S 78th St.	7325310010	7823–7825 Pacific Ave.	1962	—	—	Both
S 78th St.	7850000931	7642 Pacific Ave.	1959; 1970	—	—	Median
S 78th St.	7850001011	7645 Pacific Ave.	1966	—	—	Median
S 84th St.	6835000063	8247 Pacific Ave.	1967	—	—	Both
S 84th St.	4533000011	8402 Pacific Ave.	1956	—	—	Both

Station Location	Tax Lot ID	Address	Build Date	NRHP and WHR Status	City of Tacoma Registry	APE (Curbside, Median, or Both)
S 84th St.	2915000501	8234–8236 Pacific Ave.	1946; 1980	—	—	Curbside
S 84th St.	4533000050	8416 Pacific Ave.	1940	—	—	Both
Pacific St. and approx. S 90th St.	320333265	8843 Pacific Ave.	1971	—	—	Both
Pacific St. and approx. S 90th St.	320333002	8849 Pacific Ave.	1945; 1978	—	—	Both
Pacific St. and approx. S 90th St.	320333287	9001 Pacific Ave.	1948; 1968	—	—	Both
Pacific St. and approx. S 90th St.	320333032	8820 Pacific Ave.	1966	—	—	Both
96th St. S	319042088	9602 Pacific Ave.	1967	—	—	Both
96th St. S	319042036	9614 Pacific Ave.	1961	—	—	Both
Pacific St. and approx. 101st St. S	319042042	10111 Pacific Ave. S	1960	—	—	Both
Pacific St. and approx. 101st St. S	3810000371; 3810000372	10122 Pacific Ave.	1960	—	—	Both
Pacific St. and approx. 101st St. S	319042104	10209 Pacific Ave. S	1963; 1979	—	—	Both



Station Location	Tax Lot ID	Address	Build Date	NRHP and WHR Status	City of Tacoma Registry	APE (Curbside, Median, or Both)
Pacific St. and approx. 101st St. S	319042038	10121 Pacific Ave. S	1964	—	—	Both
108th St. S	6620000101	10707 Pacific Ave.	1956	—	—	Both
108th St. S	319043109	10802 Pacific Ave. S	1971	—	—	Both
108th St. S	319047001	10805 Pacific Ave. S	1944	—	—	Both
112th St. S	319043141	11111 Pacific Ave. S	1944	—	—	Both
112th St. S	319043055	11118 Pacific Ave.	1930	—	—	Both
112th St. S	319043019	11122 Pacific Ave. S	1929	—	—	Both
112th St. S	319043010	111 112th St. S	1965	—	—	Both
112th St. S	4525000010	11214–11216 Pacific Ave. S	1950	—	—	Both
112th St. S	9375000202	11205 Pacific Ave.	1969	Surveyed, eligibility not determined (2003)	—	Both
Garfield St. S	319093002; 6762002501	214 121st St. S <sup>5</sup>	1908	Eligible (WDOT 1999); Undetermined by DAHP	—	Median
Garfield St. S	319093077	12155 Pacific Ave.	1972	—	—	Median
Garfield St. S	319093032	12151 Pacific Ave. S	1966	—	—	Median
Garfield St. S	319093044	12201 Pacific Ave. S	1969	—	—	Curbside

<sup>5</sup> This is recorded as 12102 Pacific St. in WISAARD.

Station Location	Tax Lot ID	Address	Build Date	NRHP and WHR Status	City of Tacoma Registry	APE (Curbside, Median, or Both)
Garfield St. S	319093041; 0319093031	12173 Pacific Ave. S; 12169 Pacific Ave. S	1946	—	—	Curbside
Tule Lake Rd. S	2695002560	13001–13005 Pacific Ave. S	1961	—	—	Both
Tule Lake Rd. S	2695002470	12907–12909 Pacific Ave. S	1958	—	—	Both
Tule Lake Rd. S	2695002460	12901 Pacific Ave. S	1949	—	—	Both
Tule Lake Rd. S	2695002260	13014 Pacific Ave.	1946	—	—	Both
Tule Lake Rd. S	2695002570	13021 Pacific Ave.	1961	—	—	Both
138th St. S	319163072	13720 Pacific Ave. S	1969	—	—	Both
138th St. S	7130000110	13819 Pacific Ave. S	1961; 2000	—	—	Both
138th St. S	319163066	13723 Pacific Ave. S	1972	—	—	Both
138th St. S	319163067	13721 Pacific Ave. S	1973	—	—	Both
138th St. S	319163068	13719 Pacific Ave. S	1972; 1995; 2004	—	—	Both
138th St. S	7130000110	13819 Pacific Ave.	1961; 2000	—	—	Both
146th St. S	9830000101	14606 Pacific Ave. S	1960	—	—	Both
Military Rd. S; 159th St. S/160th St. S	319213034	15602 Pacific Ave. S	1966; 1970; 1986	—	—	Both

Station Location	Tax Lot ID	Address	Build Date	NRHP and WHR Status	City of Tacoma Registry	APE (Curbside, Median, or Both)
159th St. S/160th St. S	5025002551	15902 Pacific Ave. S	1957; 1985	—	—	Both
159th St. S/160th St. S	5025002430	16003 Pacific Ave. S	1964; 1964	—	—	Both
168th St. S	5025001870	16701 Pacific Ave. S	1939	—	—	Both
168th St. S	5025003290	16802–16804 Pacific Ave. S	1956	—	—	Both
168th St. S	5025003421	16822 Pacific Ave. S	1971; 2000	—	—	Both
176th St. S	5025001341	17519 Pacific Ave.	1971	—	—	Both
184th St. S	4660000282	18310 1st Avct. S	1950	—	—	Both
196th St. E	318041040	19708 Mountain Hwy. E	1947; 1970	—	—	Both

**Table D-2. Previous cultural resource studies within 0.5 mi of the area of direct disturbance for the curbside and median stations (Studies overlapping stations highlighted in gray)**

<b>Location of Station, Northbound (NB) or Southbound (SB)</b>	<b>Studies within 0.5 mile</b>	<b>Reference</b>	<b>Distance (Mile (mi)) and Direction (N, S, W, E, etc)</b>	<b>Overlap with APE (Curbside, Median, or Both)</b>
9 <sup>th</sup> and Commerce St.	<i>Results of Archaeological Monitoring For Tacoma Link Light Rail, City of Tacoma</i>	LeTourneau 2002	0.4 mi S	No
	<i>Survey and Inventory in the Hilltop Area of Tacoma Update 2004</i>	Eysaman 2004	0.2 mi W	No
	<i>Results of an Archaeological Survey of the Petrich Marine Dock Property, Tacoma</i>	Becker 2006	0.4 mi E	No
	<i>DRAFT: Archaeological Assessment of the Thea Foss Waterway Public Esplanade, East 13th Street to Thea's Park</i>	White and Hudson 2006	0.3 mi E	No
	<i>Archaeological Assessment of Site 4, Thea Foss Waterway, Tacoma</i>	Baldwin 2006	0.5 mi S	No
	<i>Letter to City of Tacoma Regarding Phase I Cultural Resources Assessment for ConocoPhillips's Tacoma Terminal Seawall Repair Project</i>	Chatters 2006	0.3 mi NE	No
	<i>Historic Resources Report Thea Foss Waterway Public Esplanade, East 13th Street to East 4th Street</i>	Exeltech 2006	0.2 mi E	No
	<i>Archaeological and Historical Investigations of the Urban Waters Site, Tacoma, Washington</i>	Daugherty and Kirk 2007	0.3 mi E	No
	<i>Cultural Resources Assessment for the Center for Urban Waters Project, Tacoma</i>	Berger 2008	0.3 mi NE	No
	<i>Tacoma Post Office Court and Customs House Historic Structures Report</i>	Artifacts 2009	0.2 mi S	No
	<i>Cultural Resources Assessment for the Murray Morgan Bridge Rehabilitation Project, Tacoma, Washington</i>	Hartmann 2010	0.4 mi SE	No
	<i>FCC Form 621 Wright Park #WA651</i>	Pinyerd 2012	0.4 mi N	No
	<i>Bates Tech College #SE03XC276 1101 S Yakima Ave, Tacoma</i>	Pinyerd 2013	0.4 mi SW	No



Location of Station, Northbound (NB) or Southbound (SB)	Studies within 0.5 mile	Reference	Distance (Mile (mi)) and Direction (N, S, W, E. etc)	Overlap with APE (Curbside, Median, or Both)
	<i>Cultural Resource Survey: Proposed Roof-Top Antenna Modification Site Name: TAC Wheeler - AWS, Tacoma</i>	Baker and McReynolds 2014	0.1 mi E	No
13 <sup>th</sup> St. NB	<i>Results of Archaeological Monitoring For Tacoma Link Light Rail, City of Tacoma</i>	LeTourneau 2002	0.1 mi E	No
	<i>Cultural Resources Investigations of the Pacific Plaza Property within the Downtown Redevelopments Streetscape Improvement Project</i>	Weaver 2004	0.1 mi SE	No
	<i>Survey and Inventory in the Hilltop Area of Tacoma Update 2004</i>	Eysaman 2004	0.1 mi W	No
	<i>Results of an Archaeological Survey of the Petrich Marine Dock Property, Tacoma</i>	Becker 2006	0.4 mi E	No
	<i>DRAFT: Archaeological Assessment of the Thea Foss Waterway Public Esplanade, East 13th Street to Thea's Park</i>	White and Hudson 2006	0.3 mi NE	No
	<i>Historic Resources Report Thea Foss Waterway Public Esplanade, East 13th Street to East 4th Street</i>	Exeltech 2006	0.3 mi NE	No
	<i>Archaeological Assessment of Site 4, Thea Foss Waterway, Tacoma</i>	Baldwin 2006	0.2 mi SE	No
	<i>Tacoma Post Office Court and Customs House Historic Structures Report</i>	Artifacts 2009	0.3 mi NE	No
	<i>Cultural Resources Assessment for the Murray Morgan Bridge Rehabilitation Project, Tacoma, Washington</i>	Berger and Hartmann 2010	0.3 mi NE	No
	<i>Historic Properties Survey of Foss Waterway (Tacoma Paper and Stationery Building) Telecome Installation 1721-35 Jefferson Ave., Tacoma</i>	Askin 2013	0.2 mi S	No
	<i>Cultural Resource Survey: Proposed Roof-Top Antenna Modification Site Name: TAC Wheeler - AWS, Tacoma</i>	Baker and McReynolds 2014	0.4 mi NE	No

Location of Station, Northbound (NB) or Southbound (SB)	Studies within 0.5 mile	Reference	Distance (Mile (mi)) and Direction (N, S, W, E. etc)	Overlap with APE (Curbside, Median, or Both)
13 <sup>th</sup> St. SB	<i>Results of Archaeological Monitoring For Tacoma Link Light Rail, City of Tacoma</i>	LeTourneau 2002	0.1 mi E	No
	<i>Cultural Resources Investigations of the Pacific Plaza Property within the Downtown Redevelopments Streetscape Improvement Project</i>	Weaver 2004	0.1 mi SE	No
	<i>Survey and Inventory in the Hilltop Area of Tacoma Update 2004</i>	Eysaman 2004	0.1 mi W	No
	<i>Results of an Archaeological Survey of the Petrich Marine Dock Property, Tacoma</i>	Becker 2006	0.4 mi E	No
	<i>DRAFT: Archaeological Assessment of the Thea Foss Waterway Public Esplanade, East 13th Street to Thea's Park</i>	White and Hudson 2006	0.3 mi NE	No
	<i>Historic Resources Report Thea Foss Waterway Public Esplanade, East 13th Street to East 4th Street</i>	Exeltech 2006	0.3 mi NE	No
	<i>Archaeological Assessment of Site 4, Thea Foss Waterway, Tacoma</i>	Baldwin 2006	0.2 mi SE	No
	<i>Tacoma Post Office Court and Customs House Historic Structures Report</i>	Artifacts 2009	0.3 mi NE	No
	<i>Cultural Resources Assessment for the Murray Morgan Bridge Rehabilitation Project, Tacoma, Washington</i>	Berger and Hartmann 2010	0.3 mi NE	No
	<i>Historic Properties Survey of Foss Waterway (Tacoma Paper and Stationery Building) Telecom Installation 1721-35 Jefferson Ave., Tacoma</i>	Askin 2013	0.2 mi S	No
	<i>Cultural Resource Survey: Proposed Roof-Top Antenna Modification Site Name: TAC Wheeler - AWS, Tacoma</i>	Baker and McReynolds 2014	0.4 mi NE	No
15 <sup>th</sup> St. NB	<i>Results of Archaeological Monitoring For Tacoma Link Light Rail, City of Tacoma</i>	LeTourneau 2002	0.1 mi E	No
	<i>Cultural Resource Survey Report, D Street, Tacoma</i>	Grulich and Clio 2003	0.4 mi SE	No

Location of Station, Northbound (NB) or Southbound (SB)	Studies within 0.5 mile	Reference	Distance (Mile (mi)) and Direction (N, S, W, E. etc)	Overlap with APE (Curbside, Median, or Both)
	<i>Cultural Resources Investigations of the Pacific Plaza Property within the Downtown Redevelopments Streetscape Improvement Project</i>	Weaver 2004	0.1 mi SE	No
	<i>Survey and Inventory in the Hilltop Area of Tacoma Update 2004</i>	Eysaman 2004	0.1 mi W	No
	<i>Results of an Archaeological Survey of the Petrich Marine Dock Property, Tacoma</i>	Becker 2006	0.4 mi E	No
	<i>Cultural Resources Assessment for Thea Foss Waterway Site 1 Project</i>	Chambers and Schumacher 2006	0.4 mi SE	No
	<i>DRAFT: Archaeological Assessment of the Thea Foss Waterway Public Esplanade, East 13th Street to Thea's Park</i>	White and Hudson 2006	0.3 mi NE	No
	<i>Historic Resources Report Thea Foss Waterway Public Esplanade, East 13th Street to East 4th Street</i>	Exeltech 2006	0.3 mi NE	No
	<i>Archaeological Assessment of Site 4, Thea Foss Waterway, Tacoma</i>	Baldwin 2006	0.2 mi SE	No
	<i>Historic Properties Investigation for the Shaub-Ellison Parcel Brownfield's Cleanup Project on the University of Washington-Tacoma Campus, City of Tacoma</i>	Kent and Kelly 2006	0.3 mi SE	No
	<i>Tacoma Post Office Court and Customs House Historic Structures Report</i>	Artifacts 2009	0.3 mi NE	No
	<i>Cultural Resources Assessment for the Murray Morgan Bridge Rehabilitation Project, Tacoma, Washington</i>	Berger and Hartmann 2010	0.3 mi NE	No
	<i>Historic Properties Survey of Foss Waterway (Tacoma Paper and Stationery Building) Telecom Installation 1721-35 Jefferson Ave., Tacoma</i>	Askin 2013	0.2 mi S	No

Location of Station, Northbound (NB) or Southbound (SB)	Studies within 0.5 mile	Reference	Distance (Mile (mi)) and Direction (N, S, W, E. etc)	Overlap with APE (Curbside, Median, or Both)
	<i>Cultural Resource Survey: Proposed Roof-Top Antenna Modification Site Name: TAC Wheeler - AWS, Tacoma</i>	Baker and McReynolds 2014	0.4 mi NE	No
15 <sup>th</sup> St. SB	<i>Results of Archaeological Monitoring For Tacoma Link Light Rail, City of Tacoma</i>	LeTourneau 2002	0.1 mi E	No
	<i>Cultural Resource Survey Report, D Street, Tacoma</i>	Grulich and Clio 2003	0.4 mi SE	No
	<i>Cultural Resources Investigations of the Pacific Plaza Property within the Downtown Redevelopments Streetscape Improvement Project</i>	Weaver 2004	0.1 mi SE	No
	<i>Survey and Inventory in the Hilltop Area of Tacoma Update 2004</i>	Eysaman 2004	0.1 mi W	No
	<i>Results of an Archaeological Survey of the Petrich Marine Dock Property, Tacoma;</i>	Becker 2006	0.4 mi E	No
	<i>Cultural Resources Assessment for Thea Foss Waterway Site 1 Project</i>	Chambers and Schumacher 2006	0.4 mi SE	No
	<i>DRAFT: Archaeological Assessment of the Thea Foss Waterway Public Esplanade, East 13th Street to Thea's Park</i>	White and Hudson 2006	0.3 mi NE	No
	<i>Historic Resources Report Thea Foss Waterway Public Esplanade, East 13th Street to East 4th Street</i>	Exeltech 2006	0.3 mi NE	No
	<i>Archaeological Assessment of Site 4, Thea Foss Waterway, Tacoma</i>	Baldwin 2006	0.2 mi SE	No
	<i>Historic Properties Investigation for the Shaub-Ellison Parcel Brownfield's Cleanup Project on the University of Washington-Tacoma Campus, City of Tacoma</i>	Kent and Kelly 2006	0.3 mi SE	No
	<i>Tacoma Post Office Court and Customs House Historic Structures Report</i>	Artifacts 2009	0.3 mi NE	No
	<i>Cultural Resources Assessment for the Murray Morgan Bridge</i>	Berger and Hartmann 2010	0.3 mi NE	No



Location of Station, Northbound (NB) or Southbound (SB)	Studies within 0.5 mile	Reference	Distance (Mile (mi)) and Direction (N, S, W, E. etc)	Overlap with APE (Curbside, Median, or Both)
	<i>Rehabilitation Project, Tacoma, Washington</i>			
	<i>Historic Properties Survey of Foss Waterway (Tacoma Paper and Stationery Building) Telecom Installation 1721-35 Jefferson Ave., Tacoma</i>	Askin 2013	0.2 mi S	No
	<i>Cultural Resource Survey: Proposed Roof-Top Antenna Modification Site Name: TAC Wheeler - AWS, Tacoma</i>	Baker and McReynolds 2014	0.4 mi NE	No
19 <sup>th</sup> St. NB	<i>Results of Archaeological Monitoring For Tacoma Link Light Rail, City of Tacoma</i>	LeTourneau 2002	0.3 mi N	No
	<i>Cultural Resource Survey Report, D Street, Tacoma</i>	Grulich and Clio 2003	0.2 mi SE	No
	<i>Cultural Resources Investigations of the Pacific Plaza Property within the Downtown Redevelopments Streetscape Improvement Project</i>	Weaver 2004	0.2 mi NE	No
	<i>Survey and Inventory in the Hilltop Area of Tacoma Update 2004</i>	Eysaman 2004	0.1 mi W	No
	<i>Archaeological Assessment of Site 4, Thea Foss Waterway, Tacoma</i>	Baldwin 2006	0.3 mi NE	No
	<i>Cultural Resources Assessment for Thea Foss Waterway Site 1 Project</i>	Chambers and Schumacher 2006	0.3 mi E	No
	<i>Historic Properties Investigation for the Shaub-Ellison Parcel Brownfield's Cleanup Project on the University of Washington-Tacoma Campus, City of Tacoma</i>	Kent and Kelly 2006	<0.1 mi E	No
	<i>Historic Resources Report Thea Foss Waterway Public Esplanade, East 13th Street to East 4th Street</i>	Exeltech 2006	0.5 mi NE	No
	<i>Results of Archaeological Monitoring for Sound Transit's Sounder Commuter Rail D-to-M Streets Track and Signal Project, Tacoma</i>	Shong and Undem 2013	0.5 mi S	No

Location of Station, Northbound (NB) or Southbound (SB)	Studies within 0.5 mile	Reference	Distance (Mile (mi)) and Direction (N, S, W, E. etc)	Overlap with APE (Curbside, Median, or Both)
	<i>Historic Properties Survey of Foss Waterway (Tacoma Paper and Stationery Building) Telecom Installation 1721-35 Jefferson Ave., Tacoma</i>	Askin 2013	Within area of direct disturbance	Both
19 <sup>th</sup> St. SB	<i>Results of Archaeological Monitoring For Tacoma Link Light Rail, City of Tacoma</i>	LeTourneau 2002	0.3 mi N	No
	<i>Cultural Resource Survey Report, D Street, Tacoma</i>	Grulich and Clio 2003	0.2 mi SE	No
	<i>Cultural Resources Investigations of the Pacific Plaza Property within the Downtown Redevelopments Streetscape Improvement Project</i>	Weaver 2004	0.2 mi NE	No
	<i>Survey and Inventory in the Hilltop Area of Tacoma Update 2004;</i>	Eysaman 2004	0.1 mi W	No
	<i>Archaeological Assessment of Site 4, Thea Foss Waterway, Tacoma</i>	Baldwin 2006	0.3 mi NE	No
	<i>Cultural Resources Assessment for Thea Foss Waterway Site 1 Project</i>	Chambers and Schumacher 2006	0.3 mi E	No
	<i>Historic Properties Investigation for the Shaub-Ellison Parcel Brownfield's Cleanup Project on the University of Washington-Tacoma Campus, City of Tacoma</i>	Kent and Kelly 2006	<0.1 mi E	No
	<i>Historic Resources Report Thea Foss Waterway Public Esplanade, East 13th Street to East 4th Street</i>	Exeltech 2006	0.5 mi NE	No
	<i>Results of Archaeological Monitoring for Sound Transit's Sounder Commuter Rail D-to-M Streets Track and Signal Project, Tacoma</i>	Shong and Undem 2013	0.5 mi S	No
	<i>Historic Properties Survey of Foss Waterway (Tacoma Paper and Stationery Building) Telecom Installation 1721-35 Jefferson Ave., Tacoma</i>	Askin 2013	Within area of direct disturbance	Both

Location of Station, Northbound (NB) or Southbound (SB)	Studies within 0.5 mile	Reference	Distance (Mile (mi)) and Direction (N, S, W, E. etc)	Overlap with APE (Curbside, Median, or Both)
23 <sup>rd</sup> St. NB	<i>Sound Transit Lakewood-to-Tacoma Commuter Rail and SR-512 Park-and-Ride Expansion Project Draft EIS, Cultural/Historical Resources Technical Report</i>	Reanier 1999	0.3 mi S	No
	<i>Results of Archaeological Monitoring For Tacoma Link Light Rail, City of Tacoma</i>	LeTourneau 2002	0.5 mi N	No
	<i>Cultural Resource Survey Report, D Street, Tacoma</i>	Grulich and Clio 2003	0.2 mi E	No
	<i>Cultural Resources Investigations of the Pacific Plaza Property within the Downtown Redevelopments Streetscape Improvement Project</i>	Weaver 2004	0.4 mi N	No
	<i>Survey and Inventory in the Hilltop Area of Tacoma Update 2004</i>	Eysaman 2004	0.1 mi W	No
	<i>Reconnaissance Level Survey Update of South Tacoma, Edison/Excelsior and the South End, Fern Hill and Lincoln Park</i>	Eysaman 2005	0.3 mi S	No
	<i>Historic Properties Investigation for the Shaub-Ellison Parcel Brownfield's Cleanup Project on the University of Washington-Tacoma Campus, City of Tacoma</i>	Kent and Kelly 2006	0.3 mi NE	No
	<i>Cultural Resources Assessment for Thea Foss Waterway Site 1 Project</i>	Chambers and Schumacher 2006	0.3 mi E	No
	<i>Cultural Resources Assessment for the LeMay Automobile Museum, Tacoma</i>	White 2007	0.4 mi SE	No
	<i>Tacoma/ Pierce County HOV Program I-5 M Street to Portland Avenue- HOV I-5: I-5 Portland Avenue to Port of Tacoma Road - Southbound HOV, I-5 Portland Avenue to Port of Tacoma Road- Northbound HOV Historic, Cultural and Archaeological Resources Discipline Rprt</i>	Sharpe et al. 2009	0.3 mi S	No

Location of Station, Northbound (NB) or Southbound (SB)	Studies within 0.5 mile	Reference	Distance (Mile (mi)) and Direction (N, S, W, E, etc)	Overlap with APE (Curbside, Median, or Both)
	<i>Federal Railroad Administration WSDOT Point Defiance Bypass Project Environmental Assessment, Section 106 Survey Report Historic, Cultural, and Archaeological Resources/ Discipline Report</i>	Van Galder et al. 2012	0.2 mi S	No
	<i>Results of Archaeological Monitoring for Sound Transit's Sounder Commuter Rail D-to-M Streets Track and Signal Project, Tacoma</i>	Shong and Udem 2013	0.2 mi S	No
	<i>Historic Properties Survey of Foss Waterway (Tacoma Paper and Stationery Building) Telecom Installation 1721-35 Jefferson Ave., Tacoma;</i>	Askin 2013	0.2 mi N	No
23 <sup>rd</sup> St. NB	<i>Sound Transit Lakewood-to-Tacoma Commuter Rail and SR-512 Park-and-Ride Expansion Project Draft EIS, Cultural/Historical Resources Technical Report</i>	Reanier 1999	0.3 mi S	No
	<i>Results of Archaeological Monitoring For Tacoma Link Light Rail, City of Tacoma</i>	LeTourneau 2002	0.5 mi N	No
	<i>Cultural Resource Survey Report, D Street, Tacoma</i>	Grulich and Clio 2003	0.2 mi E	No
	<i>Cultural Resources Investigations of the Pacific Plaza Property within the Downtown Redevelopments Streetscape Improvement Project</i>	Weaver 2004	0.4 mi N	No
	<i>Survey and Inventory in the Hilltop Area of Tacoma Update 2004</i>	Eysaman 2004	0.1 mi W	No
	<i>Reconnaissance Level Survey Update of South Tacoma, Edison/Excelsior and the South End, Fern Hill and Lincoln Park</i>	Eysaman 2005	0.3 mi S	No
	<i>Historic Properties Investigation for the Shaub-Ellison Parcel Brownfield's Cleanup Project on the University of Washington-Tacoma Campus, City of Tacoma</i>	Kent and Kelly 2006	0.3 mi NE	No



Location of Station, Northbound (NB) or Southbound (SB)	Studies within 0.5 mile	Reference	Distance (Mile (mi)) and Direction (N, S, W, E. etc)	Overlap with APE (Curbside, Median, or Both)
	<i>Cultural Resources Assessment for Thea Foss Waterway Site 1 Project</i>	Chambers and Schumacher 2006	0.3 mi E	No
	<i>Cultural Resources Assessment for the LeMay Automobile Museum, Tacoma</i>	White 2007	0.4 mi SE	No
	<i>Tacoma/ Pierce County HOV Program I-5 M Street to Portland Avenue- HOV I-5: I-5 Portland Avenue to Port of Tacoma Road - Southbound HOV, I-5 Portland Avenue to Port of Tacoma Road- Northbound HOV Historic, Cultural and Archaeological Resources Discipline Rprt</i>	Sharpe et al. 2009	0.3 mi S	No
	<i>Federal Railroad Administration WSDOT Point Defiance Bypass Project Environmental Assessment, Section 106 Survey Report Historic, Cultural, and Archaeological Resources/ Discipline Report</i>	Van Galder et al. 2012	0.2 mi S	No
	<i>Results of Archaeological Monitoring for Sound Transit's Sounder Commuter Rail D-to-M Streets Track and Signal Project, Tacoma</i>	Shong and Undem 2013	0.2 mi S	No
	<i>Historic Properties Survey of Foss Waterway (Tacoma Paper and Stationery Building) Telecome Installation 1721-35 Jefferson Ave., Tacoma;</i>	Askin 2013	0.2 mi N	No
25 <sup>th</sup> St. NB	<i>RTA Lakewood-to-Tacoma Commuter Rail Project, Tacoma Dome, South Tacoma, and Lakewood Sections, Cultural Resource Assessment</i>	Forsman et al. 1998	0.3 mi E	No
	<i>Sound Transit Lakewood-to-Tacoma Commuter Rail and SR-512 Park-and-Ride Expansion Project Draft</i>	Reanier 1999	0.2 mi S	No

Location of Station, Northbound (NB) or Southbound (SB)	Studies within 0.5 mile	Reference	Distance (Mile (mi)) and Direction (N, S, W, E. etc)	Overlap with APE (Curbside, Median, or Both)
	<i>EIS, Cultural/Historical Resources Technical Report</i>			
	<i>Results of Archaeological Monitoring For Tacoma Link Light Rail, City of Tacoma</i>	LeTourneau 2002	<0.1 mi N	No
	<i>Cultural Resource Survey Report, D Street, Tacoma</i>	Grulich and Clio 2003	Within area of direct disturbance	Curbside
	<i>Survey and Inventory in the Hilltop Area of Tacoma Update 2004</i>	Eysaman 2004	0.2 mi W	No
	<i>Cultural Resources Assessment for the I-5 High Occupancy Vehicle Project, Addendum Considering Historic Properties</i>	Weaver 2004	0.4 mi S	No
	<i>Reconnaissance Level Survey Update of South Tacoma, Edison/Excelsior and the South End, Fern Hill and Lincoln Park</i>	Eysaman 2005	0.3 mi S	No
	<i>Historic Properties Investigation for the Shaub-Ellison Parcel Brownfield's Cleanup Project on the University of Washington-Tacoma Campus, City of Tacoma</i>	Kent and Kelly 2006	0.4 mi N	No
	<i>Cultural Resources Assessment for Thea Foss Waterway Site 1 Project</i>	Chambers and Schumacher 2006	0.3 mi NE	No
	<i>Cultural Resources Assessment for the LeMay Automobile Museum, Tacoma</i>	White 2007	0.3 mi SE	No
	<i>Tacoma/ Pierce County HOV Program I-5 M Street to Portland Avenue- HOV I-5: I-5 Portland Avenue to Port of Tacoma Road - Southbound HOV, I-5 Portland Avenue to Port of Tacoma Road- Northbound HOV Historic, Cultural and Archaeological Resources Discipline Rprt</i>	Sharpe et al. 2009	0.2 mi SE	No
	<i>Memo to Lauren Smith RE: Tacoma Trestle Replacement</i>	Merrill and Johnson 2012	0.4 mi E	No

Location of Station, Northbound (NB) or Southbound (SB)	Studies within 0.5 mile	Reference	Distance (Mile (mi)) and Direction (N, S, W, E. etc)	Overlap with APE (Curbside, Median, or Both)
	<i>Federal Railroad Administration WSDOT Point Defiance Bypass Project Environmental Assessment, Section 106 Survey Report Historic, Cultural, and Archaeological Resources/ Discipline Report</i>	Van Galder et al. 2012	0.1 mi S	No
	<i>Results of Archaeological Monitoring for Sound Transit's Sounder Commuter Rail D-to-M Streets Track and Signal Project, Tacoma</i>	Shong and Undem 2013	<0.1 mi S	No
	<i>Historic Properties Survey of Foss Waterway (Tacoma Paper and Stationery Building) Telecom Installation 1721-35 Jefferson Ave., Tacoma</i>	Askin 2013	0.4 mi N	No
	<i>Geotechnical and Archaeological Bore Monitoring Report for Tacoma Trestle Track and Signal Project</i>	Stevenson et al. 2015	0.3 mi E	No
	<i>Addendum to: Geotechnical and Archaeological Bore Monitoring Report for Tacoma Trestle Track and Signal Project</i>	Herbel and Stevenson 2015	0.3 mi E	No
	<i>Letter to Allyson Brooks RE: Point Defiance Bypass Rails Project, Archaeological Monitoring of Geotechnical Investigation for the Proposed Amtrak Station Relocation to Freighthouse Square, Main Platform Improvements and New Second Platform</i>	Littauer 2015	0.3 mi E	No
25 <sup>th</sup> St. NB	<i>RTA Lakewood-to-Tacoma Commuter Rail Project, Tacoma Dome, South Tacoma, and Lakewood Sections, Cultural Resource Assessment</i>	Forsman et al. 1998	0.3 mi E	No
	<i>Sound Transit Lakewood-to-Tacoma Commuter Rail and SR-512 Park-and-Ride Expansion Project Draft EIS, Cultural/Historical Resources Technical Report</i>	Reanier 1999	0.2 mi S	No

Location of Station, Northbound (NB) or Southbound (SB)	Studies within 0.5 mile	Reference	Distance (Mile (mi)) and Direction (N, S, W, E. etc)	Overlap with APE (Curbside, Median, or Both)
	<i>Results of Archaeological Monitoring For Tacoma Link Light Rail, City of Tacoma</i>	LeTourneau 2002	<0.1 mi N	No
	<i>Cultural Resource Survey Report, D Street, Tacoma</i>	Grulich and Clio 2003	Within area of direct disturbance	Curbside
	<i>Survey and Inventory in the Hilltop Area of Tacoma Update 2004</i>	Eysaman 2004	0.2 m W	No
	<i>Cultural Resources Assessment for the I-5 High Occupancy Vehicle Project, Addendum Considering Historic Properties</i>	Weaver 2004	0.4 mi S	No
	<i>Reconnaissance Level Survey Update of South Tacoma, Edison/Excelsior and the South End, Fern Hill and Lincoln Park</i>	Eysaman 2005	0.3 mi S	No
	<i>Historic Properties Investigation for the Shaub-Ellison Parcel Brownfield's Cleanup Project on the University of Washington-Tacoma Campus, City of Tacoma</i>	Kent and Kelly 2006	0.4 mi N	No
	<i>Cultural Resources Assessment for Thea Foss Waterway Site 1 Project;</i>	Chambers and Schumacher 2006	0.3 mi NE	No
	<i>Cultural Resources Assessment for the LeMay Automobile Museum, Tacoma</i>	White 2007	0.3 mi SE	No
	<i>Tacoma/ Pierce County HOV Program I-5 M Street to Portland Avenue- HOV I-5: I-5 Portland Avenue to Port of Tacoma Road - Southbound HOV, I-5 Portland Avenue to Port of Tacoma Road- Northbound HOV Historic, Cultural and Archaeological Resources Discipline Rprt</i>	Sharpe et al. 2009	0.2 mi SE	No
	<i>Memo to Lauren Smith RE: Tacoma Trestle Replacement</i>	Merrill and Johnson 2012	0.4 mi E	No
	<i>Federal Railroad Administration WSDOT Point Defiance Bypass</i>	Van Galder et al. 2012	0.1 mi S	No



Location of Station, Northbound (NB) or Southbound (SB)	Studies within 0.5 mile	Reference	Distance (Mile (mi)) and Direction (N, S, W, E. etc)	Overlap with APE (Curbside, Median, or Both)
	<i>Project Environmental Assessment, Section 106 Survey Report Historic, Cultural, and Archaeological Resources/ Discipline Report</i>			
	<i>Results of Archaeological Monitoring for Sound Transit's Sounder Commuter Rail D-to-M Streets Track and Signal Project, Tacoma</i>	Shong and Undem 2013	<0.1 mi S	No
	<i>Historic Properties Survey of Foss Waterway (Tacoma Paper and Stationery Building) Telecom Installation 1721-35 Jefferson Ave., Tacoma</i>	Askin 2013	0.4 mi N	No
	<i>Geotechnical and Archaeological Bore Monitoring Report for Tacoma Trestle Track and Signal Project</i>	Stevenson et al. 2015	0.3 mi E	No
	<i>Addendum to: Geotechnical and Archaeological Bore Monitoring Report for Tacoma Trestle Track and Signal Project</i>	Herbel and Stevenson 2015	0.3 mi E	No
	<i>Letter to Allyson Brooks RE: Point Defiance Bypass Rails Project, Archaeological Monitoring of Geotechnical Investigation for the Proposed Amtrak Station Relocation to Freighthouse Square, Main Platform Improvements and New Second Platform</i>	Littauer 2015	0.3 mi E	No
G St. NB	<i>RTA Lakewood-to-Tacoma Commuter Rail Project, Tacoma Dome, South Tacoma, and Lakewood Sections, Cultural Resource Assessment</i>	Forsman et al. 1998	<0.1 mi S	No
	<i>Cultural Resource Survey Report, D Street, Tacoma</i>	Grulich and Clio 2003	Within area of direct disturbance	Curbside
	<i>Cultural Resources Assessment for Thea Foss Waterway Site 1 Project</i>	Chambers and Schumacher 2006	0.4 mi E	No

Location of Station, Northbound (NB) or Southbound (SB)	Studies within 0.5 mile	Reference	Distance (Mile (mi)) and Direction (N, S, W, E, etc)	Overlap with APE (Curbside, Median, or Both)
	<i>Cultural Resources Assessment for the LeMay Automobile Museum, Tacoma</i>	White 2007	0.3 mi SW	No
	<i>Tacoma/ Pierce County HOV Program I-5 M Street to Portland Avenue- HOV I-5: I-5 Portland Avenue to Port of Tacoma Road - Southbound HOV, I-5 Portland Avenue to Port of Tacoma Road- Northbound HOV Historic, Cultural and Archaeological Resources Discipline Rprt</i>	Sharpe et al. 2009	0.1 mi S	No
	<i>Federal Railroad Administration WSDOT Point Defiance Bypass Project Environmental Assessment, Section 106 Survey Report Historic, Cultural, and Archaeological Resources/ Discipline Report</i>	Van Galder et al. 2012	0.1 mi S	No
	<i>Memo to Lauren Smith RE: Tacoma Trestle Replacement</i>	Merrill and Johnson 2012	<0.1 mi S	No
	<i>Cultural Resources Assessment for the Cardlock Fuel Facility</i>	Moreno and Rooke 2012	0.4 mi E	No
	<i>Results of Archaeological Monitoring for Sound Transit's Sounder Commuter Rail D-to-M Streets Track and Signal Project, Tacoma</i>	Shong and Udem 2013	0.4 mi W	No
	<i>Geotechnical and Archaeological Bore Monitoring Report for Tacoma Trestle Track and Signal Project</i>	Stevenson et al. 2015	<0.1 mi S	No
	<i>Addendum to: Geotechnical and Archaeological Bore Monitoring Report for Tacoma Trestle Track and Signal Project</i>	Herbel and Stevenson 2015	<0.1 mi S	No
	<i>Letter to Allyson Brooks RE: Point Defiance Bypass Rails Project, Archaeological Monitoring of Geotechnical Investigation for the Proposed Amtrak Station Relocation to Freighthouse Square,</i>	Littauer 2015	0.1 mi S	No

Location of Station, Northbound (NB) or Southbound (SB)	Studies within 0.5 mile	Reference	Distance (Mile (mi)) and Direction (N, S, W, E. etc)	Overlap with APE (Curbside, Median, or Both)
	<i>Main Platform Improvements and New Second Platform</i>			
G St. SB	<i>RTA Lakewood-to-Tacoma Commuter Rail Project, Tacoma Dome, South Tacoma, and Lakewood Sections, Cultural Resource Assessment</i>	Forsman et al. 1998	<0.1 mi S	No
	<i>Cultural Resource Survey Report, D Street, Tacoma</i>	Grulich and Clio 2003	Within area of direct disturbance	Curbside
	<i>Cultural Resources Assessment for Thea Foss Waterway Site 1 Project</i>	Chambers and Schumacher 2006	0.4 mi E	No
	<i>Cultural Resources Assessment for the LeMay Automobile Museum, Tacoma</i>	White 2007	0.3 mi SW	No
	<i>Tacoma/ Pierce County HOV Program I-5 M Street to Portland Avenue- HOV I-5: I-5 Portland Avenue to Port of Tacoma Road - Southbound HOV, I-5 Portland Avenue to Port of Tacoma Road- Northbound HOV Historic, Cultural and Archaeological Resources Discipline Rprt</i>	Sharpe et al. 2009	0.1 mi S	No
	<i>Federal Railroad Administration WSDOT Point Defiance Bypass Project Environmental Assessment, Section 106 Survey Report Historic, Cultural, and Archaeological Resources/ Discipline Report</i>	Van Galder et al. 2012	0.1 mi S	No
	<i>Memo to Lauren Smith RE: Tacoma Trestle Replacement</i>	Merrill and Johnson 2012	<0.1 mi S	No
	<i>Cultural Resources Assessment for the Cardlock Fuel Facility</i>	Moreno and Rooke 2012	0.4 mi E	No

Location of Station, Northbound (NB) or Southbound (SB)	Studies within 0.5 mile	Reference	Distance (Mile (mi)) and Direction (N, S, W, E. etc)	Overlap with APE (Curbside, Median, or Both)
	<i>Results of Archaeological Monitoring for Sound Transit's Sounder Commuter Rail D-to-M Streets Track and Signal Project, Tacoma</i>	Shong and Undem 2013	0.4 mi W	No
	<i>Geotechnical and Archaeological Bore Monitoring Report for Tacoma Trestle Track and Signal Project</i>	Stevenson et al. 2015	<0.1 mi S	No
	<i>Addendum to: Geotechnical and Archaeological Bore Monitoring Report for Tacoma Trestle Track and Signal Project</i>	Herbel and Stevenson 2015	<0.1 mi S	No
	<i>Letter to Allyson Brooks RE: Point Defiance Bypass Rails Project, Archaeological Monitoring of Geotechnical Investigation for the Proposed Amtrak Station Relocation to Freighthouse Square, Main Platform Improvements and New Second Platform</i>	Littauer 2015	0.1 mi S	No
Puyallup Ave. and G St.	<i>RTA Lakewood-to-Tacoma Commuter Rail Project, Tacoma Dome, South Tacoma, and Lakewood Sections, Cultural Resource Assessment</i>	Forsman et al. 1998	0.4 mi NE	No
	<i>Cultural Resource Survey Report, D Street, Tacoma</i>	Grulich and Clio 2003	Within area of direct disturbance	Median
	<i>Cultural Resources Assessment for Thea Foss Waterway Site 1 Project</i>	Chambers and Schumacher 2006	0.4 mi E	No
	<i>Cultural Resources Assessment for the LeMay Automobile Museum, Tacoma</i>	White 2007	0.3 mi SW	No
	<i>Tacoma/ Pierce County HOV Program I-5 M Street to Portland Avenue- HOV I-5: I-5 Portland Avenue to Port of Tacoma Road - Southbound HOV, I-5 Portland</i>	Sharpe et al. 2009	0.1 mi S	No



Location of Station, Northbound (NB) or Southbound (SB)	Studies within 0.5 mile	Reference	Distance (Mile (mi)) and Direction (N, S, W, E, etc)	Overlap with APE (Curbside, Median, or Both)
	<i>Avenue to Port of Tacoma Road-Northbound HOV Historic, Cultural and Archaeological Resources Discipline Rprt</i>			
	<i>Federal Railroad Administration WSDOT Point Defiance Bypass Project Environmental Assessment, Section 106 Survey Report Historic, Cultural, and Archaeological Resources/ Discipline Report</i>	Van Galder et al. 2012	0.1 mi S	No
	<i>Memo to Lauren Smith RE: Tacoma Trestle Replacement</i>	Merrill and Johnson 2012	<0.1 mi S	No
	<i>Cultural Resources Assessment for the Cardlock Fuel Facility</i>	Moreno and Rooke 2012	0.4 mi E	No
	<i>Results of Archaeological Monitoring for Sound Transit's Sounder Commuter Rail D-to-M Streets Track and Signal Project, Tacoma</i>	Shong and Udem 2013	0.4 mi W	No
	<i>Geotechnical and Archaeological Bore Monitoring Report for Tacoma Trestle Track and Signal Project</i>	Stevenson et al. 2015	<0.1 mi S	No
	<i>Addendum to: Geotechnical and Archaeological Bore Monitoring Report for Tacoma Trestle Track and Signal Project</i>	Herbel and Stevenson 2015	<0.1 mi S	No
	<i>Letter to Allyson Brooks RE: Point Defiance Bypass Rails Project, Archaeological Monitoring of Geotechnical Investigation for the Proposed Amtrak Station Relocation to Freighthouse Square, Main Platform Improvements and New Second Platform</i>	Littauer 2015	0.1 mi S	No
S 28 <sup>th</sup> St. NB	<i>RTA Lakewood-to-Tacoma Commuter Rail Project, Tacoma Dome, South Tacoma, and Lakewood Sections, Cultural Resource Assessment</i>	Forsman et al. 1998	0.4 mi NE	No
	<i>Sound Transit Lakewood-to-Tacoma Commuter Rail and SR-512 Park-</i>	Reanier 1999	<0.1 mi N	No

Location of Station, Northbound (NB) or Southbound (SB)	Studies within 0.5 mile	Reference	Distance (Mile (mi)) and Direction (N, S, W, E. etc)	Overlap with APE (Curbside, Median, or Both)
	<i>and-Ride Expansion Project Draft EIS, Cultural/Historical Resources Technical Report</i>			
	<i>Results of Archaeological Monitoring For Tacoma Link Light Rail, City of Tacoma</i>	LeTourneau 2001	0.2 mi N	No
	<i>Cultural Resource Survey Report, D Street, Tacoma</i>	Grulich and Clio 2003	0.2 mi N	No
	<i>Cultural Resources Assessment for the I-5 High Occupancy Vehicle Project, Addendum Considering Historic Properties</i>	Weaver 2004	0.2 mi SW	No
	<i>Cultural Resources Clearance Survey SR 5 HOV Lane Construction 48th Street to Pacific Avenue</i>	Kopperl 2004	0.3 mi SW	No
	<i>Survey and Inventory in the Hilltop Area of Tacoma Update 2004</i>	Eysaman 2004	0.2 m W	No
	<i>Cultural Resources Assessment for the LeMay Automobile Museum, Tacoma</i>	White 2007	0.2 mi E	No
	<i>Reconnaissance Level Survey Update of South Tacoma, Edison/Excelsior and the South End, Fern Hill and Lincoln Park</i>	Eysaman 2005	<0.1 mi S	No
	<i>Tacoma/ Pierce County HOV Program I-5 M Street to Portland Avenue- HOV I-5: I-5 Portland Avenue to Port of Tacoma Road - Southbound HOV, I-5 Portland Avenue to Port of Tacoma Road- Northbound HOV Historic, Cultural and Archaeological Resources Discipline Rprt</i>	Sharpe et al. 2009	Within area of direct disturbance	Both
	<i>Memo to Lauren Smith RE: Tacoma Trestle Replacement</i>	Merrill and Johnson 2012	0.2 mi W	No
	<i>Federal Railroad Administration WSDOT Point Defiance Bypass Project Environmental Assessment, Section 106 Survey Report Historic, Cultural, and Archaeological Resources/ Discipline Report</i>	Van Galder et al. 2012	0.1 mi N	No

Location of Station, Northbound (NB) or Southbound (SB)	Studies within 0.5 mile	Reference	Distance (Mile (mi)) and Direction (N, S, W, E. etc)	Overlap with APE (Curbside, Median, or Both)
	<i>Results of Archaeological Monitoring for Sound Transit's Sounder Commuter Rail D-to-M Streets Track and Signal Project, Tacoma</i>	Shong and Undem 2013	<0.1 mi N	No
	<i>Letter to Allyson Brooks RE: Point Defiance Bypass Rails Project, Archaeological Monitoring of Geotechnical Investigation for the Proposed Amtrak Station Relocation to Freighthouse Square, Main Platform Improvements and New Second Platform</i>	Littauer 2015	0.3 mi NE	No
S 28 <sup>th</sup> St. SB	<i>RTA Lakewood-to-Tacoma Commuter Rail Project, Tacoma Dome, South Tacoma, and Lakewood Sections, Cultural Resource Assessment</i>	Forsman et al. 1998	0.4 mi NE	No
	<i>Sound Transit Lakewood-to-Tacoma Commuter Rail and SR-512 Park-and-Ride Expansion Project Draft EIS, Cultural/Historical Resources Technical Report</i>	Reanier 1999	<0.1 mi N	No
	<i>Results of Archaeological Monitoring For Tacoma Link Light Rail, City of Tacoma</i>	LeTourneau 2001	0.2 mi N	No
	<i>Cultural Resource Survey Report, D Street, Tacoma</i>	Grulich and Clio 2003	0.2 mi N	No
	<i>Cultural Resources Assessment for the I-5 High Occupancy Vehicle Project, Addendum Considering Historic Properties</i>	Weaver 2004	0.2 mi SW	No
	<i>Cultural Resources Clearance Survey SR 5 HOV Lane Construction 48th Street to Pacific Avenue</i>	Kopperl 2004	0.3 mi SW	No
	<i>Survey and Inventory in the Hilltop Area of Tacoma Update 2004</i>	Eysaman 2004	0.2 m W	No
	<i>Cultural Resources Assessment for the LeMay Automobile Museum, Tacoma</i>	White 2007	0.2 mi E	No

Location of Station, Northbound (NB) or Southbound (SB)	Studies within 0.5 mile	Reference	Distance (Mile (mi)) and Direction (N, S, W, E. etc)	Overlap with APE (Curbside, Median, or Both)
	<i>Reconnaissance Level Survey Update of South Tacoma, Edison/Excelsior and the South End, Fern Hill and Lincoln Park</i>	Eysaman 2005	<0.1 mi S	No
	<i>Tacoma/ Pierce County HOV Program I-5 M Street to Portland Avenue- HOV I-5: I-5 Portland Avenue to Port of Tacoma Road - Southbound HOV, I-5 Portland Avenue to Port of Tacoma Road- Northbound HOV Historic, Cultural and Archaeological Resources Discipline Rprt</i>	Sharpe et al. 2009	Within area of direct disturbance	Both
	<i>Memo to Lauren Smith RE: Tacoma Trestle Replacement</i>	Merrill and Johnson 2012	0.2 mi W	No
	<i>Federal Railroad Administration WSDOT Point Defiance Bypass Project Environmental Assessment, Section 106 Survey Report Historic, Cultural, and Archaeological Resources/ Discipline Report</i>	Van Galder et al. 2012	0.1 mi N	No
	<i>Results of Archaeological Monitoring for Sound Transit's Sounder Commuter Rail D-to-M Streets Track and Signal Project, Tacoma</i>	Shong and Undem 2013	<0.1 mi N	No
	<i>Letter to Allyson Brooks RE: Point Defiance Bypass Rails Project, Archaeological Monitoring of Geotechnical Investigation for the Proposed Amtrak Station Relocation to Freighthouse Square, Main Platform Improvements and New Second Platform</i>	Littauer 2015	0.3 mi NE	No
S 34 <sup>th</sup> St. NB	<i>Sound Transit Lakewood-to-Tacoma Commuter Rail and SR-512 Park-and-Ride Expansion Project Draft EIS, Cultural/Historical Resources Technical Report</i>	Reanier 1999	<0.1 mi NW	No
	<i>Cultural Resources Assessment for the I-5 High Occupancy Vehicle</i>	Weaver 2004	0.3 mi NW	No



Location of Station, Northbound (NB) or Southbound (SB)	Studies within 0.5 mile	Reference	Distance (Mile (mi)) and Direction (N, S, W, E. etc)	Overlap with APE (Curbside, Median, or Both)
	<i>Project, Addendum Considering Historic Properties</i>			
	<i>Cultural Resources Clearance Survey SR 5 HOV Lane Construction 48th Street to Pacific Avenue</i>	Kopperl 2004	0.3 mi NW	No
	<i>Reconnaissance Level Survey Update of South Tacoma, Edison/Excelsior and the South End, Fern Hill and Lincoln Park</i>	Eysaman 2005	Within area of direct disturbance	Both
	<i>Cultural Resources Assessment for the LeMay Automobile Museum, Tacoma</i>	White 2007	0.4 mi NE	No
	<i>Tacoma/ Pierce County HOV Program I-5 M Street to Portland Avenue- HOV I-5: I-5 Portland Avenue to Port of Tacoma Road - Southbound HOV, I-5 Portland Avenue to Port of Tacoma Road- Northbound HOV Historic, Cultural and Archaeological Resources Discipline Rprt</i>	Sharpe et al. 2009	0.1 mi N	No
	<i>Federal Railroad Administration WSDOT Point Defiance Bypass Project Environmental Assessment, Section 106 Survey Report Historic, Cultural, and Archaeological Resources/ Discipline Report</i>	Van Galder et al. 2012	0.4 mi NW	No
S 34 <sup>th</sup> St. SB	<i>Sound Transit Lakewood-to-Tacoma Commuter Rail and SR-512 Park-and-Ride Expansion Project Draft EIS, Cultural/Historical Resources Technical Report</i>	Reanier 1999	<0.1 mi NW	No
	<i>Cultural Resources Assessment for the I-5 High Occupancy Vehicle Project, Addendum Considering Historic Properties</i>	Weaver 2004	0.3 mi NW	No
	<i>Cultural Resources Clearance Survey SR 5 HOV Lane Construction 48th Street to Pacific Avenue</i>	Kopperl 2004	0.3 mi NW	No

Location of Station, Northbound (NB) or Southbound (SB)	Studies within 0.5 mile	Reference	Distance (Mile (mi)) and Direction (N, S, W, E. etc)	Overlap with APE (Curbside, Median, or Both)
	<i>Reconnaissance Level Survey Update of South Tacoma, Edison/Excelsior and the South End, Fern Hill and Lincoln Park</i>	Eysaman 2005	Within area of direct disturbance	Both
	<i>Cultural Resources Assessment for the LeMay Automobile Museum, Tacoma</i>	White 2007	0.4 mi NE	No
	<i>Tacoma/ Pierce County HOV Program I-5 M Street to Portland Avenue- HOV I-5: I-5 Portland Avenue to Port of Tacoma Road - Southbound HOV, I-5 Portland Avenue to Port of Tacoma Road- Northbound HOV Historic, Cultural and Archaeological Resources Discipline Rprt</i>	Sharpe et al. 2009	0.1 mi N	No
	<i>Federal Railroad Administration WSDOT Point Defiance Bypass Project Environmental Assessment, Section 106 Survey Report Historic, Cultural, and Archaeological Resources/ Discipline Report</i>	Van Galder et al. 2012	0.4 mi NW	No
S 38 <sup>th</sup> St. NB	<i>Reconnaissance Level Survey Update of South Tacoma, Edison/Excelsior and the South End, Fern Hill and Lincoln Park</i>	Eysaman 2005	Within area of direct disturbance	Both
S 38 <sup>th</sup> St. SB	<i>Reconnaissance Level Survey Update of South Tacoma, Edison/Excelsior and the South End, Fern Hill and Lincoln Park</i>	Eysaman 2005	Within area of direct disturbance	Both
S 43 <sup>rd</sup> St. NB	<i>Reconnaissance Level Survey Update of South Tacoma, Edison/Excelsior and the South End, Fern Hill and Lincoln Park</i>	Eysaman 2005	Within area of direct disturbance	Both
S 43 <sup>rd</sup> St. SB	<i>Reconnaissance Level Survey Update of South Tacoma, Edison/Excelsior and the South End, Fern Hill and Lincoln Park</i>	Eysaman 2005	Within area of direct disturbance	Both
S 50 <sup>th</sup> St. NB	<i>Reconnaissance Level Survey Update of South Tacoma,</i>	Eysaman 2005	Within area of direct disturbance	Both

<b>Location of Station, Northbound (NB) or Southbound (SB)</b>	<b>Studies within 0.5 mile</b>	<b>Reference</b>	<b>Distance (Mile (mi)) and Direction (N, S, W, E. etc)</b>	<b>Overlap with APE (Curbside, Median, or Both)</b>
	<i>Edison/Excelsior and the South End, Fern Hill and Lincoln Park</i>			
S 50 <sup>th</sup> St. SB	<i>Reconnaissance Level Survey Update of South Tacoma, Edison/Excelsior and the South End, Fern Hill and Lincoln Park</i>	Eysaman 2005	Within area of direct disturbance	Both
S 56 <sup>th</sup> St. NB	<i>Reconnaissance Level Survey Update of South Tacoma, Edison/Excelsior and the South End, Fern Hill and Lincoln Park</i>	Eysaman 2005	Within area of direct disturbance	Both
S 56 <sup>th</sup> St. SB	<i>Reconnaissance Level Survey Update of South Tacoma, Edison/Excelsior and the South End, Fern Hill and Lincoln Park</i>	Eysaman 2005	Within area of direct disturbance	Both
S 64 <sup>th</sup> St. NB	<i>Reconnaissance Level Survey Update of South Tacoma, Edison/Excelsior and the South End, Fern Hill and Lincoln Park</i>	Eysaman 2005	Within area of direct disturbance	Both
S 64 <sup>th</sup> St. SB	<i>Reconnaissance Level Survey Update of South Tacoma, Edison/Excelsior and the South End, Fern Hill and Lincoln Park</i>	Eysaman 2005	Within area of direct disturbance	Both
S 72 <sup>nd</sup> St. NB	<i>Reconnaissance Level Survey Update of South Tacoma, Edison/Excelsior and the South End, Fern Hill and Lincoln Park</i>	Eysaman 2005	Within area of direct disturbance	Both
S 72 <sup>nd</sup> St. SB	<i>Reconnaissance Level Survey Update of South Tacoma, Edison/Excelsior and the South End, Fern Hill and Lincoln Park</i>	Eysaman 2005	Within area of direct disturbance	Both
Spooner St. NB	<i>Reconnaissance Level Survey Update of South Tacoma, Edison/Excelsior and the South End, Fern Hill and Lincoln Park</i>	Eysaman 2005	Within area of direct disturbance	Both
Spooner St. SB	<i>Reconnaissance Level Survey Update of South Tacoma, Edison/Excelsior and the South End, Fern Hill and Lincoln Park</i>	Eysaman 2005	Within area of direct disturbance	Both
S 84 <sup>th</sup> St. NB	<i>Reconnaissance Level Survey Update of South Tacoma,</i>	Eysaman 2005	Within area of direct disturbance	Both

Location of Station, Northbound (NB) or Southbound (SB)	Studies within 0.5 mile	Reference	Distance (Mile (mi)) and Direction (N, S, W, E, etc)	Overlap with APE (Curbside, Median, or Both)
	<i>Edison/Excelsior and the South End, Fern Hill and Lincoln Park</i>			
S 84 <sup>th</sup> St. SB	<i>Reconnaissance Level Survey Update of South Tacoma, Edison/Excelsior and the South End, Fern Hill and Lincoln Park</i>	Eysaman 2005	Within area of direct disturbance	Both
8800 Pacific Ave. NB	<i>Reconnaissance Level Survey Update of South Tacoma, Edison/Excelsior and the South End, Fern Hill and Lincoln Park</i>	Eysaman 2005	Within area of direct disturbance	Both
	<i>Cultural Resources Investigations of Proposed TAC Fern Hill - New Build (EnSite #25140) Telecommunications Tower Project Area, in Tacoma</i>	McClure-Cannon et al. 2015	0.2 mi SE	No
8800 Pacific Ave. SB	<i>Reconnaissance Level Survey Update of South Tacoma, Edison/Excelsior and the South End, Fern Hill and Lincoln Park</i>	Eysaman 2005	Within area of direct disturbance	Both
	<i>Cultural Resources Investigations of Proposed TAC Fern Hill - New Build (EnSite #25140) Telecommunications Tower Project Area, in Tacoma</i>	McClure-Cannon et al. 2015	0.2 mi SE	No
S 96 <sup>th</sup> St. NB	<i>Reconnaissance Level Survey Update of South Tacoma, Edison/Excelsior and the South End, Fern Hill and Lincoln Park</i>	Eysaman 2005	Within area of direct disturbance	Both
	<i>Results of a Cultural Resources Inventory of the TA3315 Tacoma 96th and Yakima Cell Site (Trileaf #610412), Tacoma</i>	Finley 2014	0.4 mi W	No
	<i>Cultural Resources Investigations of Proposed TAC Fern Hill - New Build (EnSite #25140) Telecommunications Tower Project Area, in Tacoma</i>	McClure-Cannon et al. 2015	0.1 mi NE	No
S 96 <sup>th</sup> St. SB	<i>Reconnaissance Level Survey Update of South Tacoma, Edison/Excelsior and the South End, Fern Hill and Lincoln Park</i>	Eysaman 2005	Within area of direct disturbance	Both



Location of Station, Northbound (NB) or Southbound (SB)	Studies within 0.5 mile	Reference	Distance (Mile (mi)) and Direction (N, S, W, E. etc)	Overlap with APE (Curbside, Median, or Both)
	<i>Results of a Cultural Resources Inventory of the TA3315 Tacoma 96th and Yakima Cell Site (Trileaf #610412), Tacoma</i>	Finley 2014	0.4 mi W	No
	<i>Cultural Resources Investigations of Proposed TAC Fern Hill - New Build (EnSite #25140) Telecommunications Tower Project Area, in Tacoma</i>	McClure-Cannon et al. 2015	0.1 mi NE	No
10100 Pacific Ave. NB	<i>Cultural Resource Assessment for the SR 7, SR 507, to SR 512 - Safety Project</i>	Hamilton 2005	0.4 mi S	No
	<i>Reconnaissance Level Survey Update of South Tacoma, Edison/Excelsior and the South End, Fern Hill and Lincoln Park</i>	Eysaman 2005	0.1 mi N	No
10100 Pacific Ave. NB	<i>Cultural Resource Assessment for the SR 7, SR 507, to SR 512 - Safety Project</i>	Hamilton 2005	0.4 mi S	No
	<i>Reconnaissance Level Survey Update of South Tacoma, Edison/Excelsior and the South End, Fern Hill and Lincoln Park</i>	Eysaman 2005	0.1 mi N	No
108 <sup>th</sup> St. NB	<i>Cultural Resource Assessment for the SR 7, SR 507, to SR 512 - Safety Project</i>	Hamilton 2005	0.1 mi S	No
	<i>Cultural Resource Assessment of the 'A' Street Improvement Project, CRP 5423</i>	Amell 2012	0.3 mi SE	No
108 <sup>th</sup> St. SB	<i>Cultural Resource Assessment for the SR 7, SR 507, to SR 512 - Safety Project</i>	Hamilton 2005	0.1 mi S	No
	<i>Cultural Resource Assessment of the 'A' Street Improvement Project, CRP 5423</i>	Amell 2012	0.3 mi SE	No
112 <sup>th</sup> St. NB	<i>Cultural Resource Assessment for the SR 7, SR 507, to SR 512 - Safety Project</i>	Hamilton 2005	Within area of direct disturbance	Both
	<i>Cultural Resource Assessment of the 'A' Street Improvement Project, CRP 5423</i>	Amell 2012	<0.1 mi E	No

Location of Station, Northbound (NB) or Southbound (SB)	Studies within 0.5 mile	Reference	Distance (Mile (mi)) and Direction (N, S, W, E, etc)	Overlap with APE (Curbside, Median, or Both)
112 <sup>th</sup> St. SB	<i>Cultural Resource Assessment for the SR 7, SR 507, to SR 512 - Safety Project</i>	Hamilton 2005	Overlaps with station APE	Both
	<i>Cultural Resource Assessment of the 'A' Street Improvement Project, CRP 5423</i>	Amell 2012	<0.1 mi E	No
Garfield St. NB	<i>Cultural Resource Assessment for the SR 7, SR 507, to SR 512 - Safety Project</i>	Hamilton 2005	Within area of direct disturbance	Both
	<i>Pacific Lutheran University: Historic Resource Inventory - Volume I and Master Plan and Landscape Inventory - Volume II</i>	Heritage Research Associates 2010	Within area of direct disturbance	Curbside
Garfield St. SB	<i>Cultural Resource Assessment for the SR 7, SR 507, to SR 512 - Safety Project</i>	Hamilton 2005	Within area of direct disturbance	Both
	<i>Pacific Lutheran University: Historic Resource Inventory - Volume I and Master Plan and Landscape Inventory - Volume II</i>	Heritage Research Associates 2010	Within area of direct disturbance	Curbside
Tule Lake Rd. NB	<i>Cultural Resource Assessment for the SR 7, SR 507, to SR 512 - Safety Project</i>	Hamilton 2005	Within area of direct disturbance	Both
	<i>FINAL: Cultural Resource Assessment, Phases 2 and 3, Clover Creek Habitat/Floodplain Restoration Plan (D183-006), Phases 2-5: Brookdale Golf Course to Confluence with North Fork Clover Creek</i>	Pierce County and Jones and Stokes 2006	0.3 mi SE	No
	<i>Cultural Resources Survey Report, Clover Creek Outfall Retrofit (D283)</i>	Cooper et al. 2007	0.4 mi E	No
	<i>Pacific Lutheran University: Historic Resource Inventory - Volume I and Master Plan and Landscape Inventory - Volume II</i>	Heritage Research Associates 2010	0.3 mi NW	No
Tule Lake Rd. SB	<i>Cultural Resource Assessment for the SR 7, SR 507, to SR 512 - Safety Project</i>	Hamilton 2005	Within area of direct disturbance	Both
	<i>FINAL: Cultural Resource Assessment, Phases 2 and 3, Clover</i>	Pierce County and Jones	0.3 mi SE	No

Location of Station, Northbound (NB) or Southbound (SB)	Studies within 0.5 mile	Reference	Distance (Mile (mi)) and Direction (N, S, W, E, etc)	Overlap with APE (Curbside, Median, or Both)
	<i>Creek Habitat/Floodplain Restoration Plan (D183-006), Phases 2-5: Brookdale Golf Course to Confluence with North Fork Clover Creek</i>	and Stokes 2006		
	<i>Cultural Resources Survey Report, Clover Creek Outfall Retrofit (D283)</i>	Cooper et al. 2007	0.4 mi E	No
	<i>Pacific Lutheran University: Historic Resource Inventory - Volume I and Master Plan and Landscape Inventory - Volume II</i>	Heritage Research Associates 2010	0.3 mi NW	No
138 <sup>th</sup> St. NB	<i>Cultural Resource Assessment for the SR 7, SR 507, to SR 512 - Safety Project</i>	Hamilton 2005	Within area of direct disturbance	Both
	<i>FINAL: Cultural Resource Assessment, Phases 2 and 3, Clover Creek Habitat/Floodplain Restoration Plan (D183-006), Phases 2-5: Brookdale Golf Course to Confluence with North Fork Clover Creek</i>	Pierce County and Jones and Stokes 2006	0.2 mi E	No
	<i>Cultural Resources Survey Report, Clover Creek Outfall Retrofit (D283)</i>	Cooper et al. 2007	0.5 mi NE	No
138 <sup>th</sup> St. SB	<i>Cultural Resource Assessment for the SR 7, SR 507, to SR 512 - Safety Project</i>	Hamilton 2005	Within area of direct disturbance	Both
	<i>FINAL: Cultural Resource Assessment, Phases 2 and 3, Clover Creek Habitat/Floodplain Restoration Plan (D183-006), Phases 2-5: Brookdale Golf Course to Confluence with North Fork Clover Creek</i>	Pierce County and Jones and Stokes 2006	0.2 mi E	No
	<i>Cultural Resources Survey Report, Clover Creek Outfall Retrofit (D283)</i>	Cooper et al. 2007	0.5 mi NE	No
146 <sup>th</sup> St. NB	<i>Cultural Resource Assessment for the SR 7, SR 507, to SR 512 - Safety Project</i>	Hamilton 2005	Within area of direct disturbance	Both
	<i>Cultural Resources Assessment for the Spanaway Park Renovation and</i>	Berger 2007	0.5 mi SW	No

Location of Station, Northbound (NB) or Southbound (SB)	Studies within 0.5 mile	Reference	Distance (Mile (mi)) and Direction (N, S, W, E. etc)	Overlap with APE (Curbside, Median, or Both)
	<i>Maintenance, Phase 1 Project, Spanaway</i>			
146 <sup>th</sup> St. SB	<i>Cultural Resource Assessment for the SR 7, SR 507, to SR 512 - Safety Project</i>	Hamilton 2005	Within area of direct disturbance	Both
	<i>Cultural Resources Assessment for the Spanaway Park Renovation and Maintenance, Phase 1 Project, Spanaway</i>	Berger 2007	0.5 mi SW	No
Military Rd. NB	<i>Cultural Resource Assessment for the SR 7, SR 507, to SR 512 - Safety Project</i>	Hamilton 2005	Within area of direct disturbance	Both
	<i>Cultural Resources Assessment for the Spanaway Park Renovation and Maintenance, Phase 1 Project, Spanaway</i>	Berger 2007	0.5 mi W	No
Military Rd. SB	<i>Cultural Resource Assessment for the SR 7, SR 507, to SR 512 - Safety Project</i>	Hamilton 2005	Within area of direct disturbance	Both
	<i>Cultural Resources Assessment for the Spanaway Park Renovation and Maintenance, Phase 1 Project, Spanaway</i>	Berger 2007	0.5 mi W	No
159 <sup>th</sup> St. NB	<i>Cultural Resource Assessment for the SR 7, SR 507, to SR 512 - Safety Project</i>	Hamilton 2005	Within area of direct disturbance	Both
	<i>Cultural Resources Assessment for the Spanaway Park Renovation and Maintenance, Phase 1 Project, Spanaway</i>	Berger 2007	0.4 mi W	No
159 <sup>th</sup> St. SB	<i>Cultural Resource Assessment for the SR 7, SR 507, to SR 512 - Safety Project</i>	Hamilton 2005	Within area of direct disturbance	Both
	<i>Cultural Resources Assessment for the Spanaway Park Renovation and Maintenance, Phase 1 Project, Spanaway</i>	Berger 2007	0.4 mi W	No
168 <sup>th</sup> St. NB	<i>Letter to Pat Baughman Regarding Archaeological Survey and Assessment of Spanaway Loop Road Extension Project</i>	Hicks 2003	0.5 mi S	No



Location of Station, Northbound (NB) or Southbound (SB)	Studies within 0.5 mile	Reference	Distance (Mile (mi)) and Direction (N, S, W, E. etc)	Overlap with APE (Curbside, Median, or Both)
	<i>Cultural Resource Assessment for the SR 7, SR 507, to SR 512 - Safety Project</i>	Hamilton 2005	Within area of direct disturbance	Both
	<i>Cultural Resources Assessment for the SR 704 Cross-Base Highway Project 1: Spanaway Loop Road to SR 7</i>	Earley and Morrison 2007	0.5 mi S	No
168 <sup>th</sup> St. SB	<i>Letter to Pat Baughman Regarding Archaeological Survey and Assessment of Spanaway Loop Road Extension Project</i>	Hicks 2003	0.5 mi S	No
	<i>Cultural Resource Assessment for the SR 7, SR 507, to SR 512 - Safety Project</i>	Hamilton 2005	Within area of direct disturbance	Both
	<i>Cultural Resources Assessment for the SR 704 Cross-Base Highway Project 1: Spanaway Loop Road to SR 7</i>	Earley and Morrison 2007	0.5 mi S	No
176 <sup>th</sup> St. NB	<i>Letter to Pat Baughman Regarding Archaeological Survey and Assessment of Spanaway Loop Road Extension Project</i>	Hicks 2003	<0.1 mi S	No
	<i>Cultural Resource Assessment for the SR 7, SR 507, to SR 512 - Safety Project</i>	Hamilton 2005	Within area of direct disturbance	Both
	<i>Cultural Resources Survey for 176th Street East Corridor Improvements (Pierce County Road Projects 5387, 5471, 5472, 5536, 5537, 5723)</i>	Schumacher 2008	0.3 mi E	No
	<i>Cultural Resources Assessment for the SR 704 Cross-Base Highway Project 1: Spanaway Loop Road to SR 7</i>	Earley and Morrison 2007	<0.1 mi S	No
	<i>Archaeological Site Verification of 55 Sites and Isolates on Joint Base Lewis-McChord</i>	Ragsdale et al. 2012	0.3 mi SW	No
176 <sup>th</sup> St. NB	<i>Letter to Pat Baughman Regarding Archaeological Survey and Assessment of Spanaway Loop Road Extension Project</i>	Hicks 2003	<0.1 mi S	No

Location of Station, Northbound (NB) or Southbound (SB)	Studies within 0.5 mile	Reference	Distance (Mile (mi)) and Direction (N, S, W, E. etc)	Overlap with APE (Curbside, Median, or Both)
	<i>Cultural Resource Assessment for the SR 7, SR 507, to SR 512 - Safety Project</i>	Hamilton 2005	Within area of direct disturbance	Both
	<i>Cultural Resources Survey for 176th Street East Corridor Improvements (Pierce County Road Projects 5387, 5471, 5472, 5536, 5537, 5723)</i>	Schumacher 2008	0.3 mi E	No
	<i>Cultural Resources Assessment for the SR 704 Cross-Base Highway Project 1: Spanaway Loop Road to SR 7</i>	Earley and Morrison 2007	<0.1 mi S	No
	<i>Archaeological Site Verification of 55 Sites and Isolates on Joint Base Lewis-McChord</i>	Ragsdale et al. 2012	0.3 mi SW	No
184 <sup>th</sup> St. NB	<i>Letter to Pat Baughman Regarding Archaeological Survey and Assessment of Spanaway Loop Road Extension Project</i>	Hicks 2003	0.5 mi N	No
	<i>Cultural Resource Assessment for the SR 7, SR 507, to SR 512 - Safety Project</i>	Hamilton 2005	Within area of direct disturbance	Both
	<i>Cultural Resources Assessment for the SR 704 Cross-Base Highway Project 1: Spanaway Loop Road to SR 7</i>	Earley and Morrison 2007	0.3 mi N	No
	<i>Archaeological Site Verification of 55 Sites and Isolates on Joint Base Lewis-McChord</i>	Ragsdale et al. 2012	0.3 mi W	No
184 <sup>th</sup> St. SB	<i>Letter to Pat Baughman Regarding Archaeological Survey and Assessment of Spanaway Loop Road Extension Project</i>	Hicks 2003	0.5 mi N	No
	<i>Cultural Resource Assessment for the SR 7, SR 507, to SR 512 - Safety Project</i>	Hamilton 2005	Within area of direct disturbance	Both
	<i>Cultural Resources Assessment for the SR 704 Cross-Base Highway Project 1: Spanaway Loop Road to SR 7</i>	Earley and Morrison 2007	0.3 mi N	No

Location of Station, Northbound (NB) or Southbound (SB)	Studies within 0.5 mile	Reference	Distance (Mile (mi)) and Direction (N, S, W, E. etc)	Overlap with APE (Curbside, Median, or Both)
	<i>Archaeological Site Verification of 55 Sites and Isolates on Joint Base Lewis-McChord</i>	Ragsdale et al. 2012	0.3 mi W	No
19100 Pacific Ave. NB	<i>Cultural Resource Assessment for the SR 7, SR 507, to SR 512 - Safety Project</i>	Hamilton 2005	0.1 mi N	No
19100 Pacific Ave. SB	<i>Cultural Resource Assessment for the SR 7, SR 507, to SR 512 - Safety Project</i>	Hamilton 2005	0.1 mi N	No
Pirnie Rd. NB	None	-	-	-
Pirnie Rd. SB	None	-	-	-
8 <sup>th</sup> Ave. NB	<i>Archaeological Site Verification of 55 Sites and Isolates on Joint Base Lewis-McChord</i>	Ragsdale et al. 2012	0.4 mi SW	No
8 <sup>th</sup> Ave. SB	<i>Archaeological Site Verification of 55 Sites and Isolates on Joint Base Lewis-McChord</i>	Ragsdale et al. 2012	0.4 mi SW	No

**Table D-3. Archaeological Sites within 0.5 mile of Area of Direct Disturbance for Proposed BRT Stations**

Location of Station, Northbound (NB) or Southbound (SB)	Archaeological Sites within 0.5 mile	Distance (Mile (mi)) and Direction (N, S, E, W, etc) from direct effects APE	NRHP eligibility
9 <sup>th</sup> and Commerce St.	45PI80; Petroglyph	0.2 mi N	Unevaluated
	45PI221; Historic-period building	0.4 mi N	Listed in the NRHP
	45PI283; Historic-period bridge	0.4 mi N	Unevaluated
	45PI708; Historic-period privy	0.4 mi S	Unevaluated
15 <sup>th</sup> St. NB	45PI265; Historic-period buildings	0.1 mi SE	Unevaluated
	45PI491; Historic-period gas station	0.1 mi SE	Determined eligible
	45PI707; Historic-period debris layer	0.1 mi S	Unevaluated
	45PI708; Historic-period privy	0.1 mi E	Unevaluated
	45PI709; Historic-period privy	0.1 mi S	Unevaluated
15 <sup>th</sup> St. SB	45PI265; Historic-period buildings	0.1 mi SE	Unevaluated
	45PI491; Historic-period gas station	0.1 mi SE	Determined eligible
	45PI707; Historic-period debris layer	0.1 mi S	Unevaluated
	45PI708; Historic-period privy	0.1 mi E	Unevaluated
	45PI709; Historic-period privy	0.1 mi S	Unevaluated
19 <sup>th</sup> St. NB	45PI265; Historic-period buildings	<0.1 mi E	Unevaluated
	45PI491; Historic-period gas station	0.2 mi N	Determined eligible
	45PI707; Historic-period debris layer	0.2 mi N	Unevaluated
	45PI708; Historic-period privy	0.3 mi N	Unevaluated
	45PI709; Historic-period privy	0.2 mi N	Unevaluated



Location of Station, Northbound (NB) or Southbound (SB)	Archaeological Sites within 0.5 mile	Distance (Mile (mi)) and Direction (N, S, E, W, etc) from direct effects APE	NRHP eligibility
	45PI1291; Historic-period debris scatter	0.5 mi S	Determined not eligible
	45PI1292; Trestle segments	0.5 mi S	Determined not eligible
19 <sup>th</sup> St. SB	45PI265; Historic-period buildings	<0.1 mi E	Unevaluated
	45PI491; Historic-period gas station	0.2 mi N	Determined eligible
	45PI707; Historic-period debris layer	0.2 mi N	Unevaluated
	45PI708; Historic-period privy	0.3 mi N	Unevaluated
	45PI709; Historic-period privy	0.2 mi N	Unevaluated
	45PI1291; Historic-period debris scatter	0.5 mi S	Determined not eligible
	45PI1292; Trestle segments	0.5 mi S	Determined not eligible
23 <sup>rd</sup> St. NB	45PI265; Historic-period buildings	0.1 mi N	Unevaluated
	45PI491; Historic-period gas station	0.5 mi N	Determined eligible
	45PI707; Historic-period debris layer	0.5 mi N	Unevaluated
	45PI709; Historic-period privy	0.5 mi N	Unevaluated
	45PI1291; Historic-period debris scatter	0.3 mi SE	Determined not eligible
	45PI1292; Trestle segments	0.3 mi SE	Determined not eligible
23 <sup>rd</sup> St. SB	45PI265; Historic-period buildings	0.1 mi N	Unevaluated
	45PI491; Historic-period gas station	0.5 mi N	Determined eligible
	45PI707; Historic-period debris layer	0.5 mi N	Unevaluated

Location of Station, Northbound (NB) or Southbound (SB)	Archaeological Sites within 0.5 mile	Distance (Mile (mi)) and Direction (N, S, E, W, etc) from direct effects APE	NRHP eligibility
	45PI709; Historic-period privy	0.5 mi N	Unevaluated
	45PI1291; Historic-period debris scatter	0.3 mi SE	Determined not eligible
	45PI1292; Trestle segments	0.3 mi SE	Determined not eligible
25 <sup>th</sup> St. NB	45PI265; Historic-period buildings	0.2 mi N	Unevaluated
	45PI1291; Historic-period debris scatter	<0.1 mi S	Determined not eligible
	45PI1292; Trestle segments	<0.1 mi S	Determined not eligible
	45PI1348; Historic-period residential structure, privy	0.3 mi S	Unevaluated
	45PI1349; Historic-period residential structure, privy	0.3 mi S	Unevaluated
G St. NB	45PI743; Historic-period structure, tunnel	0.3 mi SE	Unevaluated
	45PI1292; Trestle segments	0.5 mi W	Determined not eligible
	45PI1327; Precontact camp	0.2 mi SE	Determined eligible
G St. SB	45PI743; Historic-period structure, tunnel	0.3 mi SE	Unevaluated
	45PI1292; Trestle segments	0.5 mi W	Determined not eligible

Location of Station, Northbound (NB) or Southbound (SB)	Archaeological Sites within 0.5 mile	Distance (Mile (mi)) and Direction (N, S, E, W, etc) from direct effects APE	NRHP eligibility
	45PI1327; Precontact camp	0.2 mi SE	Determined eligible
S 28 <sup>th</sup> St. NB	45PI1291; Historic-period debris scatter	< 0.1 mi N	Determined not eligible
	45PI1292; Trestle segments	< 0.1 mi N	Determined not eligible
	45PI1348; Historic-period residential structure, privy	< 0.1 mi S	Unevaluated
	45PI1349; Historic-period residential structure, privy	< 0.1 mi S	Unevaluated
S 28 <sup>th</sup> St. SB	45PI1291; Historic-period debris scatter	< 0.1 mi N	Determined not eligible
	45PI1292; Trestle segments	< 0.1 mi N	Determined not eligible
	45PI1348; Historic-period residential structure, privy	< 0.1 mi S	Unevaluated
	45PI1349; Historic-period residential structure, privy	< 0.1 mi S	Unevaluated
S 34 <sup>th</sup> St. NB	45PI258; Historic-period structure, bridge	0.2 mi E	Unevaluated
	45PI1291; Historic-period debris scatter	0.4 mi N	Determined not eligible
	45PI1292; Trestle segments	0.4 mi N	Determined not eligible
	45PI1348; Historic-period residential structure, privy	0.3 mi N	Unevaluated

Location of Station, Northbound (NB) or Southbound (SB)	Archaeological Sites within 0.5 mile	Distance (Mile (mi)) and Direction (N, S, E, W, etc) from direct effects APE	NRHP eligibility
	45PI1349; Historic-period residential structure, privy	0.3 mi N	Unevaluated
S 34 <sup>th</sup> St. SB	45PI258; Historic-period structure, bridge	0.2 mi E	Unevaluated
	45PI1291; Historic-period debris scatter	0.4 mi N	Determined not eligible
	45PI1292; Trestle segments	0.4 mi N	Determined not eligible
	45PI1348; Historic-period residential structure, privy	0.3 mi N	Unevaluated
	45PI1349; Historic-period residential structure, privy	0.3 mi N	Unevaluated
S 38 <sup>th</sup> St. NB	None; Closest 45PI258; Historic-period structure, bridge	0.6 mi NE	Unevaluated
S 38 <sup>th</sup> St. SB	None; Closest 45PI258; Historic-period structure, bridge	0.6 mi NE	Unevaluated
S 43 <sup>rd</sup> St. NB	None within 1 mi	-	-
S 43 <sup>rd</sup> St. SB	None within 1 mi	-	-
S 50 <sup>th</sup> St. NB	None within 1 mi	-	-
S 50 <sup>th</sup> St. SB	None within 1 mi	-	-
S 56 <sup>th</sup> St. NB	None within 1 mi	-	-
S 56 <sup>th</sup> St. SB	None within 1 mi	-	-
S 64 <sup>th</sup> St. NB	None within 1 mi	-	-
S 64 <sup>th</sup> St. SB	None within 1 mi	-	-
S 72 <sup>nd</sup> St. NB	None within 1 mi	-	-
S 72 <sup>nd</sup> St. SB	None within 1 mi	-	-
Spooner St. NB	None within 1 mi	-	-
Spooner St. SB	None within 1 mi	-	-



Location of Station, Northbound (NB) or Southbound (SB)	Archaeological Sites within 0.5 mile	Distance (Mile (mi)) and Direction (N, S, E, W, etc) from direct effects APE	NRHP eligibility
S 84 <sup>th</sup> St. NB	None within 1 mi	-	-
S 84 <sup>th</sup> St. SB	None within 1 mi	-	-
8800 Pacific Ave. NB	None within 1 mi	-	-
8800 Pacific Ave. SB	None within 1 mi	-	-
S 96 <sup>th</sup> St. NB	None within 1 mi	-	-
S 96 <sup>th</sup> St. SB	None within 1 mi	-	-
10100 Pacific Ave. NB	None within 1 mi	-	-
10100 Pacific Ave. SB	None within 1 mi	-	-
108 <sup>th</sup> St. NB	None within 1 mi	-	-
108 <sup>th</sup> St. SB	None within 1 mi	-	-
112 <sup>th</sup> St. NB	None within 1 mi	-	-
112 <sup>th</sup> St. SB	None within 1 mi	-	-
Garfield St. NB	None within 1 mi	-	-
Garfield St. SB	None within 1 mi	-	-
Tule Lake Rd. NB	None within 1 mi	-	-
Tule Lake Rd. SB	None within 1 mi	-	-
138 <sup>th</sup> St. NB	None- Closest is 45PI780; historic-period debris scatter	0.6 mi SE	Unevaluated
138 <sup>th</sup> St. SB	None- Closest is 45PI780; historic-period debris scatter	0.6 mi SE	Unevaluated
146 <sup>th</sup> St. NB	45PI780; Historic-period debris scatter	0.5 mi E	Unevaluated
146 <sup>th</sup> St. SB	45PI780; Historic-period debris scatter	0.5 mi E	Unevaluated
Military Rd. NB	None- Closest is 45PI780; historic-period debris scatter	0.7 mi NE	Unevaluated
Military Rd. SB	None- Closest is 45PI780; historic-period debris scatter	0.7 mi NE	Unevaluated
159 <sup>th</sup> St. NB	None within 1 mi	-	-

<b>Location of Station, Northbound (NB) or Southbound (SB)</b>	<b>Archaeological Sites within 0.5 mile</b>	<b>Distance (Mile (mi)) and Direction (N, S, E, W, etc) from direct effects APE</b>	<b>NRHP eligibility</b>
159 <sup>th</sup> St. SB	None within 1 mi	-	-
168 <sup>th</sup> St. NB	None within 1 mi	-	-
168 <sup>th</sup> St. SB	None within 1 mi	-	-
176 <sup>th</sup> St. NB	45PI553; Historic-period homestead with orchard	0.4 mi SW	Determined eligible
176 <sup>th</sup> St. SB	45PI553; Historic-period homestead with orchard	0.4 mi SW	Determined eligible
184 <sup>th</sup> St. NB	45PI553; Historic-period homestead with orchard	0.3 mi W	Determined eligible
184 <sup>th</sup> St. SB	45PI553; Historic-period homestead with orchard	0.3 mi W	Determined eligible
19100 Pacific Ave. NB	45PI206; Historic-period farmstead/orchard	0.1 mi SW	Unevaluated
19100 Pacific Ave. SB	45PI206; Historic-period farmstead/orchard	0.1 mi SW	Unevaluated
Pirnie Rd. NB	45PI206; Historic-period farmstead/orchard	0.5 mi NW	Unevaluated
Pirnie Rd. SB	45PI206; Historic-period farmstead/orchard	0.5 mi NW	Unevaluated
8 <sup>th</sup> Ave. NB	45PI548; Historic-period homestead	0.5 mi SW	Unevaluated
8 <sup>th</sup> Ave. SB	45PI548; Historic-period homestead	0.5 mi SW	Unevaluated