



Tacoma Vision Zero Road Safety Audits

September 2024 ■ Year 1 Report



Acknowledgments

Thank you to the Washington Traffic Safety Commission for providing the grant funding that made the Road Safety Audits possible. Gratitude is also extended to the community members who participated in the walking audits, as well as to the dedicated staff who made these efforts possible.

This report is provided for informational purposes only, and all results, recommendations, preliminary concepts, cost opinions, and commentary contained herein are based on limited data available at the time of preparation. Further engineering analysis and design are necessary prior to implementing any of the recommendations contained herein. Toole Design makes no representations or warranties regarding the accuracy of the underlying source data. Motor vehicle crashes are complex occurrences that often result from multiple contributing factors. The success of these safety recommendations depend on multiple factors outside of Toole Design Group's control.

Prepared by:

TOOLE
DESIGN

DKS

MAKERS
architecture • planning • urban design

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Executive Summary

The City of Tacoma's Vision Zero initiative aims to eliminate traffic deaths and serious-injury crashes on city streets by 2035. Comprised of a team of city staff and consultants, the City of Tacoma conducted a series of Road Safety Audits (RSAs) to identify safety improvements for people walking, rolling, and biking. The corridors selected as part of this audit include segments that were identified in the Tacoma Vision Zero Local Roads Safety Plan (LRSP) as either Arterial High Risk Network Priority Corridors or as Neighborhood Business District (NBD) High Risk Network Priority Corridors.¹ Three RSAs were conducted as part of the audit:

- RSA 1 spans South Tacoma Way from South 47th St to South 62nd St
- RSA 2 spans South Yakima Ave from South 8th St to South 25th St
- RSA 3 spans South Pine St from Center St to South 47th St

Process and Goals

The interdisciplinary project team, comprised of staff from various city departments and Pierce Transit, consultants, and community members, performed a field review to evaluate the corridor for safety. After each field review, the team participated in a virtual workshop using MURAL and MIRO which are digital visual collaboration tools that facilitate conversation, virtually walked down the corridor using Google Streetview and brainstormed possible safety improvements.

In addition to soliciting community feedback, the team took a data driven approach and reviewed crash data, vehicular speed data and traffic volumes.

Overall Observations

Based on WSDOT Collision data from Tacoma Vision Zero Dashboard, which includes KSI (Killed or Serious Injury) crashes from 2016 to 2023, 20 killed or serious injury crashes occurred within the three RSA areas and 7 of those crashes involved people walking and biking. People walking and biking are more vulnerable compared to other modes, particularly considering the following conditions observed during this study:

- Wide travel lanes that encourage speeding
- Missing or insufficient facilities for people walking, rolling, and biking
- Missing or insufficient lighting for people walking and biking especially at intersections
- Wide intersections with permissive turn lanes resulting in more potential conflicts between modes

Recommendations

The team identified numerous safety improvements through the RSA process. Recommendations are broken into two categories:

- Systemic improvements that apply to all three RSAs
- Corridor improvements that apply to individual RSAs

¹ https://www.cityoftacoma.org/UserFiles/Servers/Server_6/File/cms/PublicWorks/Engineering/VisionZero/FINAL%20Tacoma%20Vision%20Zero%20Action%20Plan%20September%202022.pdf

Introduction

Project Context

The Safe System Approach

The Tacoma Vision Zero Road Safety Audit is framed around the Safe System Approach (Figure 1). The Federal Highway Administration (FHWA) provides guidance on the Safe System Approach, which recognizes that road safety is a shared responsibility between those that design, build, operate, and use the road system. It recognizes that to reduce risks to humans all parts of the transportation system must be strengthened, so that if one part fails, the other parts still protect people.

FIGURE 1 FHWA Safe System Approach Wheel (FHWA, 2022)



Safe System Principles are illustrated in the outer ring of the graphic with the Safe System elements found on the inner ring: Safer People, Safer Vehicles, Safer Speeds, Safer Roads, and Post-Crash Care.

The Safe System Approach aims to eliminate killed or serious injury crashes using a proactive approach that anticipates human mistakes- and reduces the severity of crashes that do happen, so the impact is less likely to be fatal or cause serious injury. The strategies and practices included in this report are framed around safer people, safer vehicles, safer roads, safer speeds, and post-crash care.

Vision Zero and Local Road Safety Plan

In 2020, the Tacoma City Council passed Resolution 40559, committing to Vision Zero and the goal of eliminating traffic fatalities and serious injuries in the City of Tacoma by 2035. The Vision Zero Action Plan builds on the City’s past work on traffic safety plans, actions, and policies to outline a holistic, equitable, and data-driven approach to achieving zero traffic deaths in Tacoma. The actions outlined in the Vision Zero Action Plan were developed to address all aspects of road safety through the five elements of Safe System Approach: Safer People, Safer Vehicles, Safer Speeds, Safer Roads, and Post-Crash Care.²

RSA Purpose

An RSA is the formal safety performance examination of an existing or future road or intersection by an independent, multidisciplinary team. It qualitatively estimates and reports on potential road safety issues and identifies opportunities for improvements in safety for all road users. RSAs can be focused on specific streets or around a certain land use. The aim of an RSA is to answer the following questions:

- What elements of the road may present a safety concern: to what extent, to which road users, and under what circumstances?
- What opportunities exist to eliminate or mitigate identified safety concerns?

Project Background

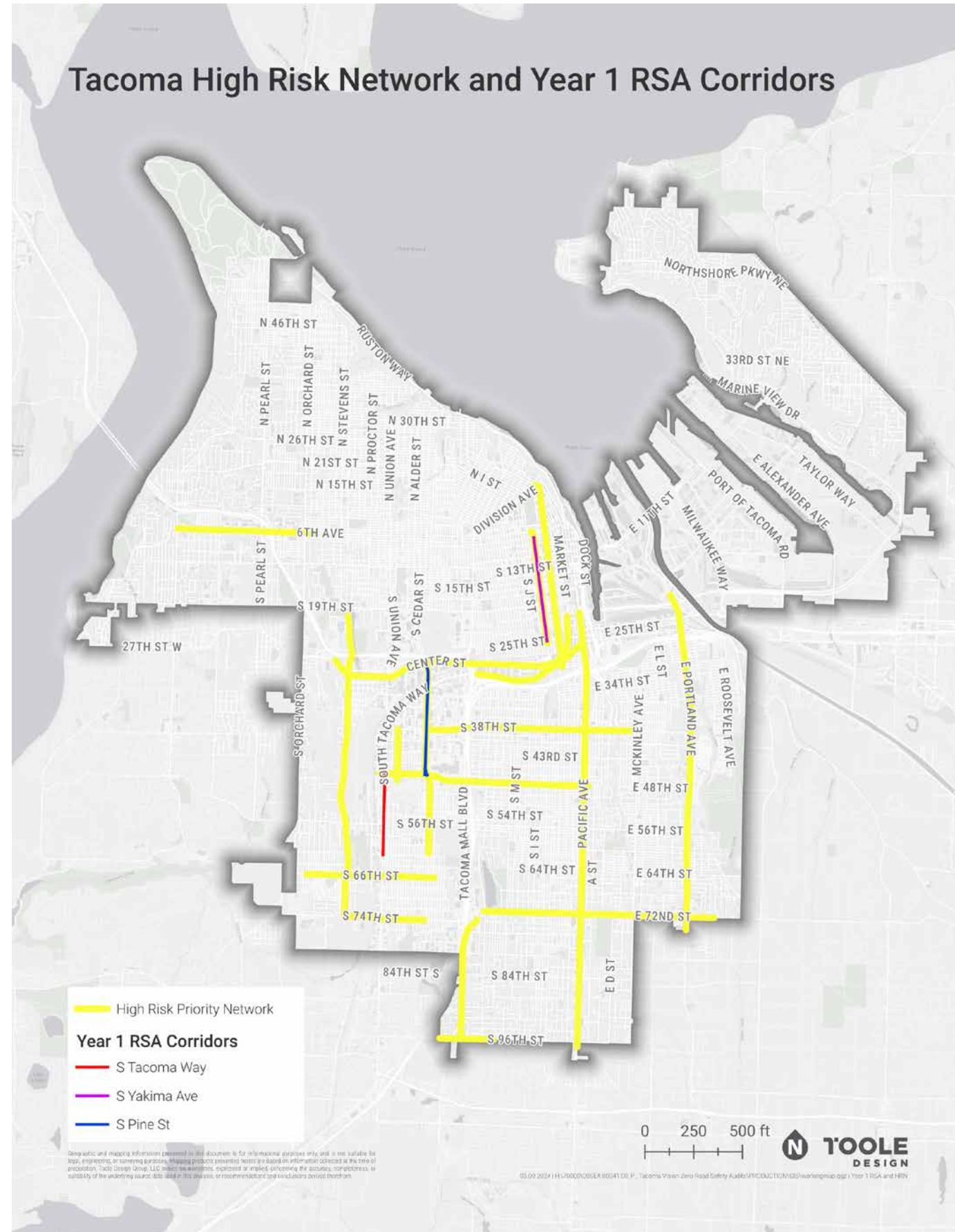
The City identified corridors for evaluation that were either on Tacoma’s High Risk Network or adjacent to projects in the planning or design phase. Funding for the three RSAs came through a \$90,000 grant from the Washington Traffic Safety Commission. The RSAs resulted in a series of recommendations for transportation infrastructure and policy improvements to increase safety for all modes. Each RSA has its own section documenting key features along the corridor and specific recommendations that are further broken down by approximate timeframe, estimated cost, crash modification factor (CMF) and responsible groups. Figure 2 and Table 1 summarize the limits of the three RSAs.

TABLE 1 RSA Study Area Segments

RSA #	CORRIDOR	EXTENT	WSDOT FUNCTIONAL CLASSIFICATION	TACOMA ARTERIAL CLASSIFICATION	LENGTH (MILES)	SPEED LIMIT (MPH)
1	S Tacoma Way	From S 47 th St to S 60 th St	Other Primary Arterial	Principal Arterial	0.83	25
		S 60 th St to S 62 nd St	Other Primary Arterial	Principal Arterial	0.13	35
2	S Yakima St	S 8 th St to Earnest S Brazill St	Other Principal Arterial	Principal Arterial	0.29	30
		Earnest S Brazill St to S 25 th St	Minor Arterial	Principal Arterial	0.94	30
3	S Pine St	Center St to S 38 th St	Urban Minor Arterial	Minor Arterial	0.79	35
		S 38 th St to S 47 th St	Urban Minor Arterial	Minor Arterial	0.52	30

² https://www.cityoftacoma.org/UserFiles/Servers/Server_6/File/cms/PublicWorks/Engineering/VisionZero/FINAL%20Tacoma%20Vision%20Zero%20Action%20Plan%20September%202022.pdf

FIGURE 2 Tacoma High Risk Network and Year 1 RSA Corridors



RSA 1 Walking Audit Team

Engagement Summary

Purpose

The RSA team aimed to actively and equitably engage community members impacted by road safety (and improvements) in the study area, especially nearby residents and workers, community-based organizations, and community advocates. The team invited community members to participate in walking audits, to share their input and stories. The goal was to include firsthand

perspectives and experiences of those directly affected was centered in reporting safety issues and improvement opportunities. The team identified contacts through word-of-mouth requests through various City departments and local organizations who had recently engaged community members, scanned local maps to find relevant organizations and businesses, and invited participants via emails and phone calls.

What We Heard

RSA 1: S Tacoma Way

Community members:

- Katherine Raz, Local Business Owner (Fernseed)
- Perlita Payne, Tacoma Librarian, South Tacoma Branch
- Jamie Gilmore, Tacoma Librarian

Outreach Tactics:

- Coordinated with Tacoma's Neighborhood Planning Program to identify community members
- Sent email invite to Tacoma Public Library South Tacoma Branch
- City of Tacoma explored internal contacts to reach potential community networks and partners

The primary concerns include cars speeding and illegal street racing on S Tacoma Way. Speeding vehicles have crashed into and damaged the Fernseed building at the corner of S 54th St and S Tacoma Way multiple times. Residents often prefer to walk or bike on adjacent side streets, such as S Puget Sound Ave, which have lighter and slower

traffic, to reach neighborhood destinations such as South Park. Participants also reflected that the South Tacoma Business District gateways and street improvements are limited to the short S 52nd St to S 56th St segment.

Suggestions included installing curb bulb-outs, bollards, or other barriers, such as crashworthy art, to protect the Fernseed shop and people on the sidewalk. Community members recommended several safety improvements for the entire corridor, including traffic calming measures like curb bulb-outs and speed cushions, as well as enhanced pedestrian crossings with signalized lights and clearly marked crosswalks. Gateway and place-making strategies, with similar treatment between S 52nd St and S 56th St, are desired at the northern and southern ends of S Tacoma Way, spanning from S 47th St to S 52nd St and from S 56th St to S 58th St. These strategies may include medians, art, and pedestrian lighting to slow traffic and create a welcoming environment.



RSA 1 Walking Audit Team Walking in the South Tacoma Neighborhood Business District

RSA 2: Yakima Ave

Community members:

- Laura Svancarek, Downtown On the Go

Outreach Tactics:

- Sent email invitation to the Tacoma Public Library Main Branch
- City of Tacoma explored internal contacts to reach potential community networks and partners.

The community member noted that the S 6th Ave and S 15th St bicycle routes are frequently used for east-to-west connections and access to downtown. Side streets such as S J St and S G St serve as alternate routes for cyclists to avoid the high volume and fast traffic on S Yakima Ave. The community member supports the planned protected bike lanes on S 11th St, which are expected to further improve downtown access. The community member expressed concerns about pedestrian crossing treatments, particularly the effectiveness of Rectangular Rapid Flashing Beacons (RRFBs), as drivers often overlook them, creating a false sense of safety. To address these concerns and improve safety, recommendations include adopting best practices for RRFBs and pairing them with pedestrian refuge islands or consider upgrading to signalized pedestrian crossings that offer a higher level of control, ensuring safer routes for all.

RSA 3: S Pine St

Community Members:

- None

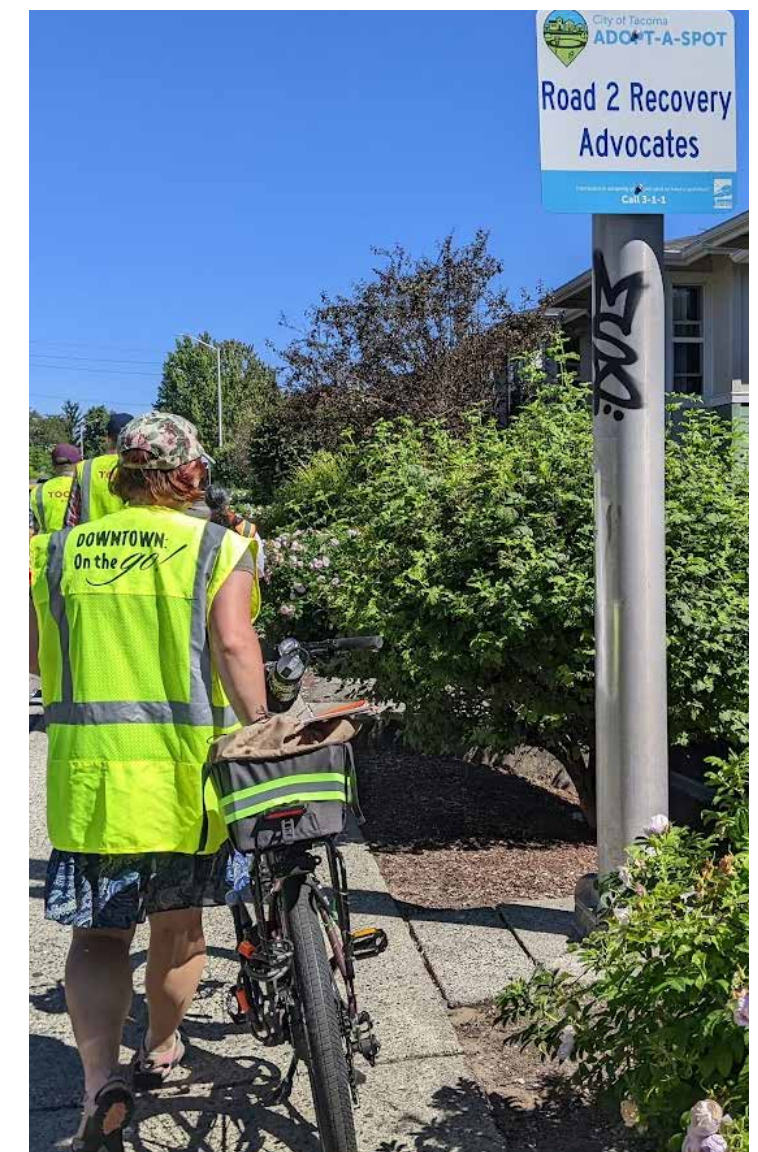
Outreach tactics included:

- Offered incentives (\$100 gift card) to encourage participation.
- Coordinated with Pierce Conservation District to connect with 4th Street Community Garden members.
- Sent several email and phone invitations to Heritage Pentecostal Church, and email

invitations to a small business owner and a resident/school teacher.

- City of Tacoma explored internal and agency contacts, including the Neighborhood Planning Program, Safe Routes to School, ADA program coordinators, Tacoma School District.

The RSA team initially received interest from multiple community members but no community members ultimately attended. Tacoma staff relayed concerns and experiences from a deaf-blind resident who—himself and his service dog—have been struck crossing S Pine St, and suggested several improvements near S 45th St.



RSA 2 Walking Audit Community Member Participant

Crash Summary

While people walking, biking and riding motorcycles only account for six percent of all crashes in Tacoma, they represent 57 percent of killed or serious injury crashes. The over-representation of killed or serious injury crashes involving pedestrians or bicyclists calls for prioritizing safe street design for those walking, biking and riding motorcycles.

There were 873 total reported crashes within the three RSA corridors between 2016 to 2023. There were 6 bicyclist involved crashes and 33 pedestrian involved crashes in the three RSA areas in that same time period. Similar to citywide trends, people walking and biking are involved in a small proportion of all crashes in the RSA areas (4.5 percent), but they represent 7 of 20 (35 percent) of killed or serious injury crashes.

In the three RSA areas, there were five pedestrians seriously injured, one bicyclist killed, and one bicyclist seriously injured. There were also 12 motorist serious injuries and one motorist killed in the three RSA areas.

Table 2 shows additional crash information on the three RSA areas.

TABLE 2 Crash Summary (WSDOT, 2016-2023)

CRASH SEVERITY	PED INVOLVED	BIKE INVOLVED	MOTOR VEHICLE INVOLVED	TOTAL
Fatal	0	1	1	2
Suspected Serious	5	1	12	18
Total	5	2	13	20

Systemic Recommendations

The following recommendations include corridor wide safety improvements identified across all three RSAs and systemic recommendations listed in Tacoma's Vision Zero Action Plan. The recommendations are systemic safety improvements for all roadways with similar contexts across Tacoma. Recommendations generally fall into three categories:

- Signalized Intersections
- Roadway Improvements
- Pedestrian Facilities

Signalized Intersections

Update all existing signals to use 12" signal heads with reflective backplates. Evaluate whether the signal span needs to be replaced as part of this upgrade

Backplates added to a traffic signal head improve the visibility of the illuminated face of the signal by introducing a controlled-contrast background. The improved visibility of a signal head with a backplate is made even more conspicuous by framing it with a 1- to 3-inch yellow retroreflective border. Signal heads that have backplates equipped with retroreflective borders are more visible and conspicuous in both daytime and nighttime conditions.

Install bar pair high-visibility crosswalks with American with Disabilities Act (ADA) compliant curb ramps at all signalized intersections

Legal crosswalks exist at all locations where sidewalks meet the street, regardless of whether a crosswalk is marked or not. Drivers are legally required to yield to pedestrians at intersections, even where there is no marked crosswalk. Providing marked crosswalks communicates to drivers that pedestrians may be present and helps guide pedestrians to locations where it is best to cross the street.

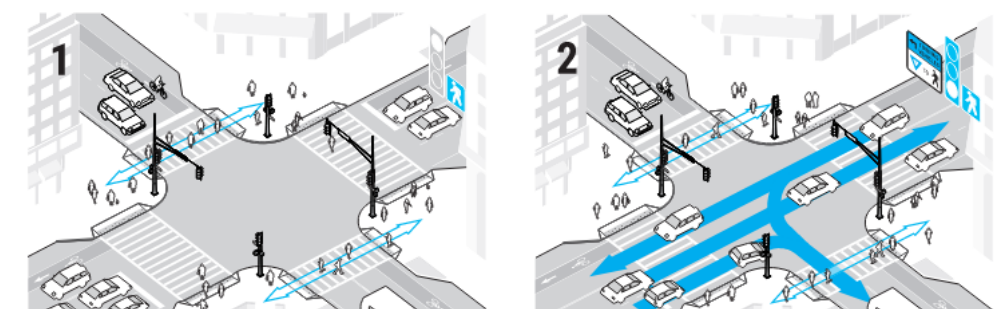
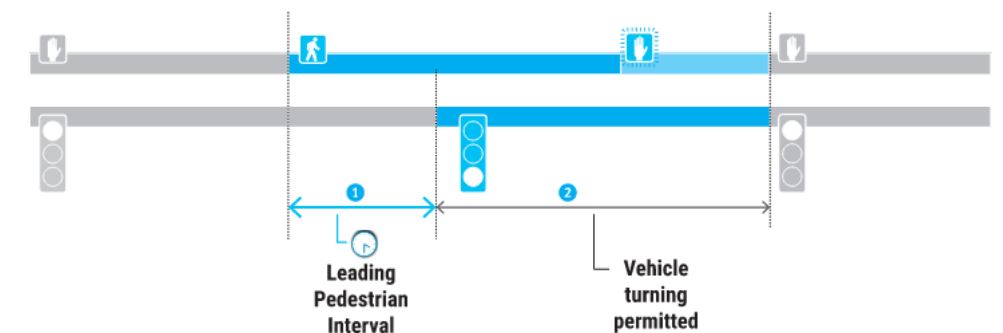
High Visibility Crosswalk



Source: Toole Design

Install Leading Pedestrian Intervals (LPIs) and Accessible Pedestrian Signals (APS) at all signalized intersections, after ADA compliant curb ramps are in place

An LPI gives pedestrians the opportunity to enter the crosswalk at an intersection 3-7 seconds before vehicles are given a green indication. Pedestrians can better establish their presence in the crosswalk before vehicles have priority to turn right or left. An APS provides pedestrians information in a nonvisual format (such as audible tones, verbal messages, and/or vibrating surfaces), and includes a pedestrian signal head with a countdown timer.



Leading Pedestrian Interval

Vehicle turning permitted

Source: Toole Design

Retime signals to encourage safer speeds citywide

Signal retiming can increase safety for all road users, as well as other benefits such as decreased vehicle delay, lower emissions and reduced fuel consumption.

Roadway Improvements

Evaluate all street lighting

Lighting can be applied continuously along segments and at spot locations such as intersections and pedestrian crossings to reduce the chances of a crash. Adequate lighting (i.e., at or above minimum acceptable standards) is based on research recommending horizontal and vertical illuminance levels to provide safety benefits to all users of the roadway environment. Adequate lighting can also provide benefits in terms of personal security for pedestrians, wheelchair and other mobility device users, bicyclists, and transit users as they travel along and across roadways.



Source: FHWA

Resurface roadway and refresh/replace thermoplastic pavement markings after evaluating 4 to 3 lane reconfiguration

Thermoplastic pavement markings can be used in place of painted pavement markings. The material is retroreflective and can be seen in wet and dark conditions. A Road Diet, or roadway reconfiguration, can improve safety, calm traffic, provide better mobility and access for all road users, and enhance overall quality of life. A Road Diet typically involves converting an existing four-lane undivided roadway to a three-lane roadway consisting of two through lanes and a two way left turn lane (TWLTL).



Source: Toole Design

Upgrade existing storm inlet grates with parallel openings to new standard inlet grates or replace the whole structure

Many of the existing storm inlet grates are dangerous for bicyclists and people with disabilities. These widely spaced grate openings trap the wheels of bikes and wheelchairs and catch the legs of canes and walkers. New standard inlet grates are both ADA accessible and safe for bicyclists.

Install automated traffic safety cameras

Agencies can use speed safety cameras, also known as automated speed enforcement, as an effective and reliable technology to supplement more traditional methods of enforcement, engineering measures, and education to alter the social norms of speeding.

Pedestrian Facilities

Widen sidewalks to 7' per COT standards for arterial roads, unless otherwise specified

Widening sidewalks to 7' per COT standards also ensures that sidewalks are ADA accessible. There may be certain areas, such as neighborhood business districts, where sidewalks are specified to be wider than 7'.

Install missing link sidewalks

Accessible sidewalks are vital for safety and mobility, particularly for people with disabilities. Sidewalk improvements were also identified as a critical piece of achieving Vision Zero in Tacoma's Vision Zero Action Plan and listed as one of four systemic safety countermeasures the City should implement. In the absence of accessible sidewalks, people using mobility devices are forced to share the road with cars.

RSA



South Tacoma Way

Study Area

TABLE 3 South Tacoma Way Segment Details

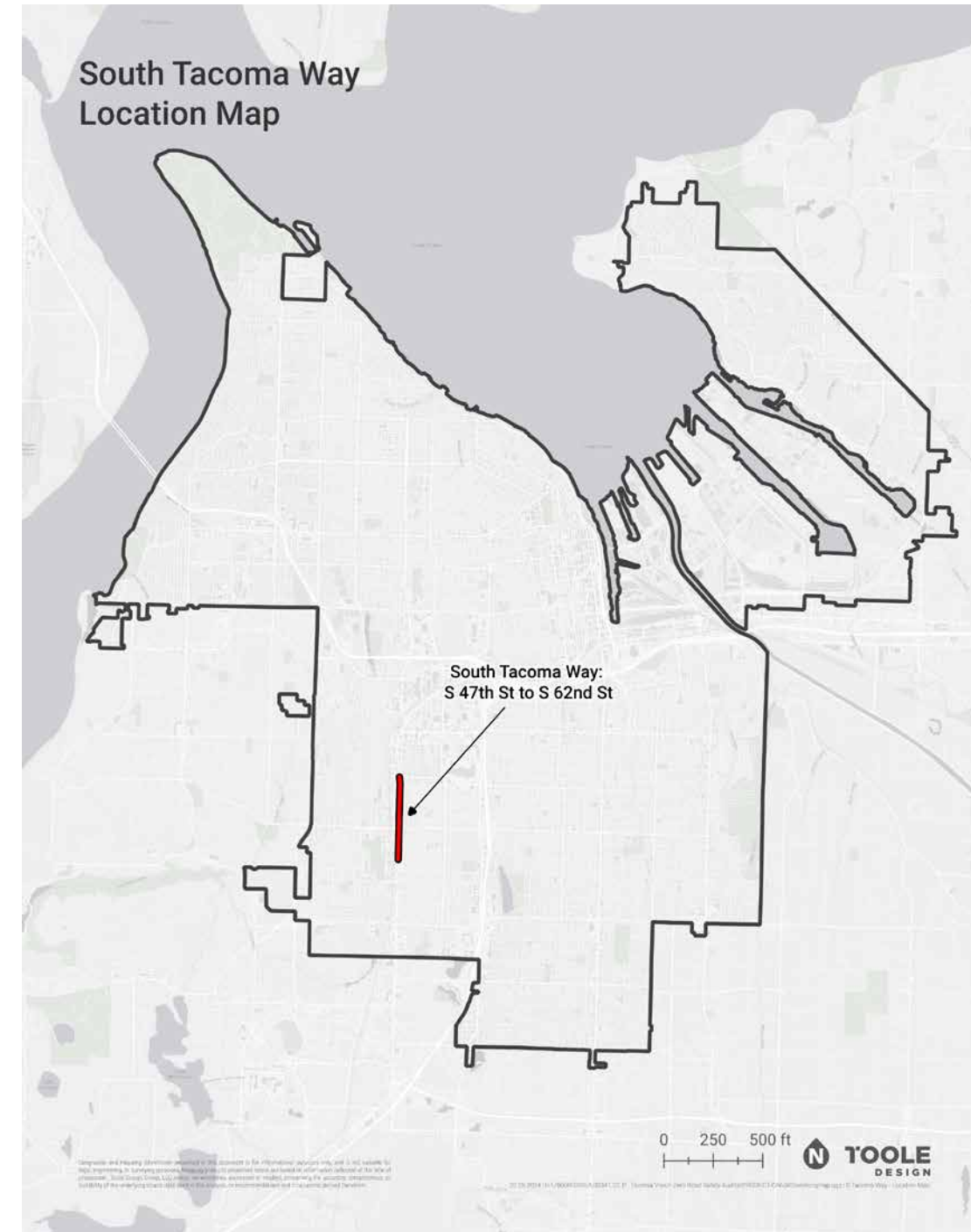
EXTENT	WSDOT FUNCTIONAL CLASSIFICATION	TACOMA ARTERIAL CLASSIFICATION	LENGTH	SPEED LIMIT
From S 47 th St to S 60 th St	Other Primary Arterial	Principal Arterial	0.83 miles	25MPH
From S 60 th St to S 62 nd St	Other Primary Arterial	Principal Arterial	0.12 miles	35 MPH

RSA 1 study area is South Tacoma Way from S 47th St to S 62nd St. Parts of this segment are identified in the Tacoma Vision Zero Local Roads Safety Plan (LRSP) as both Arterial High Risk Network Priority Corridors³ and as Neighborhood Business District (NBD) High Risk Network Priority Corridors.⁴ The extents of South Tacoma Way are based on the High Risk Network limits determined through Tacoma’s Local Road Safety Plan, and planned projects in Tacoma that can implement safety improvements.

The S 60th St Improvement Plan, a project related to the Sound Transit station upgrade, is currently in preliminary design and safety improvements identified through this RSA can inform the final design.

Table 3 describes the segments details and Figure 3 displays where the segment is located within the City of Tacoma.

FIGURE 3 South Tacoma Way Neighborhood Map (Source Tacoma, 2023)

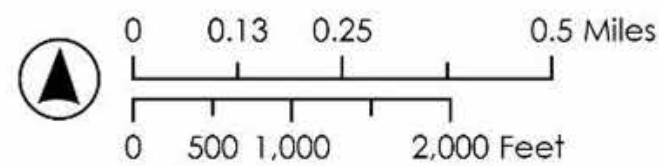
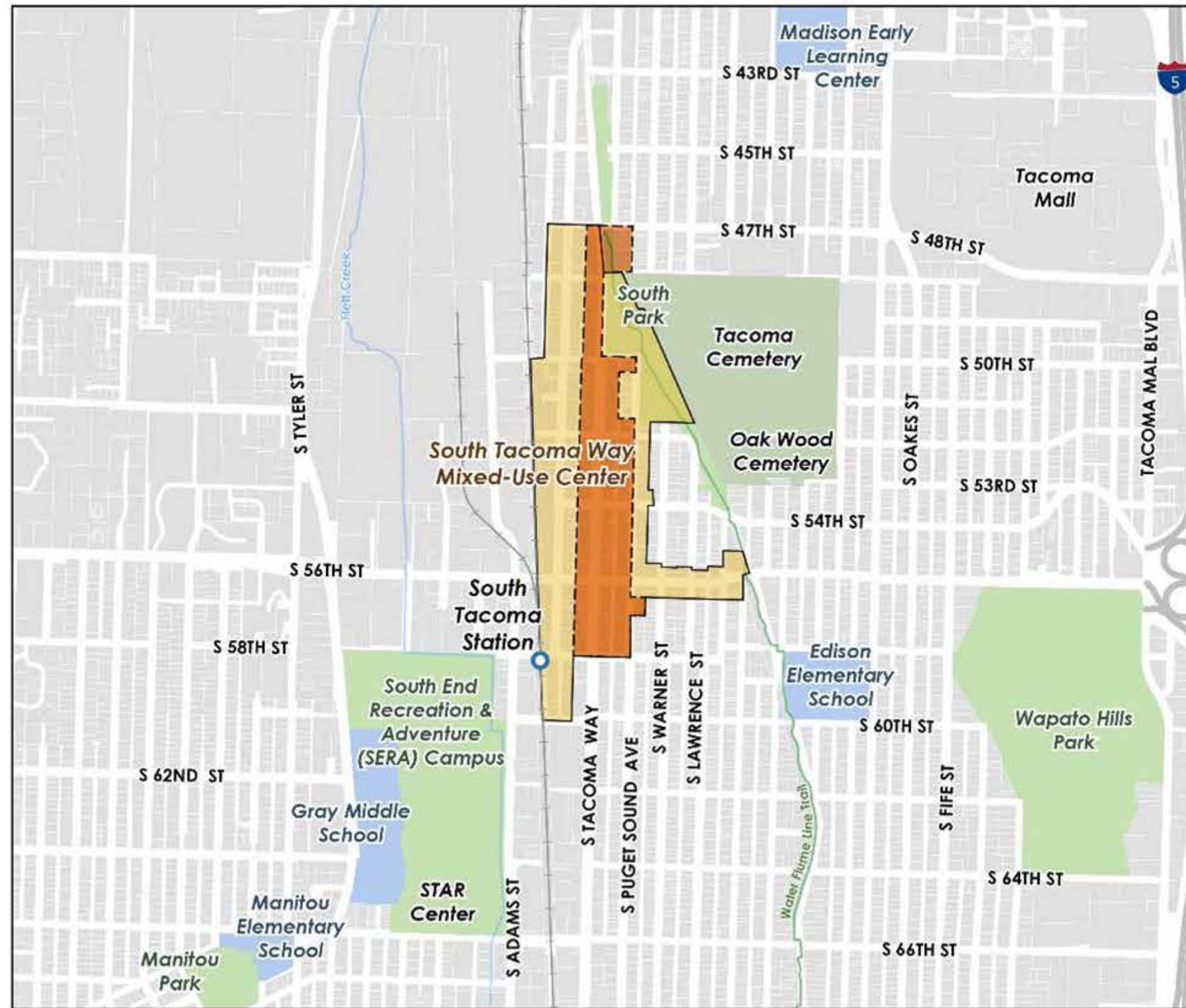


- Arterial High Risk Network Priority Corridors were prioritized based on analysis of three primary components: speed differential between posted speed and operating speeds; number of KSI crashes; and sliding window scores. These corridors strongly need roadway safety countermeasures focused on both reducing speed and improving safety.
- NBD High Risk Network Priority Corridors were prioritized based on analysis of three primary components: number of KSI crashes; sliding windows score; and speed differential between desired posted speed reduction and operating speeds. The highest priority corridors were those that had proven high speeds and high safety risk, with two or more KSI crashes and operating speeds of 10mph or more over the reduced speed limit.

Neighborhood Profile

The segment includes the entire length of the South Tacoma Way Mixed Use Center (S 47th St to S 60th St) and South Tacoma Way Neighborhood Business District (S 47th St to S 58th St). Figure 4 displays the boundaries for these zones and includes nearby parks, schools, and key locations.

FIGURE 4 South Tacoma Way Neighborhood Map (Source Tacoma, 2023)

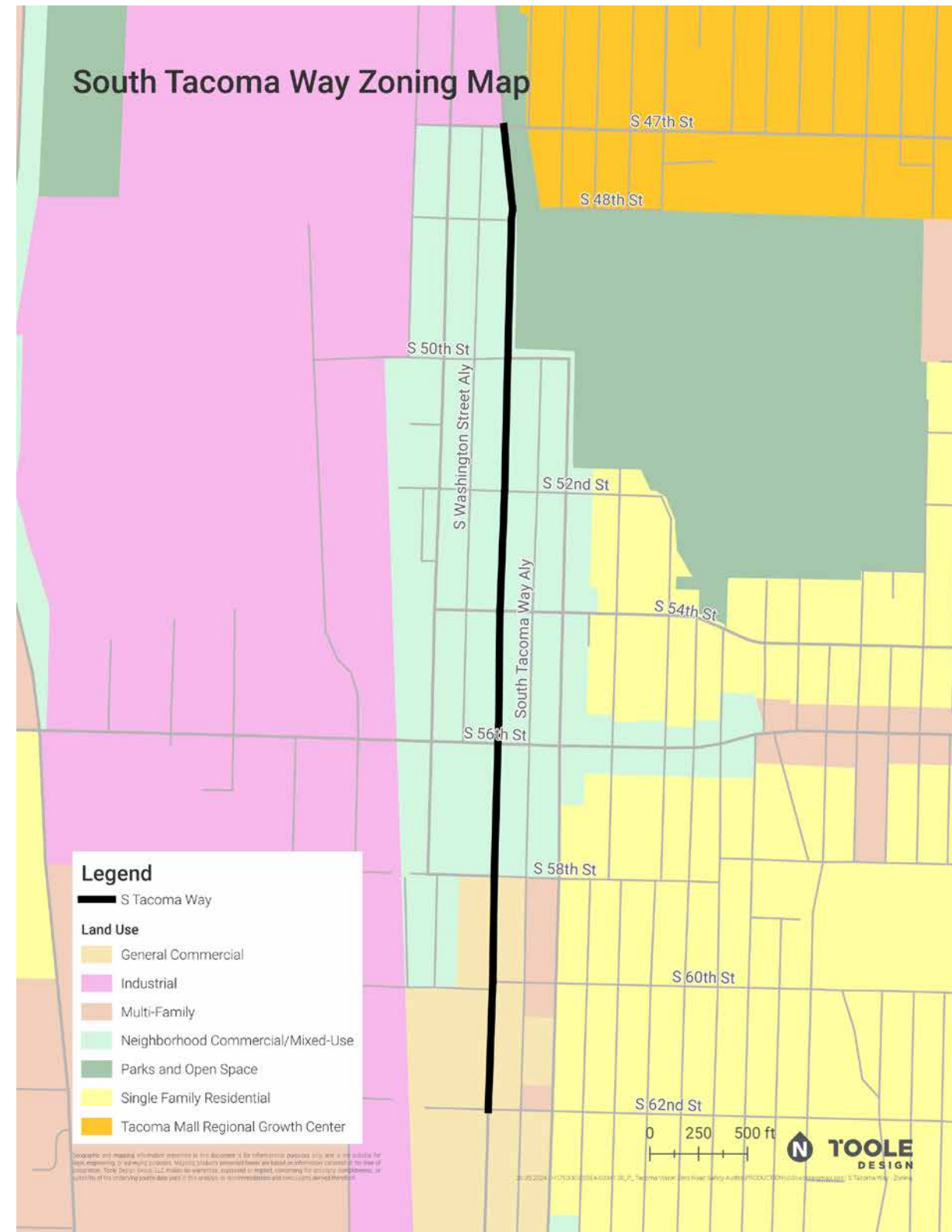


- South Tacoma Way Mixed-Use Center
- Business District
- Schools
- Cemeteries
- Parks
- Railroad
- Trails
- South Tacoma Station
- Streams

Zoning and Land Use

Current zoning within the South Tacoma Way Mixed Use Center (MUC) includes Commercial Industrial, Neighborhood Commercial, and Residential Commercial Mixed-Use zones. The maximum heights in these zones range from 45 to 75 feet. Primarily industrial and commercial zones surround the MUC. The surrounding neighborhood is mostly zoned for low-density single-family housing. As with all of Tacoma, this area will likely see zoning changes through the proposed Home in Tacoma zoning changes in late 2024.⁵ Figure 5 shows the current zoning near the segment.

FIGURE 5 South Tacoma Way Zoning Map



- 5 Home in Tacoma zoning changes will impact the South Tacoma Way neighborhood by:
- Allowing middle housing types and at least four units per lot on all residential lots in the neighborhood.
 - Allowing multiplexes and small apartments along the S 56th St corridor.
 - Allowing six to eight units per lot near desirable amenities like schools, Water Flume Trail, SERA parks, and Tacoma Mall.

Corridor Facilities

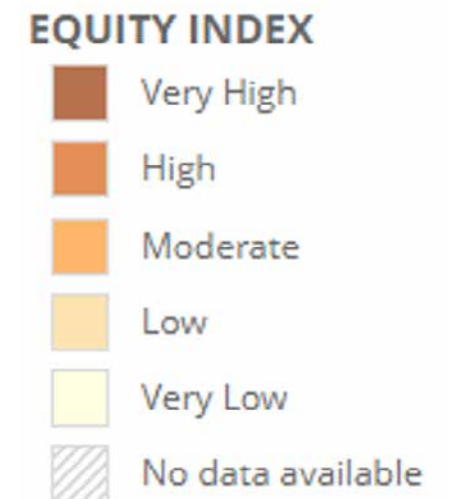
Figure 6 displays facilities along South Tacoma Way. The map includes locations of existing bicycle facilities, traffic signals, stop signs and bus stops.

FIGURE 6 South Tacoma Way Facilities



City of Tacoma Equity Index Map

The City of Tacoma Equity Index is a tool which highlights areas of Tacoma where residents have the most access to opportunity and where residents are further away from opportunity.⁶ The tool looks at five categories: livability, accessibility, economy, education, and environmental health. Areas that have the most access to opportunities are shaded the darkest or identified as “Very High” opportunity and areas where residents are furthest from opportunity are shaded the lightest or identified as “Very Low” opportunity. The following graphics describe the equity and opportunity of residents living near S Tacoma Way and show that the corridor is within “Very Low” to “Moderate” opportunity areas.



⁶ City of Tacoma Equity Index, <https://www.cityoftacoma.org/cms/One.aspx?portalId=169&pageId=175030>

Equity Overview



Population
5,444



Individuals with Disabilities
18%

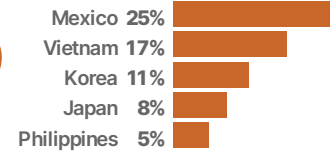


Foreign Born Population
12%

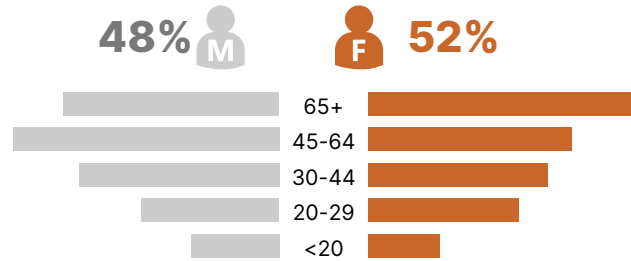


Limited English
4%

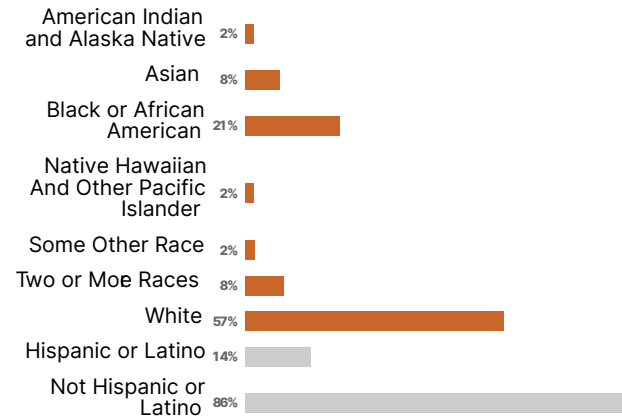
Top Countries of Immigration



Age & Gender



Race & Ethnicity



Economy



200% of Poverty
39%



Employment Rate
98%



Median Household Income
\$63,597

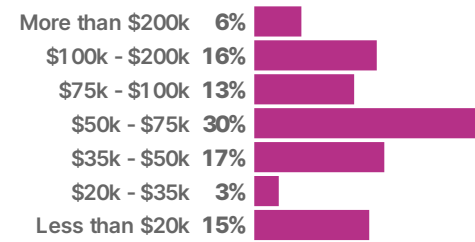


Poverty Rate
16%



Quality Jobs Index
3.88

Median Household Income



Livability



Average Life Expectancy
76



Insured Rate
89%



Pedestrian / Bicyclist Crashes
6



253
Personal Crimes
Total in 2022-2023



913
Property Crimes
Total in 2022-2023

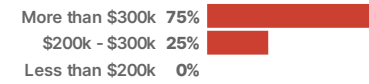


Owner Cost Burden
20%



Renter Cost Burden
55%

Median Home Value



Accessibility



Voter Participation Rate
30%



Households with Internet
93%



Sidewalks and Bikeways
0.04



Household Vehicle Access
90%

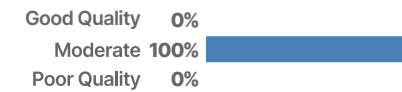


Healthy Food Availability
0.22

Parks & Open Space



Average Pavement Condition



Transit Access Score



Collision History

The following sections include tables summarizing the killed and serious injury (KSI) crashes from 2017 to 2023 (Tables 4 and 5). Table 4 displays the crash mode and severity of crashes along the segment from 2017 to 2023. Figure 8 illustrates the crash diagrams. Each crash includes a corresponding number based on crash location from north to south. The corresponding number in the collision diagrams relate to the ID column in Table 5, which includes additional crash details. Appendix B includes the S Tacoma Way Speed Study conducted in 2021 showing that about 80 percent of vehicles speed through this corridor per the Total Study Speeding Fact summary table for allbound travel. Speeding is defined in this study as traveling one or more mph over the speed limit. Appendix C includes traffic volume data collected in 2021 showing the amount and classification of vehicles passing through this corridor.

TABLE 4 Number of KSI Crashes by Severity in Study Area by Year, 2017-2023

	2017	2018	2019	2020	2021	2022	2023
SERIOUS INJURY	0	0	1	2	3	2	0
FATAL	0	0	0	0	0	0	0

FIGURE 7 S Tacoma Way KSI Crashes Map

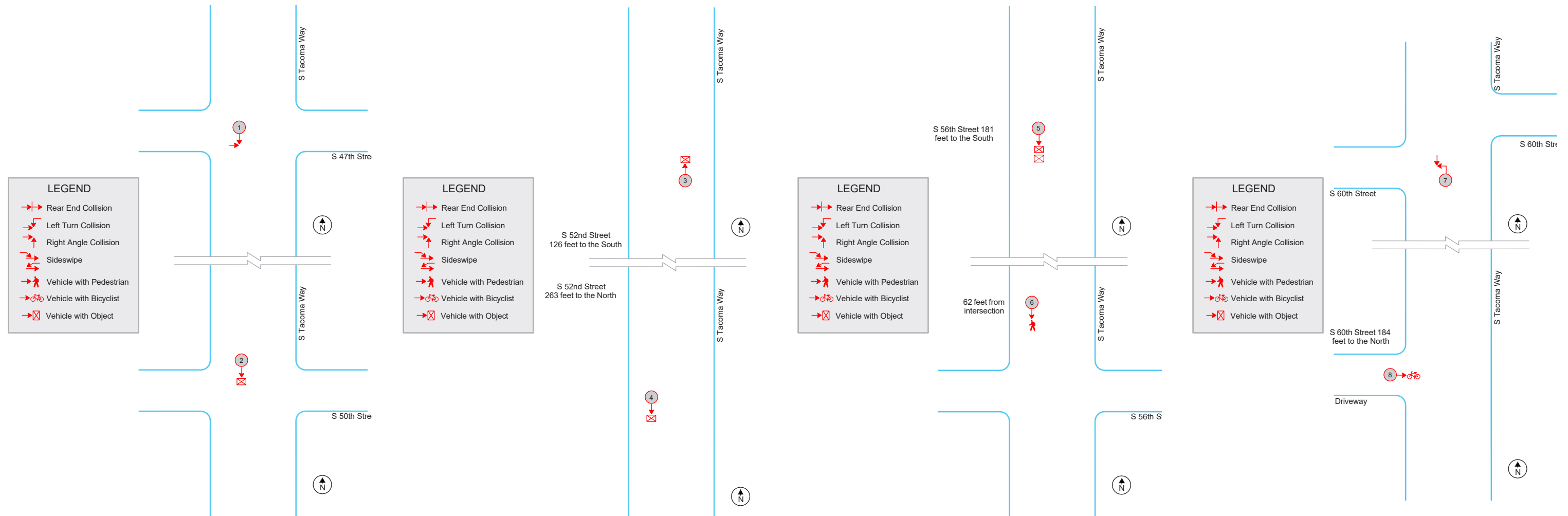


TABLE 5 KSI Crash Details

ID	INJURY SEVERITY	CRASH MODES	CRASH ACTIONS	LOCATION TYPE	INTERSECTION CONTROL	LIGHTING	CONTRIBUTING FACTORS	YEAR	NEAREST CROSS STREET	FIXED OBJECT
1	Suspected serious injury	Motorist	Going straight ahead – entering at angle	Intersection	Traffic signal	Daylight	Speeding	2022	S 47 th st	
2	Suspected serious injury	Motorist	Going straight ahead - strikes object	Intersection	Traffic signal	Dark-street lights on	Distracted user	2021	S 50 th st	Signal pole
3	Suspected serious injury	Motorist	Going straight ahead - strikes object	Intersection	Partial stop	Daylight		2019	S 52 nd st	Fence
4	Suspected serious injury	Motorist	Going straight ahead - struck object	Mid-block	N/A	Daylight		2020	S 52 nd st	Signal pole
5	Suspected serious injury	Pedestrian	Going straight ahead-legally parked, 1 unoccupied, 1 occupied	Mid-block	N/A	Dark-street lights on	Impaired user	2022	S 56 th st	
6	Suspected serious injury	Pedestrian	Going straight ahead strikes pedestrian	Intersection	Traffic signal	Dark-street lights on	Impaired user	2020	S 56 th st	
7	Suspected serious injury	Motorcyclist	Making left turn- going straight ahead	Intersection	Partial stop	Daylight		2021	S 60 th st	
8	Suspected serious injury	Bicyclist	Going straight ahead strikes pedalcyclist	Mid-block	N/a	Daylight		2021	S 60 th st	

South Tacoma Way Collision Diagrams

FIGURE 8 S Tacoma Way Collision Diagrams (Crashes 1–8)



Walking Audit and RSA Workshop

On Thursday, May 23, 2024, the RSA team, comprised of City of Tacoma staff, consultant team, and a few community members, participated in a walking audit of South Tacoma Way. The walking audit is a formal safety performance examination of an existing roadway and intersections. The walking audit team thoroughly examines the corridor and estimates and reports on potential road safety issues and identifies opportunities for improvements in safety for all road users.

The walking audit included the following participants:

City of Tacoma

- Brian Churchill
- Carrie Wilhelme
- Grayson Reim
- Vicki Marsten
- Juilian Hulse
- Leander Swan
- Daniel Brewer
- Sean Probst
- Liz Kaster
- Brandon Cheung
- Anneka Olson
- Neal Sartain
- Madeline Borowski
- Stephen Antupit
- Adam Barnett
- Glen Yotter
- Matt Fleming
- Luke Faulkner
- Brian Wang

Pierce Transit

- Anna Peterson

Community Stakeholders

- Katherine Raz, Local Business Owner (Fernseed)
- Perlita Payne, Tacoma Librarian
- Jamie Gilmore, Tacoma Librarian

Toole Design

- Alex DuVall
- Cody Wuestney
- Michael Houston
- Maimoona Rahim

MAKERS

- Queenie Gipaya
- Rachel Miller

DKS Associates

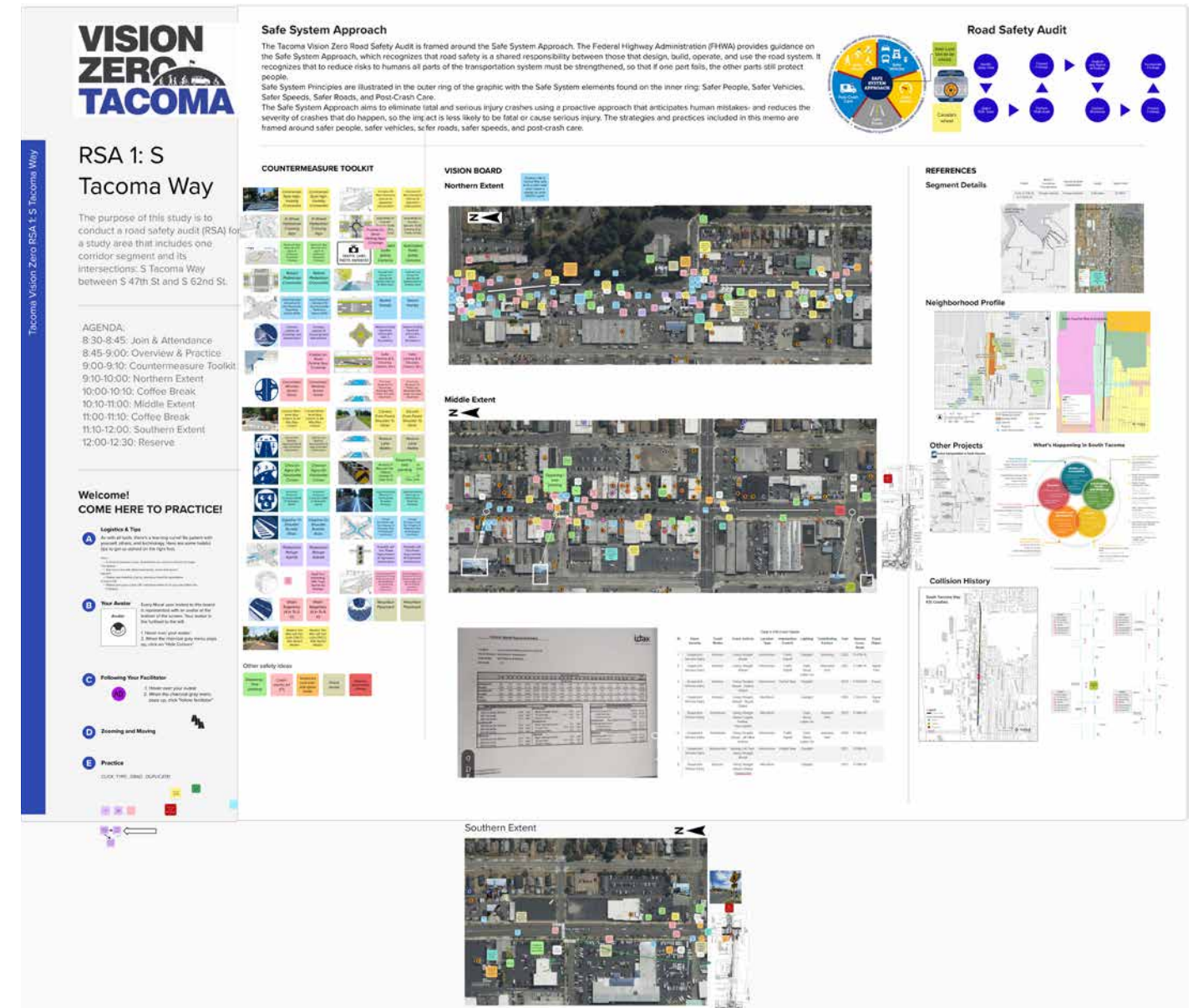
- Sarah Keenan
- Veronica Sullivan

On Friday, May 24, 2024, the RSA team held a virtual workshop to discuss the area in more detail. Workshop attendees included most people who attended the walking audit. The RSA team reviewed study area, segment packet provided in advance of the walking audit, and shared findings from the walking audit. The workshop followed this schedule:

TIME	AGENDA
8:30-8:45	Join & Attendance
8:45-9:00	Overview & Practice
9:00-9:10	Countermeasure Toolkit
9:10-10:00	Northern Extent
10:00-10:10	Coffee Break
10:10-11:00	Middle Extent
11:00-11:10	Coffee Break
11:10-12:00	Southern Extent
12:00-12:30	Wrap Up And Next Steps

To promote brainstorming, the consultant team used the MURAL digital visual collaboration tool that provided the opportunity for simultaneous written input from all participants. The facilitator led a verbal discussion alongside to supplement the written inputs. Figure 9 shows a screenshot of the MURAL board used during the workshop and Appendix A provides “zoom in” of each of the subareas of the RSA study.

FIGURE 9 S Tacoma Way Mural Board



The quantity of feedback, comments, photos, and safety treatment recommendations provided was much greater than what can be captured in a typical brainstorm setting. The consultant team captured all verbal input shared by attendees to help inform the safety recommendations in the next section.

The following section summarizes the comments and suggestions from the team participating in the

walking audit and workshop. These comments and suggestions are opinions shared based on observations and not based on facts or data. These suggestions were taken into consideration for the development of recommended improvement considerations shown in the Recommended Safety Treatments section of this memo.

Northern Extent: South Tacoma Way from S 47th St to S 52nd St

At the Intersection of S 47th St and S Tacoma Way

- The sidewalk disappears north of the intersection.
- The intersection needs better lighting.
- Existing bike lane north of S 47th is sub-standard. Need to decide on plan for bike facilities north of S 47th (protected bike lane or trail continuation).
- Add green bicycle lane for crossing intersection.
- Substandard crosswalk and limited sight distance on SW corner.
- Suggestion to review minor injury crash data for bicycle and pedestrians at this intersection.
- Need to modify planter hangers to not block pedestrian signal heads.
- Add pedestrian crossing countdown.
- Add Leading Pedestrian Intervals.
- Add pedestrian refuge islands.
- Businesses parking cars illegally causing sight distance issues.
- Gateway/placemaking strategy needed for business district and speed reduction zone. The limited ROW on West side of trail entrance has greater potential for gateway elements.
- Gateway/placemaking should include ped scale lighting on the trail and at intersection.
- Add 12" signal heads with reflective backplates.
- Consider protected/permitted left turns.
- Add right turn hardening with truck aprons as needed.



End of Water Plume Lane Trail at S 47th St and S Tacoma Way

Along S Tacoma Way between S 47th St and S 48th St

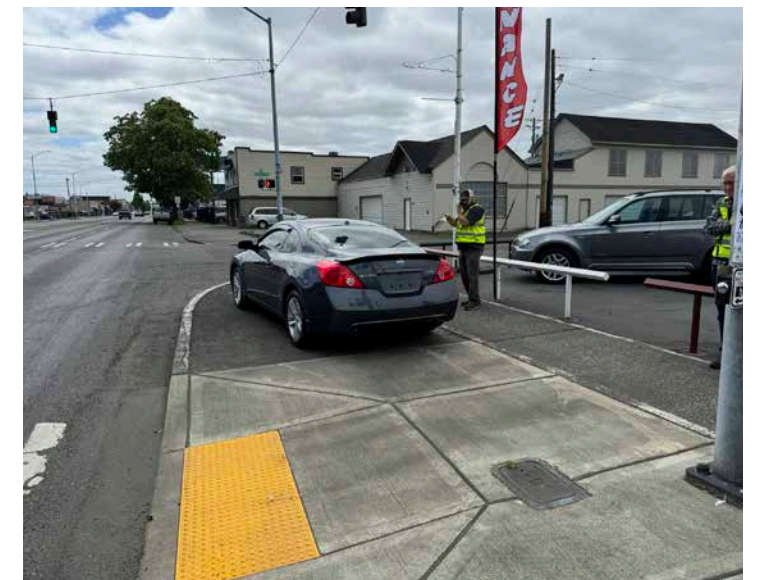
- The sidewalk is substandard along frontage. Curb is rolled and fails to protect sidewalk for motorists.
- Add curb along sidewalk on west side.
- Plant trees in landscape zone on east side.
- For depaving adjacent property, owner is responsible for vegetation unless it's a tree. Process is MOU with property owner.
- The sidewalk should be 7' wide minimum for arterial streets.
- Southbound bus stop on 47th needs shelter and lighting.
- Make outer lanes BAT lanes (transit and right turn only).
- Vegetation is overgrown. Trim to allow more space on sidewalk.
- Improve pedestrian crossings of cemetery driveways.
- Emerald City Orchid/Browns Flowers driveway is not ADA Compliant.
- Install concrete sidewalk.
- Add pedestrian scale lighting and streetlighting for whole corridor.
- Add hardened centerline median.
- Consider fewer lanes or another traffic calming measures.
- Widen edge lanes 4in to 6in.
- Install "speed reduction ahead" signs.

At the Intersection of S 48th St and S Tacoma Way

- Substandard curb ramps.
- Update pedestrian crossing.
- Add truncated domes.
- Daylighting needed near intersections (prohibit on-street parking).



West side of street needs depaving between S 47th and S 50th St



Dealerships habitually parking cars in pedestrian ROW

Along S Tacoma Way between S 48th St and S 50th St

- Where we don't see street trees, that's where vehicles park outside the curbline and effectively widen lane width...adding street trees in those segments with some "protection" could eliminate some of that behavior.
- Street has been overlaid without grinding first, resulting in short curb heights.
- Apply the same lighting design standards/treatment (pedestrian-scale lighting) seen between 50th and 56th.
- If restricting driveways to right-in/right-out, need to ensure locations to gain access to the other direction. Note: U-Turns are generally illegal in COT.
- Pierce Transit has concerns about medians or taking away lanes for future BRT space.
- Depaving /tree planting is needed.
- Mature tree roots warping sidewalk.
- Use signage and wayfinding for park and community center.
- Both of these bus stops need work. The north-bound one has a terrible slope and the south-bound one is not in a great location, being on top of the crosswalk.
- Need more bus shelters/ benches at bus stops.
- Dealerships parking cars on plantings strips, obstructing sidewalks.
- Replace two-way left turn lane with raised center median.

At the Intersection of S 50th St and S Tacoma Way

- Pedestrian crossing buttons are confusing. Could be updated.
- Roadway seriously concaved/ damaged. Needs improvement.
- Street parking begins south of here. Needs painted parking strip.
- Substandard ramps on the SW and SE legs of the intersection.
- Increase lighting at crossings and intersections.
- Add Leading Pedestrian Intervals (LPI).
- Install 12" signal heads with reflective backplates.
- Consider protected/permitted left turns.
- Add marked crosswalks.

Along S Tacoma Way between S 50th and S 52nd St

- Convert outer lanes to back in angle parking.
- Preserve mature trees.
- Substandard driveway and damaged sidewalk at multiple locations within this section.
- Bus stops are not in optimal locations or do not allow enough room for pedestrians.
- Freight loading and unloading happening in the ROW but should happen in alley.

At the Intersection of S 52nd St and S Tacoma Way

- Pedestrians need to cross approx. 68 ft.
- Crosswalk in unmarked and substandard ramps.
- Update pedestrian crossing.
- Suggestion to close off access to S Tacoma Way from driveway immediately south of intersection.
- Cars do donuts in this intersection.
- Add truncated domes.



Concaved roadway in need of improvement



Freight loading/unloading happening in travel lane



Skidmarks in intersection showing cars frequently "do donuts" here

Middle Extent: S Tacoma Way from South of S 52nd St to S 58th St

Along S Tacoma Way between S 52nd St and S 54th St

- Pedestrian scale lighting begins here.
- Ramps do not meet ADA requirements.
- Inline storm crossing.
- Explore if trees along center median landscape need to be limbed up.
- Add bike corral and parklets at various points of the NBD.
- Driveway access to S Tacoma Way should be closed to protect pedestrians and bus stop users.
- Upgrade midblock crossing with raised crossing.
- Update pedestrian beacon to Rapid Flashing Beacon.



Pedestrian median island between S 52nd and S 54th



No marked crosswalks at S Tacoma Way-S 54th St intersection

At the Intersection of S 54th St and S Tacoma Way

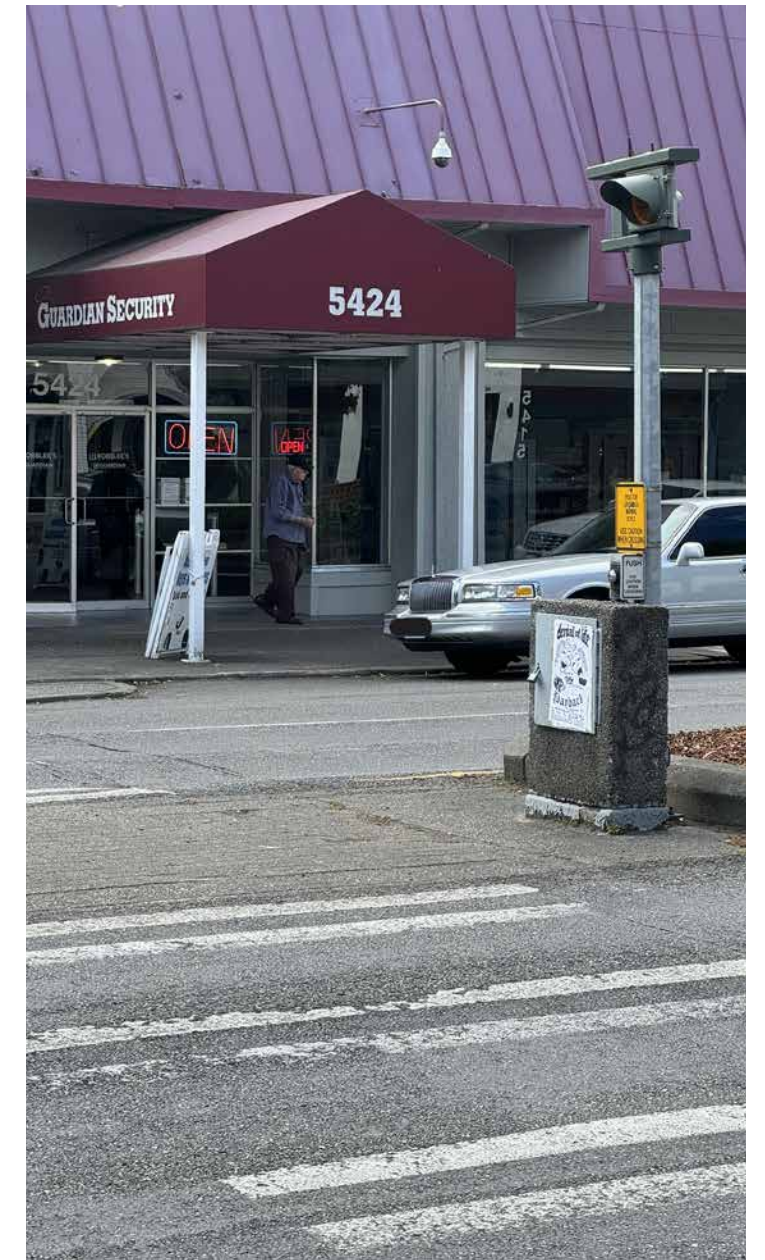
- There is limited lighting near intersection.
- Alighting from the back door bus is difficult and forces people into driveway area.
- There are substandard curb ramps here.
- South side of 54th St sidewalk needs repair.
- There is evidence of cars doing donuts in intersection.
- This is a good intersection for crashworthy art.
- Add temporary or quick build curb bulb outs that don't obstruct bicycle infrastructure.
- Add marked crosswalks.
- Add marked green bicycle crossings.
- Install 12" signal heads with backplates/reflectors.
- Look into Protected/Permitted left turns.

Along S Tacoma Way between S 54th St and S 56th St

- Depaving /tree planting needed.
- Fire station emergency call routing outbound is more critical northbound on S Tacoma Way than southbound. Treatments to slow traffic would be less impactful to fire trucks on southbound leg. 1-2 speed cushions are possible, but more than that slows down outbound fire trucks significantly.
- Restaurant seating area is on sidewalk - Could be standardized to not infringe on the pedestrian access route.
- Cafe seating location "sticking out" - designate amenity zones.
- Potholes near midblock crosswalk.
- Trees reduce clearance and visibility for pedestrians in the center median - what is the balance.
- Reestablishing street trees in "islands" with back-in angle parking could also help with managing the vehicle parking onto sidewalk areas.
- Tire marks (donuts) in crosswalk.
- Update pedestrian beacon to Rapid Flashing Beacon.

At the Intersection of S 56th St and S Tacoma Way

- This intersection is coordinated with the signal at Washington for the trains.
- There's an automated red-light camera at 56th for EB traffic. Try to avoid saturating areas. City gets 22 speed cameras allotted.
- Add pedestrian crossing countdown.



Crossing Island with dated pedestrian crossing beacons between S 54th and S 56th

Along S Tacoma Way between S 56th St and S 58th St

- Needs traffic calming and something to make pedestrians feel safe. There's lots of pedestrian traffic here and could increase depending on future development.
- Vehicles parking on strip near sidewalk restricting pedestrian access.
- Depaving / tree planting needed near sidewalk.
- Add raised centerline median along section.

At the Intersection of S 58th St and S Tacoma Way

- Gateway/ placemaking strategy needed here.
- South Tacoma Sound Station - northern access point here.
- There is a proposal to move the PT bus stop at 62nd north to the 58th or 60th intersection (to enhance access to the South Tacoma Sounder Station).
- Update signal detection.



Vehicles parking on strip near sidewalk restricting pedestrian access

Southern Extent: S Tacoma Way from South of S 58th St to S 62nd St

Along S Tacoma Way between S 58th St and S 60th St

- Dealerships parking cars on sidewalk.
- There might or should be Sound Transit wayfinding to station on S Washington St.
- Roundabouts prevent the drag racing and donuts in the intersections better than other intersection treatments.
- There is increased speed on the roadway.
- On east side, overhead utilities conflict with proposed street trees.
- Here the road transition to 35 mph speed limit.

At the Intersection of S 60th St and S Tacoma Way

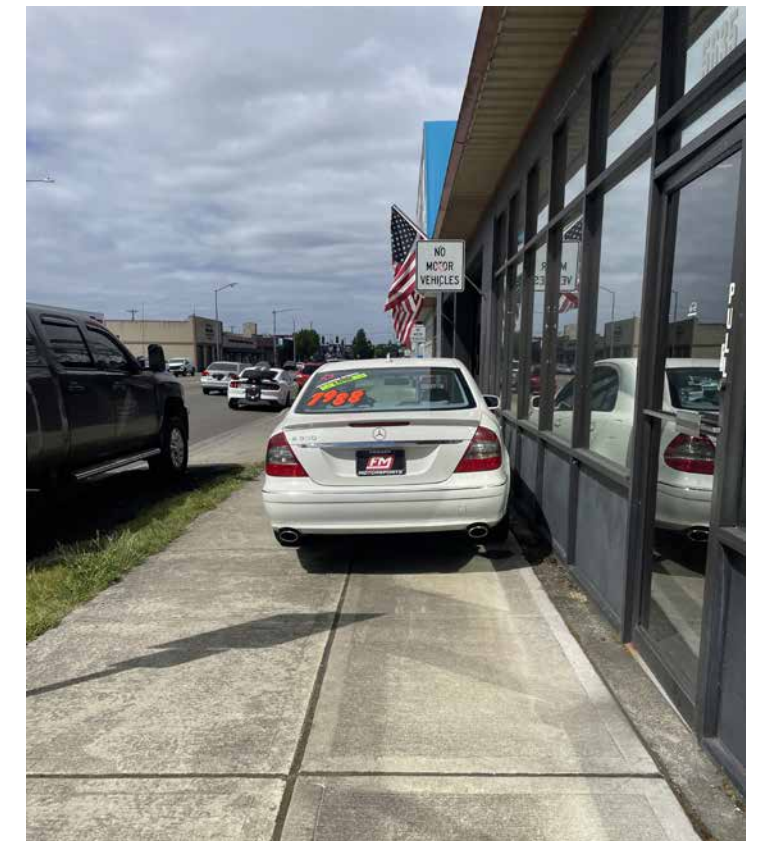
- There are no street signs at this intersection.
- The planned improvements for this intersection include bike infrastructure and marked crosswalks.
- Improve lighting at intersection.
- Add marked crosswalks.

Along S Tacoma Way between S 60th St and S 62nd St

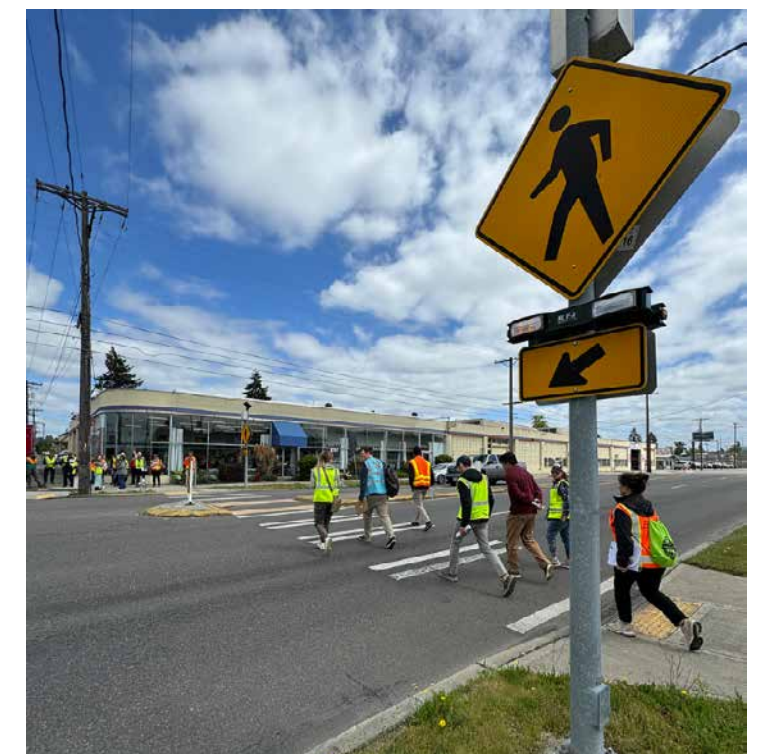
- The parking lane is mainly empty and looks like very wide edge lane.
- Advanced Flashing Beacon is buried in the trees.
- Consider changing speed limit from 35 to 30mph.
- Add temporary automated speed enforcement radar sign.
- Add advance warning speed limit change signs

At the Intersection of S 62nd St and S Tacoma Way

- Crossing is not allowed at the north side of the intersection.
- There's limited visibility to the flashing beacon due to trees.
- Upgrade the ped beacon to newer Rapid Flashing Beacons.
- RRFB is likely not appropriate given the number of lanes and travel speed.
- The median island is struck frequently.
- Improve lighting at intersection.
- Automated enforcement as folks enter the business district.
- Consider adding a median Rectangular Rapid Flashing Beacons.
- Add curb bulb-outs.



Dealership cars obstructing sidewalk path



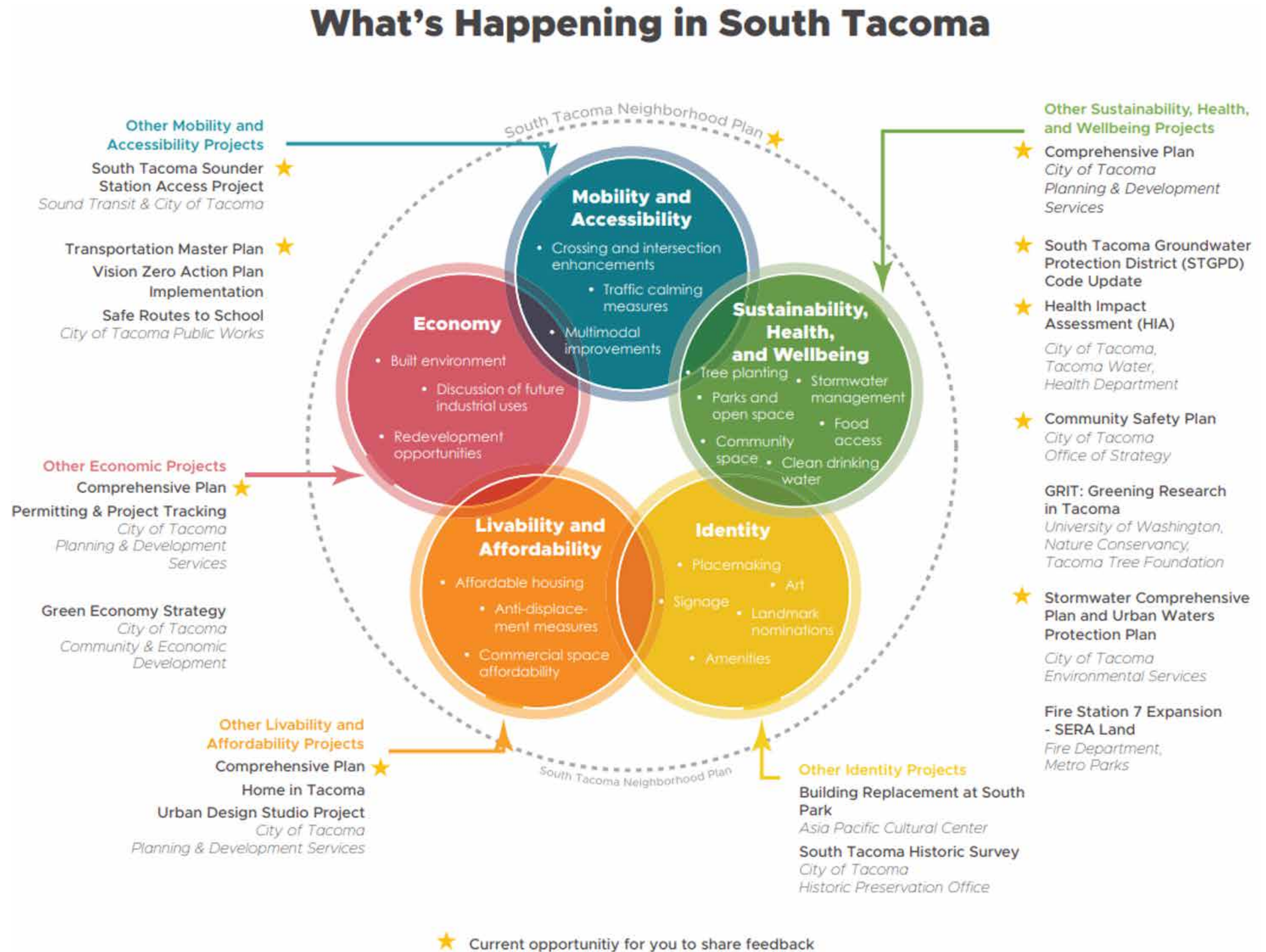
RRFB at end of project segment (S 62nd St and S Tacoma Way)

Other Projects

South Tacoma Various Projects

There are many current and future projects happening near the RSA 1 study area. Figure 10 is taken from the draft South Tacoma Neighborhood Plan and attempts to capture all current and future projects in the area that may impact or be impacted by the recommendations in this memo.

FIGURE 10 What's Happening in South Tacoma (South Tacoma Neighborhood Plan, 2024)



Recommended Safety Treatments

As part of Tacoma’s Vision Zero Action Plan, a list of roadway safety countermeasures was created, with the intent that Tacoma could quickly deploy those countermeasures to advance safety. The list of countermeasures was reviewed by Tacoma staff from various departments to ensure feasibility. This list of countermeasures resulted in the Safety Countermeasure Guide (the “Guide”), which provides instruction on how to use the Safety Countermeasure Toolkit (the “Toolkit”), both developed specifically for the City of Tacoma. The safety countermeasures featured in the Guide are not an extensive list of every available option to improve roadway safety, but rather a tailored list of proven countermeasures that have a demonstrated history of improving safety around context and crash causes that may be most effective in Tacoma. Refer to the full Guide and Toolkit for more comprehensive information, including safety benefits and considerations. While developing the following recommended safety treatments for RSA 1, the consultant team referred to both the Guide and the Toolkit, with the intent of streamlining the implementation of safety improvements along the corridor. Not all recommended safety treatments are in the Guide and Toolkit, but many of them are.

Keys/legends

Estimated Implementation Cost Key	
\$	<= \$75,000
\$\$	\$75,000-\$150,000
\$\$\$	\$150,000-\$300,000
\$\$\$\$	>= \$300,000

Timeframe Key	
Near-term (Near)	<= 2 years
Intermediate (Int.)	2-5 years
Long-term (Long)	>= 5 years

Abbreviations	
ADA	America with Disabilities Act
APS	Accessible Pedestrian Signals
CMF	Crash Modification Factor
LPI	Leading Pedestrian Intervals
RRFB	Rectangular Rapid Flashing Beacon



Corridor-Wide: S Tacoma Way from S 47th St to S 62nd St

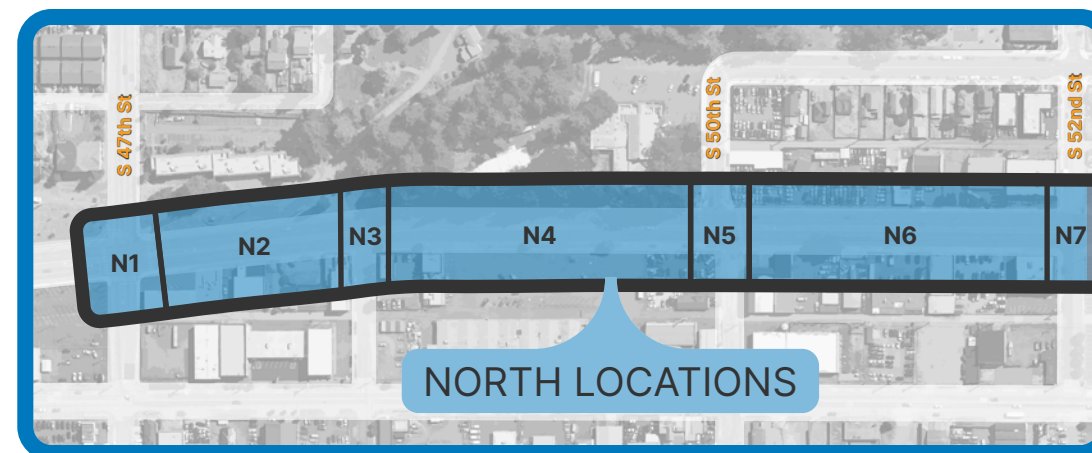
LOCATION CODE	POTENTIAL IMPROVEMENTS FOR CONSIDERATION	TIMEFRAME			COST	CMF*	LEAD
		NEAR	INT.	LONG			
South Tacoma Way between S 47 th St and S 62 nd St	Update all existing signals to use 12" signal heads with reflective backplates. Evaluate whether the signal span needs to be replaced as part of this upgrade.	✓			\$\$-\$\$\$\$	0.85	CoT
	Evaluate all street lighting			✓	\$\$\$\$	0.792	CoT
	Install pedestrian scale lighting			✓	\$\$\$\$	-	CoT
	Refresh/replace thermoplastic pavement markings as needed throughout the corridor		✓		\$	0.887	CoT
	Upgrade existing storm inlet grates with parallel openings to new standard inlet grates	✓			\$	-	CoT

*Crash Modification Factor from CMF Clearinghouse. CMF is approximate for the general countermeasure. A specific CMF should be determined for each unique scenario. For selection of specific CMFs for specific locations in Tacoma, explore the CMF clearing house and apply all relevant factors. All CMFs reported are taken from Tacoma’s Countermeasure Toolkit or FHWA’s list of Proven Safety Countermeasures and should be used as a general reference.

Northern Extent: S Tacoma Way from S 47th St to S 52nd St

LOCATION CODE	POTENTIAL IMPROVEMENTS FOR CONSIDERATION	TIMEFRAME			COST	CMF*	LEAD
		NEAR	INT.	LONG			
South Tacoma Way and S 47 th St	Install right turn hardening with truck aprons as needed	✓			\$\$	-	CoT
	Change permissive left turn phasing to protected only or protected/permissive		✓		\$	0.862	CoT
	Program existing pedestrian signals to include a leading pedestrian interval (LPI), after confirming APS and ADA compliant curb ramps are in place	✓			\$	0.81	CoT
	Consider adding a sign "no right-turn-on-red" for the northbound right turn and eastbound right turn to reduce conflict with the bike trail	✓			\$	-	CoT
South Tacoma Way between S 47 th St and S 48 th St	Install new sidewalk, curb, and gutter			✓	\$\$\$\$	0.35	CoT
	Update bus stop to provide shelter and lighting		✓		\$\$	-	Pierce Transit/CoT
	Install traffic calming elements such as median, parallel parking, narrowing lanes, etc.		✓		\$\$\$\$	Dependent on chosen traffic calming	CoT
	Install edgelines	✓			\$	0.839	CoT
	Plant street trees in landscape strip		✓		\$\$\$	-	CoT/property owners
South Tacoma Way and S 48 th St	Install ADA compliant curb ramps		✓		\$\$\$	-	CoT
	Program existing pedestrian signals to include a leading pedestrian interval (LPI), after APS and ADA compliant curb ramps are in place	✓			\$-\$\$\$\$	0.81	CoT
South Tacoma Way between S 48 th St and S 50 th St	Install median in place of two way left turn lane			✓	\$\$\$\$	0.77	CoT
	Resurface pavement		✓		\$\$\$\$	0.858	CoT
	Depave landscape strip and plant street trees			✓	\$\$\$	-	CoT/property owners
	Install new sidewalk		✓		\$\$\$-\$\$\$\$	0.35	CoT
South Tacoma Way and S 50 th St	Refresh/replace existing crosswalk marking to high visibility continental-style crosswalk marking on north and south legs (across South Tacoma Way)	✓			\$	0.6	CoT
	Update all existing signals to APS with pedestrian countdown signal heads. Program existing signals to include a leading pedestrian interval (LPI), after APS and ADA compliant curb ramps are in place.		✓		\$\$\$-\$\$\$\$	0.6	CoT
	Program existing pedestrian signals to include a leading pedestrian interval (LPI), after APS and ADA compliant curb ramps are in place	✓			\$-\$\$\$\$	0.81	CoT
South Tacoma Way between S 50 th St and S 52 nd St	Install edgeline between parking lane and travel lane for visual narrowing	✓			\$	0.839	CoT
	Consolidate/minimize access points			✓	\$\$	0.56	CoT/property owners
	Install new sidewalk and driveways where existing are damaged and not ADA compliant		✓		\$\$\$	0.35	CoT
	Replace two way left turn lane with raised median with consideration of access management			✓	\$\$\$\$	0.77	CoT
South Tacoma Way and S 52 nd St	Install high visibility continental-style crosswalk markings with ADA compliant curb ramps on all legs of intersection		✓		\$\$\$\$	0.6	CoT
	Shift southbound bus stop further south to avoid conflict with driveway		✓		\$\$	-	Pierce Transit/CoT
	Re-design bus stop curb extensions for both northbound and southbound to remove steep grading and better meet ADA			✓	\$\$\$\$	-	Pierce Transit/CoT
	Program existing pedestrian signals to include a leading pedestrian interval (LPI), after APS and ADA compliant curb ramps are in place	✓			\$-\$\$\$\$	0.81	CoT
	Automated speed enforcement camera		✓		\$\$	0.46	CoT
	Close driveways near the intersection where businesses have an alternate driveway on S 52 nd St			✓	\$	0.56	CoT/property owners

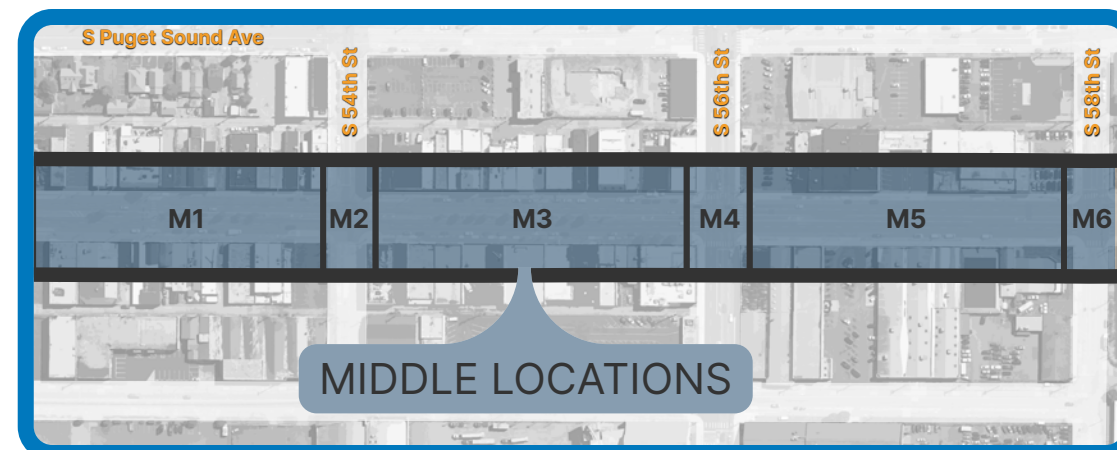
*Crash Modification Factor from CMF Clearinghouse. CMF is approximate for the general countermeasure. A specific CMF should be determined for each unique scenario. For selection of specific CMFs for specific locations in Tacoma, explore the CMF clearing house and apply all relevant factors. All CMFs reported are taken from Tacoma's Countermeasure Toolkit or FHWA's list of Proven Safety Countermeasures and should be used as a general reference.



Middle Extent: S Tacoma Way from South of S 52nd St to S 58th St

LOCATION CODE	POTENTIAL IMPROVEMENTS FOR CONSIDERATION	TIMEFRAME			COST	CMF*	LEAD
		NEAR	INT.	LONG			
South Tacoma Way between S 52 nd St and S 54 th St	Enhance pedestrian crossing with RRFB (latest standard), update curb ramps to be ADA compliant, and evaluate raised crossing		✓		\$\$\$\$	0.64	CoT
	Trim median vegetation to maintain visibility (limb-up trees to 8')	✓			\$	-	CoT
	Install bike parking corrals	✓			\$	-	CoT
	Support businesses to install parklets or café seating	✓			\$	-	CoT
	Prohibit on-street parking near crossings	✓			\$	0.8	CoT
	Resurface pavement		✓		\$\$\$\$	0.858	CoT
	Evaluate 4 to 2 lane reconfiguration and evaluate back angled parking in place of parallel parking			✓	\$	0.53 (lane reconf.)	CoT
South Tacoma Way and S 54 th St	Install high visibility continental-style crosswalk markings with ADA compliant curb ramps on all legs of intersection. Update all existing signals to APS with pedestrian countdown signal heads. Program existing signals to include a leading pedestrian interval (LPI), after APS and ADA compliant curb ramps are in place.			✓	\$\$\$\$	0.6	CoT
	Close driveways near the intersection where businesses have an alternate driveway on S 54 th St			✓	\$	0.56	CoT/property owners
	Program existing pedestrian signals to include a leading pedestrian interval (LPI), after APS and ADA compliant curb ramps are in place	✓			-\$\$\$\$	0.81	CoT
	Install curb bulb-outs with planters or other vertical elements that work with the existing and planned bicycle infrastructure		✓		\$\$	-	CoT
	Install marked green bicycle crossing across intersection	✓			\$	-	CoT
South Tacoma Way between S 54 th St and S 56 th St	Enhance pedestrian crossing with RRFB (latest standard), update curb ramps to be ADA compliant, and evaluate raised crossing		✓		\$\$\$\$	0.64	CoT
	Trim median vegetation to maintain visibility (limb-up trees to 8')	✓			\$	-	CoT
	Install bike parking corrals	✓			\$	-	CoT
	Support businesses to install parklets or café seating	✓			\$	-	CoT
	Prohibit on-street parking near crossings	✓			\$	0.8	CoT
	Resurface pavement		✓		\$\$\$\$	0.858	CoT
	Evaluate traffic calming elements (e.g. speed cushions)		✓		\$\$	Dependent on chosen traffic calming	CoT
Evaluate 4 to 2 lane reconfiguration and evaluate back angled parking in place of parallel parking			✓	\$\$\$	0.53 (lane reconf.)	CoT	
South Tacoma Way and S 56 th St	Evaluate whether the automated red-light camera for eastbound traffic on S 56 th St should remain, or if an automated speeding camera on South Tacoma Way or S 56 th Street is preferred, in order to avoid saturating corridors with automated enforcement		✓		\$\$	0.46	CoT
	Program existing pedestrian signals to include a leading pedestrian interval (LPI), after APS and ADA compliant curb ramps are in place	✓			\$	0.81	CoT
South Tacoma Way between S 56 th St and S 58 th St	Replace two way left turn lane with raised median with consideration of access management			✓	\$\$\$\$	0.77	CoT
	Plant street trees in landscape strips		✓		\$\$\$	-	CoT/property owners
South Tacoma Way and S 58 th St	Evaluate gateway/placemaking strategy that also includes traffic calming elements, such as installing a raised median	✓			\$\$\$	Dependent on chosen traffic calming	CoT
	Program existing pedestrian signals to include a leading pedestrian interval (LPI), after APS and ADA compliant curb ramps are in place	✓			\$	0.81	CoT

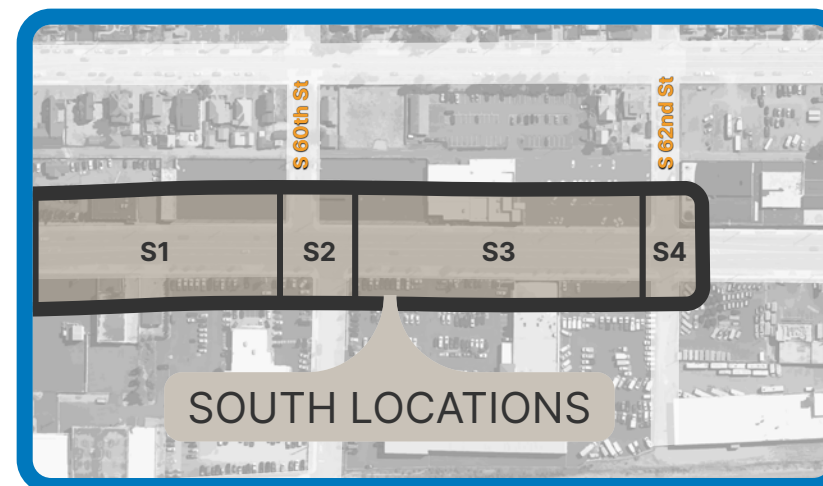
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Southern Extent: S Tacoma Way from South of S 58th St to S 62nd St

LOCATION CODE		POTENTIAL IMPROVEMENTS FOR CONSIDERATION	TIMEFRAME			COST	CMF*	LEAD
			NEAR	INT.	LONG			
South Tacoma Way between S 58 th St and S 60 th St	S1	Install traffic calming elements such as median, parallel parking, narrowing lanes, etc.		✓		\$\$\$\$	Dependent on chosen traffic calming	CoT
		Plant low street vegetation in landscape strips	✓			\$\$	-	CoT/property owners
		Install edgeline between parking lane and travel lane for visual narrowing	✓			\$	0.839	CoT
		Install wayfinding for Sound Transit station			✓	\$\$	-	Sound Transit
South Tacoma Way and S 60 th St	S2	Update intersection to reflect S 60 th St Improvement Plan per the Sound Transit south station redesign. Install high visibility continental-style crosswalk markings and curb bulb-outs with ADA compliant curb ramps in coordination with the S 60 th St Improvement Plan.		✓		\$\$\$\$	-	CoT
South Tacoma Way between S 60 th St and S 62 nd St	S3	Evaluate revising posted speed limit from 35 to 30 mph per Tacoma's speed limit setting policy	✓			\$	-	CoT
		Install edgeline between parking lane and travel lane for visual narrowing. Install edgeline on the outside of the outer travel lane whether parking remains or is removed.	✓			\$	0.839	CoT
		Maintain landscaping around existing signing	✓			\$	-	CoT/property owners
South Tacoma Way and S 62 nd St	S4	Increase street lighting or other strategies to increase visibility of existing pedestrian refuge island, or upgrade RRFB crossing to a pedestrian signal		✓		\$\$\$\$	0.792	CoT

*Crash Modification Factor from CMF Clearinghouse. CMF is approximate for the general countermeasure. A specific CMF should be determined for each unique scenario. For selection of specific CMFs for specific locations in Tacoma, explore the CMF clearing house and apply all relevant factors. All CMFs reported are taken from Tacoma's Countermeasure Toolkit or FHWA's list of Proven Safety Countermeasures and should be used as a general reference.



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RSA

2

S Yakima Ave

Study Area

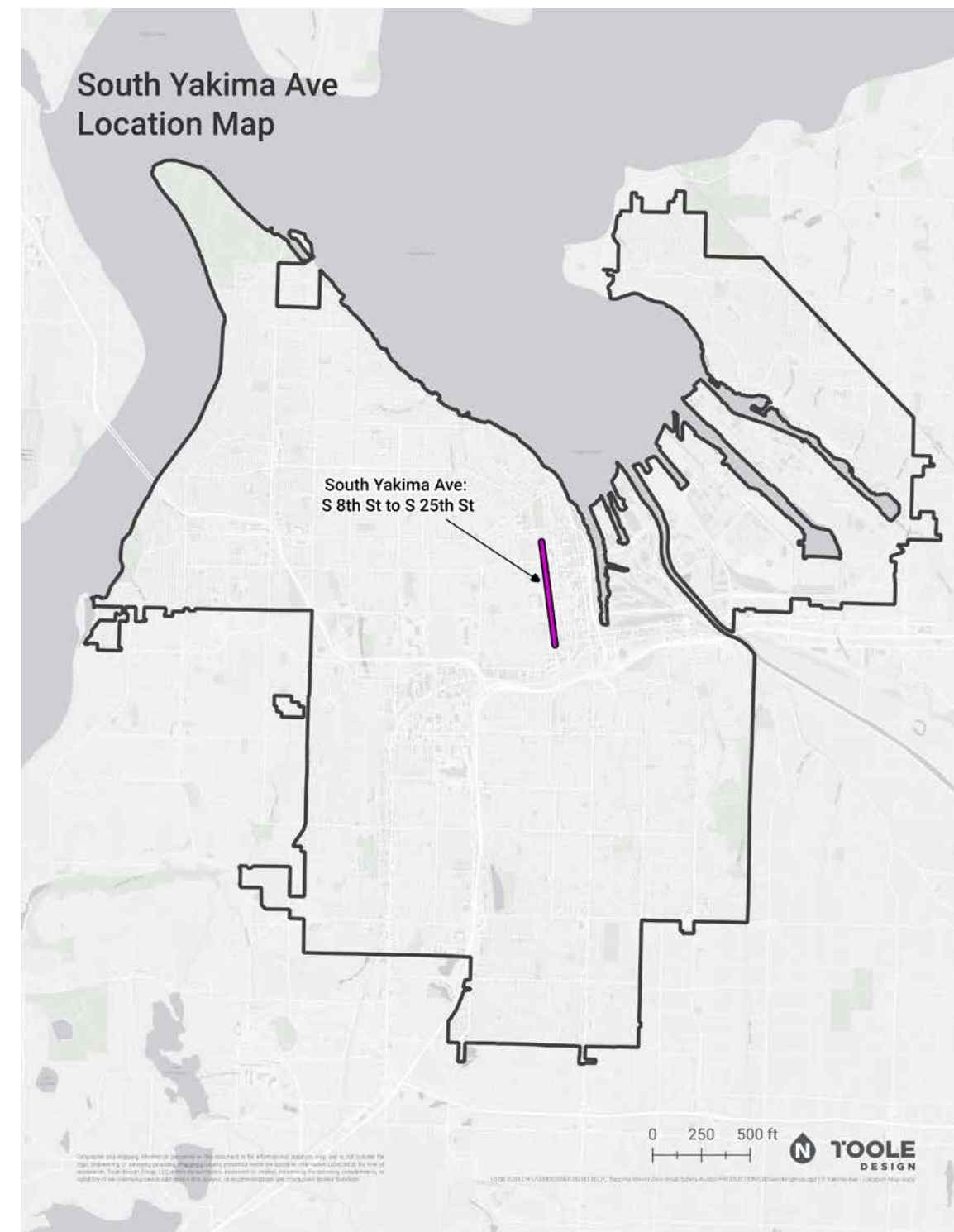
TABLE 6 South Yakima Ave Segment Details

EXTENT	WSDOT FUNCTIONAL CLASSIFICATION	TACOMA ARTERIAL CLASSIFICATION	LENGTH	SPEED LIMIT
S 8th St to Earnest S Brazill St	Other Principal Arterial	Principal Arterial	0.29 miles	30 MPH
Earnest S Brazill St to S 25th St	Minor Arterial	Principal Arterial	0.94 miles	30 MPH

The study area for RSA 2 is South Yakima Ave between S 8th St and S 25th St. This segment is identified in the Tacoma Vision Zero Local Roads Safety Plan as being on the High Risk Network.⁷

Table 6 describes the segment's details and Figure 11 displays where the segment is located within the City of Tacoma.

FIGURE 11 South Yakima Ave Location Map



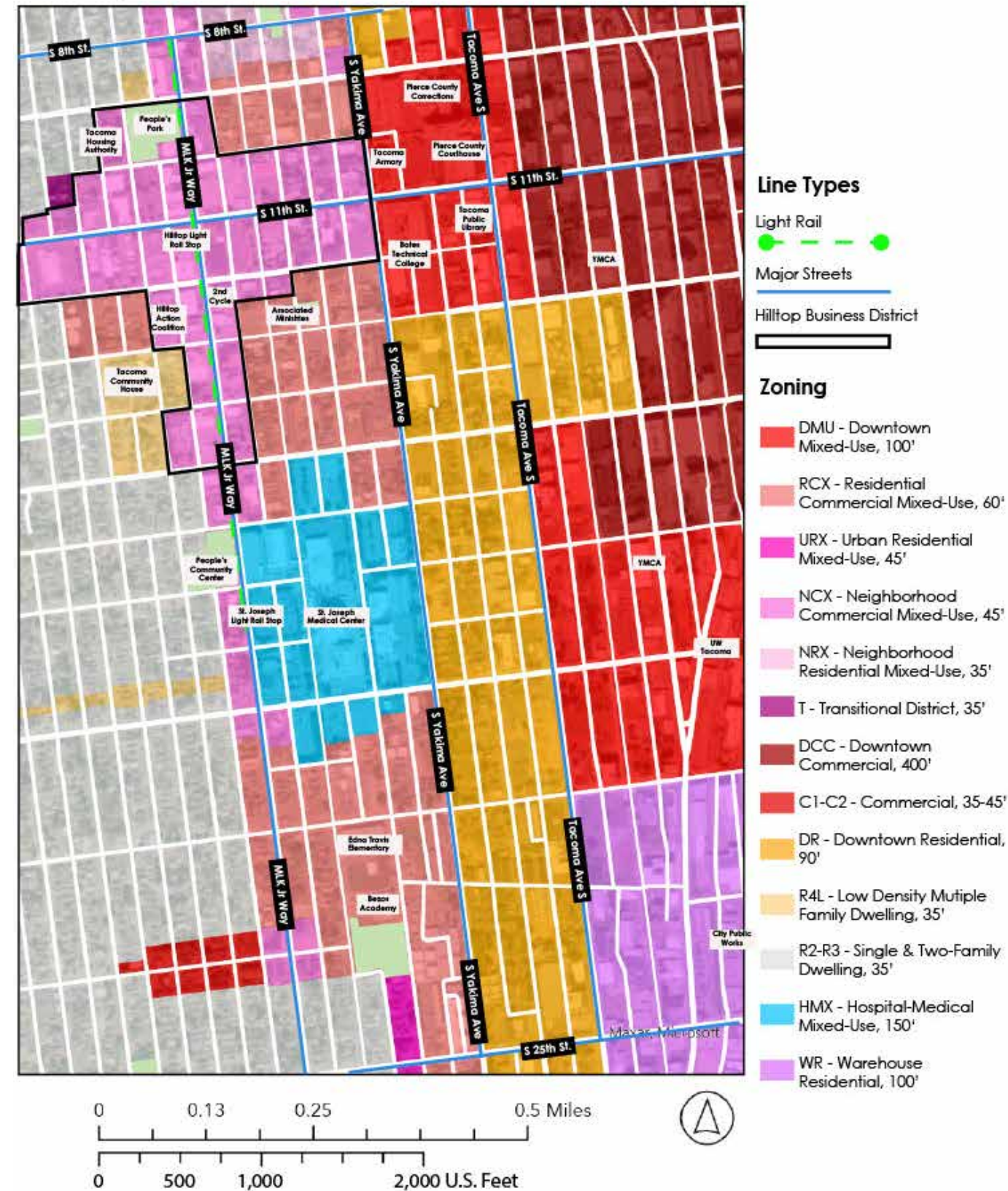
⁷ Arterial High Risk Network Priority Corridors were prioritized based on analysis of three primary components: speed differential between posted speed and operating speeds; number of KSI crashes; and sliding window scores. These corridors strongly need roadway safety countermeasures focused on both reducing speed and improving safety.

Neighborhood Profile, Zoning, and Land Use

South Yakima Ave is located in downtown Tacoma within the Downtown Regional Growth Center and is a boundary for the Hilltop Neighborhood Business District. Figure 12 displays the zoning for this area and includes the boundaries for the Hilltop Neighborhood Business District, nearby parks, schools, and key locations.

FIGURE 12 South Yakima Ave Neighborhood Map (Source Tacoma, 2023)

Yakima Avenue Hilltop Corridor: ZONING

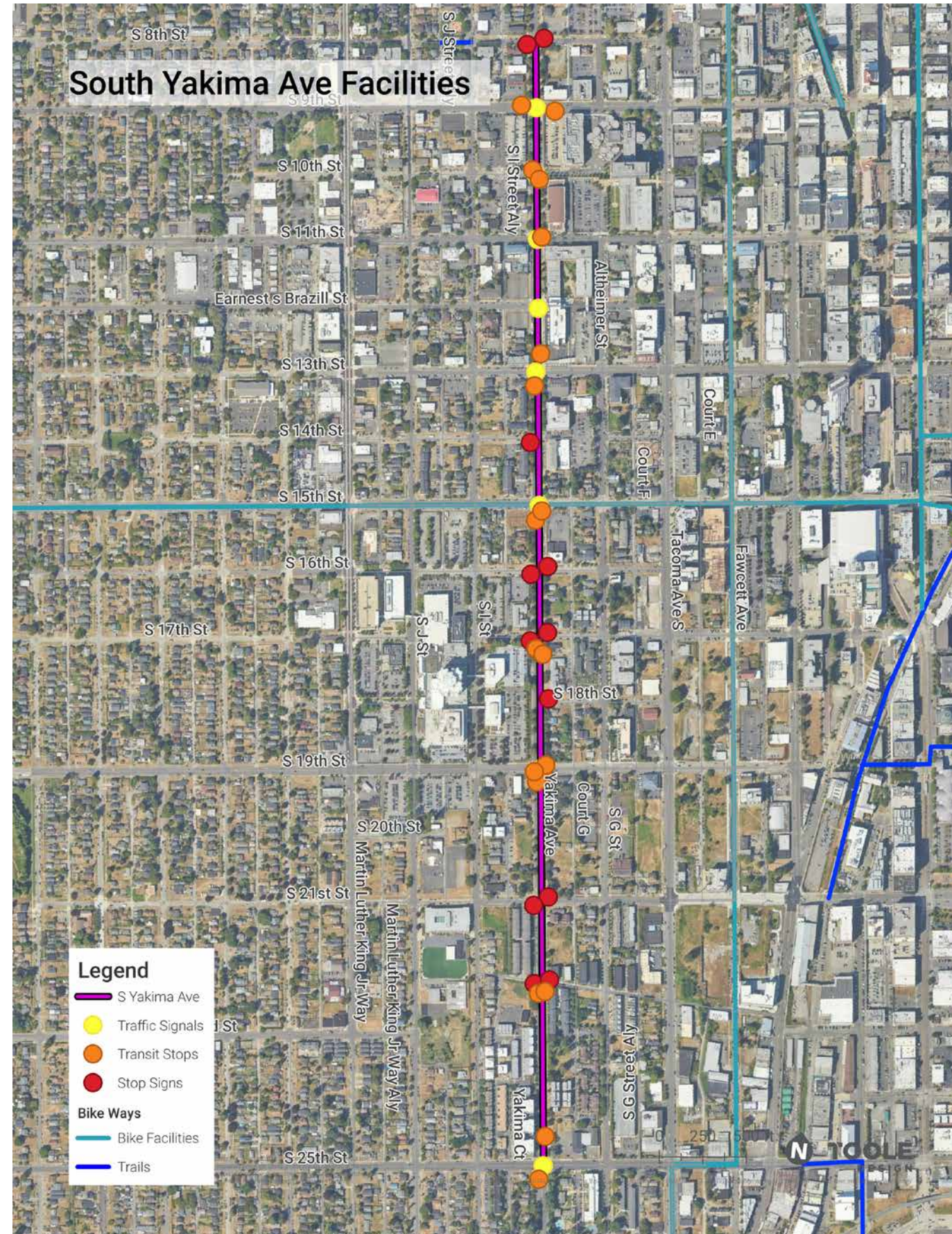


Corridor Facilities

South Yakima Ave is used as a primary emergency response route for emergency vehicles and the full extent of the segment falls within this route.

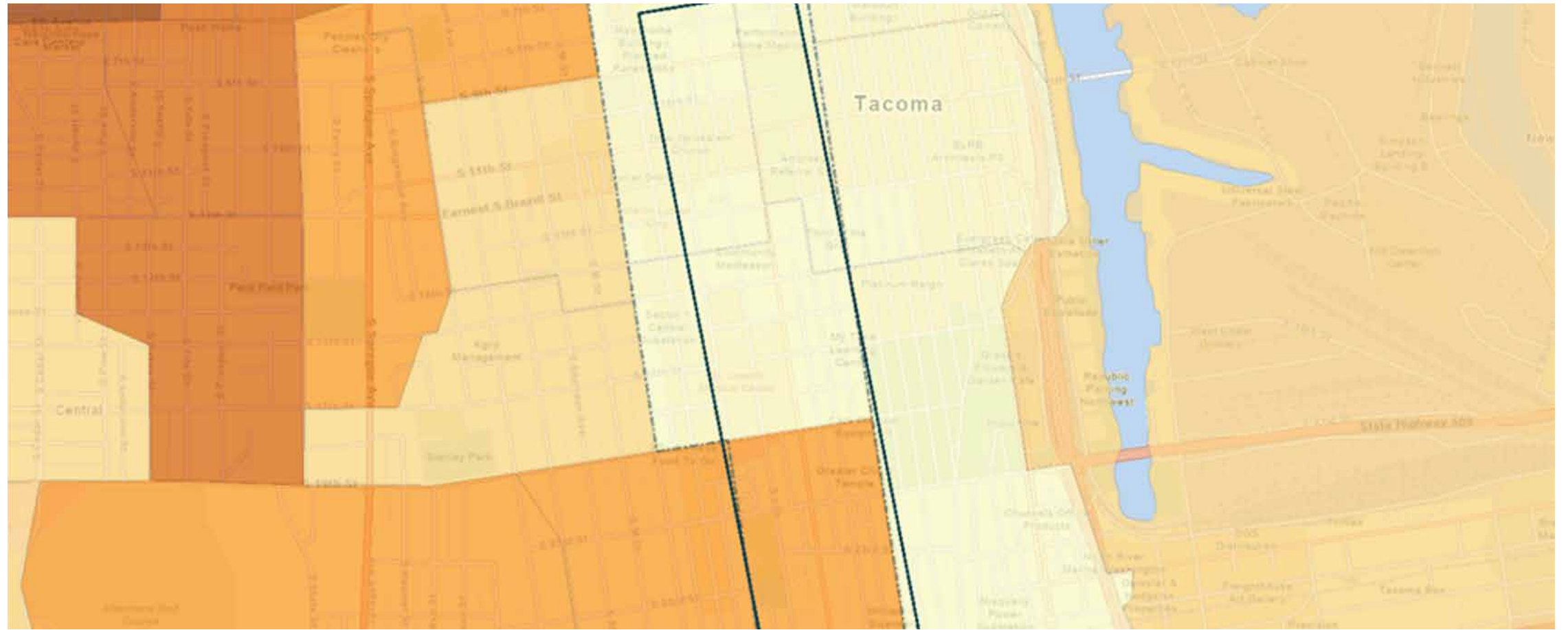
Figure 13 displays facilities along South Yakima Ave. The map includes locations of existing bicycle facilities, traffic signals, stop signs, and bus stops.

FIGURE 13 South Yakima Ave Facilities









City of Tacoma Equity Index Map

The City of Tacoma Equity Index is a tool which highlights areas of Tacoma where residents have the most access to opportunity and where residents are further away from opportunity. The tool looks at five categories: livability, accessibility, economy, education, and environmental health. Areas that have the most access to opportunities are shaded the darkest or identified as “Very High” opportunity and areas where residents are furthest from opportunity are shaded the lightest or identified as “Very Low” opportunity. The following graphics describe the equity and opportunity of residents living near S Yakima Ave and show that the corridor is within “Very Low” to “Moderate” opportunity areas.



EQUITY INDEX

-  Very High
-  High
-  Moderate
-  Low
-  Very Low
-  No data available

Equity Overview



Population
4,490



Individuals with Disabilities
22%

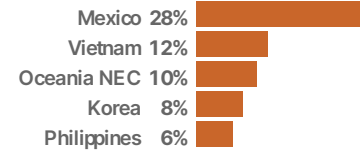


Foreign Born Population
11%

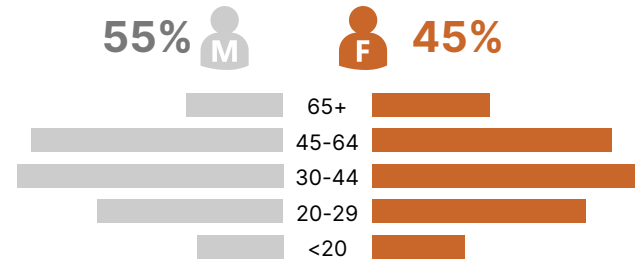


Limited English
3%

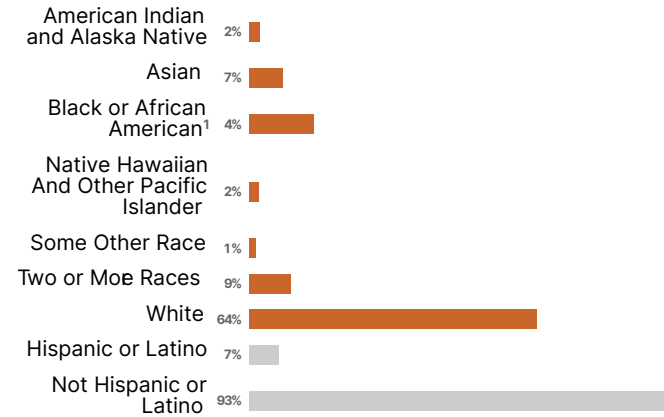
Top Countries of Immigration



Age & Gender



Race & Ethnicity



Economy



200% of Poverty
47%



Employment Rate
94%



Poverty Rate
21%

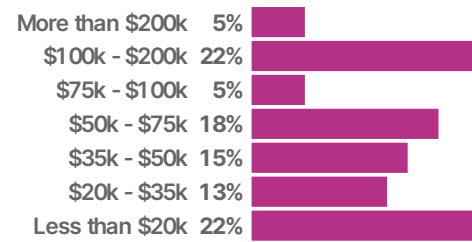


Quality Jobs Index
46.66



Median Household Income
\$47,064

Median Household Income



Livability



Average Life Expectancy
75



Insured Rate
90%



Pedestrian / Bicyclist Crashes
7



413
Personal Crimes
Total in 2022-2023



917
Property Crimes
Total in 2022-2023

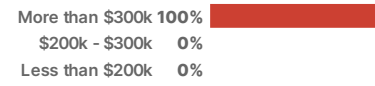


Owner Cost Burden
32%



Renter Cost Burden
62%

Median Home Value



Accessibility



Voter Participation Rate
28%



Households with Internet
86%



Sidewalks and Bikeways
0.07



Household Vehicle Access
84%

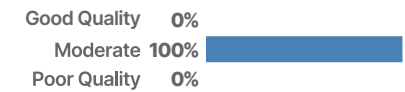


Healthy Food Availability
0.27

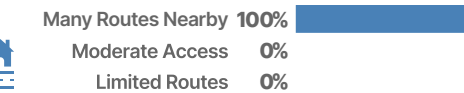
Parks & Open Space



Average Pavement Condition



Transit Access Score



Education



Average Student Mobility
7%



High School Graduation Rate
93%

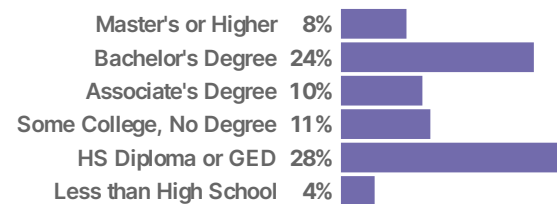


Average Testing Proficiency
21%



Kindergarten Readiness Rate
64%

Highest Educational Attainment



Environmental Health



Ozone Concentration
50 Micrograms/cubic meter



PM 2.5 Concentration
7 Parts/billion



Toxic Risk
1390 RSEI calculated score



Diesel Emissions
0.52 Tons/km2/year



Urban Tree Canopy
18%



Urban Heat Island Index
87°



Heavy Traffic Roadways
327 Inverse Distance Weighted Annual Daily Traffic Count

Collision History

The following sections include tables summarizing the killed and serious injury (KSI) crashes from 2017 to 2023 (Tables 7 and 8). Figure 14 displays the crash mode and severity of crashes along the segment from 2017 to 2023. Figure 15 illustrates the crash diagrams. Each crash includes a corresponding number based on crash location from north to south. The corresponding number in the collision diagrams relates to the ID column in Table 8, which includes additional crash details.

TABLE 7 Number of KSI Crashes by Severity in Study Area by Year, 2017-2023

	2017	2018	2019	2020	2021	2022	2023
Serious Injury	0	1	1	2	1	0	1
Fatal	0	0	0	0	0	0	1

FIGURE 14 South Yakima Ave KSI Crashes Map

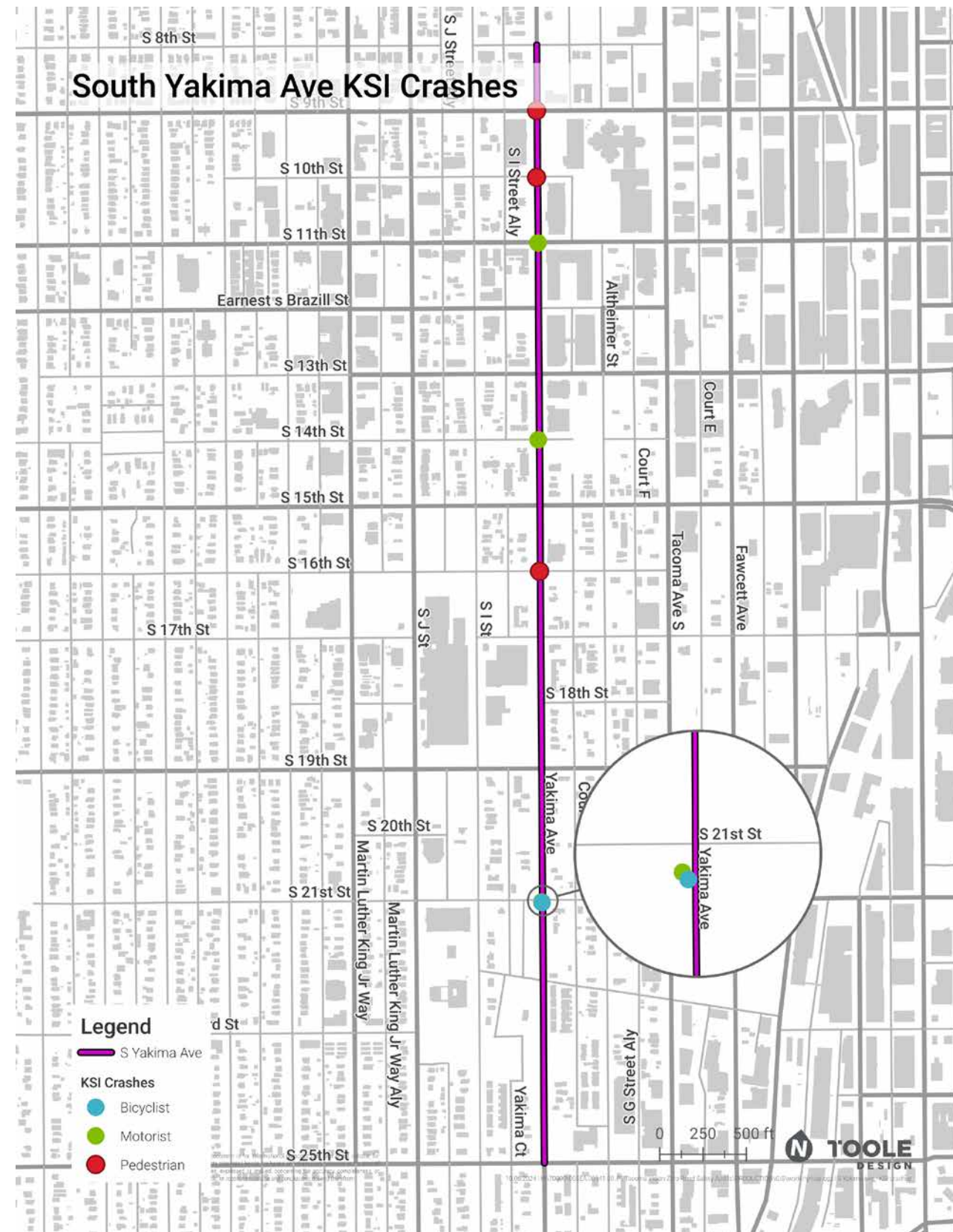
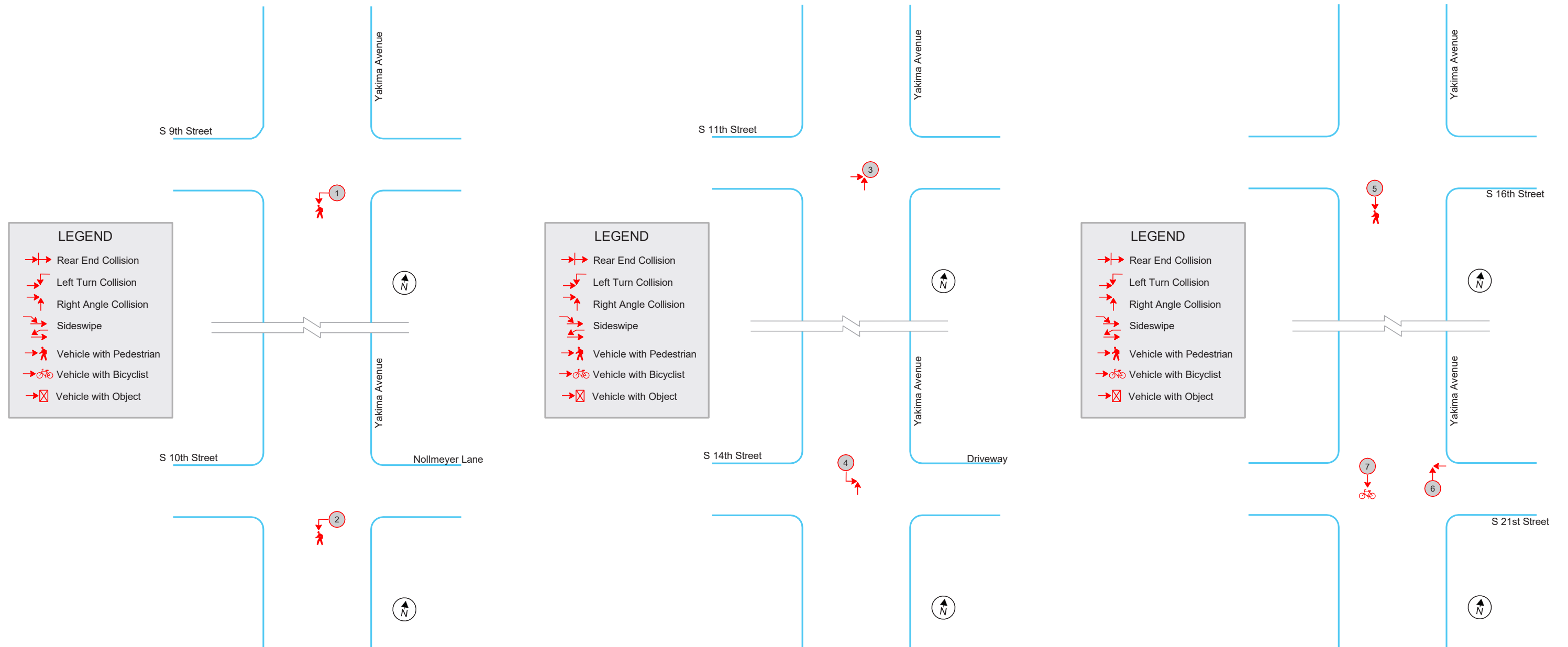


TABLE 8 KSI Crash Details

ID	INJURY SEVERITY	CRASH MODES	CRASH ACTIONS	LOCATION TYPE	INTERSECTION CONTROL	LIGHTING	CONTRIBUTING FACTORS	YEAR	NEAREST CROSS STREET
1	Suspected Serious Injury	Pedestrian	Vehicle turning left hits pedestrian (Xing at intersection with signal, marked crosswalk)	Intersection	Traffic Signal	Dark-Street Lights On	-	2023	S 9 th St
2	Suspected Serious Injury	Pedestrian	Making Left Turn - Xing at Intersection with Signal (marked crosswalk)	Intersection	Traffic Signal	Daylight	-	2018	S 10 th St - S Nollmoyer Ln
3	Suspected Serious Injury	Motorist	Entering at angle	Intersection	Traffic Signal	Dark-Street Lights On	-	2021	S 11 th St
4	Suspected Serious Injury	Motorist	Making Left Turn - Going Straight Ahead	Intersection	Partial Stop	Daylight	-	2019	S 14 th St
5	Suspected Serious Injury	Pedestrian	Going Straight Ahead - Xing at Intersection (unmarked crosswalk) - No Signal	Intersection	Partial Stop	Dark-Street Lights On	Distracted Driver	2020	S 16 th St
6	Suspected Serious Injury	Motorist	Going Straight Ahead - Going Straight Ahead	Intersection	Partial Stop	Daylight	-	2020	S 21 st St
7	Fatal	Bicyclist	Bicyclist Strikes Moving Vehicle - Bicyclist Riding with Traffic - Vehicle Going Straight	Intersection	Partial Stop	Daylight	-	2023	S 21 st St

South Yakima Ave Collision Diagrams

FIGURE 15 South Yakima Ave Collision Diagrams (Crashes 1-7)



Walking Audit and RSA Workshop

On Tuesday, June 25, 2024, the RSA team, comprised of City of Tacoma staff, consultant team, and a few community members, participated in a walking audit of South Yakima Ave. The walking audit is a formal safety performance examination of an existing roadway and intersections. The walking audit team thoroughly examines the corridor and estimates and reports on potential road safety issues and identifies opportunities for improvements in safety for all road users.

The walking audit included the following participants:

City of Tacoma

- Brian Churchill
- Carrie Wilhelm
- Grayson Reim
- Vicki Marsten
- Daniel Brewer
- Liz Kaster
- Matt Fleming
- Luke Faulkner
- Brian Wang
- Carl Metz
- Adam Barnett

Pierce Transit

- Anna Peterson
- Tina Vaslet

Community Stakeholders

- Laura Svancarek

Toole Design

- Alex DuVall
- Cody Wuestney
- Jaxon Roller
- Maimoona Rahim
- Michael Houston

MAKERS

- Queenie Gipaya
- Rachel Miller

DKS Associates

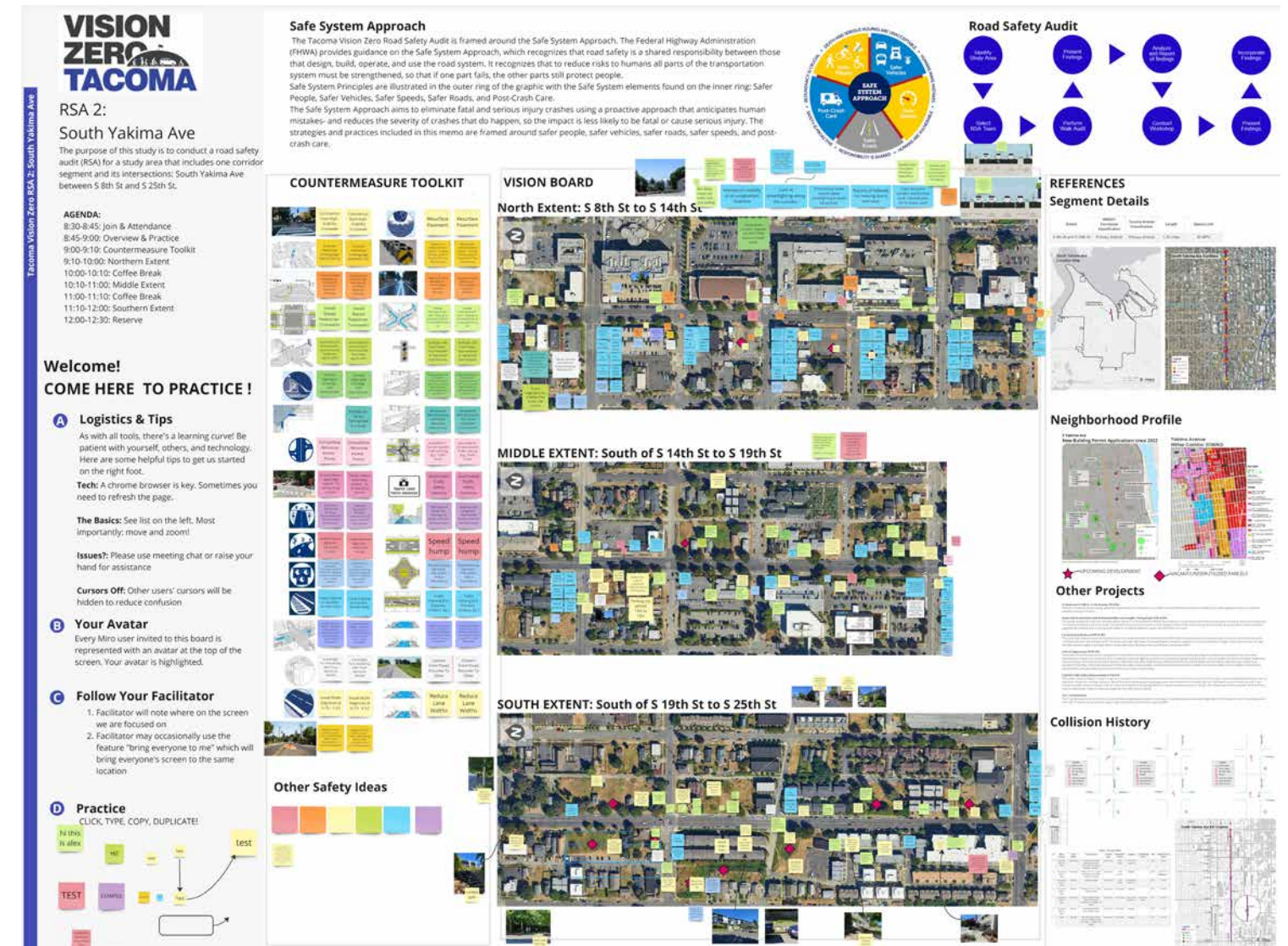
- Sarah Keenan
- Alexander Emmons

On Wednesday, June 26, 2024, the RSA team held a virtual workshop to discuss the area in more detail. Workshop attendees included most people who attended the walking audit. The RSA team reviewed study area, segment packet provided in advance of the walking audit, and shared findings from the walking audit. The workshop followed this schedule:

TIME	AGENDA
8:30-8:45	Join & Attendance
8:45-9:00	Overview & Practice
9:00-9:10	Countermeasure Toolkit
9:10-10:00	Northern Extent
10:00-10:10	Coffee Break
10:10-11:00	Middle Extent
11:00-11:10	Coffee Break
11:10-12:00	Southern Extent
12:00-12:30	Wrap up and Next Steps

To promote brainstorming, the consultant team used the MIRO digital visual collaboration tool that provided the opportunity for simultaneous written input from all participants. The facilitator led a verbal discussion alongside to supplement the written inputs. Figure 16 shows a screenshot of the MIRO board used during the workshop and Appendix A provides “zoom in” of each of the subareas of the RSA study.

FIGURE 16 South Yakima Ave MIRO Board



The quantity of feedback, comments, photos, and safety treatment recommendations provided was much greater than what can be captured in a typical brainstorm setting. The consultant team captured all verbal input shared by attendees to help inform the safety recommendations in the next section.

The following section summarizes the comments and suggestions from the team participating in the walking audit and workshop. These comments and suggestions are opinions shared based on observations during the walk audit and are not based on facts or data. These suggestions were taken into consideration for the development of recommended improvement considerations shown in the Recommended Safety Treatments section of this memo.

Whole Extent: South Yakima Ave from South of S 8th St to S 25th St

- Upgrade old storm inlet grates to vaned grates.
- Bus stops could use trash cans and seating and shelters.
- There are a lot of wide planting strips, which is rare. Definitely an opportunity for true canopy trees along the corridor.
- Access management and driveway consolidation needed; Design manual is getting updated but already has some guidance on driveways off alleys.
- Intersection visibility improvements needed at all unsignalized locations.
- Look at streetlighting along the corridor; Ensure proper spacing between trees and lights. Consider dark skies lighting.
 - Trim/remove street trees to allow streetlighting to reach the ground.
- Trees along the corridor need limbed up (8' sidewalk side, 14' street side)
- Boulders are not a great landscape experience.
- Consider curb extensions to accommodate in-lane bus stops.
- There are a lot of lifted and cracked sidewalk panels along this whole corridor, due to tree roots.



Project team gathered at the beginning of the walk audit on S 8th St

Northern Extent: South Yakima Ave from S 8th St to S 14th St

At the intersection of South Yakima Ave and S 8th St

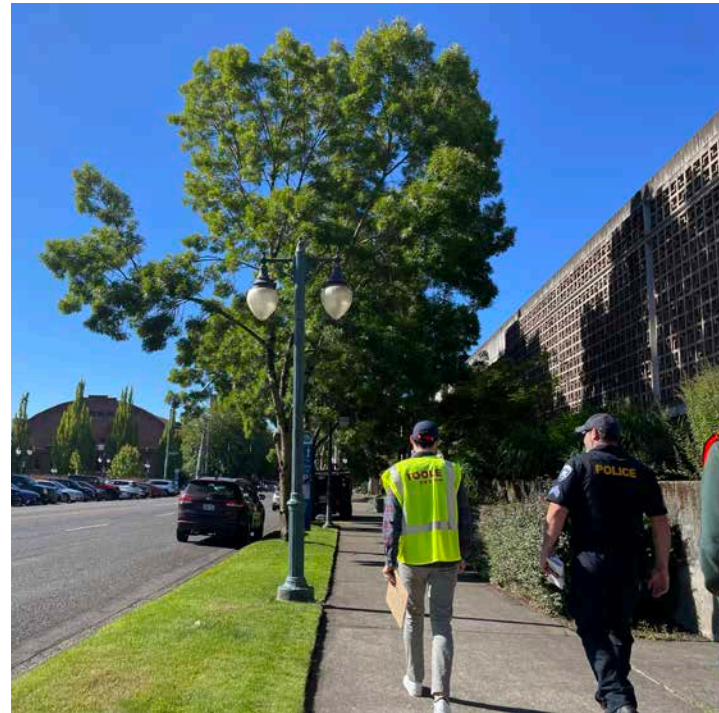
- Consider connections to 6th Ave bike lane.
- Ramps are compliant per inventory.
- Prevent parking close to intersection with curb extension.
- There are visibility issues north of intersection due to curve and posted speed at intersection.
- There is only one streetlight at the intersection.
- Consider/investigate possible pedestrian crossing enhancement. May need advanced warning.
- Envisioned bike boulevard but needs improved bike/pedestrian crossing.

Along South Yakima Ave between S 8th St and S 9th St

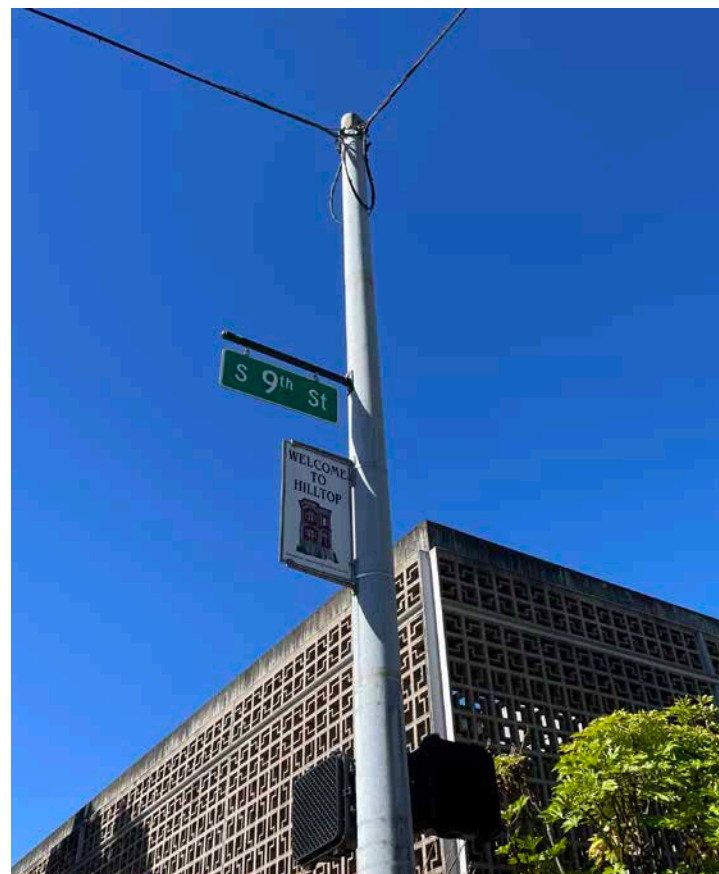
- For future buffered bike lane, will need to either remove lane of parking or forego center turn lane.
- Consider road diet with center turn lane or raised median (4→3 lanes).

At the intersection of South Yakima Ave and S 9th St

- To address all signal comments, signal system would need to be completely reconstructed.
Signal comments:
 - No left-turn phasing.
 - No detection.
 - No pedestrian countdown heads.
 - No accessible pedestrian signals.
 - Fixed signal timing.
 - No conduits.
 - 12,8,8 signal heads.
- Southwest corner is ADA compliant, other corners are not complaint.
- Install streetlight with any signal upgrades.
- Consider curb extension into Yakima to provide better pedestrian visibility.



Pedestrian scale lighting between S 9th St and S 10th St



"Welcome to Hilltop" sign at S Yakima Ave and S 9th St

Along South Yakima Ave between S 9th St and S 10th St

- There's lots of pedestrian scale lighting; Pedestrian lights on the east side are paid for by Pierce County Jail project and pedestrian lights on west side were paid for by MLK business district.
- Consider additional juror wayfinding.
- Except for lighting near tree, the spacing (tree, sidewalk, light, etc.) is good here.
- Opportunity to rethink curb lane on east side (currently back-in parking) to a style of parking to better suit the street volume/speed such as parallel parking. Could put protected bike lane next to sidewalk and have parking on-street.
- Vista toward Rainier. Potential for a bit of place-making. Lunch spot for jurors, etc.

At the intersection of South Yakima Ave and S 10th St

- Curb ramps need to be updated.
- Bus stop (on the north side heading southbound) has no landing pad, seat or shelter. Needs upgrades and evaluate moving to far side.
- Non-compliant existing curb ramps. Warning surfaces needed for driveway crossing dependent on ADT.
- Signal comments:
 - No accessible pedestrian signals.
 - No detection.
 - 12,8,8 signal heads.
 - Appears to have countdown ped heads, but some are not operational.
 - Fixed signal timing.

Along South Yakima Ave between S 10th St and S 11th St

- There is a privately owned parking lot on Southwest corner near S 11th St and there are no permits/pre-apps found for this parcel.

At the intersection of South Yakima Ave and S 11th St

- Opportunity to celebrate Armory/arts/ Bates with intersection/ street murals.
- Westbound bus had to make an awkward stop at an angle very close to intersection.
- Compliant ramp slopes per curb ramp inventory.
- Planned protected bike lanes on S 11th St.
- Extend curb extensions on south side to increase pedestrian visibility.
- Pleasant corner. There are some shops across the street here. Potential for activation/urban furniture/shops.
- To address all signal comments, signal system would need to be completely reconstructed.
Signal comments:
 - No accessible pedestrian signals.
 - No detection.
 - 12,8,8 signal heads.
 - Appears to have countdown pedestrian heads, but some are not operational.
 - No conduits.
 - No left-turn phasing
 - Signal pole on the southwest corner is close to the building and building canopy is built around the pole.
- Provide curb extension with accessible bus pad.

Along South Yakima Ave between S 11th St and Earnest S Brazill St

- Preserve street parking for the small commercial cluster and add ADA parking stall per PROWAG requirements.
- Sidewalk is narrower here.
- Parking lot owned by Bates college on South corner near Earnest S Brazill St.
- The driveway here is likely not used for vehicles. Doorway labeled "Service." Could be for garbage. Should confirm with Bates purpose/use.

At the intersection of South Yakima Ave and Earnest S Brazill St

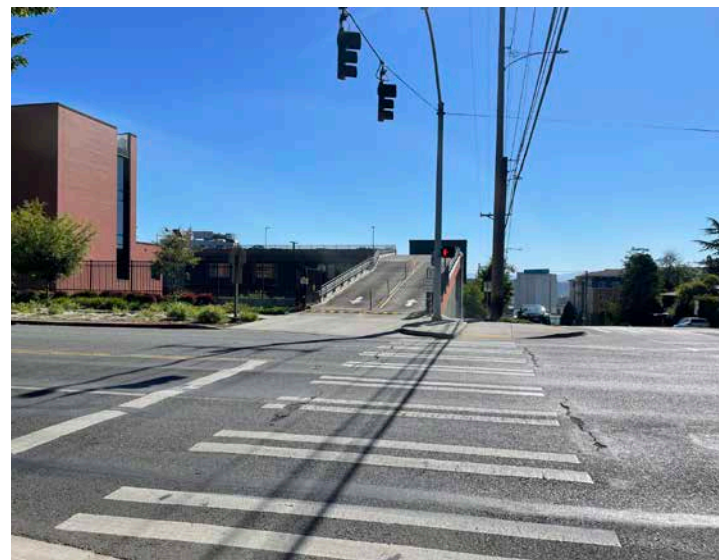
- Buses turning from Earnest to head south on Yakima can have issues when cars are parked too close to intersection on west side of Yakima.
- North side crossing was required as a part of the new building and replacement of the south was due to new sidewalk.
- Bates College did not update curb ramps on southwest side. ADA ramps not compliant on west side for N/S and the receiving ramp on the south.
- To address all signal comments, signal system would need to be completely reconstructed.

Signal comments:

- No accessible pedestrian signals.
- No detection.
- 12,8,8 signal heads.
- No countdown pedestrian heads.
- No conduits.
- Only 2 streetlights.
- Appears to be some ADA compliant ramps.



Beautiful vista toward Mt. Rainier near Bates College.



Right-out only driveway very close to S 13th St intersection



Tire marks from donuts at S 13th St intersection

Along South Yakima Ave between Earnest S Brazill St and S 13th St

- Vista toward Rainier. Potential for a bit of placemaking.
- Driveway very close to intersection. Right out only.
- Narrower sidewalk here.

At the intersection of South Yakima Ave and S 13th St

- S 13th St sign missing on north side of intersection.
- Tire marks from donuts.
- No curb ramp inventory data for southwest and southeast corners. Address tripping hazard at southwest corner. Install bulbouts for pedestrian visibility.
- Very awkward curb, planter strip, sidewalk setup on SW corner of S 13th St.
- To address all signal comments, signal system would need to be completely reconstructed.

Signal comments:

- No accessible pedestrian signals.
- No detection.
- 12,8,8 signal heads.
- Existing countdown pedestrian heads.
- Appears to be some ADA compliant ramps.
- Minimal conduits.

Along South Yakima Ave between S 13th St and S 14th St

- Bus stop 3278 (southwest corner of S 13th St) has lifted panels at the rear pads where they meet the sidewalk.
- Limb up tree for visibility.

At the intersection of South Yakima Ave and S 14th St

- No ADA receiving ramp on northwest side.
- Northeast ramp is non-compliant, missing receiving ramp on northwest corner.
- Because of high pedestrian use, could use more trash cans, benches, etc.
- High pedestrian volume. Should restrict lefts out of driveway or make it right-in right-out only.
- Driveway functions like intersection due to vehicle volume; driveway could be right-in right-out.
- Prefers real signal and/or other improvements instead of rectangular rapid flashing beacons (RRFB). Drivers often ignore RRFBs and give false sense of safety.
- Based on Yakima traffic volumes, an RRFB is not appropriate. Consider HAWK or pedestrian signal (preferred recommendation).
- Use best practice and accompany RRFB with a pedestrian refuge.
- Unclear if ramps ADA compliant.
- Need enhanced pedestrian crossing here.
- Detectable warning surfaces for driveway crossing depending on ADT.
- Access management improvements needed here.

Middle Extent: South Yakima Ave from South of S 14th St to S 19th St

Along South Yakima Ave between S 14th St and S 15th St

- No comments.

At the intersection of South Yakima Ave and S 15th St

- Potential bike crossing treatment crossing Yakima.
- No existing crosswalks.
- Existing bike lanes connect from S Cedar St (central Tacoma) to Thea Foss Waterfront.
- Very busy intersection compared to most. Traffic from I-705 uses S 15th St.
- S 15th St and S 16th St bicycle routes often used for east-to-west connection and access to downtown.
- Signal comments:
 - No accessible pedestrian signals.
 - No detection.
 - 12,8,8 signal heads.
 - Existing countdown pedestrian heads.
 - No left-turn phasing.
- Ramps not ADA compliant.
- Only 2 streetlights.
- Vista toward Rainier at southeast corner.

Along South Yakima Ave between S 15th St and S 16th St

- Great landscaping!
- One of the two bus stops with benches (the other is at Bates). Install more near high ridership use such as bus stops near the hospital.
- Remove driveway at bus stop (northbound).
- Bus stop 3281 (southwest corner of S 15th St) needs front and rear pads and shelter pad behind the sidewalk.
- On-street parking is dropped; Parking not utilized from S 15th St to S 19th St.
- Several city-owned properties slated for future development.
- Consider parking on one side so widths work with curb to curb with lane widths: 11' thru lanes, and 8.5' parking.
- Very little visual friction in this area. High speeds are encouraged by sudden lack of parking.
- Where parking is dropped, add edge line on outside lane so lane isn't so wide.
- "Welcome to Hilltop" signing revise to be on cross streets. City would prefer to have those on own poles and not signal poles; Check with community groups if updated design/plan.
- Instead of large boulders, new landscape that looks good visually and also dissuades unintended uses.

At the intersection of South Yakima Ave and S 16th St

- Ramps not ADA compliant.
- Only 1 streetlight.
- Building foundations c. 2006 but no action since (parcel on Northwest corner).



Bus stop at S 15th doesn't have front or rear pads.



Large uncontrolled and unmarked intersection at S 16th St

Along South Yakima Ave between S 16th St and S 17th St

- Large change in grade on both sides of S Yakima Ave.
- Instead of large boulders, new landscape that looks good visually and also dissuades unintended uses.

At the intersection of South Yakima Ave and S 17th St

- Missing north and east side crosswalks.
- Truncated domes installed incorrectly on north-west ramp.
- Only 1 streetlight.
- Appears to be some ADA compliant ramps.
- All curb ramps would require replacement. Consider curb extension into S 17th St

Along South Yakima Ave between S 17th St and S 18th St

- Bus stop 3283 (southwest corner of S 17th St) needs min front and rear pads and perhaps pad for a bench/shelter, if ROW available.
- Large change in grade on both sides of S Yakima Ave.
- Need to assess pedestrian generators and destinations.
- Upgrade bus pads (northbound).
- Concrete interruptions to otherwise continuous (very large) planter strip.
- Big potential for canopy trees here.
- Compliant driveways needed.

At the intersection of South Yakima Ave and S 18th St

- There is a non-compliant mid-block crossing. It should be removed, and pedestrians directed to S 19th St or S 17th St.
- Only 1 streetlight.
- Ramps not ADA compliant and missing ramp on southwest corner.
- Add curb bulbs if possible.

Along South Yakima Ave between S 18th St and S 19th St

- Evaluate maintaining crossings or upgrading with crosswalks.
- Sidewalks near St Joseph Medical Center (hospital) are wider than the standard - more paving than needed for pedestrian volumes.
- If maintaining parking on one side, propose keeping it on east side due to parking garages on west side.
- Residential trash cans are put out here.
- Evaluate waste collection along corridor. Confirm alley vs street pick-up.

At the intersection of South Yakima Ave and S 19th St

- ADA mats were a vanguard “paint on application” and they are worn off. These mats could be replaced with Tuftile screw down ADA mats and avoid the need to reconstruct all 4 corners as a cost saving measure. Alternatively replace the older style ramps with ADA compliant ramps per current standard.
- Bus stop 2587 on northeast corner of S 19th St could use some ADA upgrades and a shelter pad if there is ROW. Very high ridership.
- Appears to be some ADA compliant ramps, but paint on truncated domes and non-directional. Compliant ramp slopes. Multi-directional ramps

may not provide adequate clear area - potentially dangerous for pedestrians.

- Bus stop 2588 on southwest corner of S 19th St needs ADA improvement but I believe there is not enough ROW.
- Donuts in this intersection
- Signal comments:
 - Existing accessible pedestrian signals.
 - Existing 12,12,12 signal heads; Signal upgraded in 2020 by City project.
 - Existing Protected permissive left-turn signal.
 - Existing countdown pedestrian heads.
 - Existing video detection.
- North and southbound bus stops south of S 19th St to be improved by Greater Christ Temple Church Senior Housing (#s 3284 & 3285).
- S 19th St is connection to Interstate 5, so there may be higher volumes. S 21st St is main connection though. Vicki confirmed routing will be updated to S 21st St in the near future.
- Central route to University of Washington Tacoma (UWT) - ongoing UWT Master Plan Update – no bike connection proposed at this time.
- Tree limb on the SE corner tree is very low and should be removed. Visual hinderance.



Bus stop without front or rear pads at S 17th St



People waiting for bus with no bus shelter or benches.

Southern Extent: South Yakima Ave from South of S 19th St to S 25th St

Along South Yakima Ave between S 19th St and S 21st St

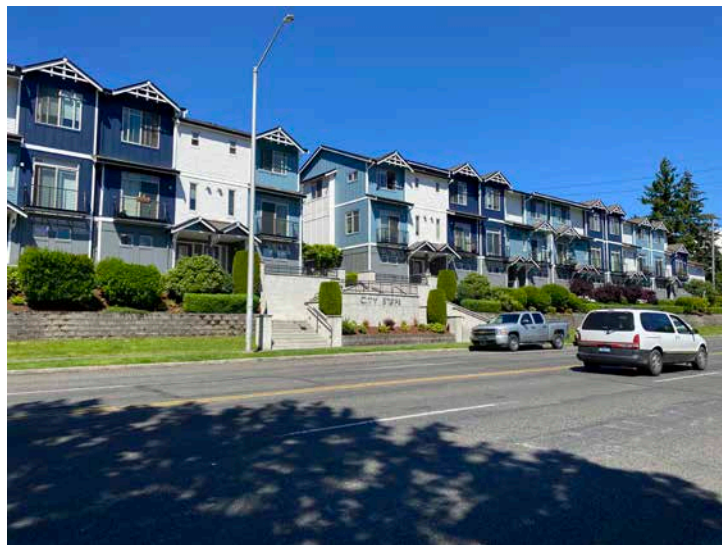
- No sidewalk buffer on east side.
- Pre-app c. 2022 for large multi-family development. No permits.
- Pre-app c. 2023 for large affordable senior housing. No permits.
- Planned redevelopment to include 7' sidewalks.
- Close unused driveways and add new landscaping for better aesthetics and also prevents unintended uses.

At the intersection of South Yakima Ave and S 21st St

- Safe routes to schools needed; there are no bike planned facilities on S 21st St; missing sidewalks on cross street east of S Yakima Ave.
- More flexibility on S 21st St on west side of S Yakima Ave - maybe a shared use path on one side between S J St & S Yakima Ave?
- Gravel accumulation at NW corner pedestrian ramp.
- Erosion present on NW corner. Install pedestrian curb at back of walk to prevent accumulation of gravel.
- Appears to be some ADA compliant ramps.
- Only 1 streetlight.
- Very busy intersection. Local I-705 traffic to the west; Planned major driving route to I-705 to the east.
- Unconfirmed traffic study at this intersection.
- Upcoming construction will lead to a sidewalk being built on S 21st St.
- Previous request for signal control.



Dirt and gravel covering sidewalk at northwest corner near S 21st St



Rowhouses between S 21st St and S 23rd St

Along South Yakima Ave between S 21st St and S 23rd St.

- Needs street trees.
- Lack of buffer here on east side.
- When/if developed, only the sidewalk adjacent to the parcel will be improved. Sidewalk near intersections not improved.
- Sidewalk is caving on west side of S Yakima Ave, north of S 23rd St.
- Vista toward Rainier.
- Some expired permits but nothing recent midblock property east side.
- Edna Travis Elementary School and Park on west side of S I St.

At the intersection of South Yakima Ave and S 23rd St

- Increasing housing + no marked crossing for ~1/4 mile. Need for improved crossing here.
- Only 1 streetlight.
- Unclear if ramps ADA compliant.

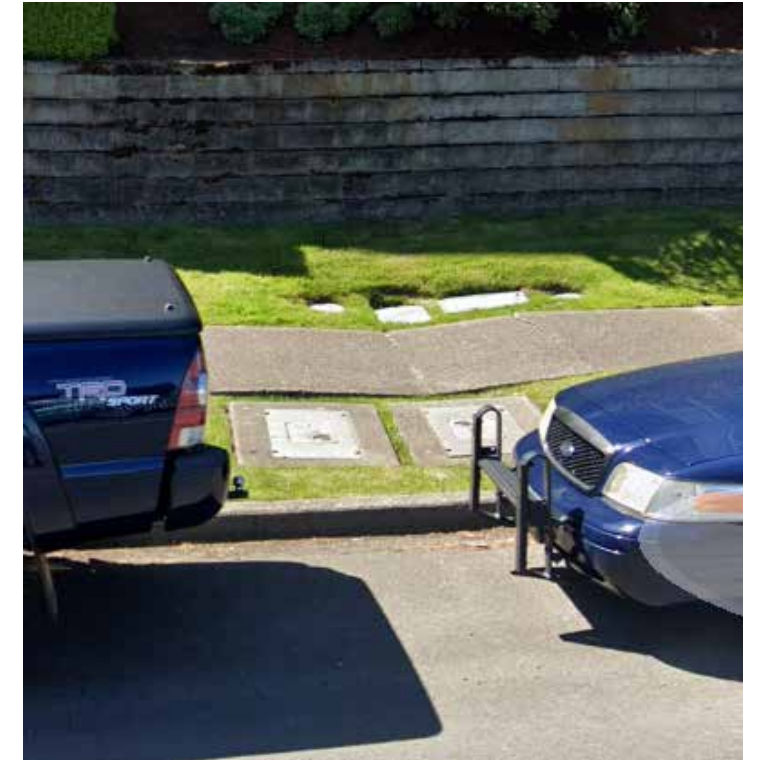
Along South Yakima Ave between S 23rd St and S 25th St

- Recent pre-app for portion of vacant site for 12-unit multi-family oriented to Yakima Court (alley).
- Bus stop 3289 southwest corner of S 23rd St needs ADA improvements. Perhaps oversized pad to accommodate bench/shelter.
- Bus stop 3288 currently on SE corner at S 23rd St, consider moving to the north of S 23rd St.
- No landscape buffer on the east side.
- Comprehensive parking changes. Zoning code is not likely to change, but parking requirements might.
- Some really unfortunate ground level building facades.

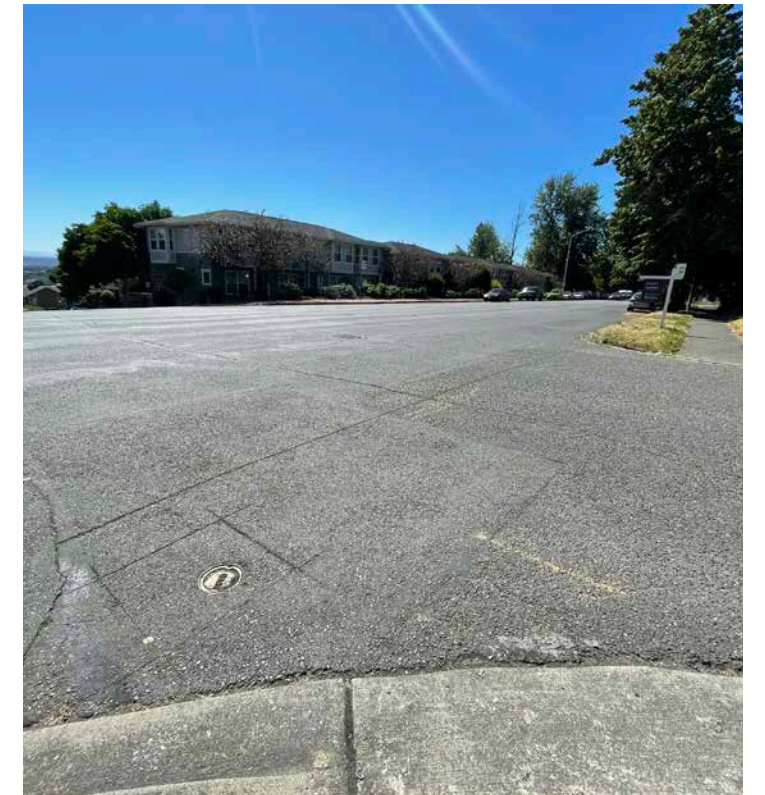
- Large change in grade on both sides of S Yakima Ave.
- Narrow and minimal common entry at S Yakima Ave.
- Drain across sidewalk on west side.
- Parking garage entry even though they have alley access.
- Possible edge line location on west side as well. Perhaps not needed because of recent development, improvements, hydrant, and driveway.
- No parking sign is often stolen; lanes narrow from mid-block on east side to turn lane; parking issues reported by resident.
- Possible edge line location to clarify parking.
- Bus stop 3290 (northeast corner of S 25th St) needs ADA upgrades/bench pad behind the sidewalk.
- Appears that Vue25 has ground floor commercial space that is vacant. Can city economic development programs to help fill?

At the intersection of South Yakima Ave and S 25th St

- Funded cycling connection on S 25th St.
- Signal comments:
 - No existing protected / permissive LT signal phasing.
 - Existing accessible pedestrian signals.
 - Existing 12,12,12 signal heads.
 - Existing countdown pedestrian heads.
 - NW corner is non-compliant. Existing accessible pedestrian signals looks difficult to access. Ramp does not have landing space.
 - Existing video detection but will be upgraded with newer system shortly by a project.



Sidewalk uneven and caving between S 21st St and S 23rd St



Large, unmarked intersection at S 23rd St

Other Projects

The following projects and project descriptions are listed in the City of Tacoma's Capital Projects Tacoma GIS file.⁸

S Yakima Ave (S 12th St - S I St) Overlay (TIP Only)

Work will include a grind and overlay, pedestrian improvements at 3 intersections, and utility work and signal improvements as needed. Curb ramp upgrades will also be included as needed according to the ADA.

South 11th St and Earnest S Brazill St Protected Bike Lane Couplet / Paving Project (TIP & CFP)

Fill a critical missing link in Tacoma's bikeway network along S 11th St and Earnest S Brazill St. The construction of planned bicycle facilities would require narrowing vehicle lanes along South 11th Street and Earnest S Brazill. On South 11th Street from Tacoma Avenue South to South Sprague Avenue, there will be a full grind and overlay. This project also includes intersection upgrades with improvements including bicycle detection, accessible pedestrian signals, and accessible curb ramps.

J Street Bicycle Boulevard (TIP & CFP)

This project will construct a two-mile bicycle boulevard on South J Street from North 3rd Street to South 27th Street, along with improved east/west bicycle connections via 6th Avenue, South 11th Street, Earnest S Brazill Street, South 17th Street,

and South 18th Street. The five east/west connections, ranging from one to three blocks in length, will provide access to Link Light Rail stops and key neighborhood destinations including the Hilltop Business District and People's Community Center.

Links to Opportunity (TIP & CFP)

The project will enhance the corridor along Sound Transit's Hilltop Tacoma LINK extension route to increase accessibility and safety for residents and businesses. The scope of the improvements includes varying sidewalk color and designs, pedestrian lighting, street furniture, wayfinding signage, bicycle facilities, local art, granite inscriptions and poetry, street trees, and landscaping. The project serves one of Tacoma's oldest historically Black neighborhoods and business districts, and the design was informed by nearly two years of grassroots outreach to the Hilltop community. Downtown: On the Go!, Hilltop Action Coalition, and Tacoma Housing Authority all assisted in the outreach effort. The final design is informed and defined by the community that it will serve and will honor the history of the corridor.

S 25th St Traffic Safety Enhancements (TIP & CFP)

This project is approximately 1.3 miles in length and is located on S 25th Street between the Scott Pierson Trail and Prairie Line Trail. The project includes installing bicycle facilities such as bike lanes, shared lane markings, parking protected bike lanes, bicycle wayfinding signage, green bike lane

pavement markings, bike box, bike detection, and a shared use path. It also includes installing marked crosswalks and curb ramps and implementing leading pedestrian intervals as needed at locations along S 25th Street approximately between the Scott Pierson Trail and Hood Street. Project includes associated ADA and utility work as needed.

Sound Transit has various projects planned in Tacoma. The TCC T Line Extension connects the new St Joseph stop on the T Line to Tacoma Community College.

TCC T Line Extension

The T Line will extend from its 2023 terminus in the Hilltop neighborhood to add six new stations including Tacoma Community College. With the TCC extension, the T Line will grow to 8.4 miles with 18 stations, all connected to regional light rail at Tacoma Dome Station (opening 2039).⁹

⁸ https://data.cityoftacoma.org/datasets/ae4dfd060eff49e7b85789ae02441703_0/explore

⁹ <https://www.soundtransit.org/system-expansion/tcc-tacoma-link-extension>

Recommended Safety Treatments

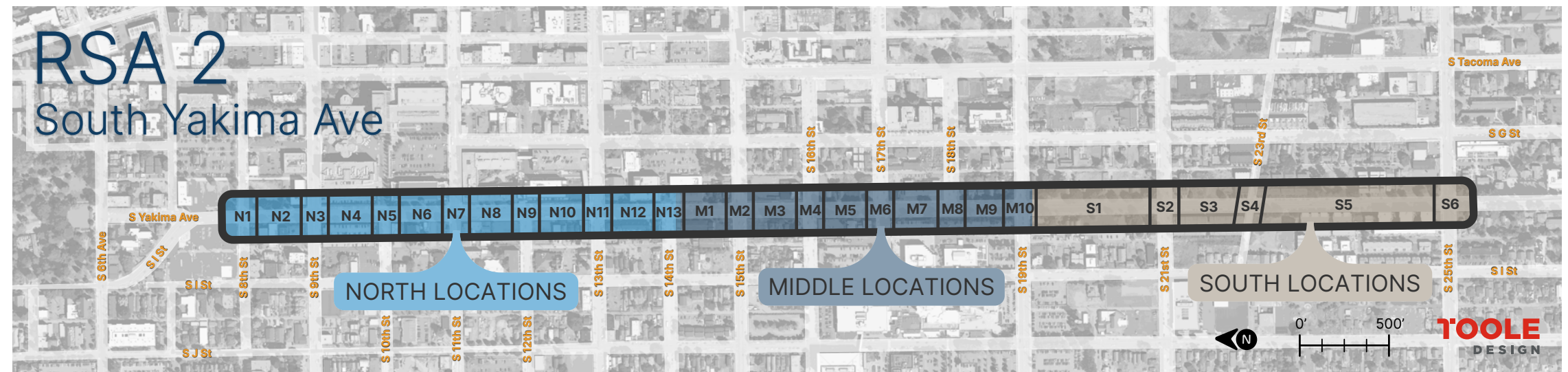
As part of Tacoma’s Vision Zero Action Plan, a list of roadway safety countermeasures was created, with the intent that Tacoma could quickly deploy those countermeasures to advance safety. The list of countermeasures was reviewed by Tacoma staff from various departments to ensure feasibility. This list of countermeasures resulted in the Safety Countermeasure Guide (the “Guide”), which provides instruction on how to use the Safety Countermeasure Toolkit (the “Toolkit”), both developed specifically for the City of Tacoma. The safety countermeasures featured in the Guide are not an extensive list of every available option to improve roadway safety, but rather a tailored list of proven countermeasures that have a demonstrated history of improving safety around context and crash causes that may be most effective in Tacoma. Refer to the full Guide and Toolkit for more comprehensive information, including safety benefits and considerations. While developing the following recommended safety treatments for RSA 2, the consultant team referred to both the Guide and the Toolkit, with the intent of streamlining the implementation of safety improvements along the corridor. Not all recommended safety treatments are in the Guide and Toolkit, but many of them are.

Keys/legends

Estimated Implementation Cost Key	
\$	<= \$75,000
\$\$	\$75,000-\$150,000
\$\$\$	\$150,000-\$300,000
\$\$\$\$	>= \$300,000

Timeframe Key	
Near-term (Near)	<= 2 years
Intermediate (Int.)	2-5 years
Long-term (Long)	>= 5 years

Abbreviations	
ADA	America with Disabilities Act
APS	Accessible Pedestrian Signals
CMF	Crash Modification Factor
LPI	Leading Pedestrian Intervals
RRFB	Rectangular Rapid Flashing Beacon



Corridor-Wide: South Yakima Ave from S 8th St to S 25th St

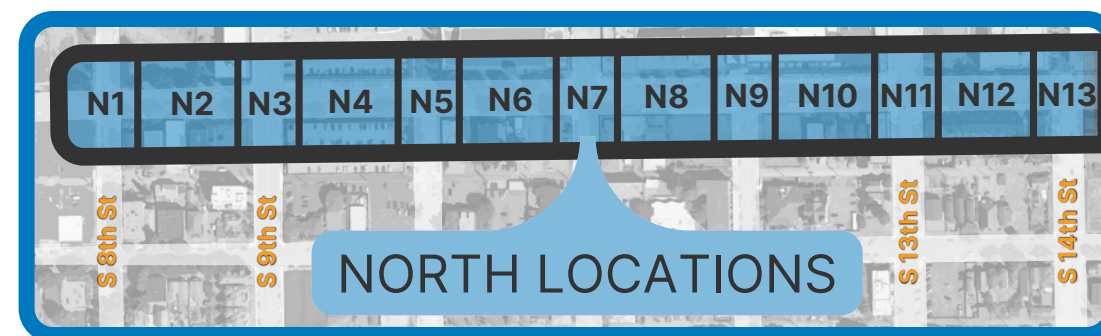
LOCATION CODE	POTENTIAL IMPROVEMENTS FOR CONSIDERATION	TIMEFRAME			COST	CMF*	LEAD
		NEAR	INT.	LONG			
South Yakima Street between S 8 th St and S 25 th St	Update all existing signals to use 12" signal heads with reflective backplates. Evaluate whether the signal span needs to be replaced as part of this upgrade.	✓			\$\$- \$\$\$\$	0.85	CoT
	Evaluate all street lighting	✓			\$\$	-	CoT
	Evaluate 4 to 3 lane reconfiguration		✓		\$\$\$	0.53	CoT
	Install pedestrian scale lighting			✓	\$\$\$\$	-	CoT
	Limb up all trees within the ROW to 8' on sidewalk side and 14' on street side	✓			\$	-	CoT
	Resurface roadway and refresh/replace thermoplastic pavement markings after evaluating 4 to 3 lane reconfiguration		✓		\$	0.887	CoT
	Install edgeline between outside travel lane and parking lane, or where parking is dropped, between the outside travel lane and shoulder	✓			\$	-	CoT
	Widen sidewalks to 7' per COT standards for arterial roads, unless otherwise specified			✓	\$\$\$\$	-	CoT
	Upgrade existing storm inlet grates with parallel openings to new standard inlet grates or replace the whole structure		✓		-\$-\$-\$	-	CoT

*Crash Modification Factor from CMF Clearinghouse. CMF is approximate for the general countermeasure. A specific CMF should be determined for each unique scenario. For selection of specific CMFs for specific locations in Tacoma, explore the CMF clearing house and apply all relevant factors. All CMFs reported are taken from Tacoma’s Countermeasure Toolkit or FHWA’s list of Proven Safety Countermeasures and should be used as a general reference.

Northern Extent: S Yakima Ave from S 8th St to S 14th St

LOCATION CODE	POTENTIAL IMPROVEMENTS FOR CONSIDERATION	TIMEFRAME			COST	CMF*	LEAD
		NEAR	INT.	LONG			
Intersection: S 8 th St	N1 Evaluate all-way stop warrants to replace two-way stop with all-way stop when bicycle facility on S 8 th St is constructed. Install advance warning signs north of this intersection where the road curves and sightlines are limited. Evaluate appropriate crossing device per the City Design Manual, if a 4 to 3 lane reconfiguration is installed corridorwide and if the all-way stop is not installed Install a pedestrian/bicyclist signal at this intersection if the 4 to 3 lane reconfiguration is not installed and if the all-way stop is not installed Evaluate raised median at existing crosswalks	✓			\$	0.319	CoT
			✓		\$\$-\$\$\$\$	0.64 (RRFB)	CoT
				✓	\$\$\$\$	0.432	CoT
				✓	\$\$\$\$	0.54-0.86	CoT
Segment: S 8 th St - S 9 th St	N2 None	-	-	-	-	-	-
Intersection: S 9 th St	N3 Install ADA compliant curb ramps on all corners, except SW corner which is already ADA compliant. Install curb bulb-outs with planters or other vertical elements that work with the existing and planned bicycle infrastructure. Update all existing signals to APS with pedestrian countdown signal heads. Program existing signals to include a leading pedestrian interval (LPI), after APS and ADA compliant curb ramps are in place.		✓		\$\$	-	CoT
				✓	\$\$\$\$	0.81 (LPI)	CoT
Segment: S 9 th St - S 10 th St	N4 Revise angle parking to parallel parking on east side of roadway		✓		\$	-	CoT
Intersection: S 10 th St	N5 Install ADA compliant curb ramps on west side, and install ADA compliant warning surfaces at the driveway on the east side (dependent on ADT). Update all existing signals to APS (with new controller) with pedestrian countdown signal heads. Program existing signals to include a leading pedestrian interval (LPI), after APS and ADA compliant curb ramps are in place. Install standard 12" signal heads with retroreflective backplates.		✓		\$\$\$\$	0.81 (LPI)	CoT
Segment: S 10 th St - S 11 th St	N6 None	-	-	-	-	-	-
Intersection: S 11 th St	N7 Provide accessible bus pad for westbound bus stop on S 11 th St Update all existing signals to APS with pedestrian countdown signal heads. Program existing signals to include a leading pedestrian interval (LPI), after APS and ADA compliant curb ramps are in place. As a near term solution, lengthen no parking zone near westbound bus stop		✓		\$\$	-	Pierce Transit/CoT
			✓		\$\$\$-\$\$\$\$	0.81 (LPI)	CoT
		✓			\$	-	Pierce Transit/CoT
Segment: S 11 th St - Earnest S Brazill St	N8 None	-	-	-	-	-	-
Intersection: Earnest S Brazill St	N9 Install ADA compliant curb ramp on SW corner of intersection and south ramp on the NW corner of intersection. Update all existing signals to APS with pedestrian countdown signal heads. Program existing signals to include a leading pedestrian interval (LPI), after APS and ADA compliant curb ramps are in place. Lengthen no parking zone on SW side of intersection for bus turning movements from Earnest S Brazill St onto S Yakima Ave			✓	\$\$\$\$	0.81 (LPI)	CoT
		✓			\$	-	CoT
Segment: Earnest S Brazill St - S 13 th St	N10 None	-	-	-	-	-	-
Intersection: S 13 th St	N11 Verify whether curb ramps on SW and SE corners are ADA compliant. If ramps are not compliant, install ADA compliant curb ramps. Update all existing signals to APS with pedestrian countdown signal heads. Program existing signals to include a leading pedestrian interval (LPI), after APS and ADA compliant curb ramps are in place. Provide curb bulb-outs on the SW and SE corners, with accessible bus pad for southbound bus stop (3278) Install S 13 th St street sign on the north side of intersection Relocate Hilltop neighborhood sign to cross streets, on a standalone pole (not traffic or streetlight pole)			✓	\$\$\$\$	0.81 (LPI)	CoT
			✓		\$\$\$\$	-	Pierce Transit/CoT
		✓			\$	-	CoT
		✓			\$	-	CoT/community partners
Segment: S 13 th St - S 14 th St	N12 None	-	-	-	-	-	-
Intersection: S 14 th St	N13 Install trash cans, benches, and other pedestrian amenities due to high pedestrian generating land uses at this intersection (food bank, family center, foster care center, housing, and clinic) Evaluate appropriate crossing device per City Design Manual Install ADA compliant curb ramps on the north side of the intersection. Install detectable warning surfaces for driveway on east side of intersection (dependent on ADT). Revise access to driveway to right-in-right-out. Consider installing a median or slope-mountable curb along centerline of roadway to eliminate left turns.	✓			\$-\$\$	-	CoT
			✓		\$\$-\$\$\$\$	0.64 (RRFB) 0.432 (ped signal)	CoT
			✓		\$\$\$	-	CoT
		✓			\$\$-\$\$\$\$	-	CoT

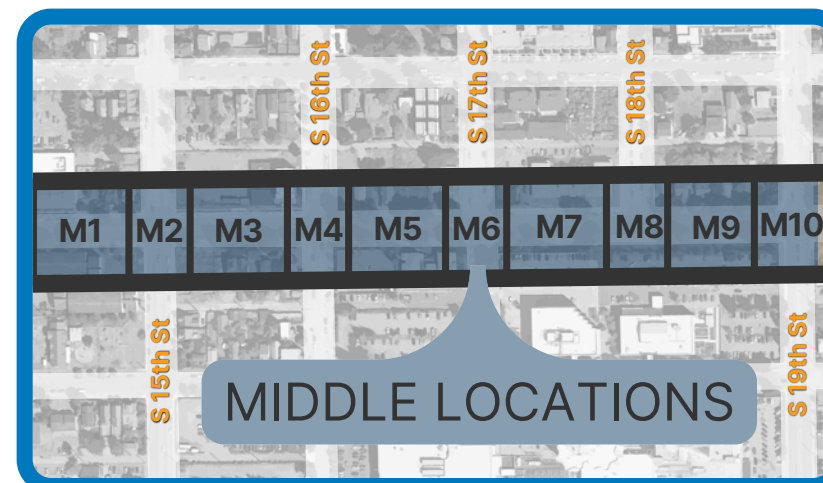
*Crash Modification Factor from CMF Clearinghouse. CMF is approximate for the general countermeasure. A specific CMF should be determined for each unique scenario. For selection of specific CMFs for specific locations in Tacoma, explore the CMF clearing house and apply all relevant factors. All CMFs reported are taken from Tacoma's Countermeasure Toolkit or FHWA's list of Proven Safety Countermeasures and should be used as a general reference.



Middle Extent: S Yakima Ave from South of S 14th St to S 19th St

LOCATION CODE	POTENTIAL IMPROVEMENTS FOR CONSIDERATION	TIMEFRAME			COST	CMF*	LEAD	
		NEAR	INT.	LONG				
Segment: S 14 th St - S 15 th St	M1	None	-	-	-	-	-	
Intersection: S 15 th St	M2	Install high visibility bar pair crosswalk markings with ADA compliant curb ramps on all legs of intersection. Update all existing signals to APS with pedestrian count-down signal heads. Program existing signals to include a leading pedestrian interval (LPI), after APS and ADA compliant curb ramps are in place. Install standard 12" signal heads with retroreflective backplates.		✓		\$\$\$\$	0.6 (xwalk), 0.81 (LPI)	CoT
		Provide curb bulb-outs on all legs, with bus pads, seating, shelter, and shelter pads for both southbound (3281) and northbound (3280) bus stops. Evaluate moving the northbound bus stop to far-side. Curb bulb-outs should be designed to work with the existing bicycle infrastructure along S 15 th St.		✓		\$\$\$\$	-	Pierce Transit/CoT
		Relocate Hilltop neighborhood sign to cross streets, on a standalone pole (not traffic or streetlight pole)	✓			\$	-	CoT/community partners
Segment: S 15 th St - S 16 th St	M3	Evaluate parallel parking on east side of road in conjunction with corridorwide lane reconfiguration		✓		\$\$\$	-	CoT
Intersection: S 16 th St	M4	Install ADA compliant curb ramps on all corners		✓		\$\$\$	-	CoT
Segment: S 16 th St - S 17 th St	M5	None	-	-	-	-	-	
Intersection: S 17 th St	M6	Install high visibility bar pair crosswalk markings on north and east legs of intersection	✓			\$	0.6	CoT
		Evaluate appropriate crossing device per City Design Manual		✓		\$\$-\$\$\$\$	0.64 (RRFB) 0.432 (ped signal)	CoT
		Install ADA compliant curb ramps on all corners		✓		\$\$\$	-	CoT
		Provide curb bulb-outs on all corners, with accessible bus pad for southbound (3283) and northbound (3282) bus stops. Evaluate moving the northbound bus stop to far-side.			✓	\$\$\$\$	-	Pierce Transit/CoT
Segment: S 17 th St - S 18 th St	M7	Plant additional street trees in landscape strip on east and west side		✓		\$\$\$	-	CoT/property owners
Intersection: S 18 th St	M8	Install ADA compliant curb ramps on NE, NW, and SE corners. Replace non-ADA compliant receiving ramp on NW side of intersection. Install ADA compliant receiving ramp on SW corner.		✓		\$\$\$	-	CoT
		Install high visibility bar pair crosswalk markings on east leg of intersection	✓			\$	0.6	CoT
Segment: S 18 th St - S 19 th St	M9	Evaluate parallel parking on east side of road in conjunction with corridorwide lane reconfiguration	✓			\$	-	CoT
Intersection: S 19 th St	M10	Upgrade eastbound bus stop (2588) on SW corner with ADA compliant bus pads. Evaluate moving the eastbound bus stop to far-side.		✓		\$\$\$\$	-	Pierce Transit/CoT
		Evaluate moving the northbound bus stop to far-side.		✓		\$	-	Pierce Transit/CoT
		Upgrade westbound bus stop (2587) on NE corner with ADA compliant bus pads, shelter, and shelter pad. Evaluate moving the westbound bus stop to far-side.		✓		\$\$\$	-	Pierce Transit/CoT
		Replace "paint-on" application ADA mats with "Tuftile screw down" ADA mats on all corners. Otherwise, curb ramps are ADA compliant. Program existing signals to include a leading pedestrian interval (LPI), after ADA compliant curb ramps are in place.		✓		\$	0.81 (LPI)	CoT

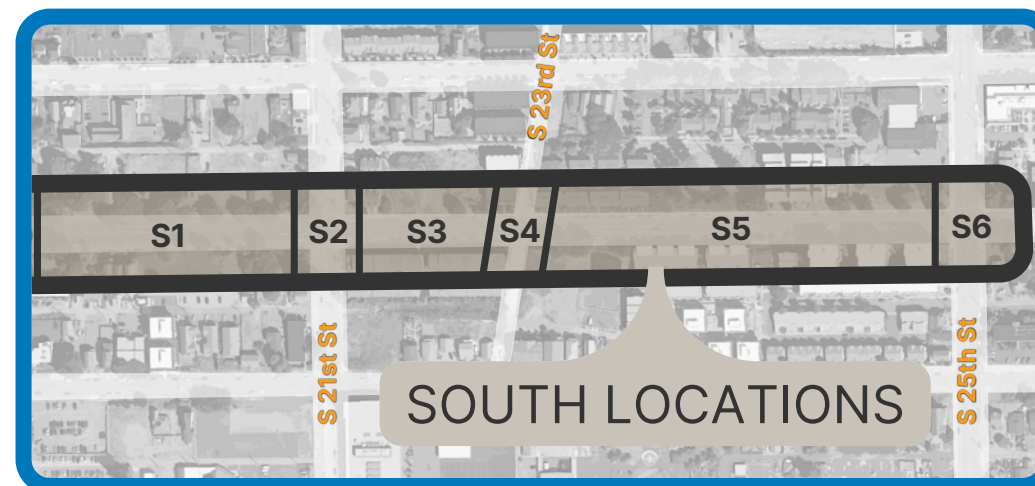
*Crash Modification Factor from CMF Clearinghouse. CMF is approximate for the general countermeasure. A specific CMF should be determined for each unique scenario. For selection of specific CMFs for specific locations in Tacoma, explore the CMF clearing house and apply all relevant factors. All CMFs reported are taken from Tacoma's Countermeasure Toolkit or FHWA's list of Proven Safety Countermeasures and should be used as a general reference.



Southern Extent: S Yakima Ave from South of S 19th St to S 25th St

LOCATION CODE	POTENTIAL IMPROVEMENTS FOR CONSIDERATION	TIMEFRAME			COST	CMF*	LEAD
		NEAR	INT.	LONG			
Segment: S 19 th St - S 21 st St	S1 Evaluate parallel parking on east side of road in conjunction with corridorwide lane reconfiguration		✓		\$\$\$	-	CoT
Intersection: S 21 st St	Install erosion control features at back of walk on NW corner (i.e., raised curb) and clear sidewalk of dirt/gravel build up	✓			\$\$	-	CoT
	S2 Evaluate appropriate crossing device per City Design Manual, in coordination with the I-705 route upgrade		✓		\$\$-\$\$\$\$	0.64 (RRFB) 0.432 (ped signal)	CoT
Segment: S 21 st St - S 23 rd St	S3 Plant street trees in landscape strip on west side		✓		\$\$\$	-	CoT
	Repair sidewalk base destabilized at water services west side of road approx. 50 feet north of S 23 rd St		✓		\$-\$\$\$\$	-	CoT/utilities
Intersection: S 23 rd St	Install ADA compliant curb ramps on all corners		✓		\$\$\$	-	CoT
	S4 Evaluate appropriate crossing device per City Design Manual		✓		\$\$-\$\$\$\$	0.64 (RRFB) 0.432 (ped signal)	CoT
	Upgrade southbound bus stop (3289) to provide ADA accessible bus pads, shelter, and shelter pad		✓		\$\$\$\$	-	Pierce Transit/CoT
	Move northbound bus stop (3288) from near-side to far-side		✓		\$\$\$	-	Pierce Transit/CoT
Segment: S 23 rd St - S 25 th St	S5 Evaluate parallel parking on east side of road in conjunction with corridorwide lane reconfiguration		✓		\$\$\$	-	CoT
	Install more "no parking" signs and/or red curb paint on east side for approx. 300 feet from intersection with S 25 th St	✓			\$	-	CoT
Intersection: S 25 th St	Upgrade northbound bus stop (3290) to provide ADA accessible bus pads, shelter, and shelter pad		✓		\$\$\$\$	-	Pierce Transit/CoT
	Install curb bulb-outs that work with the planned/designed bicycle infrastructure on S 25 th St			✓	\$\$\$\$	-	CoT
	S6 Evaluate and program protected or protected/permissive left turns		✓		\$	0.58-0.85	CoT
	Install ADA compliant curb ramps on the NW corner. Evaluate accessibility of APS push buttons on all corners. Update APS (with new controller). Program existing signals to include a leading pedestrian interval (LPI), after APS and ADA compliant curb ramps are in place.		✓		\$\$\$\$	0.81 (LPI)	CoT

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RSA

3

S Pine St

Study Area

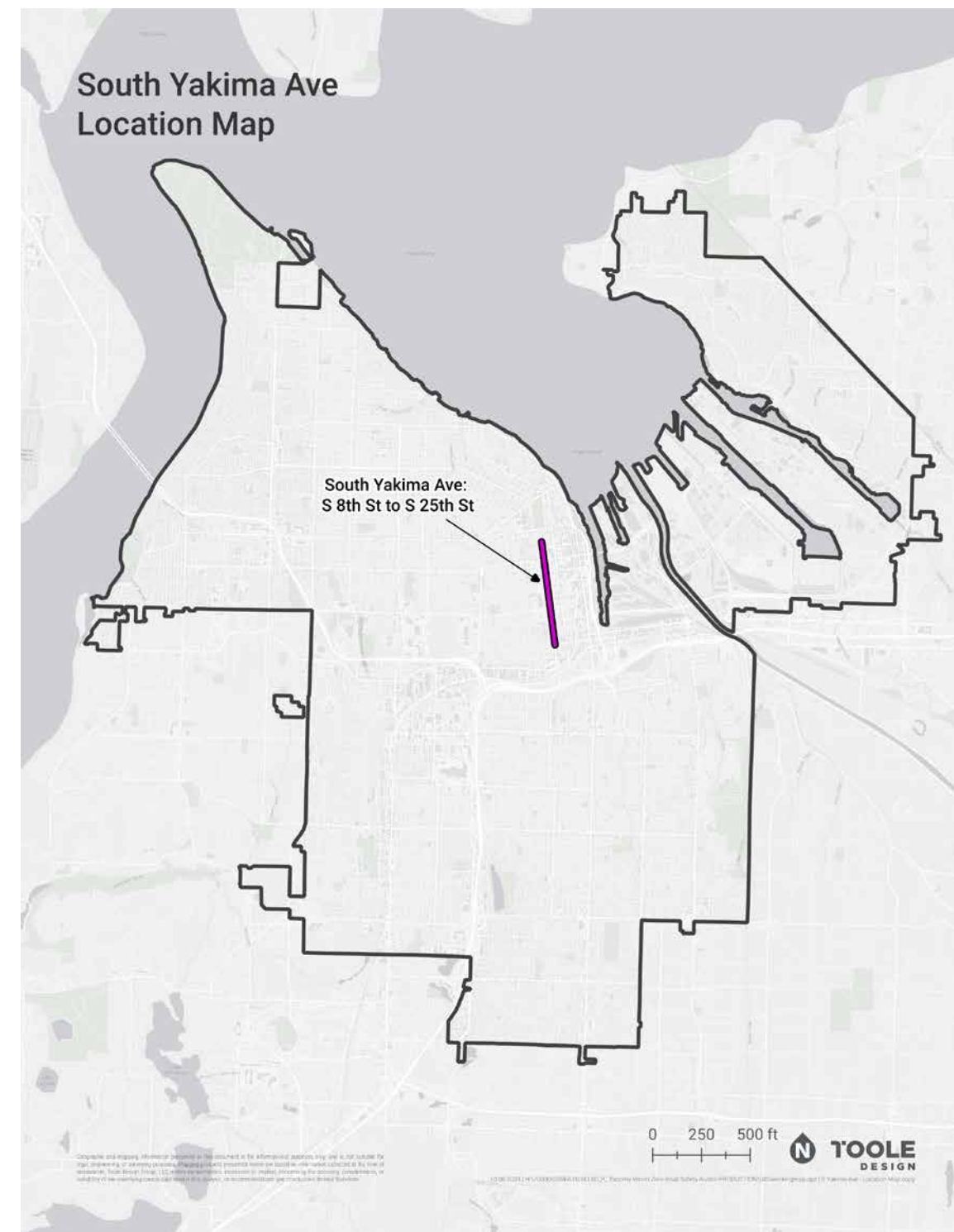
TABLE 9 South Pine St Segment Details

EXTENT	WSDOT FUNCTIONAL CLASSIFICATION	TACOMA ARTERIAL CLASSIFICATION	LENGTH	SPEED LIMIT
Center St to S 38th St	Urban Minor Arterial	Minor Arterial	0.79 miles	35 MPH
S 38th St to S 47th St	Urban Minor Arterial	Minor Arterial	0.52 miles	30 MPH

The study area for RSA 3 is South Pine St between Center St and S 47th St and a short segment of S Oakes St. South Pine St from S Tacoma Way (two blocks south of Center St) to S 47th St was identified in the 2022 Tacoma Vision Zero Local Roads Safety Plan as an Arterial High Risk Network Priority Corridors.¹⁰

Table 9 describes the segments details and Figure 17 displays where the segment is located within the City of Tacoma.

FIGURE 17 South Yakima Ave Location Map



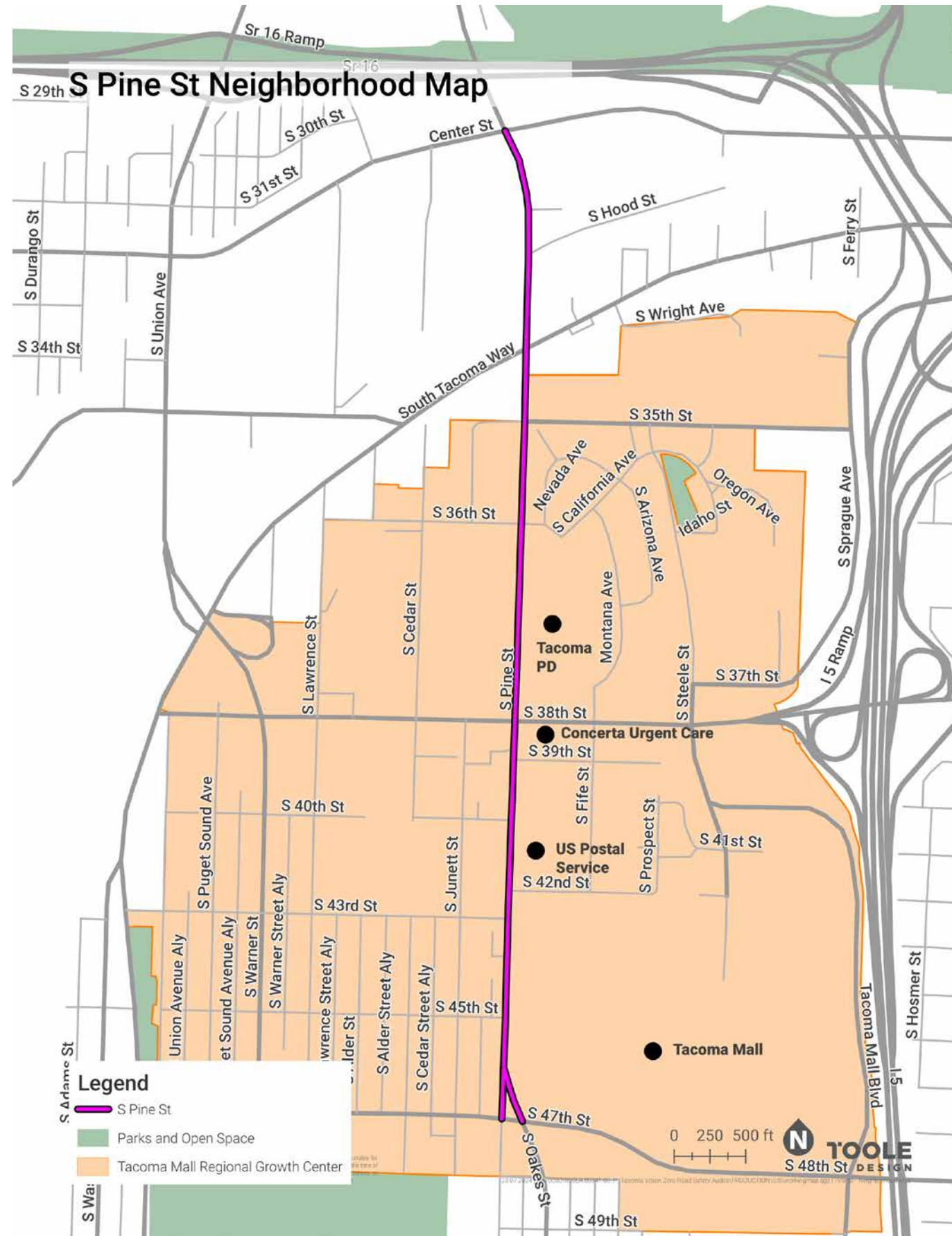
¹⁰ Arterial High Risk Network Priority Corridors were prioritized based on analysis of three primary components: speed differential between posted speed and operating speeds; number of KSI crashes; and sliding window scores. These corridors strongly need roadway safety countermeasures focused on both reducing speed and improving safety.

Neighborhood Profile

South Pine St runs through the center of the Tacoma Mall Regional Growth Center, one of Tacoma's two designated growth centers. This area is planned for urban densities with a mix of uses well connected to transit. Figure 18 displays the boundaries for these zones and includes nearby parks and key locations. The area contains:

- Auto-oriented commercial retail (small & large format retailers, including the Tacoma Mall and strip malls) east of S Pine St and surrounding S 38th St,
- Office, distribution, fleet services, bus center and other commercial uses mixed,
- Industrial in western and northern portions near S Tacoma Way,
- Generally, 2-3 story residential (garden apartments, townhouses, single family), Madison and Lincoln Height Districts, mixed with commercial in Mall District,
- 7-8-story newer residential mixed-use development near the mall (The Pacifica Apartments at S Pine St and S 45th St), and
- S 40th St Community Garden and Lincoln Heights Park are the only parks in the area.

FIGURE 18 South Pine St Neighborhood Map



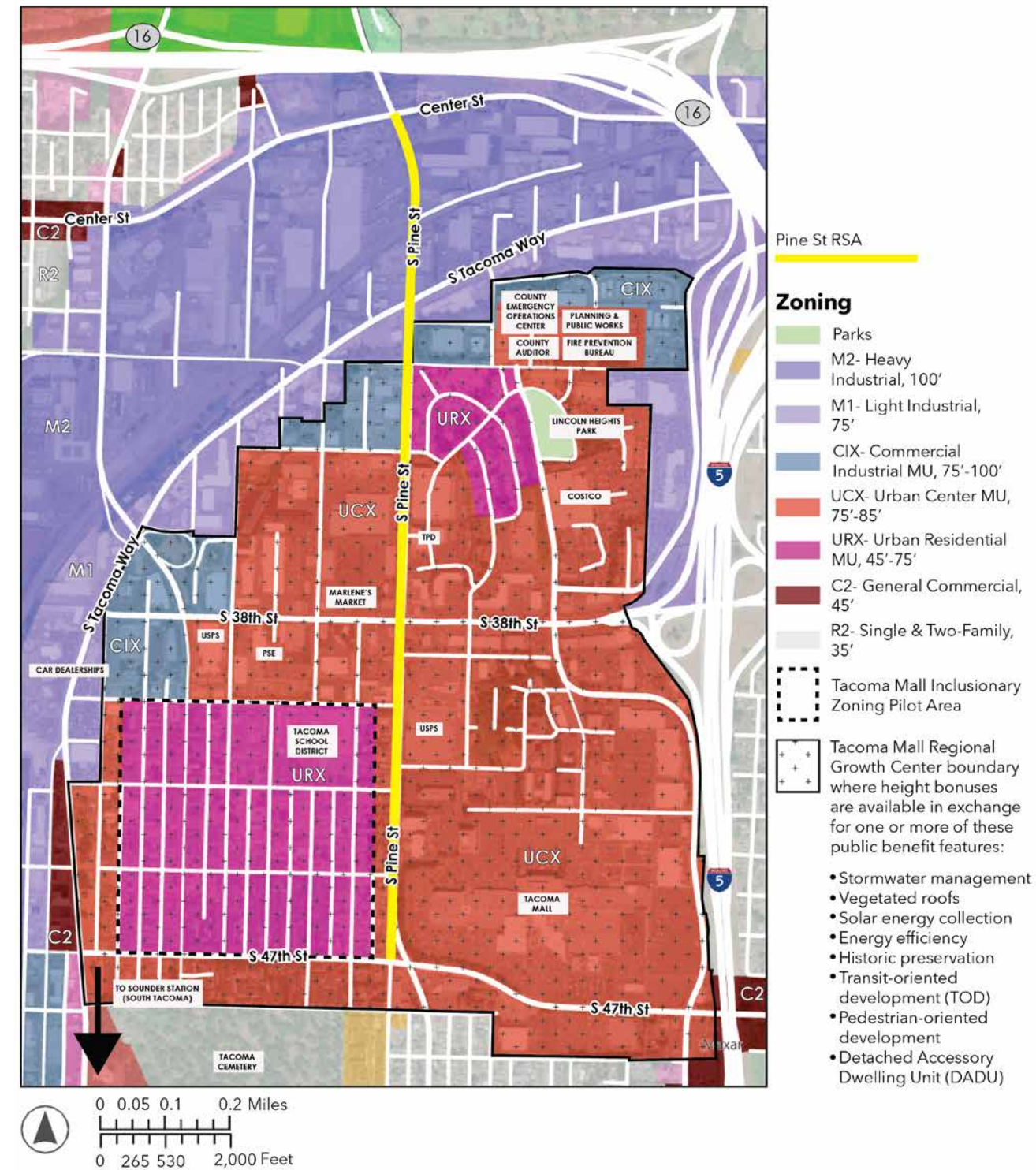
Zoning and Land Use

Figure 19 shows the zoning around S Pine St. This area has an inclusionary zoning requirement adopted with the Tacoma Mall Subarea Plan in 2018.¹¹ Inclusionary zoning requires developers of 15+ units to build 10% of units as affordable for households who earn 50% of the area median income. It also reduces parking requirements from 1 parking stall per unit to 0.5 parking stalls per unit, and no off-street parking is required for each affordable housing unit.¹²

FIGURE 19 South Pine St Zoning Map (Source: MAKERS, 2024)

ZONING

S Pine St from Center St to S 47th St



11 <https://www.cityoftacoma.org/cms/one.aspx?pagelid=67757>

12 Note from MAKERS: Parking requirements may be further reduced through recent state laws for multifamily near frequent transit and Home in Tacoma zoning updates.

Tacoma Mall Neighborhood Subarea Plan

The Tacoma Mall Subarea Plan was adopted in 2018 and seeks to promote a vision for positive growth and change within the Subarea. The Tacoma Mall Neighborhood Subarea Plan's land use and urban form goals include:

- The Tacoma Mall Regional Growth Center increases in density with transit-supportive density and mixed-use development. The development is consistent with growth targets.
 - Projected 8,385 new jobs and 8,887 new residents by 2040 (from 2018).
 - Zoned capacity is much greater than the growth targets, accounting for market forces.
- Improving the public realm by linking land use, transportation, and parks.
- Improving urban design by supporting place-based character districts through design review: Madison, Northwest, Lincoln Heights, and Mall Districts.
- Focusing density around the mall and along S 38th St and S Pine St and transition out to less intense areas through updated zoning.
- Creating a plan for an internal loop road (off major thoroughfares) and a string of connected public spaces.
- Breaking down superblocks via through-block connections (max block size of 600' x 600') with redevelopment and through catalytic public investment.
- Incorporating green infrastructure, signage, public art, etc. for place identity and co-benefits.

The land use strategies in the plan include rezoning, upzoning, and increased transition areas between the commercial and residential are to meet growth targets and improve connectivity as well as design objectives to improve the urban form through street-oriented multifamily design, increased landscaping, and adoption of "Pedestrian Street" designations. Figure 20 shows the Vision Map from the Tacoma Mall Subarea Plan illustrating the overall design, landscaping, and development for the subarea. Future zoning code change considerations will include hybrid form-based neighborhood code, high-capacity transit station overlay district, and updated bonuses to improve connectivity. Key strategies from this plan include:

- Meet growth targets and improve connectivity through redevelopment and prioritize connections based on their ability to support growth, provide alternatives to major arterials, and support use of alternative modes to cars.
- Promote design objectives, develop design review methods, refine design standards towards subarea goals.
- Prioritize pedestrian corridors and connectivity through adoption of "Pedestrian Street" designations, which apply to major streets throughout subarea.
- Increased development incentives.

FIGURE 20 Tacoma Mall Subarea Plan Illustrative Vision Map; yellow indicates the RSA study area, green identifies the internal loop road concept" (Source: Tacoma Mall Subarea Plan, 2018; MAKERS, 2024)

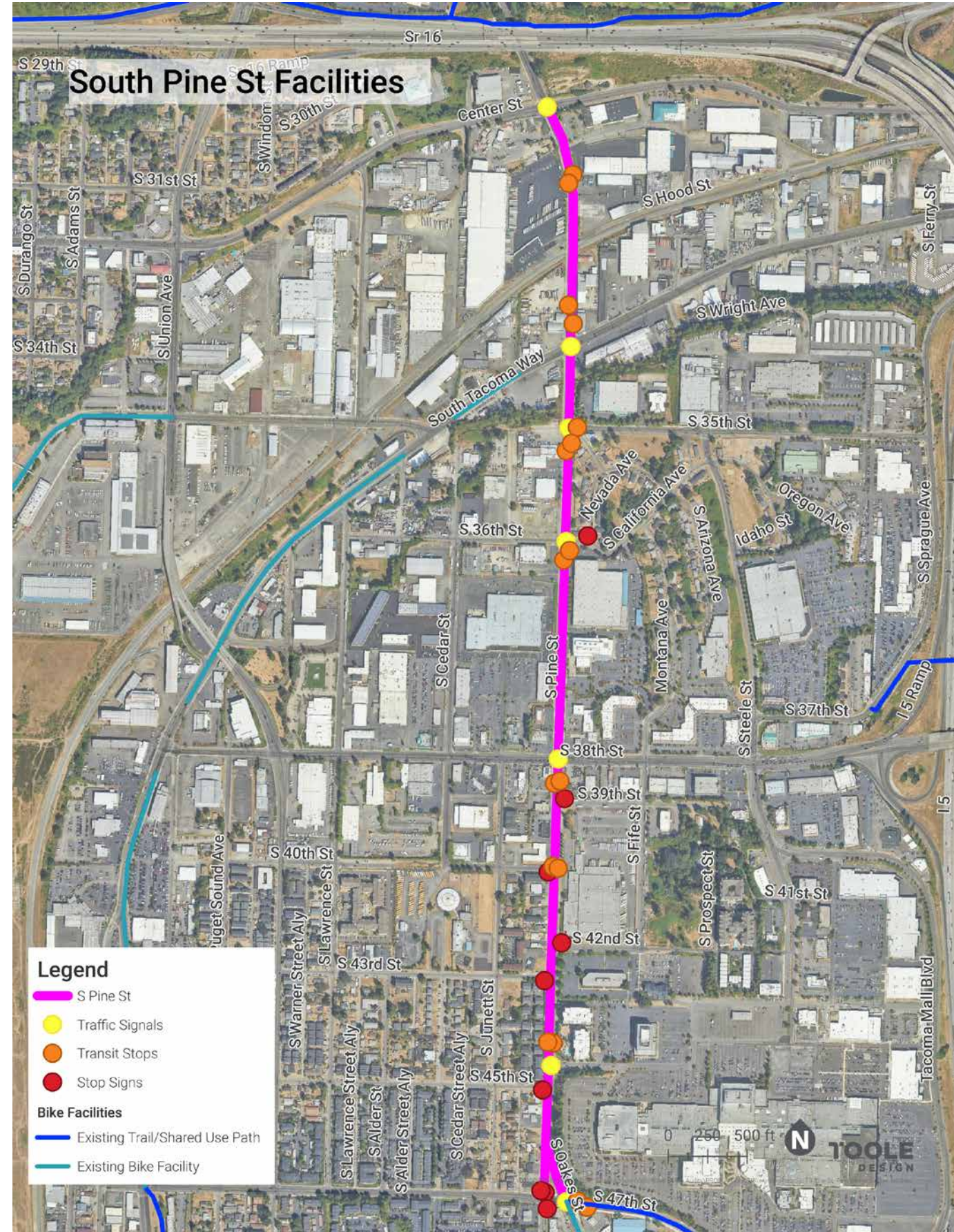
Long Term Illustrative Vision Map



Corridor Facilities

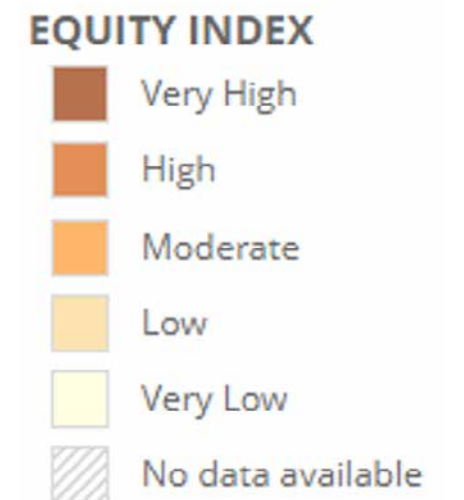
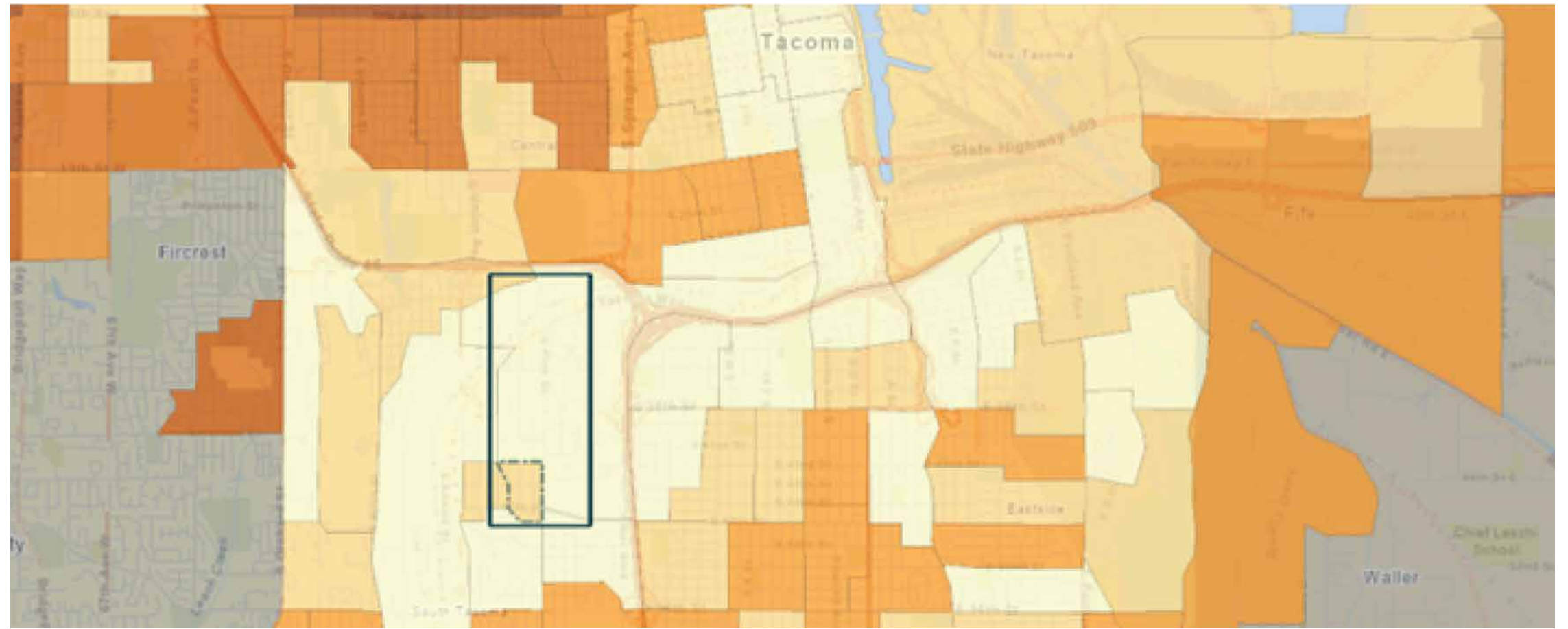
Figure 21 displays facilities along South Pine St. The map includes locations of existing bicycle facilities, traffic signals, stop signs, and bus stops.

FIGURE 21 South Pine St Facilities



City of Tacoma Equity Index Map

The City of Tacoma Equity Index is a tool which highlights areas of Tacoma where residents have the most access to opportunity and where residents are further away from opportunity.¹³ The tool looks at five categories: livability, accessibility, economy, education, and environmental health. Areas that have the most access to opportunities are shaded the darkest or identified as “Very High” Opportunity and areas where residents are furthest from opportunity are shaded the lightest or identified as “Very Low” Opportunity. The following graphics describe the equity and opportunity of residents living near South Pine St and show that the corridor is within “Very Low” to “Low” Opportunity areas.



¹³ City of Tacoma Equity Index, <https://www.cityoftacoma.org/cms/One.aspx?portalId=169&pageId=175030>

Equity Overview



Population
1,527



Individuals with Disabilities
12%

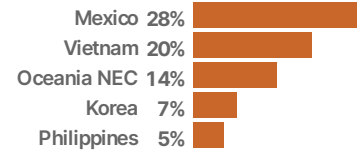


Foreign Born Population
17%

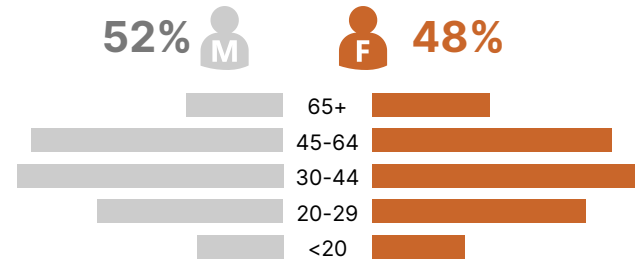


Limited English
2%

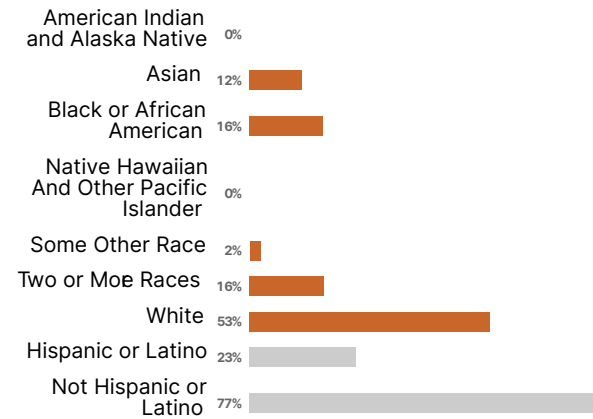
Top Countries of Immigration



Age & Gender



Race & Ethnicity



Economy



200% of Poverty
46%



Employment Rate
99%



Poverty Rate
20%

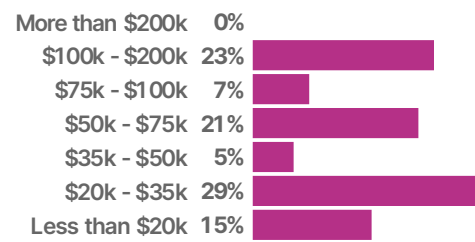


Quality Jobs Index
0.68



Median Household Income
\$47,250

Median Household Income



Livability



Average Life Expectancy
77



Insured Rate
90%



Pedestrian / Bicyclist Crashes
1



6
Personal Crimes
Total in 2022-2023



78
Property Crimes
Total in 2022-2023



Owner Cost Burden
10%



Renter Cost Burden
51%

Median Home Value



Accessibility



Voter Participation Rate
26%



Households with Internet
98%



Sidewalks and Bikeways
0.04



Household Vehicle Access
91%

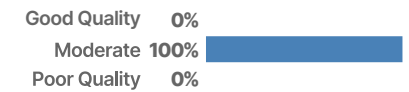


Healthy Food Availability
0.25

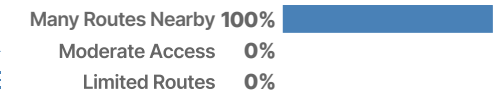
Parks & Open Space



Average Pavement Condition



Transit Access Score



Education



Average Student Mobility
7%



High School Graduation Rate
87%

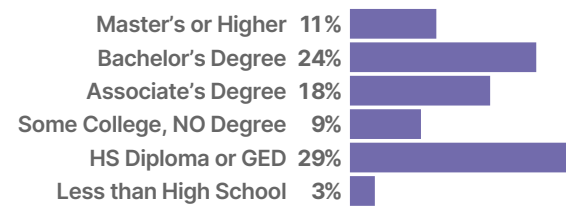


Average Testing Proficiency
25%



Kindergarten Readiness Rate
64%

Highest Educational Attainment



Environmental Health



Ozone Concentration
50 Micrograms/cubic meter



PM 2.5 Concentration
7 Parts/billion



Toxic Risk
793 RSEI calculated score



Diesel Emissions
0.48 Tons/km2/year



Urban Tree Canopy
14%



Urban Heat Island Index
87°



Heavy Traffic Roadways
411 Inverse Distance Weighted Annual Daily Traffic Count

Collision History

The following sections include tables summarizing the killed and serious injury (KSI) crashes from 2017 to 2023 (Tables 10 and 11). Figure 22 displays the crash mode and severity of crashes along the segment from 2017 to 2023. Figure 23 illustrates the crash diagrams. Each crash includes a corresponding number based on crash location from north to south. The corresponding number in the collision diagrams relates to the ID column in Table 11, which includes additional crash details.

TABLE 10 Number of KSI Crashes by Severity in Study Area by Year, 2017-2023

	2017	2018	2019	2020	2021	2022	2023
Serious Injury	1	1	0	0	1	0	1
Fatal	0	0	0	0	0	0	1

FIGURE 22 South Pine St KSI Crashes Map

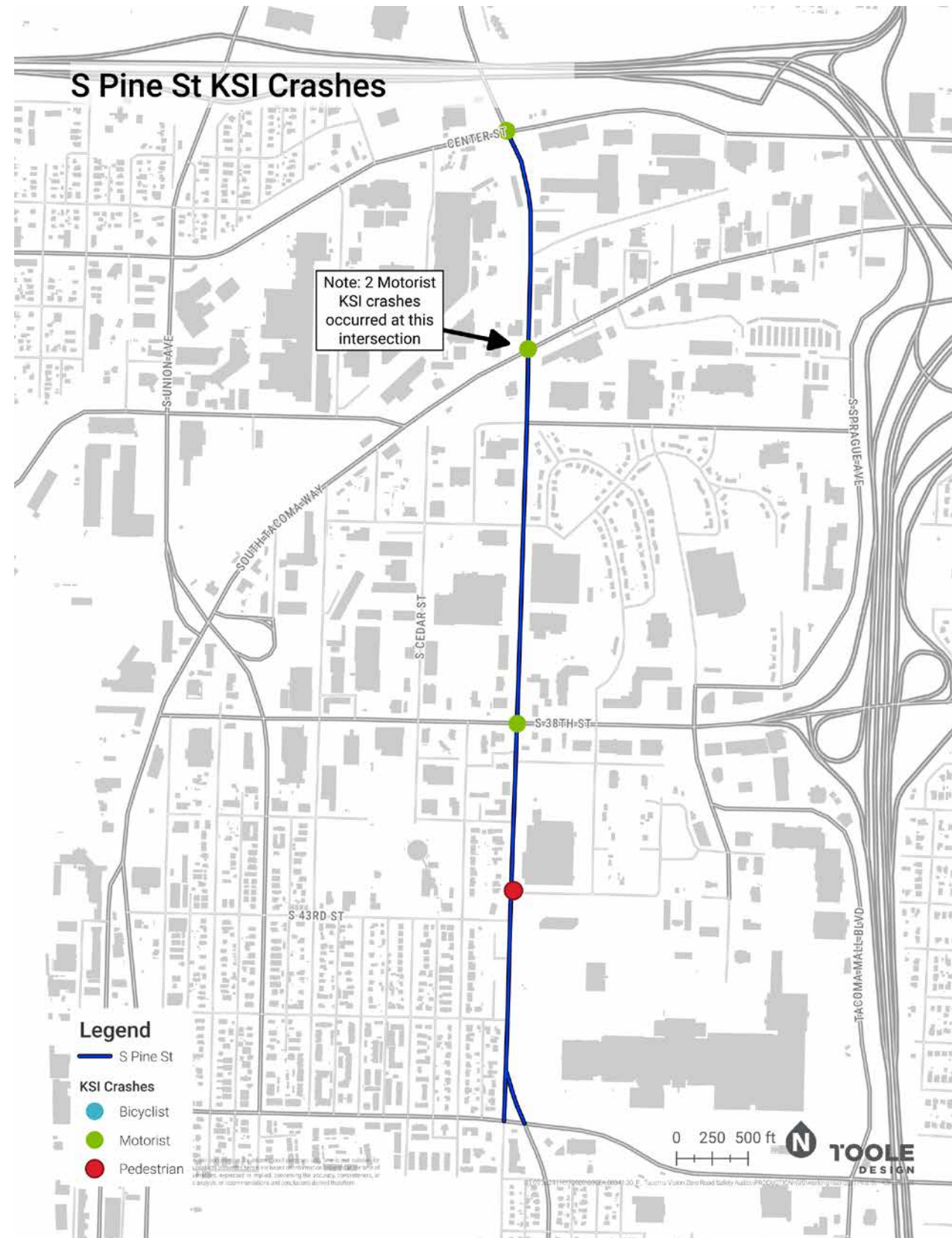
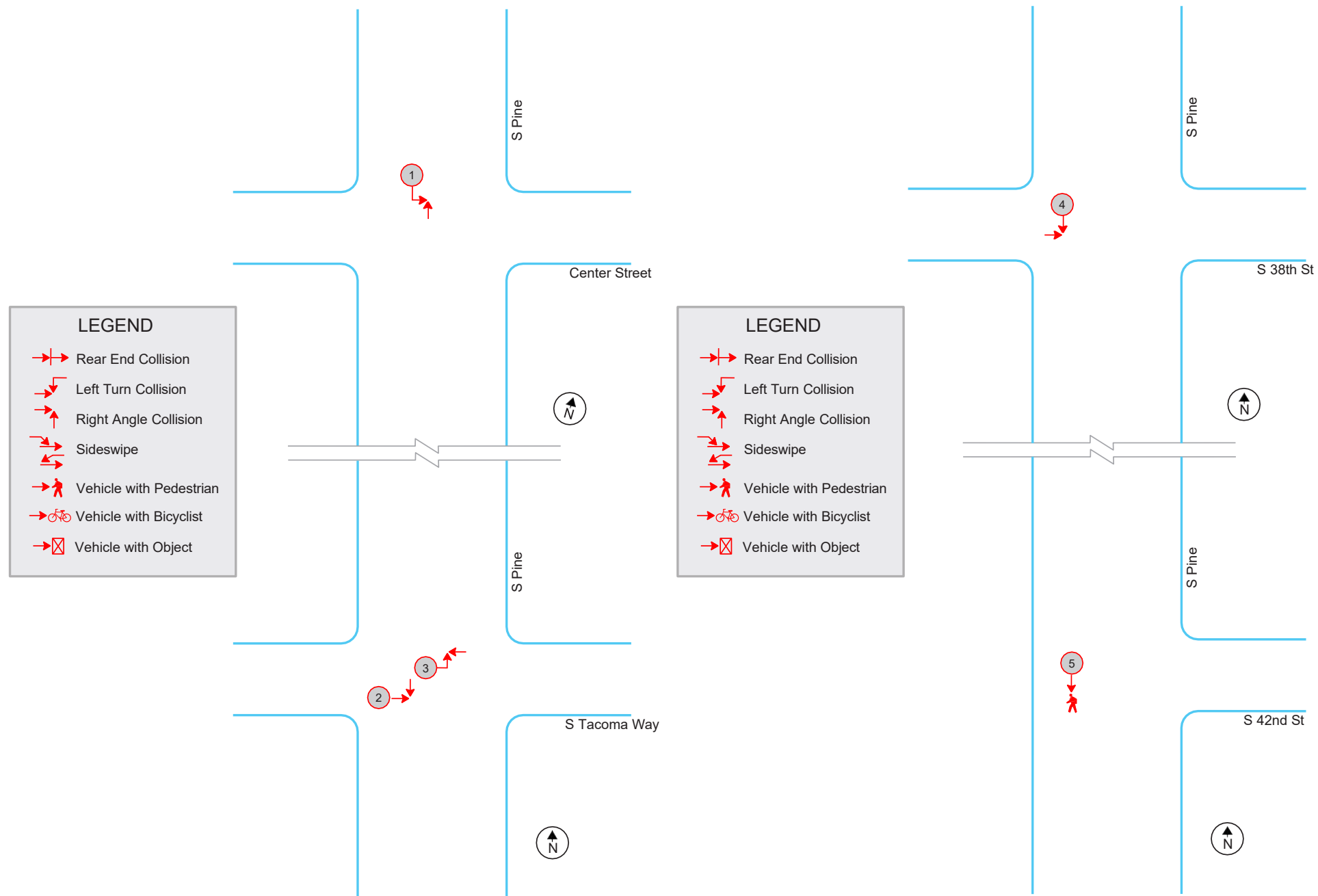


TABLE 11 KSI Crash Details

ID	INJURY SEVERITY	CRASH MODES	CRASH ACTIONS	LOCATION TYPE	INTERSECTION CONTROL	LIGHTING	CONTRIBUTING FACTORS	YEAR	NEAREST CROSS STREET
1	Suspected Serious Injury	Motorist	From opposite direction - one left turn - one straight	Intersection	Traffic Signal	Dark-Street Lights On	--	2017	Center St
2	Suspected Serious Injury	Motorist	Entering at angle	Intersection	Traffic Signal	Dawn	Distracted Driver	2021	S Tacoma Way
3	Fatal Died at Hospital	Motorcyclist	From opposite direction - one left turn - one straight	Intersection	Traffic Signal	Daylight	Distracted Driver	2023	S Tacoma Way
4	Suspected Serious Injury	Motorist	Entering at angle	Intersection	Traffic Signal	Daylight	Distracted Driver	2023	S 38 th St
5	Suspected Serious Injury	Pedestrian	Vehicle going straight hits pedestrian (Not in crosswalk)	Intersection	Partial Stop	Dark-Street Lights On	Distracted Driver	2018	S 42 nd St

South Pine St Collision Diagrams

FIGURE 23 South Pine St Collision Diagrams (Crashes 1-5)



Walking Audit and RSA Workshop

On Wednesday, July 31, 2024, the RSA team, comprised of City of Tacoma staff and the consultant team, participated in a walking audit of South Pine St. The walking audit is a formal safety performance examination of an existing roadway and intersections. The walking audit team thoroughly examines the corridor and estimates and reports on potential road safety issues and identifies opportunities for improvements in safety for all road users.

The walking audit included the following participants:

City of Tacoma

- Brian Churchill
- Grayson Reim
- Vicki Marsten
- Daniel Brewer
- Liz Kaster
- Matt Fleming
- Natalie Dupille
- Brian Wang
- Rebecca Solverson
- Harrison Jastrzembski
- Luke Faulkner
- Stephen Antupit

Pierce Transit

- Anna Peterson
- Tina Vaslet

Toole Design

- Alex DuVall
- Cody Wuestney
- Jaxon Roller
- Maimoona Rahim

MAKERS

- Rachel Miller

DKS Associates

- Sarah Keenan
- Alexander Emmons

On Thursday August 1, 2024, the RSA team held a virtual workshop to discuss the area in more detail. Workshop attendees included most people who attended the walking audit. The RSA team reviewed study area, segment packet provided in advance of the walking audit, and shared findings from the walking audit. The workshop followed this schedule:

TIME	AGENDA
8:30-8:45	Join & Attendance
8:45-9:00	Overview & Practice
9:00-9:10	Countermeasure Toolkit
9:10-10:00	Northern Extent
10:00-10:10	Coffee Break
10:10-11:00	Middle Extent
11:00-11:10	Coffee Break
11:10-12:00	Southern Extent
12:00-12:30	Wrap up and Next Steps

To promote brainstorming, the consultant team used the MIRO digital visual collaboration tool that provided the opportunity for simultaneous written input from all participants. The facilitator led a verbal discussion alongside to supplement the written inputs. Figure 9 shows a screenshot of the MIRO board used during the workshop and Appendix A provides “zoom in” of each of the subareas of the RSA study. Appendix B shows the Conceptual Engineering Design Drawings for the South Tacoma Station Improvements Phase II project, which was included on the MIRO board and in the segment packets, with comments from the RSA team.

FIGURE 24 South Pine St MIRO Board



The quantity of feedback, comments, photos, and safety treatment recommendations provided was much greater than what can be captured in a typical brainstorm setting. The consultant team captured all verbal input shared by attendees to help inform the safety recommendations in the next section.

The following section summarizes the comments and suggestions from the team participating in the walking audit and workshop. These comments and suggestions are opinions shared based on observations during the walk audit and are not based on facts or data. These suggestions were taken into consideration for the development of recommended improvement considerations shown in the Recommended Safety Treatments section of this memo.

Whole Extent: S Pine St from Center St to S 47th St

- Evaluate speed limit with consideration of road diet
- Evaluate traffic calming on streets that cross S Pine St
- Leverage art/visual elements for traffic calming



Walking audit team on S Pine St near S 45th St

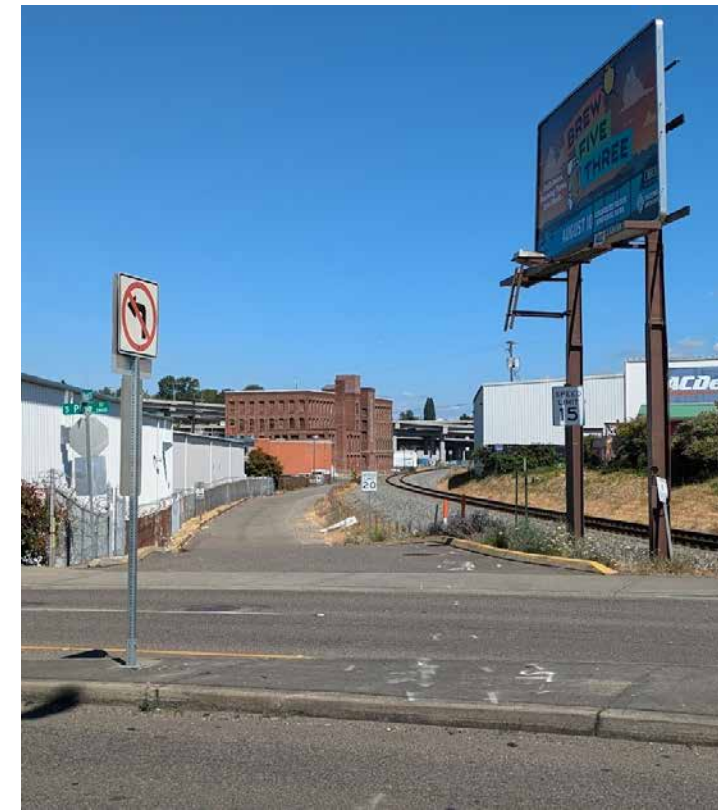
Northern Extent: S Pine St from Center St to North of S 36th St

At the intersection of S Pine St and Center St

- Should add LPI once we have APS.
- Need APS, but Cedar St Active Transportation project will be providing.
- Center St is a planned future bike route.
- Tacoma Fire Department would like to have Emergency Vehicle Preemption on all directions.
- Intersection of two high risk VZ corridors: S Pine St and Center St.

Along S Pine St between Center St and S Hood St

- If the planned buffered bike lane includes concrete barriers, the concrete buffers could be a great spot for art.
- There are a number of options for bike lane barrier types as well (concrete stamps, enameled metal inlays, murals, thermoplastic etc). We could consider adding greenery/pollinator paths. Seattle has planter boxes in these buffers, and we could easily do vinyl on metal planter boxes.
- No sidewalk on east side.
- Ensure larger vehicle turning movements are provided here (dirt/sand filling station) in the conceptual design.
- It is also the place where people can fill sandbags in prep for a storm event. There are large commercial trucks (regular) and smaller vehicles (on occasion) entering and exiting.
- Replace driveway on east side to Dodge warehouse/NW Etch.
- No street trees throughout. Consider trees for median.
- Narrower sidewalk on both sides.
- Steep slope on both sides.



Raised median north of S Hood St



Rail tracks owned by Sound Transit

At the intersection of S Pine St S Hood St

- Consider adding a robust center turn lane median.
- Left turns out of goodwill driveway are restricted, but people were still turning left.
- Someone made a left turn out of Goodwill driveway while we were there yesterday. They drove into the southbound lane to head north and avoid the curb.
- The railroad is owned by Sound Transit.
- The railroad pedestrian crossing does not include gates for pedestrians.
- The pedestrian and bicyclist railroad crossing do not meet current standards.
- Very long term--but this Sound Transit rail corridor seems well set up for a trail, though redundant with Water Flume Trail and S Tacoma Way future bike facilities.

Along S Pine St between S Hood St and S Tacoma Way

- Properties on both side of street (south of railroad) owned by Dixon; there is parking on the west side, and the work site is on the east side. There are lots of workers crossing midblock from the parking lot.
- There is on street parallel parking.
- Is this parking needed? Seemed underutilized - potential option for tree-planting/landscaping.
- Very hot. Lack of shade.

At the intersection of S Pine St and S Tacoma Way

- Tacoma Fire Department would like to have Emergency Vehicle Preemption for all directions.
- Future pedestrian project through intersection for S Tacoma Way.
- No APS.
- Recently installed 12" signal heads with backplates.
- Existing video detection.
- Signal system attached to one of Tacoma Public Utilities pole.
- Need marked crosswalks.
- South Tacoma Way - Need to decide on intersection design for trail or protected bike lane. Dependent on Pierce Transit Bus Rapid Transit (BRT) plans.
- Remove one of the two private driveways serving the 7-11 in the SE corner of the intersection if possible.

Along S Pine St between S Tacoma Way and S 35th St

- Missing sidewalk on east side.
- Sidewalk on east side will be constructed by Water Ditch Trail Ph 3 between intersection to existing sidewalk.
- Possible sight distance issue, due to vertical curve at S 35th St.
- 2018 ADT ~22,000.
- Narrower sidewalk on both sides.



Steep slope south of S Tacoma Way



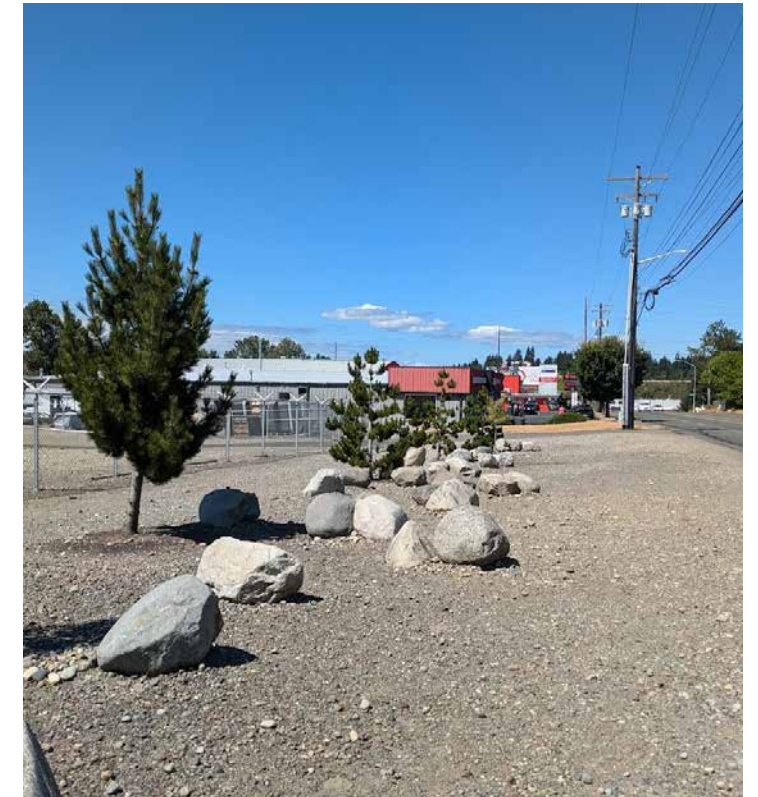
Unmarked crosswalks at South Tacoma Way intersection

At the intersection of S Pine St and S 35th St

- Lots of people and traffic expected at this intersection due to floral delivery, County Annex, vehicular and ped/bike route to Costco, only existing park (Lincoln Heights), plus new housing planned.
- Double check pedestrian signal timing.
- No APS.
- Existing video detection.
- 12/8/8 signal heads.
- Missing ramps for crossing west side.
- Signal system attached to two Tacoma Public Utilities poles.
- Need marked crosswalks.
- Street (west side) here may be connected through to S Junett St. It currently dead ends and looks like a parking lot.
- West-East ramp crossings are not aligned.
- SE corner landing and ramp are non-compliant.
- Likely bike route to the S 37th St bike/ped bridge.
- There is a lot of housing development planned on east side of intersection.

Along S Pine St between S 35th St and S 36th St

- Narrower sidewalk on west side.
- No sidewalk midblock on east side.
- Rolled driveways here. Not ADA accessible.
- No sidewalk on south end of segment both sides.
- Potential EPA cleanup from this site on NW corner near S 36th St.



Missing sidewalk between S 35th St and S 36th St

Middle Extent: S Pine St from S 36th St S 42nd St

At the intersection of S Pine St and S 36th St

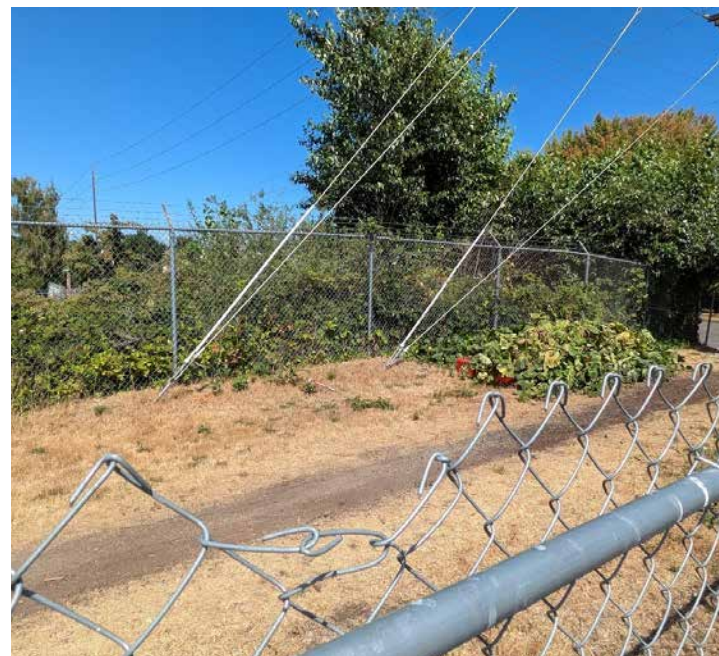
- 12/8/8 signal heads E/W.
- 12/12/12 signal heads N/S.
- No video detection.
- No APS.
- No pedestrian ramps.
- No crosswalk markings.

Along S Pine St between S 36th St and S 38th St

- No sidewalk on west side near intersection of S 36th St.
- Trees chopped here. Trees might have been removed due conflicts with the communication and power lines.
- Should add street trees to reduce perceived roadway width. Can add smaller species under the west side's power lines, but large trees on the east side.
- There will be tree plantings involved with future work.
- Steep slopes behind sidewalk on west side.
- Narrower sidewalk on west side.
- True "protected" bike lane barriers needed, not just flex posts as part of the ST2 scope of work.
- Should add a mid-block crossing near the police station entrance/callbox in front of building.
- Long block with no crossing.
- Consider working with property owner to add pedestrian access to shopping center. Due to steep slope, stairs and accessibility will be required,
- Narrower sidewalk on east side on southern end of block.
- Lots of driveways on south half of block.
- Water filter system with tree - private property?



Missing link sidewalk south of S 36th St



Trail access from S 40th St is not ADA accessible

At the intersection of S Pine St and S 38th St

- This intersection will have Miovision video analytics.
- Signal system attached to two Tacoma Public Utilities poles.
- 12/8/8 signal heads.
- Conduit crossings of 2 legs.
- No APS.
- Need Opticom.
- Existing video detection.
- Intersection of two high risk VZ corridors: S Pine St and S 38th St.
- Needs marked crossings.
- Remove pedestrian curb tripping hazard at SE corner, relocate catch basin upstream.
- Double check pedestrian timing.

Along S Pine St between S 38th St and S 39th St

- Possible for raised median for access management (right in/right out).
- Lots of driveways.
- Consolidate driveways as possible (no alley on this block).
- Wide driveway & 2 driveways - can we shrink/close one?
- The two driveways are owned by Taco Time and they lease some of their land to McDonald's.

At the intersection of S Pine St and S 39th St

- Recently installed daylighting on S 39th St.
- Non-compliant existing ramps, no receiving west ramps. Relocate CB out of crossing.



Curb ramps misaligned at S 40th St



Unmarked crosswalks at S 42nd St

Along S Pine St between S 39th St and S 40th St

- Busy driveway near USPS; driveway operations are one way.

At the intersection of S Pine St and S 40th St

- Recently installed daylighting on S 40th St.
- Missing E-W crossing at S 40th St.
- Align ADA ramps.

Along S Pine St between S 40th St and S 42nd St

- Busy driveway near USPS; driveway operations are one way.
- A deaf blind person lives and walks to S 47th St to get to the bus to the Sound Transit Station at S 56th St & Washington St. This person has been struck by a vehicle, and the service dog has also been struck by a vehicle at or near these intersections (see note at S 45th St).
- New Madison development west of S Junett St.

At the intersection of S Pine St and S 42nd St

- Non-compliant ramps.
- Tacoma should consider striping (and narrowing if possible) lanes.
- Conceptual Sound Transit design shows RRFB here; should evaluate sight distance.
- Consider narrowing EB lane on S 42nd St with consideration of mail truck turning movements (although they take Fife).
- Crest curve to the north creates potential sight distance issues with cars traveling at high speeds.
- Pedestrian signal or HAWK is preferred over RRFB since RRFB is not best for ADA (does not provide vibro-tactile communication).

Southern Extent: S Pine St South of S 42nd St to S 47th St

Along S Pine St between S 42nd St and S 43rd St

- In 2024, there was a crash resulting in pedestrian injury. Vehicles not slowing SB S Pine St and turning right onto S 43rd St. Speeding also noted NB S Pine St. Some possible sight distance issues with trees needing to be limbed up.

At the intersection of S Pine St and S 43rd St

- No pedestrian crossing of S Pine St.
- Possible sight distance issue, due to vertical curve at S 42nd St.
- Recently installed daylighting on S 43rd St.
- Crossing at S 43rd St is considered mid-block as it is located right now - consider moving closer to intersection.
- Recommended painted median.

Along S Pine St between S 43rd St and S 45th St

- Trees are not maintained leading to potential sight distance issues.
- Nice buffered sidewalk here.

At the intersection of S Pine St and Tacoma Mall Entrance

- Add north side crosswalk, especially to serve bus stop.
- Double check pedestrian signal timing.
- Right of way constraints for the signal equipment.
- Work with property owners to stripe (and narrow if possible) lanes on Tacoma mall driveway.
- Needs new ramps.
- Need to remove trees or limb up for pedestrian signal visibility.
- 12/8/8 signal heads.



Curb ramp at least 20 feet south of S 43rd St intersection



Nice buffered sidewalk and bus stop between S 43rd St and S 45th St

Existing APS and video detection. At the intersection of S Pine St and S 45th St

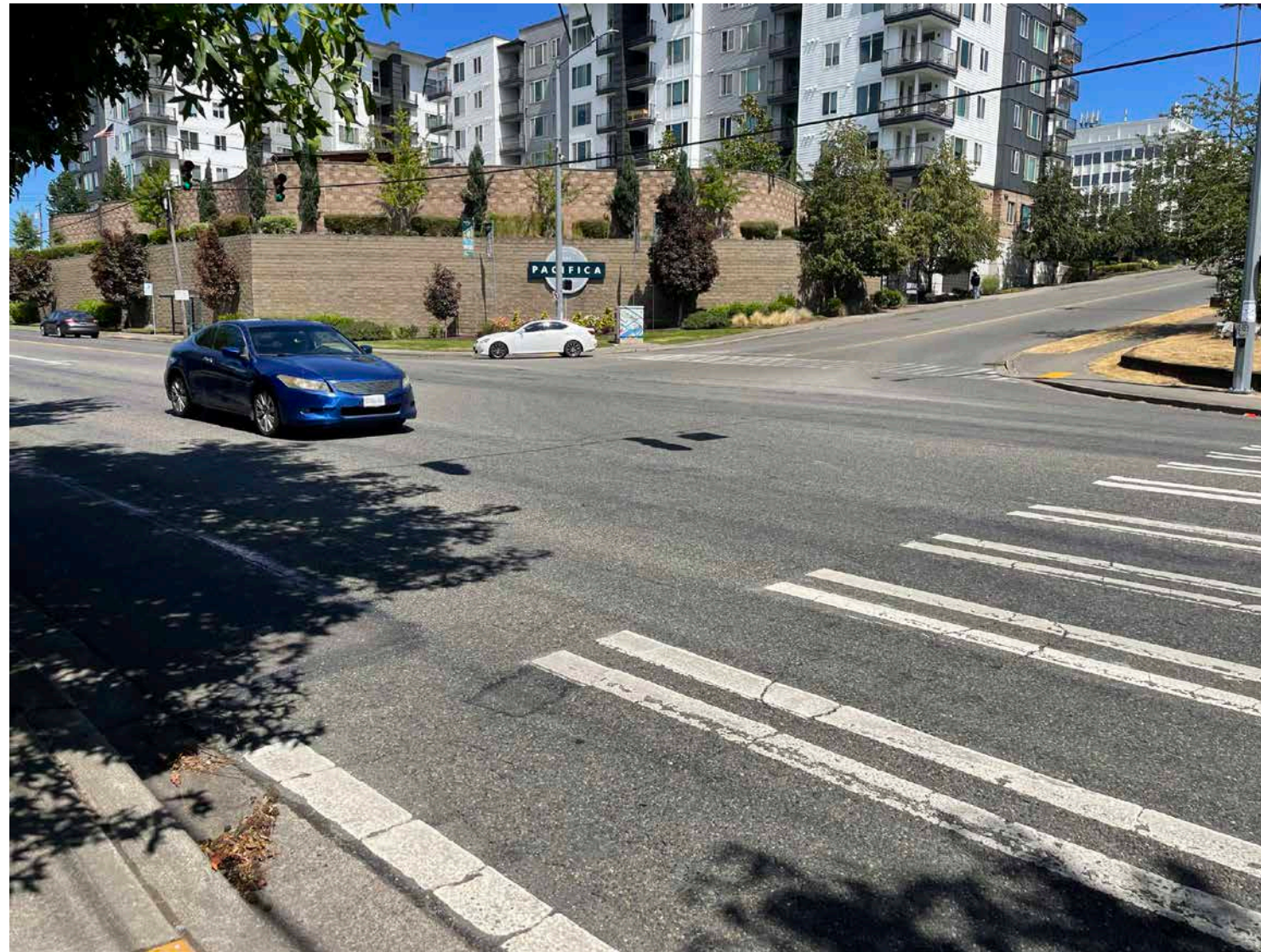
- Median with potential sculptural element, archway across path, etc -- many creative options here!
- S 45th St is part of Loop road from Tacoma Mall Subarea Plan.
- Look at making S 45th St right-out only.
- Recently installed daylighting on S 45th St.
- Community member's service animal was struck at S 45th St when driver did not stop.

Along S Pine St between S 45th St and S 47th St

- Consider positive flashing speed signage (i.e. green smiley instead of red SLOW DOWN).
- Should do a speed study.
- Speeding is a top community concern along the corridor.
- 10% plans include 2 NB lanes here - can we repurpose one?
- Work with property owners to consolidate driveways and shift access to alley where possible along west side.
- Narrower sidewalks on west side.
- Narrower sidewalks with steep slope up to mall on east side.

At the intersection of S Pine St, S Oakes St and S 47th St

- Check right turn movements along S Pine St.
- Possible art as bollards at NW corner.
- If bollards are used at any point, consider creative/artist designed bollards, more noticeable for drivers.
- Double check pedestrian timing; confirm LPIs.
- Recapturing the triangle at S 47th St and S Oakes St by closing the SB to WB “Slip Lane” as a street park with pedestrian lighting and a grove of trees to signal (at least for northbound vehicles) entry into a modified/reduced speed zone.
- Need ramps at S Pine St.
- There is potential for street mural or sculptural artistic element on median as traffic calming.
- Pedestrian improvement project did not update signal heads, could use 12/12/12.
- If no roundabout here, what else can be done to slow traffic and act as gateway? Start of PBLs and median will help, especially with lots of trees acting as friction.
- Inquire with Tacoma Fire Department if Opticom is desired at this intersection.
- New apartments built a few blocks west of S Pine St.
- Intersection of two high risk VZ corridors: S Pine St and S 47th St.



Large intersection and with only N-S eastside and E-W southside marked crossings

Other Projects

The following projects and project descriptions are listed in the City of Tacoma's Capital Projects Tacoma GIS file.¹⁴

Loop Trail Road

The Tacoma Mall Subarea Plan will result in the completion of a corridor plan for the Loop Road concept and active transportation connections to the Loop Road in the Tacoma Mall Regional Growth Center. The Loop Road will create a safer and more usable environment for pedestrians, bicycles and other active transportation modes; connecting land uses with each other and creating a larger sense of home in the Tacoma Mall Neighborhood. Connections from the Loop Road to the Water Flume Line Trail and the S 37th St I-5 pedestrian bridge will also be included in the study.

South Tacoma Station Improvements Phase 2

Sound Transit is partnering with the City of Tacoma to build a better-connected network so more people can walk, roll, bike and take transit to South Tacoma Station and connect to neighborhood destinations. All improvements will be complete by 2030.¹⁵ Conceptual design drawings for this project along S Pine St is in Appendix B and includes comments and feedback from the RSA team.

Historic Water Ditch Trail- Phase III & IV

Phase III will complete (over the next 2 years) 1.1 miles of shared use trail over the next two years. This shared use trail is between S Pine St and S M St on the north side of South Tacoma Way and Phase IIIb will continue the trail between S Pine St and S Sprague Ave on the south side of South Tacoma Way including a road diet and south sidewalk. Phase IV is complete (out of order).

S 38th St and Cedar St Crossing Improvements

The project will construct pedestrian safety improvements at the intersection of South 38th St and Cedar St (one block west of S Pine St), and approximately 400 feet to the west of that intersection. Improvements will include curb bulbs, accessible curb ramps, high visibility crosswalk markings, signal upgrades, and a ten-foot-wide sidewalk on the north side of South 38th St to close a gap in the sidewalk network.

2024 Street Operations Overlay Program

Crews will grind out sections of pavement to make minor repairs and prepare the surface for the placement of a 2-inch layer of asphalt over the existing street surface. ADA curb ramp upgrades will also be made at this time if applicable. 2024 projects are still in utility review and are subject to change.

¹⁴ https://data.cityoftacoma.org/datasets/ae4dfd060eff49e7b85789ae02441703_0/explore

¹⁵ <https://www.soundtransit.org/system-expansion/south-tacoma-station-access-improvements>

Recommended Safety Treatments

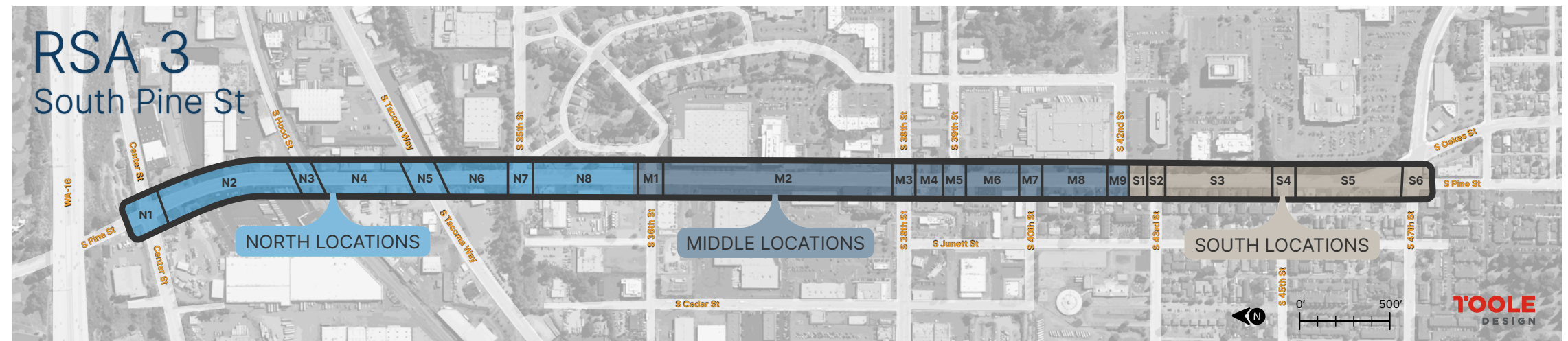
As part of Tacoma’s Vision Zero Action Plan, a list of roadway safety countermeasures was created, with the intent that Tacoma could quickly deploy those countermeasures to advance safety. The list of countermeasures was reviewed by Tacoma staff from various departments to ensure feasibility. This list of countermeasures resulted in the Safety Countermeasure Guide (the “Guide”), which provides instruction on how to use the Safety Countermeasure Toolkit (the “Toolkit”), both developed specifically for the City of Tacoma. The safety countermeasures featured in the Guide are not an extensive list of every available option to improve roadway safety, but rather a tailored list of proven countermeasures that have a demonstrated history of improving safety around context and crash causes that may be most effective in Tacoma. Refer to the full Guide and Toolkit for more comprehensive information, including safety benefits and considerations. While developing the following recommended safety treatments for RSA 3, the consultant team referred to both the Guide and the Toolkit, with the intent of streamlining the implementation of safety improvements along the corridor. Not all recommended safety treatments are in the Guide and Toolkit, but many of them are.

Keys/legends

Estimated Implementation Cost Key	
\$	<= \$75,000
\$\$	\$75,000-\$150,000
\$\$\$	\$150,000-\$300,000
\$\$\$\$	>= \$300,000

Timeframe Key	
Near-term (Near)	<= 2 years
Intermediate (Int.)	2-5 years
Long-term (Long)	>= 5 years

Abbreviations	
ADA	America with Disabilities Act
APS	Accessible Pedestrian Signals
CMF	Crash Modification Factor
LPI	Leading Pedestrian Intervals
RRFB	Rectangular Rapid Flashing Beacon



Corridor-Wide: S Pine St from Center St to S 47th St

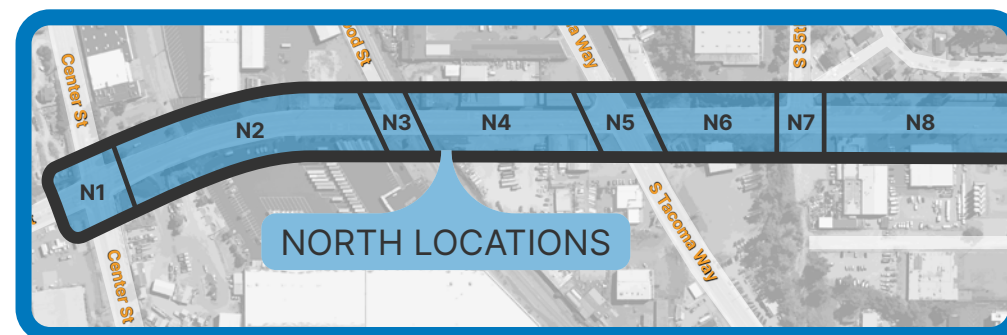
LOCATION CODE	POTENTIAL IMPROVEMENTS FOR CONSIDERATION	TIMEFRAME			COST	CMF*	LEAD
		NEAR	INT.	LONG			
South Pine St between Center St and S 47 th St	Update all existing signals to use 12" signal heads with reflective backplates. Evaluate whether the signal span needs to be replaced as part of this upgrade.	✓			\$\$-\$\$\$\$	0.85	CoT
	Evaluate all street lighting		✓		\$\$-\$\$\$	-	CoT
	Evaluate lane width reductions		✓		\$\$\$	-	CoT
	Install pedestrian scale lighting, particularly at pedestrian crossings			✓	\$\$\$\$	-	CoT
	Limb up all trees within the ROW to 8' on sidewalk side and 14' on street side	✓			\$	-	CoT/property owners
	Resurface roadway evaluating 4 to 3 lane reconfiguration		✓		\$\$\$\$	0.887	CoT
	Refresh/replace thermoplastic pavement markings after resurfacing roadway		✓		\$\$	-	CoT
	Widen sidewalks to 7' per COT standards for arterial roads, unless otherwise specified			✓	\$\$\$\$	-	CoT
	Plant trees and improve landscaping			✓	\$\$-\$\$\$\$	-	CoT
	Reconfigure the road to incorporate bike facilities throughout the corridor in coordination with projects currently under design			✓	\$\$\$\$	-	CoT/Sound Transit
	Upgrade existing storm inlet grates with parallel openings to new standard inlet grates or replace the whole structure		✓		\$-\$\$\$	-	CoT

*Crash Modification Factor from CMF Clearinghouse. CMF is approximate for the general countermeasure. A specific CMF should be determined for each unique scenario. For selection of specific CMFs for specific locations in Tacoma, explore the CMF clearing house and apply all relevant factors. All CMFs reported are taken from Tacoma’s Countermeasure Toolkit or FHWA’s list of Proven Safety Countermeasures and should be used as a general reference.

Northern Extent: S Pine St from Center St to North of S 36th St

LOCATION CODE	POTENTIAL IMPROVEMENTS FOR CONSIDERATION	TIMEFRAME			COST	CMF*	LEAD
		NEAR	INT.	LONG			
Intersection: Center St	N1 Install Emergency Vehicle Preemption (EVP) for all directions	✓			\$\$-\$\$\$	-	CoT
	Upgrade signal with APS and LPI after confirming all curb ramps are ADA compliant		✓		\$\$\$-\$\$\$\$	-	CoT
Center St to S Hood St	N2 Install sidewalk on east side of roadway		✓		\$\$\$-\$\$\$\$	0.35	CoT
	Replace driveway ~200 feet south of Center St on east side with ADA compliant city standard driveway		✓		\$\$\$	-	CoT
Intersection: S Hood St	N3 Harden center median with concrete curb, and extend to the north to restrict left turns out of the Goodwill driveway	✓			\$\$	-	CoT
	Install railroad crossing gates for sidewalks		✓		\$\$\$\$	-	CoT/Sound Transit
S Hood St to S Tacoma Way	N4 Provide mid block crossing with median refuge and evaluate other pedestrian crossing improvements, as required by ROW manual			✓	\$\$\$\$	0.54-0.86	CoT
Intersection: S Tacoma Way	N5 Install EVP for all directions	✓			\$\$-\$\$\$	-	CoT
	Install sidewalk on east side of roadway		✓		\$\$\$-\$\$\$\$	0.35	CoT
	Upgrade signal with LPI after confirming all curb ramps are ADA compliant and APS is installed		✓		\$\$\$-\$\$\$\$	-	CoT
	Install high visibility marked crosswalks		✓		\$\$	0.6	CoT
S Tacoma Way to S 35 th St	N6 Install sidewalk on east side of roadway		✓		\$\$\$-\$\$\$\$	0.35	CoT
Intersection: S 35 th St	N7 Upgrade signal with APS and LPI after installing ADA compliant curb ramps		✓		\$\$\$\$	-	CoT
	Install high visibility marked crosswalks	✓			\$\$	0.6	CoT
S 35 th St to S 36 th St	N8 Install sidewalk on east and west side of roadway		✓		\$\$\$-\$\$\$\$	0.35	CoT
	Replace rolled curb driveways with ADA compliant city standard driveways		✓		\$\$\$	-	CoT

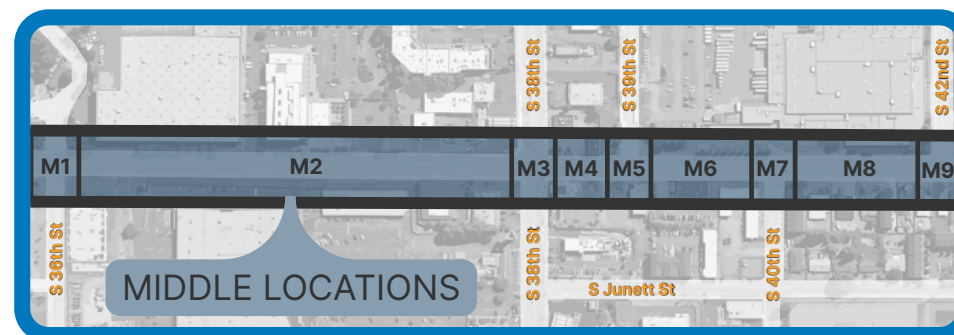
*Crash Modification Factor from CMF Clearinghouse. CMF is approximate for the general countermeasure. A specific CMF should be determined for each unique scenario. For selection of specific CMFs for specific locations in Tacoma, explore the CMF clearing house and apply all relevant factors. All CMFs reported are taken from Tacoma's Countermeasure Toolkit or FHWA's list of Proven Safety Countermeasures and should be used as a general reference.



Middle Extent: S Pine St from S 36th St S 42nd St

LOCATION CODE	POTENTIAL IMPROVEMENTS FOR CONSIDERATION	TIMEFRAME			COST	CMF*	LEAD	
		NEAR	INT.	LONG				
Intersection: S 36 th St	M1	Install ADA compliant curb ramps and upgrade signal with APS and LPI once curb ramps are ADA compliant			✓	\$\$\$\$	-	CoT
		Install high visibility marked crosswalks	✓			\$	0.6	CoT
S 36 th St to S 38 th St	M2	Install sidewalk where missing near S 36 th St west side		✓		\$\$\$-\$\$\$\$	0.35	CoT
		Install midblock crossing with pedestrian median refuge near police station and evaluate other pedestrian crossing improvements, as required by the ROW manual			✓	\$\$\$\$	0.54-0.86	CoT
		Evaluate the potential benefits of consolidating access points while taking into account any implications for property access			✓	\$\$\$	0.56	CoT/property owners
Intersection: S 38 th St	M3	Upgrade signal with APS and LPI after confirming all curb ramps are ADA compliant			✓	\$\$\$\$	-	CoT
		Install EVP for all directions	✓			\$\$-\$\$\$	-	CoT
		Install high visibility marked crosswalks		✓		\$	0.6	CoT
		Replace curb ramps on SE corner	✓			\$	-	CoT
		Evaluate pedestrian crossing time	✓			\$	-	CoT
S 38 th St to S 39 th St	M4	Evaluate the possibility of installing a centerline curb to limit left turns along the block, ensuring adequate lighting, maintenance needs, and property rights access		✓		\$\$-\$\$\$	-	CoT
		Install ADA compliant city standard driveways		✓		\$\$\$	-	CoT
		Evaluate the potential benefits of consolidating access points while taking into account any implications for property access			✓	\$\$\$	0.56	CoT/property owners
Intersection: S 39 th St	M5	Install ADA compliant curb ramps and permanent curb extensions to replace quick-build curb extensions (daylighting)		✓		\$\$\$\$	-	CoT
		Consolidate access points on the west side of the intersection, across from S 39 th St			✓	\$	0.56	CoT/property owners
S 39 th St to S 40 th St	M6	Install ADA compliant city standard driveways		✓		\$\$\$	-	CoT/property owners
Intersection: S 40 th St	M7	Install aligned ADA curb ramps on SW corner		✓		\$\$\$	-	CoT
		Install permanent curb extensions to replace quick-build curb extensions (daylighting)		✓		\$\$\$\$	-	CoT
		Install high visibility marked crosswalks with appropriate enhanced pedestrian crossing treatment and add street lighting as deemed necessary		✓		\$(RRFB)-\$\$\$\$ (PHB)	0.792	CoT
S 40 th St to S 42 nd St	M8	Install ADA compliant city standard driveways		✓		\$\$\$	-	CoT/property owners
Intersection: S 42 nd St	M9	Install ADA compliant curb ramps and permanent curb extensions to replace quick-build curb extensions (daylighting)		✓		\$\$\$\$	-	CoT
		Install high visibility marked crosswalks with appropriate enhanced pedestrian crossing treatment and add street lighting as deemed necessary		✓		\$(RRFB)-\$\$\$\$ (PHB)	0.792	CoT

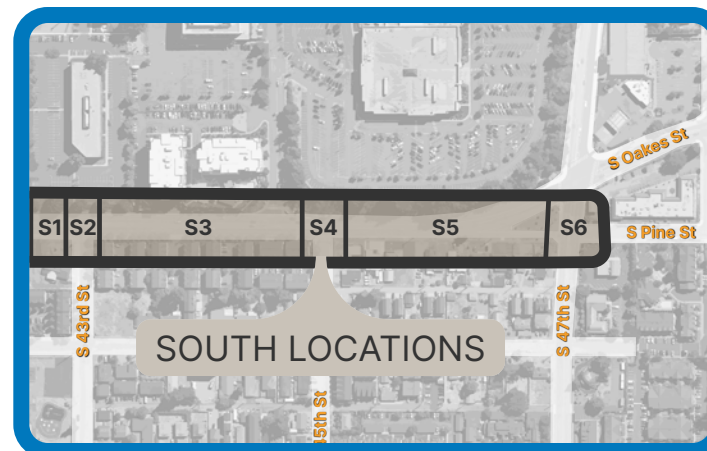
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Southern Extent: S Pine St South of S 42nd St to S 47th St

LOCATION CODE	POTENTIAL IMPROVEMENTS FOR CONSIDERATION	TIMEFRAME			COST	CMF*	LEAD
		NEAR	INT.	LONG			
S 42 nd St to S 43 rd St	S1 Maintain landscaping to support adequate sight distance	✓			\$	-	CoT/property owners
Intersection: S 43 rd St	S2 Install high visibility marked crosswalks with appropriate enhanced pedestrian crossing treatment and add street lighting as deemed necessary		✓		\$(RRFB)-\$\$\$\$ (PHB)	0.792	CoT
	Evaluate permanent curb extensions to replace quick-build curb extensions (daylighting), considering maintenance needs		✓		\$\$\$\$	-	CoT
S 43 rd St to S 45 th St	S3 Maintain landscaping to support adequate sight distance	✓			\$	-	CoT/property owners
Intersection: Tacoma Mall entrance (east leg)	S4 Install ADA compliant curb ramps and high visibility crosswalk crossing north side of intersection		✓		\$\$\$	0.6	CoT
	Upgrade signal with LPI after confirming all curb ramps are ADA compliant and APS is installed		✓		\$	-	CoT/property owners
	Work with property owners to restripe lanes on the Tacoma Mall entrance		✓		\$\$	-	CoT/property owners
	Evaluate ADA curb ramp compliance and upgrade where non-compliant		✓		\$\$\$	-	CoT
Intersection: S 45 th St (west leg)	S4 Evaluate installing median with art		✓		\$\$\$	-	CoT
	Evaluate permanent curb extensions to replace quick-build curb extensions (daylighting), considering maintenance needs		✓		\$\$\$\$	-	CoT
	Evaluate the feasibility of restricting eastbound S 45 th St left turns onto S Pine St using a median or concrete curb, while considering the impact on the proposed Loop Road		✓		\$\$	-	CoT
S 45 th St to S 47 th St	S5 Install positive flashing speed signage or speed warning sign in line with industry guidelines	✓			\$	-	CoT
	Evaluate the potential benefits of consolidating access points while taking into account any implications for property access			✓	\$\$\$	0.56	CoT/property owners
	Evaluate if access to businesses on the S Pine St slip lane (SB S Pine St to WB S 47 th St) can be provided through the alley and evaluate whether the slip lane can be closed			✓	\$\$-\$\$\$\$	-	CoT
Intersection: S 47 th St	S6 Install ADA compliant curb ramps at S Pine St		✓		\$\$\$	-	CoT
	Upgrade signal with LPI after confirming all curb ramps are ADA compliant and APS is installed		✓		\$	-	CoT
	Install EVP for all directions	✓			\$\$-\$\$\$\$	-	CoT

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Conclusion

The Road Safety Audits conducted in Year One of this project identified important safety considerations for pedestrians and bicyclists along the RSA corridors, along with strategies to enhance safety for all road users. The findings reveal a need for improvements to infrastructure, including wider sidewalks, dedicated bike lanes, improved lighting, safer intersections, and upgraded traffic signals. By implementing these recommendations, the City of Tacoma can significantly reduce the risk of killed or serious injury crashes, making its streets safer for all users.

Next Steps

The City of Tacoma should review the RSA recommendations annually and regularly assess them to determine which recommendations can be implemented. Measuring the effectiveness of each improvement is crucial to reducing crashes that result in fatalities or serious injuries. The City should identify which improvements are successful and apply them in similar contexts across Tacoma.

For short-term safety treatments, the City should implement feasible options, track their effectiveness, and replicate those with the greatest benefits. For intermediate and long-term recommendations, City staff should begin evaluating their feasibility and start identifying funding sources. This may include preparing grant applications to seek State and Federal funding.

Finally, in line with the City of Tacoma equity goals, the City should work to engage the community, especially vulnerable road users, in the planning of corridor improvements. This approach incorporates the perspectives of those most affected, resulting in more inclusive and effective solutions for all road users.

Tacoma Vision Zero **Road Safety Audits**

September 2024 ■ Year 1 Report

