



**City of St. Helena
Active Transportation and Sustainability
Committee
Regular Meeting
Wednesday, November 3, 2021 @ 5:00 PM**

PLEASE NOTE: Any person who wishes to speak regarding an item on the agenda or make a comment under the "Oral Communication" portion of the agenda may do so, but please observe the time limit of four minutes. Members of the public and other parties are welcome to email their comments to the Staff Liaison Preya Nixon at pnixon@cityofsthelelena.org

This meeting will be conducted pursuant to the provisions of Government Code Section 54953 (as amended by AB 361) which authorizes teleconferenced meetings under the Brown Act during certain proclaimed States of Emergency. The Governor of California proclaimed a State of Emergency related to COVID-19 on March 4, 2020. This teleconferenced meeting is necessary so that the City can conduct essential business and is permitted under Government Code 54953 in order to protect public health and safety of attendees.

Consistent with Government Code Section 54953, this meeting will be held via teleconference only, and will not be physically open to the public. Board, Commission and Committee members and staff will teleconference into the meeting by audio and/or video. The meeting will be conducted via Zoom Webinar.

Those members of the public wishing to participate must do so remotely via Zoom electronic meetings in the following ways; by either logging onto the Zoom link located on the meeting agenda (please download the app to your computer or mobile device) and enter the meeting ID or by calling a listed number and enter the meeting ID. Public comment for meetings will be accepted via email to publiccomment@cityofsthelelena.org. All public comments must be emailed by two hours prior to the meeting. Emailed public comments will not be read out loud but will be publicly available and attached to the on-line agenda.

Please see the end of the agenda for detailed PUBLIC PARTICIPATION instructions.

Click below to join the meeting:

<https://us02web.zoom.us/j/88433995914>

Or One tap mobile :

US: +16699006833,,88433995914# or +12532158782,,88433995914#

Or Telephone:

Dial(for higher quality, dial a number based on your current location):

US: +1 669 900 6833 or +1 253 215 8782 or +1 346 248 7799 or +1 301 715 8592 or +1 312 626 6799 or +1 929 205 6099

Webinar ID: 884 3399 5914

International numbers available: <https://us02web.zoom.us/j/keBdu4IezJ>

1. CALL TO ORDER
2. ROLL CALL
Committee Chair: Vacant, Vice Chair: Glenn Smith
Members: Jeff Farmer, Madelyn Chandler, John Zimmerman and Leslie Stanton
Alternate Members: Terra Sampson, Katherine MacDonnell
City Council Member Liaison: Paul Dohring, Vice Mayor
Staff Liaison: Preya Nixon, Asst. to the City Manager
3. PUBLIC FORUM:
An opportunity for the public to directly address the Committee on items of interest to the public that are not listed on the agenda. Any person addressing the Committee should provide his or her name and address, and limit comments to four minutes. **Because of restrictions imposed by the Brown Act, the Committee may not engage in substantive discussion, nor take action on matters not described on the agenda.**
4. REPORTS BY STAFF AND COMMITTEE:
Reports by staff and/or committee on items of general interest. **Brief questions for clarification may be posed and answered, and Committee may request that items be placed on a future agenda. Except under certain circumstances, the Brown Act prohibits any other discussion or action by the Active Transportation & Sustainability Committee.**
 - 4.1. Public Works Update
5. CONSENT CALENDAR:
Members of the Active Transportation Committee or the public may ask that any items be considered individually for purposes of considering alternative action, for extended discussion, or for public comment. Unless that is done, on motion may be used to adopt all recommendation actions.
 - 5.1. Active Transportation and Sustainability Committee Meeting Minutes of September 1, 2021 7 - 8
[Active Transportation and Sustainability Committee - 01 Sep 2021 - DRAFT MINUTES](#)
6. SCHEDULED MATTERS:
 - 6.1. Receive Presentation and Report on the Active Transportation Phase 1 and prioritization of short-term recommendations 9 - 181
[Staff Report](#)
[ATSC Presentation for meeting](#)
[Short-Term School Area Recommendations Cost Estimates](#)
[Active Transportation Plan-Phase I St Helena Report](#)
[11224137-RPT002-Phase I St Helena Appendix](#)
[Public Comment.GinoCerruti](#)
[Public Comment. Pam Smithers](#)
 - 6.2. Election of ATSC Chair and Vice Chair
7. ADJOURNMENT
The next regular Active Transportation Committee meeting is scheduled for December 1 at 5:00 pm, at a location to be determined.

I do hereby certify that a copy of the foregoing agenda was posted on the City website on 10/29/21.

/s/ Preya Nixon

Preya Nixon, Asst. to the City Manager

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in the meeting, please contact City Hall at (707) 967-2792. Notification 48 hours prior to the meeting will enable the City to make reasonable arrangements to ensure accessibility to this meeting (28 CFR35.102-35.104 ADA Title II). However, City staff will attempt to assist at any time with accessibility.

The ZOOM web link, meeting ID, and phone number will be listed at the top of the Active Transportation and Sustainability Committee Agenda. You will be required to enter the meeting ID, but there will be no password or participant ID.

How to Watch or Listen to Active Transportation and Sustainability Committee Meetings:

1. Watch and Listen on Zoom.us by clicking on the link in the Active Transportation and Sustainability Committee Agenda
2. Listen only by calling the Zoom number listed on the Active Transportation and Sustainability Committee Agenda

Watch the Active Transportation and Sustainability Committee Meeting by Joining the Zoom Meeting:

1. **By Computer, Tablet, or Smart Phone:**
 1. Before joining the virtual Active Transportation and Sustainability Committee Meeting, it is highly encouraged that you download the Zoom App. To sign up for your own free account, visit zoom.us/signup and enter your email address. You will receive an email from Zoom (no-reply@zoom.us). In this email, click Activate Account.
 2. If you are logged into your account, Enter the **Meeting ID** listed on the Active Transportation and Sustainability Agenda. If you have not created an account go to: <https://zoom.us/join> and enter the **Meeting ID**
 3. Select if you would like to connect audio and/or video and tap **Join Meeting**.
 4. For specific instructions for your device, go to: <https://support.zoom.us/hc/en-us/articles/201362193-Joining-a-Meeting>
1. **Listen Only by Telephone:**

1. **Dial** the number listed on the Active Transportation and Sustainability Committee Agenda.
2. At the prompt, enter the **Meeting ID** provided on the top of the Active Transportation and Sustainability Committee Agenda and **Press #**. **A participate ID is not required.**
3. To disconnect from the meeting, hang up the phone.

Ways to Provide Public Comment:

While attending the virtual Active Transportation and Sustainability Committee Meeting, the public will have the opportunity to provide live public comment during Public Forum and after each agenda item. When it is the appropriate time for public comment the Chair will verbally open public comment. At this time each individual is permitted 4 minutes to speak.

1. **Send a Public Comment in Advance to** publiccomment@cityofsthelena.org

The easiest way to provide public comment is to email your public comment. Public comments may be emailed to publiccomment@cityofsthelena.org. Please include in the subject line "COMMENT TO ATSC and the AGENDA ITEM". Any public comment is required to be submitted no later than 1 hour before the scheduled meeting and will be included as an attachment to the agenda.

1. **Provide Comment through Zoom meeting from a computer, tablet, or smart phone**

This option allows the public to virtually attend the meeting as a muted 'attendee' with no video or screen sharing capabilities. You will be able to see and hear those participating in the meeting, but they will not be able to hear you until the host unmutes you.

If you wish to provide public comment during a specific agenda item or during public forum, you can use the "**raise hand**" feature located in the control panel at the bottom of your screen. The icon is a small blue hand. In Windows you can also use the Alt+Y keyboard shortcut to raise or lower your hand. In Mac you can also use the Option+Y keyboard shortcut to raise or lower your hand.

The host will be notified that you've raised your hand and you will be placed in a queue with all incoming requests.

When it is your turn to speak, you will be notified that the host has unmuted you. To be removed from the queue, just click the '**raise hand**' button again.

1. **Call in to the ZOOM meeting from a cell phone or landline phone only**

This option allows the member of the public with the opportunity to verbally participate in public comment.

If you wish to speak during public comment time dial ***9** on your telephone.

The host will be notified that you would like to speak and you will be placed in a queue with all incoming requests.

When it is your turn to speak, you will be notified that the host has unmuted you. You may press ***9** again if you wish to be removed from the queue.

You will be notified at the end of your statement that you have been muted.



DRAFT MINUTES
City of St. Helena
Active Transportation and Sustainability
Committee
Regular Meeting
Wednesday, September 1, 2021 @ 5:00 PM

1. CALL TO ORDER

Vice Chair Smith called the meeting to order at 5:01pm

2. ROLL CALL

The following were present:

Committee Chair: Vacant, Vice Chair: Glenn Smith

Members: Madelyn Chandler, Leslie Stanton, John Zimmerman

Alternate Members: Terra Sampson,

City Council Member Liaison: Paul Dohring, Vice Mayor

Member Katherine MacDonnell was excused.

Staff Liaison: Preya Nixon, Asst. to the City Manager

Mark Rincon, Public Works Director and City Engineer

Edrees Argand, Assistant Engineer

3. PUBLIC FORUM:

Carlotta Sainato, Napa County Bike Coalition provided public comment.

4. REPORTS BY STAFF AND COMMITTEE:

Updates were held.

5. CONSENT CALENDAR:

Members of the Active Transportation Committee or the public may ask that any items be considered individually for purposes of considering alternative action, for extended discussion, or for public comment. Unless that is done, on motion may be used to adopt all recommendation actions.

- 5.1. Active Transportation and Sustainability Committee Meeting Minutes of August 4, 2021

[Active Transportation and Sustainability Committee - 04 Aug 2021 - DRAFT MINUTES](#)

A motion was made by member Chandler and seconded by member Zimmerman to approve the minutes for the meeting held on August 4, 2021.

6. SCHEDULED MATTERS:

- 6.1. Receive Update and Presentation regarding the City's Five Year Paving Program

[ATSC Presentation on Pavement Management Staff Report](#)

Presentation was given by Edrees Argand, Assistant Engineer, Mark Rincon, Public Works Director and City Engineer and City Engineer.

Discussion was held by Committee regarding PCI of certain streets, use of Measure T funds, the process of selecting which streets to improve, how to rate bike facilities and the impact heavy vehicles (trucks) have on road conditions.

Public comment was received by Carlotta Sainato, Napa County Bike Coalition.

7. FUTURE AGENDA ITEMS

- 7.1. -Active Transportation Plan Phase I (October)
-ATSC Chair and Vice Chair (October)
-Subcommittee on ATSC Responsibilities
-Review of "Main Street" document items related to safe street concepts on Main Street

8. ADJOURNMENT

The meeting was adjourned at 6:28 pm.

The next regular Active Transportation Committee meeting is scheduled for October 6, 2021 at 5:00 pm, at a location to be determined.

Approved

Attest

Chair

Preya Nixon,
Assistant to the City Manager



Report to the Active Transportation and
Sustainability Committee
November 3, 2021

Subject: Presentation and Report on the Active Transportation Phase 1 and prioritization of short-term recommendations

Prepared By: Preya Nixon, Assistant to the City Manager
Martin Beltran, Senior Management Analyst-Public Works

BACKGROUND

The City of St. Helena is developing an Active Transportation and Safe Routes to School (ATP/SRTS) Plan for the community to consolidate multiple previous planning efforts and develop an actionable, strategic path to improve safety and mobility for people walking and bicycling.

To accomplish this, the City has hired a consultant, GHD. An Active Transportation Plan will identify and help prioritize strategies intended to increase the number of people walking and bicycling, while supporting safety and multimodal connectivity throughout the City. This plan includes a comprehensive set of strategies to ensure better options for biking, walking, and transit and include recommendations for prioritizing infrastructure improvements and outline recommendations for new policies, processes, and infrastructure based on public and stakeholder input.

To address short term needs, the ATP is broken into two phases: Phase I (the current Phase I) focuses strictly on the Madrona/Spring Street corridor. Phase II will be a larger City-wide plan. By having a plan for both Phase I and Phase II, the City will be in a position to apply for grants to implement Phase II and longer term projects. A critical component of the field research was to hear from stakeholders on their observations and concerns on the corridors. In preparation of this report, staff conducted public outreach which included a site visit and meetings with the Napa County Bike Coalition and the St. Helena Unified School District.

The focus of the ATSC November 3, 2021 meeting is to receive a presentation from the City's consultant on Phase I and provide feedback on the Short Term Recommendations.

At the September 14, 2021 City Council meeting, the City Council allocated \$200,000 for road improvements. Some of these resources may be available to support short term recommendations.

Action requested from the ATSC: Staff is looking for prioritization on the short term recommendations for Active Transportation Plan Phase I.

Attachments:

1. Powerpoint presentation

2. Short term recommendations
3. Active Transportation Phase 1 Report
4. Appendix



→ **Martin Beltran**
Public Works, City of St. Helena

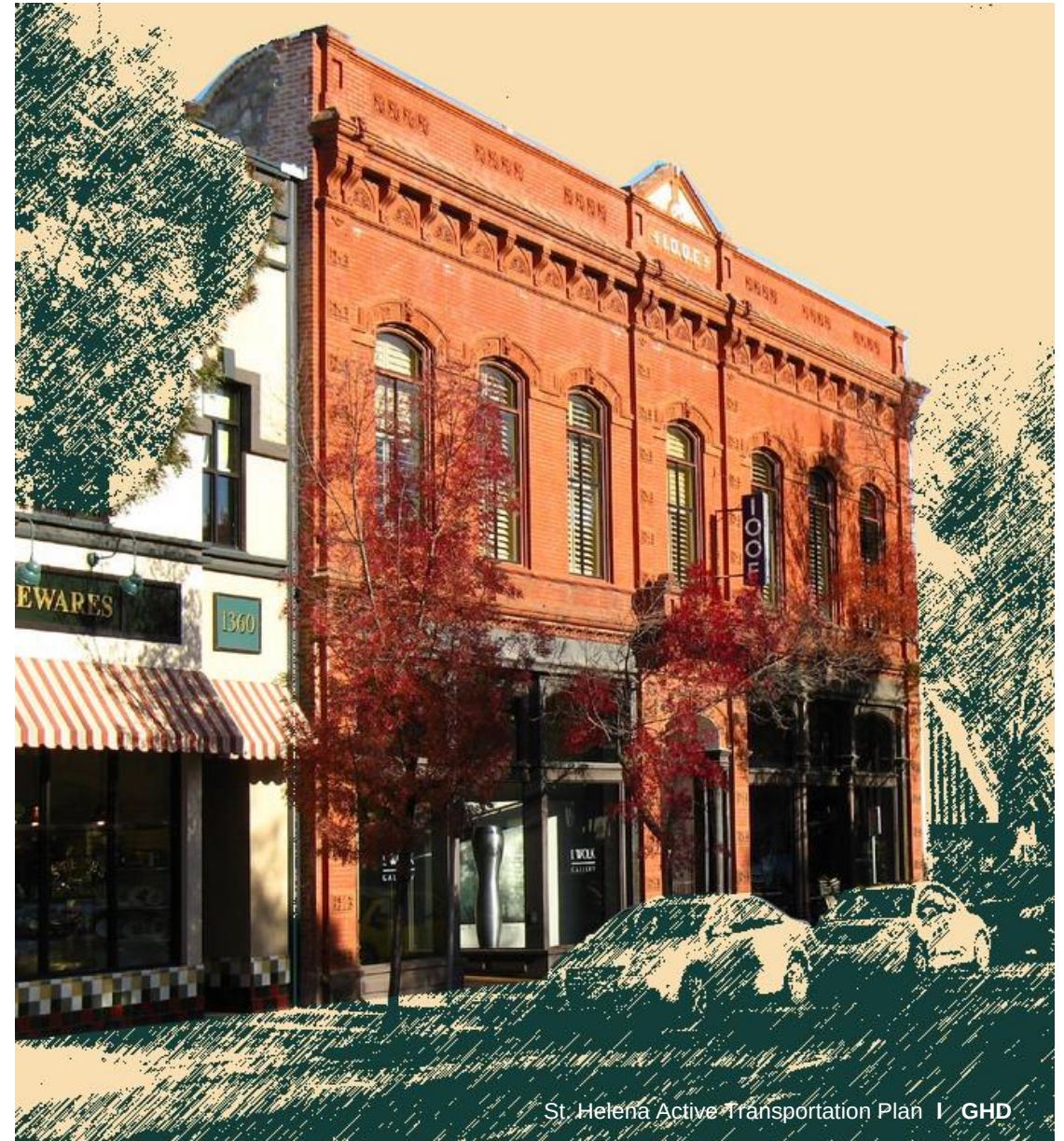
Kendra Ramsey, AICP
Project Manager, GHD

St. Helena Active Transportation and Safe Routes to School Plan

**Presentation to the Active Transportation and Sustainability Committee
Wednesday, November 3, 2021**

Agenda

- Active Transportation Plan Overview
- Summary – Phase I
- Next Steps – Phase II
- Committee Action: Provide feedback on the short term recommendations for Phase I



St. Helena Active Transportation Plan | GHD



Active Transportation Plan Overview

- Project Scope and Purpose
 - Phase I
 - Phase II

Project Scope & Purpose

- Develop an actionable & strategic path to improve safety and mobility for people walking and bicycling
- Responding to community concerns while acknowledging constraints due to Covid-19
- Broad community engagement in Phase II
- Division of the improvement strategy in two phases to implement both short and long-term strategies

The St. Helena ATP/SRTS Plan will include the following:

- **Existing Conditions**
 - Review recent plans, public engagement results
 - Existing network and needs
 - Collision, history
- **Policy and Program Review**
 - Active transportation-related policies
 - Programs, including SRTS
- **School Area Needs and Recommendations**
 - Coordination with Napa County Bicycle Coalition (recent walk audits and recommendations)
- **Result: Short-term and long-term recommendations**

Phase I-Current

- Review of existing conditions citywide and short-term recommendations
- High priority corridors of Spring Street and Madrona Avenue
- Identify recommendations for the school area
- To be implemented as soon as practicable

Phase II

- Expanded engagement & input from the community
- Citywide recommendations for bicycling and walking
- Long-term recommendations for the Spring Street and Madrona Avenue corridors
- Conducted in tandem with implementation of the short-term Phase I



Existing Conditions

- ➔ Bicycle Facilities
- Pedestrian Facilities
- Collision Analysis
- Bicycle Level of Traffic Stress
- Bicycle Network Analysis
- Needs Analysis



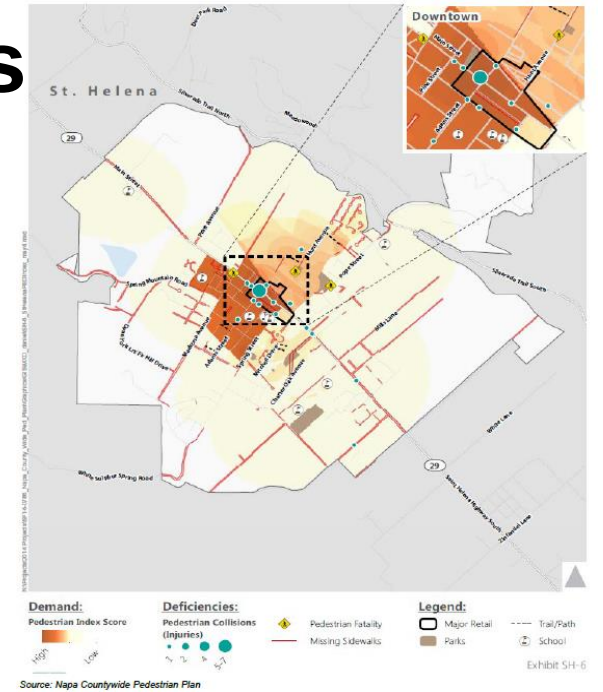
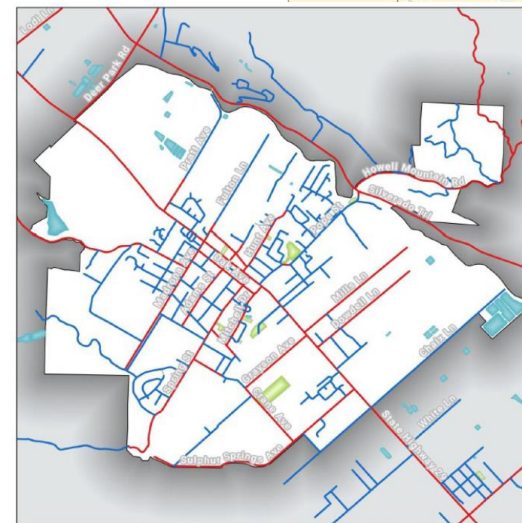
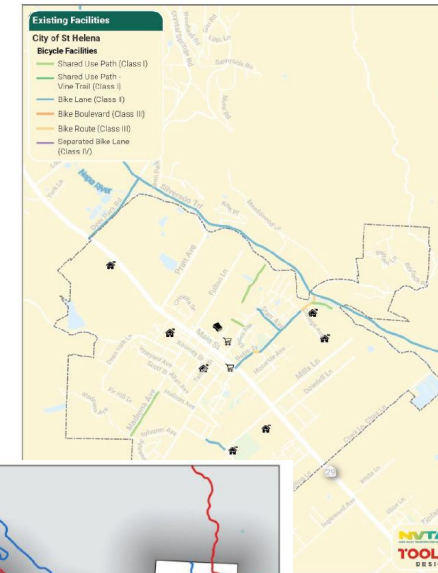
Review and Synthesis of Recent Plans

Plans reviewed:

- St. Helena General Plan
- Napa Countywide Bicycle Plan
- Napa Countywide Pedestrian Plan
- Caltrans District 4 Bicycle Plan
- (Draft) Caltrans D4 Pedestrian Plan
- Plus discussions with NCBC regarding recent walk audit findings

Review of:

- Bicycle Facilities
- Pedestrian Facilities
- Collision Analysis
- Bicycle Level of Traffic Stress
- Bicycle Network Analysis
- Needs Analysis

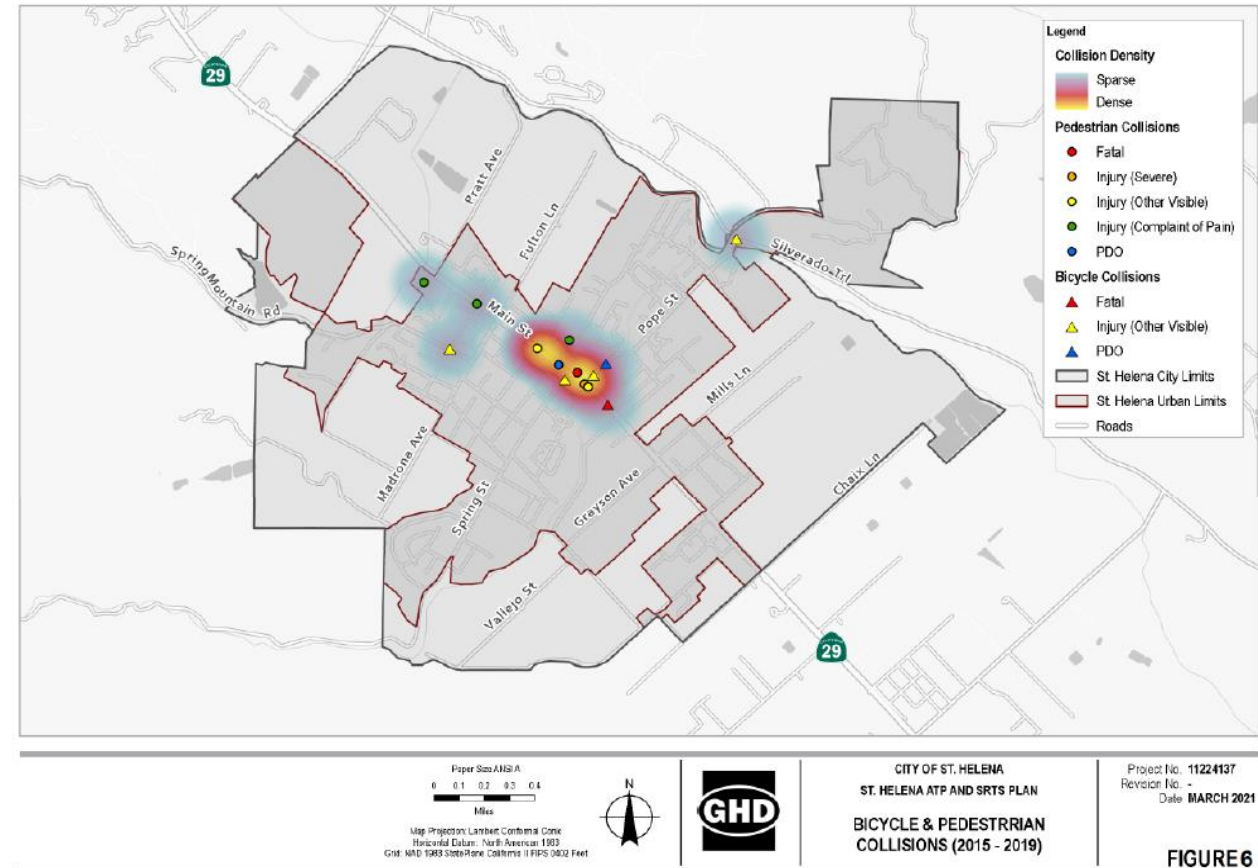


Source: Caltrans District 4 Pedestrian Plan for the Bay Area Story Map

St. Helena Active Transportation Plan | GHD

Updated Collision Analysis

- Between 2015 and 2019: 11 pedestrian and 6 bicycle collisions were reported.
- Primary bicycle collision factors were traffic signs and signals, automobile right of way, improper turning, driving or bicycling under the influence, and unknown cause.
- Failure to yield to the pedestrian right of way was reported as the primary collision factor in 5 of the 11 of the reported pedestrian collisions.
- Low number of total reported collisions makes identifying definitive trends based on this data challenging.
- Collision data should be supplemented with public and stakeholder engagement



Field Review and Desktop Analysis





Plan Development

- Phase I: Short-term, Spring and Madrona
- Phase II: Long-term
- Feedback

Program & Policy Recommendations

The ATP/SRTS Plan will build on prior plans as well as incorporate public feedback.

Recommendations from Prior Plans:

- Pedestrian Policies & Programs
 - Street furniture ordinance
 - Ped Facility Inventory
 - Walk Audit
 - Ped Volumes
 - Crossing Barriers
 - Crosswalk Design Guidelines
 - Traffic Calming Program
- Bicycle Policies & Programs
- Safe Routes to School
 - Bicycle and Pedestrian Safety Education
 - Walk & Roll Wednesdays
 - Idle Free Pledge & Resources

Infrastructure Recommendations

Short-term

- Implementation desired to respond to pressing safety concerns for children walking and bicycling in the area
- Centered on the ability of students walking and bicycling to school
- Crossing improvements on Spring and Madrona corridors
- Crossing recommendations include:
 - new marked crosswalks and enhancements to existing crosswalks
 - quick build curb extensions

Long-term

- Take significantly more funding (including seeking grant), time, and study
- Refined during Phase II of the St. Helena ATP/SRTS Plan
- May include:
 - filling sidewalk gaps
 - widening existing sidewalk
 - considering roadway reconfiguration to allow room for bicycle facilities

Questions and Committee Discussion

Questions from the ATSC?

Review of Phase I Short Term Area Recommendations and Costs (see attachment)

The next steps...

- Council presentation on Phase I**
- Walk and Workshop Phase II – stay tuned for the date!**



*** Thank You**

→ ghd.com

Short-Term School Area Recommendations and Costs

ID	Facility Type	Location	Cross Street 1	Recommendation Description	Source of Recommendation	Cost Estimate
MP1	Crossing Improvements	SR 29	Madrona Ave	Upgrade existing crosswalks to high visibility markings	GHD	\$7,200
MP2	Crossing Improvements	Madrona Ave	Oak Ave	Upgrade all legs to high visibility markings, install advanced stop bars, add advanced intersection markings and signage	Community Comments, Walking Tour	\$18,600
MP3	Crossing Improvements	Madrona Ave	Kearney St	Install high visibility markings and add south leg crosswalk	NCBC, Community Comments	\$7,200
MP4	Crosswalk	Madrona Ave	Spring Mountain Rd	Install a high visibility crosswalk across Madrona and Spring Mountain Rd	Community Comments, Walking Tour	\$3,600
MP5	Crosswalk	Madrona Ave	Allyn Ave	Install crosswalk across Madrona. Use high visibility markings and curb extensions	GHD	\$15,300
SP1	Crossing Improvements	Main St	Spring St	Upgrade crosswalks to high visibility markings	NCBC, GHD	\$7,200
SP2	Crossing Improvements	Spring St	Oak Ave	Upgrade existing crosswalks to high visibility markings, add markings to east leg across Oak Ave	NCBC, GHD	\$7,200
SP3	Crosswalk	Spring St	Kearney St	Install high visibility across Spring St	NCBC, Community Comments	\$1,800
SP5	Crosswalk	Stockton St	Spring St	Install crosswalk across Stockton St and Spring St	NCBC, GHD	\$3,600
SP6	Crosswalk	Spring St	N Crane Ave	Install crosswalks across Spring St and Crane Ave	NCBC, Community Comments	\$5,400
SP7	Crosswalk	Allyn Ave	Spring St	Install crosswalk across Allyn Ave	NCBC, GHD	\$1,800
SP8	Crosswalk	Hudson Ave	Spring St	Install crosswalk across Hudson Ave	NCBC, Community Comments	\$1,800
SP9	Crosswalk	Spring St	South Hudson Ave	Install crosswalks across Spring St with curb extensions	NCBC, Community Comments	\$3,600
SP10	Crossing Improvements	Spring St	Valley View St	Study feasibility of AWSC or RRFB	NCBC, Walking Tour	Varies
SP11	Crosswalk	Spring St	Sylvaner Ave (south)	Install crosswalk markings across Sylvaner Ave and Spring St and advance warning signs of pedestrian crosswalk on the north and south legs.	GHD	\$6,600
					Total Cost	\$90,900
Key - EA: Each; MI: Mile; LF: Linear Foot						

Estimates include assumed costs for mobilization, traffic control, earthwork, signs, pavement delineation and markings, utility coordination, grading, and erosion control. In addition, estimates include 30 percent soft costs including engineering design (15 percent), administration (3 percent), and construction management (12 percent). There is also a 15 percent contingency.



Active Transportation + Safe Routes to School Plan

**Phase I Report:
Existing Conditions +
School Area Recommendations**

City of St Helena

September 2021

GHD

2200 21st Street

Sacramento, CA 95818

T +1 916 372 6606 | **F** +1 916 372 6616 | **ghd.com**

© GHD 2021

Preface

The City of St. Helena is developing an Active Transportation and Safe Routes to School (ATP/SRTS) Plan for the community to consolidate multiple previous planning efforts and develop an actionable, strategic path to improve safety and mobility for people walking and bicycling.

The global COVID-19 pandemic has constrained the available community outreach opportunities over the past year and a half. With pandemic-related restrictions lifting, there may be value in waiting a few months and developing the ATP/SRTS Plan in conjunction with a robust community engagement component. Pressing safety concerns near St. Helena schools call for swifter action, however, with a history of reported collisions and near misses along Spring Street and Madrona Avenue.

To balance the desire for broad community engagement with the urgent need for school-area improvements, the ATP/SRTS Plan is being developed in two Phases.

Phase I

Phase I is documented in this report. It includes a review of existing conditions citywide and short-term recommendations for the high priority corridors of Spring Street and Madrona Avenue. The intent of Phase I is to identify recommendations for the school area that can be implemented within the 2021-2022 school year to improve safety for children and others.

Phase II

Phase II will proceed later this summer. It will include expanded engagement to gather input from the broader St. Helena community, citywide recommendations for bicycling and walking, and may also include longer-term recommendations for the Spring Street and Madrona Avenue corridors. Phase II will be conducted in tandem with implementation of the short-term school area recommendations identified in Phase I.

Contents

- 1. **Introduction..... 1**
 - 1.1 Relationship to Other Documents..... 1
- 2. **Existing Conditions 4**
 - 2.1 Local Context 4
 - 2.2 Transportation Network 6
 - 2.3 Collision Analysis 13
 - 2.4 Level of Traffic Stress and Bicycle Network Analysis20
 - 2.5 Pedestrian Needs Analyses 25
 - 2.6 Prior Plan Project Recommendations..... 30
- 3. **Policies and Programs 33**
 - 3.1 Pedestrian Policies & Programs 33
 - 3.2 Bicycle Policies & Programs..... 34
 - 3.3 Safe Routes to School 35
- 4. **School Area Needs and Recommendations 36**
 - 4.1 Short-Term Recommendations 36
 - 4.2 Long-Term Improvements 38

Table index

Table 1: St. Helena General Plan Street Typologies	8
Table 2: Existing Bicycle Facility Mileage.....	9
Table 3: Short-Term School Area Recommendations	38

Figure index

Figure 1: St. Helena General Plan Land Use Map	5
Figure 2: City of St. Helena General Plan Street Network Typology Classification Map	7
Figure 3: Existing Bicycle Facilities	10
Figure 4: SR 29 Sidewalk and Crosswalk Condition in St. Helena	11
Figure 5: Pedestrian Facilities in St. Helena.....	12
Figure 6: Bicycle and Pedestrian Collisions (2015 - 2019)	15
Figure 7: Bicycle Collisions by Severity.....	16
Figure 8: Bicycle Collisions by Primary Collision Factor	16
Figure 9: Pedestrian Collisions by Severity	18
Figure 10: Pedestrian Collisions by Primary Collision Factor	19
Figure 11: State Route 29 Bicycle Level of Traffic Stress.....	19
Figure 12: Bicycle Level of Traffic Stress – Citywide	22
Figure 13: City of St. Helena Bicycle Network Analysis.....	24
Figure 14: Pedestrian Index - Demand and Deficiencies.....	26
Figure 15: State Route 29/Main Street Pedestrian Needs.....	27
Figure 16: Bicycle Network Project Recommendations	31
Figure 17: Pedestrian Network Project Recommendations	32
Figure 18: Short-Term School Area Recommendations	37

Appendices Provided Under a Separate Cover

Appendix A: St. Helena Street Network Typology and Bikeway Classification

Appendix B: Bicycle Level of Traffic Stress and Bicycle Network Analysis Methodology and Results

Appendix C: Ped INDEX Methodology and Results

Appendix D: Walk Audit Photos

Appendix E: Prior Recommended Bicycle Projects

Appendix F: Prior Recommended Pedestrian Projects

Appendix G: Short-Term School Area Recommendations and Costs

1. Introduction

Located in the heart of the Napa Valley and Northern Napa County, St. Helena is a rural suburban community with a small-town atmosphere and roughly 6,000 residents across the four-square mile city. An important business center for the wine industry, as well as a commercial and business center for adjacent towns and unincorporated County areas, the City of St. Helena is a regional destination for the surrounding Napa Valley.

In recent years, the City of St. Helena has seen an increase in the use of active transportation, such as walking and bicycling, as well as other non-vehicular modes, such as golf carts and other electric non-automobile vehicles. Increases in active transportation will bring a myriad of benefits to the community, including decreased traffic throughout the city, health benefits resulting from increased activity levels, and improved air quality due to less automobile use and reduced congestion.

Featuring a mild climate through most of the year and a compact, relatively flat street grid, St. Helena is well-situated to continue to support increases in active transportation among its residents and visitors. With investments in improvements to its arterial streets and intersection crossings, the city can provide a safe, well-connected and low stress bicycle and pedestrian network between its neighborhoods and local streets and the regional connector, State Route (SR) 29, that bisects the city and its downtown core.

This Active Transportation and Safe Routes to School (ATP/SRTS) Plan is a vital instrument for City, Napa County, and Caltrans District 4 staff to plan and implement a safe and balanced active transportation network in St. Helena. The ATP/SRTS Plan will build upon the findings and recommendations reported in recently adopted bicycle and pedestrian plans. It builds on the Napa Countywide Bicycle Plan (2019) and Napa Countywide Pedestrian Plan (2016), which both feature plan chapters specific to St. Helena, to reflect the current conditions and opportunities for active transportation, as well as align more closely with Safe Route to School efforts in the city, and present a focused, actionable plan for implementing needed improvements.

The fundamental goals of this plan are to build upon and leverage the strengths of the city's existing transportation network to encourage the use of active modes, improve the safety and connectivity of the active transportation network, and make bicycling and walking a part of daily life in St. Helena.

This report represents the culmination of Phase I of the ATP/SRTS Plan and includes a review of citywide existing conditions and focused, short-term recommendations for Spring Street and Madrona Avenue to address pressing safety concerns in the school area. Phase II will include public review of these recommendations and development of citywide recommendations along with longer-term investments to further improve safety near local schools.

1.1 Relationship to Other Documents

A variety of planning and regulatory documents have been adopted over the last several years which provide a robust foundation for improving active transportation in St. Helena. The relationship of this ATP/SRTS Plan to other planning documents is described in the following section.

1.1.1 State and Regional Plans and Policies

Toward an Active California

Toward an Active California is California's first statewide bicycle and pedestrian plan. The plan includes policy and programmatic recommendations centered on four core objectives: safety, mobility, preservation, and social equity, which are intended to shape active transportation at the state level as well as provide guidance and inspiration for regional and local plans. The main goal of the plan is to ensure

people in California of all ages, abilities, and incomes can safely, conveniently, and comfortably walk and bicycle for their transportation needs by the year 2040.

Caltrans Design Standards

Caltrans regularly updates the Highway Design Manual (HDM) and the California Manual on Uniform Traffic Control Devices (CA MUTCD). These documents include design standards for public streets and highways, as well as standards for pavement markings, signs, and other features. Any improvements on state facilities, such as St. Helena's Main Street (SR 29) must be consistent with these design standards.

Caltrans District 4 Bike Plan

The Caltrans District 4 Bike Plan (2018) assesses bicycle conditions along the State Highway System within District 4, which includes Napa County. It identifies recommendation for high priority bicycle improvements to enhance bicycle safety and mobility throughout the District. By informing future bicycle infrastructure investments on the State transportation network, the District 4 Bike Plan will assist Caltrans as well as regional and local jurisdictions in choosing priority projects to pursue new funding opportunities for and allocate existing funds to.

Caltrans District 4 Pedestrian Plan for the Bay Area (In Progress)

The Caltrans District 4 Pedestrian Plan for the Bay Area is in progress as of June 2021, and the Final Plan is expected to be released in late 2021. The Plan identifies high priority pedestrian needs across the State Highway System and is intended to complement the District 4 Bike Plan. Often serving as Main Streets, state highways provide access for local people and needs, as well as facilitating regional travel between communities. St. Helena's Main Street is in the city's downtown core and is also SR 29.

1.1.2 Napa County Plans and Policies

Vision 2040: Moving Napa Forward

Vision 2040: Moving Napa Forward (2015) is the County's current Countywide Transportation Plan. The long-range transportation plan identifies goals and needs that apply to all transportation modes and is intended to guide Napa County transportation investments over a 25-year period. Vision 2040 includes a series of white papers highlighting various issues, concerns and opportunity areas relevant to transportation in Napa County. Each white paper concludes with a project consideration summary that identifies proposed projects to address the issues and concerns cited in the white paper. An update to the Countywide Transportation Plan, Advancing Mobility 2045 was available in draft form as of June 2021. The final draft will provide an updated list of goals, plans, policies, and strategies for long-range countywide transportation investments over the next 25 years.

Napa Countywide Pedestrian Plan

The Napa Countywide Pedestrian Plan (2016) provides a comprehensive assessment of pedestrian conditions and offers priority project and implementation plan recommendations across Napa County's incorporated and unincorporated areas. The plan begins with a Countywide introduction of pedestrian conditions in Napa County, then each of the chapters that follow focus on one of the County's five incorporated areas, as well as the unincorporated County area. Chapter Three, *The St. Helena Plan*, describes existing pedestrian conditions, highlights opportunity areas, and recommends policy, programmatic and project improvements to address the identified deficiencies of the pedestrian network in the city of St. Helena.

Napa Countywide Bicycle Plan

Similarly, The Napa Countywide Bicycle Plan (2019) assesses existing bicycling conditions across Napa County for both its incorporated and unincorporated areas. In addition to summarizing existing bicycling facilities, policies, and standards, it identifies deficiencies, as well as recommends policy, program, and project improvements to the bicycling network. Chapter Seven provides an assessment specific to the city of St. Helena.

Napa Valley Community-Based Transportation Plan

The result of a community-based planning effort that relies on an open dialogue between community members and transportation planners, the Napa Valley Community-Based Transportation Plan (CBTP) assesses perceived gaps in transportation infrastructure identified by members of the County's communities of concern (COC) and provides a list of project or program improvements to address the identified needs.

South St. Helena, located within the southernmost section of the city, is identified as a COC due to the high percentage of severely rent-burdened households living below the poverty line. Close to 40 percent of households living in South St. Helena are living 200 percent below the poverty line. One in four individuals in the community are considered "severely burdened" by the cost of housing expenses, which indicates the individual is using 50 percent or more of their monthly income towards housing expenses.

Napa County Travel Behavior Study

The Napa Valley Travel Behavior Study (2020) studies travel patterns and characteristics in Napa County. It outlines the number of trips per day associated with Napa County visitors, residents, employees, where trips begin and end, and the predominant modes used, and time travelled for these trips. The results of the study will provide the basis for various NVTa transportation planning efforts by informing travel behavior throughout the County.

1.1.3 Local Plans and Policies

2040 General Plan Update

The 2040 General Plan Circulation Element (2019) provides an outline for a comprehensive, multimodal transportation network in the city of St. Helena. The circulation element recognizes that city residents of all ages are increasingly interested in transportation options other than cars, such as bicycling, walking and public transit. Moreover, the numerous benefits of the shift toward non-automobile modes are also recognized, and the Plan element identifies policies and implementing actions that aim to develop an efficient, multimodal transportation network in the city.

St. Helena Americans with Disabilities Act Self Evaluation and Transition Plan

The City's Americans with Disability Act (ADA) Self Evaluation and Transition Plan was adopted in 2017 and was prepared to fulfill the legislatively mandated ADA 1991 standards Title II Regulation, which requires public entities to assess and reasonably modify its policies, practices, and procedures to avoid discriminating against individuals with disabilities. The report describes the process to develop the self-evaluation, the findings of the evaluation and a Transition Plan to address issues and ensure accessibility.

Safe Routes to School Walk Audit Report

Napa County Bicycle Coalition (NCBC) is in the process of developing a walk audit report for St. Helena schools. Building on outreach and field observations, NCBC has developed a preliminary set of recommendations to improve conditions for students walking and bicycling to school. The report is not yet publicly available, however recommendations from the NCBC walk audit were evaluated and incorporated into the list of recommendations generated through this ATP/SRTS Plan.

2. Existing Conditions

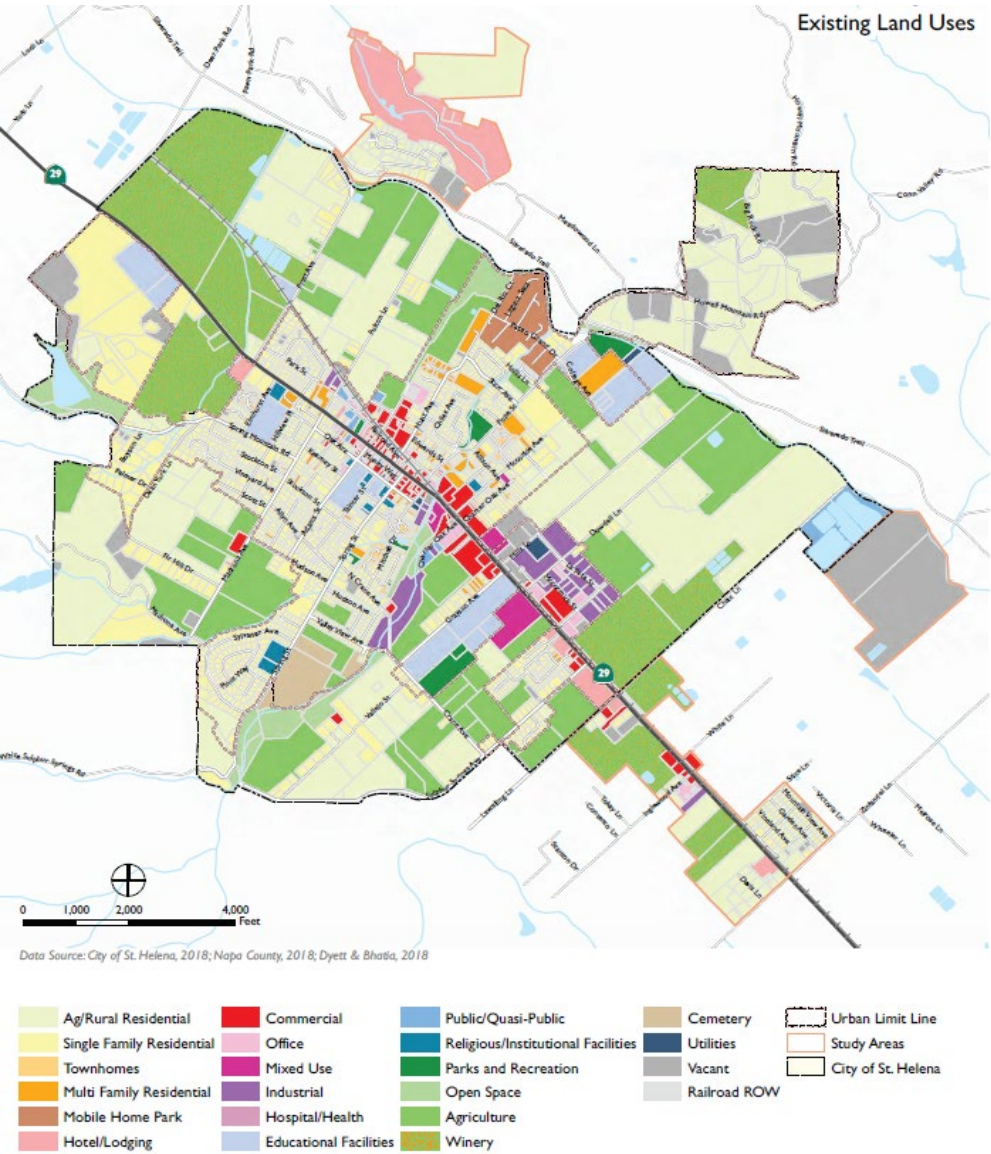
2.1 Local Context

2.1.1 Land Use and Major Destinations

St. Helena is composed predominantly of residential and agricultural land use, aside from the commercial areas adjacent to SR 29/128 (Main Street). St. Helena's Main Street is the city's downtown core, which features a variety of shops and restaurants and is a popular tourist destination. Figure 1 shows the land use within the city of St. Helena. As seen, the downtown core is composed of predominantly central business land use, and is surrounded by public/quasi-public, residential and agricultural land uses.

The city's compact land use pattern, street network with low traffic volumes, relatively flat geography, and somewhat comprehensive sidewalk network creates the opportunity for residents and visitors to travel by bike or foot throughout the community.

Figure 1: St. Helena General Plan Land Use Map



GENERAL PLAN UPDATE
City of St. Helena

2.2 Transportation Network

2.2.1 Streets and Highways

SR 29 serves as St. Helena's Main Street and is also a regional connector to the greater Napa Valley region. Figure 2 depicts St. Helena's updated typology system and street network described in the 2040 General Plan Circulation Element. Table 1Table 1 presents the criteria for each category of the of the city's street typology system.

The typology system includes street context and non-automobile transportation modes to ensure that street standards adequately support the surrounding land use context, facilitate travel speeds suitable for the street type, and the need to accommodate non-motorized modes. The city of St. Helena's street typology system provides guidance for proposed bicycle and pedestrian facilities, design speed, traffic calming, and other similar features that are appropriate for each street typology classification.

Additional details of St. Helena's Street Typologies are provided in Appendix A.

Figure 2: City of St. Helena General Plan Street Network Typology Classification Map



Source: St. Helena General Plan 2040

Table 1: St. Helena General Plan Street Typologies

Street Typology	Vehicle Traffic Levels	Pedestrian Facilities	Bicycle Facilities (designated network)	Desired Vehicle Speeds/ Traffic Calming	Truck Route	Transportation Performance Measure
Open Space/ Rural Street	Low / moderate	Sidewalks not typically included	Bicycle route or boulevard	25-35 mph/ Yes	Accommodated	Citywide ATG1, bicycle connectivity, pedestrian connectivity
Industrial Collector Street	Low	Sidewalks	Typically none	25 mph/ No	Accommodated	Citywide ATG, bicycle connectivity, pedestrian connectivity
Residential Street	Low / moderate	Sidewalks (with landscape buffer or street trees where appropriate), crosswalks where appropriate	Bicycle boulevard or lane	15-25 mph/ Yes	Accommodated on designated routes	Citywide ATG, bicycle connectivity, pedestrian connectivity
Downtown/ Mixed-Use Street	Low to moderate	Wide sidewalks (with landscape buffer or street trees where appropriate), regular crosswalks	Bicycle boulevard or lane	25 mph/ Yes	Accommodated on designated routes	Citywide ATG, Bicycle connectivity, pedestrian connectivity
Regional Connector Street (Main Street)	High	Wide sidewalks (with landscape buffer or street trees where appropriate) and regular crosswalks in downtown area. Outside of downtown: regular crosswalks and sidewalks included where demand warrants	Bicycle route, lane or adjacent trail	25 -35 mph/ context-based	Accommodated	Peak hour vehicle travel time, citywide ATG
Notes: 1ATG = Automobile Trip Generation Source: Fehr & Peers, 2009						

Source: St. Helena General Plan 2040

2.2.2 Existing Bicycle Facilities

The existing bicycle network in St. Helena is limited – as seen in Table 2, there are only 2.5 miles of bikeways in the city. Nonetheless, local streets with relatively low traffic speeds and volumes allow for comfortable bicycling in many areas of the city.

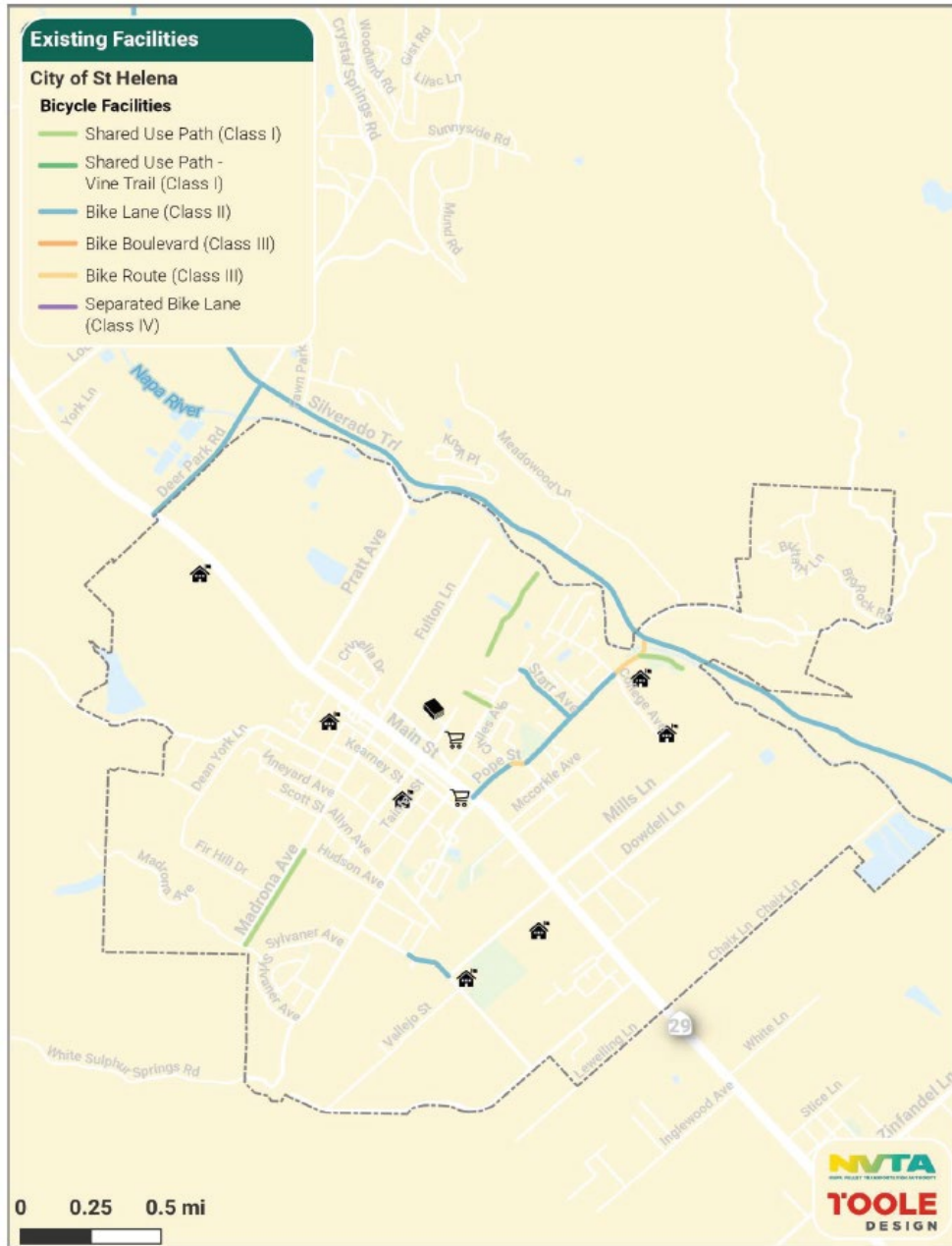
The City's existing bicycle network is depicted in Figure 3. As shown, there are bicycle lanes along a few city streets, as well as some short Class I shared-use paths connecting neighborhoods and bike route connections. Napa County's first green painted bicycle lanes are located in St. Helena on Valley View Street. The City's bikeway facility classifications as described in the 2040 St. Helena General Plan are provided in Appendix A.

Table 2: Existing Bicycle Facility Mileage

Facility Type	Existing Mileage
Shared-Use Path (Class I)	1.0
Bicycle Lane (Class II)	1.3
Bicycle Route (Class III)	0.2
Total	2.5
<i>Source: Napa Countywide Bicycle Plan</i>	

It should be noted that the categorization of bicycle facilities reflected in the table above and accompanying map does not indicate that the facility meets current minimum standards or best practices for the facility type. For example, the facilities on Madrona Avenue and Adams Street, which are designated in the data and maps as Class I, are four feet wide while the current minimum standard for Class I path width is 8 feet.

Figure 3: Existing Bicycle Facilities



Source: Napa Countywide Bicycle Plan

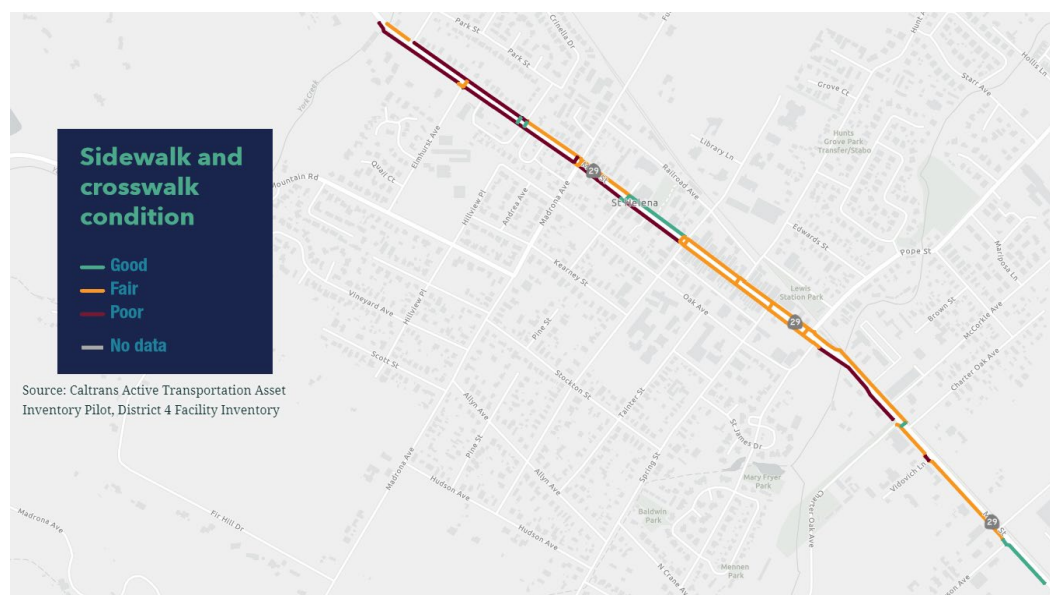
2.2.3 Existing Pedestrian Facilities

Lined with shops and restaurants, the city's Main Street (SR 29/SR 128) attracts pedestrians to the downtown corridor. Main Street/SR 29 features pedestrian-scaled lighting, and the surrounding downtown core features a fairly comprehensive sidewalk network. However Main Street/SR 29 often features high traffic volumes and congestion. Most uncontrolled intersections along Main Street only provide one marked crosswalk across Main, and do not include the high-visibility markings or additional signage which typically encourage better rates of yielding to pedestrians. Figure 4 presents the condition of sidewalk and crosswalks located on the Main Street through St. Helena. Caltrans' evaluation of sidewalk and crosswalk condition employs a methodology that can be applied consistently across a large geographic area, where sidewalk condition is evaluated based on the presence of gaps in the sidewalk and pavement condition and crosswalk condition is evaluated based on the absence or presence of median islands, marked crossings, and posted speed limits. This dataset does not take into account, context-specific factors like, visibility challenges and trends of speeding or drivers failing to yield to pedestrians. Caltrans' evaluation of SR 29 can be used in combination with other field data and community feedback to gain a more complete picture of existing conditions along the corridor.

An overview of the city's pedestrian facilities is shown in Figure 5. As seen, most of the city's sidewalk gaps are located on its outer edges. Among the areas with sidewalk gaps, St. Helena City staff identified the following existing or potential pedestrian desire lines:

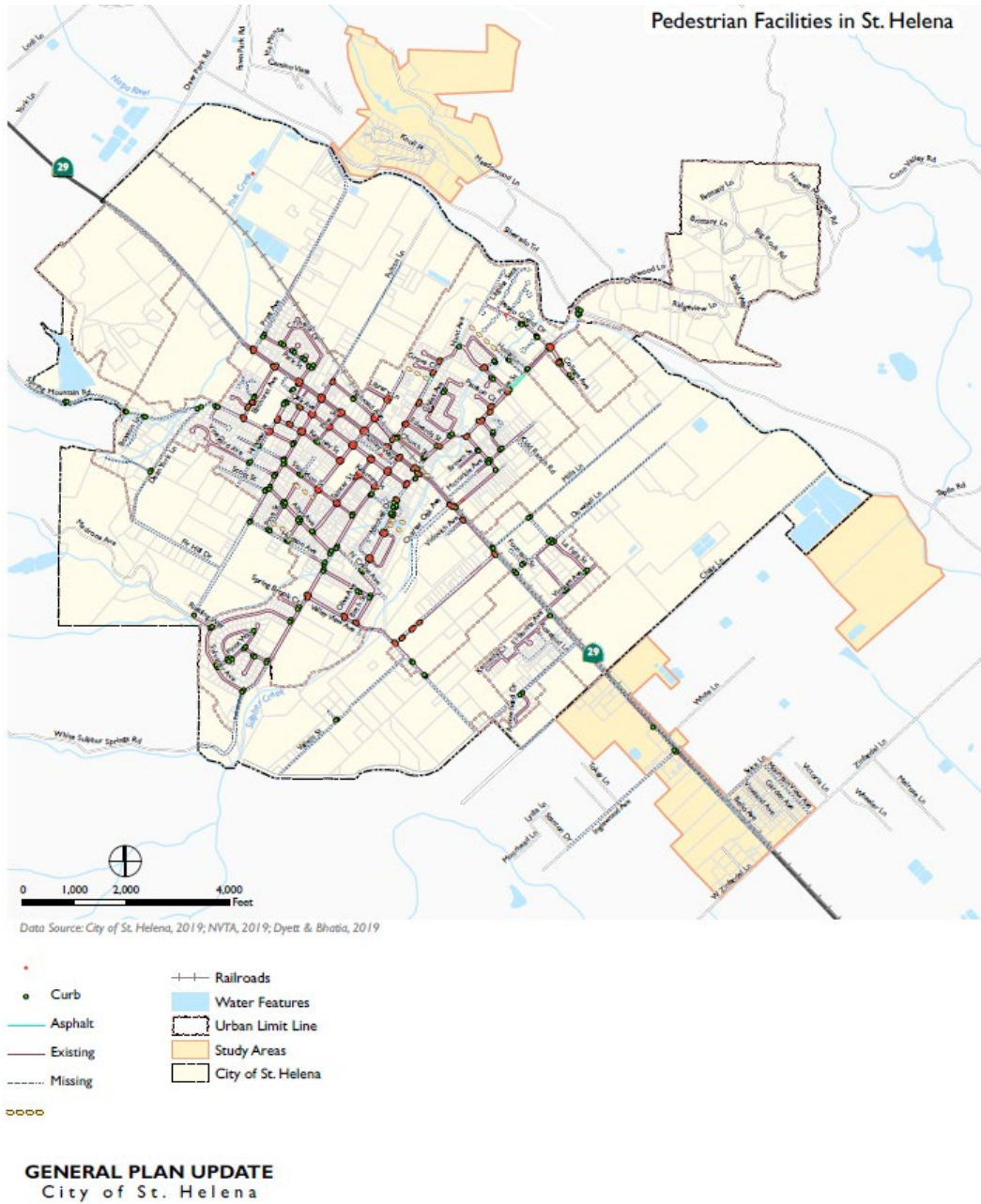
- North-west corridors Main Street and Hudson Avenue
- East-west corridors Grayson Avenue and Mitchell Drive
- Pope Street, particularly for seniors walking from their homes to downtown

Figure 4: SR 29 Sidewalk and Crosswalk Condition in St. Helena



Source: Caltrans District 4 Pedestrian Plan for the Bay Area Story Map

Figure 5: Pedestrian Facilities in St. Helena



Source: City of St. Helena General Plan Update 2040. Please note the missing labels in the legend are not provided in the source document.

2.3 Collision Analysis

Collision data was acquired from the California Highway Patrol (CHP) Statewide Integrated Traffic Records System (SWITRS), Napa County CHP statistics for the City of St. Helena, and the City of St. Helena Police Department (St. Helena PD) records for the five-year period between 2015 and 2019.¹ During this five-year period, between 2015 and 2019, 11 pedestrian and six bicycle collisions were reported.² Collisions were mapped by severity, type, and density of occurrence to identify potential safety concerns.

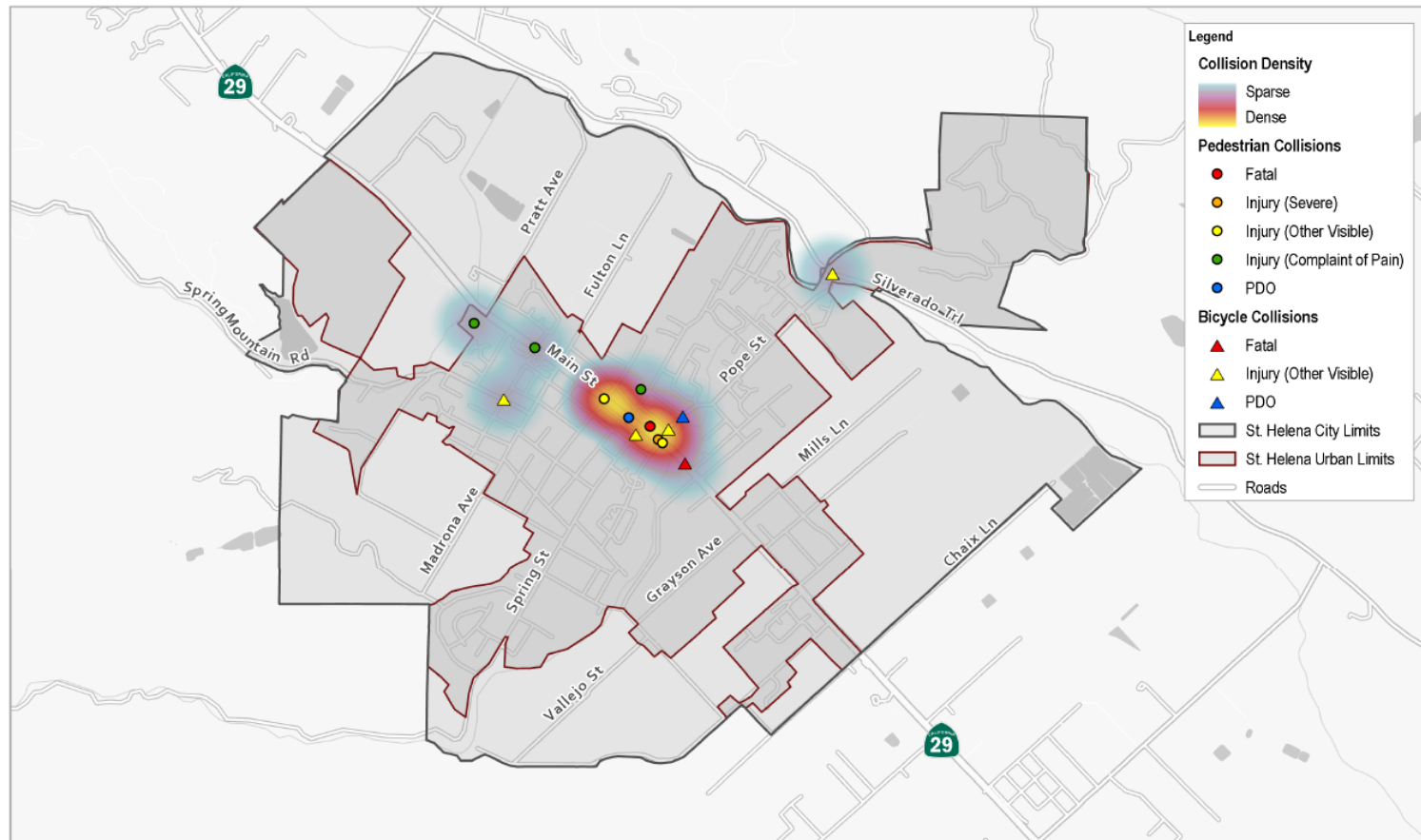
¹ 2019 records are provisional and subject to change.

² Bicycle and pedestrian collisions are likely under-reported due to a misconception that they are not “real” collisions, minimal injuries or damage, lack of insurance involvement, or concerns about interacting with law enforcement. Data in this section is based on reported collisions; the actual number of collisions is likely higher.

Figure 6 shows the bicycle and pedestrian collisions that occurred in St. Helena during the study period, which highlights areas of Main Street as a hotspot for bicycle and pedestrian collisions.

The low number of total reported collisions makes identifying definitive trends based on this data challenging. While the number of collisions may be low, this does not mean that safety concerns do not exist. Bicycle and pedestrian collisions are often under-reported, and the lack of existing facilities in St. Helena may deter some individuals from using active modes at all. Collision data should be supplemented with public and stakeholder engagement to further inform issues of bicycle and pedestrian safety in the City of St. Helena.

Figure 6: Bicycle and Pedestrian Collisions (2015 - 2019)



Paper Size ANSI A
0 0.1 0.2 0.3 0.4
Miles
Map Projection: Lambert Conformal Conic
Horizontal Datum: North American 1983
Grid: NAD 1983 StatePlane California II FIPS 0402 Feet



CITY OF ST. HELENA
ST. HELENA ATP AND SRTS PLAN
BICYCLE & PEDESTRIAN
COLLISIONS (2015 - 2019)

Project No. 11224137
Revision No. -
Date MARCH 2021

FIGURE 6

N:\US\Sacramento - 2000-21\Projects\6011224137\GIS\Map\Working\11224137_St Helena ATP SRTS Plan_Feb2021.aprx
Print date: 23 Mar 2021 - 11:43

Data source: Human Geography State, County of Napa, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METANASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, Human Geography Detail, County of Napa, Esri, HERE, Garmin, SafeGraph, INCREMENT P, METANASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA. Created by: pthornton

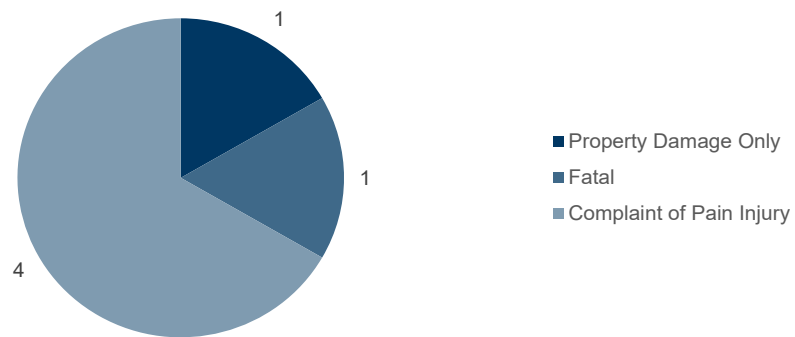
2.3.1 Bicycle Collisions

Between 2015 and 2019, six bicycle collisions were reported in St. Helena. In half of these collisions, the bicyclist was found to be at fault. Collision severity, primary collision factor, bicyclist movement preceding the collision, collision hotspot locations and presence of bicycle facilities were examined to identify collision trends and potential bicycle safety issues in the city.

Collision Severity

As shown in Figure 7, of the six bicycle collisions reported, one collision resulted in fatality. Four collisions resulted in complaint of pain injury, and one collision resulted in property damage only (PDO).

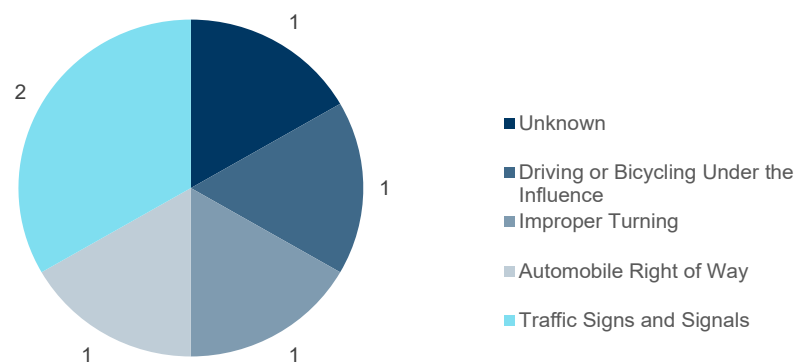
Figure 7: Bicycle Collisions by Severity



Primary Collision Factor

As shown in Figure 8, two of the six reported bicycle collisions were reported as “traffic signs and signals” for the primary collision factor. Of the remaining collisions, the primary collision factors were reported equally as automobile right of way, improper turning, driving or bicycling under the influence, and unknown cause.

Figure 8: Bicycle Collisions by Primary Collision Factor



Movement & Collision Type

Investigating bicycle movement preceding a collision and the collision type can highlight common causes of collisions. The bicycle collision trends in St. Helena, however, give little perspective in this regard. Four of the reported bicycle collision records indicated “Not Stated” as the bicyclist movement preceding the collision, while one indicated the bicyclist was proceeding straight and one indicated the bicyclist was entering traffic. Further, half of bicycle collisions were reported as “Other” for the collision type. Two collisions were reported as broadside collisions and one as sideswipe collisions. Vehicle movements preceding all collisions were reported as proceeding straight.

Hotspots

As shown previously in Figure 6, which depicts a heat map, as well as the spot locations, of both reported bicycle and pedestrian collisions, most collisions are concentrated along Main Street between Fulton Lane and McCorkle Ave. Bicycle collisions are concentrated near Main Street and Pope Street, with half of the reported bicycle collisions occurred at locations along Pope Street.

Presence of Bicycle Facilities

Pope Street features the only continuous segment of on-street bicycle facilities (a mix of Class II and Class III facilities) within St. Helena’s city limits. There are also Class II bicycle lanes along Silverado Trail, a short segment of which falls within city limits near the intersection of Silverado Trail and Pope Street. The remaining portions of the bicycle lanes along Silverado Trail are within Napa County’s jurisdiction that runs adjacent to eastern border of the city. Of the reported bicycle collisions, three collisions occurred along Pope Street, which features some of the city’s only Class II and Class III bicycle facilities.

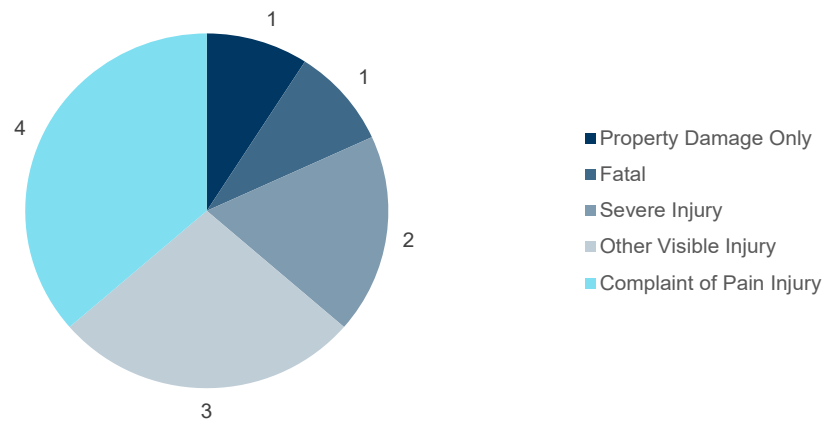
2.3.2 Pedestrian Collisions

Between 2015 and 2019, there were 11 reported pedestrian collisions in the City of St. Helena. All 11 collisions involved vehicles and pedestrians. Collision severity, primary collision factor, collision hotspot locations, pedestrian action preceding the collision and presence of existing pedestrian facilities at the collision location were examined to identify potential pedestrian safety issues in St. Helena.

Collision Severity

As shown in Figure 9, of the total pedestrian collisions reported, one collision resulted in fatality. Two collisions resulted in severe injury, three resulted in other visible injury, four resulted in complaint of pain injury, and one resulted in property damage only.

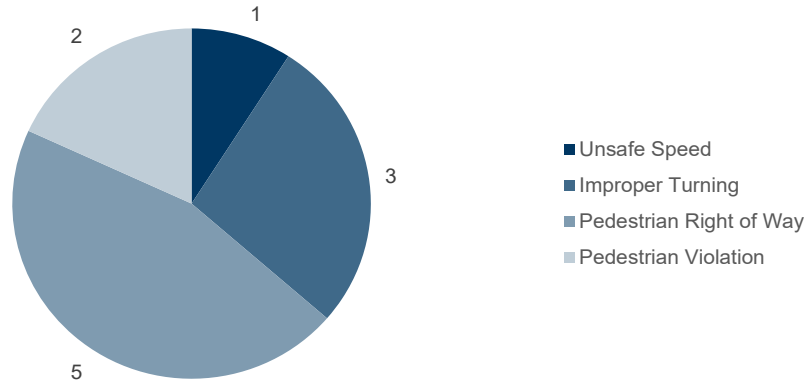
Figure 9: Pedestrian Collisions by Severity



Primary Collision Factor

As shown in Figure 10, failure to yield to the pedestrian right of way was reported as the primary collision factor in 5 of the 11 of the reported pedestrian collisions. Of the remaining six reported pedestrian collisions, the primary collision factor was reported as improper turning in three collisions, as pedestrian violation in two collisions, and as unsafe speed in one collision.

Figure 10: Pedestrian Collisions by Primary Collision Factor



Hotspots

As shown previously in

Figure 6, pedestrian collisions are concentrated along Main Street. Of the 11 total reported pedestrian collisions, 10 occurred at locations along Main Street. Of the collisions along Main Street, three occurred at the intersection of Main Street and Adams Street and one occurred less than 250 feet from the intersection.

Crosswalk Presence

All the reported pedestrian collisions occurred while the pedestrian was crossing the roadway, whether in a crosswalk at an intersection, or a location without a crosswalk. Eight of these collisions occurred while the pedestrian was crossing in a crosswalk at an intersection, and three occurred while the pedestrian was crossing while not in a crosswalk.

Of the ten reported pedestrian collisions where the pedestrian was not found to be at fault, eight out of nine occurred while the pedestrian was crossing in a crosswalk at an intersection. Moreover, of the pedestrian collisions that occurred while the pedestrian was crossing at an intersection, the driver was at fault in all of these.

With almost three-quarters of pedestrian collisions occurring within a crosswalk at an intersection, and all these collisions resulting from vehicle fault, pedestrian crossing safety at intersections in St. Helena is likely an issue.

2.4 Level of Traffic Stress and Bicycle Network Analysis

The bicycle network analysis of St. Helena's street network assesses two components: bicycle Level of Traffic Stress (LTS) for all streets and bicycle facilities, and low stress bicycle connectivity analysis using a GIS-based Bicycle Network Analysis tool.

As part of the Napa Countywide Bicycle Plan (2019) Bicycle LTS and bicycle network connectivity were analyzed to assess how well the City's existing roadway and bicycle facility network serves the population. Bicycle LTS was also analyzed as part of the Caltrans District 4 Bike Plan (2018). A full description of the methodology utilized in each of these plans are provided in Appendix B.

2.4.1 Bicycle Level of Traffic Stress

Developed in 2012 by the Mineta Transportation Institute, the methodology was first published in the paper, "Low Stress Bicycling Connectivity and Level of Traffic Stress." The LTS analysis considers roadway infrastructure characteristics including:

- Number of travel lanes and presence of centerline
- Speed limit
- Daily traffic volumes
- Bicycle facility type
- Presence of on-street parking and width of parking lane, if applicable
- Bike lane width

LTS is a measure of perceived comfort from the perspective of the bicyclist and is scored on a one to four scale, with LTS one being the lowest stress and LTS 4 being the highest stress. It is important to note that LTS methodology is constrained by the availability and consistency of geographic data and therefore does not consider context-specific characteristics like actual speed or vehicular lane width. For more information on how LTS is determined, please refer to Appendix B.

The results of the bicycle level of traffic stress analysis for State Route 29 in Caltrans right-of-way through St. Helena is shown in Figure 11. The citywide results of the level of traffic stress analysis for the City of St. Helena is presented in

Figure 12.

Figure 11: State Route 29 Bicycle Level of Traffic Stress



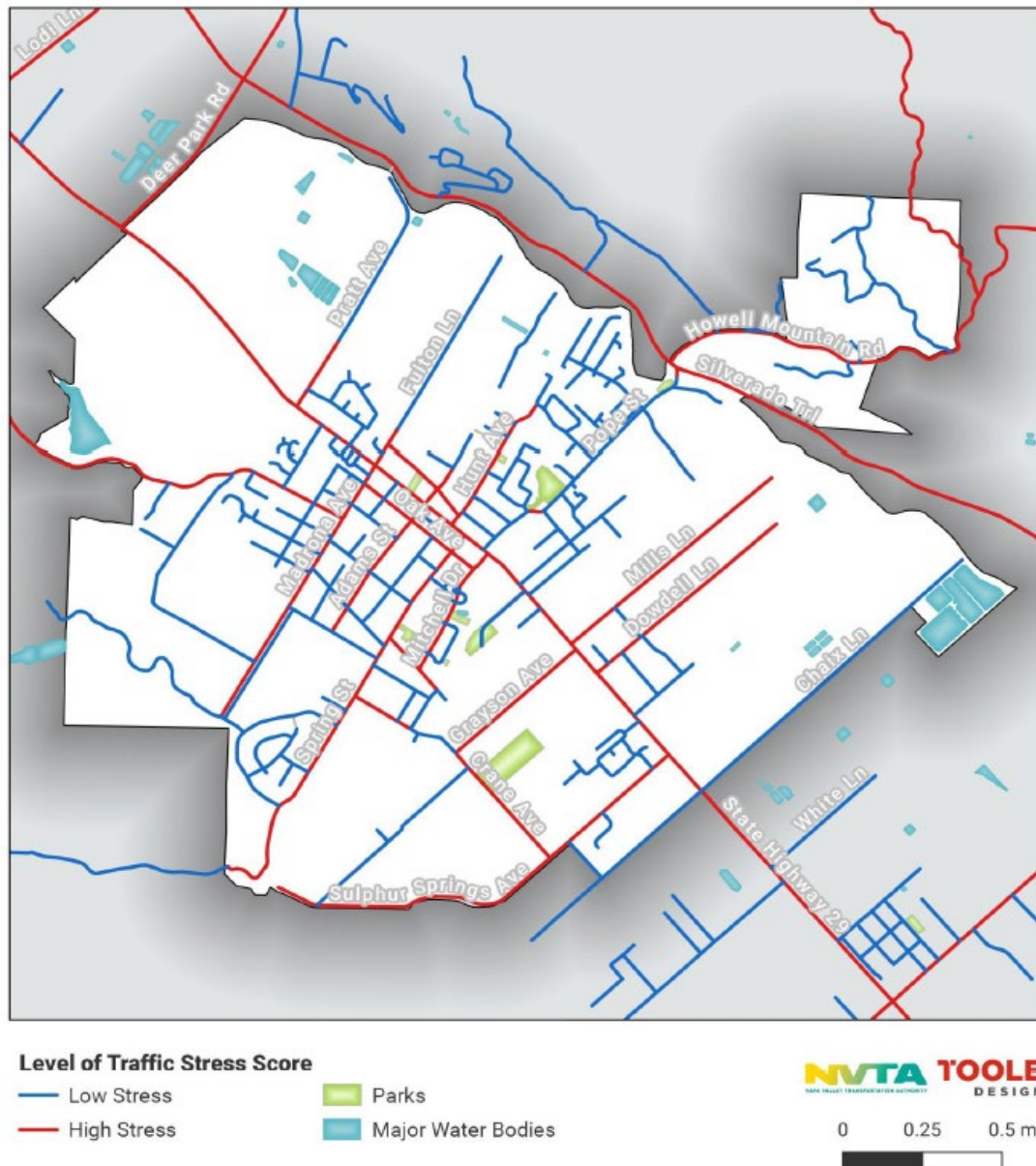
Source: Caltrans District 4 Bike Plan

Roughly 61 percent of St. Helena's streets are LTS 1 or 2, considered comfortable for most people. As seen in

Figure 12, there are local streets throughout the city with lower traffic volumes and speeds that connect some neighborhoods to others, which will result in higher comfort and lower traffic stress. However, Figure 11 and

Figure 12 show that most of the city's major streets are higher stress facilities. The 31 percent of St. Helena's streets found to be high stress (i.e., LTS 3 or LTS 4) are streets that divide the city network, which makes linking a continuous low stress route difficult to achieve.

Figure 12: Bicycle Level of Traffic Stress – Citywide



2.4.2 Bicycle Network Analysis

The Bicycle Network Analysis (BNA) measures the degree to which the low stress network of roadway and bicycling facilities, destinations, and Census blocks are connected. Using GIS methods, which are described in further detail in Appendix B, points are assigned on a 1-100 scale to assess the level of connectivity of destinations to low stress bicycling facilities throughout the city.

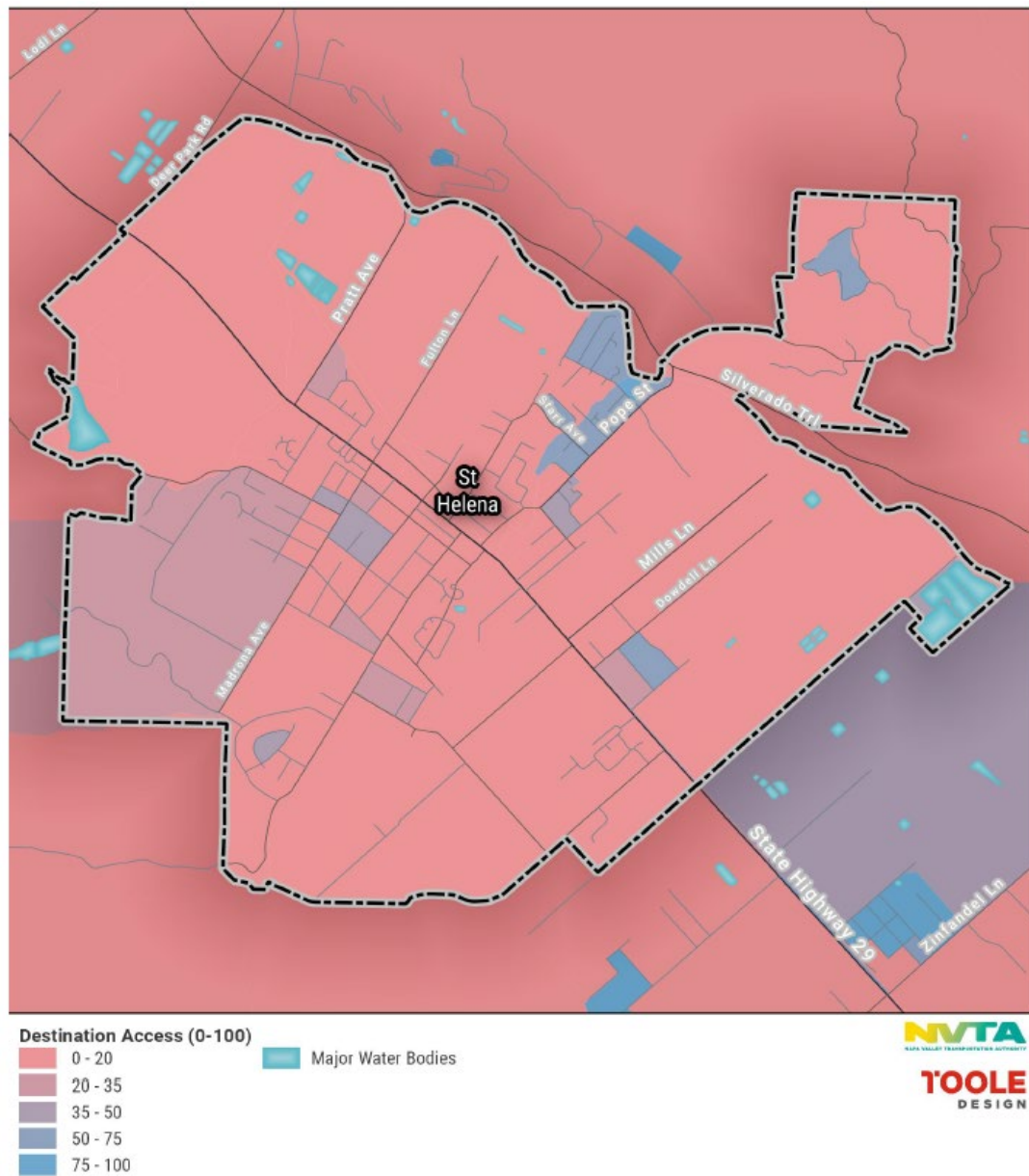
A destination and/or Census block is considered connected if a low stress roadway, designated as LTS 1 or LTS 2, is located along any side of that Census block. The BNA tool also includes a measure of population and employment connectivity based on Census data and Longitudinal Employer-Household Dynamics (LEHD) data, respectively.

The low stress connectivity of St. Helena's street network, calculated using the BNA tool, is shown in Figure 13. The scores depicted can be interpreted using the following metrics:

- Score of 0 – 20: Poor Connectivity
- Score of 20 – 35: Okay Connectivity
- Score of 35 – 50: Good Connectivity
- 50 and above: Very Good Connectivity

As shown in Figure 13, much of the city features poor connectivity, with most of the city scoring between 0 and 20.

Figure 13: City of St. Helena Bicycle Network Analysis



2.5 Pedestrian Needs Analyses

2.5.1 Ped INDEX

As part of the Napa Countywide Pedestrian Plan (2016), a Ped INDEX analysis was completed for the City of St. Helena to identify areas with high pedestrian demand and deficiencies in the pedestrian network. This process was used to support the development of the Plan's recommendations. The Ped INDEX analysis considers factors such as:

- Population density
- Land use mix
- Presence of schools or parks
- Intersection density
- Location of downtown commercial areas
- Age

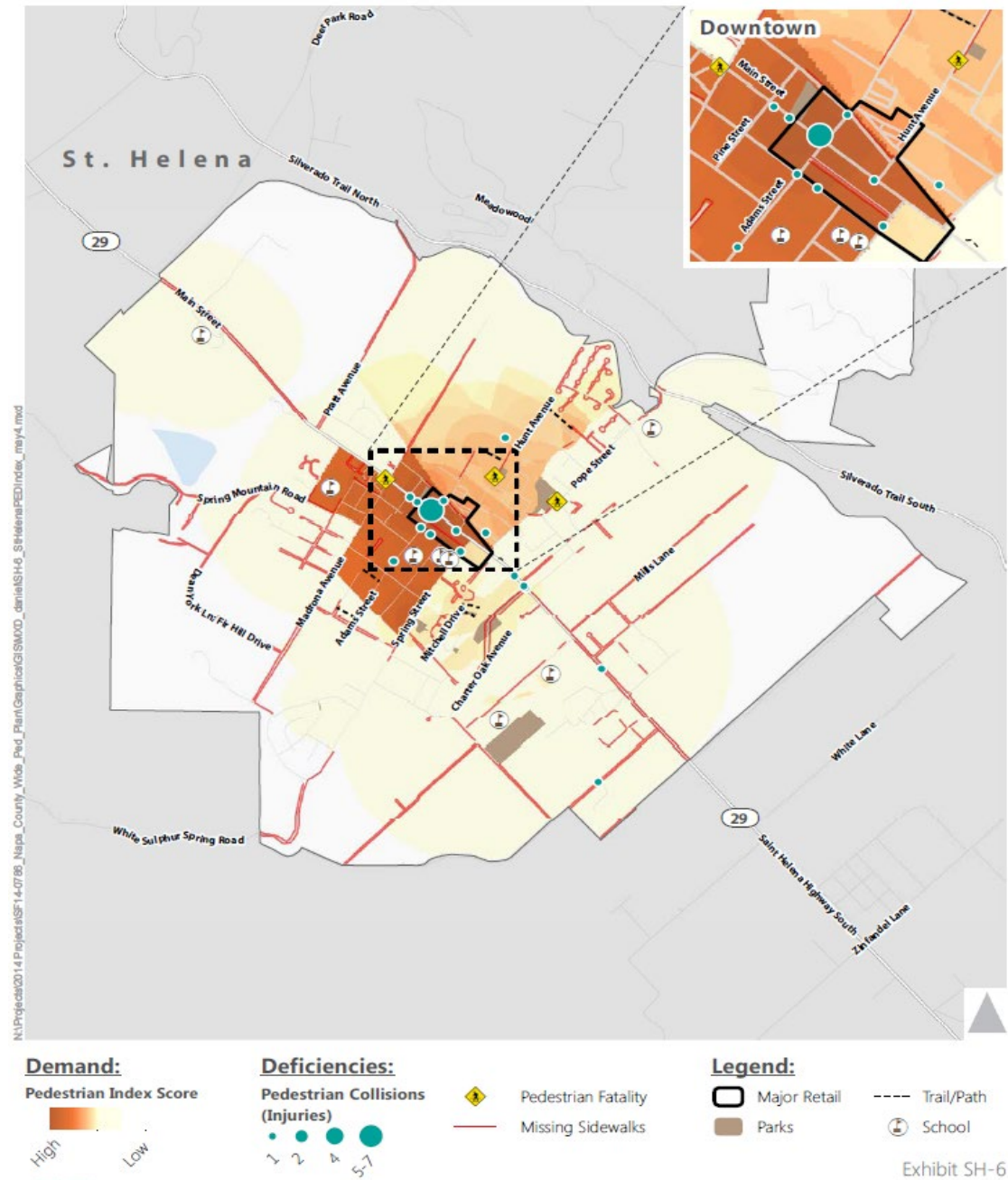
Further description of the Ped INDEX methodology and results is provided in Appendix C.

The analysis results in a heat map that highlights areas of high pedestrian demand relative to the areas where pedestrian infrastructure improvements are the most needed. The heat map result is shown in Figure 14. As shown, pedestrian demand and infrastructure deficiency are both focused in the downtown area. As a result of this analysis, two locations for walking audits were identified by the Countywide Pedestrian Plan and recommended to city staff:

- Hotels and High School: Grayson and Crane Avenues along the school frontage; Main Street between Grayson Avenue and Sulphur Springs Avenue (1.1 miles)
- Downtown and Pope Street: Main Street from Pine Street to Pope Street/Mitchell Drive; Pope Street from Main Street to Paseo Grand Drive (1 mile)

Ultimately, a combination of the above focus areas was identified for walking audit study – Main Street from Pine Street to Sulphur Springs Avenue.

Figure 14: Pedestrian Index - Demand and Deficiencies

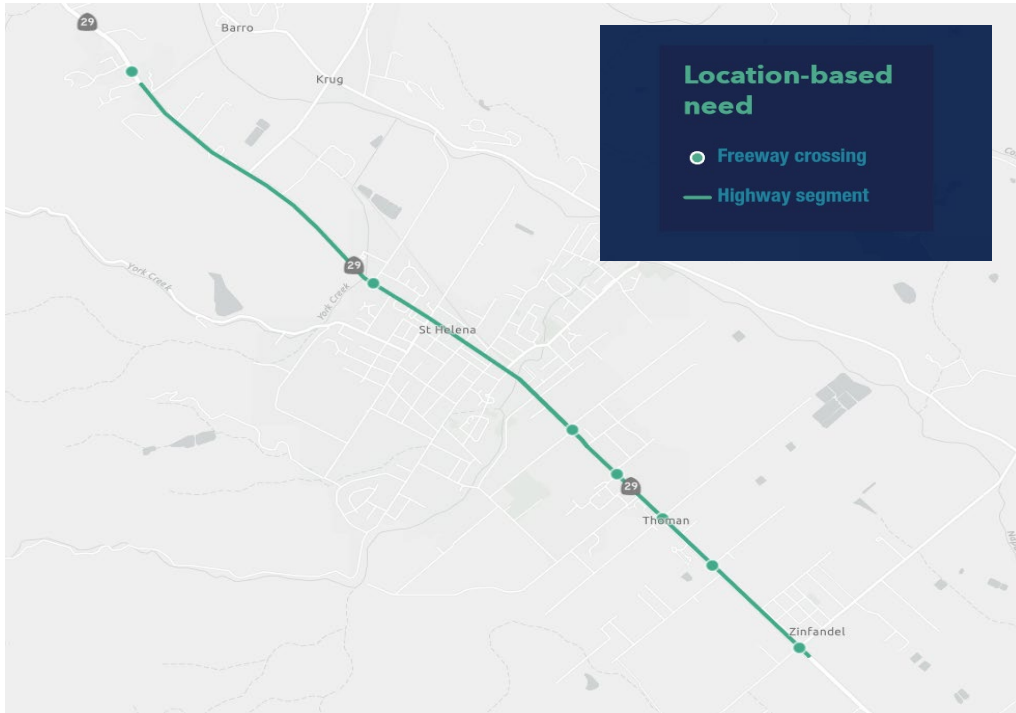


Source: Napa Countywide Pedestrian Plan

2.5.2 Location-Based Pedestrian Need: State Route 29

Figure 15 presents the locations of pedestrian improvement needs identified along State Route 29 through St. Helena. The needs were identified from local or regional plans and from public or agency comments.

Figure 15: State Route 29/Main Street Pedestrian Needs



Source: Caltrans District 4 Pedestrian Plan for the Bay Area

2.5.3 Walk Audit

To supplement previously completed pedestrian needs analyses, a walk audit of several streets of concern within the City was conducted on Tuesday, March 16, 2021, from 8:00 to 9:00 a.m. While the project area is the entire City of St. Helena, the Madrona Avenue and Spring Street corridors have been elevated by the community as areas needing immediate attention to solve safety and comfort issues for pedestrians and bicyclists, especially students and families travelling to and from school. The walk audit was performed on a weekday morning to assess conditions on segments of the Madrona Avenue and Spring Street corridors during a period when many people are traveling to work and school.³ Community members were invited to participate⁴ and help the project team understand pedestrian safety, accessibility, and comfort from an on-the-ground perspective. Attendees included project team members from the City and GHD, City Officials, a representative from the Napa County Bicycle Coalition, and local parents and students. Photo documentation from the walk audit is provided in Appendix D.

The walk audit began with a brief introduction by the City and consultant about the overall project underway to develop the ATP and SRTS Plan, and the specific focus on madrona Avenue and Spring Street for the walk audit. Participants were asked to think about their daily trips on these roadways, and point out challenging areas, discuss concerns, and share anything relevant to safety and comfort of bicycle and pedestrian travel. Participants were asked to share observations from their everyday lives, comments from their children or neighbors on roadway safety, and their preferences for improvements. The group then walked the corridors, stopping periodically to discuss conditions and observations.

Findings from the walk audit included:

- Desire for greater traffic calming, including:
 - More controlled stop locations and greater visibility and advanced warning of existing stops
 - Additional and enhanced crossings (RRFB, high visibility markings, etc.)
 - Bulb outs
 - Speed enforcement
 - Signage
 - Education
- Marked and unmarked crossings present safety challenges throughout the project area due to issues with visibility, speeding, and motorists that fail to obey traffic signs and signals
- Overgrown vegetation presents visibility challenges for motorists and pedestrians
- Potholes and cracked pavement present challenging conditions for bicyclists, which pushes them into the center of the road where they must share space with motorists
- Sidewalks are cracked, uneven, and narrow in many places, presenting challenges for pedestrians, people with mobility impairments, and people with strollers and wheeled devices
- Curb ramps are missing or insufficient at several intersections
- Bicycle facilities are absent or insufficient
 - It was noted that some members of the community view the parking lane on Madrona Avenue as a bicycle lane, despite the fact that it is actually a parking lane. As it is striped separately from the travel lane, this is seen by some as the only available space to ride a bicycle. When the lane is used for parking, this impedes the perceived ability to ride a bicycle on this road. Better markings and signage to show that bicyclists may use the travel lane, such as sharrows, Bike

³ It should be noted that the walk audit was performed in March 2021, during the COVID-19 pandemic, when many people were working from home. Accordingly, travel patterns observed may not reflect typical conditions. Several participants noted how the conditions observed differed from the pre-pandemic everyday traffic conditions.

⁴ Due to the COVID-19 pandemic and limitations on safe gatherings, the walk audit was limited to 5-10 participants identified by the City from prior engagement regarding traffic safety in the area. Under normal circumstances, the invitation would have been more broad, and more staff would have been present to record observations and comments. Future project outreach in Phase II is expected to be more open as the COVID-19 restrictions are reduced.

Route signage, or Bike May Use Full Lane signage, may be a good way to let the community know that bicycles are allowed and should be expected in the travel lane

- Students opt to avoid wider, busier streets by taking calmer residential roads wherever possible on their routes to school
- Desire to see improvements that are distributed equitably between income groups as well as geographically, particularly between the east and west sides of the city
- St. Helena is compact enough to be a highly walkable city, but residents opt to drive to their destinations due to perception of longer distances and safety challenges

2.6 Prior Plan Project Recommendations

2.6.1 Recommended Bicycle Projects

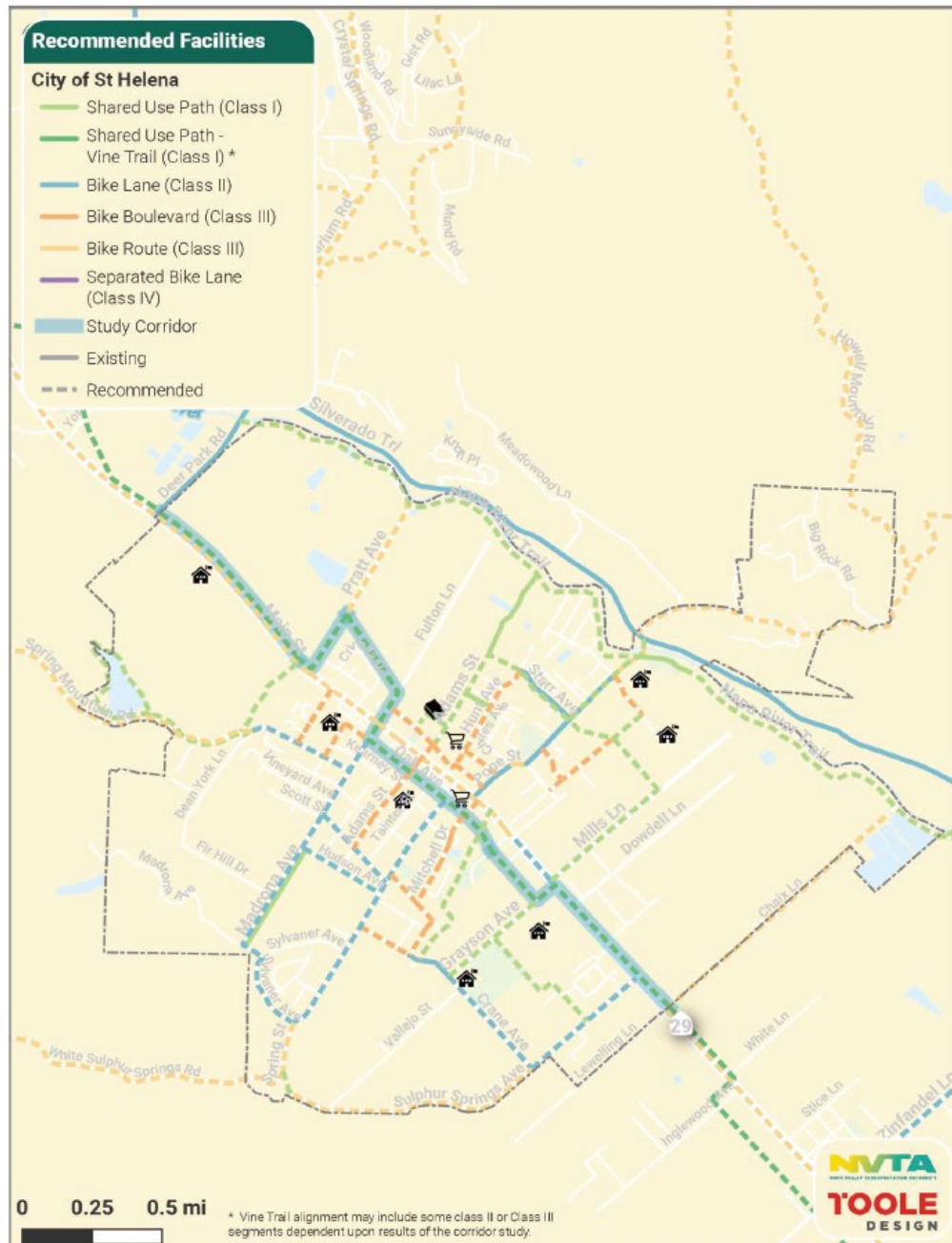
Bicycle projects recommended in the Napa Countywide Bicycle Plan are shown in Figure 16. In addition to these recommendations, the Caltrans District 4 Bicycle Plan, which identifies high-level improvements, recommends a few improvements within St. Helena, including Class II bike lanes, Class IV bikeways and crossing improvements. A detailed list of all bicycle projects recommended in prior plans is provided in Appendix E.

2.6.2 Recommended Pedestrian Projects

Pedestrian projects recommended in the Napa Countywide Pedestrian Plan are shown in Figure 17. Additionally, the Caltrans District 4 Pedestrian Plan identifies location-based corridor and crossing needs along SR 29 in St. Helena (see section 2.5.2).

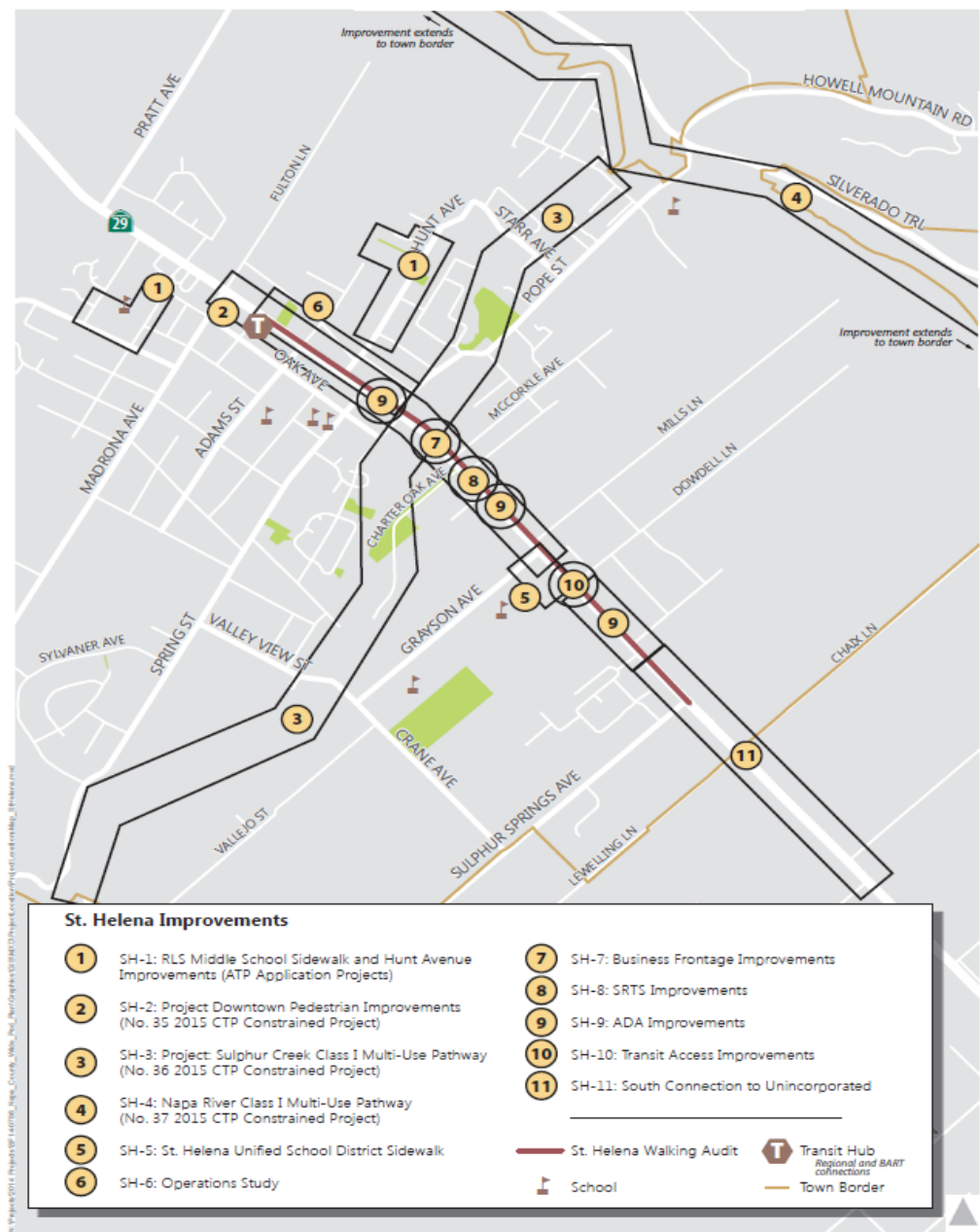
A detailed list of all pedestrian projects recommended in prior plans, as well as those identified as priority projects by these plans is provided in Appendix F.

Figure 16: Bicycle Network Project Recommendations



Source: Napa Countywide Bicycle Plan

Figure 17: Pedestrian Network Project Recommendations



Source: Napa Countywide Pedestrian Plan

3. Policies and Programs

This section describes the existing and proposed policies and programs relevant to the development of active transportation facilities and safe routes to school in St. Helena.

3.1 Pedestrian Policies & Programs

The Napa Countywide Pedestrian Plan (2016) utilizes a benchmarking matrix that compares the City's existing policies, programs, and practices against national best practices to identify key strengths, enhancement areas, and opportunities areas. These areas are defined as follows:⁵

- Key Strengths: areas in which the jurisdiction is exceeding national best practices
- Enhancement Areas: areas in which the jurisdiction is meeting best practices, with room for improvement
- Opportunity Areas: areas in which the jurisdiction is not meeting best practices

The full benchmarking matrix table is provided for reference in Appendix E, which describes the existing programs and policies and the identified improvement areas in further detail.

The City's key existing policy and program strengths include:

- Complete Streets Policy
- Newspaper Rack ordinance
- Street Tree Ordinance
- Speed Limits and Speed Surveys

There are also existing City pedestrian policies and programs that are identified as enhancement areas, which include, but are not limited to the following policies and/or programs:

- Collision Reporting and Monitoring
- Public Engagement Improvements
- Transportation Demand Management
- Design and Development Standards
- Historical Preservation
- Public Safety Education Program
- Safe Routes to School
- Open Space Requirements
- Economic Vitality

The key opportunities identified to improve pedestrian policies and programs in St. Helena include the following:

Street Furniture Ordinance

- Adoption of a Street Furniture Ordinance that includes design guidance for transit stops, and locations for additional street furniture amenities not related to transit stops

Pedestrian Facility Inventory

- Expand upon the GIS-based pedestrian facility inventory developed by the Countywide Pedestrian Plan to include informal pathways and potential pedestrian opportunity areas

⁵ Napa Countywide Pedestrian Plan, Napa Valley Transportation Authority, 2016.

Walking Audit Program

- Conduct regular walking audits as part of the city’s safety program, complementing the “trip and fall” program

Pedestrian Volumes

- Require bicycle and pedestrian counts to be collected with all traffic studies or manual intersection turning movement counts and leverage GIS software to analyze pedestrian safety trends and hotspots using data such as existing and future pedestrian volumes, and the location of pedestrian control devices and collisions

Crossing Barriers

- Identify and maintain a comprehensive inventory of pedestrian crossing barriers, as well as identifying appropriate projects to address barriers

Crosswalk Design Guidelines

- Develop a crosswalk policy that includes criteria for identifying, installing, and enhancing crossings, as well as conduct audits to assess the adequacy of existing crosswalks

Traffic Calming Program

- Adopt a Traffic Calming Program to address the pedestrian concerns of resident, coordinating specifically with the high school to evaluate traffic calming measures along the school frontage

3.2 Bicycle Policies & Programs

The Napa Countywide Bicycle Plan (2018) describes existing and recommended policies and programs that support the development of a bicycle-friendly community in St. Helena. Existing bicycle policies and program strengths include:

- Bicycle Rentals
- Complete Streets
- Safe Routes to School Program
- Adult/Community Safety Education
- Speed Limits and Speed Surveys

Bicycle policies and programs recommended in the Napa Countywide Bicycle Plan include:

- Bicycle Parking, Showers, and Locker Facilities
- Capital Improvement Projects/Complete Streets Checklist
- Dedicated Bicycle Staff
- Existing Bikeways Policy
- Site Plan Review Checklist
- Vision Zero Policy
- Wayfinding Program
- Bikeway Maintenance

Further description of existing and proposed bicycle policies for St. Helena are provided in Appendix E.

3.3 Safe Routes to School

3.3.1 Existing Program

Safe Routes to School (SRTS) programs aim to create environments that encourage bicycling, walking and other forms of active transportation among children. Since 2010, Napa County Office of Education (NCOE) has coordinated all Napa County Safe Routes to School (SRTS) programs in partnership with the Napa County Bicycle Coalition and the Napa Valley Transit Authority (NVTa). The components of Napa County's SRTS initiatives include the following:

Bicycle and Pedestrian Safety Education

- Bicycle Safety Trainings: 4th and 5th graders spend 5 – 10 hours learning bicycle-specific curriculum while in school
- Pedestrian Safety Presentations: K-3rd graders spend 1 hour of class time with a SRTS instructor practicing pedestrian safety
- Bike Rodeos: schoolwide event learning the importance of helmets and riding an obstacle course
- Bay Area BikeMobile: NCOE coordinates with partner to provide free tune ups and repairs for children's personal bikes
- School-pooling including: Carpools for Kids, Walking School Buses, and Bicycle Trains

Walk & Roll Wednesdays

- Two champions (school staff, parents or community volunteers) are recruited at each school to promote walking, biking, carpooling or taking the bus to school every first Wednesday of the month
- Table is set up to greet students who used one of the above-mentioned modes to travel to school

Idle Free Pledge & Resources

- Campaign to make school an "idle-free zone," where engines are turned off when waiting more than 30 seconds

3.3.2 Recommendations

Many families live within walking or biking distance of local school, which creates an opportunity to expand upon existing SRTS Programming to improve safety and encourage active transportation among children from an early age.

SRTS Programming was included as an area for improvement in the 2016 Napa Countywide Pedestrian Plan. While NCOE administers SRTS initiatives across the County and a goal of program leaders is to reach every interested school, the Plan states that reaching all schools on a regular basis has been difficult due to understaffing and lack of volunteers. The Plan recommends the City should pursue grant funding for pedestrian projects and coordinate with NVTa to pursue additional SRTS funding. Additionally, it is recommended that the City seek out partners to form school-specific committees comprised of community-based organizations, parents, City staff, and other stakeholders, holding regular meetings to maintain stakeholder engagement and ensure continued and improved administration of SRTS programming at each school site.

The St. Helena General Plan Update 2040 also includes implementing actions related to SRTS initiatives:

- Partnership between the St. Helena Unified School District, NCOE, NVTa, and private schools to further develop and implement SRTS initiatives
- Promote walking and bicycling to improve student health outcomes
- Align SRTS programming with the city's bicycle and pedestrian trails systems
- Pursue state and federal grant funding opportunities to support SRTS programs in St. Helena
- Encourage school district use of pedi-buses for students to travel safely and sustainably

4. School Area Needs and Recommendations

Phase I of the St. Helena ATP/SRTS Plan includes short-term recommendations to address urgent safety needs in the high-priority school area along Spring Street and Madrona Avenue. These are key corridors both for students walking and bicycling to school as well as for people accessing Main Street/SR 29 and other community destinations. Phase II of the ATP/SRTS Plan will include public review of these recommendations, development of recommendations for the remainder of the city, as well as longer-term recommendations for the school area.

Documented challenges along the Spring Street and Madrona Avenue include cracked, narrow, or missing sidewalks; curb ramps that are not ADA compliant; missing crosswalk markings and other insufficient crossings, including cracked and challenging pavement conditions, faded markings, and visibility challenges; and speeding.

Recommendations in this chapter were developed to address these challenges with quickly-implementable solutions to improve safety and comfort for people walking and bicycling. Longer-term recommendations will be identified in Phase II of the St. Helena ATP/SRTS Plan.

Recommendations were informed by several sources of information, including:

- Community input and field observations gathered during a walk audit of the school area on March 16, 2021
- Draft recommendations provided in Spring 2021 by the Napa County Bicycle Coalition
- City-provided data on existing and missing sidewalks, curb ramps, and crosswalks
- Community survey responses collected by the Napa Valley Transportation Authority (NVTa) in 2015
- Collision data
- Level of Traffic Stress (LTS) scores
- Previously adopted recommendations from the NVTa Napa Countywide Pedestrian Plan (2016) and Napa Countywide Bicycle Plan (2019)
- Emails from community members sent to the City in Fall 2019
- Previous plans and regulating documents reviewed for this report

4.1 Short-Term Recommendations

Phase I includes identifying short-term recommendations for the high-priority school area that could be implemented over the next year to respond to pressing safety concerns for children walking and bicycling in the area. The expressed community concerns shared by City staff at the outset of Phase I, as well as those expressed during the waking tour, centered on the ability of students walking and bicycling to school being able to cross Spring Street and Madrona Avenue safely. Given this focus, the immediate or short-term priority would be making crossing improvements on both corridors. As part of Phase II of this project, further refinement of these recommendations will be conducted following public review and assessment by the City Public Works Department.

Short-term recommendations for the school area are shown in Figure 18 and described in Table 3.

Figure 18: Short-Term School Area Recommendations

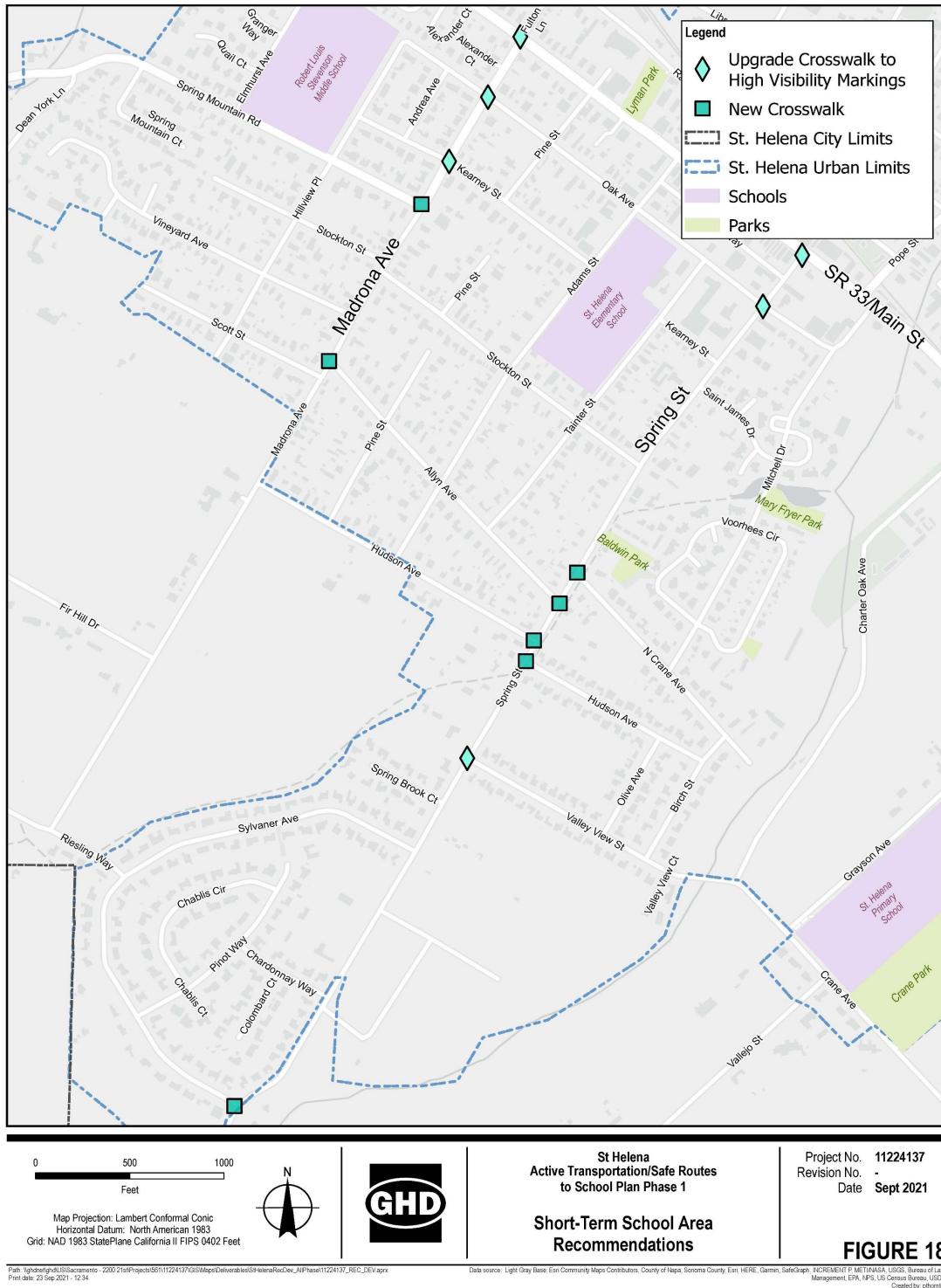


Table 3: Short-Term School Area Recommendations

ID	Facility Type	Location	Cross Street 1	Recommendation Description
MP1	Crossing Improvements	SR 29	Madrona Ave	Upgrade existing crosswalks to high visibility markings
MP2	Crossing Improvements	Madrona Ave	Oak Ave	Upgrade all legs to high visibility markings, install advanced stop bars, add advanced intersection markings and signage
MP3	Crossing Improvements	Madrona Ave	Kearney St	Install high visibility markings and add south leg crosswalk
MP4	Crosswalk	Madrona Ave	Spring Mountain Rd	Install a high visibility crosswalk across Madrona and Spring Mountain Rd
MP5	Crosswalk	Madrona Ave	Allyn Ave	Install crosswalk across Madrona. Use high visibility markings and curb extensions
SP1	Crossing Improvements	Main St	Spring St	Upgrade crosswalks to high visibility markings
SP2	Crossing Improvements	Spring St	Oak Ave	Upgrade existing crosswalks to high visibility markings, add markings to east leg across Oak Ave
SP3	Crosswalk	Spring St	Kearney St	Install high visibility across Spring St
SP6	Crosswalk	Spring St	N Crane Ave	Install crosswalks across Spring St and Crane Ave
SP7	Crosswalk	Allyn Ave	Spring St	Install crosswalk across Allyn Ave
SP8	Crosswalk	Hudson Ave	Spring St	Install crosswalk across Hudson Ave
SP9	Crosswalk	Spring St	South Hudson Ave	Install crosswalks across Spring St with curb extensions
SP10	Crossing Improvements	Spring St	Valley View St	Study feasibility of AWSC or RRFB
SP11	Crosswalk	Spring St	Sylvaner Ave (south)	Install crosswalk markings across Sylvaner Ave and Spring St and advance warning signs of pedestrian crosswalk on the north and south legs.

4.1.1 Crossing Improvements

Crossing recommendations include new marked crosswalks and enhancements to existing crosswalks, including Rectangular Rapid Flashing Beacons (RRFBs), raised crosswalks, and curb extensions. Particularly challenging crossing locations were identified by the community during the walk audit, prior community outreach data, and data from the NCBC walk audit. Recommendations are targeted to address community expressed needs such as locations that experience a high volume of crossing students, locations that present pedestrian visibility challenges or driver non-compliance with yield and stop signs, and locations where speeding is particularly challenging. In addition to targeting specific challenges at key locations, pedestrian recommendations are intended to provide traffic calming throughout both corridors, encouraging slower speeds and better compliance with yield and stop signs.

4.2 Long-Term Improvements

Improvements that take significantly more funding, as well as more time to design and construct, would follow in Phase II, and may include filling sidewalk gaps, widening existing sidewalk, and considering a

roadway reconfiguration to allow room for bicycle facilities. These initial ideas will be more thoroughly evaluated and refined during Phase II of the St. Helena ATP/SRTS Plan, anticipated to commence in fall 2021.



ghd.com

→ **The Power of Commitment**



Active Transportation + Safe Routes to School Plan

Phase I Report Appendices

City of St Helena
September 2021

Appendices

Appendix A: St. Helena Street Network Typology and Bikeway Classification

Appendix B: Bicycle Level of Traffic Stress and Bicycle Network Analysis Methodology and Results

Appendix C: Ped INDEX Methodology and Results

Appendix D: Walk Audit Photos

Appendix E: Prior Recommended Bicycle Projects

Appendix F: Prior Recommended Pedestrian Projects

Appendix A

St. Helena Street Network Typology and Bikeway Classification

Source: St. Helena General Plan Update 2040

5 circulation



Residential streets provide access to neighborhoods.

STREET TYPOLOGY SYSTEM AND NETWORK

Street Typology System

The General Plan street network and street typology system is shown on Figure 5.1. The St. Helena General Plan Circulation Element introduces a new street typology system, replacing the previous street classifications, which established one set of design and operation standards based on a rigid, hierarchical classification of roadways. New street typologies consider the street context and alternate travel modes to help ensure that street standards consider a roadway's relation to its surrounding land uses, appropriate travel speeds, and the need to accommodate multiple travel modes.

The streets of a given neighborhood or district have characteristics that generally follow the land use character of that area and the role that streets play in the greater street network of the surrounding community. For example, a residential street that serves as a collector will have different characteristics and design features from a residential street that provides local access. Similarly, a downtown/mixed-use street and an industrial collector street serve different

5 circulation

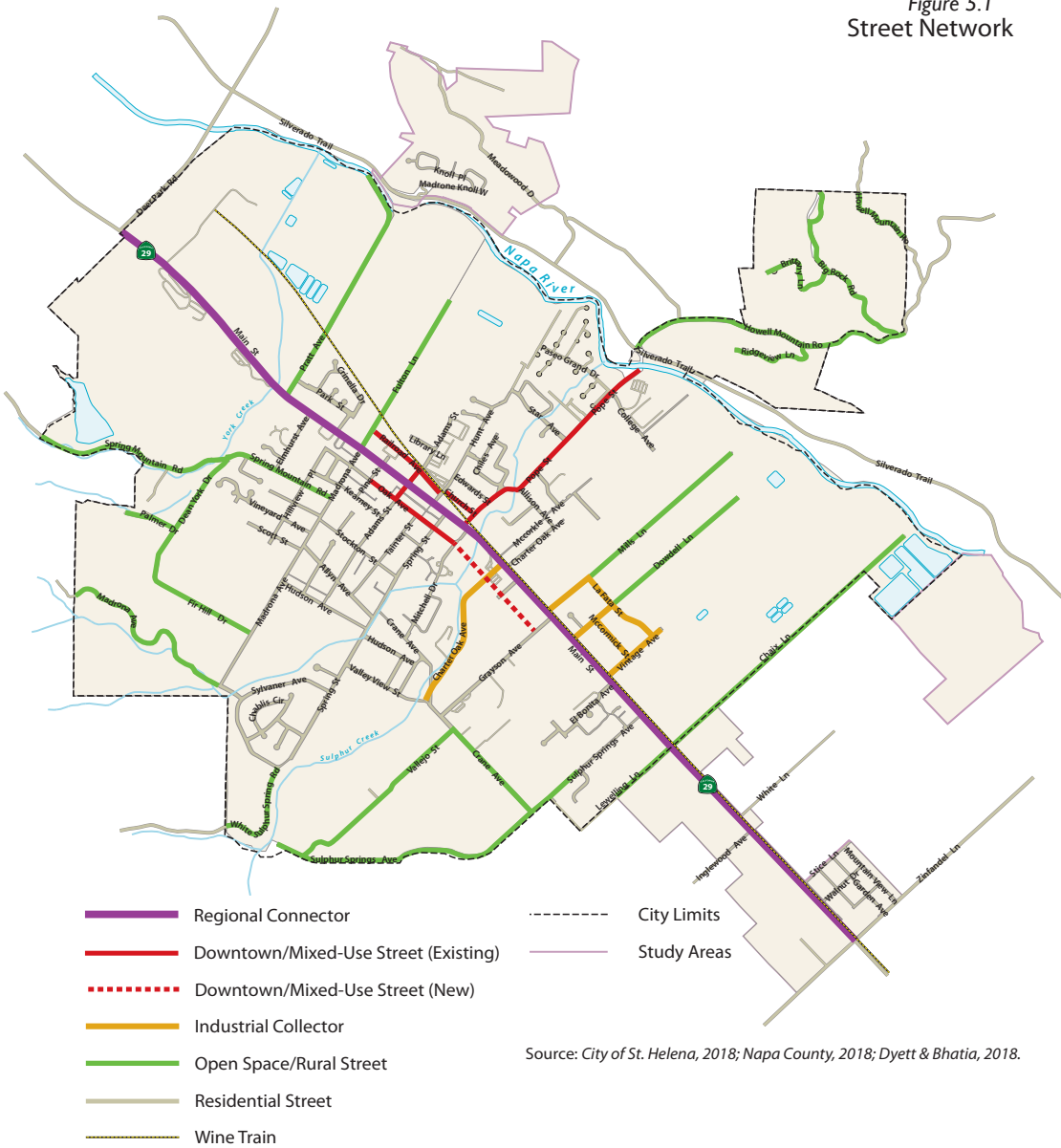
functions. A downtown/mixed-use street emphasizes accommodating several transportation modes, while an industrial collector emphasizes accommodating heavy trucks and automobiles. Consequently, the design features and overall user experience may differ greatly.

The following street typologies are part of the City's new street typology system. Application of these standards should be considered for any new development, street repaving, or redevelopment project.

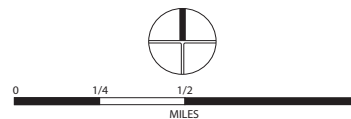
- **Open Space/Rural Street** – Provides access to open space, vineyard and agricultural areas, and rural residential uses. Sidewalks and curbs are not typically present on rural street types, though bicycle boulevards and low speed limits may be present on some open space or rural streets.
- **Industrial Collector Street** – Supports truck access to manufacturing and industrial land uses. While sidewalks are present on all streets, bicycle, and transit facilities are not typically present for this street typology.
- **Residential Street** – Provides access to neighborhoods. This street type supports local trips, with an emphasis on pedestrian and bicycle amenities and slow driving speeds.
- **Downtown/Mixed-Use Street** – Supports all travel modes. It includes specific design features that promote livable streets and multimodal access such as wide sidewalks, traffic calming features, and bicycle boulevards.
- **Regional Connector Street (Main Street)** – Supports all modes, but is primarily designed to provide citywide and regional access for cars, transit and trucks trips. As Main Street/State Route 29 is the key commercial center for St. Helena, specific design features that foster livable streets and multimodal access may be applied, including wide sidewalks with regular street crossings, high-quality pedestrian amenities, and enhanced bus transit facilities. At the edge of the downtown area, Main Street/State Route 29 transitions into a more suburban and rural environment. These sections have higher vehicle speeds and less walking and bicycling activity than the center of downtown.

5 circulation

Figure 5.1
Street Network



GENERAL PLAN UPDATE
City of St. Helena



5 circulation

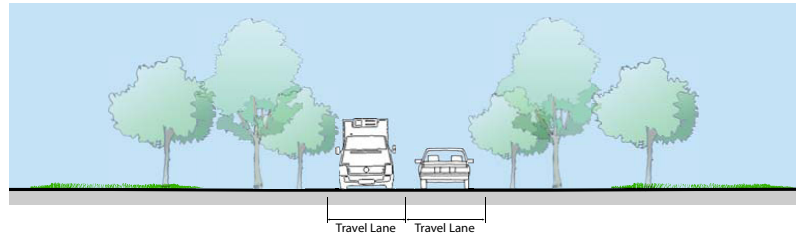
TABLE 5.4: Street Typologies

Street Typology	Vehicle Traffic Levels	Pedestrian Facilities	Bicycle Facilities (designated network)	Desired Vehicle Speeds/ Traffic Calming	Truck Route	Transportation Performance Measure
Open Space/ Rural Street	Low / moderate	Sidewalks not typically included	Bicycle route or boulevard	25-35 mph/ Yes	Accommodated	Citywide ATG1, bicycle connectivity, pedestrian connectivity
Industrial Collector Street	Low	Sidewalks	Typically none	25 mph/ No	Accommodated	Citywide ATG, bicycle connectivity, pedestrian connectivity
Residential Street	Low / moderate	Sidewalks (with landscape buffer or street trees where appropriate), crosswalks where appropriate	Bicycle boulevard or lane	15-25 mph/ Yes	Accommodated on designated routes	Citywide ATG, bicycle connectivity, pedestrian connectivity
Downtown/ Mixed-Use Street	Low to moderate	Wide sidewalks (with landscape buffer or street trees where appropriate), regular crosswalks	Bicycle boulevard or lane	25 mph/ Yes	Accommodated on designated routes	Citywide ATG, Bicycle connectivity, pedestrian connectivity
Regional Connector Street (Main Street)	High	Wide sidewalks (with landscape buffer or street trees where appropriate) and regular crosswalks in downtown area. Outside of downtown: regular crosswalks and sidewalks included where demand warrants	Bicycle route, lane or adjacent trail	25 -35 mph/ context-based	Accommodated	Peak hour vehicle travel time, citywide ATG
Notes: 1ATG = Automobile Trip Generation Source: Fehr & Peers, 2009						

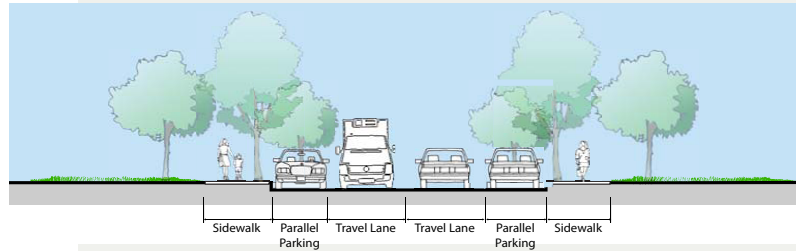
5 circulation

Figure 5.2
Street Typology Cross Sections

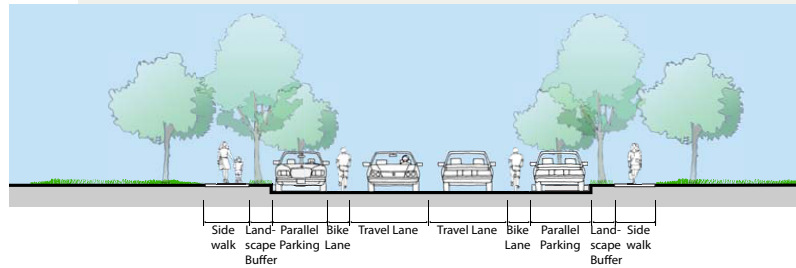
Open Space/
Rural Street



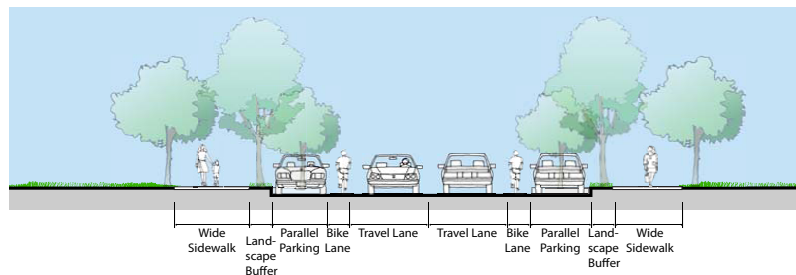
Industrial
Collector
Street



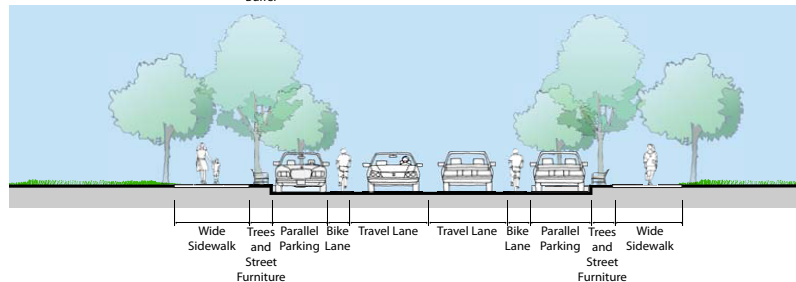
Residential
Street



Downtown/
Mixed-Use
Street



Regional
Connector
Street



5 circulation

includes the construction of bicycle facilities at activity centers throughout the city could greatly increase the mode share of bicycling. Key activity centers that could be conducive to increased rates of bicycling include the downtown area, bus stops, schools, parks, hotels, and local wineries. Development of the Vine Trail and a shared use path along Sulphur Creek would provide greater recreational, tourist, and commuting choices by bicycle.

Bicycle Classifications

The City's bikeways include three classifications: bike paths, lanes, and routes. These classifications are described below.

Class I Bikeway (Bike Path) paths provide a separate right-of-way and are designated for the exclusive use of people riding bicycles and walking with minimal cross-flow of vehicle traffic. Class I Bikeways can also offer opportunities not provided by the road system by serving as both recreational areas and/or desirable commuter routes.

Class II Bike Lanes provide designated street space for bicyclists, typically adjacent to the outer vehicle travel lanes. Bike lanes include special lane markings, pavement legends, and signage. Bike lanes may be enhanced with painted buffers between vehicle lanes and/or parking, and green paint at conflict zones (such as driveways or intersections).

Class III Bike Routes provide enhanced mixed-traffic conditions for bicyclists through signage, striping, and/or traffic calming treatments, and to provide continuity to a bikeway network. Bike routes are typically designated along gaps between bike trails or bike lanes, or along low-volume, low-speed streets. Bicycle boulevards provide further enhancements to bike routes to encourage slow speeds and discourage non-local vehicle traffic via traffic diverters, chicanes, traffic circles, and/or speed tables. Bicycle boulevards can also feature special wayfinding signage to nearby destinations or other bikeways.

Class IV Bikeway (Separated Bikeway) Separated Bikeways, also referred to as cycle tracks or protected bikeways, are bikeways for the exclusive use of bicycles which are physically separated from vehicle traffic. Guidelines for Separated

Appendix B

Bicycle Level of Traffic Stress and Bicycle Network Analysis Methodology and Results

Source: Napa Countywide Bicycle Plan (2019)

CITY OF ST HELENA

Level of Comfort and Bicycle Network Analysis

This plan assessed St. Helena's street and trail network for Level of Traffic Stress (LTS) to understand where the network serves Interested but Concerned riders well, and where additional facilities are needed. LTS measures how people feel when they are bicycling. The proximity, volume, and speed of traffic can impact how people feel while riding, and these are the variables included when measuring LTS for street and trail segments. For instance, two streets both with standard bike lanes (Class II) have differing stress levels because of differing traffic characteristics: a street with two lanes, no parking, and a speed limit of greater than 30 mph will be high stress, while a street with two lanes, no parking, and a speed limit of 25 mph will be low stress. Further detail is available in Appendix H: Connectivity Analysis Methodology.

Intersections can also create stressful riding environments, so they are assessed by reviewing the characteristics of the cross street (traffic speed and number of lanes), as well as the traffic control provided. Signalized intersections give the bicyclist the opportunity to cross when traffic is stopped, creating a lower-stress experience. A high-stress intersection interrupts a rider's low-stress route and can make them more likely to choose not to bike. Understanding the stress level of streets and intersections alone is only part of the picture, however.

Level of Traffic Stress is calculated not only to assess the comfort of specific streets and intersections but also to determine how much of a given jurisdiction is accessible by bike to the Interested but Concerned population. This assessment is done with the Bicycle Network Analysis (BNA) approach. The BNA allows planners to understand where there is good low-stress connectivity in the bicycle network, and where there are challenges. The BNA evaluates connectivity of Census blocks within biking distance (3.1 miles, approximately a 30-minute ride) of one another, and then assesses the number and types of destinations available within each of those blocks. Blocks are only considered connected if there is an unbroken low-stress connection between them. In other words, even a short stretch of stressful biking or a single intersection can negate a potential connection. Last, the BNA considers detour: if a low-stress route goes more than 25 percent out of the way compared to a direct route, that low-stress route is not considered available.

The BNA gives each block a score based on the proportion of destinations accessible on the low-stress network. For instance, if there are five schools in biking distance, but only two are on a low-stress network, the block scores worse than if all five were connected. The total scores shown are the sum of scores across different types of destinations, and a higher overall score means the area is more connected on the low-stress bicycle network. For this Plan, destinations used included schools and

colleges, retail, parks, libraries, post offices, major transit stops, trailheads, restaurants, and hotels, plus general connectivity to jobs and population based on Census data.⁷

⁷ Major transit stops include the Soscot Gateway Transit Center, Redwood Park & Ride, and other timed stops for the longer NVT routes: 10, 11, 21, 29.

Many streets, about 61 percent, in St. Helena today can be considered comfortable for most people riding a bike (see Figure SH.4). Local streets connect to one another within some neighborhoods, but the remaining 31 percent of the network is high-stress streets that divide the city and make a continuous low-stress route difficult to link together. Main Street and several streets that intersect it are rated as high-stress for bicycling because of their roadway classification. Data were not available about all street characteristics that are considered within the LTS and BNA analyses, so assumptions are made based on classification, that is, if a street is classified by the City as local, collector or arterial. Some of these streets may not present a high-stress environment, however, so results should be viewed through this lens.

The stress level of streets and crossings impacts people's ability to access destinations throughout St. Helena which is represented in the following BNA map (Figure SH.5). Overall, connectivity within the city is quite limited at an average score of 14, though the connectivity benefits of the Pope Street bike lanes are evident in the areas near that existing facility. Based on scoring across multiple uses of the BNA so far in the U.S., the scores on the map below can be interpreted using the following ranges:

- 0 - 20 = Poor Connectivity
- 20 -35 = OK Connectivity
- 35 - 50 = Good Connectivity
- 50 and above = Very Good Connectivity

In addition to showing the existing connectivity of the bicycle network, the BNA can help visualize the impact of planned bicycle improvements both on streets and the addition of new shared use paths.

Maps showing these changes in connectivity are included in the implementation section.

Existing Level of Traffic Stress: City of St Helena

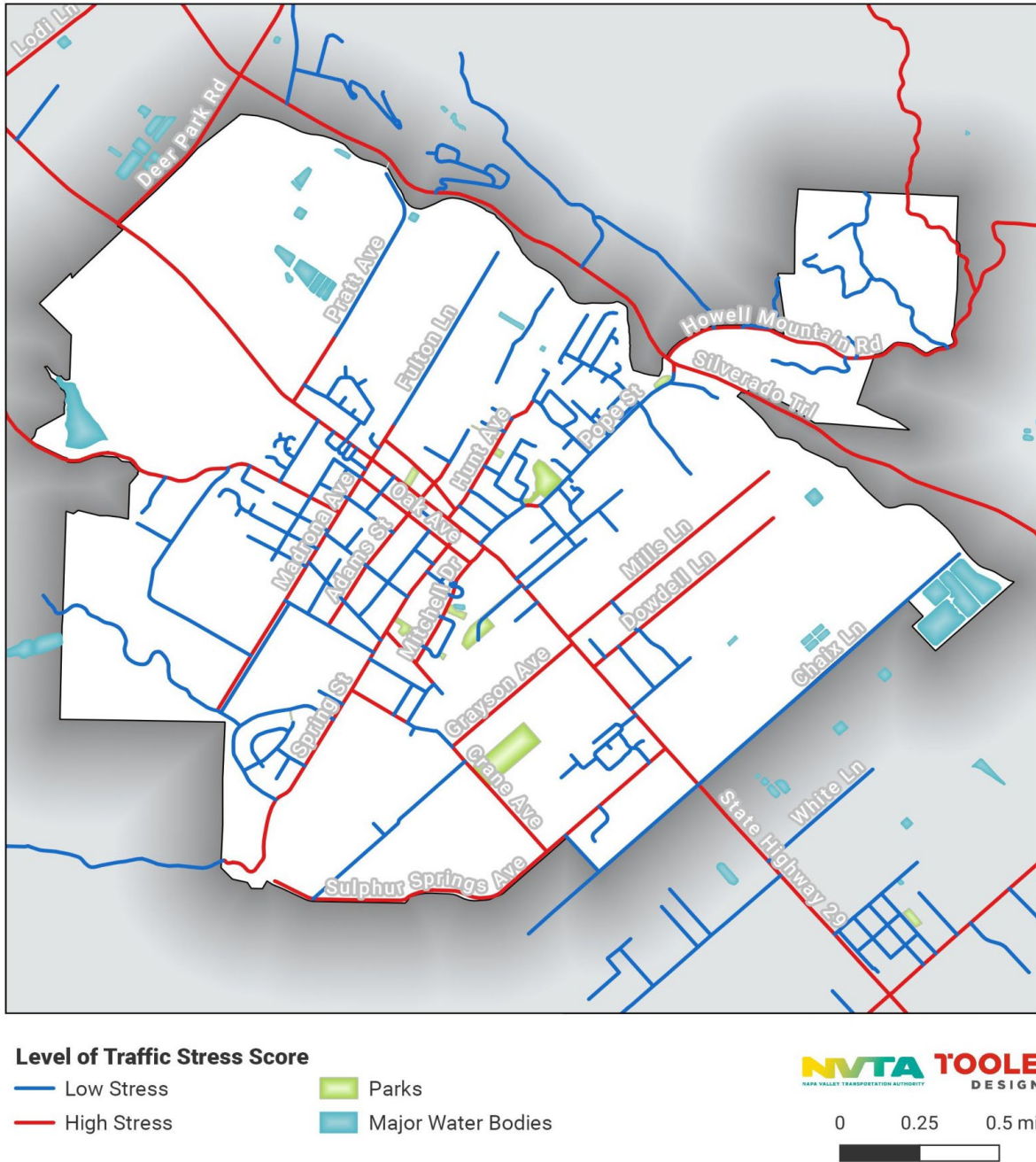


Figure SH.4. Existing Level of Traffic Stress of Streets and Trails

Existing Bicycle Network Analysis: City of St Helena

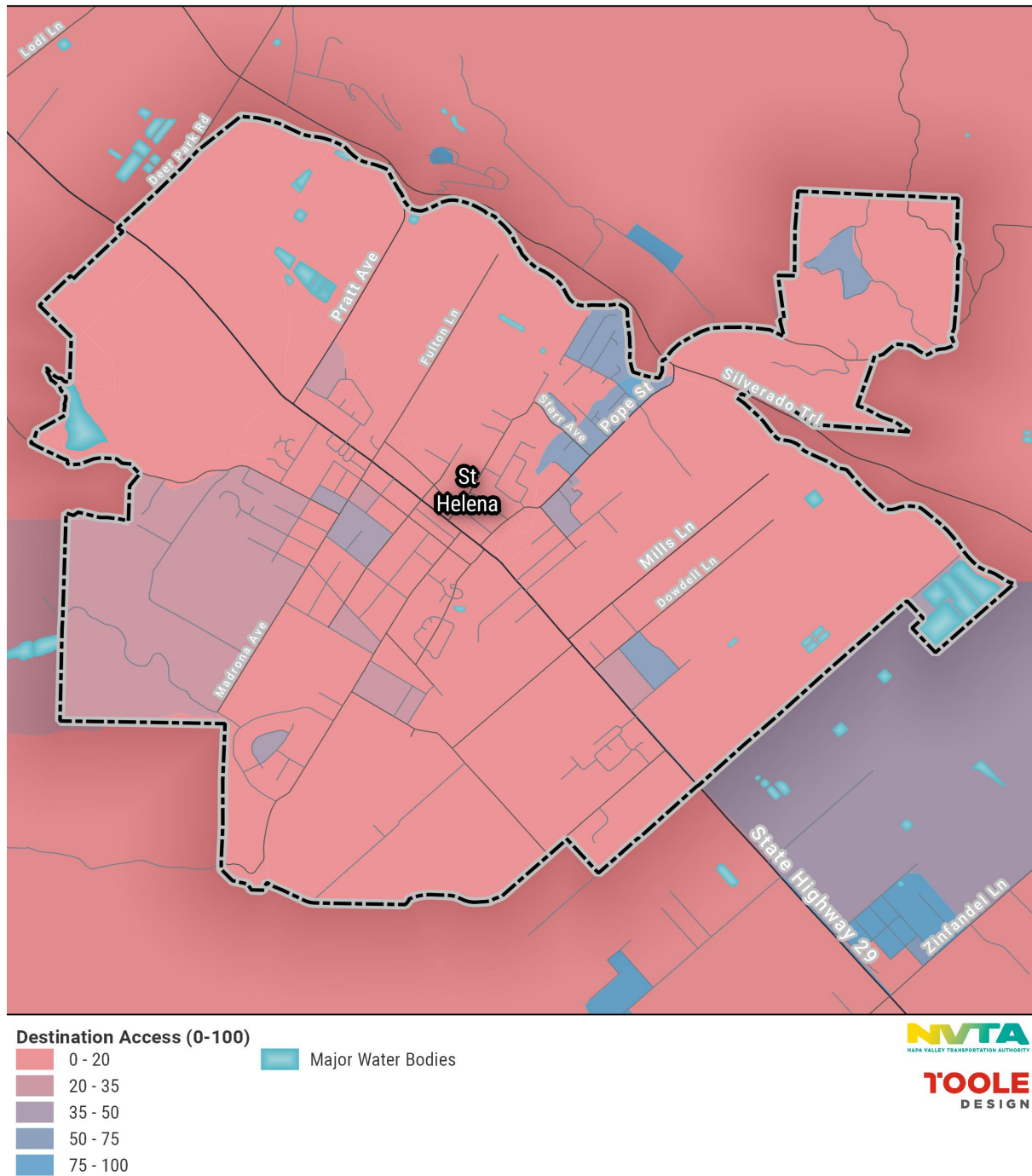


Figure SH.5. Bicycle Network Analysis Results for Existing Network

Connectivity Improvements from Phased Implementation

The Bicycle Network Analysis (BNA) was conducted for planned scenarios as well as existing to understand the impact of the recommended network on low-stress connectivity. When evaluating the stress of future bike facilities, all planned bike boulevards, urban and suburban bike lanes, and separated bike lanes were assumed to be low-stress facilities. The analysis also assumes that all crossings for bike boulevards that would facilitate a low-stress experience are also implemented. Existing high-stress bike lanes that are not recommended to be upgraded were still included as high-stress facilities. As can be seen below in Figures SH.9 and SH.10, implementation of these relatively low-cost on-street facilities creates a major improvement in connectivity within the City of St. Helena. The overall BNA score for the city improves from 14 to 70, putting it squarely within the “Very Good Connectivity” range. St. Helena has great opportunity for improvement because its underlying street network is well connected in a grid pattern south of Main Street, and the small block size north of Main Street also aids connectivity.

When the recommended Class I facilities are added in to the implementation network, connectivity improves further. The third map following (Figure SH.11) shows the percentage change increase in BNA score between the planned network with only on-street facilities implemented, versus the score when *all* facilities are implemented, including shared use paths (Class I). The impact of the Napa River Trail and Vine Trail is clear within the northwestern part of St. Helena. These are understood to be a large, long-term capital investments, however, so implementation of on-street facilities in the meantime will provide great benefits to the city.

Planned Bicycle Network Analysis: City of St Helena

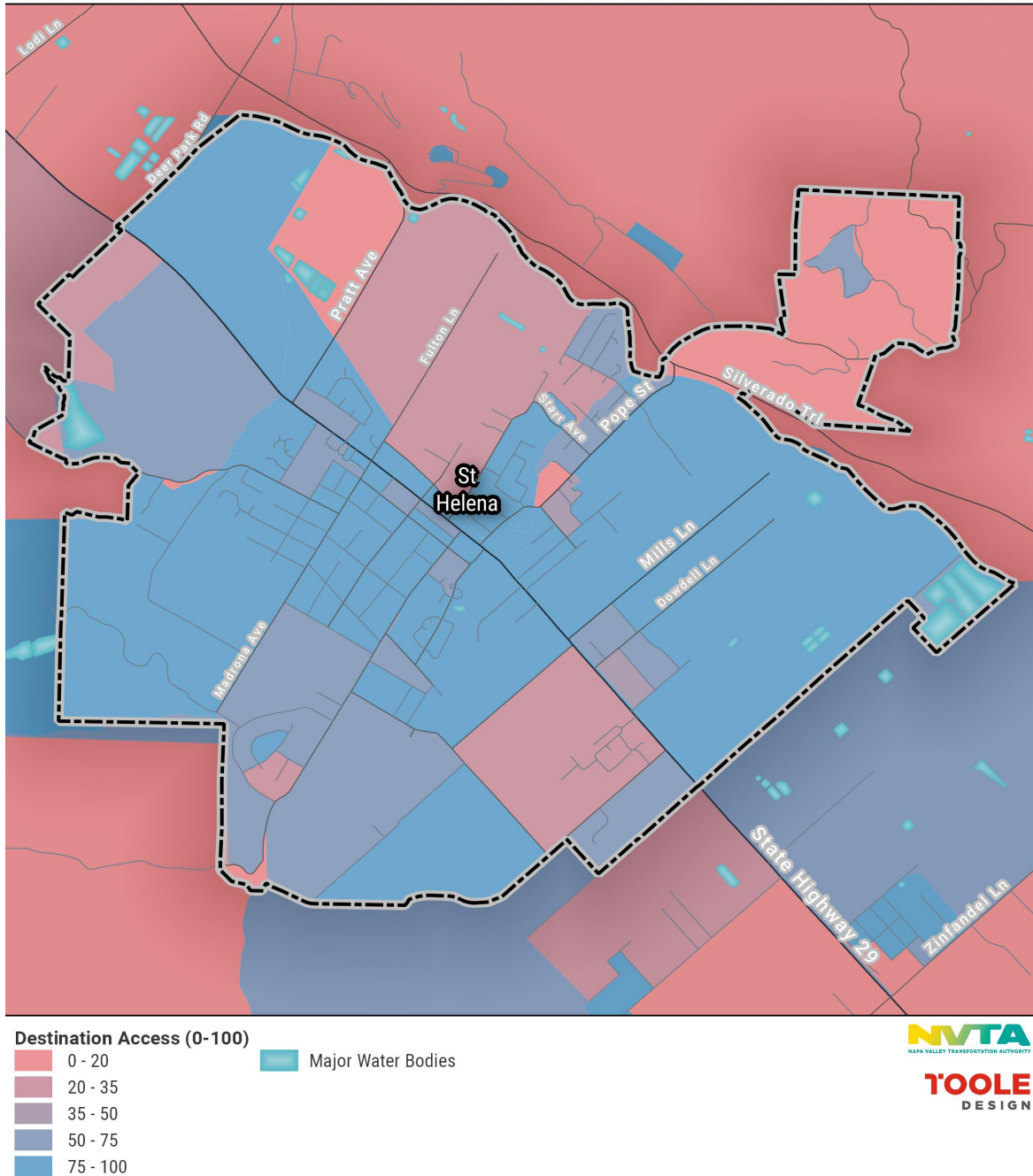


Figure SH.9. BNA Results from On-Street Facility Implementation

Page 33

Change in Bicycle Network Analysis Existing to Planned without Trails: City of St Helena

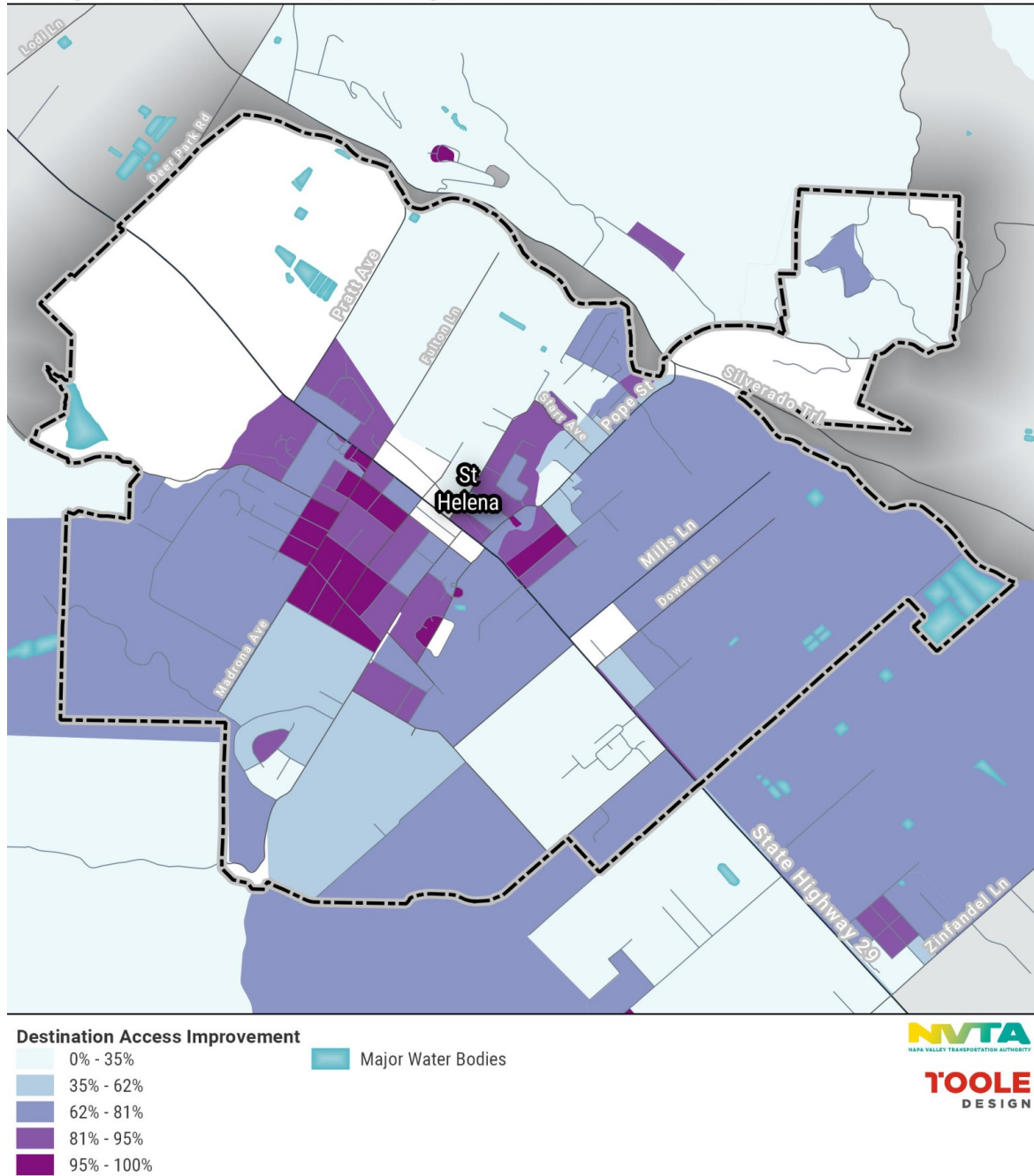


Figure SH.10. Improvement in BNA Score from On-Street Facility Implementation

Change in Bicycle Network Analysis Planned with and without Trails: City of St Helena

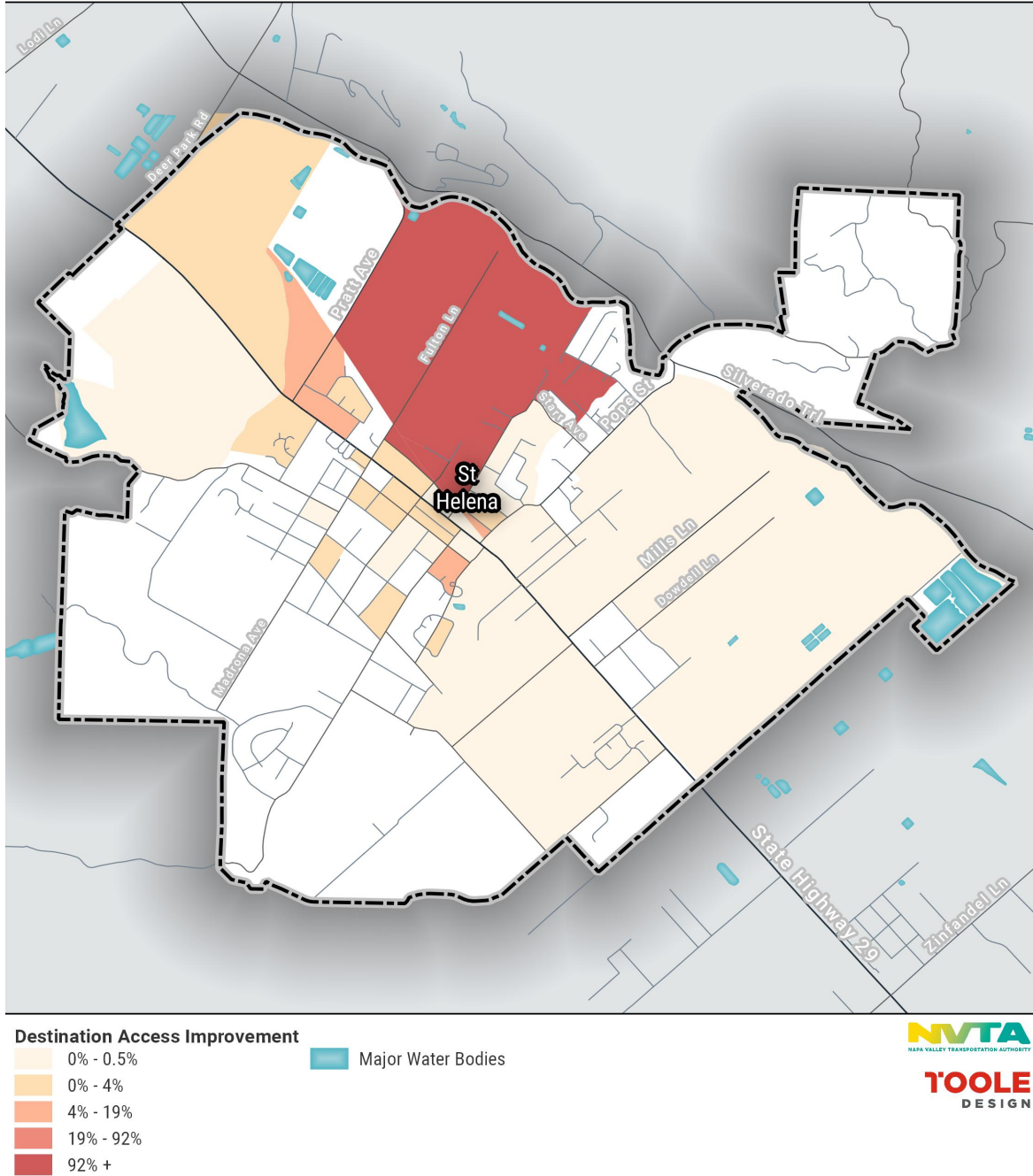


Figure SH.11. Improvement in BNA Score from Shared Use Path Implementation

Appendix H. Level of Traffic Stress and Bicycle Network Analysis

This memo documents the methodologies used to complete the Bicycle Network Analysis. This consists of two steps: 1) calculation of the Level of Traffic Stress for all streets and trails countywide, and 2) calculation of low stress bicycle connectivity at the census block level using the Bicycle Network Analysis tool.

DATA AVAILABILITY AND ASSUMPTIONS

Level of Traffic Stress (LTS) calculation is based upon several key factors further explained in the section below. Data for these factors was not available in all cases throughout Napa County, so it was necessary to make assumptions based on available data. This is a typical step for LTS calculations as jurisdictions throughout the country do not have full data available.

Data necessary for LTS calculation include the following:

- Number of travel lanes
- Speed limit
- Traffic volume
- Bicycle facility type
- On-street parking presence
- Width of bike lane
- Width of parking
- Centerline presence

Full data was available countywide for the following factors:

- Number of travel lanes
- Bicycle facility type

For all other factors, assumptions were made based on street classification. Classification data was provided by NVTA and covered all streets in Napa County. The following assumptions were made:

- Speed limit
 - Highway: 50 mph
 - Major Arterial: 40 mph
 - Minor Arterial: 35 mph
 - Collector: 30 mph
 - Local: 25 mph
- Traffic volume (note that volume is only used for evaluating shared lane conditions either where no facility is present, or for Bike Route (class III) facilities)
 - Highway or Major Arterial: 30,000 ADT

- Minor Arterial: 20,000 ADT
 - Collector: 10,000 ADT
 - Local: 300 ADT
- On-street parking presence
 - Highway, Major Arterial, Minor Arterial: not present
 - Local, Collector: present
- Width of bike lane
 - 5' for all
- Width of parking
 - 8' for all
- Centerline presence
 - Highway, Major Arterial, Minor Arterial, Collector: present
 - Local: not present

All assumptions tend toward a more conservative score. That is, we assume higher volumes and minimum widths that result in a conservative estimate of a street's stress level.

After creating a comprehensive dataset, from these assumptions, the process described below was applied to all Napa County streets to rate them high or low stress. This analysis was conducted using existing bicycle facilities data and subsequently using planned facilities recommended in this Plan.

For the planned facilities LTS, all bicycle boulevards and bike lanes were assumed to be low stress. The bike lane assumptions were then reviewed manually to appropriately rate those bike lanes that are planned for higher speed, higher volume streets. In all cases, shared use paths (Class I) and separated bike lanes (Class IV) were assumed to be low stress.

Intersections are also assessed for LTS. Where low-stress streets cross high-speed, wide streets without a signal, the crossing is scored as high-stress. Where low-stress streets cross major streets at a traffic signal, the crossing stays low stress. Signal locations were available for all of Napa County.

LEVEL OF TRAFFIC STRESS

Level of Traffic Stress Background

The Level of Traffic Stress (LTS) methodology was developed in 2012 and first published in a report by the Mineta Transportation Institute (MTI). The concept in this paper was expressed as a “worst case scenario” analysis whereby the characteristic of the street segment (number of lanes, speed, bike facility presence/width, parking presence/width) that scored the highest stress level on a scale of 1 to 4 trumped the rest. The methodology has since evolved to consider the interaction of several roadway factors as outlined below. Today, streets are evaluated based on all factors without one factor trumping the rest.

Level of Traffic Stress is calculated with the Interested but Concerned user in mind. This means that streets with low volumes but high speeds that may be comfortable for a more experienced rider are considered stressful in this analysis. Many rural roads in Napa County meet this description, but because the goals of this Plan specifically reference increasing ridership, streets were evaluated with the less-frequent or non-bicyclist in mind.

LTS Methodology

Tables 1 through 3 are adapted from the most recent LTS guidance criteria published by Peter Furth, Ph.D, one of the original authors of the MTI LTS report.¹ Toole Design has used our planning and design experience to amend the tables to better reflect what we believe to be conditions contributing to rider stress. Changes to the tables are highlighted with red outlines in the tables below and include:

- Shared lane conditions with vehicles
 - Revision upwards of stress level for higher volume streets, and
 - Revision to the ADT thresholds to include a higher volume threshold for low speed streets, so lower speed street LTS scores are differentiated from higher speed streets based on the volume of traffic
- Bike lane adjacent to parking
 - Addition of a ≤ 20 mph category
 - Addition of a 40+ mph category
 - Further definition between total width categories (Furth 2017 tables only include 12-14' and 15'+ categories)
 - Retention of distinction between high- and low-turnover parking areas from earlier versions of tables, though where no data are available, stress is assumed to be the higher of the two scores

In many cases, the changes that Toole Design made were either to increase the LTS score for specific situations or expand on the number of categories for speed or ADT. For example, the original LTS scoring tables for mixed traffic and one thru lane per direction included LTS scores for volumes in the following categories: 0-750, 751-1500, and 1501+ vehicles. Toole Design further broke out the ADT categories to also include explicit scores for 1501-3000, 3001-6000, 6001-10000 and 10001+ vehicles. We believe that these assumptions accurately reflect the bicyclist's experience and, importantly in the case of shared lane conditions, includes the impact of traffic volume.

¹ Furth (2017). Level of Traffic Stress. Available at: www.northeastern.edu/peter.furth/criteria-for-level-of-traffic-stress

Shared Lane Conditions

Table 1, below, shows the LTS scoring for shared use facilities. These are roadways with no bicycle facility or those with a Class III bicycle facility, either a rural bike route or bicycle boulevard. It should be noted that data regarding the presence and width of shoulders was not available and is not typically incorporated into LTS analysis.

Table 1 Assessment for shared lane conditions with ADT data

Mixed traffic criteria		Prevailing Speed						
Number of lanes	Effective ADT*	< 20 mph	25 mph	30 mph	35 mph	40 mph	45 mph	50+mph
Unlaned 2-way street (no centerline)	0-750	LTS 1	LTS 1	LTS 2	LTS 2	LTS 3	LTS 3	LTS 3
	751-1500	LTS 1	LTS 1	LTS 2	LTS 3	LTS 3	LTS 4	LTS 4
	1501-3000	LTS 2	LTS 2	LTS 3	LTS 3	LTS 4	LTS 4	LTS 4
	3000+	LTS 3	LTS 3	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4
1 thru lane per direction (1-way, 1-lane street or 2-way street with centerline)	0-750	LTS 1	LTS 1	LTS 2	LTS 2	LTS 3	LTS 3	LTS 3
	751-1500	LTS 2	LTS 2	LTS 2	LTS 3	LTS 3	LTS 4	LTS 4
	1501-3000	LTS 2	LTS 3	LTS 3	LTS 4	LTS 4	LTS 4	LTS 4
	3001-6000	LTS 3	LTS 3	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4
	6001-10000	LTS 3	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4
	10001+	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4
2 thru lanes per direction	0-6000	LTS 3	LTS 3	LTS 3	LTS 3	LTS 4	LTS 4	LTS 4
	6001-12000	LTS 3	LTS 3	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4
	12001+	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4
3+ thru lanes per direction	any ADT	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4	LTS 4

* Effective ADT = ADT for two-way roads; Effective ADT = 1.67*ADT for one-way roads

Bike Lanes and Parking

Bike lanes adjacent to parking are considered higher stress facilities when other variables (speed and number of lanes) are held constant. For instance, a bike lane on a 35mph two-lane street is scored LTS 2 if it is not adjacent to parking, regardless of width. Where the lane is adjacent to parking, it is scored LTS 3 because of the increased stress of riding next to parked cars whose doors may open into the bicyclist's path of travel and force cyclists into adjacent auto travel lane. See the two circled cells in Tables 2 and 3 for this scoring.

Table 2 Assessment for bike lanes not adjacent to a parking lane

Bike lanes and shoulders not adjacent to a parking lane							
Number of lanes	Bike lane width	Prevailing Speed					
		≤ 25 mph	30 mph	35 mph	40 mph	45 mph	50+ mph
1 thru lane per direction, or unlaned	6+ ft	LTS 1	LTS 1	LTS 2	LTS 3	LTS 3	LTS 3
	4 or 5 ft	LTS 2	LTS 2	LTS 2	LTS 3	LTS 3	LTS 4
2 thru lanes per direction	6+ ft	LTS 2	LTS 2	LTS 2	LTS 3	LTS 3	LTS 3
	4 or 5 ft	LTS 2	LTS 2	LTS 2	LTS 3	LTS 4	LTS 4
3+ lanes per direction	any width	LTS 3	LTS 3	LTS 3	LTS 4	LTS 4	LTS 4
Notes	1. If bike lane / shoulder is frequently blocked, use mixed traffic criteria. 2. Qualifying bike lane / shoulder should extend at least 4 ft from a curb and at least 3.5 ft from a pavement edge or discontinuous gutter pan seam 3. Bike lane width includes any marked buffer next to the bike lane.						

Table 3 Assessment for bike lanes adjacent to a parking lane

Bike lanes alongside a parking lane						
Number of lanes		Bike lane reach = Bike + Pkg lane width	Prevailing Speed			
			≤ 20 mph	25 mph	30 mph	35 mph
1 lane per direction	15+ ft	LTS 1	LTS 1	LTS 2	LTS 3	LTS 4
	14 ft	LTS 2	LTS 2	LTS 2	LTS 3	LTS 4
	12-13 ft	LTS 2	LTS 2/3*	LTS 2/3*	LTS 3	LTS 4
2 lanes per direction (2-way)	15+ ft	LTS 2	LTS 2	LTS 3	LTS 3	LTS 4
2-3 lanes per direction (1-way)		LTS 2	LTS 2	LTS 3	LTS 3	LTS 4
other multilane		LTS 3	LTS 3	LTS 3	LTS 3	LTS 4
Notes	1. If bike lane is frequently blocked, use mixed traffic criteria.					
	2. Qualifying bike lane must have reach (bike lane width + parking lane width) ≥ 12 ft					
	3. Bike lane width includes any marked buffer next to the bike lane.					
	* Rating depends on parking turnover. Low turnover (i.e. residential) = LTS 2, high turnover (i.e. commercial)					

BICYCLE NETWORK ANALYSIS

Methodology

The Bicycle Network Analysis (BNA) approach allows planners to understand where there is good low-stress connectivity in the bicycle network, and where there are connectivity challenges. The BNA evaluates connectivity of each Census block within biking distance (3.1 miles, approximately 30-minute ride) of one another, and then assesses the number and types of destinations available within each of those blocks.² The BNA assumes a Census block connects to any road that either follows its perimeter or serves its interior. In practice, this means you can get to a destination whose front door is on a stressful street if you can get to a low-stress street around the corner. Blocks are only considered connected if there is an unbroken low-stress connection between them. In other words, even a short stretch of stressful biking negates a potential connection. Last, the BNA considers detour: if a low-stress route goes more than 25 percent out of the way compared to a direct route, that low-stress route is not considered available.

Using information about which blocks are connected, the BNA calculates the total number of destinations accessible on the low-stress network and compares that with the total number of destinations that are within biking distance regardless of whether they are accessible via the low-stress network. Points are assigned on a scale of 0-100 for each destination type based on the number of destinations available on the low-stress network, as well as the ratio of low-stress destinations to all destinations within biking distance. The scoring places higher value on the first few low-stress destinations by assigning points on a stepped scale. Beyond the first few low stress destinations, points are prorated up to 100 based on the ratio of low-stress to high-stress routes. For example, a census block with low-stress access to only one park out of five nearby parks would receive 30 points. A census block with low-stress access to two parks out of five would receive 50 points (30 for the first park, 20 for the second). A census block with low-stress access to four parks out of five would receive 85 points (30 for the first, 20 for the second, 20 for the third, and 15 out of the remaining 30 points for connecting one of the remaining two parks).

For Census blocks where a destination type is not reachable by neither high- nor low-stress routes, that destination type is excluded from the calculations. Scores calculated on an individual Census block level enable planners to see connectivity at a granular level. However, the results can also be aggregated by weighting each block according to its population and then summarizing scores across a given area such as each city within Napa County.

² Destination data is pulled from Open Street Map for use in the BNA. Population data is pulled from the US Census.

Typically, BNA relies upon destination locations pulled from Open Street Map. However, the Napa County analysis used destinations specific to the interests of the county stakeholders. These included:

- Retail locations, as identified by jurisdiction staff
- Schools and colleges
- Libraries
- Post offices
- Cafes
- Hotels
- Restaurants
- Parks
- Major trailheads
- Major transit stops, defined as the Soscot Gateway Transit Center, Redwood Park & Ride, and other timed stops for the longer NVRTA routes: 10, 11, 21, 29

The BNA also includes a measure of population connectivity based on Census data and employment connectivity based on LEHD data.

The tool considers that a block is connected if a low-stress street is along any side of that block, even if the destinations actually front on the high-stress street that bounds the block. Thus, for instance, retail destinations along these major streets are considered connected to Census blocks on either side of the street. Figure 1 illustrates this concept: retail in the yellow block fronts on the high-stress (red) street. However, the block is connected to the low-stress network on the other three sides, so the blue block would be considered connected to that retail.

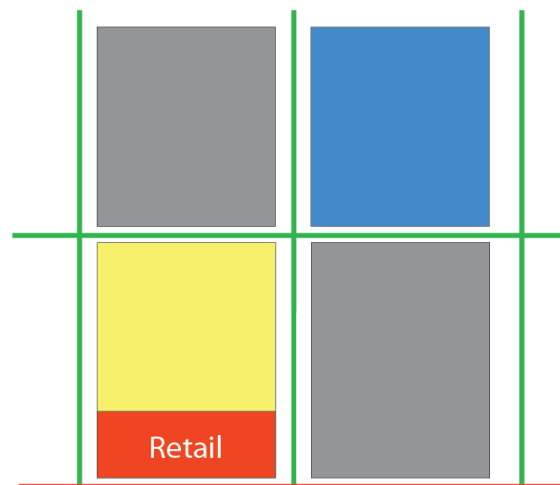


Figure 1 Schematic illustration of BNA connectivity

COMMITTEE REPORT ON CONNECTIVITY ANALYSIS

Level of Comfort Analysis

This plan assessed Napa County's street and trail network for Level of Traffic Stress (LTS) to understand where the network serves Interested but Concerned riders well, and where additional facilities are needed. LTS measures how people feel when they are bicycling. The proximity, volume and speed of traffic can impact how people feel while riding, and these are the variables included when measuring LTS for street and trail segments. For instance, two streets both with standard bike lanes (Class II) have differing stress levels because of differing traffic characteristics: a street with two lanes, no parking, and a speed limit of greater than 30 mph will be high stress, while a street with two lanes, no parking, and a speed limit of 25 mph will be low stress. Further detail on scoring of streets is available in Appendix H.

Intersections can also create stressful riding environments, so they are assessed by reviewing the characteristics of the cross street (traffic speed and number of lanes), as well as the traffic control provided. Signalized intersections give the bicyclist the opportunity to cross when traffic is stopped, creating a lower-stress experience. A high-stress intersection interrupts a rider's low-stress route and can make them more likely to choose not to bike.

The LTS analysis for Napa County clearly points to issues with traffic stress on the major streets—arterials and collectors—throughout the county. These are streets that carry most of the county's vehicle traffic, connecting over longer distances to major destinations. For instance, most of the retail destinations in Napa County are located on arterial streets, and they do not always have access from the rear of the parcel off a lower-speed, lower-volume street.

Though low-stress streets and trails currently make up over 50 percent of the network countywide, challenges occur where low-stress streets cross major streets without a traffic signal. In these cases, bicyclists need to wait for a long enough gap in traffic to feel safe crossing, and the wide crossing distances create greater exposure to potential crashes. When considering whether to ride somewhere, potential bicyclists will often be deterred if their route includes such a crossing.

A more detailed review of LTS analysis results is provided for each jurisdiction in Chapters 6-11.

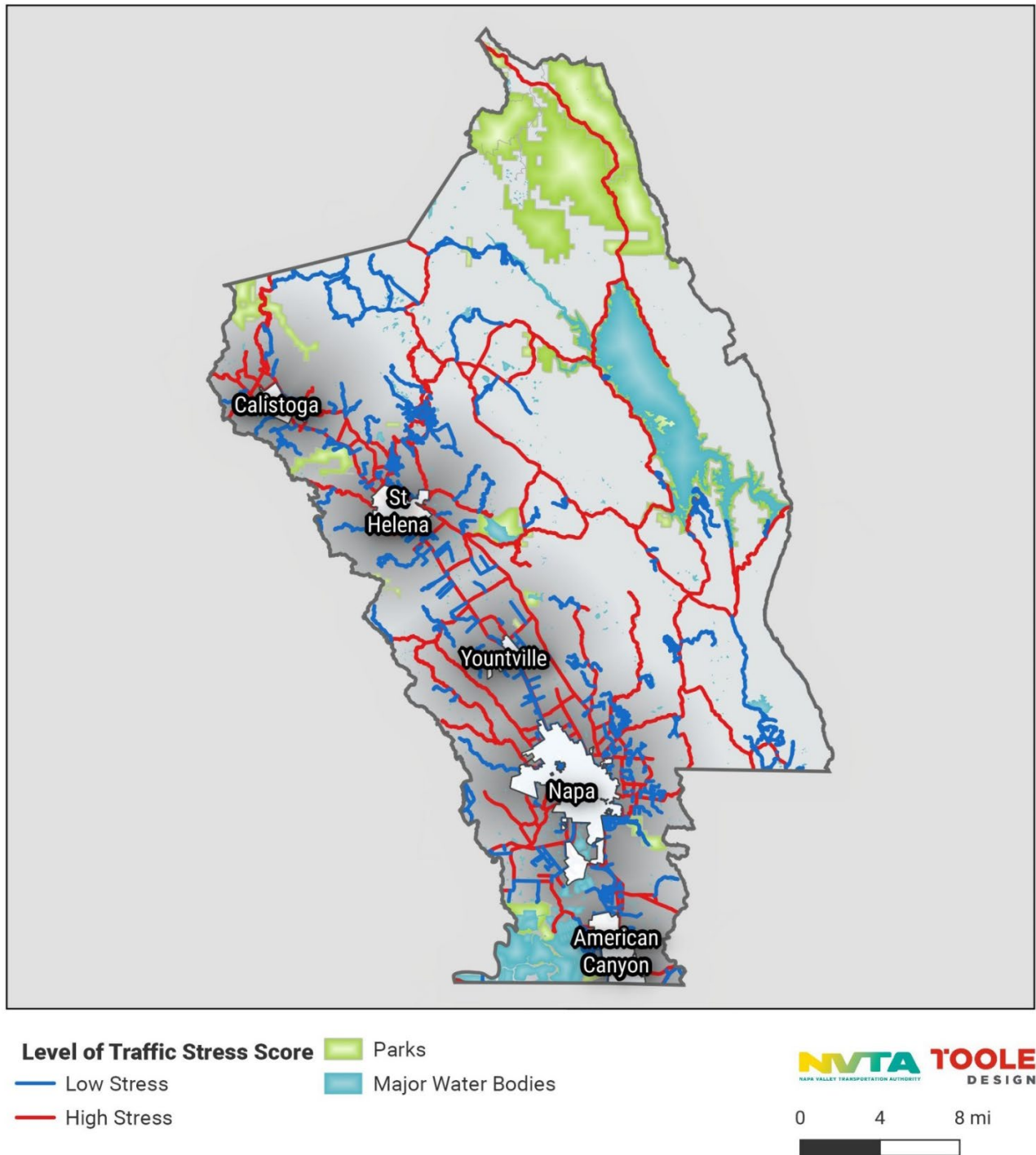


Figure 3.15 Level of Traffic Stress Results for Existing Bicycle Facilities

Connectivity Analysis

Level of Traffic Stress is calculated not only to assess the comfort of specific streets and intersections but also to determine how much of the county is accessible by bike to the Interested but Concerned population. This assessment is done with the Bicycle Network Analysis (BNA) approach. The BNA allows planners to understand where there is good low-stress connectivity in the bicycle network, and where there are challenges. The BNA evaluates connectivity of Census blocks within biking distance (3.1 miles, approximately a 30-minute ride) of one another, and then assesses the number and types of destinations available within each of those blocks. Blocks are only considered connected if there is an unbroken low-stress connection between them. In other words, even a short stretch of stressful biking or a single intersection can negate a potential connection. Last, the BNA considers detour: if a low-stress route goes more than 25 percent out of the way compared to a direct route, that low-stress route is not considered available.

The BNA gives each block a score based on the proportion of destinations accessible on the low-stress network. For instance, if there are five schools in biking distance, but only two are on a low-stress network, the block scores worse than if all five were connected. The total scores shown are the sum of scores in and across different types of destinations, and a higher overall score means the area is more connected on the low-stress bicycle network. For this Plan, destinations used included schools and colleges, retail, parks, libraries, post offices, major transit stops, trailheads, restaurants, and hotels, plus general connectivity to jobs and population based on Census data.³

As can be seen from the map below (Figure 3.16), low-stress access across the county is generally better within urban areas. Underlying street network connectivity is better in these areas than rural ones, and that inherent characteristic often translates to better connectivity scores regardless of existing bicycle infrastructure on that street network.

Based on scoring across multiple uses of the BNA so far in the U.S., the scores on the map below can be interpreted using the following ranges:

- 0 - 20 = Poor Connectivity
- 20 -35 = OK Connectivity
- 35 - 50 = Good Connectivity
- 50 and above = Very Good Connectivity

Some low-volume rural roads are also rated as low stress for bicycling and so are shown to provide better connectivity in outlying areas where there are few destinations. However, overall Napa County scores a population-weighted BNA of 33 today.

³ Major transit stops include the Soscol Gateway Transit Center, Redwood Park & Ride, and other timed stops for the longer NVTA routes: 10, 11, 21, 29.

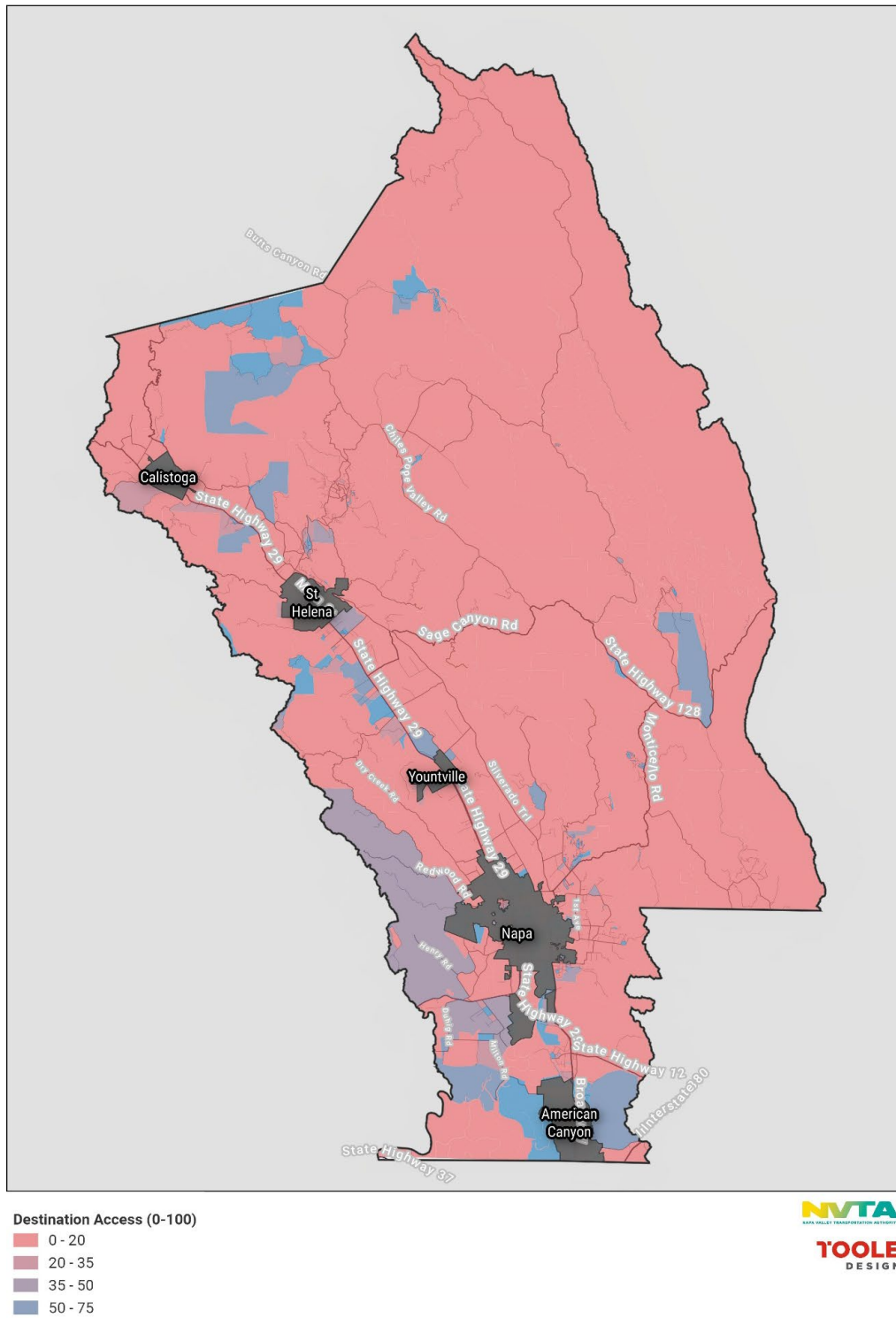


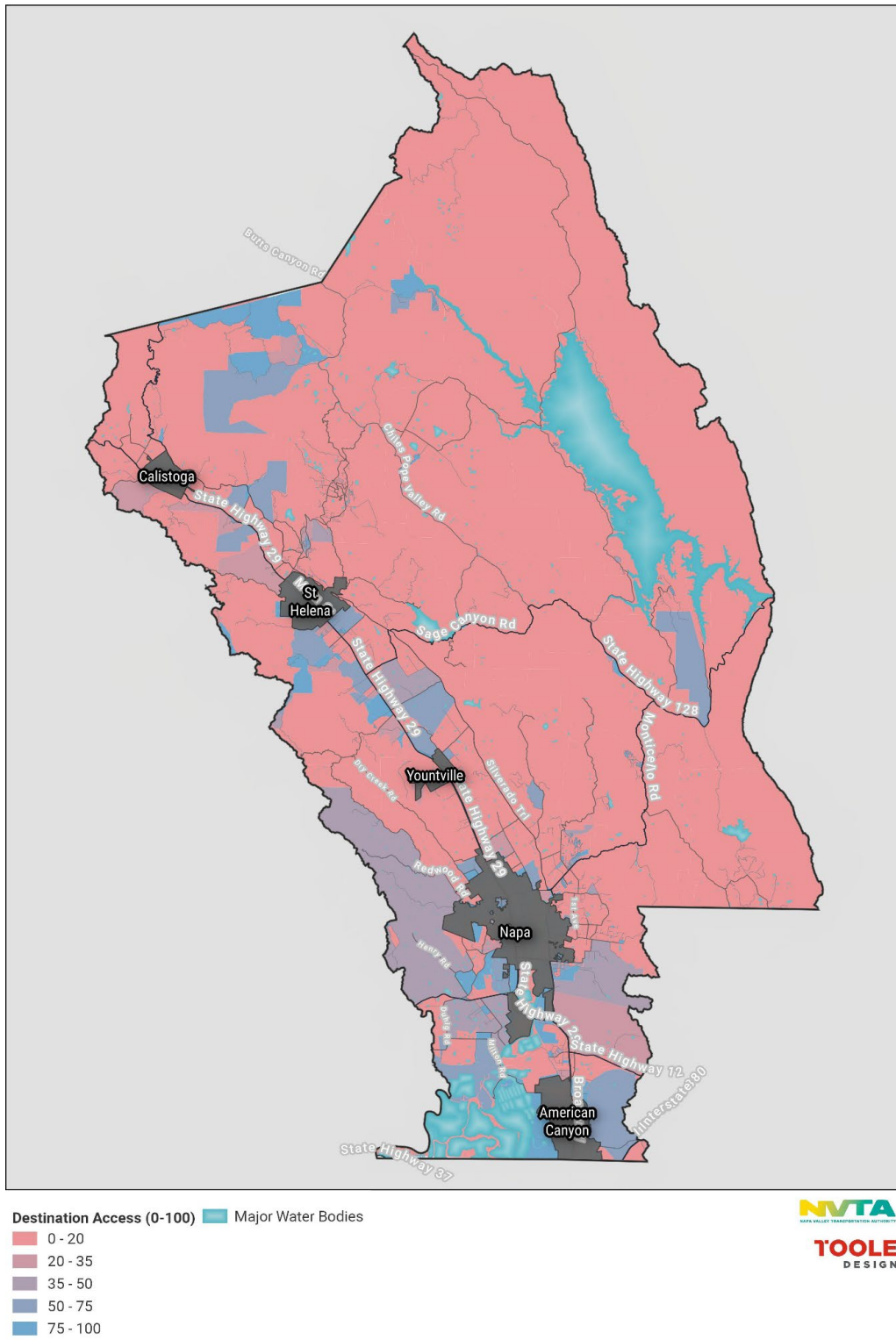
Figure 3.16 Bicycle Network Analysis Results for Existing Bicycle Network

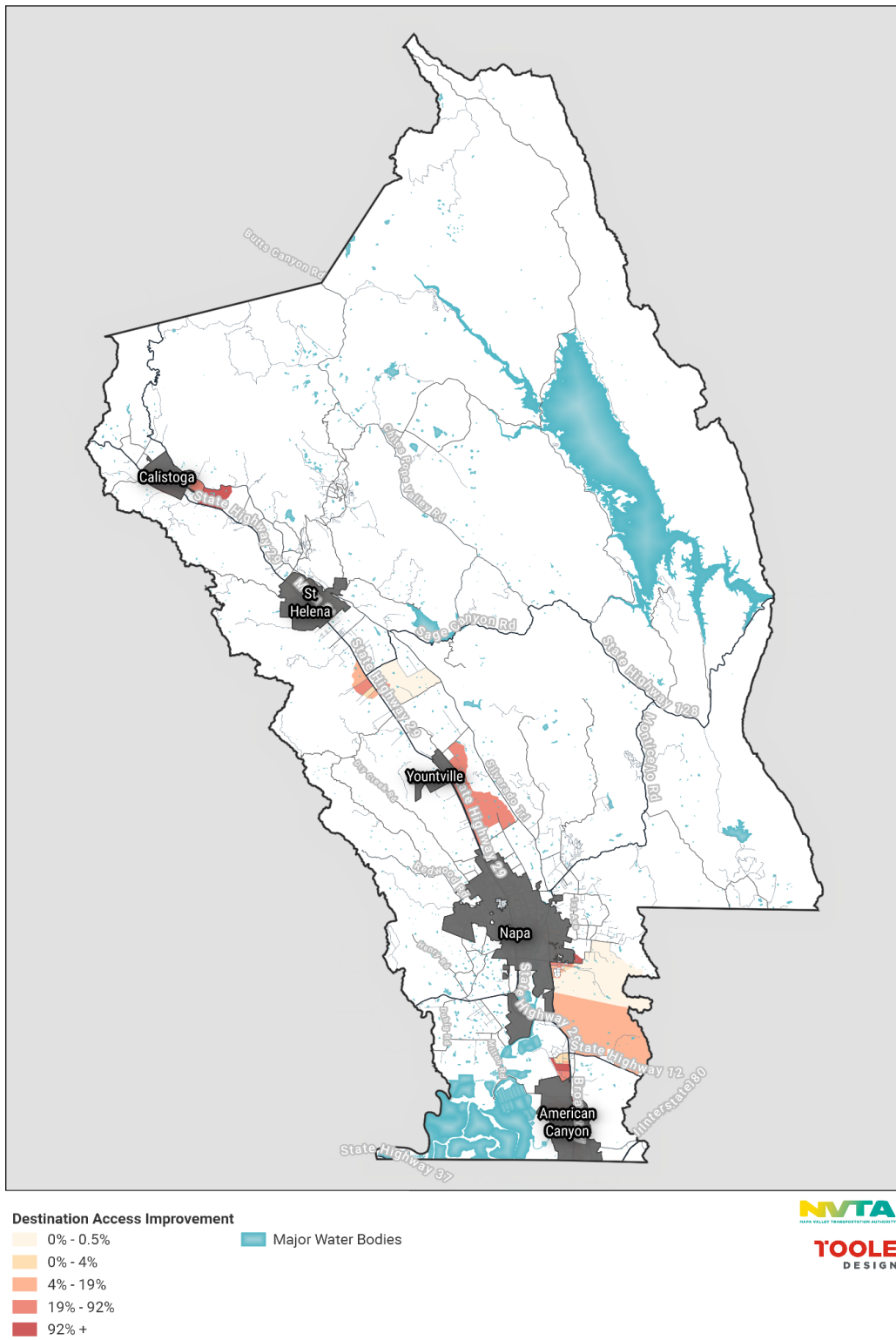
In addition to showing the existing connectivity of the bicycle network, the BNA can help visualize the impact of planned bicycle improvements both on streets and the addition of new shared use paths. The BNA was also used to analyze two possible iterations of the proposed bicycle network, and those results are discussed in Chapter 5.

Connectivity Improvements from Phased Implementation

The Bicycle Network Analysis (BNA) was conducted for planned scenarios as well as existing to understand the impact of the recommended network on low-stress connectivity. When evaluating the stress of future bike facilities, all planned bike boulevards, and urban and suburban bike lanes were assumed to be low-stress facilities. Existing high-stress bike lanes that are not recommended to be upgraded were still included as high-stress facilities. As can be seen below, implementation of these relatively low-cost on-street facilities creates a visible improvement in connectivity within the urban parts of the county.

When the recommended Class I facilities are added in to the implementation network, connectivity improves further. However, many of these paths will be long-term projects so the demonstrable improvements of non-Class I facilities are worth noting. The map on the following page illustrates the future connectivity with implementation of just on-street facilities (Figure 5.3). The subsequent map (Figure 5.4) illustrates the improvement in connectivity when shared use path (Class I) facilities are also constructed.





Appendix C

Ped INDEX Methodology and Results

Source: Napa Countywide Pedestrian Plan (2016)

Appendix B – Ped INDEX Methodology

This Appendix presents the approach to estimating pedestrian demand within Napa County and summarizes the methodology and preliminary results. The results helped inform the decision for priority focus areas and walking audit locations; additional factors that were considered to provide context for that decision are discussed under *High Improvement Need*. In addition to developing suggested focus areas for this plan, further recommended next steps are listed at the end of this Appendix.

Methodology

Fehr & Peers used existing GIS data to develop a pedestrian demand model that identifies variations in pedestrian activity and potential demand on streets throughout Napa County. Pedestrian demand is based on several variables, including proximity, built environment, demographic, and zoning factors that are considered indicators for pedestrian activity. The variables, sources and scoring criteria are summarized in **Table B-1**. Each heading is defined below:

- **Input Factor** – pedestrian demand variable considered
- **Source/Format** – data source and GIS format (either point or polygon)
- **Range of Factor** – range of possible values associated with the factor, grouped for scoring purposes
- **Variable Score** – score assigned to reflect importance of value range for pedestrian demand, from zero to 100
- **Processing** – description of how factor is mapped and scored
- **Significance and Weighting Factor** – significance of variable to overall pedestrian demand, and relative scoring factor, applied when all factors are considered together for the total pedestrian demand score of each roadway segment. The weighting factors listed in the table add up to 100, so the compiled scores range from zero to 100.

APPENDIX B

TABLE B-1: LIST OF VARIABLES USED IN GIS PEDESTRIAN DEMAND MODEL					
Input factor	Source / Format	Range of Factor	Variable Score	Processing	Significance and Weighting Factor
Built Environment (Density and Diversity of Land Uses)					
Population Density – per acre	Census 2010/ Polygon	0-3 persons per acre	0	Uses kernel density (persons per acre) to derive average density within a 1 mile buffer using census block group data Assigns average grid value to street centerline	High 14/100
		3-6	20		
		6-9	40		
		9-12	60		
		12-15	80		
		15+	100		
Employment Density – per acre	Smart Database Job Locations/ Polygon	0-3 persons per acre	0	Uses kernel density (per acre) to derive average number of employees within a 1 mile buffer using census block group data Assigns average grid value to street centerline	High 14/100
		3-6	20		
		6-9	40		
		9-12	60		
		12-15	80		
		15+	100		
Intersection Density	Smart Database – Street Intersection Density	0-50	0	Calculates total intersection density, weighted to reflect connectivity for pedestrian and bicycle travel. The denominator is total land area.	High 14/100
		50-100	25		
		100-150	50		
		150-200	75		
		200+	100		
Land Use Mix – ratio in each census block group	Smart Database Jobs-to-Population Ratio/ Polygon	0-.1	0	Calculates the jobs to population ratio for census block group Assigns average grid value to street centerline <i>**Census block groups with a population density less than 3 persons/sq. mile were excluded in the analysis to filter out rural areas that may otherwise get a high score</i>	Medium 10/100
		0.1-0.2	25		
		0.2-0.3	50		
		0.3-0.4	75		
		40+	100		
Proximity Factors (Destinations)					
Schools – distance in feet	City/ Polygon	0-330 feet	100	Uses buffer to define ranges of distance to nearest school Assigns average grid value to street centerline	Medium 9/100
		330-660	95		
		660-1320	85		
		1320-2640	50		
		2640-5280	25		
		5280+	0		

APPENDIX B

TABLE B-1: LIST OF VARIABLES USED IN GIS PEDESTRIAN DEMAND MODEL					
Input factor	Source / Format	Range of Factor	Variable Score	Processing	Significance and Weighting Factor
Parks – distance in feet	City/ Polygon	0-330feet	100	Uses buffer to define ranges of distance to nearest park Assigns average grid value to street centerline	Medium 9/100
		330-660	75		
		660-1320	50		
		1320-2640	25		
		2640+	0		
Transit Proximity, Bus Stops – distance in feet	City, MTC/ Points	0-330feet	100	Uses buffer to define ranges of distance to nearest bus stop Assigns average grid value to street centerline	Medium 9/100
		330-660	95		
		660-1320	85		
		1320-2640	75		
		2640+	0		
		660-1320	95		
		1320-2640	75		
		2640-5280	50		
		5280+	0		
Major Retail Destinations/ Downtown/Comm unity Commercial Zone – distance in miles	Neighborhood Shopping Districts and other Retail Areas (city zoning plans)/Polygo ns	0 miles	100	Uses buffer to define ranges of distance to nearest retail corridor Assigns average grid value to street centerline	Medium 9/100
		0-.5	50		
		.5+	0		
		660-1320	75		
		1320-2640	50		
		2640-5280	25		
		5280+	0		
Demographics					
Age - % under 18 and over 65	Census 2010/ Polygons	0-15 %	0	Calculates percentage of under 18 and over 65 population in census block group Assigns average grid value to street centerline	Low 4/100
		15-35	25		
		35-40	50		
		40-43	75		
		43+	100		
Income - % below poverty level	Census 2010/ Polygons	0-.5 %	0	Calculates percentage of population below poverty level in census block group Assigns average grid value to street centerline	Low 4/100
		.5-1	20		
		1-2	40		
		2-3	60		
		3-4	80		
		4+	100		

APPENDIX B

TABLE B-1: LIST OF VARIABLES USED IN GIS PEDESTRIAN DEMAND MODEL

Input factor	Source / Format	Range of Factor	Variable Score	Processing	Significance and Weighting Factor
Vehicle Ownership - % households with 1 or fewer vehicles	Census 2010/ Polygons	0-10 %	0	Calculates percentage of households with 1 or fewer vehicles in census block group Assigns average grid value to street centerline	Low 4/100
		10-20	20		
		20-30	40		
		30-40	60		
		40-50	80		
		50+	100		

Each weighted variable is combined into a single heat map for each jurisdiction (Calistoga, St. Helena, Yountville, City of Napa, American Canyon and the Unincorporated Areas) to identify the highest and lowest areas of pedestrian demand¹¹ within each area based on the composite score.

Results

The results of the Pedestrian Demand model are illustrated in the Pedestrian Index maps, *Exhibit 8* of each Jurisdiction Plan (Chapters 2-7), where the range of pedestrian demand across each jurisdiction is shown with a color gradient from dark purple to light green. Locations with a relatively high population or employment density and proximity to significant destinations immediately rise to the top and are given the highest scores, as shown in the darkest colors – black and purple. The lowest scores are found in the areas with low to no housing or employment and are represented in a pale green color. Since the majority of the data used in the PedINDEX comes from the Census (Census 2010 and the Smart Database), the data is applied at the Census block-level rather than an individual block-level, which can cause the resulting “heat” or colors of some of the maps to appear in large sections rather than on a finer-grained scale. Census blocks are polygons created around a cluster of blocks for which the results are reported for the entire group to address privacy concerns. The following findings stand out on the Demand exhibits for the jurisdictions.

Highest Pedestrian Demand Areas

High pedestrian demand areas are found in and around the downtown cores, close to important economic activity generators, and where schools and parks are located in areas with relatively dense population. The downtown cores have the highest concentration of destinations in the cities and town, including retail corridors and employment density. Most of the variables listed in Table 1 are found in the Downtown Core.

In American Canyon, the absence of a downtown core pulls the emphasis around other variables such as population density, schools and parks. For example, the area south of American Canyon Road to the east of SR 29

¹¹ This relative demand measure reflects latent demand, and does not account for the barriers that may prevent demand from being realized. Identifying and reducing these barriers is a key opportunity for this Plan to maximize demand.

APPENDIX B

includes American Canyon Apartments, a high-density housing complex, making it one of the higher concentrations of population in a city where the majority of housing is low-density single family homes. This relatively high population density, a variable ranked with high significance in the model, and the presence of multiple parks and schools nearby, both variables ranked with medium significance, make this an area of high pedestrian demand. Portions of The Preserve, Rancho Del Mar, and Napa Glen neighborhoods that are within walking distance of Donaldson Way Elementary School, American Canyon Middle School and multiple parks also receive a high pedestrian demand score.

Other high pedestrian demand areas are located in unincorporated areas in the center of the City of Napa or along the border of the city, and are shown in greater detail on *Exhibit UNC-8*, the Unincorporated Area Pedestrian Index. These areas are near multiple schools and parks as well as a mix of residential and commercial land uses. Parks and schools are both highly weighted in the model, so the proximity to both of these destinations increases pedestrian demand. The shorter blocks and more grid-like patterns of the road network in these unincorporated areas also result in a higher intersection density, which contributes to the high demand level.

Medium Pedestrian Demand Areas

Medium pedestrian demand areas are found farther from the core of the incorporated jurisdictions. Neighborhoods in these areas usually have a low mix of land uses but may have reasonably high population density, which is weighted with one of the highest significance factor among all 11 variables. They also are often relatively close to schools, parks, or the downtown area. For example, the residential area in the City of Napa east of Soscol Avenue and north of Lincoln Avenue, which includes Vineyard Terrace Apartments, Kentwood Apartments, and Glen View Garden Apartments, has a medium pedestrian demand score. This area has no employment centers and a low mix of land use; however, it does include medium-density housing, a park, and is within a half mile of a few other parks and schools. It is also adjacent to Soscol Avenue, a transit corridor for Vine Transit, with five bus stops bordering this area north of Lincoln Avenue.

The residential neighborhood in the City of Calistoga west of Lincoln Avenue between Grant Street and the northern city border is also a medium pedestrian demand area. This area borders Napa County Fairgrounds and includes several resorts and hotels. It is also adjacent to two schools - Calistoga Junior-Senior High School and Palisades Continuation High School – which are weighted with a high significance factor.

Low Pedestrian Demand Areas

Low pedestrian demand areas are found in portions of the jurisdictions with low population density, few destinations other than parks, and primarily residential land use (low land use mix). Areas near the outer edges of the cities and town and within the open space of the eastern unincorporated areas stand out for their low demand scores.

APPENDIX B

High Improvement Need

Barriers to Pedestrian Connectivity

Gaps in pedestrian infrastructure connectivity may result in barriers to pedestrian movement and discourage walking. Understanding where barriers exist within the countywide pedestrian network helps inform where improvements could be most beneficial. Examples of physical barriers include freeways or arterials with limited or difficult pedestrian crossings, such as SR 29.

The PedINDEX demand maps illustrate many high demand areas that exist near the key north-south physical barrier in the county, SR 29. New pedestrian connections can be prioritized in areas near barriers and a high pedestrian demand, such as potential enhanced crossings of SR 29 in St. Helena and Calistoga through the downtown areas. While the area between Eucalyptus Drive and American Canyon Road along SR 29 in American Canyon does not stand out in the PedINDEX demand maps with respect to existing development, areas of future development such as the Watson Ranch Town Center may be more telling of the need and location of potential pedestrian crossings.

Pedestrian Infrastructure Gaps

In addition to removing high priority barriers, the conditions of the physical infrastructure supporting walking, such as sidewalks, is an important consideration in identifying where improvements are needed. The Pedestrian Index maps include an overlay of gaps in the sidewalk network on top of the pedestrian demand results to visualize the interaction between these two variables. The flow chart below illustrates this concept by demonstrating how these two factors should work in conjunction to determine future needs for high demand areas. In general, places with high pedestrian demand and a high infrastructure need demonstrate target areas that could be prioritized for pedestrian improvements.



For example, the unincorporated County neighborhood located within the center of the City of Napa, called out on *Exhibit UNC-8*, has one of the highest demand scores in the unincorporated areas. A high concentration of the unincorporated population is in this area, which also has a high intersection density compared to the rest of the unincorporated areas. As seen on *Exhibit N-8a*, the neighborhood is also near multiple schools. Adding sidewalks or trails to this neighborhood, which currently lacks sidewalk coverage, could improve connectivity for school children and residents to ensure that any pedestrian demand is met with adequate facilities. The neighborhoods between Calistoga Junior-Senior High School and the Napa County Fairgrounds, two potential pedestrian destinations, present an additional opportunity for pedestrian infrastructure improvements. The grid pattern of the streets in this area contributes to a higher intersection density which drives the demand up in the model and provides good

APPENDIX B

pedestrian connectivity to the two adjacent destinations. However, the lack of sidewalks and trails in this neighborhood, particularly between Grant Street and Fair Way, are a potential barrier to pedestrians and could be a candidate for improvements where speeds and traffic volume levels warrant.

Collisions

Pedestrian collisions are an important consideration when determining where to invest in pedestrian improvements. Prioritizing locations with high latent demand that also have a high frequency of pedestrian-involved collisions can encourage more of the latent demand to be realized, rather than be inhibited due to potential safety issues. By focusing improvements on areas where these two variables overlap, cities can work towards removing collision hot spots as a barrier to walking and giving pedestrian demand the chance to fully realize. If effectively implemented and demand fully realized, improvements in these high-potential areas can result in a good return-on-investment scenario in terms of benefit/costs.

Areas with Lower Pedestrian Demand

The information gathered from the GIS model provides a technical methodology for making informed decisions about areas which would most benefit from improvements. However, focusing improvements only on areas with highest pedestrian demand will not address all of the needs within the County. There may be areas, such as rural areas or streets around schools and senior centers, which have a lower pedestrian demand but would still benefit from pedestrian improvements.

Some areas may fit the low demand criteria for the PedINDEX demand maps and still be appropriate locations for a trail network, especially near parks in the eastern region of Napa County. Existing trails collected as part of the inventory in the *Countywide Napa Pedestrian Plan*, along with those available in GIS from jurisdiction staff, were overlaid on the PedINDEX maps to identify important investment opportunities related to potential areas of connectivity that the PedINDEX variables do not highlight.

APPENDIX B

Next Steps

The pedestrian demand analysis was used to:

- Provide a point of comparison to the public comment maps to understand the interaction between latent pedestrian demand and public concerns
- Inform the selection of walk audit locations along with several other inputs

In addition, the pedestrian demand analysis may be used in the following ways:

- To guide the development of policies and programs relating to specific geographic areas, destinations, built environment factors and demographics
- To inform recommendations for pedestrian infrastructure and design guidelines, which can be tailored and context specific based on the built environment and areas of varying demand
- As a guide for prioritizing future Capital Improvement Program lists and other investments, in particular as it relates to removing barriers or deficiencies in high potential areas

Opportunity Areas

St. Helena's small-town feel, narrow residential roadways, numerous shopping and dining options and natural beauty create an attractive pedestrian environment. The city has seen recent growth and transition and has recognized this moment as a key opportunity to enhance pedestrian safety and mobility with the development of their General Plan update and new city leadership. This plan expands on those efforts by developing a list of proposed pedestrian facilities within key focus areas of the city and referencing those that have been developed by other plans. Initial focus areas for the plan were developed using a data-driven GIS process that evaluates several factors related to the built environment and demographics that affect the propensity to walk. This process, called the "Ped INDEX", was adapted by work done by the US Environmental Protection Agency (EPA) has been used in several plans in the Bay Area to map the qualitative likelihood of demand for pedestrian activity.

Ped INDEX

The main factors used in the Ped INDEX are population density, land use mix, presence of schools or parks, intersection density, location of downtown commercial areas, and age. These factors resulted in a "heat map" which displays an estimate for relative pedestrian demand on the streets throughout the City of St. Helena. More detail on the Ped INDEX methodology and results as well potential applications can be found in **Appendix B** of the countywide plan.

To balance high pedestrian demand areas with key areas of need in St. Helena, additional data layers were used to display pedestrian deficiencies. These include gaps in sidewalk and reported pedestrian-involved collisions. In general, places with high pedestrian demand and a high infrastructure need are shown as target areas that could be prioritized for pedestrian improvements. The resulting heat map with overlaid demand and deficiencies is shown in *Exhibit SH-6*.

As illustrated on *Exhibit SH-6*, Ped INDEX focus locations include the downtown core and neighborhood pockets near St. Helena Elementary School, High School, and Robert Louis Stevenson Middle School. Feedback at the public workshop yielded multiple requests for reducing parking on Main Street and improved crossings while managing the vehicle congestion. After reviewing the locations of all comments received during public outreach and the alignment with focus locations on the Ped INDEX maps, two potential walking audits were recommended to city staff:

- **Hotels and High School:** Grayson Avenue and Crane Avenue along school frontage; Main Street between Grayson Avenue and Sulphur Springs Avenue (1.1 miles)

This route includes the area with the shared concern from the city and the public that visitors staying in hotels on El Bonita Avenue and Sulphur Springs Avenue at the southern city limits use Main Street (SR 29) to walk into town, which has discontinuous sidewalks and facilities with maintenance needs. Other concerns in the area, voiced by both the city and the public, include speeding along the high school on Grayson Avenue and Crane Avenue, limited pedestrian connections to Grayson Avenue, and limited

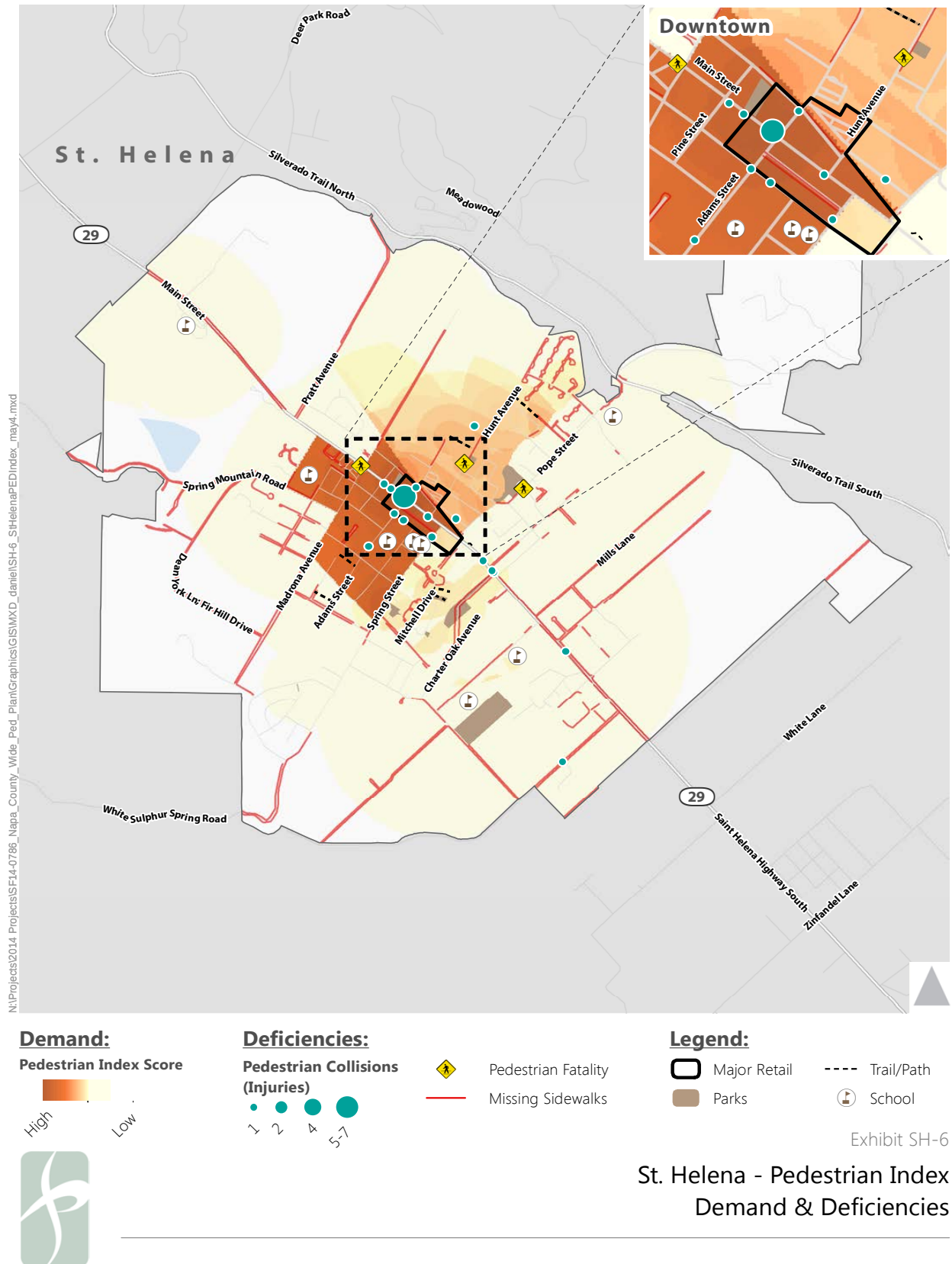
ST. HELENA PLAN

pedestrian facilities along Grayson Avenue and Crane Avenue. Crossing challenges at Main Street to the bus stop at Dowdell Lane, a request from the public workshops, are also located on this route.

- **Downtown and Pope Street:** Main Street from Pine Street to Pope Street/Mitchell Drive; Pope Street from Main Street to Paseo Grand Drive (1 mile)

Collision data shows clusters of collisions have occurred in the core of downtown between Hunt Avenue and Pine Street, with the largest concentration at the intersection of Main Street and Adams Street (four collisions in the last ten years). This area also features high pedestrian activity levels and key tourist attractions.

After discussions with city staff regarding candidate locations, a combination of the above recommended focus areas, for a total of approximately one mile, was chosen for study during walking audits: Main Street from Pine Street to Sulphur Springs Avenue.



Appendix D

Walk Audit Photos

St. Helena Field Visit Photos March 16, 2021



Spring St and Oak Ave: Challenging pavement conditions in crosswalk for ADA users, curb ramps are not ADA compliant due to abrupt level changes between the gutter and ramp.



Spring St and Oak Ave: Curb ramps are not ADA compliant, with challenging pavement slope, slope of ramp, and transition between the street and ramps are not flush.

St. Helena Field Visit Photos March 16, 2021



Spring St and Oak Ave: Advanced warning pavement “STOP” marking is too close to the intersection. The narrow road is configured with street parking along both sides, creating visibility challenges for pedestrians in crosswalk.



Spring St: Steep driveway and narrow sidewalks present challenges to pedestrians and ADA users

St. Helena Field Visit Photos March 16, 2021



Spring St: Sidewalks are substandard width, with cracked and challenging pavement conditions for ADA users.

St. Helena Field Visit Photos March 16, 2021



Spring St at Kearney Ave: School crossing is not stop controlled. Drivers often exceed speed limits along this roadway, which combined with the narrow road width, creates safety challenges for students.



Spring St at Kearney Ave: Pavement conditions in the crosswalk present challenges to pedestrian and ADA users, with challenging slopes, cracked pavement, and curb ramps that are not ADA compliant.

St. Helena Field Visit Photos March 16, 2021



Spring St: Challenging sidewalks for pedestrians and ADA users due to the presence of a steep driveway, the sharp angle to go around it, and the narrow width of the sidewalks.



Spring St and St. James Dr: Example of unmarked crosswalks near the School Zone, Stop Bar is too close to the intersection, and pavement conditions in crossing present challenges

St. Helena Field Visit Photos March 16, 2021



Spring St: Sidewalks are substandard width and are obstructed by utility poles.

St. Helena Field Visit Photos March 16, 2021



Stockton St and Spring St: Example of unmarked crosswalk, with stop bar too close to crossing zone.



Spring St: cracked and deteriorating pavement presents challenges to bicyclists. Some efforts have been made to reduced speeding along this roadway (see radar speed feedback sign), but more traffic calming is needed.

St. Helena Field Visit Photos March 16, 2021



Spring St: A wide parking lane requires bicyclists to travel in rutted pavement in the travel lane.



Spring St and Crane Ave: Curb ramps are absent at this unmarked crossing, and the stop bar is located *after* the crosswalk.

St. Helena Field Visit Photos March 16, 2021



Oak Ave and Madrona Ave: Example of crumbling sidewalk pavement

St. Helena Field Visit Photos March 16, 2021



Madrona Ave and Kearney St: Sidewalks are missing curb ramps, pavement in crossings are also cracked and challenging for pedestrians and ADA users.



Madrona Ave and Kearney St: Sidewalks are missing curb ramps, pavement in crossings are also cracked and challenging for pedestrians and ADA users. Crosswalk markings need to be repainted.

St. Helena Field Visit Photos March 16, 2021



Spring Mountain Rd and Madrona Ave: Example of crumbling, uneven sidewalks and unmarked crossing that lacks curb ramps.



Spring St and Hudson Ave: Example of unmarked crosswalk and challenging pavement conditions for bicyclists on the road and pedestrians in the crosswalk.

St. Helena Field Visit Photos March 16, 2021



Spring St and Spring Brook Ct: "STOP" Marking is not located in advance of the intersection, it is painted *inside* the unmarked crosswalk



Kearney St and Madrona Ave: Sidewalks are substandard widths, cracked and challenging pavement conditions are present in the crosswalk, and the curb ramp is not ADA compliant.

Appendix E

Prior Recommended Bicycle Projects

Source: Napa Countywide Bicycle Plan (2019) and Caltrans District 4 Bicycle Plan (2018)

Support Program/Policy	Description	Source
Vision Zero Policy	Adopt a countywide Vision Zero policy and develop an action plan for implementing Vision Zero. Identify opportunities for funding for Vision Zero efforts, such as developing a Countywide database to inventory collision data and environmental factors, undertaking a comprehensive analysis to understand collision patterns, and facilitating an outreach process to identify community safety priorities and determine where to focus safety investments and improvements.	2019 Bicycle Plan
Wayfinding Program	Develop a regional wayfinding system that has a similar brand throughout Napa Valley and helps bicyclists navigate the transportation network with confidence and provide direction to their destinations; create a community identity; and build a sense of place. The City of St. Helena could adjust the brand to reflect local character while still maintaining signage elements for consistency including placement, frequency of signs, and content.	2019 Bicycle Plan
Bikeway Maintenance	Prioritize maintenance of roadways and removal of debris where bicycle facilities are present	2019 Bicycle Plan

CITY OF ST. HELENA

* Projects denoted with an asterisk overlap with a jurisdiction-identified Measure T project, but they do not have the same extents: the proposed bicycle network project is either longer or shorter than the Measure T project.

Project ID	Street/Trail Name	Begin	End	Facility Type	Length (Miles)
Measure T Overlap Projects					
<i>Bike Lane (Class II) Projects</i>					
821	S Crane Ave	Grayson Ave	Sulphur Springs Ave	Bike Lane (Class II)	0.45
860	Grayson Ave	Crane Ave	SR 29 (Main St)	Bike Lane (Class II)	0.50
891*	Madrona Ave-Riesling Way	Main St	Sylvaner Ave	Bike Lane (Class II)	1.03
106*	Spring St	White Sulphur Springs Rd at city limit	Oak Ave	Bike Lane (Class II)	0.98
<i>Bike Boulevard (Class III) Projects</i>					
108*	Adams St	Railroad Ave	Allyn Ave	Bike Boulevard (Class III)	0.47
131	Birch Ave	Crane Ave	Valley View St	Bike Boulevard (Class III)	0.15
125	Church St	Hunt Ave	Pope St	Bike Boulevard (Class III)	0.13
127	Edwards St	Hunt Ave	Pope St	Bike Boulevard (Class III)	0.15
126*	Hunt Ave	Church St	Starr Ave	Bike Boulevard (Class III)	0.42
810	McKorkle Ave	Alison Ave	Proposed class I facility 675' west of College Ave	Bike Boulevard (Class III)	0.29
133*	Mitchell Dr	Main St	Crane Ave	Bike Boulevard (Class III)	0.44
116*	Oak Ave	Hillview Pl	Mitchell Dr	Bike Boulevard (Class III)	0.10
<i>Bike Route (Class III) Projects</i>					
856	Spring St	Sylvaner Ave	Sulphur Springs Ave	Bike Route (Class III)	0.18
All Other Projects					
<i>Shared-Use Path (Class I) Projects</i>					
147	Crane Park Path (to La Quinta Way)	Grayson Ave	Kennedy Ct	Shared-Use Path (Class I)	0.50
747	Library Lane Path	Adams St	Vine Trail (along RR corridor)	Shared-Use Path (Class I)	0.13
818	Lower Reservoir Loop Trail	NW city limit	Loop around Lower Reservoir and connect to Spring Mountain Rd	Shared-Use Path (Class I)	1.25
809	McCorkle Ave Path	Grayson Ave	College Ave	Shared-Use Path (Class I)	0.14
144	Mills Ln	SR 29-Main St	Proposed class I facility annex from Starr Ave	Shared-Use Path (Class I)	0.50

Project ID	Street/Trail Name	Begin	End	Facility Type	Length (Miles)
93	Napa River Trail	Pope St (Napa River Trail-Wappo Park)	St Helena city limit (Deer Park Rd / Lower Reservoir Trail)	Shared-Use Path (Class I)	1.90
151	Napa River Trail	St Helena city limit near wastewater treatment plant	SE edge Wappo Park	Shared-Use Path (Class I)	1.14
875	Pope St	Starr Ave	Silverado Trail	Shared-Use Path (Class I)	0.41
146	Starr Ave Path	Hunt Ave	Mills Ln	Shared-Use Path (Class I)	0.68
749	Starr Ave-Adams St-Railroad Ave-Fulton Ln	Hunt Ave	Railroad Ave	Shared-Use Path (Class I)	0.51
105	Sulphur Creek Path	Spring St	Sulphur Springs Ave	Shared-Use Path (Class I)	0.10
140	Sulphur Creek Path	Sulphur Springs Ave	Napa River Trail	Shared-Use Path (Class I)	0.65
96	York Creek Path	Spring Mountain Rd	Vine Trail	Shared-Use Path (Class I)	0.33
<i>Bike Lane (Class II) Projects</i>					
107	Allyn Ave	Spring St	Madrona Ave	Bike Lane (Class II)	0.34
819	Hudson Ave	Madrona Ave	Spring St	Bike Lane (Class II)	0.32
144	Mills Ln	Main St/SR 29	Proposed class I facility annex from Starr Ave	Bike Lane (Class II)	0.50
97	Pratt Ave	Vine Trail	Main St/SR 29	Bike Lane (Class II)	0.26
816	Spring Mtn Rd	Dean York Ln	Madrona Ave	Bike Lane (Class II)	0.39
895	Main St/SR 29	Chaix Ln	Charter Oak Rd	Bike Lane (Class II)	0.02
896	Main St/SR 29	Chaix Ln	Charter Oak Rd	Bike Lane (Class II)	0.21
833	Sulphur Springs Rd	S Crane Ave	Main St/SR 29	Bike Lane (Class II)	0.50
102	Sylvaner Ave	Riesling Way	Spring St	Bike Lane (Class II)	0.30
<i>Bike Boulevard (Class III) Projects</i>					
808	College Ave	Pope St	Proposed class I facility at SE end of College Ave	Bike Boulevard (Class III)	0.18
98	Elmhurst Ave	Spring Mountain Rd	Main St	Bike Boulevard (Class III)	0.23
114	Hillview Pl	Spring Mountain Rd	Oak St	Bike Boulevard (Class III)	0.14
124	Hunt Ave	Railroad Ave	Church St	Bike Boulevard (Class III)	0.02
244	Mariposa Ln	Pope St	McCorkle Ave	Bike Boulevard (Class III)	0.14
129	N Crane Ave	Spring St	Birch St	Bike Boulevard (Class III)	0.23
857	Railroad Ave	Adams St	Hunt Ave	Bike Boulevard (Class III)	0.11
859	Railroad Ave	Fulton Ln	Hunt Ave	Bike Boulevard (Class III)	0.21
820	Valley View St	Spring St	Birch St	Bike Boulevard (Class III)	0.20
<i>Bike Route (Class III) Projects</i>					
150	Chaix Ln	Main St/SR 29	Napa River Trail (proposed)	Bike Route (Class III)	1.07
806	Main St	Fulton Ln	St Helena city limit, Deer Park Rd	Bike Route (Class III)	1.11

Num	County	Route	BPM	EPM	City	Location	Improvement Type	Description	Cost	Tier
Nap-128-C06	Napa	128	7.38	7.51	St Helena	Sage Canyon Rd - Conn Creek Rd	Corridor Improvement- Class IV	When Silverado Trail bridge over Conn Creek is replaced, add Class IV or Class I facilities to better accommodate bicyclists turning from Safe Creek Road on to Silverado Trail and then onto Conn Creek Rd. Long term improvements for Project 255.	\$\$	TOP
Nap-128-C07	Napa	128	7.51	7.51	St Helena	Silverado Trail - Chiles Pope Valley Rd	Corridor Improvement- Class II	Provide Class II bike lanes on Hwy 128 from Silverado Trail to Chiles Pope Valley Rd. May require some Class III segments and signage.	\$\$	LOW
Nap-128-C08	Napa	128	0.01	4.55	Calistoga	Lincoln Ave - Napa/Sonoma county line	Corridor Improvement- Class I	Construct extension of the Vine Trail from Calistoga to Sonoma County line	\$\$\$	LOW
Nap-128-X01	Napa	128	11.26			Chiles Pope Valley Rd	Intersection Improvement at uncontrolled intersection	Class III bicycle route on SR 128	\$	LOW
Nap-128-X02	Napa	128	7.38			Silverado Trl S	Intersection Improvement at uncontrolled intersection	Improve crossing of Hwy 128 where it turns from Conn Creek Rd on to Silverado Trail, including evaluating potential for a two way Class I or Class IV facility on the north side.	\$	LOW
Nap-221-C01	Napa	221	0	2.68	Napa	Imola Ave - Hwy 12	Corridor Improvement- Class II	Provide bike lanes on Hwy 221. Consider edgeline rumble strips to increase awareness of bicycle travel in the corridor.	\$	LOW
Nap-221-X01	Napa	221	1.96			Streblov Dr	Intersection Improvement at controlled intersection	Mark bicycle crossings, improve access to River to Ridge trail, and remove slip lanes from Streblov Dr on to Hwy 221.	\$	MID
Nap-221-X02	Napa	221	2.54		Napa	Magnolia Dr	Intersection Improvement at controlled intersection	Provide intersection markings and bicycle turn boxes on Hwy 221 at Magnolia Dr	\$	MID
Nap-29-C01	Napa	29	0.27	40.63		Tubbs Ln - Napa/Lake County line	Corridor Improvement- Class II	Provide bike lanes on Hwy 29 from Tubbs Ln to Lake County border	\$\$	LOW
Nap-29-C02	Napa	29	38.97	40.64		Silverado Trl - Tubbs Ln	Corridor Improvement- Class II	Class II bicycle lanes on SR 29	\$	LOW
Nap-29-C03	Napa	29	37.93	38.97	Calistoga	Foothill Blvd/Hwy 29 - Silverado Trail	Corridor Improvement- Class II	Class II bicycle lanes on SR 29	\$	LOW
Nap-29-C04	Napa	29	37.91	37.93		Dunaweal Ln - Bennett Rd	Corridor Improvement- Class II	Class II bicycle lanes on SR 128	\$\$	LOW
Nap-29-C05	Napa	29	6.64	7.38	Napa	Stanly Ln - Vista Point Dr	Corridor Improvement- Class I	Planned Class I path along Napa River and connecting to Vista Point Drive on either side, including crossing on the Butler bridge.	\$\$	MID

BPM = Begin Postmile
EPM = End Postmile

\$ - Under \$250,000
\$\$ - \$250,000 - \$1,500,000
\$\$\$ - \$1,500,000 - \$7,000,000
\$\$\$\$ - Over \$7,000,000

Num	County	Route	BPM	EPM	City	Location	Improvement Type	Description	Cost	Tier
Nap-29-C06	Napa	29	0.01	0.01		Soscol Ferry Rd - Airport Blvd	Corridor Improvement- Class II	Provide Bike lanes on Hwy 29 from Airport Blvd to Soscol Ferry Rd	\$	LOW
Nap-29-C07	Napa	29	0.01	0.01	American Canyon	American Canyon Rd - Jameson Canyon Rd	Corridor Improvement- Class I	Provide Class I on both sides of Hwy 29 through American Canyon.	\$\$\$	TOP
Nap-29-X01	Napa	29	32.61			Bale Grist Mill	Intersection Improvement at uncontrolled intersection	Class II bicycle lanes on SR 128	\$	LOW
Nap-29-X02	Napa	29	29.07		St. Helena	Mitchell Dr/Pope St	Intersection Improvement at controlled intersection	Provide bike boxes, green markings, and bike lanes thru offset intersection of Mitchell Dr/Pope St and Hwy 29	\$	LOW
Nap-29-X03	Napa	29	15.59			Oak Knoll Ave	Intersection Improvement at controlled intersection	Provide signage, bike boxes and related improvements to better connect Oak Knoll Ave to the Vine Trail across Hwy 29	\$	MID
Nap-29-X04	Napa	29	14.58		Napa	Salvador Ave	Intersection Improvement at controlled intersection	Class I path on west side of SR 29	\$	LOW
Nap-29-X05	Napa	29	14.3		Napa	Wine Country Ave	Intersection Improvement at controlled intersection	Class I path along west side of SR 29	\$\$	LOW
Nap-29-X06	Napa	29	13.85		Napa	Trower Rd	Intersection Improvement at controlled intersection	Class I path on west side of SR 29	\$	MID
Nap-29-X07	Napa	29	13.06		Napa	Trancas Rd/Redwood Rd	Minor interchange improvements (signage and striping)- Class II	Provide bike lanes on Trancas Rd/Redwood Rd interchange with Hwy 29	\$	LOW
Nap-29-X08	Napa	29	11.54		Napa	1st St	Minor interchange improvements (signage and striping)- Class II	Provide bike lanes on 1st Street interchange with Hwy 29	\$	TOP
Nap-29-X09	Napa	29	10.69		Napa	Old Sonoma Rd	Minor interchange improvements (signage and striping)- Class II	Improve striping on Old Sonoma Rd interchnage with Hwy 29	\$	TOP
Nap-29-X10	Napa	29	34.28		Calistoga	Larkmead Ln	Intersection Improvement at uncontrolled intersection	Improve crossing of Hwy 29 using flashing beacons or similar to connect to Bothe Napa Valley State Park.	\$	LOW
Nap-29-X11	Napa	29	10.39		Napa	Imola Ave W	Minor interchange improvements (signage and striping)- Class I	Provide striping and signage improvements on Imola Ave (Hwy 121) at Hwy 29	\$\$	TOP
Nap-29-X12	Napa	29	1.61		American Canyon	Rio Del Mar	Intersection Improvement at controlled intersection	Class II bicycle lanes on SR 29. Implement signal/intersection improvements to support bicyclist left turns	\$	MID

BPM = Begin Postmile
EPM = End Postmile

\$ - Under \$250,000
\$\$ - \$250,000 - \$1,500,000
\$\$\$ - \$1,500,000 - \$7,000,000
\$\$\$\$ - Over \$7,000,000

Appendix F

Prior Recommended Pedestrian Projects

Source: Napa Countywide Pedestrian Plan (2016)



Exhibit SH-7
St. Helena - Project Locations

ST. HELENA PLAN

Priority Projects

Existing funding for pedestrian facilities is limited and cannot successfully cover more than a fraction of the recommendations in this plan. Available regional, state and Federal funding sources and grant cycles are highly competitive among worthy projects and other jurisdictions. Using consistent prioritization criteria countywide, this plan includes a tiered list of projects for St. Helena reflecting:

- Local importance
- Safety enhancements
- Proximity to schools
- Proximity to transit
- Sidewalk gap and trail connections
- Cost

These criteria and the metrics used to define them are described in more detail in **Appendix SH-C**. Each pedestrian improvement project is shown in one of two tiers based on the number of evaluation criteria it meets. Detailed results and project descriptions can be found in **Appendix SH-C**. A summary of the improvements is shown in **Table SH-5**.

Funded or Constructed Projects

The City of St. Helena recently secured funding for a sidewalk gap closure project on Mitchell Drive through the Transportation Development Act Article 3 funds, or TDA-3, available through MTC. This project will connect residential neighborhoods with an adjacent commercial center and a nearby school. Recommended pedestrian improvements are also being considered by Caltrans as additions to a funded signal project at Main Street and Grayson Avenue, which is currently in the final stages of design. These recently completed and funded projects were assigned to “Tier Zero” in **Table SH-5** and were not evaluated for prioritization.

TABLE SH-5: ST HELENA PEDESTRIAN IMPROVEMENTS				
Project ID	Location	Description	Pedestrian Component	Estimated Cost
ON-GOING SYSTEM MAINTENANCE				
Sidewalk Gap Closure and Maintenance (No. 29 2015 CTP Program)	Citywide	Sidewalk maintenance, rehabilitation and expansion to include 29 miles of Citywide sidewalk gap closure	Sidewalks Maintenance	\$\$\$
TIER ZERO (FUNDED OR CONSTRUCTED PROJECTS)				
T0-1 Additions to Planned Projects	Main Street at Grayson Avenue	Marked crosswalks on all legs with crosswalk enhancements and directional curb ramps for west leg crosswalk	Crossing treatments ADA ramps	-
T0-2 Mitchell Drive Sidewalk	Mitchell Drive, Oak Avenue to St. James Court	Sidewalk on the north side of the street	Sidewalk	-
TIER ONE				
SH-1 RLS Middle School Sidewalk and Hunt Avenue Improvements	Hillview Place, Spring Mountain Road, Elmhurst Avenue at RLS Middle School	Sidewalks	Sidewalk	\$399,000 ²
	Hunt Avenue, Monte Vista Avenue to June Lane	Sidewalks	Sidewalks	
	Hunt Avenue at Edwards Street, Hunt Avenue at June Lane	Curb ramp upgrades	ADA Ramps	
	Hunt Avenue, Grove Court to June Lane	Class I pathway and enhanced1 midblock crosswalk	Crossing treatments Pathway	
SH-2 Downtown Pedestrian Improvements (No. 35 2015 CTP Constrained Project)	Main Street, Spring Street to Adams Street	Sidewalk upgrades and streetscape improvements	Maintenance Sidewalks Place making	\$1,355,900
		Traffic calming (such as bulb outs)	Traffic calming	
	Main Street at Pine Street	Crosswalk enhancements and tree trimming	Crossing treatments ADA ramps Maintenance	
	Main Street at Adams Street	Crosswalk enhancements and tree trimming	Crossing treatments ADA ramps	

TABLE SH-5: ST HELENA PEDESTRIAN IMPROVEMENTS

Project ID	Location	Description	Pedestrian Component	Estimated Cost
	Main Street at Hunt Avenue		Maintenance	
		Enhanced marked crosswalk	Crossing treatments ADA ramps	
		Pedestrian wayfinding	Wayfinding	
	Main Street at Spring Street	Enhanced marked crosswalk	Crossing treatments ADA ramps	
	Main Street – Entire Corridor	Raised median	Traffic calming	
		Pedestrian paseo / alley way study	Wayfinding Place making	
SH-3 Sulphur Creek Class I Multi-Use Pathway (No. 36 on Constrained CTP Project List)	Sulphur Springs Avenue to Napa River	Class I Multi-Use Path	Pathway	\$\$\$
SH-4 Napa River Class I Multi-Use Pathway (Unconstrained 2015 CTP Project)	Napa River from South City Limit to North City Limit	Class I Multi-Use Path	Pathway	\$\$\$
SH-5 SHUSD Main Street Frontage Sidewalk	Main Street, Grayson Street to Dowdell Lane	Sidewalk	Sidewalk	\$184,300
SH-6 Downtown Operations Study	Main Street, Pine Street to Mitchell Drive	Signal coordination study and assessment of pedestrian signal timing improvements	Signal timing/operations	\$53,000
	Main Street at Pope Street	Roundabout feasibility study to include analysis of circulation modifications as alternative	Signal timing/operations	
SH-9 Main Street ADA Improvements	Main Street, Spring Street to Pop Street	ADA driveways	ADA	\$137,700
	Main Street, Dowdell Lane to El Bonita Avenue	DG pathway	Pathway	
	Main Street at El Bonita Avenue	Sidewalk repair	Maintenance	

TABLE SH-5: ST HELENA PEDESTRIAN IMPROVEMENTS

Project ID	Location	Description	Pedestrian Component	Estimated Cost
	Main Street at St Helena Chamber of Commerce	Detectable warning strip along sidewalk	ADA	
TIER TWO				
SH-7 Main Street Business Frontage Improvements	Main Street at Pope Street	Sidewalk activation considerations	Place making	\$\$
	Main Street at Gott's	Driveway closure		
		Wayfinding and landscape improvements		
SH-8 Main Street SRTS Improvements	Main Street at Charter Oak Avenue	Enhanced marked crosswalk with RRFBs	Crossing Improvements ADA ramps	\$\$
		Crosswalk enhancements		
	Main Street at Vidovich Lane	Enhanced marked crosswalk		
SH-10 Main Street/ Dowdell Transit Access Improvements	Main Street at Dowdell Lane	Bus stop relocation	ADA ramps Sidewalks Crossing Improvements	\$\$
SH-11 South St Helena/ Unincorporated Connection	Main Street at El Bonita Avenue to Inglewood Avenue	Sidewalk or enhanced marked crosswalk for Vine Trail connection	Sidewalks Crossing Improvements	\$\$\$ ³
SH-12⁴ Sulphur Creek Crossing	Southern terminus of Oak Avenue to Grayson Avenue over Sulphur Creek	Feasibility study for pedestrian crossing	Crossing Improvements	\$\$

1. An enhanced crosswalk includes additional safety treatments such as curb extensions, reduced curb radii, or pedestrian refuge islands. These enhancements are recommended to address safety concerns such as higher speed or volume roadways, wider roadways, and roadways where motorists are less likely to yield to pedestrians. Specific recommendations are included in Appendix SH-C. For additional information on the application of these enhancements, refer to the Crosswalk Guidelines of this plan.

2. Source: Total Project Cost Estimate, St. Helena New Sidewalk Construction Project, ATP Cycle 2 Application Form, 2015

3. Based on cost of sidewalk

4. This crossing was identified as part of the pending General Plan update, public comment, and discussion with the city. Due to early planning stages, it was not included in the evaluation for prioritization.

\$\$\$ - high cost (>\$1million); \$\$ - medium cost (\$100k-\$1million); \$ - low cost (<\$100k)

Source: Fehr & Peers, 2015

Sidewalk gap closure projects are an important enhancement to pedestrian mobility. City staff identified sidewalk projects as a citywide need, especially south of the Sulphur Creek Bridge on Main Street, where facilities have maintenance needs. Several sidewalk gaps were identified during the public workshops and

discussions with city staff that are outside of the walking audits for this plan, including Grayson Avenue along the frontage of St. Helena High School and along Hudson Avenue. The city has approximately 29 miles of sidewalk gaps and filling these gaps is included as an on-going effort in Table SH-4, as adopted in the Countywide Transportation Plan (2015). Other pedestrian needs identified by staff for consideration for future walking audits include accommodations for recreational use along the railroad tracks and safety enhancements for seniors along Pope Street.

Supporting Programs and Policies

Key program and policy recommendations that complement the engineering-related projects are shown below in **Table SH-6**. Many of these recommendations draw from the benchmarking exercise completed at the onset of the plan development. The recommendations encompass education, encouragement, and enforcement activities.

TABLE SH-6: ST HELENA PROGRAM AND POLICY RECOMMENDATIONS

Program or Policy	Recommendations
Education and Encouragement	
Safe Routes to School (SRTS) Coordination	Coordinate with the Napa County Office of Education to continue SRTS programs in the City, and determine feasibility of implementing recommendations under the Safe Routes to School Support Program in the Countywide Implementation chapter of the countywide plan.
Safety and Enforcement	
Law Enforcement for Pedestrian Safety	Coordinate with NVRTA to provide resources to officers in St. Helena on pedestrian safety enforcement principles / best practices and education outreach efforts to align with Countywide collision reduction goals. Consider designating traffic safety officers who conduct pedestrian related enforcement activities, such as monitoring school circulation activity during pick up and drop off periods. Determine feasibility of enforcement recommendations in <i>Countywide Implementation</i> chapter of the countywide plan.
NVRTA Safety Campaign	Coordinate with NVRTA on the media safety campaign that NVRTA is pursuing, as an opportunity for education by distributing pedestrian safety pamphlets in-lieu of, or in addition to, citations.
Maintenance	
Repair of Sidewalks, Crosswalks, and Curb Ramps	- Continue to regularly improve and repair uneven sidewalk, broken asphalt in crosswalks, and install new curb ramps as part of the Citywide Sidewalk Maintenance Program above. This could include consideration of implementing an ADA Transition Plan and/or a trip and fall monitoring program. - Determine feasibility of adding a page to the city's website to allow residents and visitors to more easily report and track hazards in the public right-of-way and to ensure all necessary sidewalk repairs are included in the City's Capital Improvement Program (CIP). This could include the reporting of maintenance needs for pedestrian-related pavement markings and traffic control devices.
Overgrown Vegetation on Sidewalks and Planting Strips	- Continue to trim and maintain trees on Main Street, especially those at intersections to improve street light visibility. For specific locations where tree obstructions were observed during the walking audits, reference Improvement SH-2 in Appendix SH-C. - Citywide, ensure that landscapes at maturity do not interfere with safe sight distances for bicycle, pedestrian, or vehicular traffic; do not conflict with overhead lights, traffic controls, traffic signage, utility lines or poles, or walkway lights; and, do not block bicycle or pedestrian ways. Require adjacent property owners to maintain landscaped areas with live and healthy plant materials, replacing plant materials when necessary to maintain full function and aesthetics; to water, weed, prune, fertilize and keep sidewalks and planting strips litter free.
Caltrans Coordination	Sidewalk maintenance and curb ramp upgrades to directional through existing Caltrans right of way relinquishment for sidewalks (Charter Oak Avenue to Pratt Avenue). Coordinate with Caltrans on crosswalk enhancements along corridor and sidewalk improvements beyond existing right of way relinquishment.

TABLE SH-6: ST HELENA PROGRAM AND POLICY RECOMMENDATIONS	
Program or Policy	Recommendations
Engineering and Design Standards	
Crosswalk Guidelines	Implement Crosswalk Guidelines, included in Appendix D of the Countywide Pedestrian Plan, to enable the city to respond to crosswalk requests in a manner that improves pedestrian accessibility and maintains public safety. Reference Guidelines when making decisions about where standard crosswalks (two, parallel white stripes) can be marked; where crosswalks with special treatments, such as high-visibility crosswalks, flashing beacons and other special features, should be employed; and where crosswalks will not be marked due to safety concerns resulting from volume, speed, or sight distance issues.
Place Making and Complete Streets	
Downtown Parking Plan	Determine shared parking opportunities downtown to consider parklet in front of bakery on west side of Main Street and identify opportunities for bike parking to include bike corrals.
Site Plan Review Checklist	Create checklist for development review to ensure site plans include considerations for pedestrian access, safety, and sidewalk activation (i.e., considerations for building frontage location, pocket parks, small plazas or mini-shops, and pedestrian paths of travel through parking lots). Include items from MTC’s Routine Accommodation Checklist for projects in the public right-of-way to ensure routine application of the Complete Streets policy. MTC’s checklist can be found here: http://www.mtc.ca.gov/planning/bicyclespedestrians/Routine_Accommodation_checklist.pdf

Appendix SH-A: Benchmarking Table

ST. HELENA PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS			
Plans, Policies, & Programs	Benchmark	St. Helena Current Practice	Best Practice Examples
Coordination with Health Agencies Involving non-traditional partners such as public health agencies, pediatricians, etc., in the planning or design of pedestrian facilities may create opportunities to be more proactive with pedestrian safety, identify pedestrian safety challenges and education venues, and secure funding. Additionally, under-reporting of pedestrian-vehicle collisions could be a problem that may be partially mitigated by involving the medical community in pedestrian safety planning.¹	Key Strength	Live Healthy Napa County, a coalition of local community stakeholders for improving health in Napa County, recently completed the Napa County Community Health Improvement Plan (CHIP) in February 2014. The document proposes a plan to address health issues through new policies and health promotion strategies, including transportation policies that encourage walking and biking. In St. Helena, health agencies are involved in the development review process, but there is no special involvement for pedestrian facilities. Live Healthy Napa County completed the first ever Napa County Community Obesity Prevention Plan (Jan. 2015)², which addresses the need to increase active transportation options countywide.	- Seek opportunities to meet goals in the CHIP related to active transportation, such as improving the built environment by ensuring all necessary sidewalk repairs are included in the city's Capital Improvement Program (CIP), and including additional pedestrian infrastructure projects in the program. Consider a tripartite monitoring program and/or incorporating public comment from the recommended online comment form under <i>Public Involvement</i> below. - Continue to involve health agencies in the development review process, especially related to active transportation improvements. - Ensure consistency with the CHIP by seeking partnership opportunities between health agencies and Safe Routes to School to expand the reach of education and promotion of walking.

¹ Sciortino, S., Vassar, M., Radetsky, M. and M. Knudson, "San Francisco Pedestrian Injury Surveillance: Mapping, Underreporting, and Injury Severity in Police and Hospital Records," *Accident Analysis and Prevention*, Volume 37, Issue 6, November 2005, Pages 1102-1113

² [http://www.livehealthynapacounty.org/uploads/5/1/4/4/51449431/napa_county_community_obesity_prevention_plan_\(final\).pdf](http://www.livehealthynapacounty.org/uploads/5/1/4/4/51449431/napa_county_community_obesity_prevention_plan_(final).pdf)



APPENDIX SH-A: BENCHMARKING TABLE

ST. HELENA PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS			
Plans, Policies, & Programs	Benchmark	St. Helena Current Practice	Best Practice Examples
Complete Streets Policy Routine Accommodations or Complete Streets Policies accommodate all modes of travel and travelers of all ages and abilities.	Key Strength	The City of St. Helena has a Complete Streets Policy resolution which follows the template provided by MTC. The next update to the General Plan will incorporate Complete Streets policies and principles; however, it has yet to be adopted. For implementation of the Complete Streets policy, designs of projects affecting the transportation system must be reviewed by the Active Transportation Committee for consistency with the Vine Trail plans and the Countywide Bicycle Plan. Routine data collection is also required to evaluate how well all users are being served by the transportation network. Commercial and residential development projects are required to include sidewalks and the city additionally requests ADA-compliant driveway designs during development review.	- Consider opportunities for Complete Streets, specifically pedestrian pathways and/or sidewalks, during restriping, repaving, new roadway construction, and utility installation projects. - Develop a checklist for project review to ensure routine application of the Complete Streets policy. - Consider maintaining a GIS database of data collected as part of the policy evaluation, to include pedestrian volumes collected in this plan.
Newspaper Rack Ordinance Newspaper racks may obstruct walkways and reduce accessibility and pedestrian visibility when ordinances are not in place. A Newspaper Rack Ordinance improves the pedestrian realm by reducing clutter and organizing sidewalk zones and may detail size, location, and maintenance requirements.	Key Strength	St. Helena has an ordinance which requires the placement and maintenance of a newsrack not to interfere with building access or reduce the pedestrian travel way to less than six feet.	

ST. HELENA PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS			
Plans, Policies, & Programs	Benchmark	St. Helena Current Practice	Best Practice Examples
Street Tree Ordinance Street trees enhance the pedestrian environment by providing shade and a buffer from vehicles. Street trees may also enhance property values, especially in residential neighborhoods. However, street trees, when improperly selected, planted, or maintained, may cause damage to adjacent public infrastructure and/or utilities.	Key Strength	The St. Helena Tree Committee developed the Master Street Tree List, a guide that organizes trees into categories depending on the recommended street type (large commercial, major in-town streets, and small neighborhood streets). The guide includes a list of undesirable trees, in accordance with the city's street tree ordinance, which lists trees that cannot be planted without proper root-control barriers due to their potential to cause damage to sidewalks. According to the St. Helena tree ordinance, property owners are responsible for repairing sidewalk damage by trees fronting their property, while the city takes responsibility for trimming and maintaining trees on Main Street.	
Speed Limits and Speed Surveys Pedestrian fatality rates increase exponentially with vehicle speed. Thus, reducing vehicle speeds in pedestrian zones may be one of the most important strategies for enhancing pedestrian safety.	Key Strength	Engineering speed studies are prepared every 5 years in St. Helena, in accordance with state law. The city does use reduced speed limits of 15 mph in school zones as needed. De facto speed limits are 25 miles per hour.	- Proactively consider pedestrian volumes when setting speed limits, and consider traffic calming in pedestrian zones where speed surveys suggest traffic speeds are too high. - Ensure design standards in pedestrian areas do not contribute to a routine need for traffic calming.
Bicycle Parking Ordinance Bicyclists become pedestrians after parking their bicycles. Safe and convenient bicycle parking is essential for encouraging bicycle travel (especially in lieu of vehicle travel).	Enhancement	The city of St. Helena includes the option to require bicycle parking in its municipal code for any use which must provide 10 or more vehicular spaces.	Consider modifying the bicycle parking ordinance to distinguish and provide for both long-term and short-term bicycle parking. Include requirements for rack placement to ensure a convenient location and adequate pedestrian clearances.



APPENDIX SH-A: BENCHMARKING TABLE

ST. HELENA PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS			
Plans, Policies, & Programs	Benchmark	St. Helena Current Practice	Best Practice Examples
Collision Reporting Identifying and responding to collision patterns on a regular basis is an important reactive approach to pedestrian safety (which may be combined with proactive measures).	Enhancement	According to collision history between 2003 and 2012, St. Helena has the highest number of collisions countywide besides the City of Napa. Collision locations and contributing factors are reviewed by city staff when there is a call for grant funding to identify candidate improvement projects.	- Geo-coding (mapping) and comprehensive monitoring using Crossroads software would allow for more proactive pedestrian safety projects and best practices such as collision typing for countermeasure selection. GIS efforts may be funded through an Office of Traffic Safety grant. - Sufficient pedestrian volume data could be used to prioritize collision locations based on collision rates (collisions/daily pedestrian volume). This could lead to a proactive approach to identify treatments and program funding. Volunteers can collect pedestrian volumes and other data at collision locations.
Public Involvement Responding to public concerns through public feedback mechanisms represents a more proactive and inclusive approach to pedestrian safety compared to a conventional approach of reacting to pedestrian collisions. Advisory committees serve as important sounding boards for new policies, programs, and practices. A citizens' pedestrian advisory committee is also a key component of proactive public involvement for identifying pedestrian safety issues and opportunities.	Enhancement	The City of St. Helena does not have a formal online feedback process, but residents may call the Planning or Public Works office for specific complaints and concerns. The city has an Active Transportation Committee with 5 members and 2 alternates. They are not linked directly to the ATAC for NVTA, which has a separate representative from St. Helena.	- Add a page to the city's website dedicated to receiving public input regarding transportation issues and a subsection for pedestrian topics. This category or subcategory may allow residents to file comments or complaints for traffic control devices or dangerous conditions. - Designate time during the ATC meetings to address countywide issues and opportunities with the representative on the NVTA ATAC. Alternatively, a new position could be created on the city's ATC to be assumed by the NVTA ATAC representative to ensure collaboration and input on countywide pedestrian topics.
Transportation Demand Management Transportation Demand Management (TDM) programs encourage multi-modal travel by incentivizing non-auto options. As new development occurs, TDM programs can be expanded, formalized, and strengthened.	Enhancement	Employers of 50 or more full-time workers in the Bay Area are required to provide commuter benefits to their employees through the Bay Area Commuter Benefits Program, to comply with California SB 1339. The Program includes benefit options like transit passes, employer-provided shuttles, and vanpool subsidies.	- Consider implementing a "park-once" strategy downtown and along Main Street. - Develop a policy that supports the "Car Free" tourism program of the Napa Valley Destination Council and NVTA, which provides information to visitors so they can plan a trip without relying solely on a car.

ST. HELENA PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS			
Plans, Policies, & Programs	Benchmark	St. Helena Current Practice	Best Practice Examples
Design and Development Standards Design policies and development standards can improve the pedestrian walking experience, encourage walking, enhance economic vitality, and offer funding opportunities for pedestrian improvements.	Enhancement	The typical street cross-section in the General Plan is 2 lanes with a center two-way left turn lane, a pedestrian friendly design. Building orientation and setback requirements are included in the city's zoning ordinance.	• Incorporate elements of the design guidelines presented in this plan as part of the development review process. • Develop a Streetscape Master Plan for the city.
Historical Preservation Historic walking routes, such as the famous Freedom Trail in Boston, encourage walking and enhance economic vitality.	Enhancement	Numerous historical sites throughout the city are listed in the Master Historical Resources List, but pedestrian access is not addressed. The St. Helena municipal code includes a Historic Preservation Overlay District but does not address pedestrians.	• Develop a map to showcase natural or local sites of interest, and link key sites on the Master Historical Resources List, including a possible walking route between the sites. Maps of the tour route and historic documentation materials could be made available online and wayfinding signs, maps, and plaques could also be provided throughout the city.
Pedestrian Safety Education Program Education is a critical element for a complete and balanced approach to improving pedestrian safety. Education campaigns may target pedestrians of all ages.	Enhancement	In accordance with policies in the Napa Bike Plan and the General Plan, NVTa is planning to pursue grant funding through the California Office of Traffic Safety (OTS) for a media safety campaign for motorists. The campaign will use Pittsburgh's Drive With Care campaign for inspiration, which characterizes bicyclists and pedestrians as our firefighters, doctors, and neighbors and uses the slogan "someone you care about rides a bike". The OTS will release a call for projects around November 2015 for their 2017 funding cycle.	• Coordinate with NVTa on pursuing a media safety campaign, and consider the following methods to distribute the campaign in St. Helena: ○ Include advertisements on buses and bus shelters, through SRTS and in-school curriculum, public service announcements, and/or brochures distributed by law enforcement, among many other strategies ○ Pedestrian safety brochures could be distributed to the public independent of the media campaign to promote walking to community events.



APPENDIX SH-A: BENCHMARKING TABLE

ST. HELENA PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS			
Plans, Policies, & Programs	Benchmark	St. Helena Current Practice	Best Practice Examples
Safe Routes to Schools Safe-Routes-to-School (SRTS) programs encourage children to safely walk or bicycle to school. The programs are important both for increasing physical activity (and reducing childhood obesity) and for reducing morning traffic associated with school drop-off. Funding for educational programs and/or infrastructure projects is available at the state and federal levels.	Enhancement	The Napa County Office of Education (NCOE) currently administers a Safe Routes To School (SRTS) Program across the county, and has hosted events such as Walk and Roll to School Day, where students compete for the Golden Sneaker Trophy, awarded to classrooms with the best participation. A Safe Walking education presentation is offered to elementary schools countywide for students in grades K-3. Brochures are handed out during this program as well as at staff meetings, PTA/parent meetings, community health fairs, and farmers markets. Parent presentations include a review of pedestrian laws and ordinances. While program leaders have a goal of reaching every interested school by the end of the grant term in 2016, reaching all schools on a weekly or yearly basis has been difficult due to understaffing and scarcity of volunteers.	- Pursue SRTS grant funding for pedestrian infrastructure projects. - Seek partners to form school-specific committees of community agencies, parents, advocates, City staff, community health representatives, and other stakeholders to administer SRTS programs at each school. Hold regular meetings to maintain stakeholder involvement. - Use distances from schools from parent survey results to determine feasibility of rolling out Walking School Bus program for St. Helena Elementary School. - Coordinate with NVTa to seek additional funding for SRTS.
Open Space Requirements Residents typically rate open space as among a jurisdiction's key assets and needs. Open space may encourage walking, especially for recreational trips.	Enhancement	The St. Helena municipal code includes an Open Space District - designated areas associated with stream corridors in the city - but does not provide specific pedestrian accommodations for this area.	Consider requiring provisions for pedestrian safety and accessibility as part of the Open Space District.
Economic Vitality Improving pedestrian safety and walkability can enhance economic vitality. Similarly, enhancing economic vitality through innovative funding options such as Business Improvement Districts (BIDs), parking management, and facade improvement programs can lead to more active pedestrian areas and encourage walking.	Enhancement	St. Helena does not have a BID or a facade improvement program. A parking impact overlay zone does reduce off-street parking requirements in the central business district, which helps to preserve the pedestrian orientation of the street frontage and create a "park-once" environment.	- Consider establishing Business Improvement Districts that can fund streetscape and pedestrian improvements. - Consider way-finding strategies downtown to reinforce the "park-once" environment while managing parking spillover into residential areas.

ST. HELENA PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS			
Plans, Policies, & Programs	Benchmark	St. Helena Current Practice	Best Practice Examples
Sidewalk or Street Furniture Ordinance Street furniture encourages walking by accommodating pedestrians with benches to rest along the route or wait for transit; trash receptacles to maintain a clean environment; street trees for shade, etc. Uniform street furniture requirements also enhance the design of the pedestrian realm and may improve economic vitality.	Opportunity	St. Helena has no specific street furniture ordinance, but sidewalk dining is allowed with a permit in the zoning code. A four feet clear path of travel must be maintained.	Consider adopting a Street Furniture Ordinance to include guidance for the design of transit stops and locations for additional street furniture amenities, other than those associated with transit stops, as appropriate.
Inventory of Pedestrian Facilities A GIS-based sidewalk inventory enables project identification and prioritization, as well as project coordination with new development, roadway resurfacing, etc.	Opportunity	The city does not have a GIS inventory of sidewalks or other pedestrian facilities, although trails and pathways are shown graphically in the St. Helena Bicycle Master Plan. Sidewalks are included in the city's Capital Improvement Program and has budgeted approximately \$17,000/year for the last 3 years for sidewalk repairs, although not all of it was spent.	- This plan has developed a GIS-based inventory of sidewalks, curb ramps, crosswalks, and paths citywide. This facility inventory could be expanded to include informal pathways and potential pedestrian opportunities in the city. - Consider implementing a trip and fall monitoring program and/or mapping public comment from the recommended comment form to ensure all necessary sidewalk repairs are included in the city's Capital Improvement Program (CIP).
Walking Audit Program Walking audits provide an interactive opportunity to receive feedback from key stakeholders about the study area as well as discuss potential solutions and their feasibility.	Opportunity	St. Helena has not conducted pedestrian walking audits before this plan.	Conduct regular walking audits as part of a citywide safety program for pedestrians. This effort could complement a "trip and fall" program or health-oriented programs within the city, as well as distribution of the media campaign NVTa is pursuing.



APPENDIX SH-A: BENCHMARKING TABLE

ST. HELENA PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS			
Plans, Policies, & Programs	Benchmark	St. Helena Current Practice	Best Practice Examples
Pedestrian Volumes Pedestrian volume data is important for prioritizing projects, developing collision rates, and determining appropriate pedestrian infrastructure.	Opportunity	The city of St. Helena does not collect pedestrian volumes as a matter of routine.	- Use collected volumes in this plan to identify pedestrian nodes in the next update to the General Plan. - Routinely collect pedestrian and bicycle volumes by requiring them to be conducted in conjunction with all traffic studies and manual intersection turning movement counts. - Geo-code existing and future pedestrian volume data with GIS software along with other data such as pedestrian control devices and collisions to analyze data for trends or hotspots related to pedestrian safety.
ADA Improvements Compliance with the Americans with Disability Act (ADA) guidelines is important not only to enhance community accessibility, but also to improve walking conditions for all pedestrians. An ADA Transition Plan sets forth the process for bringing public facilities into compliance with ADA regulations.	Opportunity	Standard drawings for the city of St. Helena include minimum sidewalk widths of 4 feet and curb ramps that include grooving details or a rougher surface than the surrounding sidewalk, which help users detect the presence of the ramp and to provide a non-slip surface. City standards also include a detail for sidewalk obstruction transitions. Curb return standards show curb ramps to be located at the center of the curb return and the city does not have a detail for directional curb ramps.	- Seek funding opportunities for ADA deficiency areas identified as part of this plan. - Conduct ADA field surveys of additional priority corridors listed in this plan to add to a city-maintained GIS database. - Consider adopting a City Standard for directional curb ramps and implement the design where practical. - Review and revise standard drawings to align with PROWAG recommendations. - Consider adopting an ADA Transition Plan to track ADA improvements and create a plan for future priorities and enhancements.

ST. HELENA PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS			
Plans, Policies, & Programs	Benchmark	St. Helena Current Practice	Best Practice Examples
Identifying Crossing Barriers Crossing barriers such as railroads, freeways, and major arterials may discourage or even prevent pedestrian access. Additionally, crossing barriers are often associated with vehicle-pedestrian collisions. Identifying barriers and developing alternative methods of crossing or improving designated crossings, as well as preventing new barriers, is essential for improving walkability and pedestrian safety.	Opportunity	Crossing barriers in St. Helena include the highway, which coincides with Main Street, the Wine Train tracks, and several creeks. The city does not maintain an inventory of pedestrian crossing barriers, and many existing crossings do not have pedestrian facilities.	Identify and create a comprehensive inventory of pedestrian barriers, along with appropriate remedies or projects.
Pedestrian-Oriented Traffic Warrants / Traffic Control Devices Providing all-way stop or signal control at an intersection may improve pedestrian safety by reducing speeds and controlling pedestrian-vehicle conflicts. The MUTCD defines warrants for installing signals and stop signs. The 2014 California <i>Manual of Uniform Traffic Control Devices</i> (MUTCD) requires the installation of countdown pedestrian signals for all crosswalks at new or modified signals where the pedestrian interval is more than 7 seconds. Leading Pedestrian Intervals (LPIs) can reduce conflicts between turning vehicles and pedestrians by providing pedestrians with a "head start" signal timing before vehicles on the parallel street are allowed to proceed through an intersection.	Opportunity	The City of St. Helena uses MUTCD warrants for signals and stop signs. All traffic signals are along Main Street/Highway 29 and are operated by Caltrans. No lead pedestrian intervals (LPIs) or pedestrian countdown timers are installed.	- Coordinate with Caltrans to install pedestrian countdown timers at signals along Main Street and evaluate need for LPIs in areas of high pedestrian activity. - Consider using city-specific, pedestrian-friendly stop sign warrants for locations where pedestrian safety is a concern. Best practices for stop-sign warrant application include: - Requiring a collision history of three instead of five years based on routine underreporting - Reducing traffic volume thresholds based on latent demand - Providing consideration for school children, pedestrians and traffic speeds - Expand the GIS-based inventory to include pedestrian-related markings and traffic signals with pedestrian facilities.



APPENDIX SH-A: BENCHMARKING TABLE

ST. HELENA PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS			
Plans, Policies, & Programs	Benchmark	St. Helena Current Practice	Best Practice Examples
Crosswalk Design Guidelines A formal policy for crosswalk installation, removal, and enhancement provides transparency in decision-making and creates a consistent application of treatments citywide.	Opportunity	The City of St. Helena does not have a formal crosswalk policy, and many uncontrolled crosswalks exist on Main Street and Pope Street.	- Consider adopting a crosswalk policy as part of this plan that reflects best practices and recent research to include criteria for appropriate locations to install crosswalk enhancements such as flashing beacons, advanced yield markings, or in-roadway pedestrian signs. - Include criteria in the crosswalk policy for identifying, installing, and enhancing crossings where strong desire lines exist, especially a cross Main Street. - Using the proposed crosswalk policy, conduct audits of the adequacy of current crosswalks.
Law Enforcement Enforcement of pedestrian right-of-way laws and speed limits is an important complement to engineering treatments and education programs.	Opportunity	Law enforcement is usually only involved in the planning and development process when a bar is under consideration. To date, law enforcement has not tracked pedestrian-involved collision trends to relate them to enforcement efforts. NVTA is interested in training CHP officers to implement pedestrian education outreach efforts to motorists countywide.	- Identify training opportunities for officers in St. Helena on pedestrian safety enforcement principles and education outreach efforts. - Consider designating traffic safety officers who conduct pedestrian related enforcement activities, such as monitoring school circulation activity. - Implement sustained pedestrian safety enforcement efforts and involve the media. Coordinate with NVTA on the media safety campaign that NVTA is pursuing, as an opportunity for education by distributing pedestrian safety pamphlets in-lieu of, or in addition to, citations. - Consider tracking pedestrian-involved collisions aligned with enforcement efforts to analyze trends.

ST. HELENA PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS			
Plans, Policies, & Programs	Benchmark	St. Helena Current Practice	Best Practice Examples
Traffic Calming Programs Traffic Calming Programs and policies set forth a systematic and consistent approach for addressing neighborhood requests and approvals, as well as standard treatments and criteria.	Opportunity	The City of St. Helena does not have a Traffic Calming Program; however, the General Plan does not allow four lane roads. The high school is concerned with cut-through traffic from Main Street. Although the highest vehicle volumes in the city are on Main Street, traffic is congested, providing a form of traffic calming on the corridor.	- Consider adopting a Traffic Calming program for pedestrian concerns that arise from residents in St. Helena. - Coordinate with the high school to evaluate traffic calming measures along the school frontage.
General Plan Planning principles contained in a city's General Plan can provide an important policy context for developing pedestrian-oriented, walkable areas. Transit-oriented development, higher densities, and mixed uses are important planning tools for pedestrian-oriented areas. A city's General Plan is also a key opportunity to establish the framework for pedestrian orientation. The Circulation Element of the Plan typically assigns roadway typologies, which can include a layered network approach with prioritized corridors for transit, pedestrian, bicycle, and auto travel.	Opportunity	Density in St. Helena is concentrated downtown, with very few high-density areas and no mixed use zones. Although mixed-use is proposed in the Central Business and Service Commercial Districts for the General Plan update, it is not yet adopted. Parking policies include a parking impact overlay district, located generally within the central business district, which allows lower off-street parking requirements for buildings built before February 1980. Any new property in this district can pay an in-lieu fee. Senior Housing is allowed reduced off-street parking requirements. The primary pedestrian node in St. Helena is Main Street. While the current General Plan does not focus on accommodating pedestrians, the pending update to the General Plan will.	- Establish transit and auto-vehicle policies in the General Plan that are pedestrian-friendly and support a balanced multi-modal transportation network. - Identify pedestrian nodes in future updates to the General Plan. - Develop roadway typologies in the next update to the General Plan to identify any prioritized corridors for pedestrians.



APPENDIX SH-A: BENCHMARKING TABLE

ST. HELENA PROGRAMS, POLICIES, AND PRACTICES BENCHMARKING ANALYSIS			
Plans, Policies, & Programs	Benchmark	St. Helena Current Practice	Best Practice Examples
Coordination with Emergency Response and Transit Providers Emergency response vehicles require special roadway design considerations that sometimes conflict with bicycle and pedestrian treatments. For example, while pedestrians benefit from reduced speeds of smaller curb radii, larger vehicles such as fire trucks and buses have more difficulty performing the turn within the smaller space. These conflicts require consensus building between the city and the respective departments.	Opportunity	There is little coordination between transit planning and pedestrian planning in St. Helena, and emergency responders are involved in the development review process but not specifically in pedestrian projects.	- Seek opportunities for technical collaboration and funding with first responders and transit providers for pedestrian improvements. - Consider pilot testing programs for transit and emergency response and a more active involvement in project review for small projects and not just development projects. - Explore ways to implement a Safe Routes to Transit Program that prioritizes bike and pedestrian access to transit connection points and transit centers.
Institutional Coordination Institutional issues for pedestrian planning/design may refer to adopted or informal impediments. This may be policies, practices, funding issues or even stakeholders that make it challenging to improve walking in St. Helena. Institutional coordination associated with multiple agencies is necessary because of non-local control of right-of-way and differing policies regarding pedestrian accommodation.	Opportunity	Caltrans has jurisdiction over Main Street in St. Helena, which is one of St. Helena's busiest pedestrian corridors and coincides with downtown. Several signals on Main Street do not include pedestrian countdown heads and several uncontrolled crosswalks exist across the corridor. Coordination with Caltrans is necessary due to the potential difference in policies regarding pedestrian accommodation, although recent policies within Caltrans now require the agency to consider multimodal needs.	Proactively seek opportunities to collaborate with Caltrans to improve pedestrian safety along and across Main Street.

Appendix SH-B: Existing Pedestrian Policies

The City of St. Helena has adopted policies as part of its General Plan in support of walking. Most such policies appear in the Circulation Element of the General Plan. Additional supportive policies appear in the Land Use, Community Design, and the Parks and Recreation Elements. These policies typically express support for making walking safer, more convenient and more pleasant.

St. Helena General Plan

Land Use and Growth Management Element (2010 Draft)

- Policy LU3.2 – Enhance the pedestrian-oriented character of commercial areas and provide for convenient pedestrian and bicycle connections to encourage walking and reduce vehicle trips within the commercial area. (Page 2-34)
- Policy LU3.7 – Provide sufficient auto and bicycle parking in order to serve local businesses in the commercial districts. Ensure that all parking areas are well-designed, and that auto parking spaces are hidden from pedestrian view, whenever possible. (Page 2-35)

Circulation Element (2010 Draft)

- Policy CR1.1 – Promote a connected street network within the City to provide better internal automobile bicycle and pedestrian connections for residents. Where new streets are constructed, ensure they connect to dead-end roads and other streets to create a flexible network for residents. (Page 5-29)
- Policy CR1.5 – Avoid mitigation measures that negatively impact the walking and bicycling environment and encourage driving, such as roadway and intersection widenings. (Page 5-29)
- Policy CR1.9 – Promote a walking and bicycling environment that is comfortable and convenient. Ensure that all St. Helena streets have no more than a single through-automobile lane in each direction, plus a single left-hand turning lane where appropriate, even if this requirement increases vehicle travel times. Allow exceptions if an extra lane would reduce the possibility of collisions. (Page 5-30)
- Action CR1.A – Use the street typologies as defined in the Circulation Element as a basis for improving and managing streets. Improve vehicle, pedestrian and bicycle facilities on streets based on this system. (Page 5-31)
- Action CR1.C – Identify streets that should become “more complete,” through consideration of transit priorities, sidewalk gap closures, new bikeways and vehicle traffic calming measures. (Page 5-31)
- Action CR1.J – Ensure that any new land use development provides a continuous path of travel for walking and bicycling from the development site to the center of downtown and other key destinations, as



APPENDIX SH-B: EXISTING PEDESTRIAN POLICIES

determined by the City. Determine appropriate bicycle and pedestrian routes based on street typologies and the proposed bicycle and pedestrian network. If a path of travel is not continuous, require development to construct improvements and/or contribute to the transportation mitigation fee program. (Page 5-32)

- Policy CR2.1 – Create a comprehensive bicycle and pedestrian network that enhances neighborhood connectivity. Develop the system as shown in Figure 5.3 to expand and improve the pedestrian and bikeway system. (Page 5-34)
- Policy CR2.2 – Promote walking and bicycling as safe and convenient modes of transportation. (Page 5-34)
- Policy CR2.3 – Ensure secure, accessible and convenient bicycle parking facilities throughout St. Helena, including downtown, commercial areas, schools and parks. (Page 5-34)
- Policy CR2.6 – Encourage walking and bicycling trips to St. Helena schools. (Page 5-34)
- Action CR2.A – Develop and adopt a citywide bicycle and pedestrian master plan to improve bicycle and pedestrian safety, and to encourage community members to walk and bike more often. Build on St. Helena’s existing partnership with the Napa Valley Transportation Authority (NVTa) to ensure that the City’s master plan is consistent with countywide transportation planning efforts. (Also see the following elements: Open Space and Conservation, Topic Area 2; and Parks and Recreation, Topic Area 6) (Page 5-35)
- Action CR2.B – Develop guidelines for the design, construction and maintenance of bicycle and pedestrian paths in St. Helena. Coordinate the guidelines with Napa County or regional trail connections. (Page 5-35)
- Action CR2.C – Develop and adopt an ordinance that requires any new development and re-use projects to provide bicycle and pedestrian improvements and amenities. (Page 5-35)
- Action CR2.D – Identify and pursue funding opportunities for bicycle projects on the local, state and federal levels. Update the existing and proposed bicycle system every five years, as required by Caltrans to qualify for Bicycle Transportation Account funds. (Page 5-35)
- Action CR2.K – Consider the feasibility of a citywide bike sharing program for municipal and/or public use. (Page 5-36)
- Policy CR3.6 – Support development of the bikeway and pedestrian networks to provide a convenient opportunity for at least 20 percent of commuters to get to work by walking or bicycling. (Page 5-38)
- Action CR3.C – Regularly monitor progress toward increasing the number of residents and workers walking, biking and using public transit, in order to achieve the mode split targets outlined in Table 5.5. (Page 5-39)
- Policy CR4.5 – Improve traffic safety and encourage walking and bicycling trips to St. Helena schools through a Safe Routes to School program. (Page 5-40)
- Policy CR6.1 – Prioritize and implement improvements to the circulation system, including street extensions, bicycle and pedestrian improvements, and expanded transit service. (Page 5-44)

APPENDIX SH-B: EXISTING PEDESTRIAN POLICIES

- Policy CR6.2 – Require concurrent infrastructure development for any new development projects that have impacts on the circulation system, including streets, paths, trails, sidewalks and public transit. (Page 5-44)
- Action CR6.A – Prioritize and construct all new streets, paths and trails (identified in Section E: St. Helena’s Circulation and Mobility Future) when adequate funding is secured and concurrent with any new, adjacent developments. (Page 5-45)
- Action CR6.B – Update the existing St. Helena Traffic Mitigation Fee program to provide funding for all new streets and trails included in the Circulation Element, in order to ensure new streets and trails are constructed in a timely manner. (Page 5-45)

Community Design Element (2010 Draft)

- Action CD2.C – Install attractive and well-designed community amenities such as public restrooms, drinking fountains, benches, bicycle racks and trash and recycling containers in commercial districts. Ensure that community amenities are designed and installed to complement surrounding businesses and support the pedestrian-orientation of the street. (Page 7-19)
- Policy CD3.4 – Ensure safe bicycle and pedestrian-friendly character on all residential streets. Consider retrofitting existing wide residential streets, such as Starr Avenue, with landscaped medians, wide sidewalks and adjacent Class I pedestrian and bicycle trails. (Page 7-22)
- Action CD3.F – Establish residential street guidelines that ensure a safe environment for families and children. Encourage traffic calming, street trees, wide sidewalks, and Class I or II bike lanes. (Page 7-24)
- Policy CD4.4 – Integrate bicycle and pedestrian trails adjacent to open spaces to enhance connectivity throughout the City and the region. (Also see the Parks and Recreation Element, Topic Area 6) (Page 7-26)
- Policy CD6.1 – Ensure a connected street system that maximizes pedestrian and bicycle connectivity. (Page 7-29)
- Policy CD6.2 – Promote the inclusion of bicycle and pedestrian trails and bicycle lanes throughout the City, as well as connections to regional trail systems, such as the Napa Valley Vine Trail. (Also see the Parks and Recreation and Circulation elements for additional policies and implementing actions relating to bicycle and pedestrian trails and amenities.) (Page 7-29)
- Policy CD6.3 – Require streetscape design that maximizes bicycle and pedestrian usage by providing safe and well-lit streets. (Page 7-29)
- Action CD6.A – Use the City’s grid street pattern as the template for any future developing areas. Ensure that new streets logically extend existing street and infrastructure; facilitate the safe and efficient flow of pedestrian, bicycle and vehicular traffic; enhance and frame views of the hills and surrounding agricultural lands; and incorporate appropriate traffic calming features to support and complement the neighborhood environment. (Page 7-30)



APPENDIX SH-B: EXISTING PEDESTRIAN POLICIES

Parks and Recreation Element (2010 Draft)

- Action PR1.E – Develop a comprehensive network of bicycle and pedestrian trails that links the City’s parks and enhances bicycle and pedestrian connectivity throughout the City and the region. (Page 12-15)
- Action PR4.C – Identify locations to accommodate active recreational uses to meet citywide needs. Potential locations include: (Page 12-21)
 - Bicycle and pedestrian trails, interpretive areas, trail heads, and comfort stations along York and Sulphur creeks and the Napa River; and
 - A community park at the City-owned Lower Reservoir area.
- Policy PR6.1 – Promote walking and bicycling as safe and convenient modes of transportation. (Page 12-26)
- Policy PR6.2 – Develop a comprehensive network of bicycle and pedestrian trails to enhance bicycle and pedestrian connectivity throughout the City and the region. (Also see the Community Design Element, Topic Area 4) (Page 12-26)
- Policy PR6.3 – Promote the inclusion of bicycle and pedestrian trails, and bicycle lanes throughout the City, as well as connections to regional trail systems, such as the Napa Valley Vine Trail. (Page 12-26)
- Action PR6.A – Develop and adopt a citywide bicycle and pedestrian master plan to improve bicycle and pedestrian safety, and to encourage community members to walk and bike more often. Build on St. Helena’s existing partnership with the Napa Valley Transportation Authority (NVTA) to ensure that the City’s master plan is consistent with countywide transportation planning efforts. (Also see the following elements: Circulation, Topic Area 2; Open Space and Conservation, Topic Area 2) (Page 12-27)
- Action PR6.B – Develop guidelines for the design, construction and maintenance of bicycle and pedestrian trails in St. Helena. Include guidelines for installing context-sensitive and solar lighting, and mitigating noise impacts from the trails. Include guidelines for wayfinding and interpretive exhibits that use signs, art and other visual clues to enhance users’ experiences. Highlight the rich history of the City and provide education and information for users. Coordinate the guidelines with Napa County or regional trail connections. (Page 12-27)
- Action PR6.C – Develop and adopt an ordinance that requires new development and redevelopment projects to provide bicycle and pedestrian improvements and amenities. (Page 12-27)
- Action PR6.E – Coordinate with countywide efforts to establish regional trail systems through the City limits. (Page 12-28)

St. Helena Bicycle Plan

In addition to the Policies listed in the County Bicycle Plan, the St. Helena Bicycle Plan includes the following City-specific policies:

APPENDIX SH-B: EXISTING PEDESTRIAN POLICIES

Countywide Bicycle Network Policies

- SH-1.a: Develop and adopt a citywide bicycle and pedestrian master plan to improve bicycle and pedestrian safety, and to encourage community members to walk and bike more often. Build on St. Helena's existing partnership with the Napa Valley Transportation Authority (NVTa) to ensure that the City's master plan is consistent with countywide transportation planning efforts. **(CR2.A)** (page 15)
- SH-1.b: Create a comprehensive bicycle and pedestrian network that enhances neighborhood connectivity. Develop the system consistent with the network identified in the City's General Plan Circulation Element to expand and improve the pedestrian and bikeway system. **(CR2.1)** (page 15)
- SH-1.c: Increase the City's share of walking, bicycling, transit and carpooling trips, in accordance with NVTa 2035 goals. As a major part of this effort, the City will continue to develop and maintain a safe and integrated bicycle and pedestrian system throughout St. Helena for people of all ages and abilities. (page 15)
- SH-1.d: Provide a complete bicycle and pedestrian network between residential areas, downtown and other major activity centers identified by the City. (page 15)
- SH-1.e: Reduce transportation-based GHG emissions from City-controlled sources by employing the following strategies: Complete the City's bicycle and pedestrian network, which will increase transportation choices in the City and reduce the demand for vehicle travel. **(CR1.8)** (page 15)
- SH-1.f: Work with Caltrans to ensure regional coordination and manage congestion on SR 29. **(CR 1.L)** (page 15)
- SH-1.g: Ensure convenient public access between developed areas and stream corridors by providing access at frequent intervals. **(OS2.4)** (page 15)

Design Policies

- SH-2.a Provide complete streets that balance the diverse needs of users of the public right-of-way, in accordance with the California Complete Streets Act of 2008. **(CR1.2)** (page 16)
- SH-2.b: Develop guidelines for the design, construction and maintenance of bicycle and pedestrian paths in St. Helena. Coordinate the guidelines with Napa County or regional trail connections. **(CR2.B)** (page 16)

Multimodal Integration Policies

- SH-3.a Continue to support NVTa in the provision of convenient transit, including regional and local service. Support more frequent and reliable transit service between communities to reduce the number of people traveling to or from St. Helena to work by private vehicle. Promote and encourage use of the St. Helena Vine Shuttle. **(CR1.6)** (page 17)



APPENDIX SH-B: EXISTING PEDESTRIAN POLICIES

Safety and Security Policies

- SH-5.a: Ensure adequate maintenance of transportation facilities such as streets and multi-use paths, Emphasize safety considerations, impacts on non-automobile modes of travel and overall impact on long-term resource needs as maintenance priorities.. **(CR4.1)** (page 18)
- SH-5.b: Ensure safety on residential neighborhood streets to promote walking and bicycling and preserve neighborhood livability. **(CR4.2)** (page 19)
- SH-5.c: Continue efforts to calm traffic, and minimize traffic volumes and speeds in residential areas. **(CR4.3)** (page 19)
- SH-5.d: Improve traffic safety and encourage walking and bicycling trips to St. Helena schools through a Safe Routes to School program. **(CR4.5)** (page 19)

Land Use Policies

- SH-6.a: Develop and adopt an ordinance that requires any new development and re-use projects to provide bicycle and pedestrian improvements and amenities. **(CR2.C)** (page 19)
- SH-6.b: Obtain easements or title to land along Sulphur Creek, York Creek, and the Napa River. **(PR6.D)** (page 19)
- SH-6.c: Preserve open space for recreational uses, including a bicycle and pedestrian trail system along creek corridors when compatible with riparian vegetation and wildlife habitat. Where possible, integrate stream corridors with trails and other recreational open space, provided that the vegetation, habitat value and water quality is not significantly impacted. **(OS2.3)** (page 19)

Education and Promotion Policies

- SH-7.a: Promote walking and bicycling as safe and convenient modes of transportation. **(CR2.2)** (page 20)
- SH-7.b: Encourage walking and bicycling trips to St. Helena schools. **(CR2.6)** (page 20)
- SH-7.c Provide incentives and encourage existing major employers to develop and implement transportation demand management (TDM) programs to increase the number of people who bike and walk to work and reduce peak-period trip generation. **(CR3.1)** (page 20)
- SH-7.d Work with the wine and hospitality industries to manage congestion and create and promote car-free tourism services. **(CR3.4)** (page 20)

Planning Policies

- SH-8.a Use performance measures that consider all road users to determine transportation impacts of new development. **(CR1.4)** (page 21)
- SH-8.b Avoid mitigation measures that negatively impact the walking and bicycling environment and encourage driving, such as roadway and intersection widenings. **(CR1.5)** (page 21)

APPENDIX SH-B: EXISTING PEDESTRIAN POLICIES

- SH-8.c Establish a multimodal transportation impact fee program to finance and implement project mitigations that help achieve GHG reduction goals. As part of the impact fee program, require new development to manage citywide travel demand and finance and construct all off-site circulation improvements necessary to reduce the severity of cumulative transportation impacts to all modes of travel. **(CR1.11)** (page 21)
- SH-8.d Identify streets that should become “more complete,” through consideration of transit priorities, sidewalk gap closures, new bikeways and vehicle traffic calming measures. **(CR1.C)** (page 21)
- SH-8.e Ensure that any new land use development provides a continuous path of travel for walking and bicycling from the development site to the center of downtown and other key destinations, as determined by the City. Determine appropriate bicycle and pedestrian routes based on street typologies and the proposed bicycle and pedestrian network. If a path of travel is not continuous, require development to construct improvements and/or contribute to the transportation mitigation fee program. **(CR1.J)** (page 21)
- SH-8.f Regularly monitor progress toward increasing the number of residents and workers walking, biking and using public transit, in order to achieve the mode split targets outlined in the General Plan. **(CR3.C)** (page 21)
- SH-8.g Prioritize and implement improvements to the circulation system, including street extensions, bicycle and pedestrian improvements, and expanded transit service. **(CR6.1)** (page 21)
- SH-8.i Require concurrent infrastructure development for any new development projects that have impacts on the circulation system, including streets, paths, trails, sidewalks and public transit. **(CR6.2)** (page 22)

Maintenance Policies

- SH-9.a Develop a maintenance and operations plan for the City's trail network. Provide a high level of service to users by preventing deterioration, encroachment of vegetation, vandalism and crime. Consider including an Adopt-a-Trail program, and invite local businesses to participate in trail maintenance. Include a funding program to support the plan. **(PR6.F)** (page 22)

Funding Policies

- SH-10.a Pursue appropriate funding for the development of a balanced transportation system. **(CR1.3)** (page 22)
- SH-10.b Fund transportation improvements through a citywide, multimodal transportation mitigation fee program. The mitigation fee program will emphasize transportation improvements that reduce citywide automobile trips, including completing the bicycle and pedestrian network, implementing transportation demand and systems management strategies, and improving traffic signal coordination on SR 29. Ensure that fees are proportional to a development's contribution to changes in net new automobile trips and change in travel time along SR 29. **(CR1.K)** (page 23)
- SH-10.d Pursue state and federal grant opportunities to fund a Safe Routes to School program. **(CR2.J)** (page 23)



Appendix SH-C: Detailed Project List and Prioritization

ST. HELENA PEDESTRIAN IMPROVEMENT LIST				
ID	Roadway	Limits or Intersection	Recommendations	Infrastructure Category
TIER ZERO (FUNDED OR CONSTRUCTED PROJECTS)				
T0-1 Additions to Planned Projects	Main Street	Main Street at Grayson Avenue (Intersection)	Marked crosswalks on all legs, advanced limit lines, and curb extensions with directional ramps on northwest and southwest corners as part of signal design	Crossing treatments ADA ramps
T0-2 Mitchell Drive Sidewalk	Mitchell Drive	Oak Avenue to St. James Court	Sidewalk on the north side of the street	Sidewalk
TIER ONE				
SH-1 RLS Middle School Sidewalk and Hunt Avenue Improvements	Hillview Place, Spring Mountain Road, and Elmhurst Avenue	Robert Louis Stevenson Middle School	Sidewalk segments adjacent to RLS Middle School per ATP application	Sidewalk
	Hunt Avenue	Monte Vista Avenue to June Lane	Sidewalk gap closure	Sidewalks
		Hunt Avenue at Edwards Street and Hunt Avenue at June Lane	Curb ramp upgrades	ADA Ramps
		Between Grove Court and June Lane	- Bicycle and pedestrian connection from Hunt Avenue to northern terminus of Adams Street - Enhanced midblock crosswalk on Hunt Avenue with curb extensions, high visibility striping and signage	Crossing treatments Pathway
SH-2 Downtown Pedestrian Improvements (No. 35 2015 CTP)	Main Street	Spring Street to Adams Street	Sidewalk upgrades, pedestrian lighting, pedestrian furniture and landscaping	Maintenance Sidewalks Place making
		Spring Street to Adams Street	Traffic calming (such as bulb outs)	Traffic calming



APPENDIX SH-C: DETAILED PROJECT LIST AND PRIORITIZATION

ST. HELENA PEDESTRIAN IMPROVEMENT LIST				
ID	Roadway	Limits or Intersection	Recommendations	Infrastructure Category
Constrained Project)		Recommended additions to CTP project		
		Main Street at Pine Street (Intersection)	- Curb extensions on all four corners with directional curb ramps - High visibility crosswalk on south leg with advanced signage	Crossing treatments ADA ramps
			Tree trimming on southwest corner	Maintenance
		Main Street at Adams Street (Intersection)	Curb extensions on all four corners with directional ramps	Crossing treatments ADA ramps
			Tree trimming on southwest corner	Maintenance
		Main Street at Hunt Avenue (Intersection)	- Marked crosswalk relocation from north leg to south leg 6' median refuge - Curb extensions at crosswalk with directional curb ramps	Crossing treatments ADA ramps
			Pedestrian wayfinding for Telegraph Alley	Wayfinding
		Main Street at Spring Street (Intersection)	- Relocate marked crosswalk from south leg to north leg 6' median refuge - Curb extensions at marked crosswalk with directional curb ramps	Crossing treatments ADA ramps
		Entire corridor	Raised median with restriped travel lanes to accommodate Class II bike lanes and maintain parking	Traffic calming
			Study to consider beautification / improvements to downtown alley ways and pedestrian paseos	Wayfinding Place making
SH-3 Sulphur Creek Class I Multi-Use Pathway (No. 36 2015 CTP Project)	Sulphur Creek	Sulphur Springs Avenue to Napa River	Class I Multi-Use Path	Pathway

APPENDIX SH-C: DETAILED PROJECT LIST AND PRIORITIZATION

ST. HELENA PEDESTRIAN IMPROVEMENT LIST				
ID	Roadway	Limits or Intersection	Recommendations	Infrastructure Category
SH-4 Napa River Class I Multi-Use Pathway (No. 37 2015 CTP Project)	Napa River	South City Limit to North City Limit	Class I Multi-Use Path (River Trail)	Pathway
SH-5 SHUSD Main Street Frontage Sidewalk	Main Street	Grayson Avenue to Dowdell Lane	Sidewalk on west side of street	Sidewalk
SH-6 Downtown Operations Study	Main Street	Pine Street to Mitchell Drive	Study considerations: synchronizing signals, peak recall ped phase, countdown signal heads, protected left turns/lead pedestrian intervals/pedestrian scrambles, slower walking speeds	Signal timing/operations
		Main Street at Pope Street (Intersection)	Feasibility study of roundabout or eliminating NB left turn at Mitchell Drive and redirecting traffic to Spring Street	Signal timing/operations
SH-9 Main Street ADA Improvements	Main Street	Spring Street to Pope Street	ADA driveways	ADA
		Dowdell Lane to El Bonita Avenue	ADA Decomposed Granite pathway along vineyard frontage on west side of street	Pathway
		Main Street at El Bonita Avenue (Intersection)	Sidewalk repair at northwest corner	Maintenance
		St Helena Chamber of Commerce	Detectable warning strip at back edge of sidewalk	ADA
TIER TWO				
SH-7 Main Street Business Frontage Improvements	Main Street	Main Street at Pope Street (Intersection)	Kiosks, mini shops or pocket park along edge of Sunshine Foods parking lot	Place making
		Gott’s	Parking lot driveway closure south of bridge with sidewalk widening or landscaping	Sidewalk
			- Pedestrian and vehicle wayfinding to Gott’s - Landscaping plan for property	Wayfinding Place making



APPENDIX SH-C: DETAILED PROJECT LIST AND PRIORITIZATION

ST. HELENA PEDESTRIAN IMPROVEMENT LIST				
ID	Roadway	Limits or Intersection	Recommendations	Infrastructure Category
SH-8 Main Street SRTS Improvements	Main Street	Main Street at Charter Oak Avenue	- Marked crosswalk relocation from north to south leg 6' refuge island - Rectangular Rapid Flashing Beacons in median and sidewalk - Curb extension or reduced radius on southeast corner	Crossing improvements ADA ramps
			- Curb extension with directional ramp on south side of Charter Oak Avenue east of train tracks - Marked crosswalk with advanced stop bar	
		Main Street at Vidovich Lane (Intersection)	- Marked crosswalk relocation from on west leg to align with sidewalk along Main Street - Advanced stop bar - Reduced radius on northwest corner with directional ramps	
SH-10 Main Street / Dowdell Transit Access Improvements	Main Street	Main Street at Dowdell Lane (Intersection)	- Ramp removal and sidewalk widening at existing bus stop - Bus stop relocation to Grayson Avenue at future signal	ADA Sidewalks Crossing improvements
SH-11 South St Helena / Unincorporated Connection		El Bonita Avenue to Inglewood Avenue	Sidewalk on west side of street or enhanced crosswalk on south leg of intersection at El Bonita Avenue to be coordinated with Vine Trail	Sidewalks Crossing improvements
SH-12 Sulphur Creek Crossing	Sulphur Creek	Southern terminus of Oak Avenue to Grayson Avenue	Study to develop feasibility of pedestrian crossing	Crossing improvements
Note: Tier One improvements are intended to be implemented within 5 years, Tier Two within 7-15 years, or opportunistically.				

Based on feedback from NVTA TAC, improvements were evaluated based on the criteria below using a binary approach for ranking. Each improvement was ranked first based on the number of criteria it met, and second according to whether or not it had local support. Results are shown in the final table below.

PRIORITIZATION CRITERIA	
Criterion	Data Set / Metric
Local support	- CTP Project - Critical location identified by staff / public
Safety	- Collision "Hot Spot" Location - Highway Interchange Location - Traffic Calming
Transit	- Within ½ mile of a transit stop - Within a ¼ mile of a transit stop
Connection	- Sidewalk gap closure - Trail connection
Schools	- Within ½ mile of a school - Within ¼ mile of a school
Cost	Low Cost Level (Signing and Striping)



APPENDIX SH-C: DETAILED PROJECT LIST AND PRIORITIZATION

EVALUATION RESULTS									
Project	Local support	Safety	Transit		Connection	Schools		Low Cost	Number of Criteria Met
			Half Mile	Quarter Mile		Half Mile	Quarter Mile		
TIER ONE									
SH-9	✓	✓	✓	✓	✓	✓	✓		7
SH-1	✓ ¹	✓	✓	✓	✓	✓	✓		7
SH-2	✓	✓	✓	✓		✓	✓		6
SH-3	✓		✓	✓	✓	✓	✓		6
SH-4	✓		✓	✓	✓	✓	✓		6
SH-5	✓		✓	✓	✓	✓	✓		6
SH-6	✓	✓	✓	✓		✓	✓		6
TIER TWO									
SH-10	✓		✓	✓		✓	✓		5
SH-11	✓		✓	✓	✓	✓			5
SH-7		✓	✓	✓		✓	✓		5
SH-8		✓	✓	✓		✓	✓		5

1. The RLS Middle School Sidewalk and Hunt Avenue Improvements were identified as a result of meetings with residents (separate from this Plan) and was supported by the City's ATC and City Council.

Appendix SH-D: Cost Estimates

ST HELENA TIER ONE PROJECT COST ESTIMATES			
Project ID	Project Name	Project Elements	Cost1
SH-1	RLS Middle School Sidewalk and Hunt Avenue Improvements	New sidewalk, midblock crosswalk, curb ramp upgrades and Class I multi-use pathway connection	\$399,000 ²
Total: \$399,000			
SH-2	Downtown Pedestrian Improvements (No. 35 2015 CTP Project)	CTP cost (sidewalk upgrades, pedestrian lighting, pedestrian furniture, landscaping and traffic calming Spring to Adams St)	\$700,000 ³
		Recommended Additions to CTP project	
		4 curb extensions at Main/Pine (with directional curb ramps)	\$223,400 ⁴
		High visibility crosswalk at Main/Pine	\$6,200
		Advanced crosswalk signage at Main/Pine	\$5,400
		Raised median	\$379,500 ⁵
		Removal of TWLTL striping	\$41,400
Total: \$1,355,900			
SH-5	SHUSD Main Street Frontage Sidewalk	Sidewalk	\$184,300 ⁴
Total: \$184,300			
SH-6	Downtown Operations Study	Signal operations study	\$10,000
		Feasibility study for roundabout	\$40,000 ⁶
		Intersection signal timing study	\$3,000

¹ Cost includes contingencies for traffic control (5%), construction management (10%), mobilization (5%), contingency (20%), design (15%) and environmental (10%).

² Source: Total Project Cost Estimate, St. Helena New Sidewalk Construction Project, ATP Cycle 2 Application Form, 2015

³ Source: Napa Countywide Transportation Plan, 2015

⁴ Cost includes contingencies for drainage and utility contingency (40%)

⁵ Cost assumes median width of 3 feet, and includes utility contingency (10%)

⁶ Includes conceptual geometric layout and operations for 5+ legs



APPENDIX SH-D: COST ESTIMATES

ST HELENA TIER ONE PROJECT COST ESTIMATES			
Project ID	Project Name	Project Elements	Cost1
			Total: \$53,000
SH-9	Main Street ADA Improvements	Replace driveways	\$66,000
		DG path (west side of street, Dowdell Lane to El Bonita Ave)	\$39,600
		Sidewalk replacement (northwest corner of Main/El Bonita)	\$20,100 ⁴
		Detectable warning strip (back edge of sidewalk in front of Chamber of Commerce)	\$12,000 ⁷
			Total: \$137,700

⁴ Cost includes contingencies for drainage and utility contingency (40%)
⁷ Source: Caltrans Contract Cost Database, <http://sv08data.dot.ca.gov/contractcost/>

APPENDIX SH-E: PLAN ADOPTION RESOLUTION

Appendix SH-E: Plan Adoption Resolution

Plan Adoption Resolution will be inserted after this cover sheet



APPENDIX SH-E: PLAN ADOPTION RESOLUTION



ghd.com

→ The Power of Commitment

From: [Gino Cerruti](#)
To: [Preya Nixon](#)
Subject: [External] Public Comment Letter for ATSC meeting of November 3, 2021
Date: Tuesday, November 2, 2021 5:54:57 PM

>> Hi Preya,

>> Thanks for the info. Please submit the following Public comment letter. Thank you

>> I'd like to introduce myself, my name is Gino Cerruti and my wife Janet reside at 1859 Madrona Ave.

>> The reason for this email is the concern we and our neighbors have had for soon time for the continual excessive speeding on Madrona Ave, which is causing unsafe conditions for not just our safety but the safety of so many others.

>> As you may be aware, Madrona Ave. is used by so many pedestrian residents from St. Helena for their daily walks, runs, bike rides, etc. as well as Many people utilizing the dog walking route along Madrona adjacent to Spottswode.

>> When school is in session, children will use this route for walking and riding their bikes to school. I have seen time and time again residents waving or yelling at vehicles to slow down.

>> I understand that this is NOT a new issue with the City and this concern has been brought up before.

>> Although Madrona Ave from Main to Hudson is 25MPH, You rarely witness cars and trucks observing the speed limit. In fact there are NOT any 25MPH speed signs posted and installed along this stretch of Madrona. I feel this along with possible radar flashing excessive speed signs similar to those installed on Oak Ave , Spring St and other locations throughout St. Helena would be very helpful at a minimal cost and could be an effective method until a further traffic study is prepared. I also believe a Stop sign is definitely needed at Madrona and Hudson Ave.

>> Furthermore, at my request during various times a speed radar trailer was located on Madrona so hopefully there is adequate data and historic records available for City study. If not, I'm sure this could easily be accomplished.

>> Unfortunately my fear is, if this Speed reduction isn't resolved by some type of traffic calming very soon someone is seriously going to get injured.

>> Thanking you in advance for your cooperation and look forward to a successful resolution. Thank you Gino and Janet Cerruti

From: [Pamela Smithers](#)
To: [Preya Nixon](#); [Martin Beltran](#)
Cc: [Glenn Smith](#)
Subject: [External] Safe street crossings
Date: Wednesday, November 3, 2021 11:39:46 AM

Good morning ATSC staff and Chair,

Thanks for the opportunity to make a public comment on your agenda item tonight, safe street crossings. I cannot attend tonight so I thought I'd send a written comment.

I am absolutely in favor of all of the crossings on the chart for Spring and Madrona. I hope Council allocates funding and these are implemented as soon as possible.

While our children's safety is the utmost concern, these crossings will also help all our residents feel safer on foot and on their bikes, and if we can get more people out of their cars and onto their feet, everyone will be safer and healthier and we will be contributing to a healthier planet.

Thanks so much for the collaborative effort, including parents, staff and local bicycling scorers. Looking forward to seeing more and more kids walking and riding to school!

Pam Smithers
1819 Vallejo street
St Helena CA
707-696-0530

Sent from my iPhone