



## CHAPTER 7

# Unincorporated County Plan

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## Chapter 7

# Unincorporated Plan

### Pedestrian Setting

The unincorporated areas of Napa County provide a cherished rural setting for residents and visitors with open vistas of vineyards and the surrounding landscape. Residents primarily travel by car due to their remote location and the distances between pockets of development; however, pedestrian trips frequently occur within the rural community centers such as Angwin, Oakville, Rutherford, and Oak Knoll. Pedestrian trips are also concentrated near the borders of incorporated jurisdictions to connect hotels or residential uses to local grocery stores, wineries, schools or transit stops. The Unincorporated County has several developed trail systems. Neighborhood streets typically do not have sidewalks and few intersections currently have marked crosswalks. Land use patterns for the County are shown in *Exhibit UNC-1* and a map of all the wineries countywide is shown in *Exhibit UNC-2*.

### Existing Policies and Programs

To help guide the development of key programs and policies for this plan, the Unincorporated County's existing approaches to facilitating and enhancing walking were reviewed with a benchmarking matrix that compares the existing programs, policies, and practices with national best practices. The benchmarking analysis categorizes each jurisdiction's programs, policies, and practices into three areas as follows:

- **Key Strengths** (areas where the jurisdiction is exceeding national best practices)
- **Enhancement Areas** (areas where the jurisdiction is meeting best practices)
- **Opportunity Areas** (areas where the jurisdiction should consider meeting best practices)

As summarized in **Table UNC-1**, the County of Napa, which has jurisdiction over the unincorporated areas, is interested in investing in pedestrian accommodations and excels in such areas as collision reporting, coordination with health agencies, and transportation demand management. This plan provides a framework for investments in accessibility improvements as well as context-appropriate design standards for pedestrian facilities on rural roadways. Other areas of opportunity that this plan addresses directly are the collection of pedestrian volumes, inventory of pedestrian facilities, and crosswalk design guidelines. The full benchmarking analysis for the Unincorporated County, with associated recommendations, is presented in **Appendix UNC-A**.

TABLE UNC-1: UNINCORPORATED COUNTY BENCHMARKING HIGHLIGHTS

Plans, Policies, & Programs	Unincorporated County Current Practice	Best Practice Examples
<b>Key Strengths</b>		
<b>Collision Reporting</b> 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).	Collisions are geo-coded (mapped), reviewed, and monitored for recurring patterns by county staff.	<ul style="list-style-type: none"> <li>Expand monitoring practices to include collision typing for countermeasure selection could allow for more proactive pedestrian safety projects.</li> <li>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.</li> </ul>
<b>Transportation Demand Management</b> 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.	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.	<ul style="list-style-type: none"> <li>Implement education strategies that collaborate with local hotels to support the "Car Free" tourism program of the Napa Valley Destination Council, to provide wayfinding, shuttle, and transit information to visitors so they can plan a trip without relying solely on a car. Prioritize improved access to transit in the unincorporated areas as part of these efforts.</li> </ul>
<b>Coordination with Health Agencies</b> 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. <sup>7</sup>	<p>Live Healthy Napa County, a coalition of community stakeholders for improving health in Napa County, recently completed the countywide program Napa County Community Health Improvement Plan (CHIP) in February 2014. The document proposes a plan to address health issues through new countywide policies and health promotion strategies, including transportation policies that encourage walking and biking.</p> <p>Live Healthy Napa County is also working to complete the first ever Napa County Community Obesity Prevention Plan, which addresses the need to increase active transportation options countywide.</p>	<ul style="list-style-type: none"> <li>Seek opportunities to include sidewalk projects and other pedestrian improvements in the unincorporated areas through the County's Capital Improvement Program to align with goals in the CHIP for improving the built environment to encourage active transportation.</li> <li>Ensure consistency with the CHIP by seeking partnership opportunities between County health agencies and SRTS to expand the reach of education and promotion of walking in the unincorporated areas.</li> </ul>

<sup>7</sup>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

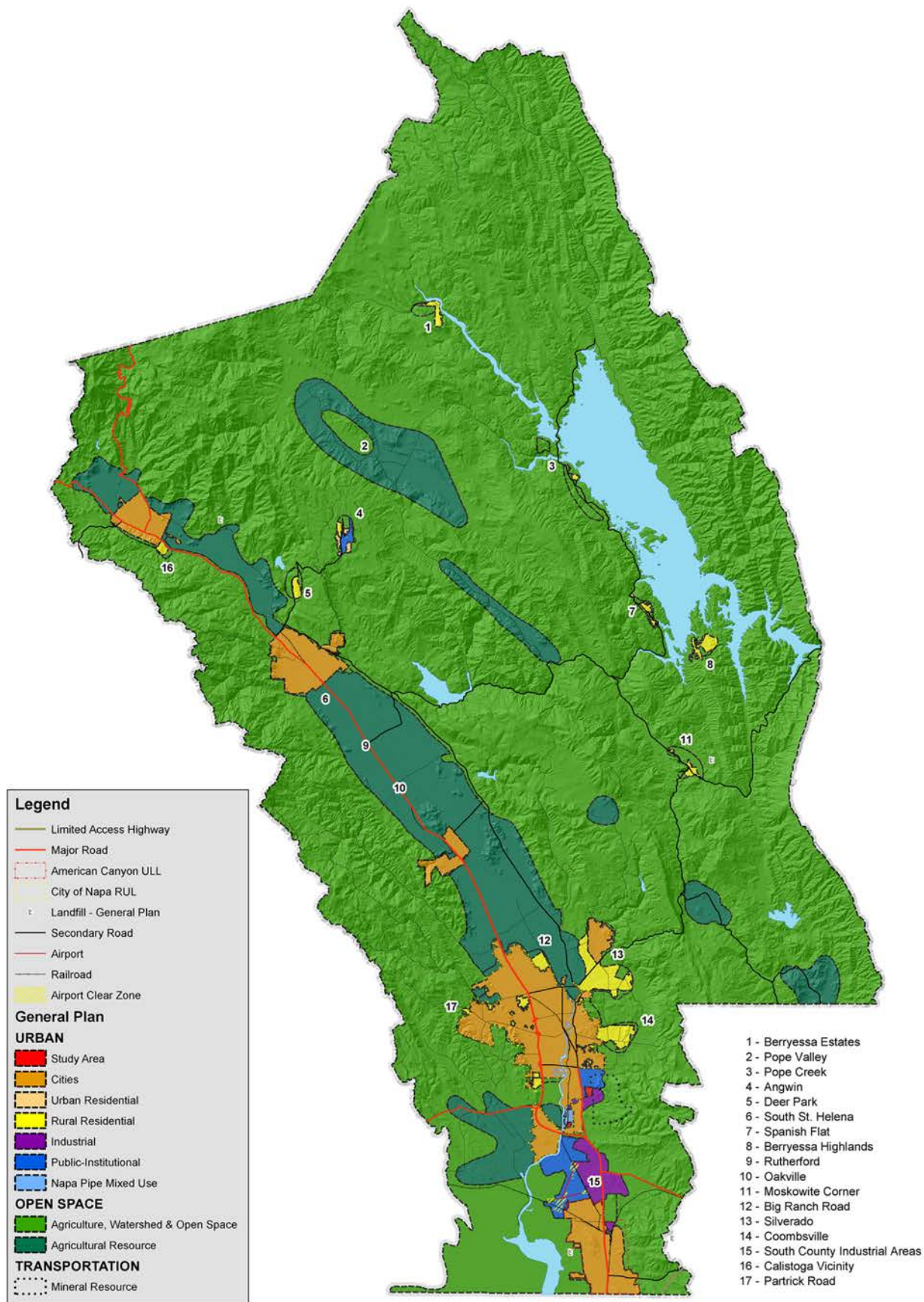
TABLE UNC-1: UNINCORPORATED COUNTY BENCHMARKING HIGHLIGHTS

Plans, Policies, & Programs	Unincorporated County Current Practice	Best Practice Examples
<b>Key Opportunities</b>		
<b>Inventory of Pedestrian Facilities</b> A GIS-based sidewalk inventory enables project identification and prioritization, as well as project coordination with new development, roadway resurfacing, etc.	The unincorporated County maintains a countywide GIS database, but it does not include pedestrian facilities.	<ul style="list-style-type: none"> <li>Maintain the GIS facility database created by this plan by updating the inventory as facilities are added or changed and to the extent that staff has local knowledge, expand inventory to areas outside of initial 50 miles.</li> <li>Expand the GIS sidewalk inventory to include informal pathways and potential pedestrian opportunity areas in the County.</li> </ul>
<b>Pedestrian Volumes</b> Pedestrian volume data is important for prioritizing projects, developing collision rates, and determining appropriate pedestrian infrastructure.	The County of Napa does not collect pedestrian volumes as a matter of routine.	<ul style="list-style-type: none"> <li>Routinely collect pedestrian volumes with all transportation impact studies (TIAs).</li> <li>Use collected pedestrian volumes from this plan to identify pedestrian nodes in the next update to the General Plan.</li> <li>Consider using volumes for collision monitoring and justification for pedestrian improvements.</li> </ul>
<b>Crosswalk Design Guidelines</b> A formal policy for crosswalk installation, removal, and enhancement provides transparency in decision-making and creates a consistent application of treatments citywide.	The County uses the MUTCD warrants for decisions on placing crosswalks. Crosswalks are not always placed on all approaches of signalized intersections.	<ul style="list-style-type: none"> <li>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.</li> <li>Include criteria in the cross walk policy for identifying, installing, and enhancing crossings where strong desire lines exist, especially near transit stops in the County.</li> </ul>

## Notes:

- 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







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## Existing Pedestrian Infrastructure

An inventory of existing sidewalks, marked crosswalks, curb ramps and trails was collected on key roadways throughout the County using a combination of aerial imagery and Google Street View imagery from the years 2011 – 2014 (imagery for a few small residential streets dated back to 2007).

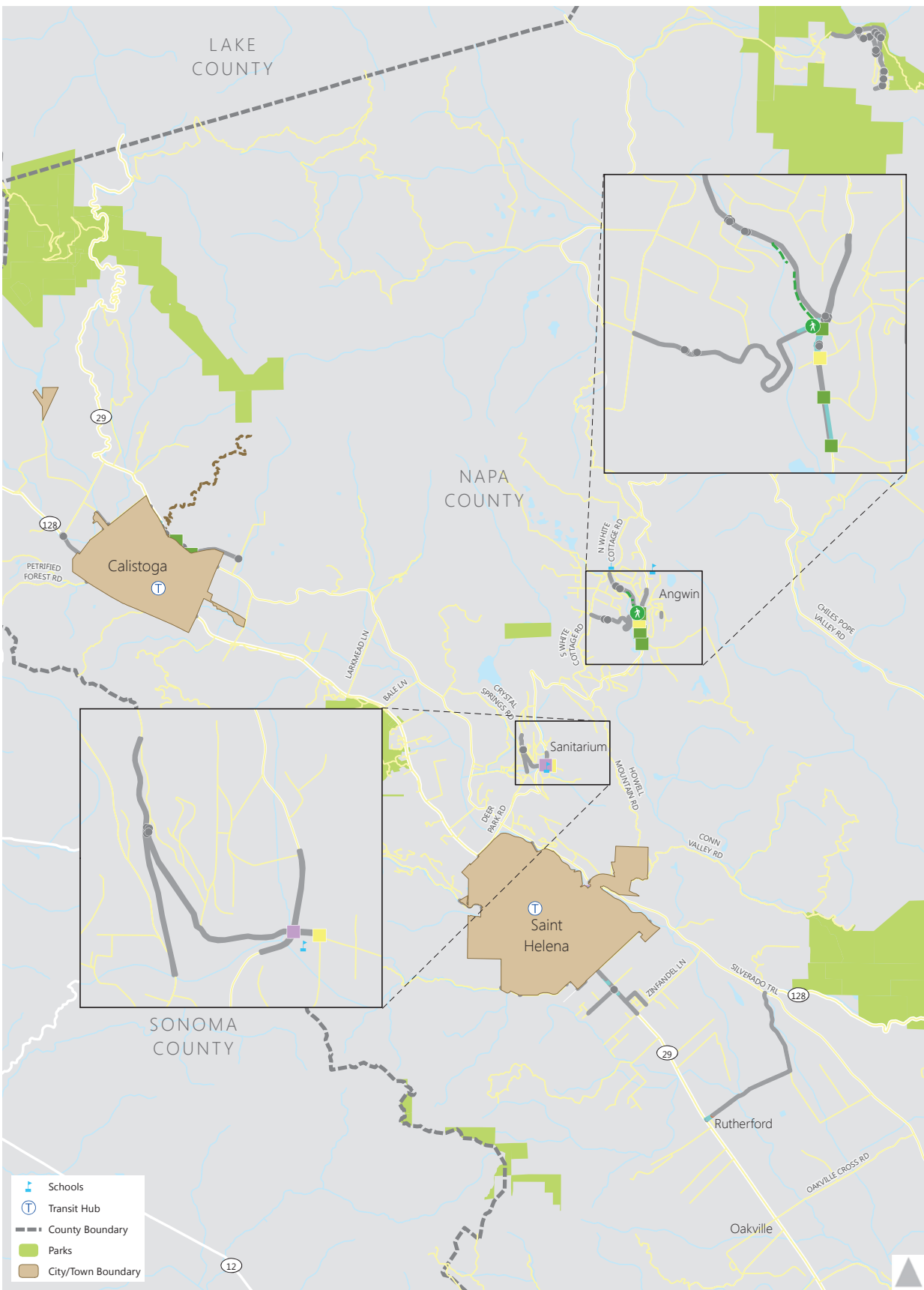
A GIS database assembled for the inventory includes additional detail beyond what is illustrated in the inventory maps, including the style of crosswalk striping, the method of vehicle control at the crosswalk (i.e., traffic signal, flashing beacon, stop sign, or uncontrolled), whether the crosswalk was located in a school zone, and the curb ramp design (i.e., whether the ramp is directional or diagonal and if it has truncated domes). For more information and examples of these types of facilities, please see the Best Practices Toolkit, **Appendix D** of the Countywide Pedestrian Plan.

### *Unincorporated County Inventory*

A roadway network of 56 miles in the Unincorporated County was identified by County staff for data collection. The following were key considerations in choosing the final inventory network:

- Within a ¼ to ½ mile radius around key destinations (schools and retail nodes)
- Location of pedestrian collisions
- Location of bus stops

As shown in Exhibit UNC-3, most of the inventory network for the Unincorporated County lacks sidewalk coverage. A few marked crosswalks and curb ramps exist near small pockets of development.



#### Pedestrian Inventory

##### Sidewalks

- Asphalt
- Existing
- Missing

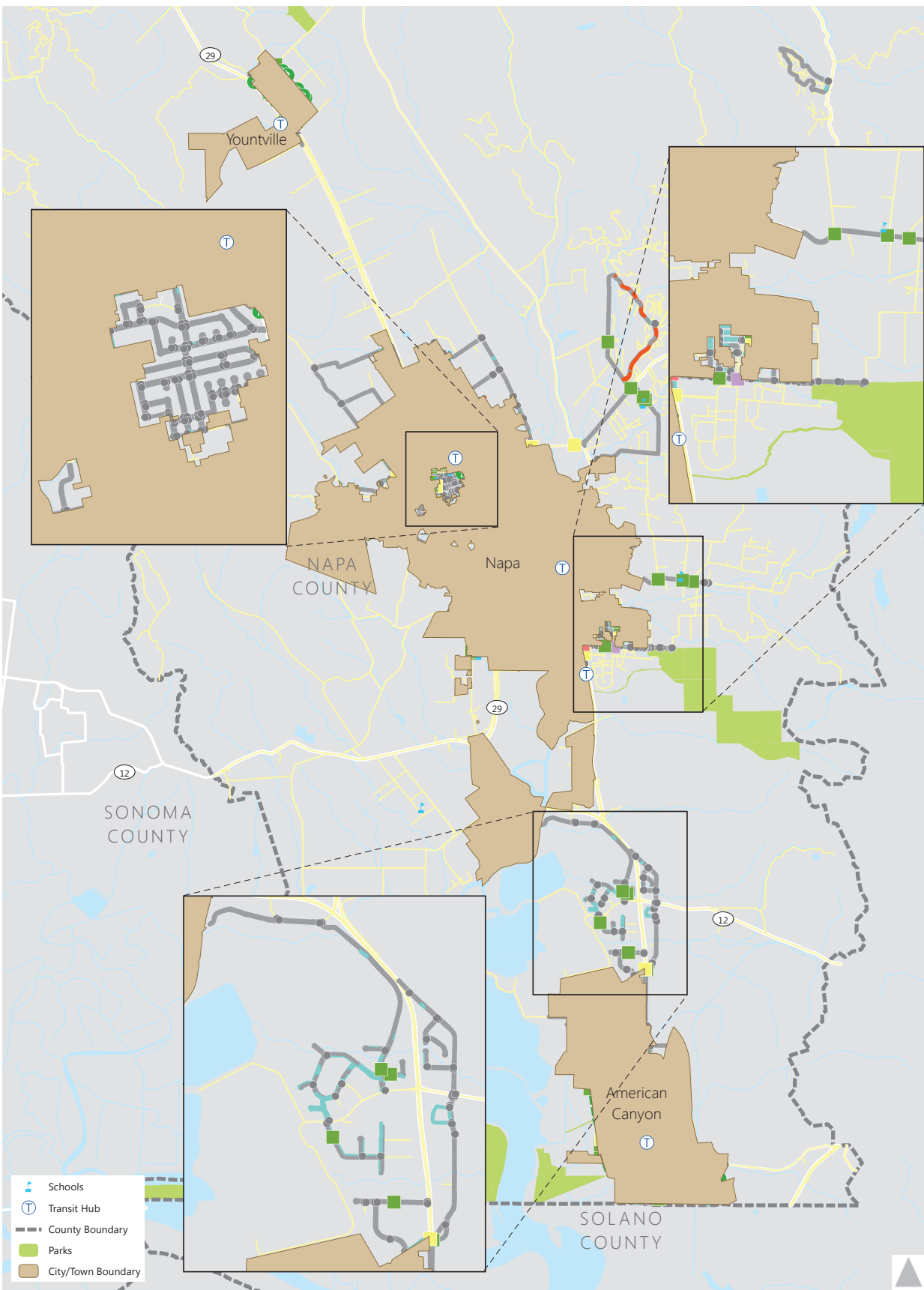
##### Trails

- Paved Multi-Use Trail
- Unpaved Trail

##### Crosswalks

- 1
- 2
- 3
- 4
- 5
- 8
- Missing Curb Ramp
- Trail Crossings
- Roads not Surveyed





**Pedestrian Inventory**

**Sidewalks**

- Asphalt
- Existing
- Missing

**Trails**

- Paved Multi-Use Trail
- Unpaved Trail

**Crosswalks**

- 1
- 2
- 3
- 4
- 5
- 8
- Missing Curb Ramp
- Trail Crossings
- Roads not Surveyed



Exhibit UNC-3b  
Pedestrian Facility Inventory  
Unincorporated Napa County  
South County



## Activity Levels

Pedestrian counts were conducted at three locations in Angwin, the highest populated community in the unincorporated area, in October and November 2015. These locations were selected based on locations of proposed pedestrian projects in this plan, potential localized safety concerns, expected high expected levels of walking, and proximity to key pedestrian destinations, including schools and downtown commercial areas. **Table UNC-2** provides a summary of the two-hour counts completed within the jurisdiction. Count results varied significantly based on the adjacent land use.

TABLE UNC-2: ANGIN COUNT PROGRAM LOCATIONS					
ID	Jurisdiction	Location	Morning	Evening	School
			7-9AM	4-6PM	2-4PM
UNC1	Angwin	Brookside Drive at Howell Mountain	18	23	30
UNC2	Angwin	White Cottage Road at College Avenue	14		11
UNC3	Angwin	Howell Mountain and Clark	1		0

The three intersections observed within the unincorporated community of Angwin were all unsignalized intersections with limited crosswalks and sidewalks on the intersection approaches. The highest level of pedestrian activity observed in Angwin was at the intersection of Brookside Drive and Howell Mountain Road (UNC1), adjacent to Pacific Union College and Pacific Union College Preparatory High School.

## Collision Analysis

Collision data was accessed from the California Highway Patrol Statewide Integrate Traffic Records System (SWITRS). This data represents all reported pedestrian-vehicle collisions occurring during the ten-year period from January 2003 to December 2012.

*Exhibit UNC-4* shows the locations of these pedestrian collisions in the Unincorporated County.

*Exhibit UNC-4* presents raw collision counts only. While this is illustrative of “hot spot” areas in the Unincorporated County, another important consideration for identifying safety focus areas can be collisions per pedestrian (or the collision rate). Collision rates (not included in the current analysis because pedestrian volume data is not available citywide) can highlight locations where improvements can be added to ensure a focus on areas that may not have as many people walking (but have high collision rates) in addition to areas with high pedestrian volumes and a high number of collisions.

## Hot Spots

The majority of collisions in the unincorporated County occurred near areas of development, especially near the border of the City of Napa. While unincorporated County areas do not have distinct “hot spots” (collision locations

where more than one collision occurred over the last 10 years), more than one fatality did occur along the same corridor. As shown in *Exhibit UNC-4*, two fatalities occurred each on Silverado Trail and SR 29 over this time period.

### *Countywide Demographic and Seasonal Trends*

For this plan, a review of collisions countywide included organizing the data by age for children and seniors, and comparing the results across each jurisdiction. Daily and seasonal trends for collision occurrences and primary collision factors were also reviewed countywide. A summary of these results can be found in the *Countywide Walking Trends* chapter of the countywide plan.

### *Pedestrian Actions*

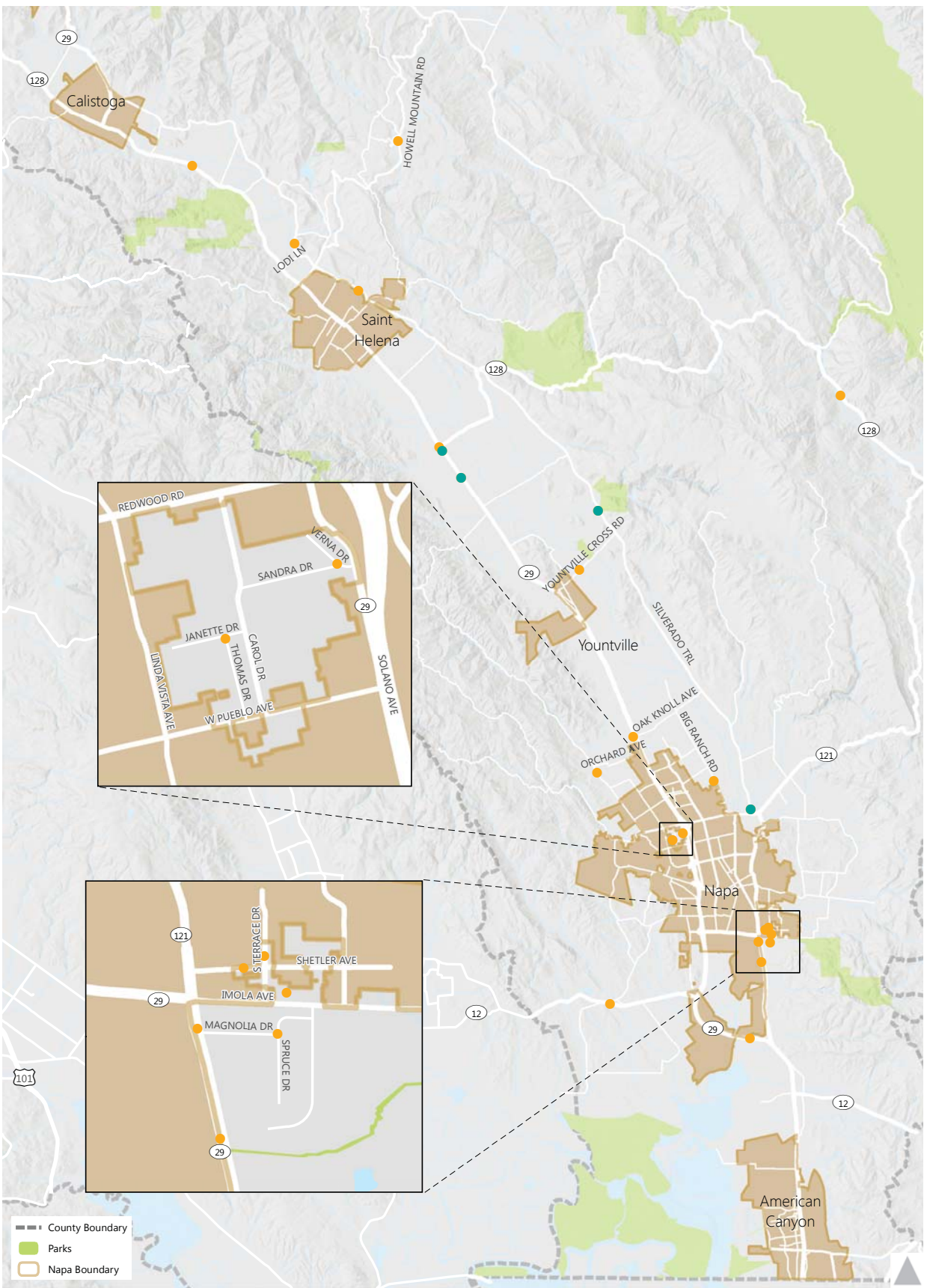
Perhaps one of the more telling sources of information in the SWITRS data is the Pedestrian Action variable, which describes what the pedestrian was doing immediately before the collision occurred. According to the pedestrian actions presented in **Table UNC-3**, pedestrian safety issues surrounding collisions are typically focused around walking on the road or shoulder in the Unincorporated County.

**TABLE UNC-3: UNINCORPORATED COUNTY COLLISION SUMMARY PEDESTRIAN ACTIONS (2003-2012)**

Pedestrian Action	Number of Collisions		
	Injury	Fatality	Total <sup>1</sup>
Walking In Road, Including Shoulder	15	4	19
Crossing Not in Crosswalk	6	1	7
Crossing in Crosswalk at Intersection	3	0	3

1. Some of the recorded collisions were unable to be mapped due to a missing location in the database.

Source: SWITRS



**Pedestrian-Involved Collisions 2003-2012  
Unincorporated County**

- Fatal Collision
- Injury Collision

**Pedestrian Collision Fatalities**

Density	Intersection	Total Collisions
1	Silverado Trail and Trancas St.	1
1	Silverado Trail and Yountville Cross Rd.	1
1	Route 29 and Bella Oaks Ln.	1
1	Route 29 and Niebaum Ln.	1

0 2 4 Miles





## Public and Stakeholder Input

### Countywide Outreach

Input on plan goals and objectives, current pedestrian issues, and desired locations for improvement was solicited through meetings with jurisdiction staff and key stakeholders, countywide public workshops, and an interactive mapping tool made available online. The goal was to develop a community-supported vision for pedestrian improvements. A summary of all input received during this process countywide is displayed in **Table UNC-4**. Connectivity and safety were the key themes across the countywide comments.

**TABLE UNC-4: PUBLIC INPUT RECEIVED COUNTYWIDE**

Comment	Comment Type	Percent of Total Comments
Add a sidewalk here	Connectivity	16%
Make it safer to cross the street here	Safety	15%
Make it safer to walk here	Safety	14%
Add a pedestrian pathway	Connectivity	13%
High traffic volume or speed here	Safety / Walkability	8.5%
Pedestrian facilities need maintenance here	Walkability	4.5%
Barrier for persons with disabilities here	Accessibility	2%
Other (Add your own idea)		27%

Source: Fehr & Peers, 2015

Examples of the comments that were categorized as “other” in the unincorporated county are included in the Station One narrative below.

### Public Workshops

Ongoing public outreach and participation was an integral element in developing the Countywide Pedestrian Plan. Public workshops were advertised on NVTa’s website, as well as via local media including the newspaper and radio. Invitations to the public workshops were also sent to local stakeholders, including senior centers, mobility impaired groups, advisory committees and local non-profit groups. The goal of the workshops was to identify public concerns and opportunity areas to inform focus areas, educate the stakeholders, and solicit feedback on the plan vision and goals.

Public workshops were held throughout the County in Winter 2015: in Napa on January 22 at NVTa; in Yountville on January 27; in St. Helena on January 28; and in American Canyon on February 4. Due to recent public workshops held in Calistoga through development of their Active Transportation Plan in 2014, workshops were not held in the city. All workshops were open to all members of the public countywide. Photos of workshop posters are included in **Appendix A** of the countywide plan.

The format for each public workshop was the same and consisted of four stations:

- **Station One: Issues/Opportunities**

At Station One, participants voted on a list of common barriers to walking to indicate which were most relevant to the walking environment in their jurisdiction and countywide. Participants also wrote comments on large-scale aerial maps placed on tables or on the floor to highlight existing barriers to pedestrian travel and locations where improvements were needed. Comments for unincorporated areas near jurisdictions in the county were received at all four workshops. Suggested comments included “Make it safer to cross the street here” or “High traffic volume or speed here”. Comments were mapped in GIS after the workshops to visualize areas of reported pedestrian needs and inform the location of focus areas. The results of this mapping exercise included just fewer than 20 comments in the unincorporated county, shown in *Exhibit UNC-5*. Comments were grouped into six categories, including a miscellaneous category “Add your own idea”. This category was used for comments that did not fall into any of the major themes shown in Table UNC-4. Many of these miscellaneous comments were received on the border of St. Helena, Yountville, and Napa and included suggestions for bike lanes, documentation of truck turning issues, and desired connections to Skyline Park near the City of Napa. All comments were considered in the process to choose focus areas for the Plan, discussed under *Opportunity Areas* in this Plan, and when identifying candidate pedestrian improvements.

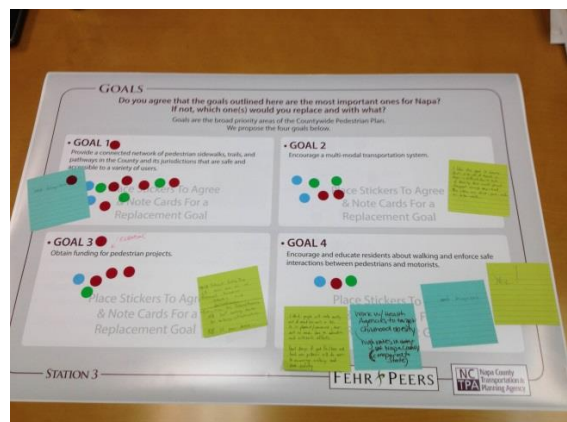


- **Station Two: Best Practices Toolbox**

Station Two was an informative station that displayed examples of best practices for pedestrian treatments frequently used in pedestrian planning efforts. Treatments included sidewalk buffers, intersection features, crosswalk enhancements, as well as signal and striping modifications.

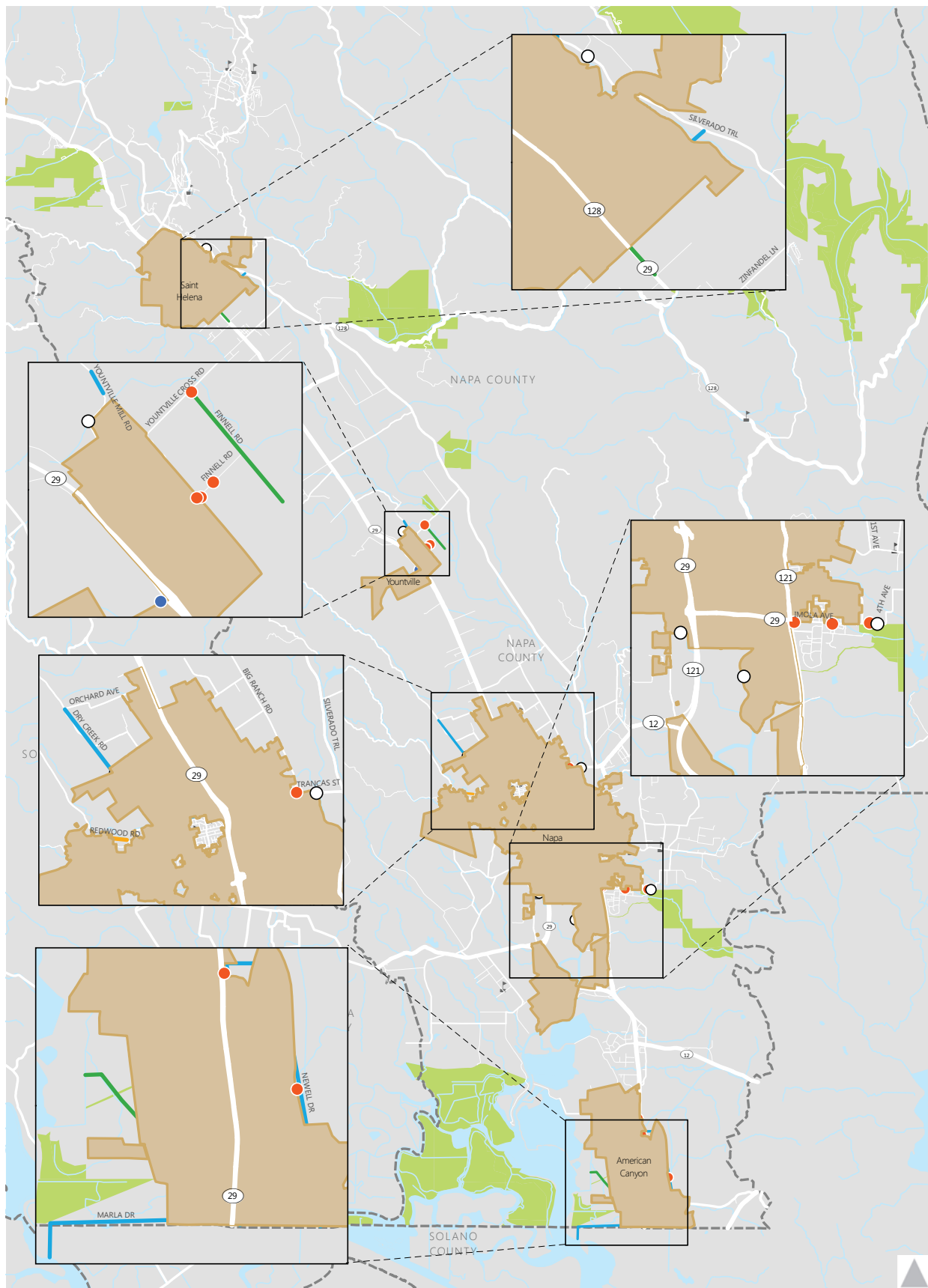
- **Station Three: Goals Visioning**

At Station Three, participants had the opportunity to weigh in on draft goals for the plan and write their own vision statement. Conflicting desires related to transportation were also presented on either end of the scale and participants were asked to place stickers where they thought the balance should be struck. Tradeoffs included ease of walking compared to ease of driving and creating a comprehensive pedestrian network compared to improved transit service. This information is valuable to determine where the public would like resources to be focused.



- **Station 4: Collision Maps**

Station Four was an informative station that displayed the collision maps shown in this plan.



- Safety
- ADA
- Add a Pedestrian pathway
- Maintenance
- Other
- Add a Sidewalk Here
- Other

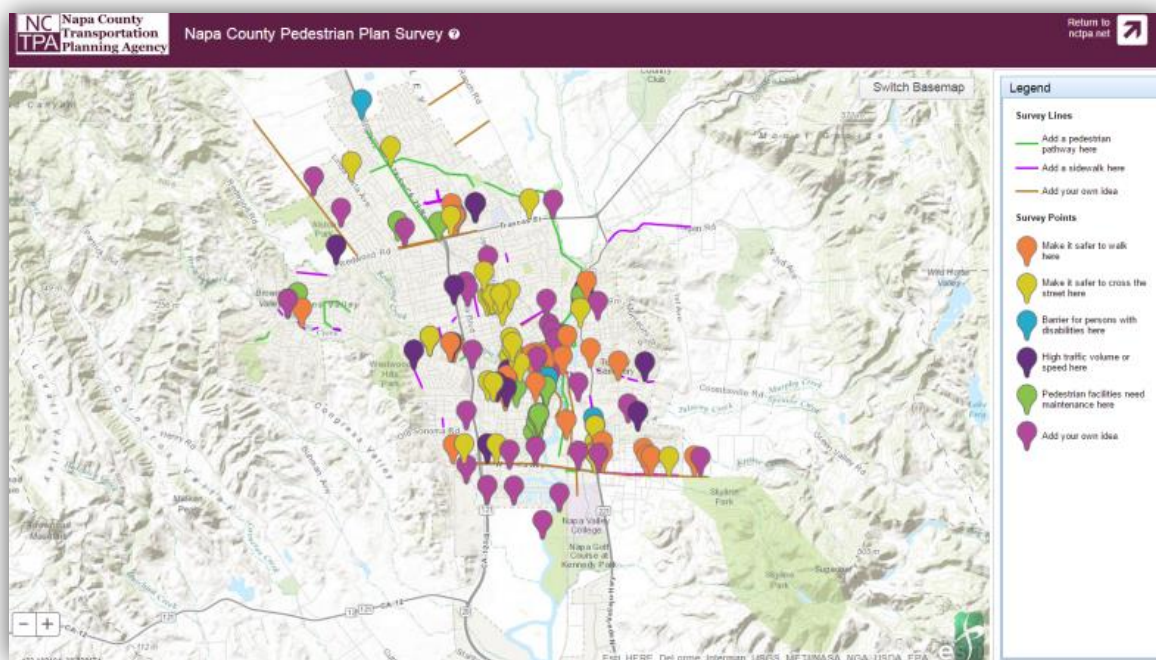




### Online Survey Mapping Tool

Napa County residents, employees, and visitors who wanted to provide input but were unable or did not wish to attend the public workshops had the option of submitting their comments online through an interactive mapping tool. Users placed pins on the maps to highlight desired improvements using pre-set comments or creating their own comment. Preset comments included:

- Make it safer to walk here
- Make it safer to cross the street here
- Barrier for persons with disabilities here
- High traffic volume or speed here
- Pedestrian facilities need maintenance here
- Add a sidewalk here
- Add a pedestrian pathway here



Results from the 70 comments submitted countywide are shown in *Exhibit 2* of the countywide plan.

## Unincorporated County-Specific Focus Groups

At the outset of the plan development process, meetings were held with key staff from the Unincorporated County to initiate the planning process on December 9, 2014.

This meeting included a discussion of existing programs, policies and practices. Examples from other cities as well as recommendations for improvements are provided in the benchmarking summary table in **Appendix UNC-A**.

Jurisdiction staff also provided input during the initial benchmarking meeting and at the public workshops on key areas where pedestrian improvements are planned and in some cases, where connections and safety improvements are desired. This input was used to inform potential opportunities for walking audit routes, as well as discussed along with the facility inventory maps under the *Existing Pedestrian Infrastructure* section of this plan.

Key goals for the pedestrian planning process were also discussed with County staff and included identifying appropriate criteria for pedestrian improvements that fit within the rural context of unincorporated roadways, including factors that may reduce the necessity for pedestrian facilities due to lack of pedestrian generators or limiting terrain and topography. County staff also expressed interest in focusing on schools, bus stops, and ADA access improvements. These goals are incorporated into key programmatic and policy recommendations in this plan.

Additional focus group meetings were held for the Unincorporated County walking audit (conducted in Angwin) on May 26, 2015, and to review the list of suggested pedestrian projects on August 20, 2015.

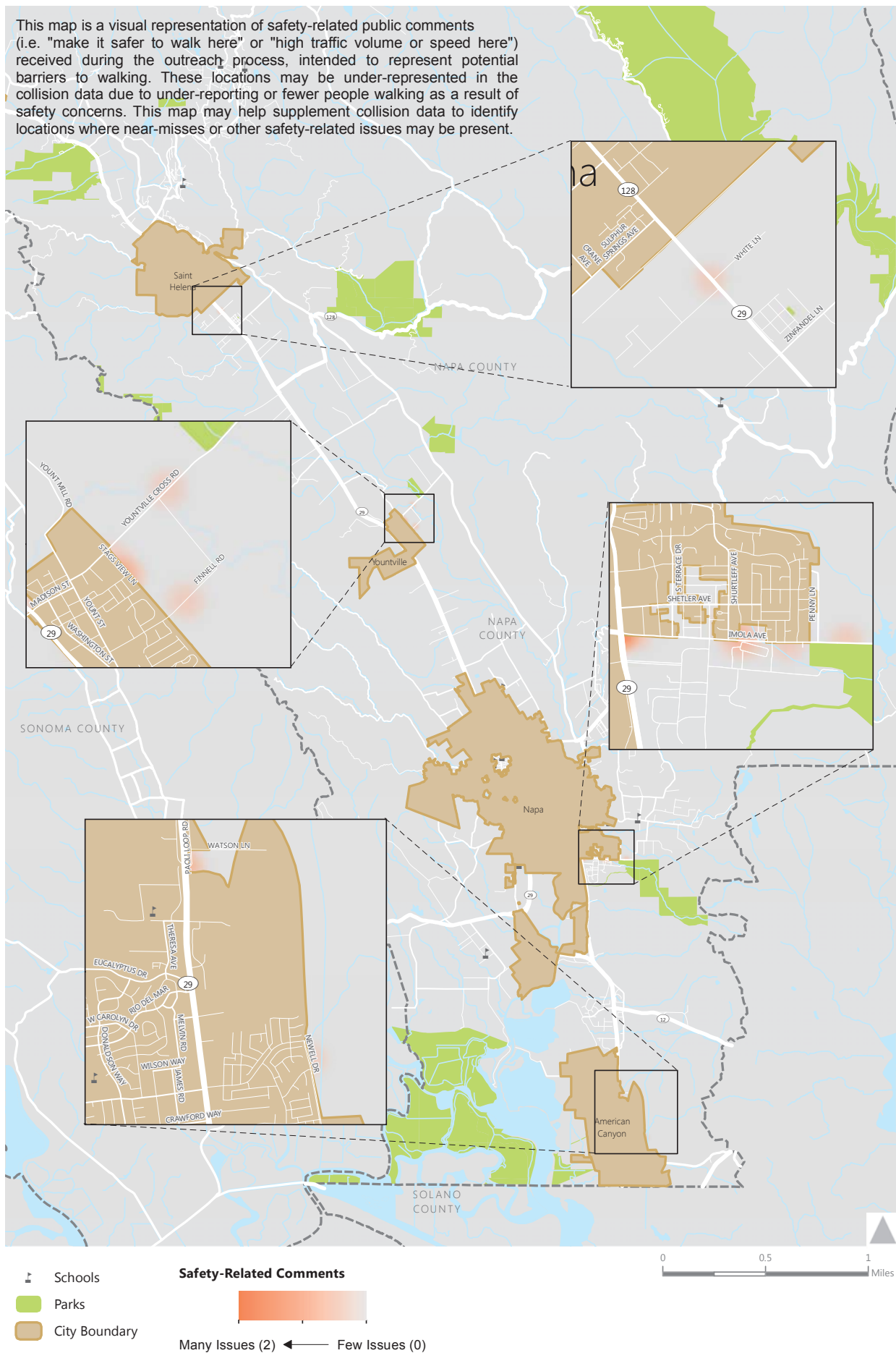
## Potential Barriers

As shown in **Table UNC-4**, connectivity and safety are two of the top pedestrian issues identified from the public. To geographically visualize the safety concerns in the Unincorporated County, a heat map was created, as shown in Exhibit UNC-6. This map shows the density of safety-related public comments received during the outreach process as well as unincorporated pedestrian-involved collisions, and is intended to represent potential barriers to walking. By including safety-related public comments, this map displays locations that may be under-represented in the collision data due to a high level of collision under-reporting with SWITRS data<sup>8</sup> or fewer people walking as a result of these perceived issues, thus providing a more comprehensive look at potential safety issues. This map may help supplement collision data to identify locations where near misses and other safety-related (but non-reported) issues may be present.

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<sup>8</sup> 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

This map is a visual representation of safety-related public comments (i.e. "make it safer to walk here" or "high traffic volume or speed here") received during the outreach process, intended to represent potential barriers to walking. These locations may be under-represented in the collision data due to under-reporting or fewer people walking as a result of safety concerns. This map may help supplement collision data to identify locations where near-misses or other safety-related issues may be present.





## Opportunity Areas

In the Unincorporated County, pedestrian activity is focused around village centers, trail systems, schools and transit stops. The terrain and topography present challenges for pedestrians, and walking is infrequent in more remote areas of the County; therefore, staff is focused on safety and ADA access near incorporated jurisdictions or other pockets of development. The County has recognized this plan as a key opportunity to identify unincorporated areas that have the greatest need for enhanced pedestrian safety and access. This plan directly addresses this goal by developing a list of proposed pedestrian facilities within key focus areas of the County. 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 Unincorporated County. 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 the Unincorporated County, 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 UNC-7*.

As illustrated on *Exhibit UNC-7*, Ped INDEX focus locations include the community of Angwin, unincorporated pockets near and within the City of Napa, and the community of Rutherford. After reviewing the locations of comments received during public outreach and the alignment with focus locations on the Ped INDEX maps, three potential walking audits were recommended to County staff:

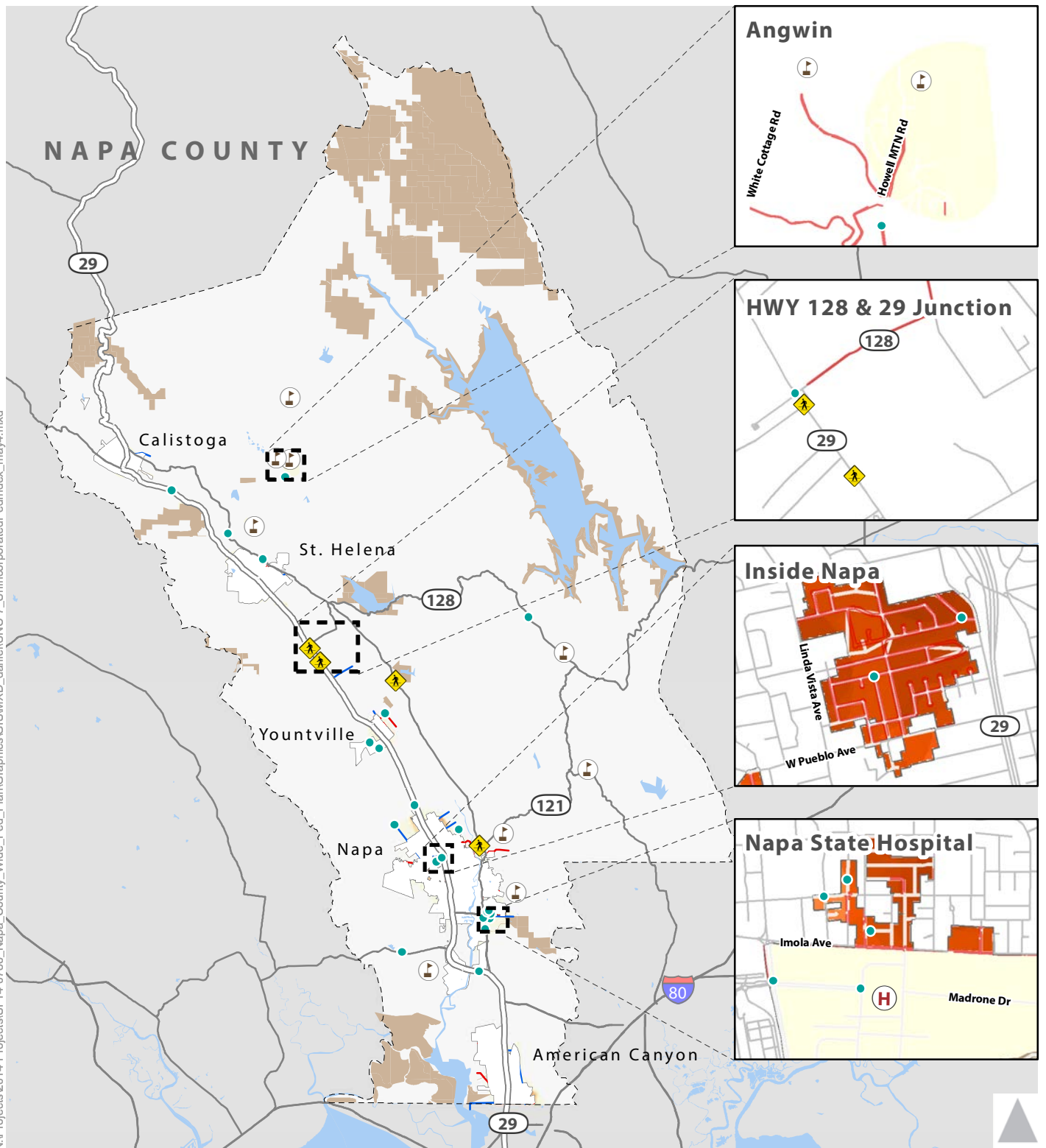
- **Yountville Loop:** Yountville Cross Road from town to Finnell Road; Finnell Road from Yountville Cross Road to town boundary (1.1 miles)  
This walking audit could discuss options for traffic calming along Finnell Road and Yountville Cross Road as they enter the Town of Yountville. One pedestrian collision was reported on unincorporated Yountville Cross Road in the last ten years, and several comments from the town and the public highlighted the need for traffic calming and pedestrian infrastructure along Yountville Cross Road and Finnell Road.

- **Unincorporated Neighborhood Pocket of Napa:** Candidate roadways include portions of Carol Drive, Kathleen Drive, and Janette Drive with soft shoulders in lieu of sidewalks, especially to serve Pueblo Vista Elementary School. These areas offer prototypical sites for countywide extrapolation. (1 mile)
- **Angwin Community:** Howell Mountain Road from Cold Springs Road to Clark Way; White Cottage Road from Toyon Street to Howell Mountain Elementary School, north driveway (1 mile)  
County staff expressed interest in studying this area due to the presence of two schools in combination with residential development, and the area includes Pacific Union College and Howell Mountain Elementary School.

After discussions with County staff regarding candidate locations, the third walking audit in the Angwin Community was chosen for study during walking audits, for a total of approximately one mile:

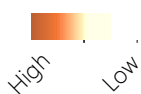
- White Cottage Road from College Avenue to Howell Mountain Elementary School
- Howell Mountain Road from Clark Way to Cold Springs Road

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### Demand:

**Pedestrian Index Score**



### Deficiencies:

**Pedestrian Collisions (Injuries)**

1



Pedestrian Fatality



Missing Sidewalks

### Legend:



School



Parks

Exhibit UNC-7

Unincorporated Area - Pedestrian Index  
Demand & Deficiencies



## Priority Projects and Implementation Plan

An important outcome of this plan is the designation of a priority project list and an implementation plan for these projects. The priority project list was assembled based on:

- Results of the Walking Audit conducted for the plan
- Projects recommended through related planning efforts, such as the Countywide Transportation Plan (CTP)
- Conversations with staff and stakeholders regarding other local priorities

### Walking Audits

Walking audits were conducted in April 2015 to observe field conditions and brainstorm potential ideas for improvement with the following stakeholders:

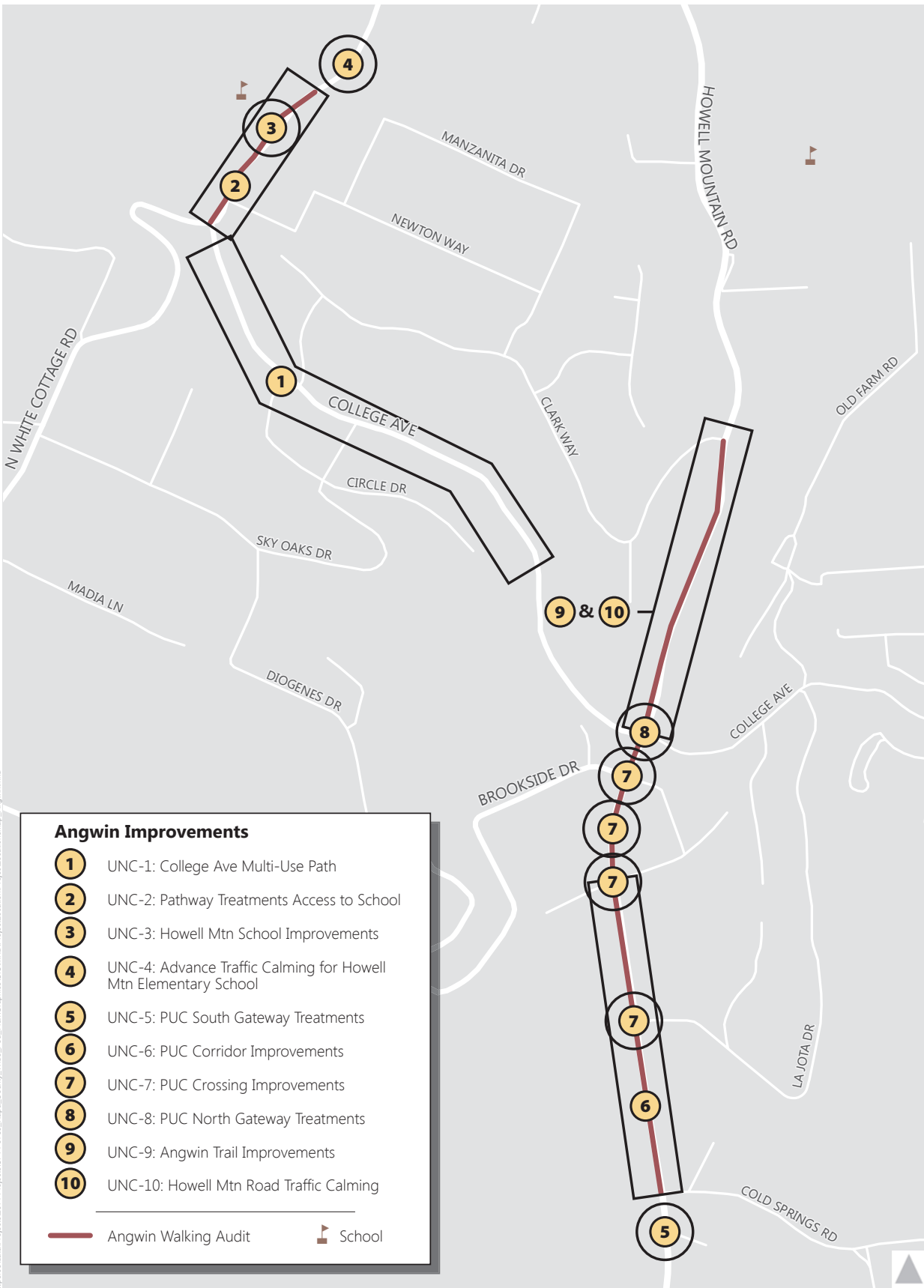
- Rick Marshall, Public Works
- Kaycee Wanlass, Napa County Office of Education
- Sean Westenrider, Pacific Union College
- Cheryl Lynn de Werff, Howell Mountain School
- Harold Mills, Pacific Union College
- Lisa Bissell Paulson, Pacific Union College

During the walking audits, visual surveys were conducted to observe physical characteristics and conditions of the pedestrian environment as well as the connectivity and continuity of the surrounding pedestrian network. A debrief was held afterwards with the group to discuss observations and determine suggestions for improvements.

### Project List and Map

Suggested pedestrian projects developed during the Pedestrian Plan walking audits and similar, recent efforts are shown in *Exhibit UNC-9*. Descriptions of each project and additional program and policy recommendations are included below under *Priority Projects*.





### 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 the unincorporated county 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 UNC-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 UNC-C**. A summary of the improvements is shown in **Table UNC-5**.

### *Funded or Constructed Projects*

The County recently completed a pedestrian improvement project in 2015 to address traffic calming near Howell Mountain School. This included installing advance warning school zone signs and pavement markings prior to the school where a curve in the roadway presents visibility challenges for motorists. This recently completed project was assigned to “Tier Zero” in **Table UNC-5** and was not evaluated for prioritization.

TABLE UNC-5: UNINCORPORATED COUNTY PEDESTRIAN IMPROVEMENTS

Project ID	Location	Description	Pedestrian Component	Estimated Cost
<b>ON-GOING SYSTEM MAINTENANCE</b>				
Sidewalk Gap Closure and Maintenance (No. 23 2015 CTP Program)	Countywide	Sidewalk maintenance, rehabilitation, and expansion	Sidewalks Maintenance	\$\$\$
<b>TIER ZERO (FUNDED OR RECENTLY CONSTRUCTED IMPROVEMENTS)</b>				
<b>T0-1</b> Howell Mountain Elementary School Advance Warning Signage	White Cottage Road north of Howell Mountain Elementary School	Advance warning signage and pavement markings	Traffic Calming	-
<b>TIER ONE</b>				
<b>UNC-4</b> Advance Traffic Calming for Howell Mountain Elementary School	White Cottage Road north of Howell Mountain Elementary School	Speed feedback signs and rumble strips	Traffic calming	\$5,700
<b>UNC-9</b> Angwin Trail Improvements	Howell Mountain Road, College to Clark Way	Medium term: off-street path with trail crossing	Pathway	\$633,800
		Long term: Formalized hiking trail	Crossing treatments Pathway	\$82,500
<b>UNC-10</b> Howell Mountain Road Traffic Calming	Howell Mountain Road, College to Clark Way	Lane width reduction and speed feedback signs	Traffic calming	\$18,400
<b>TIER TWO</b>				
<b>UNC-7</b> PUC Crossing Improvements	Howell Mountain Road at La Jota Drive	Crosswalk enhancements <sup>1</sup> and additional marked crosswalks	Crossing treatments ADA ramps	\$952,800
	Howell Mountain Road at Angwin Avenue	Crosswalk enhancements <sup>1</sup> and additional marked crosswalks	Crossing treatments ADA ramps	

TABLE UNC-5: UNINCORPORATED COUNTY PEDESTRIAN IMPROVEMENTS

TABLE UNC-5: UNINCORPORATED COUNTY PEDESTRIAN IMPROVEMENTS				
Project ID	Location	Description	Pedestrian Component	Estimated Cost
	Howell Mountain Road at PUC Driveway	Crosswalk enhancements <sup>1</sup> and additional marked crosswalks	Crossing treatments ADA ramps	
	Howell Mountain Road at Brookside Drive	Crosswalk enhancements <sup>1</sup> and additional marked crosswalks	Crossing treatments ADA ramps	
	Howell Mountain Road at La Jota Drive	ADA access path <sup>2</sup>	ADA	\$42,400
	Angwin Avenue, east of Howell Mountain Road	Relocated crosswalk and pathway <sup>2</sup>	Crossing treatments Site access	
UNC-1 College Ave Multi-Use Path	College Avenue, White Cottage Road to Fire Station	Off-street pathway	Pathway	\$\$
UNC-2 Pathway Treatments Access to School	White Cottage Road at College Avenue	Crosswalk enhancements <sup>1</sup>	Crossing treatments ADA ramps	\$\$\$
	White Cottage Road, Howell Mountain Elementary School to College Avenue	Near term: Buffer along shoulder	Pathway	
		Long term: Pedestrian pathway		
	White Cottage Road at Toyon Street	Enhanced marked crosswalk <sup>1</sup>	Crossing treatments ADA ramps	
TIER THREE				
UNC-3 Howell Mountain School Improvements	White Cottage Road at Howell Elementary School	Marked crosswalk with sidewalk extension <sup>3</sup> and ADA path	ADA Crossing treatments Sidewalks	\$\$
		Marked crosswalk removals	Crossing treatments	



TABLE UNC-5: UNINCORPORATED COUNTY PEDESTRIAN IMPROVEMENTS

Project ID	Location	Description	Pedestrian Component	Estimated Cost
UNC-5 PUC South Gateway Treatments	Howell Mountain Road at Bishops Place	Speed feedback sign	Traffic calming	\$\$
	Howell Mountain Road at Cold Springs	Crosswalk enhancements <sup>1</sup>	Crossing treatments ADA ramps	
		Feasibility study for roundabout or Pedestrian Hybrid Beacon	Traffic calming Crossing treatments	
UNC-6 PUC Corridor Improvements	Howell Mountain Road, Cold Springs to Angwin Avenue	Pathway, lighting	Pathway	\$\$\$
		Sidewalk	Sidewalks	
UNC-8 Howell Mountain Road	Howell Mountain Road at College	Near term: Enhanced marked crosswalks <sup>1</sup> , driveway closure	Crossing treatments ADA ramps	\$\$
		Long term: Feasibility study for roundabout	Traffic calming	\$

1. An enhanced crosswalk includes additional safety treatments such as high visibility striping, 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 location-based recommendations are included in Appendix UNC-C. For additional information on the application of these enhancements, refer to the Crosswalk Policy of this plan.

2. These improvements are outside of County right-of-way on PUC property.

3. These improvements are outside of County right-of-way on Howell Mountain Elementary School property.

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

Source: Fehr & Peers, 2015

Preserving the rural character is an important value to the unincorporated communities and a key consideration in the design of pedestrian infrastructure, especially when considering alternatives to sidewalk installation. Several roadways in the unincorporated areas may be potential candidates for in-street walkways where sidewalks may be infeasible due to engineering constraints or community values. This low cost improvement could include a combination of striping, pavement markings, and signage to designate an existing shoulder or bike lane as a shared space for bicyclists and pedestrians. Additional design guidance is provided in the Design Guidelines (**Appendix UNC-F**) under *Enhanced Walkways*. Variations of this treatment could be used as an interim or near term improvement while funding is secured for longer term improvements, such as sidewalks. Specific locations where this treatment could apply are College Avenue and White Cottage Road, as shown in Improvement UNC-1 and UNC-2. For these locations, raised buffers could be included to increase separation from vehicles and improve pedestrian comfort.

Including landscaping can improve the beauty of the pedestrian environment, improve management of storm water, and can help to blend physical improvements into the natural landscape, especially in a more rural setting. This could include landscape strips and trees along sidewalks, bioswales at curb extensions, or native plants along a pathway. Specific locations where this may be appropriate are intersections along Howell Mountain Road, where curb extensions are recommended adjacent to Pacific Union College between La Jota Drive and Brookside Drive, described in Improvement UNC-7. Landscape strips and non-invasive trees could also be considered if right-of-way is available for the recommended sidewalk on Howell Mountain Road, Improvement UNC-6.

### Supporting Programs and Policies

Key program and policy recommendations that complement the engineering-related projects are shown below in **Table UNC-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 UNC-6: UNINCORPORATED COUNTY PROGRAM AND POLICY RECOMMENDATIONS**

Program or Policy	Recommendations
<b>Education and Encouragement</b>	
Safe Routes to School (SRTS) Coordination	Coordinate with the Napa County Office of Education to continue SRTS programs in the County, and determine feasibility of implementing recommendations under the Safe Routes to School Support Program in the <i>Countywide Implementation</i> chapter of the countywide plan.
<b>Safety and Enforcement</b>	
Law Enforcement for Pedestrian Safety	Seek opportunities for increased enforcement of speeding on roadways near incorporated areas and potential pedestrian nodes to align with countywide collision reduction goals. Invite officers to ATAC meetings on a quarterly basis and consider working with neighboring incorporated police departments to designate 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.
NVTA Safety Campaign	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.

TABLE UNC-6: UNINCORPORATED COUNTY PROGRAM AND POLICY RECOMMENDATIONS

Program or Policy	Recommendations
<b>Maintenance</b>	
Repair of Sidewalks, Crosswalks, and Curb Ramps	<ul style="list-style-type: none"> <li>Continue to regularly improve and repair uneven sidewalk, broken asphalt in crosswalks, and install new curb ramps as part of the Countywide Sidewalk Maintenance Program in Table UNC-4 above. This could include consideration of implementing an ADA Transition Plan and/or a trip and fall monitoring program.</li> <li>Determine feasibility of adding a page to the County'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 County's Capital Improvement Program (CIP). This could include the reporting of maintenance needs for pedestrian-related pavement markings and traffic control devices.</li> </ul>
Overgrown Vegetation on Sidewalks and Planting Strips	<ul style="list-style-type: none"> <li>Countywide, 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.</li> </ul>
<b>Engineering and Design Standards</b>	
Pedestrian Design Guidelines	<ul style="list-style-type: none"> <li>Adopt pedestrian design guidelines in this plan, Appendix UNC-F, especially those with rural context including distinctions for rural remote roadways and those near pedestrian generators</li> <li>Implement Crosswalk Guidelines, included in Appendix UNC-F of this plan, to enable the County 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.</li> </ul>
<b>Complete Streets</b>	
Development Review Checklist	Create checklist for development review to ensure considerations for pedestrian access and safety, especially near bus stops, schools, and 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: <a href="http://www.mtc.ca.gov/planning/bicyclespedestrians/Routine_Accommodation_checklist.pdf">http://www.mtc.ca.gov/planning/bicyclespedestrians/Routine_Accommodation_checklist.pdf</a>
<b>Funding and Implementation</b>	
Implementation Plan	Develop focus area list to identify projects beyond those recommended in this plan through use of PedINDEX map in this plan and public outreach to unincorporated communities. Prioritize ADA improvements and enhancements near schools and transit.

## Next Steps

### Funding Sources

The unincorporated County areas have very few pedestrian facilities and most were built by the developer of the fronting property, such as the Airport area and the Silverado residential community. Spending by County staff on maintaining existing pedestrian infrastructure is minimal and includes restriping existing crosswalks as needed.

Federal, state, regional, county and local organizations provide funding for pedestrian and bicycle projects and programs. The most recent Federal surface transportation funding program, Fixing America's Surface Transportation Act (FAST Act), was signed into law in December 2015. Details in this section are provided for funding programs that are used to fund scheduled projects through December 2020.

FAST Act funding is distributed to Federal and state surface transportation funds. Most of these resources are available to the Unincorporated County through Caltrans, the Metropolitan Transportation Commission (MTC), and the Napa Valley Transportation Authority (NVTa).

**Table UNC-7** summarizes the applicability of these various funding sources to projects, planning efforts, and programs proposed in this plan. Detailed descriptions of the grant funding sources are presented in **Appendix C** of the countywide plan. The most applicable funding sources for the improvements recommended by this plan are the Active Transportation Program, One Bay Area Grants, and Highway Safety Improvement Program, and Transportation Development Act Article 3 funds.



TABLE UNC-7: REGIONAL FUNDING SOURCE APPLICABILITY MATRIX

Funding Source	Class I Multi-Use Path	Pedestrian Projects	Other Projects	Planning and Programs
Highway Safety Improvement Program (HSIP) Grants	●	●	●	○
Caltrans Transportation Planning Grants	○	○	○	●
Local Transportation Fund (LTF)	●	●	●	○
California State Parks Recreational Trails Program (RTP)	●	○	○	○
Land and Water Conservation Fund (LWCP)	●	○	○	○
Active Transportation Program (ATP), including Safe Routes to School	●	●	●	●
Transportation Development Act Article 3 (TDA-3)	●	●	●	●
One Bay Area Grant (OBAG)	●	●	●	●
Bay Area Air Quality Management District (BAAQMD) Transportation Fund for Clean Air	●	●	●	○

Notes:

1. ● indicate that funds may be used for this category; ○ indicate that funds may not be used for this category, and ● indicate that funds may be used, though restrictions apply.

Source: Fehr & Peers, 2016.

### Cost of the Pedestrian Network

**Table UNC-8** presents unit costs for standard pedestrian treatments, estimated using an ATP Cost Estimating Tool developed for the Alameda County Transportation Commission. The tool is used to estimate costs for bicycle and pedestrian projects at the network planning scale during the development of active transportation plans and in a sketch-planning capacity for a bicycle and/or pedestrian project. The costs shown represent the total construction for a typical treatment of that type, including engineering, design, construction management, mobilization, traffic control and general contingency. Contingency for drainage and utility relocation was also included for relevant treatment types, such as curb extensions. These numbers do not include right-of-way costs or inflation.

TABLE UNC-8: GENERALIZED UNIT COSTS FOR IMPROVEMENTS

Facility Type	Cost	Unit
Curb Extension/Bulbout	\$56,000	Each
Pedestrian Refuge Island	\$10,000	Each
Flashing Beacons (RRFBs)	\$45,000	Per Crosswalk
Pedestrian Hybrid Beacon (PHB)	\$144,000	Per Crosswalk
Customized Pedestrian Wayfinding Signs	\$2,000	Per Sign

1. Costs reflect capital costs plus contingency for engineering design, environmental, construction management, mobilization, traffic control, and contingency.

Source: Fehr & Peers, ATP Cost Estimating Tool, 2016.

Project-level cost estimates were prepared for the top 4 priority projects determined in the previous section of this plan, while the remaining projects were assigned a ranking in Table UNC-5 to indicate an estimated range of cost level. Prepared cost estimates, included in **Appendix UNC-D**, include unit costs for individual improvements within the project and adjustments to account for traffic control, construction management, and mobilization. Additional factors were also used for overall contingency, engineering design and environmental. A summary of the estimates is shown in **Table UNC-9** below.

TABLE UNC-9: PRIORITY PROJECT COSTS	
Project	Total Cost <sup>1</sup>
UNC-4: Advance Traffic Calming for Howell Mountain Elementary School	\$5,700
UNC-7: PUC Crossing Improvements	-
County Total	\$952,800
PUC Total	\$42,400
UNC-9: Angwin Trail Improvements	-
Medium Term	\$633,800
Long Term	\$716,300
UNC-10: Howell Mountain Road Traffic Calming	\$18,400

1. Costs reflect capital costs plus contingency for engineering design, construction management, mobilization, traffic control, and contingency.  
Source: Fehr & Peers, ATP Cost Estimating Tool, 2016.

## Countywide Performance Metrics and Evaluation

NVTA intends to monitor progress on the implementation of this plan over time. The *Countywide Implementation* chapter of the Countywide Pedestrian Plan summarizes key performance goals and associated metrics for this plan's implementation.

## Unincorporated County Appendix

UNC-A Benchmarking Table

UNC-B Existing Pedestrian Policies

UNC-C Detailed Project Lists and Prioritization

UNC-D Cost Estimates

UNC-E Plan Adoption Resolution

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