EUREKA NORTH-SOUTH

MULTIMODAL CORRIDOR PLAN

DRAFT FINAL
JUNE 25, 2018

EUREKA NORTH-SOUTH MULTIMODAL CORRIDOR PLAN

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Date: June 25, 2018

Prepared by: TJKM Transportation Consultants

Prepared for: City of Eureka

ACKNOWLEDGEMENT

This section will be completed in collaboration with City Staff.

City of Eureka

Humboldt County

Caltrans

Redwood Community Action Agency

TJKM Transportation Consultants

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EXECUTIVE SUMMARY

The Eureka North-South Multimodal Corridor Plan (NSMCP) is initiated for implementing the Caltrans Sustainable Communities Grant (SCG) the City has received for multimodal transportation design, planning and technical assistance for the completion of a multimodal plan. The following summarizes the development of the NSMCP.

BUILDING UPON PREVIOUS PLANNING EFFORTS

The project team researched on prior planning decisions and engineering studies pertaining to the development of the NSMCP. This effort also ensures that the NSMCP will be consistent with the Humboldt County Association of Governments (HCAOG) VROOM adopted in 2017.

ASSESS EXISTING CONDITIONS AND MULTIMODAL NEEDS

The project team evaluated existing transportation network and mobility of the study area, including existing roadway geometry, pedestrian and bicycle connectivity and mobility, existing traffic volumes and collision analysis. The existing conditions help identify transportation deficiencies and opportunities for multimodal improvements.

EXTENSIVE COMMUNITY OUTREACH AND ENGAGEMENT

The project team performed an extensive public outreach as per the Public Outreach Plan developed at the onset of the project development.

The purpose of such outreach is to engage the stakeholders, and the community as a whole, to help the NSMCP identify day-to-day issues and concerns regarding traffic and safety within the project area. Community input is reviewed to help directly in project development, as well as the design of the alternatives to current settings. The outreach efforts include a stakeholder meeting, an online survey, a project webpage, a project kick-off community workshop, temporary infrastructure pop-up events, and two walking tours to collect input location by location.

DEVELOP CORRIDOR CONCEPTS

Three corridor concepts were developed for the study corridors based on right-of-way characteristics, multimodal utilizations, and community preference of each corridor. The project team made sure to follow local and regional design guidelines and standards when identifying measures of multimodal improvement projects along the study corridors.

MULTIMODAL ANALYSIS

A multimodal analysis was conducted for the study corridors to identify any existing and future transportation impact due to the implementation of the concepts. The results of the multimodal analysis should be used for evaluating benefit and costs of each proposed concepts during the project screening and prioritization process.

COST ESTIMATE AND FUNDING SOURCES

A planning-level cost estimate for each multimodal concept is included in the NSMCP. The potential sources of funding for designing and constructing the multimodal concepts is also identified in the NSMCP. The list of potential funding sources provides the City options to explore funding opportunities at the State and Federal levels.

INTRODUCTION

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1.1 BACKGROUND

The Eureka North-South Multimodal Corridor Plan (NSMCP) is initiated for implementing the Caltrans Sustainable Communities Grant (SCG) the City has received for multimodal transportation design, planning and technical assistance for the completion of a multimodal plan. The NSMCP analyzes major north-south transportation corridors within the City for enhancing safety and mobility for all modes of transportation. The NSMCP is consistent with statewide long-term transportation goals. The City strives to re-envision H and I Streets and potentially adjacent north-south routes to improve safety for all users and foster vibrant neighborhoods and business districts. H and I Streets are currently three-lane one-way couplets which serve as the main north-south route and regional transit hub in the City. These wide corridors with an elevated collision history and lack of safe multimodal facilities provide the opportunity to adapt innovative streetscape and bicycle facility designs to fit the context of a disadvantaged small town and encourage greenhouse gas reduction. The NSMCP will further involve review and compilation of best practices for complete streets design along small town arterial roadways, and development of concept design alternatives for improved safety for all modes of transportation. Range of alternatives for improving safety and mobility for all modes of transportation will be examined to support the City's efforts to improve transportation safety and multimodal connectivity within Eureka consistent with the City's Transportation Safety Action Plan (2015) and the Humboldt County Association of Government's Regional Transportation Plan VROOM (2014).

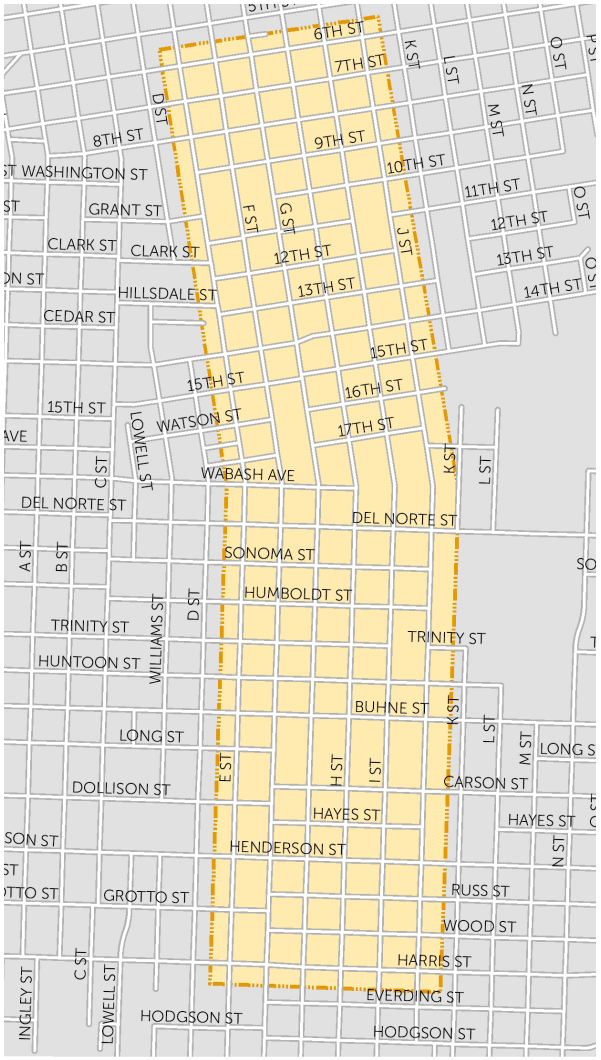
PROJECT GOALS AND OBJECTIVES

- Completion of a Multimodal Plan for the project area with the focus on H and I Streets and the north-south transportation corridors within the city for enhanced safety and mobility for walking, biking, accessing transit and motor vehicles
- Identification of at least three conceptual design alternatives for improved mobility, safety and user experience for all modes within the project area with the focus on H and I Streets in Eureka
- Robust engagement of Eureka residents, businesses and community organizations through public workshops, small group walking tours, visual preference surveys and online engagement
- Consideration of environmental justice in the planning process so that all residents have an opportunity for meaningful involvement with respect to the environment and community health outcomes
- Involvement of high school aged youth in providing input and feedback on pedestrian and cyclist needs
- Reduction of greenhouse gases through encouragement of non-motorized transportation methods
- Compilation of best practices in context-sensitive "complete streets" design for small town arterial streetscapes
- Identification of streetscape priorities for the north-south transportation corridors in Eureka through visual preference surveys and community input
- Application of low-impact development design features where possible
- Enhanced mobility options within the City of Eureka that are consistent with community values
- Enhanced safety for all modes travelling north-south through Eureka
- Identification of priority project components for further study and implementation
- Identification of alternative implementation funding sources
- Increased commuting by walking, bicycling and transit within the City

PROJECT AREA

The project area is located between E and J Street from 6th Street to Harris Street, with a focus on H and I Streets. **Figure 1** shows the project area.

Figure 1. Project Area



PLANNING CONTEXT

2

Prior planning decisions and engineering technical studies are essential to understand existing conditions of the NSMCP project area, to explore the opportunities of implementing City, County and State planning goals and objectives, and to ensure alternatives are developed in consistence with City, County, and State standards and guidelines. This Chapter describes relevant planning documents that will support the NSMCP. These documents have identified goals, policies, and potential improvements that may include the project area.

The following sub-sections describe the purpose and function of each document reviewed. A summary of relevant policies within these documents as pertaining to the NSMCP are provided in **Appendix A**.

The development of the NSMCP will also be in compliance with these plans and guidelines, including the Humboldt County Association of Governments (HCAOG) VROOM.

2.1 REVIEW OF RELEVANT DOCUMENTS

CITY OF EUREKA GENERAL PLAN 2040 (2017, IN PROGRESS)

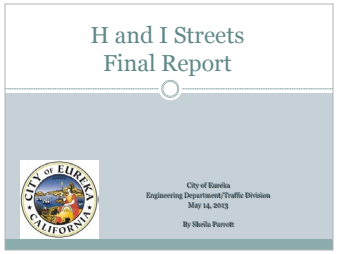
The City of Eureka is currently in the process of finalizing its updated General Plan, which will replace the current General Plan adopted in 1997. The updated General Plan will direct City growth, revitalization, and conservation through the year 2040. The Mobility element identifies goals and policies that apply to the NSMCP.

CITY OF EUREKA PEDESTRIAN SAFETY EDUCATION AND OUTREACH CAMPAIGN (2015)

The City of Eureka received an Office of Traffic Safety Grant in 2015 to conduct a Pedestrian Safety Education and Outreach Campaign. The "Heads Up" campaign ran for four months in 2015 to improve driver and pedestrian awareness and behavior, with the ultimate goal of reducing pedestrian collisions. A follow-up survey indicated that it was both effective and well received. The final report on the campaign outlines the strategies used and lessons learned, which may apply to outreach campaigns supporting the NSMCP.

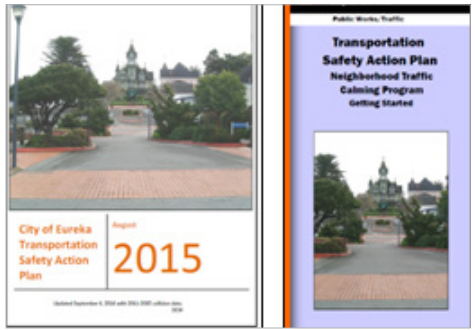
H AND I STREET FEASIBILITY STUDY (2013)

This study considered changes to the one-way couplet of H and I Streets to improve safety, addressing collisions, pedestrian safety, and provision of bicycle facilities in particular. It studied the full length of both street and identified specific improvements to be implemented, including improvements that are consistent with a Complete Streets vision for the NSMCP. The proposed multimodal corridor includes portions of H and I Streets.



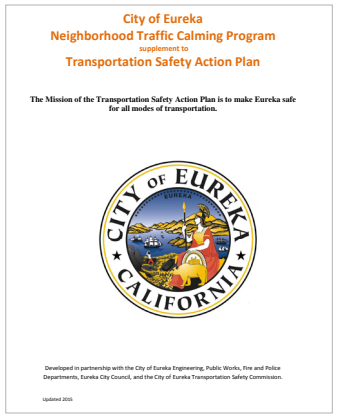
CITY'S TRANSPORTATION SAFETY ACTION PLAN (2015) AND SAFETY ACTION PLAN BROCHURE

The City of Eureka Transportation Safety Action Plan is designed to improve safety for all modes of transportation in the City and to encourage and facilitate a partnership between residents and City staff in addressing traffic safety issues. The two primary goals are collision reduction and quality of life preservation. The Plan details collision reduction strategies and implementation, from identifying areas of concern through setting and attaining collision reduction goals. The quality of life preservation strategies are addressed in a separate document, the Neighborhood Traffic Calming Program (2015). An informational brochure distributed by the City to residents provides a concise summary of the Transportation Safety Action Plan and Traffic Calming Program and details the process for residents to request safety and quality of life reviews for their traffic-related concerns.



CITY OF EUREKA NEIGHBORHOOD TRAFFIC CALMING PROGRAM (2015)

The City of Eureka Neighborhood Traffic Calming Program is a supplement to the City's Transportation Safety Action Plan, providing guidance on implementing traffic calming measures and detailing a toolbox of traffic calming measures, organized according to cost and complexity of implementation. Measures were selected based on their appropriateness and suitability to Eureka and its neighborhoods. The Program complements the goals of the NSMCP and provides a starting point for its implementation.


City of Eureka
Neighborhood Traffic Calming Program
supplement to
Transportation Safety Action Plan

The Mission of the Transportation Safety Action Plan is to make Eureka safe for all modes of transportation.

Developed in partnership with the City of Eureka Engineering, Public Works, Fire and Police Departments, Eureka City Council, and the City of Eureka Transportation Safety Commission.

Updated 2015

2017 CITY COUNCIL STRATEGIC PLAN

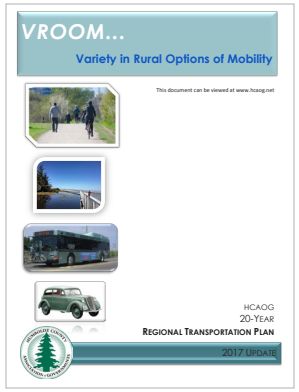
The City Council of Eureka conducted a number of strategic planning sessions in early 2017 and released a presentation summarizing the process and findings. The strategic plan will direct Council priorities and goals for 2017-2018 and provide guidance for decision-making. The vision for the future of the City as outlined in the Strategic Plan will influence how the NSMCP is developed and implemented.

2017 CITY'S STRATEGIC ARTS PLAN

The City of Eureka Strategic Arts Plan presents strategies for nurturing quality of life and making the City a more culturally rich and desirable place for residents and visitors, through public art and aesthetic improvements. Some of the projects identified for making neighborhoods more desirable to explore will also improve pedestrian comfort and convenience and enhance streetscapes. Such art initiatives could be incorporated into street improvements as part of the NSMCP.

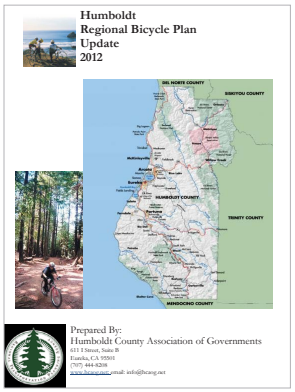
HCAOG REGIONAL TRANSPORTATION PLAN VROOM (2014) (2017)

The Humboldt County Association of Governments (HCAOG) developed the Regional Transportation Plan with the mission of providing Variety in Rural Options of Mobility (VROOM). The Complete Streets Element addresses roadway, pedestrian, and bicycle systems. The Public Transportation Element addresses regional and local transit services. County-level, long-range transportation planning provides context for local transportation planning efforts. The objectives identified for the County's transportation system are consistent with the NSMCP.



HUMBOLDT COUNTY REGIONAL BICYCLE PLAN UPDATE (2012)

The Humboldt County Association of Governments (HCAOG) developed the Humboldt Regional Bicycle Plan to support the development of a fully integrated active transportation network. Safe, convenient bicycle facilities are key to roadways functioning as truly multimodal corridors, in line with the goals of the Eureka North-South Multimodal Corridor Plan (NSMCP). The Bike Plan focuses on regional projects to connect local bicycle routes, but it does provide support to local jurisdictions building their own bicycle networks. This is accomplished through guidelines to securing funding, recommending regional projects that will have local benefits, and providing design standards and guidelines.

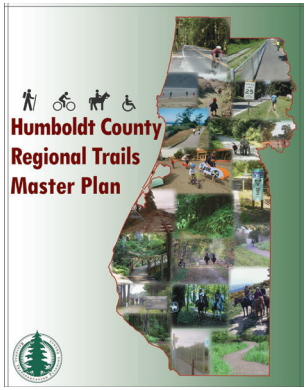


Humboldt County Regional Bicycle Plan Update (2017, in progress)

The Humboldt County Association of Governments (HCAOG) is in the process of updating the County Regional Bicycle Plan. The content and organization are substantially similar to the 2012 Plan, expanded and revised to reflect the VROOM Regional Transportation Plan (2014), changes in existing infrastructure, and an updated selection of projects and recommendations.

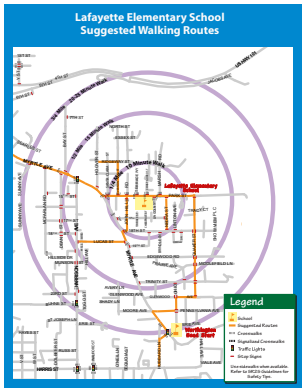
HUMBOLDT COUNTY REGIONAL TRAILS MASTER PLAN (2010)

The Humboldt County Association of Governments (HCAOG) developed the Humboldt County Regional Trails Master Plan for the purpose of compiling existing trail and active transportation planning information, providing a framework for planning and implementation of a regional active transportation system. The Plan aims to ensure safe and equitable access for non-motorized users and to promote active transportation facility connections within and between communities. On-street bikeways are included in the Plan, although the emphasis is on off-street trail development. Tools are provided to assist municipalities in the development of a regional, uniform, and consistent active transportation system.



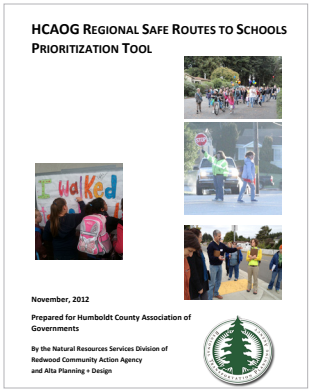
HUMBOLDT SR2S – SCHOOL WALKING MAPS

Safe Routes to School (SR2S) is a program intended to make it safer for children to walk and bicycle to school rather than being dropped off by car. Participants include local governments, parents, teachers and school staff, neighbors, and others such as crossing guards and bus drivers. The Humboldt County Association of Governments (HCAOG) provides maps for several public elementary schools with information on recommended walking routes and drop-off/pickup zones. It should be noted that none of the public or private schools in or immediately adjacent to the NSMCP study area are currently included in these maps. Only one school walking map includes routes which overlap the study area.



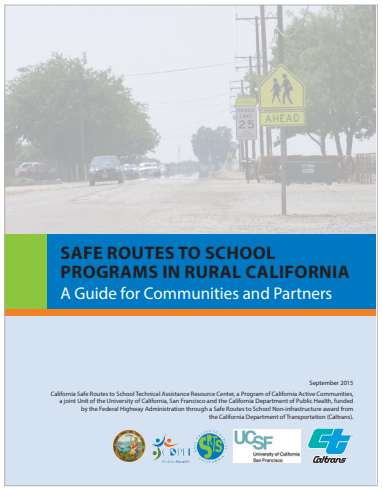
HCAOG REGIONAL SAFE ROUTES TO SCHOOLS PRIORITIZATION TOOL (2012)

The Humboldt County Association of Governments (HCAOG) developed the Regional Safe Routes to Schools (SR2S) Prioritization Tool in order to streamline decision-making around SR2S projects and increase the capacity for effective SR2S programs and grant applications. The Prioritization Tool is designed to robustly evaluate potential bicycle and pedestrian improvement projects around schools and neighboring communities. It may be particularly useful for the NSMCP as a way of prioritizing potential improvements and improving their chances of being funded.



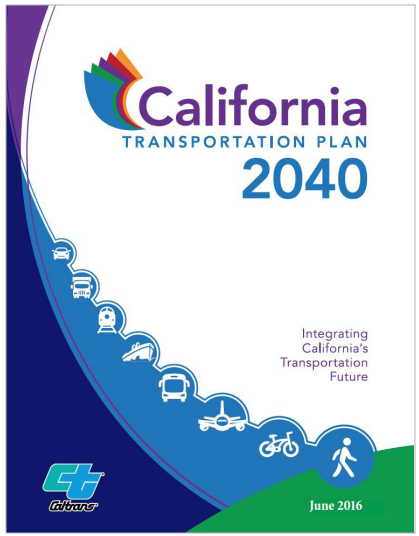
SRTS PROGRAMS IN RURAL CALIFORNIA – A GUIDE FOR COMMUNITIES AND PARTNERS (2015)

This Guide was developed by the California Safe Routes to School Technical Assistance Center to provide an overview of barriers to safe walking and bicycling and to present strategies and tools to address common challenges. The Guide specifically addresses unique challenges facing schools in rural communities, including low population density, safety concerns along rural roads and highways, and gaps in pedestrian and bicycle infrastructure.



CALIFORNIA TRANSPORTATION PLAN (CTP) 2040 (2016)

The California Transportation Plan (CTP) 2040 provides long-range planning goals and policies for maintaining and improving the transportation system and infrastructure of the State of California. Goals in the CTP 2040 emphasize multimodal transportation, public safety and security, livable communities, and environmental stewardship. These plans complement the goals of Eureka North-South Multimodal Corridor Plan (NSMCP). As a state-level plan, the CTP 2040 also provides specific guidance on funding sources and programs for transportation projects.



EXISTING CONDITIONS AND NEEDS ASSESSMENT

3

This Chapter describes the existing transportation network and mobility of the study area, including existing roadway geometry, pedestrian and bicycle connectivity and mobility, existing traffic volumes and collision analysis. The existing conditions help identify transportation deficiencies and opportunities for multimodal improvements.

3.1 ROADWAY SYSTEM

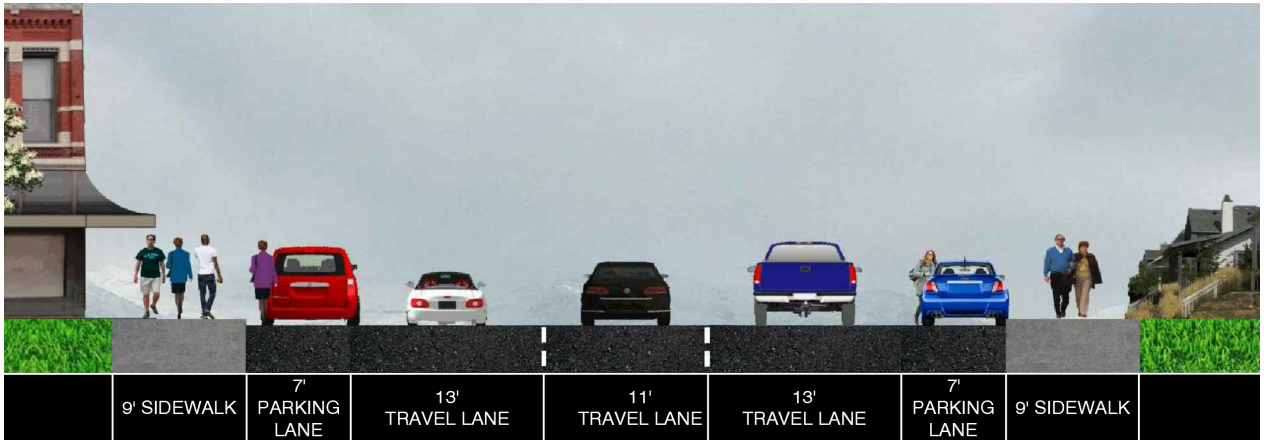
3.1.1 H AND I STREETS

H Street and I Street are both one-way, north/south principal arterial roadways, which together form a one-way pair that provides the primary north/south connection through the study corridor. They run parallel from 1st Street and Waterfront Drive in the north to Manzanita Avenue in the south, connecting to all major east/west arterials and collectors within the study corridor. These streets are each three lanes wide for the majority of their length: H Street narrows to two lanes south of Henderson Street, and I Street narrows to two lanes south of Harris Street. They feature a posted speed limit of 30 miles per hour (mph), parking on both sides of each street, and limited stops within the study area. Adjacent land uses are primarily residential, with commercial uses concentrated north of 8th Street.

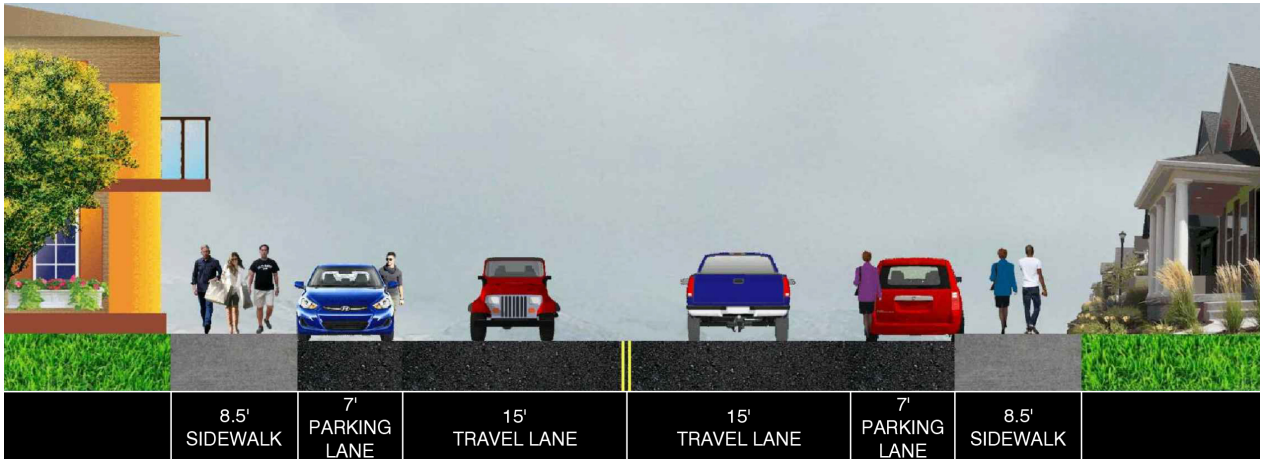
3.1.2 E, F, G, AND J STREETS

E, F, G, and J Streets constitute the other north/south connections within the study area. E Street

Typical cross section of H and I Streets. Location: H Street between 9th and 10th Street

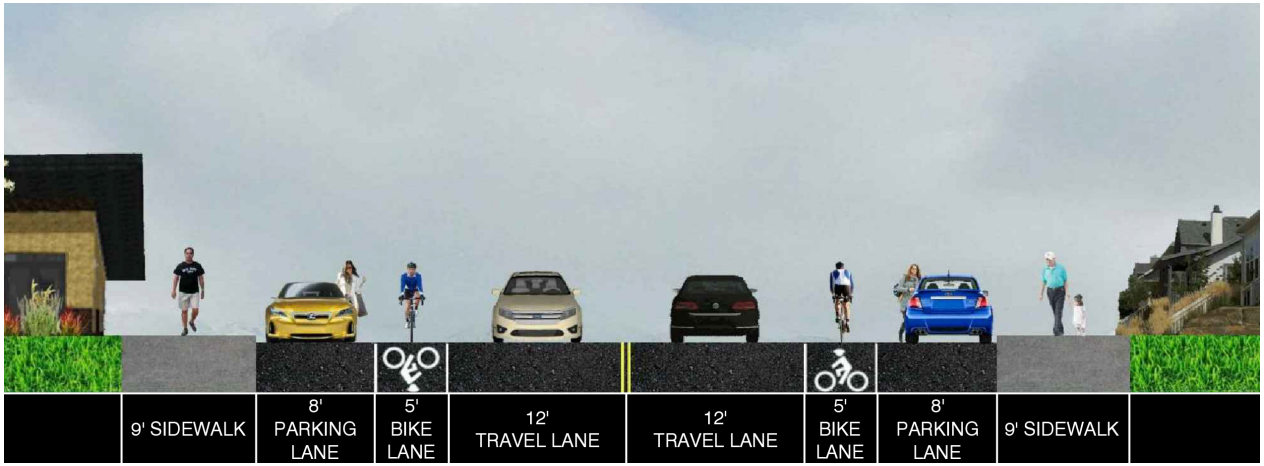


Typical cross section of E Street. Location: E Street between 9th street and Grant Street

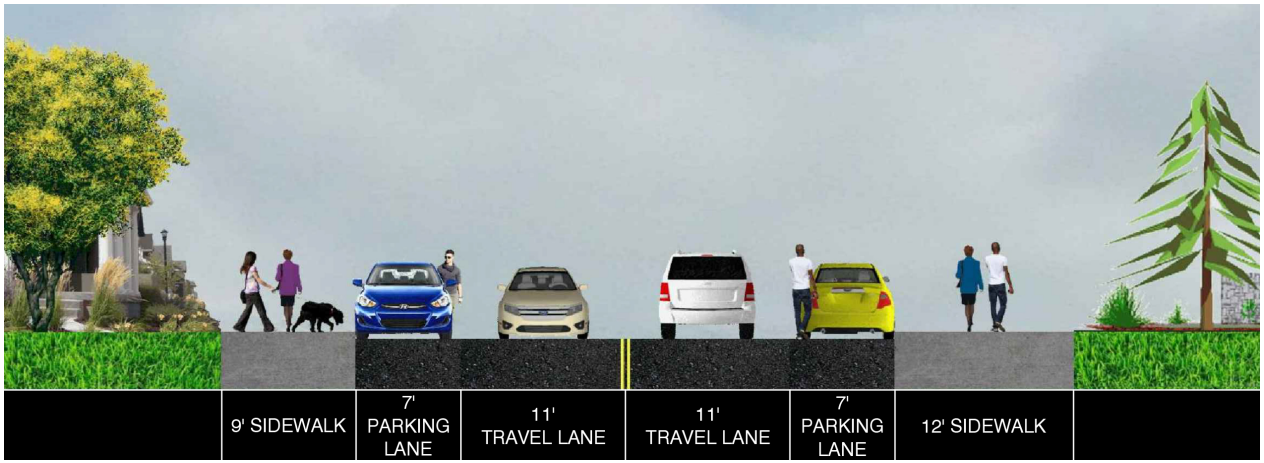


is designated as a minor arterial; J Street is designated as a minor collector; and F Street and G Street are designated as local streets. All are two-lane roadways with parking on both sides and speed limits of 25-30 mph. Adjacent land uses are primarily residential, with commercial uses concentrated north of 8th Street and south of Henderson Street. J Street provides direct access to Eureka High School and features bicycle lanes in both directions through the full study corridor from 6th Street to Harris Street.

Typical cross section of J Street. Location: J Street between 9th and 10th Street



Typical cross section of F and G Streets. Location: F Street between 9th and 11th Street



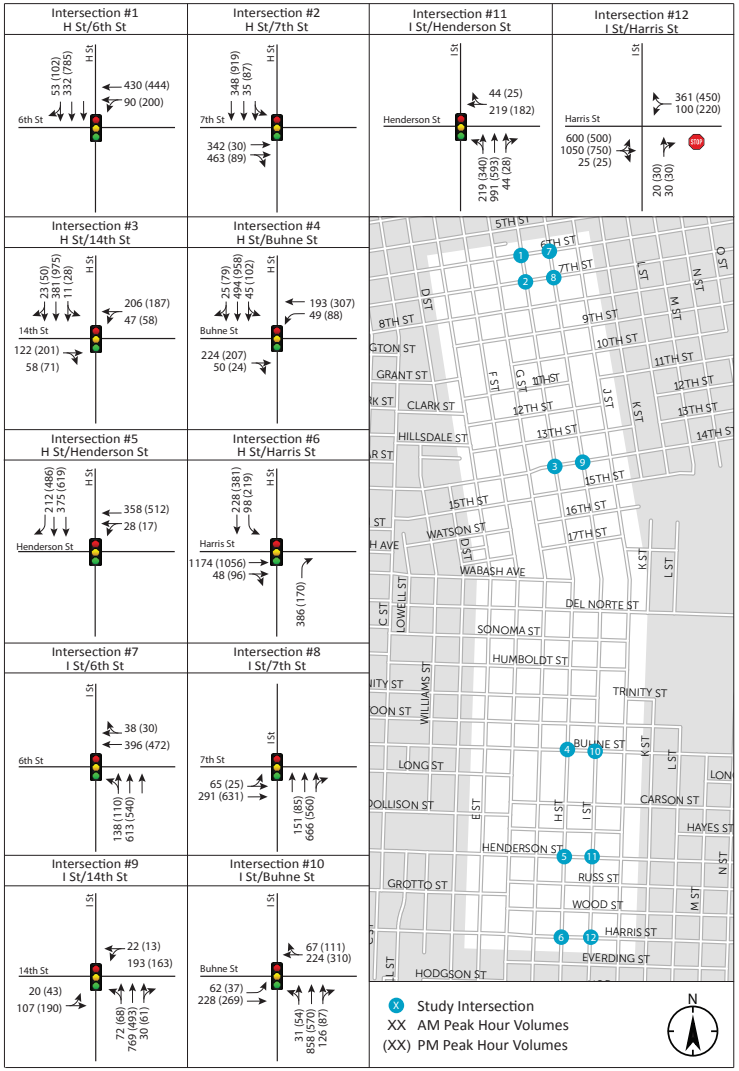
3.2 INTERSECTION VOLUMES

The HCM 2000 method was used in determining intersection control delay and the level of service (LOS). **Table 1** shows the LOS at the signalized intersections along H Street and I Street under existing conditions. The intersections operate at LOS B or better during the a.m. and p.m. peak periods, except for the intersections of H Street and Harris Street, and I Street and Buhne Street, which operate at LOS C during a.m. and p.m. peak periods, respectively. **Figure 2** shows the existing peak hour intersection turning movement counts at study intersections.

Table 1. Existing Level of Service (LOS) - H Street and I Street

#	Intersection	AM	Delay (sec)	PM	Delay (sec)
1	H Street & 6th Street	A	8.2	A	9.4
2	H Street & 7th Street	A	8.9	B	10.3
3	H Street & 14th Street	B	10.8	A	10.0
4	H Street & Buhne Street	B	14.7	A	8.3
5	H Street & Henderson Street	A	10.0	A	9.1
6	H Street & Harris Street	C	21.1	B	18.0
7	I Street & 6th Street	A	8.9	B	12.7
8	I Street & 7th Street	A	9.9	A	8.0
9	I Street & 14th Street	A	7.8	B	13.7
10	I Street & Buhne Street	A	7.6	C	21.0
11	I Street & Henderson Street	B	10.3	A	9.6
Source: City of Eureka					

Figure 2. Peak Hour Intersection Turning Movement Counts



3.3 AVERAGE DAILY TRAFFIC AND SPEED SURVEY

Average Daily Traffic (ADT) data provided by City staff includes numerous segments of the study corridors and their cross streets. The most recent data available ranges between 2011 and 2016. The latest weekly average (seven days) data available was used to describe overall traffic conditions for each corridor. In further analysis, ADTs will be categorized into weekday averages (Tuesdays, Wednesdays, and Thursdays) and weekend averages (Saturday and Sunday).

Under existing conditions, H Street and I Street were observed with higher ADT, ranging from 4.643 vehicles on H Street just south of Russ Street and 11,356 vehicles on I Street just south of Russ Street. Followed by H and I Streets is E Street, which the ADT ranges between 4,611 vehicles between 6th and 7th Street, and 6,031 vehicles between Dollison Street and Henderson Street. G Street has the least ADT among the corridors, ranging from 218 vehicles just north of Hayes Street and 566 vehicles just south of 15th Street. **Table 2** summarizes the average and maximum ADTs of all segments by corridor. **Figure 3** illustrates ADT data available along the corridors, labeled with the most recent collection dates.

Speed surveys, provided by the City, were collected in various years from 2013 to 2016. **Table 3** shows the comparison of posted speed limits versus the 85th percentile speeds. Note that J Street, in comparison with other corridors, has a relatively high 85th percentile speed versus its posted speed limit. **Figure 4** summarizes the 85th percentile speeds for segments where available.

Table 2. Average Daily Traffic - Corridor Comparison

(vehicles per day)	E Street	F Street	G Street	H Street	I Street	J Street
Average	5,281	1,996	380	7,307	8,468	1,187
Maximum	6,031	5,095	566	8,726	11,356	1,885
Note: A seven-day average was used for presenting the average ADT for each corridor.						

Table 3. Posted Speed Limit vs. 85th Percentile Speed - Corridor Comparison

(miles per hour)	E Street	F Street	G Street	H Street	I Street	J Street
Posted Limit	25-30	25-30	25-30	30	30	25-30
85th Percentile Speed	31	27	n/a	36	35	34
Note: The 85th percentile speed represents the average of any 85th percentile speeds available for each corridor.						

Figure 3. Average Daily Traffic on Study Corridors

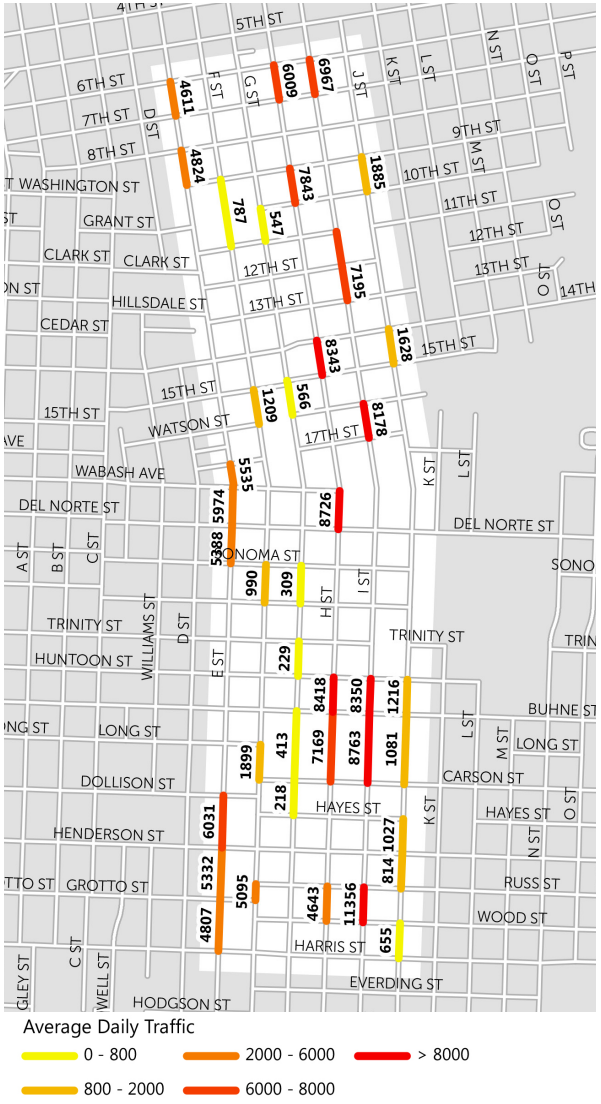
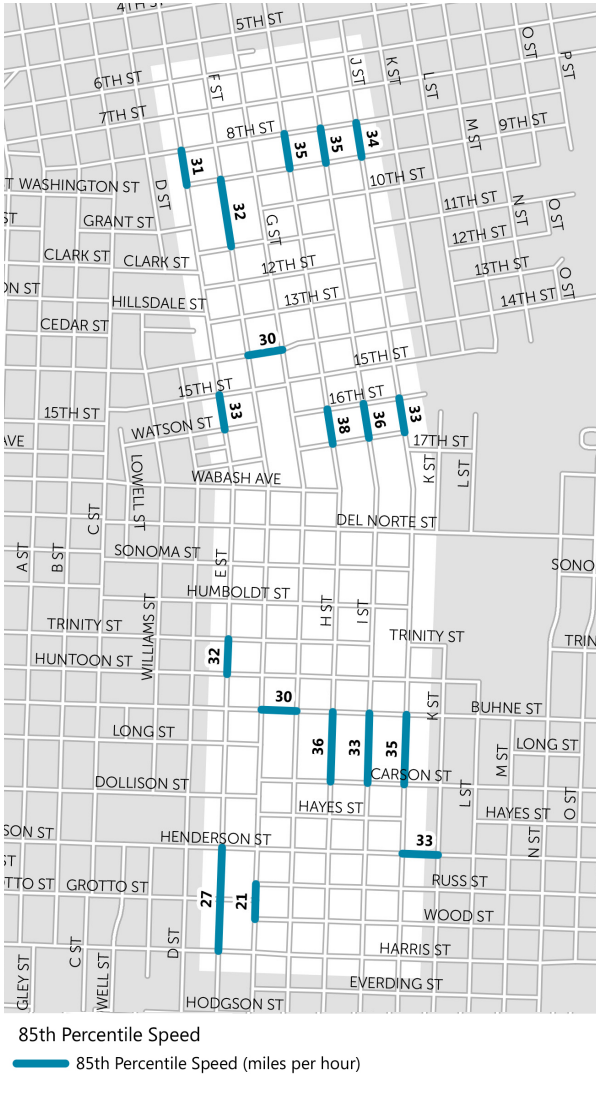


Figure 4. 85th Percentile Speed



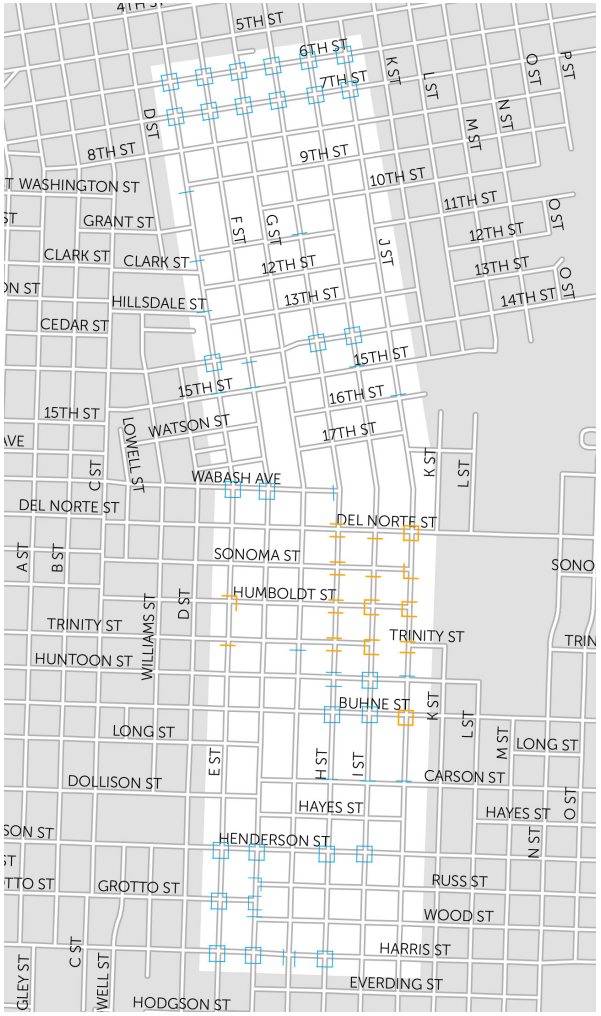
3.2 PEDESTRIAN FACILITIES

All north/south streets within the study corridor provide sidewalks on both sides, generally with uninterrupted, at-grade transitions between sidewalk and roadway at corners. These crossings are navigable with wheeled mobility devices but are not fully ADA-compliant due to the lack of truncated domes. Crosswalks are provided at all intersections with 6th and 7th Streets, more than half of intersections along Henderson and Harris Streets, and within the vicinity of Eureka High School. Crosswalks crossing H and/or I Streets are provided at 15 of 23 cross streets, clustered near the high school and Carson Park. Attractive walking destinations include numerous churches, Eureka High School, Carson Park, and retail at the northern and southern ends of the study area. At this time, there are no continuous north/south paths along the length of the corridor with consistent crosswalks or ADA-compliant curb ramps. **Figure 5** shows the locations of existing crosswalks.

3.3 BICYCLE FACILITIES

Existing bicycle facilities within the study corridor consist of north/south bicycle lanes on J Street and east/west bicycle lanes on 6th Street, 7th Street, Henderson Street (west of J Street), and Harris Street. Planned bicycle facilities include north/south Class III bicycle routes on E Street and G Street, and east/west bicycle routes on14th Street, Wabash Avenue, Buhne Street, and Henderson Street east of J Street. Harris Street and Wabash Avenue connect the study corridor to the regional Pacific Coast

Figure 5. Existing Crosswalks



Existing Crosswalks
- Crosswalk
- Crosswalk (Yellow)

Bike Route (PCBR) to the west. **Figure 6** shows the existing bicycle facilities.

3.4 TRANSIT SERVICES

Transit services in the study area are provided by Eureka Transit Service (ETS), Redwood Transit System (RTS), and Southern Humboldt Intercity (SHI). Local routes running north/south through the corridor include the ETS Gold, Purple, and Rainbow routes. Most ETS routes run Monday-Friday, with some Saturday service provided by the Gold and Rainbow routes. These connect with the Green and Red routes, running generally east/west across the corridor. Regional services provided by Redwood Transit System and the Southern Humboldt Intercity route connect with local transit routes within the downtown core. **Figure 7** shows the current transit network and stops in the project area. Note that only weekday schedule is shown in **Figure 7**; on weekends, Rainbow Route serves serves Costco, the Forest Service, Bayshore Mall, Harris Street, the zoo, General Hospital, Myrtletown, and I Street.

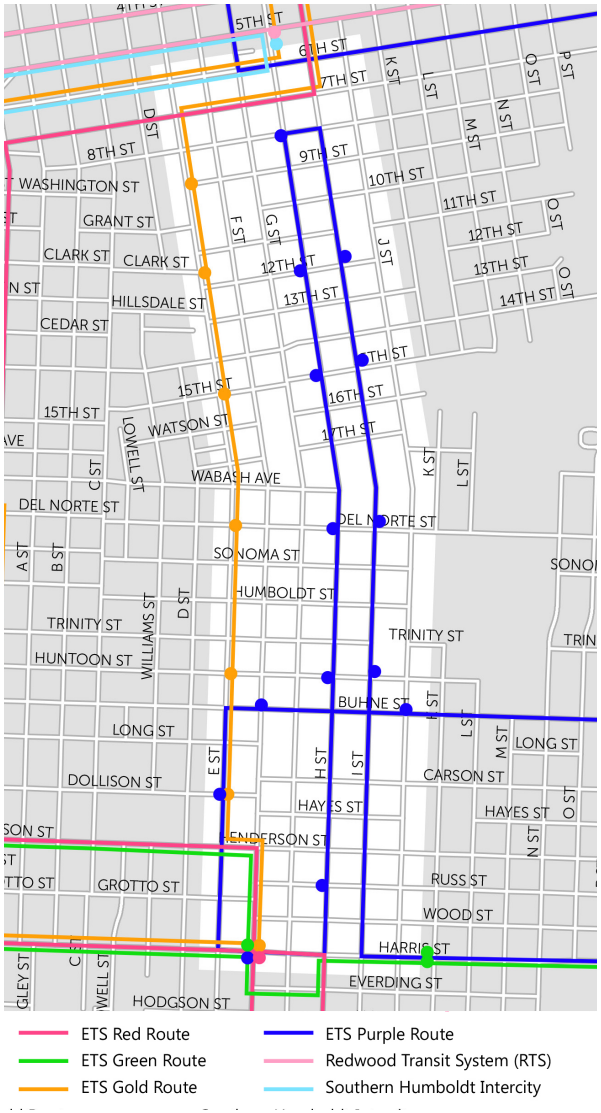
3.5 COLLISION ANALYSIS

A collision analysis was conducted for the project area to understand existing level of safety for all modes of transportation. It helps identify critical high crash locations along the corridors for safety improvements. Collision data was provided by the City of Eureka for a five-year period between January 2012 to December 2016 and was analyzed to identify temporal, severity, and collision trends.

Figure 6. Existing Bicycle Facilities

- Existing Class II
- Existing Class III

Figure 7. Existing Transit Network



Collision history was obtained for the study segments along E Street, F Street, G Street, H Street, I Street and J Street.

3.5.1 COLLISION RATE

A collision rate is defined as number of collisions divided by Million Vehicle Miles (MVM). Collision rates of a corridor are to be compared with Statewide averages to identify high crash corridors. The most recent statewide collision averages for 2013 were obtained from the Caltrans. The Caltrans average collision rate is 2.21 collisions per million vehicle miles (c/mvm) for urban conventional highway with 2 lanes or less for speed limit less than or equal to 45 mph, and the statewide average for urban conventional 3 lane highway is 1.57 c/mvm. Summaries of collision data are presented in **Table 4**. Collisions along the study segments exceed statewide collision rate.

3.5.2 COLLISION SUMMARY

There were 518 reported collisions within the study area between 2012 and 2016. The most common types of collision, broadside comprise 64 percent of collisions, following by sideswipe and read end collisions, as shown in **Figure 8**. The number of collisions reported by injury and fatalities are shown in **Figure 9**. H Street and I Street have higher number of collisions as compared to other corridors but less than half the rate of F Street, G Street, and J Street. The increase of collisions along H Street and I Street corresponds with the increase in vehicles on the road. The number of collisions that were reported by year along the study segments are shown in **Figure 10**.

Figure 8. Accidents by Primary Collision Type (2012 to 2016)

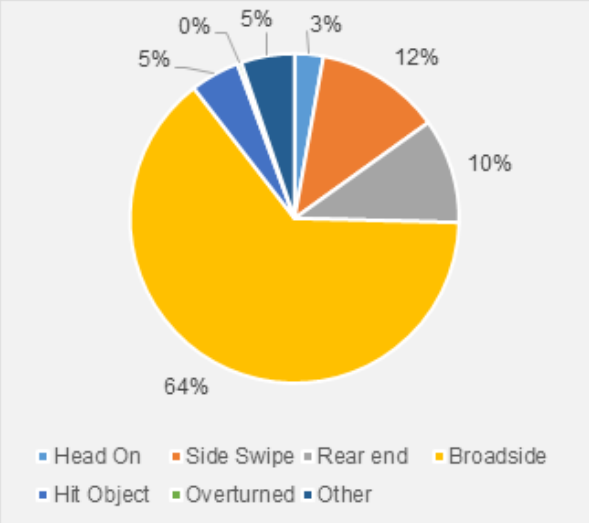


Table 4. Collision Rate

Roadway Segment	Number of Collisions			Length (miles)	ADT1	MVM2	Actual Collision Rate3			Statewide Average Collision Rate4		
	Fatal	Injury	Total				Total Rate (C/MVM)	Injury (%)5	Fatal (%)6	Total Rate (C/MVM)	Injury (%)	Fatal (%)
E Street from 6th Street to Harris Street	0	62	109	1.50	6,031	17.47	6.24	57%	0.0%	2.21	36.6%	0.8%
F Street from 6th Street to Harris Street	2	39	77	1.50	5,095	6.31	12.21	51%	2.6%	2.21	36.6%	0.8%
G Street from 6th Street to Harris Street	0	7	15	1.50	566	1.34	11.16	47%	0.0%	2.21	36.6%	0.8%
H Street from 6th Street to Harris Street	0	90	133	1.50	8,726	23.97	5.55	68%	0.0%	1.57	37.9%	0.8%
I Street from 6th Street to Harris Street	0	83	117	1.50	11,356	31.62	3.70	71%	0.0%	1.57	37.9%	0.8%
J Street from 6th Street to Harris Street	1	42	67	1.50	1,885	4.44	15.08	63%	1.5%	2.21	36.6%	0.8%

Source: City of Eureka
Notes:
1 ADT - Average Daily Traffic
2 MVM = Million Vehicle Miles (MVM = ADT*365*length*Years (5yr)/1,000,000)
3 CollisionRate (Rse) = A*1,000,000/ADT*365*Length*Years
4 2013 Collision data on California State Highways, Caltrans
5 Percentage of total collisions resulting in injuries.
6 Percentage of total collisions resulting in fatalities.

Figure 9. Number of Collisions by Severity

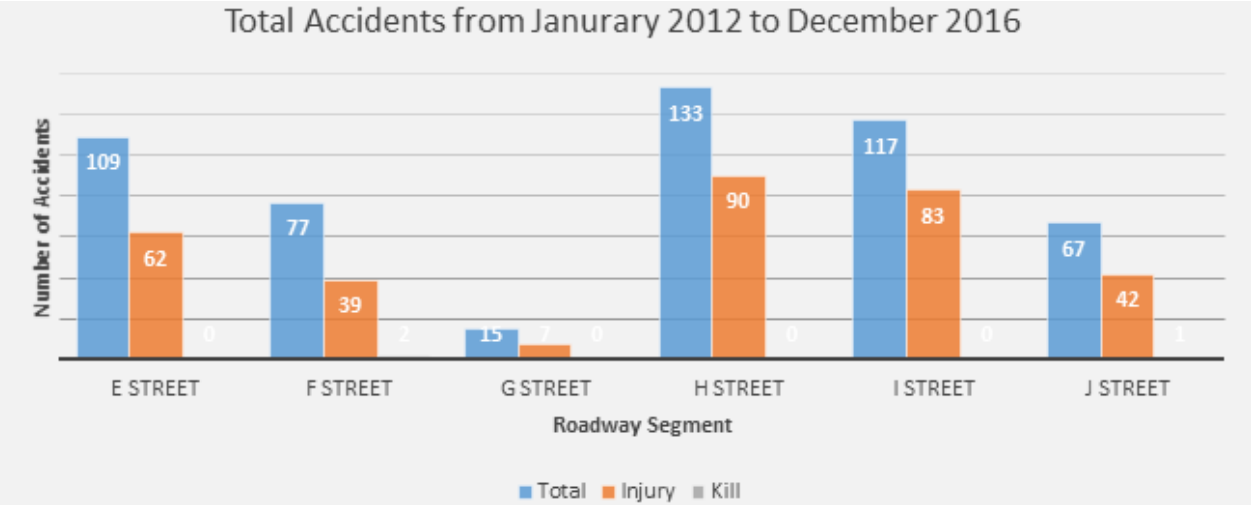
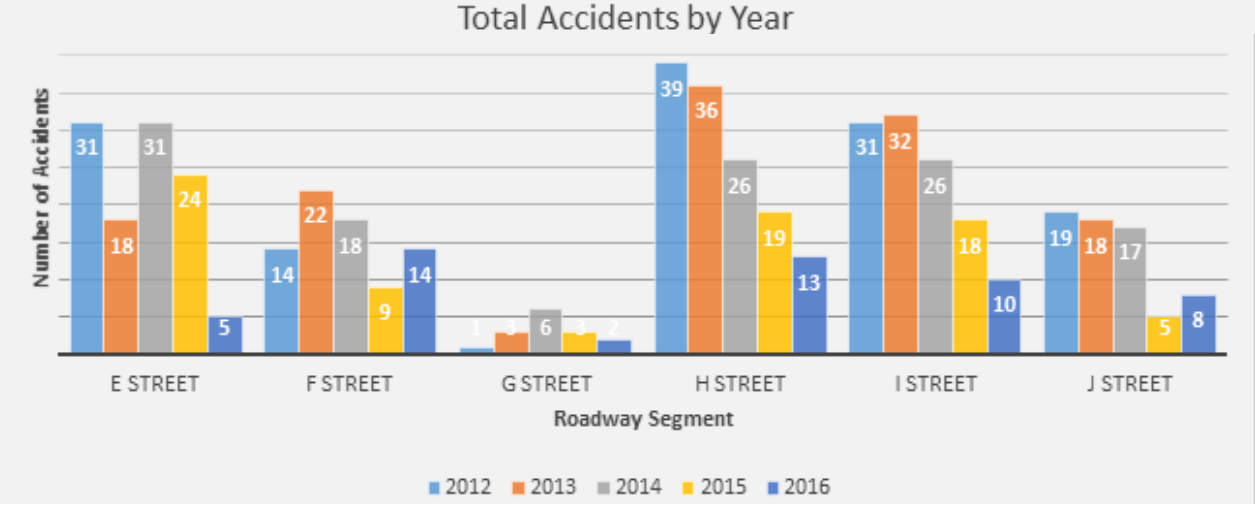


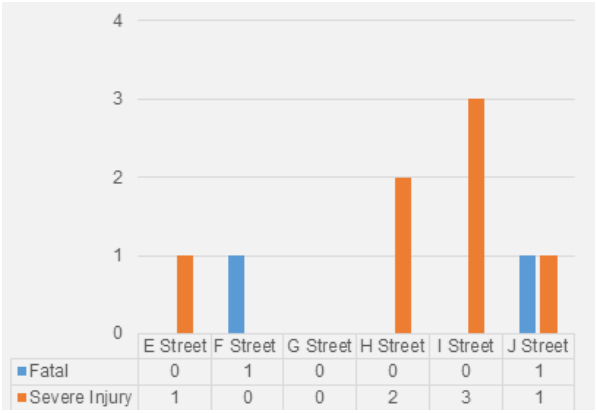
Figure 10. Number of Collisions by Year



3.5.3 SEVERITY

Fatal and severe injury collisions are critical to identify key locations for improving safety and prioritizing implementation. **Figure 11** shows that one to three fatal or severe injury collisions occurred on any of the six corridors except for G Street. **Figure 12** summarizes all fatal and severe injury collisions in the project area.

Figure 11. Fatal and Severe Injury Collisions



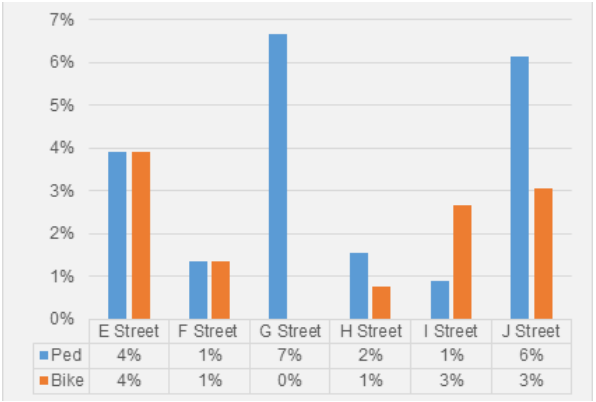
3.5.4 MODE INVOLVEMENT

Pedestrian- and bicycle-involved collisions are essential for identifying multimodal countermeasures to lower the probability of such collisions. They also help in identifying infrastructure deficiencies within the project area, e.g., inadequate or insufficient pedestrian crossings. **Figure 13** shows the distribution of pedestrian

Figure 12. Fatal, Severe Injury and Other Injury Collisions (2012 to 2016)

and bicycle collisions by corridor. Note that E and J Street have higher rates of pedestrian and bicycle collisions with lower total number of collisions. Higher rates on J Street could be attributed to its provision of bicycle lane. **Figure 14** shows all pedestrian and bicycle collisions in the project area.

Figure 13. Pedestrian and Bicycle Collisions



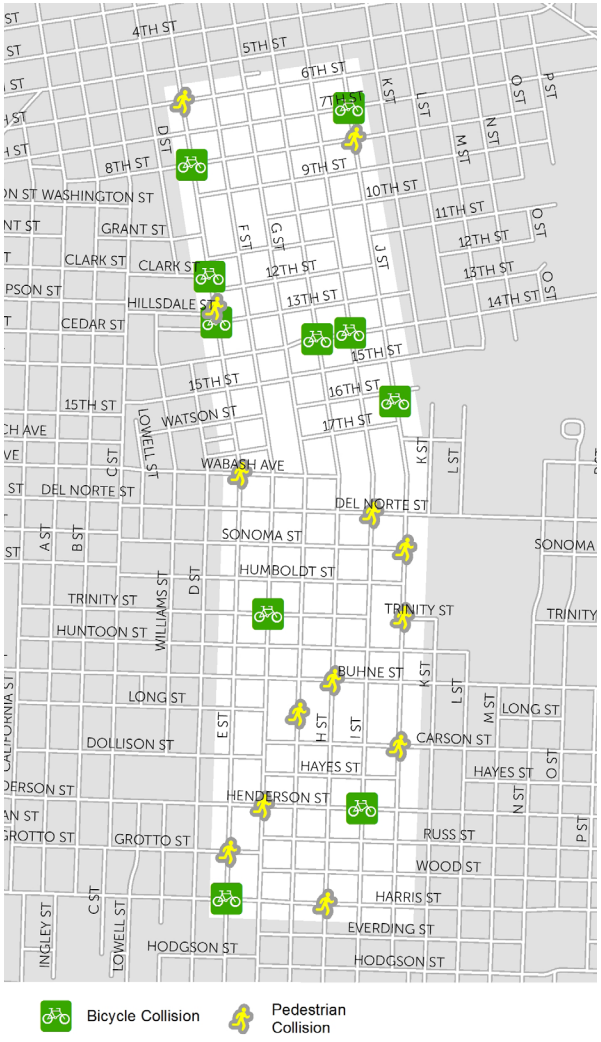
	E Street	F Street	G Street	H Street	I Street	J Street
Ped	4%	1%	7%	2%	1%	6%
Bike	4%	1%	0%	1%	3%	3%

3.6 MULTIMODAL NEEDS ASSESSMENT

3.6.1 PEDESTRIAN

Although at-grade transitions between sidewalk and roadway at corners are an important component of universal design, those within the study area do not fully comply with the Americans with Disabilities Act (ADA) due to the lack of a

Figure 14. Pedestrian and Bicycle Collisions (2012 to 2016)



detectable surface treatment at the curb. The City should install truncated dome tiles along the edge of the sidewalk at all corners, in accordance with current ADA regulations.

It was also observed that many intersections within the study area lack crosswalks entirely, with no continuous pedestrian path between 6th Street and Harris Street that features consistent marked crosswalks and pedestrian facilities and few marked crosswalks across H or I streets north of Del Norte Street. Given the collision history along these streets, high visibility crosswalks should be constructed at several points along the corridor. These should ideally include additional safety features such as pedestrian-activated flashing signage or beacons, bulb-outs, and ample advanced signage and pavement markings.

3.6.2 BICYCLE

Within the study area, the only designated north-south bicycle facility consists of Class II Bike Lanes on J Street. Although roadways within the study corridor are generally wide enough to accommodate bicycles sharing the road with vehicles, E, F, and G Streets are not wide enough to accommodate Class II Bike Lanes without removal of on-street parking along one side. Aerial photographs indicate that on-street parking is not heavily utilized and may indicate that a reduction of parking supply would be acceptable. Further study should be conducted in order to identify streets that would be most appropriate for the addition of bicycle lanes. One street west of G and I Streets should be designated as a bike route in order to provide a second north-south bicycle facility parallel to G and I Streets, if bike lanes are neither feasible nor desirable. Within the study corridor, E Street is the widest. However, F and G Streets currently experience lower traffic volumes, and G Street experiences the lowest accident rate. The City should solicit community feedback on which street feels safest to local cyclists and consider designating that street as a bike route.

3.6.3 TRANSIT

The existing transit network within the City of Eureka provides a basic level of mobility to individuals who are unable or unwilling to drive, walk, or bicycle to their destinations. However, service runs only hourly and ends at 7 p.m. on weekdays, and there is a lack of an east-west connection near the middle of the study corridor. The City and the Humboldt Transit Authority are currently studying the feasibility of adding new transit routes and improving efficiency and service to transit users. Regardless of potential service changes, transit use within the study corridor would benefit from improved bus stops. This could include adding benches or shelters to existing stops, improving signage, or adding bike racks.

3.6.4 TRAFFIC

The study corridor appears to function well for motor vehicles, from an operational standpoint such as level of service and roadway capacity. However, the preliminary collision analysis indicates that collision reduction should be the highest priority for traffic-related improvements. A more detailed collision analysis should be conducted in order to identify how the roadways and intersections affected the type and number of accidents within the study corridor. The City has already studied and implemented programs to evaluate road segments for traffic calming measures, as well as public awareness campaigns for vehicle/pedestrian collision reduction. These programs should be continued aggressively and target portions of the corridor with the highest speeds and highest number of collisions.

COMMUNITY OUTREACH

4

This Chapter describes the public outreach process for the NSMCP, with discussions on feedback and suggestions received from the community and stakeholders. The purpose of conducting the community outreach is to engage the stakeholders, and the community as a whole, to help the NSMCP identify day-to-day issues and concerns regarding traffic and safety within the project area. Community input is reviewed to help directly in project development, as well as the design of the alternatives to current settings. The outreach efforts include a stakeholders meeting, an online survey, a project kick-off community workshop, and two walking tours to collect input location by location. A detailed public outreach plan is included in **Appendix B-1**.

4.1 COMMUNITY OUTREACH PLAN AND OBJECTIVES

Robust community engagement in the Eureka North South Multimodal Corridor Plan was essential to understand community members' concerns, experiences and ideas and to inform potential design alternatives. As the project area includes many residential neighborhoods as well as businesses, two schools, and a key commuting corridor the project team recognized there would be many interested stakeholders. The Project Team, in collaboration with the Project Task Force, developed an outreach and engagement strategy to reach a broad spectrum of Eureka residents, students, businesses and stakeholders. The first series of community outreach events included multiple ways to provide input whether at a workshop, through a survey or participating on a walking tour. Spanish language outreach materials were provided to local partner organizations and submitted as PSAs to local media.

The intended outcomes of the community outreach were:

- To understand the goals of the Eureka North South Multimodal Corridor Plan Project
- To identify ways to improve safety for all modes of travel – walking, rolling, biking, driving, and transit
- To share ideas for potential infrastructure improvements
- To collaborate across the Eureka community
- To understand the next steps and input opportunities for the Eureka North South Multimodal Corridor Plan project

Key components of the community engagement included:

- Project Website
- Online & Print Surveys
- Walking Tours (2)
- Community Outreach Workshops

Outreach methods for the project and its community input opportunities included:

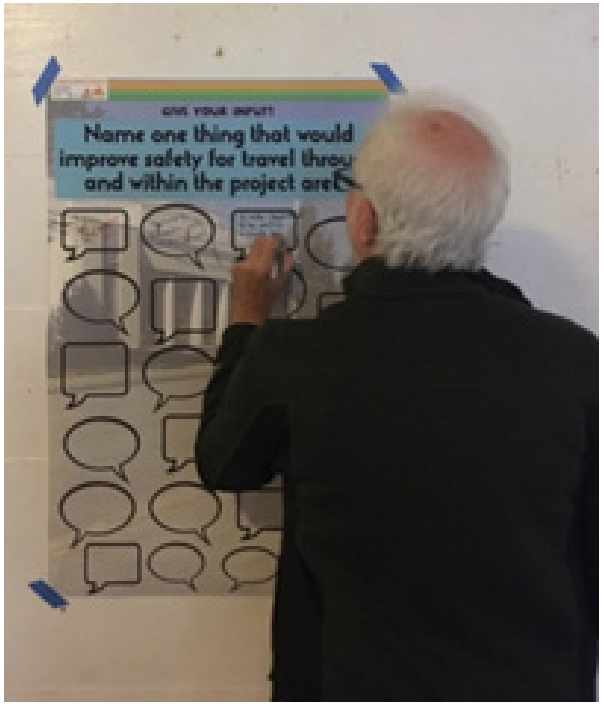
- Outreach flyer for workshop events posted around town and shared through social media
- Spanish language flyers
- Postcard mailing to residences and businesses along H and I Streets from 6th to Harris
- Outreach press release to all local media
- Postings of workshop events on local online calendars
- Radio PSAs and one in-person interview on a local radio station
- Direct outreach to partner organizations and stakeholders
- Project page on City's website

4.1.1 WEBSITE

A project website was created to provide information on the overall project goals, survey, upcoming community meetings/events, and eventually draft and final reports. All approved project deliverables will be posted to the website.

4.1.2 OUTREACH TO EUREKA HIGH SCHOOL

The Project Team connected with the Eureka High School principal to not only host a walking tour at Eureka High but also about ideas of how to engage students. Staff presented to the Eureka High Interact Club about the project and solicited safety concerns and ideas about traveling to school. Students also completed project surveys. Students voiced that crossing H and I Streets on Del Norte and Sonoma Streets felt particularly dangerous, and that more education was needed for young drivers.



4.2 ONLINE SURVEY AND RESULTS

An online survey was developed to understand residents' and stakeholders' concerns and ideas about traveling by foot, bicycle, car, and transit through the project area. A link to the online survey was distributed through social media and partner organizations, hard copy surveys were completed at key partner organizations (e.g. community resource centers, County Public Health), and Project Team staff surveyed residents in person at bus transfer locations.

The community survey had 312 responses and provided a wealth of information to the Project Team. Results showed that over 30% of survey respondents lived with the project area, over 33% work in the project area, and 59% frequently travel through the area.

Survey respondents travel by many modes within the project area. Over 75% of respondents walk within the project area and walk along all streets within the study area; 52% of survey respondents bike in the project area, with more people utilizing the existing bike lanes on J Street yet all streets are used for cycling. Over 94% of survey respondents drive through the project area with H and I Streets and then E Street being the primary routes as expected.

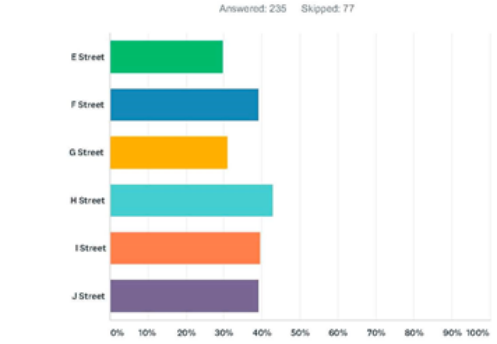
These survey results indicated that people walk and bike on all streets in the project area and that safe multimodal facilities for walking, biking and driving should be planned for throughout the study area.

The top concerns of survey respondents with respect to transportation safety and streetscape within the project area were:

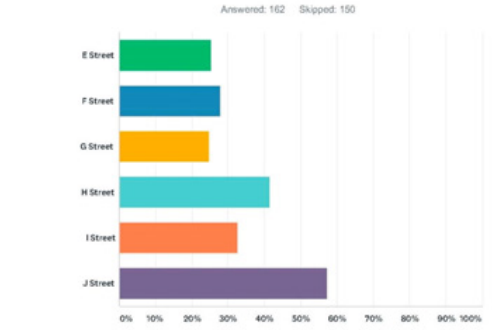
- Speeding – 65%
- Unsafe driver behavior – 64%
- Streets too difficult to cross safety – 46%
- Lack of safe bicycle infrastructure – 30%

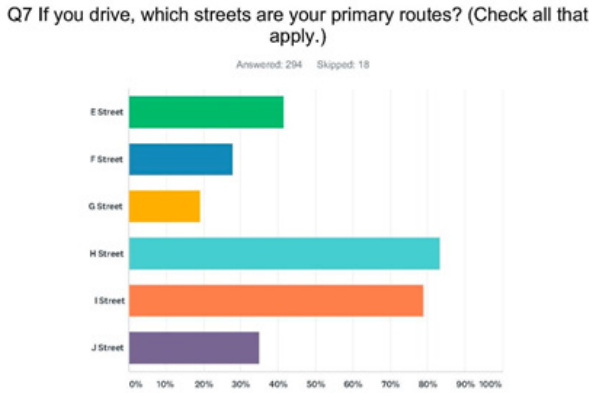
For detailed survey results see **Appendix B-2**.

Q2 If you walk, what is your primary route? (Check all that apply.)



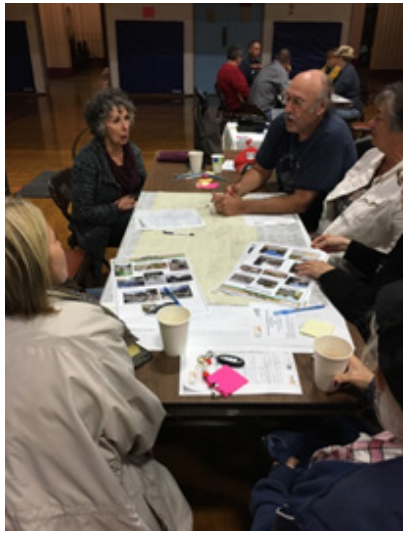
Q4 If you bike, which streets are your primary routes? (Check all that apply.)





4.3 COMMUNITY WORKSHOP 1 (KICKOFF)

All community workshops were held at public facilities within the Project Area. The kickoff community workshop for this project was held on the evening of Monday, October 2nd at the Eureka Municipal Auditorium. Participants provided feedback on several ice breaker posters, gained an understanding about the project background and goals through an overview presentation, and then worked in small groups to identify key challenges from E Street to J Street and suggest potential improvements. Project Team staff facilitated the small group design teams in recording ideas on tabletop aerial maps of the Project Area. Images of potential infrastructure solutions were provided to each group. At the end of the workshop, clear next steps for further community input and a timeline for developing alternative concept designs were presented.



Fifty-two community members participated in the three workshops held the first week of October. Many common safety concerns were voiced at both the kick-off workshop and the two walking tours. All community comments were recorded and grouped by themes. Comments about specific locations were noted and also utilized to develop alternative concept designs.

Some of the key themes of concerns included:

- Speeding concerns
- Difficult to safely cross streets
- Limited visibility
- Concerns at intersections
- School safety concerns

Suggested solutions to alleviate safety concerns included:

- Enhanced crosswalks to shorten crossing distances and pedestrian-activated lights to provide more visibility to pedestrians
- Install bulbouts along H and I at cross-streets
- Extend red curb no parking zone at intersections to improve visibility
- Reduce driving lanes on H and I Streets from three to two lanes
- Install bike facilities on H and I Streets
- Consider traffic calming measures on all streets in the project area
- Enhance or widen bike lane on J Street
- Consider beautification and wayfinding signage options
- Plan for east west travel for bikes through the project area and the city

For detailed workshop comments see **Appendix B-3**.

4.4 WALKING TOURS

Two walking tours were held (Tuesday, October 3rd and Wednesday, October 4th) in the Project Area for residents and stakeholders to experience firsthand the conditions for walking and biking along H and I Streets and the project area. One tour was hosted at Eureka High School at school dismissal and the second tour was hosted on a weekday early evening at the Eureka Woman's Club. After a similar overview presentation as for the kick-off workshop, participants donned bright colored vests, grabbed a clipboard, and walked the project area to observe existing conditions. The first walking tour group observed school dismissal and student and parent behavior during pick-up, then followed one of the key routes students take to cross H and I Streets before continuing the walk along H Street. The second walking tour group crossed H and I at key locations, spoke with neighbors along the route who stopped to provide input, and also walked along G and J Streets. At the conclusion of each walk, participants recorded their concerns and ideas on tabletop maps.

4.5 TEMPORARY PROJECT POP-UPS

Temporary project pop-ups provide an opportunity not only for the community to see the multimodal improvement being proposed, but a greater opportunity for the project team to elaborate on multimodal and safety concepts to and receive feedback from the community.
A trial bulb-out was setup at the intersection of Del Norte Street and I Street on Tuesday, April 10th from 8 a.m. to 3 p.m. The outreach team and City staff was in present to answer any questions the community might have.

4.6 COMMUNITY WORKSHOP 2 (PRESENTATION OF IMPROVEMENT CONCEPTS)

A second community workshop was aimed to receive more feedback and comments from the community in regards to the multimodal concepts proposed along the study corridors. The project team presented to the community the proposed multimodal concepts along H, I, F, and G Streets and demonstrate how the improvement measures can encourage non-motorized traffic, and enhance safety for all travel modes. With a turnout of approximately 60 people, the presentation and the workshop session was well-received. The community members were asked to vote on their preferred concepts at the end of the workshop session. The project team took into consideration the input collected at this event and made adjustments to the concepts based on these comments.

A complete set of community input is provided in **Appendix B-4**.

MULTIMODAL BEST PRACTICES

5

This chapter summarizes case studies of jurisdictions of similar urban forms, design guidelines and industrial standards for the potential measures. These measures are aimed at enhancing multimodal mobility and safety for the project corridors, including the focus streets of H and I Streets, and E, F, and G Streets from 6th Street to Harris Street. These measures are considered in the development of conceptual plans for the focus corridors.

5.1 CASE STUDIES

OCEAN PARK BOULEVARD, SANTA MONICA, CALIFORNIA

The City of Santa Monica installed an interim road diet on Ocean Park Boulevard in 2008 with hopes of improving safety for pedestrians and bicyclists in the area. The corridor which is also a transit route that carries approximately 23,000 vehicles per day and is a neighborhood commercial district with several schools. With high volume of student activity in this area, vehicle speeds and increase in crashes became a cause of serious concern for parents. The road diet adopt by the City along the 1.1 mile segment between Lincoln Boulevard and Cloverfield Boulevard included restriping, pedestrian safety enhancement, bicycle lanes, and on-street parking.

As a result of a 3-lane Road Diet, the conditions for bicyclists and pedestrians improved. There was a 65% reduction in the number of crashes. Injury collisions were reduced by 60% following the reconfiguration. Because of the resulting safety improvements and reduction of speed, the city made the decision in 2010 to retain the road diet configuration permanently as part of a resurfacing project along Ocean Park Boulevard.

Marked crosswalk and bicycle lane. Ocean Park Boulevard looking East at 18th Street.

Addition of bicycle lane and parking lane. Ocean Park Boulevard looking East at 16th Street

SEVENTH STREET, LOS ANGELES, CALIFORNIA

As a result of the City's Bicycle Master Plan, the installation of bicycle lanes is a major driving force for complete streets in Los Angeles, but the overarching goal for the conversions is safety. This 2-mile stretch of Seventh Street between Bixel Street and Catalina Street, contains 17 traffic signals and serves numerous metro bus routes with an average volume of 16,000 vehicles per day. The land use is mainly multi-family residential and commercial, with several large parks along the corridor. A high school is located on the west end, and there are two middle schools nearby.

Addition of bicycle lane. 7th Street looking at Bixel Avenue.

After the implementation of complete streets on Seventh Street, LADOT received positive feedback from users, and a before-and-after bicycle count conducted by the Los Angeles County Bicycle

Coalition showed that bicycle use in the corridor tripled once the new bicycle lanes were completed. LADOT also conducted some traffic analyses at several key intersections along the corridor and found that the results were satisfactory.

Crosswalk, warning sign, and yield line. 7th Street looking West at Coronado.

WELLS AVENUE, RENO, NEVADA

The Regional Transportation Commission (RTC) of Washoe County installed complete streets measures on Wells Avenue between Stewart Street and South Virginia Street in Reno, Nevada in 2003. This section of Wells Avenue spans mostly commercial property. The original 4-lane cross section of Wells Avenue was converted to one vehicle lane in each direction, a center turn lane, a dedicated bicycle lane on each side, and wider sidewalks, and maintained existing on-street parking on the corridor. Bike lanes were added along with designated parking spaces. Safety features such as curb extensions, frequent crossing opportunities, medians, pedestrian refuge islands, and lighting were also incorporated.

After two years, it RTC reported that there were reductions in crashes most evidently in rear-end, angle, and overtaking sideswipes, which were most common type of crashes prior to modification. The road diet reduced pedestrian crashes by 54%. There was no change reported in the level of service post modification. There was a 14-24% reduction in speed and approximately 10% drop in traffic volume.

Addition of bicycle lanes and crosswalks. Wells Avenue post completion.

MAIN STREET (US 62), HAMBURG, NEW YORK

The efforts for Main Street was started by a group of concerned citizens who formed the Route 62 Committee and spearheaded the efforts to find a better alternative to the proposal of adding another lane to the street. The new proposal for Main Street included traffic calming strategies for replacing traffic lights with roundabouts, adding more on-street parking and planting more trees in the area. Striped "safety lanes" were also provided to add space between parked cars and moving traffic, and are now functioning as bike lanes. This project took four years of completion. Two years after the changes were implemented in 2009, car Accidents dropped by 66% and injuries dropped by 60%. With the completion of this project, locals have reported that people are returning to Hamburg and average property sales increased 169% from 2005 to 2011. Average daily traffic increased from 12,000 to 15,000.

US 62 before improvements vs. US 62 with pedestrian improvements, bike lanes and road diet.

5.2 DESIGN GUIDELINES

BULB-OUTS (INTERSECTION CURB EXTENSIONS)

Description: A bulb-out or curb extension when installed at low speed or residential streets at the corner of an intersection is often referred as a "gateway". These extensions reduce the crossing distance for pedestrians and also increase overall pedestrian visibility. In addition, curb extensions create visual effect of a narrow street, slowing traffic passing the passing the intersection.
The curb extension is typically aligned with the parking lane on the street. Some of the latest implementations indicate a six-foot curb extension to be the most suitable width considering that the curb extension provides sufficient protection for pedestrians without creating any roadway hazards for motorists. Curb extensions may also be treated with street furniture and combined with stormwater management features.

Design Standards or guidelines: The length of a curb extension should at least be equal to the width of the crosswalk, but is recommended to extend to the advanced stop bar. A curb extension should generally 1 be 1–2 feet narrower than the parking lane, except where the parking lane is treated with materials that integrate it into the structure of the sidewalk.

Pros and Cons for Eureka:
Pros:
- Increase in pedestrian visibility
- Lower traffic speeds
- Reduced crossing distance

Cons:
- Higher cost of construction and maintenance
- Need for drainage line modifications
- Need for curb ramp constructions

PEDESTRIAN MEDIANS

Description: A pedestrian median or a pedestrian safety island is a refuge area for pedestrian crossing two or more lanes of traffic. As the number of travel lane increase, pedestrian feel more exposed and less safe crossing the intersection and. Pedestrian medians are helpful in such cases.

Design Standards or guidelines: Pedestrian safety islands should be at least 6 feet wide, but have a preferred width of 8–10 feet. Where a 6-foot wide median cannot be attained, a narrower raised median is still preferable to nothing. The minimum protected width is 6 feet. The refuge is ideally 40 feet long. All medians at intersections should have a "nose" which extends past the crosswalk. The nose protects people waiting on the median and slows turning drivers. Safety islands should include curbs, bollards, or other features to protect people waiting.

Pros and Cons for Eureka:
Pros:
- Pedestrians are more protected crossing the intersection
- Increase in visibility of pedestrians

Cons:
- Not suitable for one-way streets

HIGH VISIBILITY CROSSWALKS

Description: A high visibility crosswalk is a type of pedestrian crossing which is more visible to motorists in comparison to transverse lines pedestrian crossings. Such intersections will have bar pairs or continental markings and may even have beacons or overheard crosswalk sign fixture to increase visibility further.

Design Standards or guidelines: The cross walk should be stripped as wide as or wider than the walkway it connects to. Street lighting should be provided at all intersections, with additional care and emphasis taken at and near crosswalks. Accessible curb ramps are required by the Americans with Disabilities Act (ADA) at all crosswalks. An advanced stop bar should be located at least 8 feet in advance of the crosswalk to reinforce yielding to pedestrians.

Pros and Cons for Eureka:
Pros:
- More visibility to approaching vehicle improve yielding behavior
- Pedestrians feel more protected crossing the intersection

Cons:
- Require maintenance and upkeep

PEDESTRIAN-ACTIVATED WARNING LIGHTS

Description: Pedestrian-activated light signals are special flashing lights installed either at grade or as overhead fixtures and sign posts. This help enhance driver awareness at pedestrian crossing. This type of signals can be included at but not necessarily limited to, school crosswalks, mid-block crosswalks, and crosswalks at uncontrolled intersection approaches.

Design Standards or guidelines: IRWL (In-Roadway Warning Lighting), HAWK (High-Intensity Activated

Crosswalk Beacon) and RRFB (Rectangular Rapid Flashing Beacon) are types of pedestrian-activated lights/ signals. IRWL shall not be placed on or within crosswalks. When activated they should display a flashing yellow light indication. RRFB can be used to supplement standard pedestrian crossing warning signs and markings on the roadside. HAWK should be installed at least 100 feet from the side streets or driveways that are controlled by STOP or YIELD signs. HAWK can be synchronized with adjacent traffic signals.

Pros and Cons for Eureka:
Pros:
- Increased driver yielding rates
- Increase in visibility of pedestrians

Cons:
- Maintenance and upkeep
- Requires public education

BUFFERED BIKE LANES (CLASS II)

Description: Class II buffered bike lanes are conventional bicycle lanes paired with a designated

buffer space separating the bicycle lane from the adjacent motor vehicle travel lane and/or parking lane. A buffered bike lane is allowed as per MUTCD guidelines for buffered preferential lanes (section 3D-01).

Design Standards or guidelines: In Bicycle lane word and/or symbol and arrow markings (MUTCD Figure 9C-3) shall be used to define the bike lane and designate that portion of the street for preferential use by bicyclists. The buffer shall be marked with two solid white lines. The buffer area shall have interior diagonal cross hatching or

chevron markings if three feet in width or wider.

Pros and Cons for Eureka:
Pros:
- Encourages bicycling by contributing to the perception of safety among users of the bicycle network
- Provides greater shy distance between motor vehicles and bicyclists.

Cons:
- Requires maintenance of track lines
- Requires approximately 10 feet of Right-of-way.

ONE-WAY CYCLE TRACKS (CLASS IV)

Description: A cycle track, like a bike lane, is a type of preferential lane as defined by the MUTCD. One-way protected cycle tracks are bikeways that are at street level, or at sidewalk level, and use a variety of methods for physical protection from passing traffic.

Design Standards or guidelines: Bicycle lane word, symbol, and/or arrow markings (MUTCD Figure 9C-3) shall be placed at the beginning of a cycle track and at periodic intervals along the facility based on engineering judgment. One-way protected cycle track may be combined with a parking lane or other barrier between the cycle track and the motor vehicle travel lane.

Pros and Cons for Eureka:
Pros:
- Eliminates risk and fear of collisions with over-taking vehicles
- Prevents double-parking, unlike a bike lane
- Low implementation cost by making use of existing pavement and drainage and by using parking lane as a barrier.

Cons:
- Conflict of paints with driveways along H and I streets
- Cost of constructing raised barriers

TWO-WAY CYCLE TRACKS (CLASS IV)

Description: Two-way cycle tracks (also known as protected bike lanes, separated bikeways, and on-street bike paths) are physically separated cycle tracks that allow bicycle movement in both directions on one side of the road.

Design Standards or guidelines: Bicycle lane word, symbol, and/or arrow markings (MUTCD Figure 9C-3) shall be placed at the beginning of a cycle track and at periodic intervals along the facility to define the bike lane direction and designate that portion

of the street for preferential use by bicyclists. A "DO NOT ENTER" sign (MUTCD R5-1) with "EXCEPT BIKES" plaque shall be posted along the facility to only permit use by bicycles. Intersection traffic controls along the street (e.g., stop signs and traffic signals) shall also be installed and oriented toward bicyclists traveling in the contra-flow direction. If configured on a one-way street, a "ONE WAY" sign (MUTCD R6-1, R6-2) with "EXCEPT BIKES" plaque shall be posted along the facility and at intersecting streets, alleys, and driveways informing motorists to expect two-way traffic.

Pros and Cons for Eureka:
Pros:
- Eliminates risk and fear of collisions with over-taking vehicles
- On one-way streets, reduces out of direction travel by providing contra-flow movement.
- Low implementation cost when making use of existing pavement and drainage and using parking lane or other barrier for protection from traffic.

Cons:
- Requires 16 to 18 feet of Right-of-way.

BIKE ROUTE/ BIKE BOULEVARD (CLASS III)

Description: Bicycle boulevards are streets with low motorized traffic volumes and speeds, designated and designed to give bicycle travel priority. Bicycle Boulevards use signs, pavement markings, and speed and volume management measures to discourage through trips by motor vehicles and create safe, convenient bicycle crossings of busy arterial streets.

Design Standards or guidelines: Many local streets with low existing speeds and volumes offer the basic components of a safe bicycling environment. These streets can be enhanced using a range of design treatments, tailored to existing conditions and desired outcomes, to create bicycle boulevards. Design treatments are grouped into measures like route planning, signs and pavement markings, speed and volume management, minor and major street crossings, offset crossings, and green infrastructure.

Pros and Cons for Eureka:
Pros:
- Helps create 'quiet' streets
- Bicyclist focused street design

Cons:
- Reduces the number of major traffic thoroughfares

ADA TRANSIT STOP IMPROVEMENTS

Description: This refers to Landing Pads or a

leveled and paved waiting area with adequate space which provides a safe, secure, non-slippery surface for passengers with disability waiting at the stop. This will provide greater access to transit services to wheelchair users, the elderly, and other encumbered riders such as parents with strollers.

Design Standards or guidelines: The landing pad should be clear of obstructions and being at least 96 inches (8 feet) from the curb/roadway and at least 60 inches (5 feet) parallel to the roadway. A landing area of this size or larger is necessary for deployment of the vehicle's ramp and lift and for a customer using a wheelchair to maneuver on and off the lift. It should be sloped (parallel to the roadway) as the same as the roadway, to the maximum extent practicable. If perpendicular to the roadway, the slope of the landing area shall not be steeper than 1:48.

Pros and Cons for Eureka:
Pros:
- Provides access to disabled transit users

Cons: N/A

FLOATING BUS STOPS

Description: Floating Bus stops or side boarding islands are dedicated waiting and boarding areas for passengers that streamline transit service and improve accessibility by enabling in-lane stops. Floating islands are separated from the sidewalk by a bike channel, eliminating conflicts between transit vehicles and bikes at stops. For both streetcars and buses, boarding islands allow the creation of accessible in-lane stops with near-level or level boarding.
Design Standards or guidelines: Floating bus stops must be designed to permit accessible boarding. For low-floor vehicles using bridge plates, near-level boarding can usually be achieved with a 9.5- to 12-inch platform. Higher (14-inch) platforms typically require that all doors be configured for level boarding, and may be incompatible with some buses. An accessible boarding area, typically 8 feet wide by 5 feet long, must be provided to permit boarding maneuvers by a person using a wheelchair. The slope of ramp should not exceed 1:12. Where the bike lane or cycle track requires bicyclists to yield at a crosswalk from the sidewalk onto the island, the BIKES YIELD TO PEDESTRIANS sign (MUTCD R9-6) and yield triangle markings must be installed.

Pros and Cons for Eureka:
Pros:
- Encourages pedestrian traffic
- Encourages transit use due to ease of access of the bus stop

- Encourages bike traffic due to increased safety at intersection

Cons:

- Cost of purchase and installation

LANE WIDTH REDUCTION

Description: Lane width reduction refers to reducing the width of an existing lane as a measure of traffic calming. Lanes greater than 11 feet in urban areas encourage speeding and assume valuable right of way at the expense of other modes.

Design Standards or guidelines: Travel lane widths of 10 feet generally provide adequate safety in urban settings while discouraging speeding. Cities may choose to use 11-foot lanes on designated truck and bus routes (one 11-foot lane per direction) or adjacent to lanes in the opposing direction. For multi-lane roadways where transit or freight vehicles are present and require a wider travel lane, the wider lane should be the outside lane (curbside or next to parking). Parking lane widths of 7–9 feet are generally recommended.

Pros and Cons for Eureka:

Pros:

- Discourage speeding bringing down collision rates
- Reduce severity of crashes

Cons: N/A

LANE REDUCTION

Description: Lane reduction refers reduction in the number of lanes in a street to reduce traffic speeds and also to accommodate better pedestrian, bike and transit infrastructure. It also provides additional space to add to the public realm. While there can be more than four travel lanes before treatment, road diets are often conversions of four-lane, undivided roads into three lanes—two through lanes plus a center turn lane.

Pros and Cons for Eureka:

Pros:

- Discourage speeding bringing down collision rates
- Reduce severity of crashes

Cons:

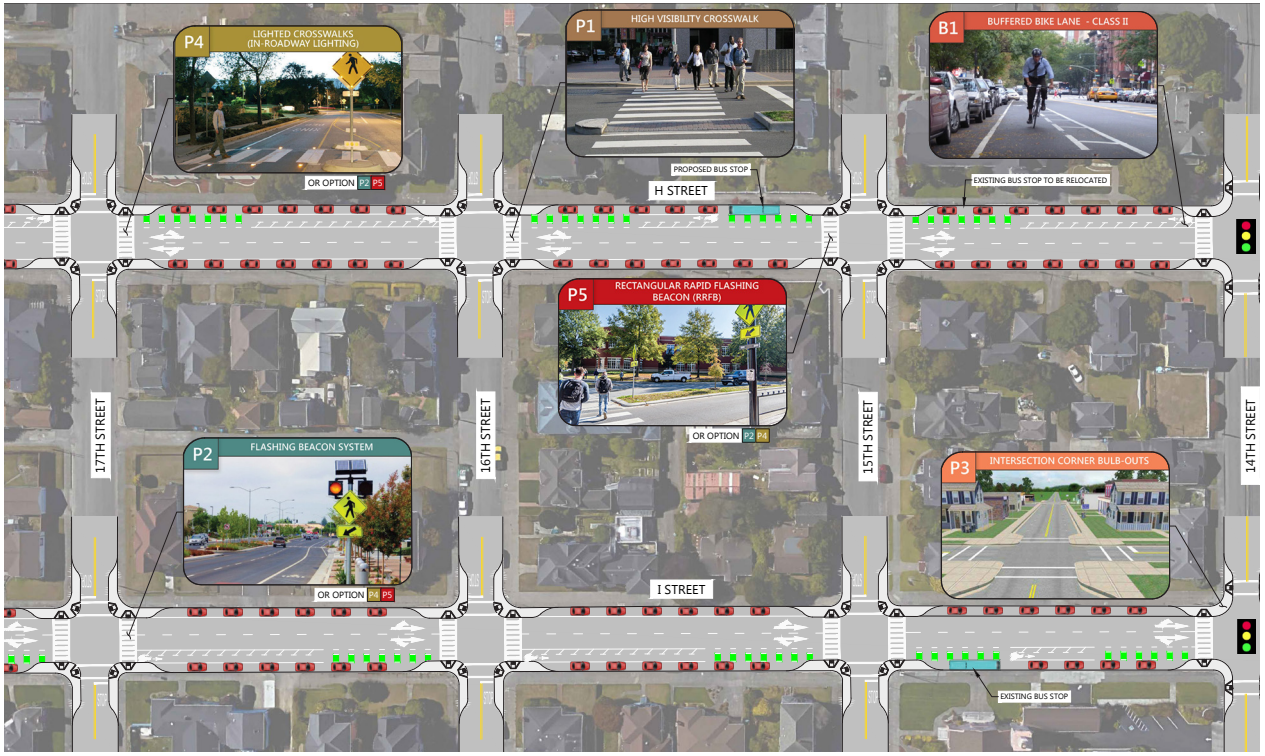
- Impact on traffic operations

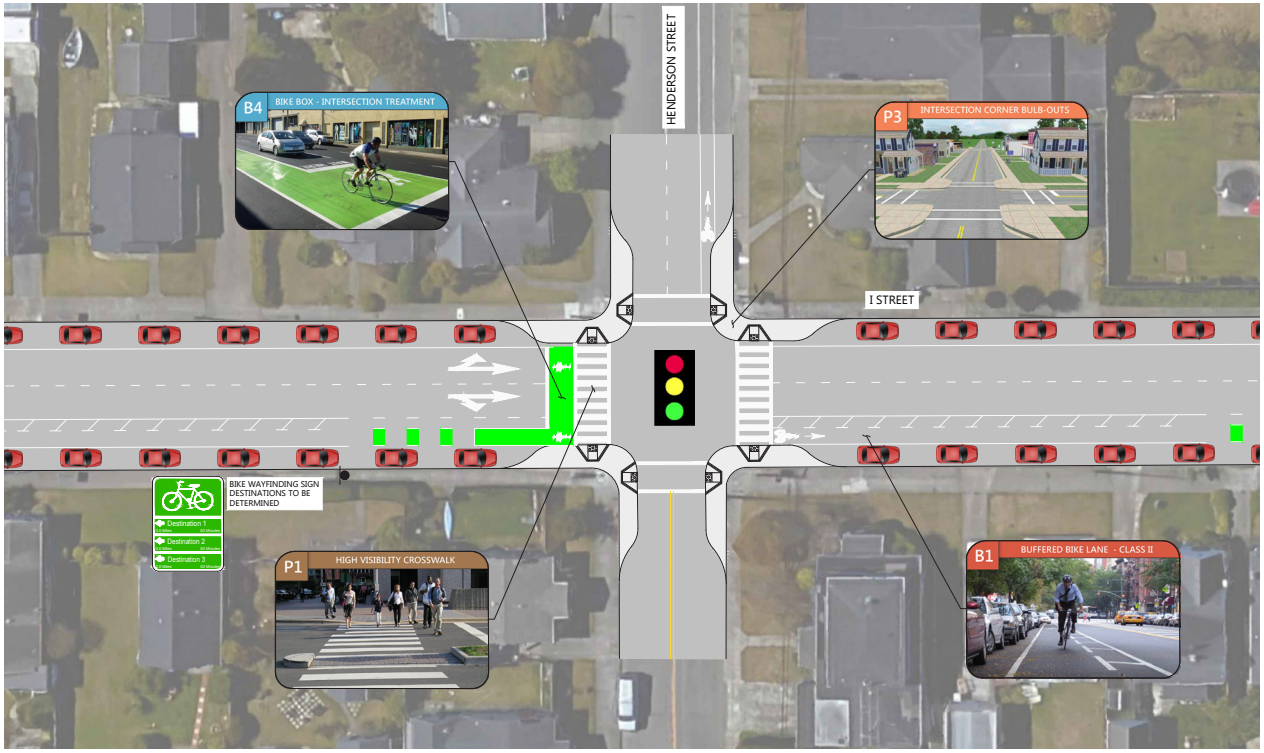
CONCEPT DEVELOPMENT

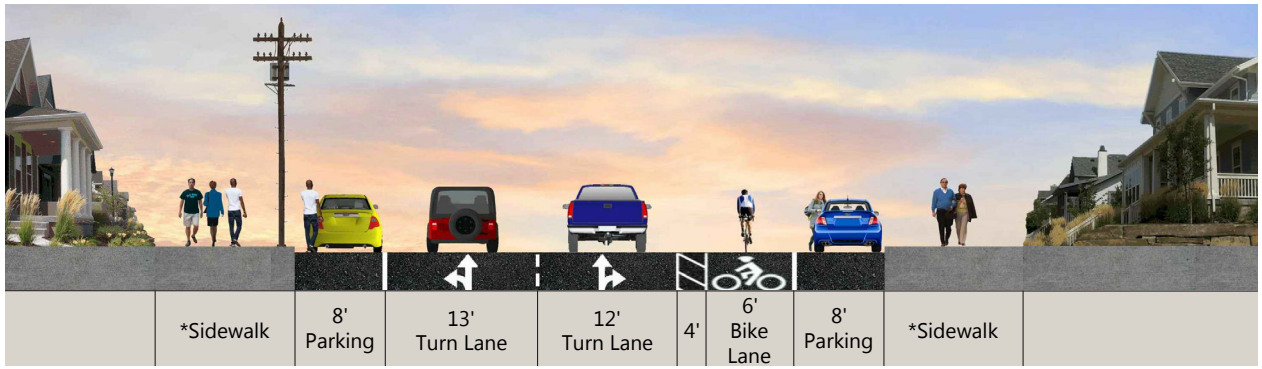
6

6.1 CONCEPT 1 - H & I STREETS SINGLED BUFFERED BICYCLE LANE (CLASS II)

On Harris Street, striping is added on the roadway to indicate parking. A buffered bike lane (Class II) is added on the roadway between a travel lane and parking. Bulb-outs are added at intersections along with a bike box at the controlled intersection of Harris Street and H Street.
On H and I Streets, three travel lanes are reduced to two travel lanes. A buffered bike lane (Class II) is added on the roadway between a turn lane and parking. Pedestrian improvements are added at intersections such as bulb-outs, high visibility crosswalks, flashing beacon systems, lighted crosswalks, and rectangular rabid flashing beacons. The full concept for the entire segment are provided in **Appendix C-1**.



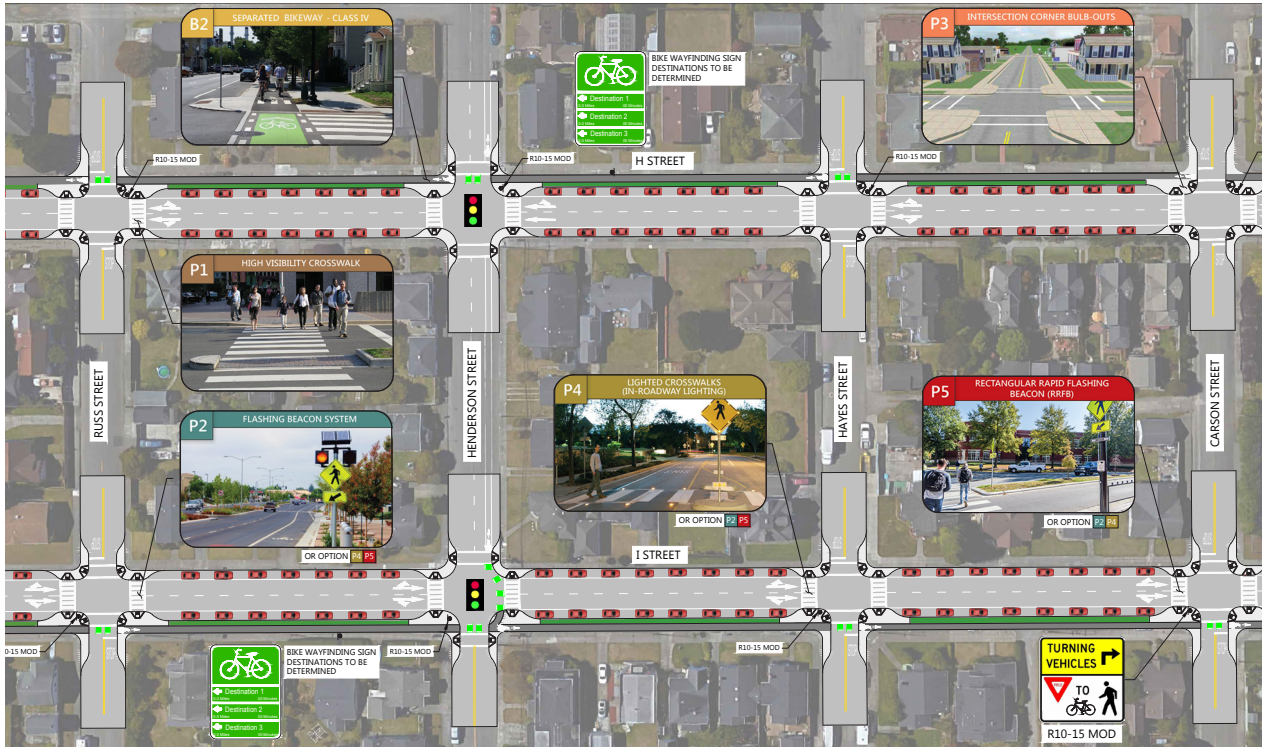

HENDERSON STREET
I STREET
B4
BIKE BOX - INTERSECTION TREATMENT
P3
INTERSECTION CORNER BULB-OUTS
BIKE WAYFINDING SIGN
DESTINATIONS TO BE
DETERMINED
Destination 1
Destination 2
Destination 3
P1
HIGH VISIBILITY CROSSWALK
B1
BUFFERED BIKE LANE - CLASS II

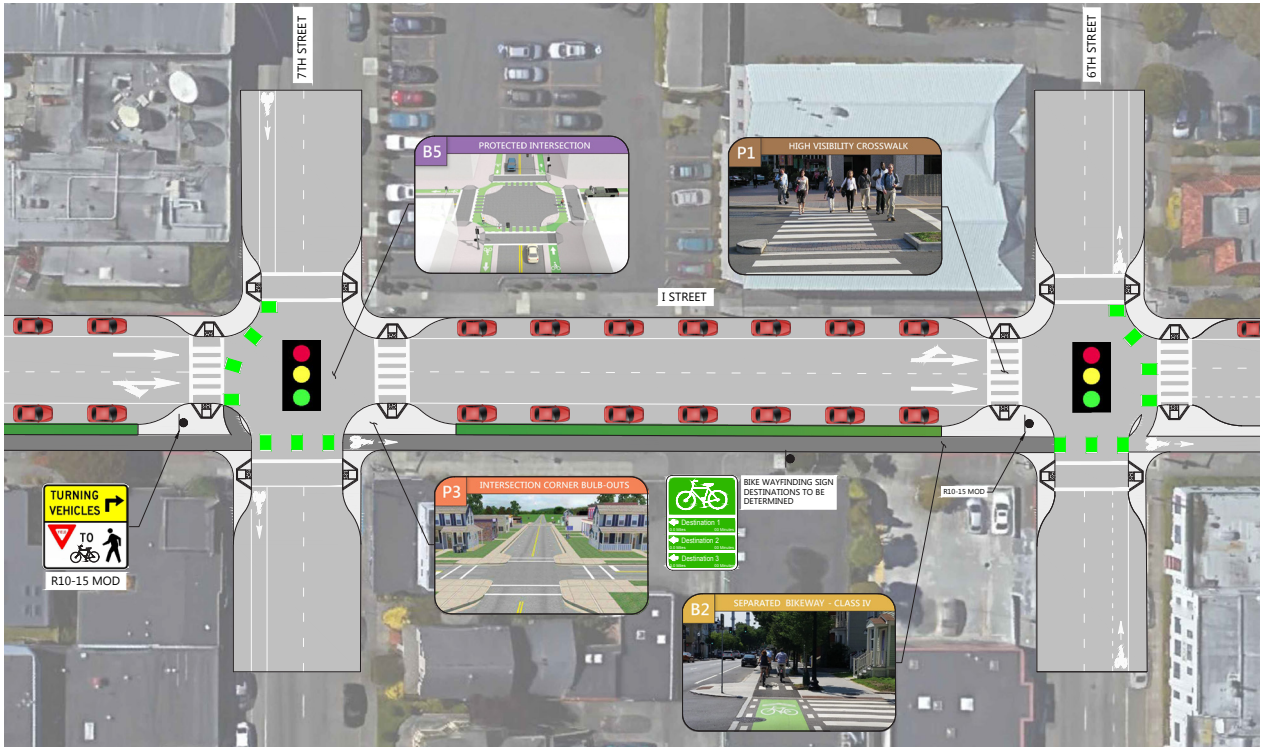

*Sidewalk
8' Parking
13' Turn Lane
12' Turn Lane
4'
6' Bike Lane
8' Parking
*Sidewalk

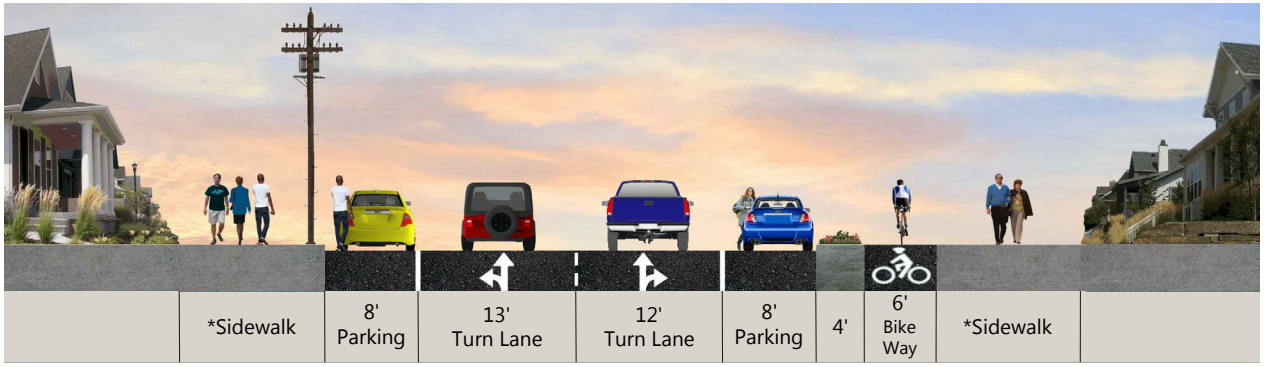
6.2 CONCEPT 2 - H & I STREETS SEPARATED BIKEWAY (CLASS IV)

On Harris Street, striping is added on the roadway to indicate parking. A separated bike lane (Class IV) is added at the same elevation of the crosswalk beside parking. Bulb-outs are added at intersections along with a protected intersection at the intersections of Harris Street with H Street and I Street.

On H and I Streets, three travel lanes are reduced to two travel lanes. A separated bike lane (Class IV) is added at the same elevation of the crosswalk beside parking. Pedestrian improvements are added at intersections such as bulb-outs, high visibility crosswalks, flashing beacon systems, lighted crosswalks, and rectangular rabid flashing beacons. The full concept for the entire segment are provided in **Appendix C-2**.

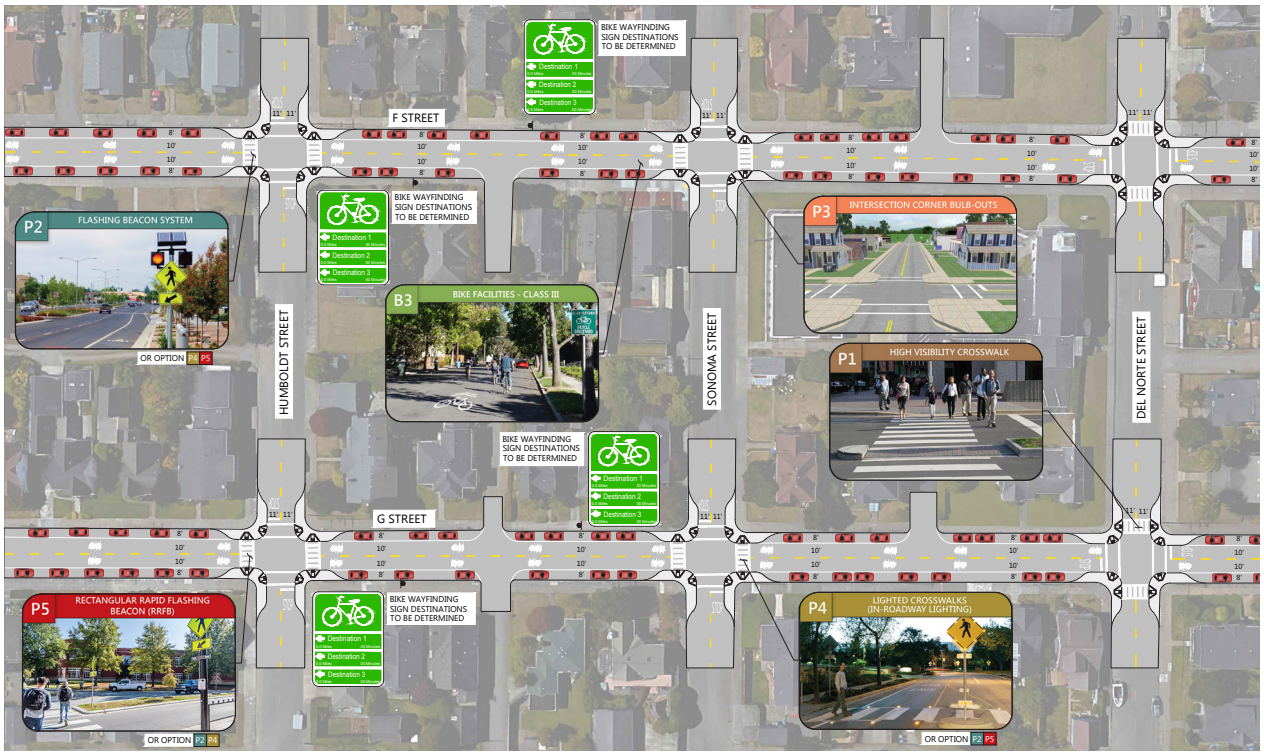


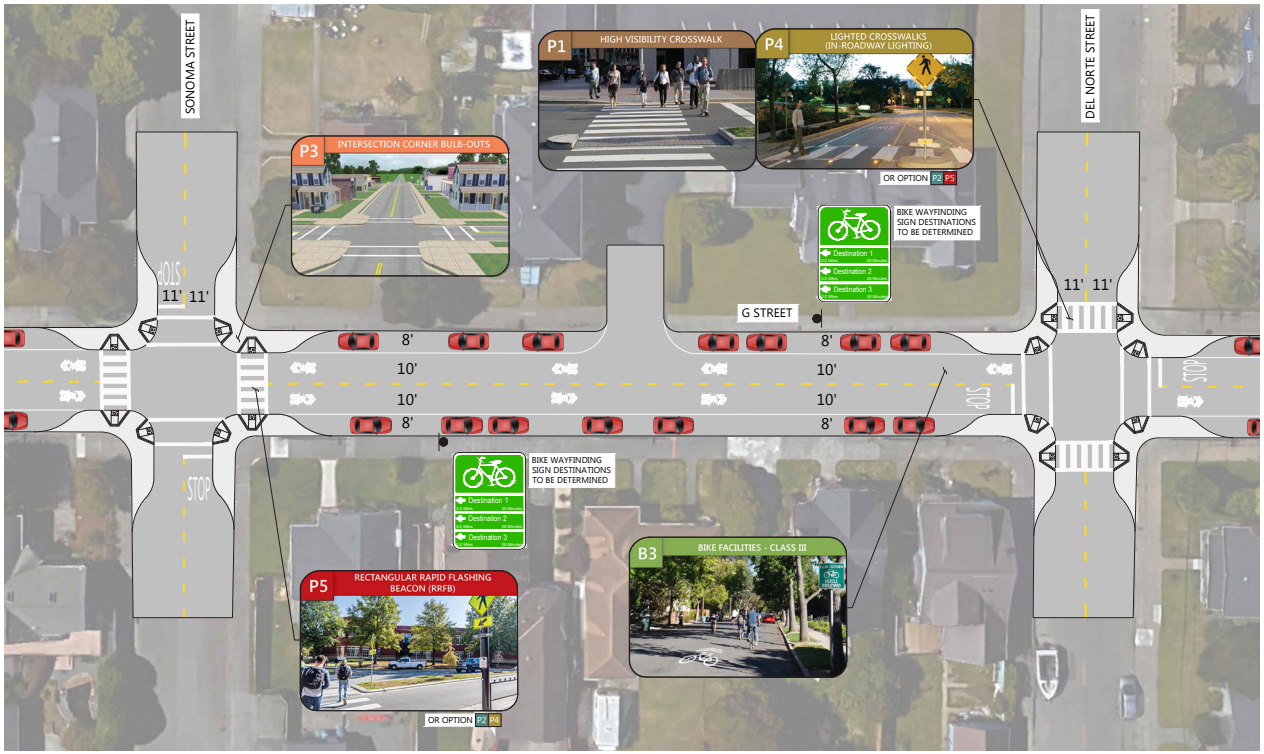

7TH STREET
6TH STREET
I STREET
B5
PROTECTED INTERSECTION
P1
HIGH VISIBILITY CROSSWALK
P3
INTERSECTION CORNER BULB-OUTS
BIKE WAYFINDING SIGN
DESTINATIONS TO BE DETERMINED
B2
SEPARATED BIKEWAY - CLASS IV
TURNING VEHICLES
TO
R10-15 MOD
R10-15 MOD

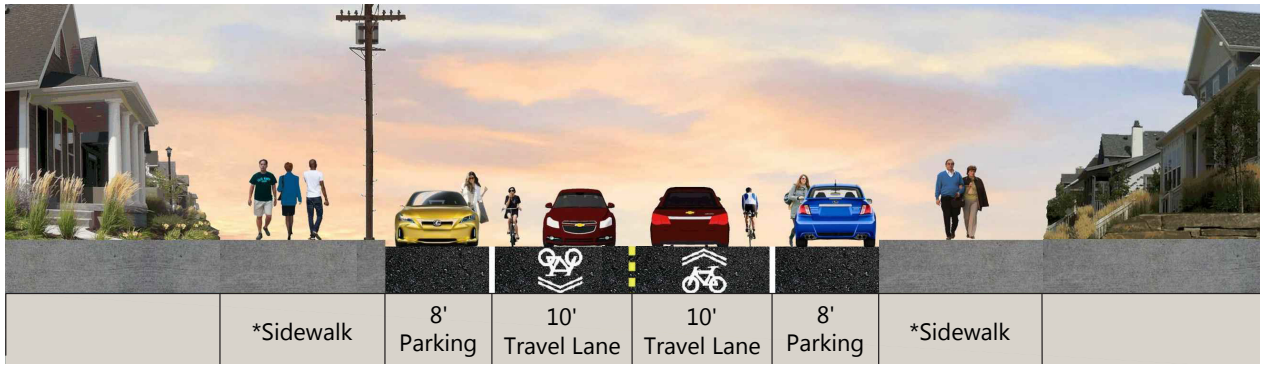

*Sidewalk
8' Parking
13' Turn Lane
12' Turn Lane
8' Parking
4'
6' Bike Way
*Sidewalk

6.3 CONCEPT 3 - F & G STREETS BIKE BOULEVARDS (CLASS III)

On F & G Streets, striping is added on the roadway to indicate parking. A bike boulevard (Class III), by sharrow pavement markings indicating the roadway to be shared by bicyclists, is added to the roadway. Pedestrian improvements are added at intersections such as bulb-outs, high visibility crosswalks, flashing beacon systems, lighted crosswalks, and rectangular rabid flashing beacons. //Insert Concept. A complete set of concept is illustrated in **Appendix C-1**.




SONOMA STREET
DEL NORTE STREET
G STREET
P1
HIGH VISIBILITY CROSSWALK
P4
LIGHTED CROSSWALKS (IN-ROADWAY LIGHTING)
OR OPTION P2 P5
P3
INTERSECTION CORNER BULB-OUTS
BIKE WAYFINDING SIGN DESTINATIONS TO BE DETERMINED
Destination 1
Destination 2
Destination 3
11' 11'
8'
10'
10'
8'
STOP
B3
BIKE FACILITIES - CLASS III
P5
RECTANGULAR RAPID FLASHING BEACON (RRFB)
OR OPTION P2 P4


*Sidewalk
8' Parking
10' Travel Lane
10' Travel Lane
8' Parking
*Sidewalk

MULTIMODAL ANALYSIS

7

This chapter summarizes the results of the multimodal level of service (LOS) analysis conducted for the H Street and I Street corridors for the NSMCP. The Highway Capacity Manual (HCM) 2000 and 2010 were used to perform intersection and roadway segment LOS analysis for modes of pedestrian, transit, and automobile. The LOS provides an indication on the mobility and quality of the multimodal facilities provided. The pedestrian LOS threshold is LOS C, transit LOS D, and automobile LOS C for the City of Eureka.

The analysis evaluates two alternatives under existing (2017) conditions and cumulative year (2040) conditions for weekday a.m. and p.m. peak periods.

- Concept 1 – Concept 1 converts the existing three lane roadway at H Street and I Street to two lanes starting from 6th Street to Harris Street & 6th Street to Henderson Street.
- Concept 2 – Concept 2 converts the existing three lane roadway at H Street and I Street to two lanes starting from 6th Street to Harris Street & 6th Street to Henderson Street. This alternative also proposes to converts the intersection of H Street/Harris Street to a protected intersection

The study intersections selected for the project are listed below:

1. H Street and 6th Street (Signalized)
2. H Street and 7th Street (Signalized)
3. H Street and 14th Street (Signalized)
4. H Street and Buhne Street (Signalized)
5. H Street and Henderson Street (Signalized)
6. H Street and Harris Street (Signalized)
7. I Street and 6th Street (Signalized)
8. I Street and 7th Street (Signalized)
9. I Street and 14th Street (Signalized)
10. I Street and Buhne Street (Signalized)
11. I Street and Henderson Street (Signalized)
12. I Street and Harris Street (One-Way Stop Control)

The study segments selected for the project are listed below:

1. H Street from 6th Street to 7th Street
2. H Street from 7th Street to 14th Street
3. H Street from 14th Street to Buhne Street
4. H Street from Buhne Street to Henderson Street
5. H Street from Henderson Street to Harris Street
6. I Street from 6th Street to 7th Street
7. I Street from 7th Street to 14th Street
8. I Street from 14th Street to Buhne Street
9. I Street from Buhne Street to Henderson Street

The following sections describe results and findings of the multimodal analysis. A detailed methodology and analysis is provided in **Appendix D**.

7.1 EXISTING CONDITIONS (2017)

7.1.1 INTERSECTION LOS

Intersection LOS analysis were conducted for vehicle and pedestrian traffic. Existing intersection lane configuration, signal timings and peak hour turning movement volumes were used to evaluate the a.m. and p.m. peak hour level of service at the study intersections under existing no-build conditions. Pedestrian intersection LOS were evaluated for each crosswalk of an intersection.

The proposed alternatives: Concepts 1 and 2 were evaluated with existing traffic volumes to assess their impacts under existing conditions. Signal timings were modified under each of the alternatives scenario.

As a result, all intersections under Existing Conditions operate at or better than LOS C, the City's LOS standard for vehicular traffic. Under Existing plus Concept 2 conditions, the intersection of H Street and Harris Street operates at LOS D during the a.m. peak period, below the acceptable level of service. Other impacted, but maintained acceptable, intersections include the following:

- H Street and 14th Street
- I Street and 6th Street
- I Street and 7th Street
- I Street and Buhne Street

Table 5 summarizes intersection vehicular LOS under Existing and Existing plus Concepts conditions.

Under existing conditions, all crosswalks operate at or better than LOS B, above the City's standard of LOS C. Under Existing plus Concepts conditions, pedestrian LOS improves, though without significance, for all crosswalks, operating at or above LOS B.

7.1.2 SEGMENT LOS

Under Existing Conditions, the following study segments operate at or below LOS E during all peak periods:

- H Street from 6th Street to 7th Street
- H Street from Henderson Street to Harris Street
- I Street from 6th Street to 7th Street

Note that for segment LOS, Concepts 1 and 2 are considered identical in terms of roadway geometry. For vehicular traffic, under Existing plus Concepts conditions, the above mentioned three segment operate at LOS F. Though not significant, I Street from 7th Street to 14th Street has a downgrade of LOS from B to C during a.m. peak periods for both concepts. Pedestrian LOS under all conditions operate at or above LOS C, the City's LOS standard for pedestrian level of service.

The primary measures for transit LOS include transit frequency and number of transit stops. Under existing conditions, the transit LOS operates at or below LOS E, below the City's transit LOS standard of LOS D. Level of services under Existing plus Concepts conditions

Table 6 summarizes segment LOS under Existing and Existing plus Concepts conditions by mode of travel.

Table 5. Intersection Vehicle LOS (Existing, Existing + Concepts Conditions)

Intersection	Existing		Existing + Concept 1		Existing + Concept 2	
	AM	PM	AM	PM	AM	PM
H Street						
1. H Street and 6th Street (Signalized)	A	B	A	B	A	B
2. H Street and 7th Street (Signalized)	A	B	A	B	A	B
3. H Street and 14th Street (Signalized)	B	A	B	B	B	B
4. H Street and Buhne Street (Signalized)	B	A	B	A	B	A
5. H Street and Henderson Street (Signalized)	A	A	A	A	A	A
6. H Street and Harris Street (Signalized)	C	B	C	B	D	C
I Street						
7. I Street and 6th Street (Signalized)	A	B	B	B	B	B
8. I Street and 7th Street (Signalized)	A	A	B	A	B	A
9. I Street and 14th Street (Signalized)	A	B	A	B	A	B
10. I Street and Buhne Street (Signalized)	A	C	B	C	B	C
11. I Street and Henderson Street (Signalized)	B	B	B	B	B	B
12. I Street and Harris Street (One-Way Stop Control)	C	C	C	C	C	C

Table 6. Vehicle LOS (Existing, Existing + Concepts Conditions)

Segment	Vehicle				Pedestrian				Transit			
	Existing		Existing + Concepts		Existing		Existing + Concepts		Existing		Existing + Concepts	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1. H Street from 6th Street to 7th Street	F	F	F	F	B	C	B	C	F	F	F	F
2. H Street from 7th Street to 14th Street	A	B	A	B	B	C	B	C	E	E	E	E
3. H Street from 14th Street to Buhne Street	B	B	B	B	B	C	C	C	E	F	E	F
4. H Street from Buhne Street to Henderson Street	B	B	B	B	C	C	C	C	E	E	E	E
5. H Street from Henderson Street to Harris Street	E	E	F	F	C	C	C	C	F	F	F	F
6. I Street from 6th Street to 7th Street	F	F	F	F	B	B	B	B	F	F	F	F
7. I Street from 7th Street to 14th Street	B	B	C	B	C	B	C	C	E	E	E	E
8. I Street from 14th Street to Buhne Street	A	A	A	A	C	B	C	C	E	E	E	E
9. I Street from Buhne Street to Henderson Street	C	C	C	B	C	C	C	C	F	F	F	F

7.2 CUMULATIVE CONDITIONS

7.2.1 INTERSECTION LOS

Level of service under Cumulative Conditions is performed for 2040 no-build and plus concepts conditions. **Table 7** summarizes intersection vehicle LOS under Cumulative and Cumulative plus Concepts conditions. These is no significant change or impact on pedestrian LOS, except for east leg of H Street and Harris Street Intersection operates at LOS C during a.m. peak period.

7.2.2 SEGMENT LOS

Under Cumulative Conditions, the following segments operate below City's standard of LOS C for vehicular traffic:

- H Street from 6th Street to 7th Street
- H Street from Buhne Street to Henderson Street
- H Street from Henderson Street to Harris Street
- I Street from 6th Street to 7th Street
- I Street from Buhne Street to Henderson Street

There is no significant changes to impact to pedestrian LOS under both Cumulative and Cumulative plus Concepts conditions. Transit LOS maintains below City's LOS standard of LOS D under Cumulative and Cumulative plus Concepts conditions, shown in **Table 8**.

Table 7. Intersection Vehicle LOS (Cumulative, Cumulative + Concepts Conditions)

Intersection	Cumulative		Cumulative + Concept 1		Cumulative + Concept 2	
	AM	PM	AM	PM	AM	PM
H Street						
1. H Street and 6th Street (Signalized)	A	B	A	B	A	B
2. H Street and 7th Street (Signalized)	A	B	A	B	A	B
3. H Street and 14th Street (Signalized)	B	B	B	B	B	B
4. H Street and Buhne Street (Signalized)	B	B	B	C	B	C
5. H Street and Henderson Street (Signalized)	A	B	A	B	A	B
6. H Street and Harris Street (Signalized)	C	C	C	C	D	D
I Street						
7. I Street and 6th Street (Signalized)	A	B	B	B	B	B
8. I Street and 7th Street (Signalized)	B	A	A	B	A	B
9. I Street and 14th Street (Signalized)	B	B	B	B	B	B
10. I Street and Buhne Street (Signalized)	B	B	C	C	C	C
11. I Street and Henderson Street (Signalized)	B	B	C	B	B	B
12. I Street and Harris Street (One-Way Stop Control)	E	C	E	C	E	C

Table 8. Vehicle LOS (Cumulative, Cumulative + Concepts Conditions)

Segment	Vehicle				Pedestrian				Transit			
	Cumulative		Cumulative + Concepts		Cumulative		Cumulative + Concepts		Cumulative		Cumulative + Concepts	
	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
1. H Street from 6th Street to 7th Street	F	F	F	F	B	C	B	C	F	F	F	F
2. H Street from 7th Street to 14th Street	B	B	B	C	B	C	C	C	E	E	E	E
3. H Street from 14th Street to Buhne Street	B	B	B	C	B	C	C	C	E	F	E	F
4. H Street from Buhne Street to Henderson Street	B	C	B	D	C	C	C	C	E	E	E	E
5. H Street from Henderson Street to Harris Street	E	F	E	F	C	C	C	C	F	F	F	F
6. I Street from 6th Street to 7th Street	F	F	F	F	B	B	B	B	F	F	F	F
7. I Street from 7th Street to 14th Street	B	B	C	B	C	C	C	C	E	E	E	E
8. I Street from 14th Street to Buhne Street	B	B	B	B	C	B	C	C	E	E	E	E
9. I Street from Buhne Street to Henderson Street	C	C	D	D	C	C	C	C	F	F	F	F

FUNDING AND IMPLEMENTATION

8

This chapter provides a planning level cost estimate and strategies for implementing the conceptual projects previously introduced. The implementation plan also includes a list of potential funding sources applicable to the multimodal improvement projects.

8.1 COST ESTIMATE

This section presents typical planning level costs for constructing multimodal improvement projects along the study corridors, which are shown in **Table 9**. Planning-level cost estimates are construction costs based on typical or average costs experienced by California cities and counties when constructing similar projects. The costs take into account of the urban nature of the City of Eureka, while do not consider specific factors, such as grading, right-of-way acquisition, or environmental clearance.

Table 9. Planning Level Cost Estimate

	Unit	Unit Cost	Concept 1	Concept 2	Concept 3
Pedestrian Improvements					
High Visibility Crosswalk	Linear Foot	$4	$54,330.50	37,905.00	$3,931
Flashing Beacon (RRFB or IWRL)	Per Pair with Signs	$31,700	$2,092,200	2,092,200	$380,400
Bulb-out	Per Corner	$12,000	$2,280,000	2,208,000	$288,000
TOTAL Pedestrian			$4,426,531	4,338,105	$672,331
Bicycle Improvements					
Bike Lane Striping1	Linear Foot	$3	$38,939	$-	$-
Curb Extension2	Square Foot	$20	$-	1,869,560	$-
Landscape2	Square Foot	$20	$-	$934,280	$-
Green Bike Skip Pavement	Square Foot	$13	$107,016	$37,752	$-
Bike Lane Pavement Marking	Each	$500	$25,000	$25,500	$-
Sharrow Pavement Marking	Each	$500	$2,500	$1,000	$22,000
Signage and Posts	Each	$250	$1,500	$1,500	$1,000
Bike Box (pavement marking and detection)	Per Intersection	$13,873	$55,492	$-	$-
Protected Intersection and Signal Modification	Per Intersection	$60,000	$-	$348,000	$-
TOTAL Bicycle			$230,447	3,217,592	$23,000
Transit Improvements					
Bus Stop Relocation (signpost, bench, etc.)	Each	$200	$400	$400	$-
Floating Bus Stop	Square Foot	$20	$11,600	$17,600	$-
TOTAL Transit			$12,000	$18,000	$-
Vehicle Improvements					
Pavement Marking (travel lane, parking lane)	Linear Foot	$2	$63,636	$5,132	$6,608
TOTAL Vehicle			$63,636	$5,132	$6,608
GRANT TOTAL			$4,732,613	$7,578,829	$701,939
Note: 1. Buffered Bicycle Lane (Class II); 2. Separated Bikeway (Class IV)					

8.2 POTENTIAL FUNDING SOURCES

The proposed concepts identified in the NSMCP will require substantial funding to implement and operate. Potential funding is administrated at all levels of government. **Table 10** lists these opportunities of funding by level of government.

Table 10. Potential Funding Sources

Fund Name	Potential Use	Agency to Apply
Federal Sources		
Moving Ahead for Progress in the Twenty-First Century (MAP-21)	Bicycle and Pedestrian Projects	City of Eureka
Transportation Alternatives (TAP)	Construction, planning, and design of a range of bicycle and pedestrian infrastructure.	
Safe Routes to School (SRTS)	City of Eureka	
Surface Transportation Program (STP)	On-street bicycle facilities, sidewalks, crosswalks, bicycle and pedestrian signals. Modification of sidewalks to comply with the Americans with Disabilities Act (ADA). Local roadways eligible.	City of Eureka
Highway Safety Improvement Program (HSIP)	Projects that help communities achieve significant reductions in traffic fatalities and severe injuries on all public roads, bikeways, and walkways.	City of Eureka
Transportation Investment Generating Economic Recovery Discretionary Grant Program (TIGER)	High benefit/cost ratio, innovative projects that make communities more livable and sustainable.	City of Eureka
State Sources		

Fund Name	Potential Use	Agency to Apply
Active Transportation Program (ATP)	Projects that increase the proportion of trips accomplished by biking and walking; increase safety and mobility for non-motorized users; advance active transportation efforts of regional agencies to achieve the greenhouse gas reduction goals; enhance public health; ensure disadvantaged communities fully share in the benefit of the program.	City of Eureka
Safe Routes to School (SR2S)	Projects that increase the number of children who walk or bicycle to school by funding projects that remove the barriers that currently prevent them from doing so, including lack of infrastructure, unsafe infrastructure, lack of programs that promotes walking and bicycling through education programs aimed at children, parents and the community.	City of Eureka
Local Sources		
Roadway Construction, Repair and Upgrade	Capital improvement plans that coordinates with the pedestrian, bicycle, and transit improvement projects along the study corridors.	City of Eureka
Utility Improvement Projects	Capital improvement plans that coordinates with the sidewalks along the study corridors.	City of Eureka

APPENDIX A

Table A-1. Planning Documents and Relevant Contents

Document	Relevant Contents
City of Eureka General Plan 2040 (2017, in progress)	Mobility Element. Goal M-1, Complete Streets: A model City for multi-modal transportation. • Policies include designing and constructing complete streets, investing in alternate modes and multimodal options, public outreach, and considering a range of users. Goal M-2, Streets and Highways: A safe and efficient movement of people and goods that provide sufficient access to new development • Policies include maintaining design and level of service standards, funding infrastructure improvements, promoting multi-modal access. Goal M-3, Pedestrians and Bicyclists: A system of walkways, bikeways and bicycle parking facilities which will safely and effectively serve those wishing to walk and bicycle for commute or recreational trips. • Policies include maintaining a bicycle and pedestrian master plan, extending and maintaining bicycle facilities, considering the needs of bicyclists and pedestrians in street designs, and coordinating safe routes to school. Goal M-4, Transit: Coordinate transit service within Eureka and surrounding areas as an alternative to automobiles. • Policies include expanding access to transit, bus stop maintenance and improvements, safe routes to transit, and encouraging transit use.
City of Eureka Pedestrian Safety Education and Outreach Campaign (2015)	Heads Up Campaign: Focused on four short, memorable campaign messages for improving driver and pedestrian awareness and behaviors. Used eye-catching graphics and a well-selected variety of outlets to reach a wide audience. Included 11 outreach meetings and a follow-up survey to evaluate effectiveness. Lessons Learned: Included seeking out and leveraging strong campaign partners, the importance of kickoff events and staggered campaigns, methods to engage the public, and which aspects of the campaign were most effective.
H and I Street Feasibility Study (2013)	Safety Improvements: increase size of traffic signal lenses, expand school zones, repaint crosswalks, optimize signal timing to increase pedestrian crossing time. Secure Funding: for Pedestrian Safety Education and Outreach Campaign (above). Cross-Sections: compared multiple scenarios for adding bicycle lanes, converting to two-way streets, and adding medians. Recommendations: identified further improvements for safety and speed reduction, recommended LOS/QOS criteria for General Plan update.

Document	Relevant Contents
City of Eureka Neighborhood Traffic Calming Program (2015)	Traffic calming measures selected for: • Appropriateness to address traffic concerns in Eureka • Acceptability to stakeholders, including the Fire Department • Suitability for use in neighborhoods Traffic calming measure categories: • Level I: low cost, simple to implement measures, including education and enforcement. No process for initiation or engineering. • Level II: low cost, simple to implement engineering measures, including signing, striping, or street lighting. • Level III: more restrictive traffic management, generally higher cost.
City of Eureka Transportation Safety Action Plan (2015)	Areas of Concern: 1. Aggressive driving 2. Distracted driving 3. Impaired driving 4. Non-motorized road users – may be victims or at fault 5. Quality of life – associated with feelings of safety when using streets New programs: • Transportation Safety Commission • Community engagement process, Neighborhood action request form • Traffic calming toolbox
2017 City Council Strategic Plan	Mission and Vision Financially stable, effectively run city with an engaged public: • Infrastructure maintenance fund • Sales tax for roads • Funding in place for street maintenance Vibrant, flourishing and safe community where people want to live and visit: • Perception of improved safety • Increase bike and pedestrian traffic throughout Eureka Aesthetically captivating and artistic community with beautiful neighborhoods: • Beautified arterials, through street trees, traffic calming, and wayfinding signs

Document	Relevant Contents
2017 City's Strategic Arts Plan	Key features of the plan: • Extensive community involvement through public outreach, workshops, and focus groups • Projects prioritized by potential for success and Strategic Arts Plan goals • Creative Placemaking: Physically tangible projects for property, intersections, streets, parks, alleys, and trails. Projects identified for this plan: 2. Art Crosswalks (F St. Arts Corridor) 21. Neighborhood Painted Intersections 31. Street Trees Phases 1 & 2 35. Wayfinding Banners/Signage
HCAOG Regional Transportation Plan VROOM (2014)	Circulation Element Goal: Throughout Humboldt County, the streets, roads, and highway system meet the transportation and safety needs of all users, including pedestrians, transit users, bicyclists, motorists, the elderly, youth, and the disabled. The region's jurisdictions have the resources to preserve, enhance, and maintain the roadway network to support bicycle, bus, pedestrian, automobile, and truck travel. Objectives: • Balanced Mode Share / Complete Streets • Efficient & Viable Transportation System • Safety Public Transit Element Goal: Achieve an integrated and sustainable multimodal transportation system that provides public transportation options for all users traveling in Humboldt County. Transit and paratransit users have options for affordable, reliable, and efficient transit service that effectively meets their local and regional mobility needs Objectives: same as above.

Document	Relevant Contents
Humboldt County Bicycle Plan Update (2012)	Bike system goals, objectives and policies Goal: Create the safest conditions for bicyclists by providing bikeways and improving roadways to eliminate barriers to travel. Objectives: • Increase the percentage of people in Humboldt who commute by bicycle • Increase the annual number of non-recreational bicycle trips in Humboldt • Increase the number of major destinations and public transportation stops that can be accessed directly via a designated bikeway • Increase the number of facilities that link bicycling with another transportation mode(s) Bicycle system design factors Major factors to be considered when designing a bicycle system: • Bikeway classifications, facility types, and level of service concept • Bicycle travel needs, including both commuter needs and recreational needs • Collision data, constraints and opportunities, and public outreach and input Community-provided trail candidate projects, City of Eureka: • Develop Class II bike lanes on H and I Streets • Develop bike paths all through town Regional & local bicycle transportation Provides detailed information on the following: • Land use patterns, demographics, bicycle commuting forecasts • Regional bicycle programs, encouragement programs, education and safety programs, advocacy groups • Criteria for ranking priority bicycle projects • Subsections for each city and the whole region, addressing demographics, details on existing bicycle facilities and programs, and proposed projects

Document	Relevant Contents
Humboldt County Regional Bicycle Plan Update (2017)	Bike system goals, objectives, and policies • Added emphasis on cycling as one of several modes of active transportation, on inclusion of people of all ages and abilities, and on what cyclists want and need • Vision (new) Create a regional bicycle network in which people of all ages and abilities feel safe bicycling, bicycle within and between communities, and choose bicycling as an attractive and practical mode of travel for more trips. • Policies updated to include VROOM policies and policy numbering • New funding commitments Bicycle system design factors • Added description of types of potential/current riders based on experience and confidence • Added "bicycle friendliness" factors, bicycling level of traffic stress, additional types of bicycle facilities • Revised design guidelines, provided descriptions of related guidelines such as HCAOG Bicycle and Parking Guidelines Implementation programs & projects (formerly "Regional & local bicycle transportation") • Separated local community, land use, and safety data into new chapter, "Bike commute and safety data" • Major reorganization, more focus on the connection between regional and local plans and projects, contents of sections with updated lists of programs and projects • New section for proposed regional trails with new studies Bike commute and safety data (new) • Summarizes land use, commuter behavior, ridership and bike mode share, methods for forecasting future bicycle travel • Information on data collection and quantitative safety data
Humboldt County Regional Trails Master Plan (2010)	Active Transportation System • Trail classification system: natural surface trails, paved surface trails (Class I-Class III) • Regional trails: detailed descriptions and maps, with information on related trail expansion/improvement projects • Local networks: detailed descriptions for each municipality with maps by trail classification and links to regional trails/routes. Includes information on City planning policies and priorities, planned expansion/improvement projects, and related information on the management of the local network. Implementation • Constraint analysis, trail development strategies, project prioritization criteria • Funding sources, eligibility, application to current (2010) proposed projects Design Guidelines • Class II/Class III guidelines include pavement markings, signage, recommended cross sections, bike lane standards, uphill/downhill considerations

Document	Relevant Contents
Humboldt SR2S – School Walking Maps	Maps overlapping the Humboldt County Association of Governments (HCAOG) study area include: • Grant Elementary School, 3901 G Street (public). Located south of the study area. Schools located within the study area and not included in the walking maps include: • Eureka High School, 1915 J Street (public) • Alder Grove Charter School, 520 Del Norte Street • Redwood Christian School, 2039 E Street
HCAOG Regional Safe Routes to Schools Prioritization Tool (2012)	Safe Routes to Schools (SR2S) in Humboldt County • Cites the City of Eureka's increased SR2S efforts since receiving a Cycle 8 SR2S grant Prioritization Tool School readiness criteria: school administration support, activities/discussions/interest, active support from school/parents, SR2S policies adopted, etc. School internal need: demographic factors, including fitness testing scores and socioeconomic status of school population. School external need: physical and socioeconomic factors in the immediate vicinity that may influence safety or need for SR2S programs. Secondary criteria: to distinguish between high-priority schools for allocation of support. Includes whether they have completed recent walk audits, been awarded SR2S grants, or received pedestrian safety improvements.
SRTS Programs in Rural California – A Guide for Communities and Partners (2015)	Strategies for Successful SRTS Programs in Rural California Forming a SRTS task force: should identify and engage key stakeholders, formed to guide a specific project or achieve a specific goal, can encourage community participation and engagement Incentivizing school and parent participation: helps schools understand how programs are relevant to the school, and parents can help tailor programs for individual schools for a more lasting impact Remote drop-off locations for students who live too far to walk or bicycle: • Useful for rural schools: establishing specific location and time for students to be dropped off • Discusses considerations for location safety, convenient drop-off times, inclusion of bus riders • Utilize remote drop-off location regularly, coordinate with adult volunteer escorts Tools for Improving Infrastructure around Rural Schools Rural walkability audit guide and tool • Opportunity for the public to identify safety concerns and participate in finding solutions • Provides guidance for SRTS program champions to lead walkability audits • Detailed checklist of key walkability factors, such as poorly maintained or missing sidewalks, accessible curb ramps, signage Tool for equitably prioritizing rural SRTS projects • School capacity for SRTS projects and programs, school internal need, school external need • Based on the same methodology as HCAOG Regional SR2S Prioritization Tool

Document	Relevant Contents
California Transportation Plan (CTP) 2040 (2016)	Vision and Framework for California's Transportation System Goal 1: Improve multimodal mobility and accessibility for all people • Policies include strategic investment and providing equitable multimodal choices, including active transportation Goal 2: Improve multimodal mobility and accessibility for all people • Policies include preventative maintenance and rehabilitation, and evaluating multimodal life cycle costs in project decision making. Goal 4: Improve public safety and security • Policies include reducing fatalities, serious injuries, and collisions Goal 5: Foster livable and healthy communities and promote social equity • Policies include expanding engagement in multimodal transportation planning and decision making, integration of multimodal transportation and land use, and integration of health and equity in transportation planning and decision making The Transportation System 2013 California Household Travel Survey: Nearly 23% of household trips involved walking, biking, or taking public transportation, up from 11% in 2000. Total automobile mode share (drivers and passengers) fell from 86% in 2000 to 75.2% in 2010-2012. Generational trends: Millennials (age 20-35) rely less than previous generations on automobiles • Contributing factors may include: Great Recession, fuel prices, teen driving restrictions, new communication technologies, increased acceptance of telecommuting, environmental concerns, and changes in community development • Demographic trends and influential factors should be closely monitored and addressed Modeling Theoretical Transportation Scenarios • Modeling three scenarios, including one to meet 2050 statewide GHG emissions reduction target, to inform recommendations (below) Recommendations (Achieving Success) Potential game changers for achieving success: • Reducing single occupancy vehicle trips • Increasing alternative vehicle technology and fuels • Improving transit and active transportation