THE MULTIMODAL REGIONAL CORRIDOR PLAN *for* ARROW HIGHWAY

PRESENTED BY

The Arroyo Group

Active AV SGV

alta

ACKNOWLEDGEMENTS

CITY AND AGENCY STAFF (PROJECT MANAGEMENT COMMITTEE)

City of Glendora

City of San Dimas

City of La Verne

City of Pomona

City of Claremont

County of Los Angeles

San Gabriel Valley Council of Governments

Southern California Association of Governments

Mobile Source Air Pollution Reduction Review Committee (MSRC)

COMMUNITY ADVISORY COMMITTEE

Cities and Agencies

Ann Garcia, San Dimas

Larry Stevens, San Dimas

Vince Ramos, Claremont

Maria Tipping, Claremont

Steven Mateer, Glendora

Rene Guerrero, Pomona

Candice Bowcock, La Verne

Tracy Costello, La Verne

Anthony Ciotti, La Verne

Marisa Creter, San Gabriel Valley COG

Caitlin Sims, San Gabriel Valley COG

Katie Ward, San Gabriel Valley COG

Hannah Brunelle, Southern California Assocation of Governments

Community Advisory Committee Members from the Public

Gwen Urey, Cal Poly Pomona

Dominic Maricic, Damien High School

Alfredo Camacho, Day One

Marcos Molina, Day One

Angela Oakley, Sustainable Clermont

Lisa Grater, University of La Verne

Doug Strange, La Verne Bicycle Coalition

Randy Lopez, Claremont Chamber of Commerce

Leah Skinner, La Verne Chamber of Commerce

Dwight Richards, Fairplex

Chris Ann Horsley, Bonita Unified School District

Susan Hume, Bonita Unified School District

Brad Cuff, Claremont Unified School District

David Harbin, San Dimas Historical Society

Margie Green, San Dimas Planning Commission

Justine Garcia, Claremont Traffic and Transportation Commission

John Sorcinelli, San Dimas Resident

Caltrans

Clean Transportation Funding from the MSRC

Funding Sources: MSRC and SB 1

This report was submitted in fulfillment of SCAG Contract #19-019-C01 for the Arrow Highway Multimodal Regional Corridor Plan by Alta Planning + Design and its subconsultants under the partial sponsorship of the Mobile Source Air Pollution Reduction Review Committee (MSRC). Work was completed as of February 28, 2021.

Funding for this study was also provided by Caltrans through its Senate Bill 1-funded Sustainable Transportation Planning Grant Program.

SCAG
INNOVATING FOR A BETTER TOMORROW

go human

CONTENTS

01 CONTEXT, GOALS, OBJECTIVES, STRATEGIES, AND VISION

ABOUT THE PROJECT

The Arrow Highway Multimodal Regional Corridor is envisioned to provide improved connections for all road users to and between the communities of the northeast San Gabriel Valley. The project focuses on the Arrow Highway corridor as it provides access to all five cities within the project area and closely follows the Gold Line Foothill Extension. This project builds on previous and ongoing planning efforts in the San Gabriel Valley to help encourage active transportation and improve connections to the region.

The project objectives are to:

- Develop an east-west active transportation route or routes to facilitate walking, bicycling, using other non-motorized forms of transportation, and accessing transit networks
- Develop a recommended project list to create those routes
- Develop implementation strategies for the projects which include prioritization methodology, potential phasing, and funding opportunities
- Develop policies to help support active transportation in corridor cities

PARTICIPATING CITIES, AGENCIES, AND PARTNERS

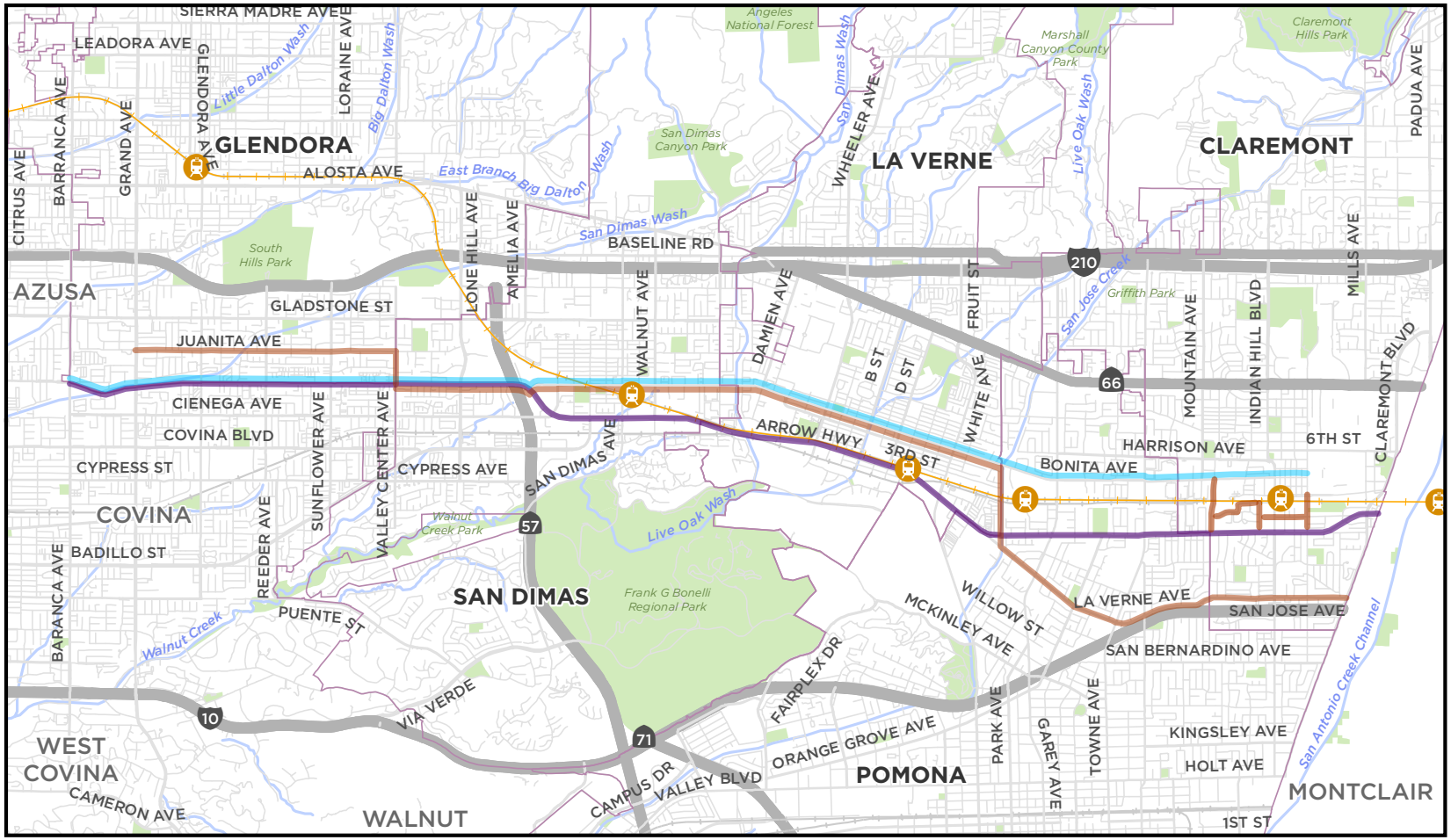
This Plan represents a collaborative effort amongst multiple cities and agencies, with assistance from a consultant team focused on active transportation. The Cities of Glendora, San Dimas, La Verne, Pomona, and Claremont worked with the San Gabriel Valley Council of Governments (SGVCOG) and the Southern California Association of Governments (SCAG). The consultant team of Alta Planning + Design, The Arroyo Group, and ActiveSGV provided support during all phases of the planning process.

ARROW HIGHWAY HISTORY AND CONTEXT

The eastern San Gabriel Valley has largely grown up around key transportation routes, which include freight rail lines, the Metro Gold Line and Metrolink rail routes, Bonita Avenue, and Arrow Highway. The La Verne Historical Society records the existence of transportation routes through the area as early as the 1774 Juan de Anza missionary expedition along today's Arrow Highway. However, the development of the area began in earnest in the 1880's with the citrus industry and the railroad boomtowns which handled packing,

Top: Residents gather in front of the post office and the general store in Lordsburg (in San Dimas Canyon) in the 1890s.

Bottom: The station agent poses in front of the Lordsburg Santa Fe Railway Station in this undated historic photo.



Arrow Highway Multimodal Regional Corridor Plan

0 1.25 2.5 Miles

Multimodal Corridor Routes

Arrow Highway Route | Main Street Route | Neighborhood Route

Other Existing Features

Waterway | Metro Gold Line Station (Future) | City Boundary

distribution, and service provision for them. The downtown districts of this project's five cities date to this time. Just as they will be soon, the cities were connected by passenger and freight rail through two routes to the west: one to Los Angeles via Pasadena and one in a more direct southerly route.

By 1900, Bonita Avenue had been laid out, connecting the rural areas of Covina to the towns of San Dimas and Lordsburg (now La Verne). By contrast, today's Arrow Highway was still several separate streets, known as Bonita, Cienega, Palomares, Pomona, and Cucamonga. In the golden age of the arterial highway (1920's-40's), however, efforts were made to connect these streets and serve as a pleasurable rural driving route for long-distance trips between Los Angeles and San Bernardino, until the area was bypassed by the construction of the San Bernardino Freeway (I-10) in the 1950's and formerly rural areas were filled in with suburban residential, commercial, and industrial uses.

Recent years mark, in some ways, a return to the historic variety of transportation modes and street roles present in the eastern San Gabriel Valley of the interwar period. Metrolink commuter trains connect La Verne (during certain seasons), Pomona, and Claremont to Los Angeles, and in 2025, the Metro Gold Line is expected to be completed to Pomona, bringing frequent all-day rail service to the historic downtowns which were originally constructed around it.

Since at least 1997, there has also been a desire to create a continuous east-west bikeway which would connect to San Bernardino County's 25-mile Pacific Electric Trail, which runs from the edge of Claremont to Rialto. In that year, SGVCOG was awarded MTA Call for Projects funding for construction of the "Citrus Regional Bikeway" across this corridor. Different routes have been proposed for this bikeway, including the rail right-of-way (now recognized as infeasible), Bonita Avenue, and Arrow Highway. To date, the Citrus Regional Bikeway has been partially built along Bonita Avenue through La Verne, Pomona, and Claremont, though identifying signage is only present in Claremont.

The five cities are currently collaborating extensively as they navigate the construction and eventual operation of the Foothill Gold Line Extension Phase 2B. One of these efforts has been the 2019 adoption of a First/Last Mile (FLM) Plan by Los Angeles County Metro covering station areas in all five cities. The plan included hundreds of pedestrian and bicycle infrastructure projects in the vicinity of the Metro stations. Because each city's staff and community were consulted extensively throughout the preparation of the FLM Plan, its recommendations have mostly been preserved in this Arrow Highway Multimodal Regional Corridor Plan.

THE PLANNING PROCESS

The Arrow Highway Regional Multimodal Corridor Plan kicked off in the spring of 2019 with a meeting between representatives from the participating cities, SGVCOG, SCAG, and the consultant team. This core group would become the Project Management Committee, providing input and review of interim deliverables throughout the planning process. In addition, the project team convened a Community Advisory Committee that consisted of individuals from local schools, nonprofit organizations, and other key stakeholder groups in the region.

The project team conducted extensive community engagement throughout 2019 and into 2020 (see Chapter 3 for more details on the engagement process). At the same time, the team collected and analyzed data on transportation and land use patterns to form a baseline of existing conditions. From this baseline, the project team and members of the two committees identified potential multimodal routes through the larger east-west corridor, refined these to focus on Arrow Highway itself and two parallel secondary routes (see below for more information on this process), developed lists of potential improvement projects, and created a strategy to guide implementation of the recommendations over time.

GOALS, OBJECTIVES, AND STRATEGIES

In partnership with the Stakeholder Advisory Committee, the project team developed a set of goals, objectives, and strategies to guide the planning and future implementation of multimodal improvements along Arrow Highway and its immediately parallel routes. Table 1 summarizes these goals, objectives, and strategies.

Table 1. Goals, Objectives, and Strategies

No.	Objective	Baseline (Data Source)	No.	Strategy
Goal 1: People of all ages and abilities safely walk and bike along the Multimodal Regional Corridor.				
1.1	No traffic fatalities along project corridor(s) after project implementation	No traffic fatalities in the last five years (SWITRS, 1/1/2014-12/31/2018)	1.A	Improve all sidewalks along the Multimodal Regional Corridor to meet current ADA standards.
1.2	Crash rates are reduced by 33% along project corridor(s)	229 collisions on Arrow Hwy 127 collisions on Bonita (SWITRS, 1/1/2014-12/31/2018)	1.B	Fill in all gaps of shade trees and move narrow sidewalks away from the curb edge for pedestrian comfort.
1.3	Pedestrian volumes increase by 20% (Bonita) / 150% (Arrow)	Arrow: 189 Bonita: 1,216 (screenline Pedestrian Counts conducted at ten locations)	1.C	Create a continuous low-stress bicycle corridor appropriate for novice cyclists, including youth. Adhere to the speed/ volume criteria in the FHWA 2019 Bikeway Selection Guide in the choice of facility type.
1.4	One continuous 10-mile low-stress (LTS<=2) bicycle facility built from Barranca Avenue to the County line	No	1.D	Ensure that pedestrians and cyclists experience a high degree of safety at intersections.

No.	Objective	Baseline (Data Source)	No.	Strategy
Goal 2: The Multimodal Regional Corridor connects to rail transit and the key destinations in the area, reducing vehicle miles traveled while increasing the economic attractiveness of areas along it.				
2.1	Increase in total and percentage of jobs that are located within 1/4 mile of the Multimodal Regional Corridor	59,680 jobs within Tier 2 Traffic Analysis Zones (TAZs) that come within 1/4 mile of the corridor - 48% of the five cities' total jobs (SCAG)	2.A	Ensure that the Multimodal Regional Corridor passes within 1/4 mile of current or future rail stations in San Dimas, La Verne, Pomona and Claremont; ensure that high-quality connections are made between the Multimodal Regional Corridor and the stations; ensure that stations provide secure, sufficient, and accessible bicycle parking facilities.
2.2	Increase in total and percentage of population that is located within 1/4 mile of the Multimodal Regional Corridor	112,324 people within Tier 2 TAZs that come within 1/4 mile of the corridor - 36% of the five cities' total population (SCAG)	2.B	Implement short-term and long-term bicycle parking at key destinations along the Multimodal Regional Corridor, including downtowns.
2.3	75% of new housing capacity in the cities of San Dimas, La Verne, and Claremont is located within 1/4 mile of the Multimodal Regional Corridor or 1/2 mile of Metro Gold Line stations.	N/A (2021-2029 Housing Element sites)	2.C	Connect City downtowns. Calm traffic to the greatest extent within downtowns and near rail stations and ensure the safest environment for pedestrians and cyclists in these areas.
2.4	Decrease in single-occupancy vehicle commute mode share	Glendora - 81% San Dimas - 81% La Verne - 76% Pomona - 74% Claremont - 67% (SCAG 2019 Local Profiles)	2.D	Establish pedestrian hubs along the Multimodal Regional Corridor and near Metro Gold Line stations where new growth in housing, jobs, and amenities are targeted and extra amenities and safety measures for pedestrians are implemented.
2.5	60% of Metro Gold Line riders walk, bike, or roll to stations	N/A (surveys required)	2.E	Provide adequate and ADA-compliant bus stop facilities in all locations along the Multimodal Regional Corridor. Major stops should have shelters, seating, and trash receptacles at a minimum.

No.	Objective	Baseline (Data Source)	No.	Strategy
Goal 3: The Multimodal Regional Corridor connects to the larger trail network and increases physical activity.				
3.1	Increase in percentage of adults who obtain recommended weekly amount of aerobic exercise	64.2% (in Service Planning Area, LA County Public Health Key Health Indicators, 2017)	3.A	Establish seamless connections for pedestrians and cyclists to Bonelli Park, Thompson Creek, and the San Gabriel Mountains.
			3.B	Incorporate facilities for runners and recreational cyclists and exercise stations where feasible.
			3.C	Implement local informational campaigns encouraging outdoor physical exercise on the Multimodal Regional Corridor and other streets and trails. These campaigns may be related to COVID-19 and the 2028 Olympic Games.
			3.D	Ensure highly safe access to parks along the corridor.
Goal 4: The Multimodal Regional Corridor is a recognizable experience which showcases the identity, history/aspirations, and sustainability of each of the five cities.				
			4.A	Create unified branding and design framework across the corridor.
			4.B	Use tree selection, banners, lighting, and furniture design to express the unique identity of each city along the Corridor.
			4.C	Promote local and regional tourism to the area with bicycle and public transit tours. Potential themes include village businesses and festivals, coordination with Fairplex events, mountain hiking and biking, the 2028 Olympic Games, recreational road cycling, and history.
			4.D	Incorporate green stormwater infrastructure in active transportation projects as possible.

No.	Objective	Baseline (Data Source)	No.	Strategy
Goal 5: The Multimodal Regional Corridor and Metro Gold Line are the infrastructural backbones of a region that promotes sustainable transportation through cooperation among cities and with institutions.				
5.1	200 micromobility devices available within 1/4 mile of the corridor	None	5.A	Create unified micromobility system with hubs located along the corridor.
			5.B	Require Transportation Demand Management programs that incentivize active transportation and public transit commuting at universities, City government, and large employers.
			5.C	Establish Bicycle-Friendly Business Districts to offer incentives to people who walk or bike to local businesses.
			5.D	Increase access to bicycles and bicycle repair, particularly among students, through bike libraries, bike hubs, and other programs.
Goal 6: The Multimodal Regional Corridor is constructed with minimal impact to local government budgets.				
			6.A	Pursue grants from transportation, open space, and green infrastructure sources aggressively. Cities will support each other mutually in grant applications.
			6.B	Update planning documents to require development projects to construct or contribute to the construction of projects as conditions of development.
			6.C	Explore creating new local funding sources, such as assessment districts, Enhanced Infrastructure Financing Districts (EIFDs), Community Revitalization Investment Authority (CRIAs), and PILOT (Payment in Lieu of Taxes).
			6.D	Develop or appropriate travel demand models that estimate reduction in vehicular trips due to implementation of the Multimodal Regional Corridor, and use these models to establish construction of portions of the Multimodal Regional Corridor as mitigation measures for development projects.

VISION

The community's vision for an active transportation corridor in the east San Gabriel Valley is to establish a complementary pair of routes on Bonita Avenue and Arrow Highway, where each street welcomes walking and biking within a manner that is consistent with their historic role.

Selection of Vision-Level Priority Multimodal Routes

After the various study area routes were mapped and analyzed, vision-level design options were formulated and shared with the Community Advisory Committee and Project Management Committee for participatory evaluation. The six options presented are described on the following pages.

A third route that would utilize residential streets for a significant portion was also considered in this plan, but it is considered a lower priority for regional mobility.

Bonita Avenue will be the historic, local connector of the area, connecting downtowns, neighborhoods, and Metro Gold Line stations, and welcoming pedestrians and cyclists of varying ages and abilities. The existing bikeway will be completed to the Arrow Highway/CA-57 interchange, and vehicular speeds will be standardized in the 30-35 mph range, resulting in a comfortable environment for different road users.

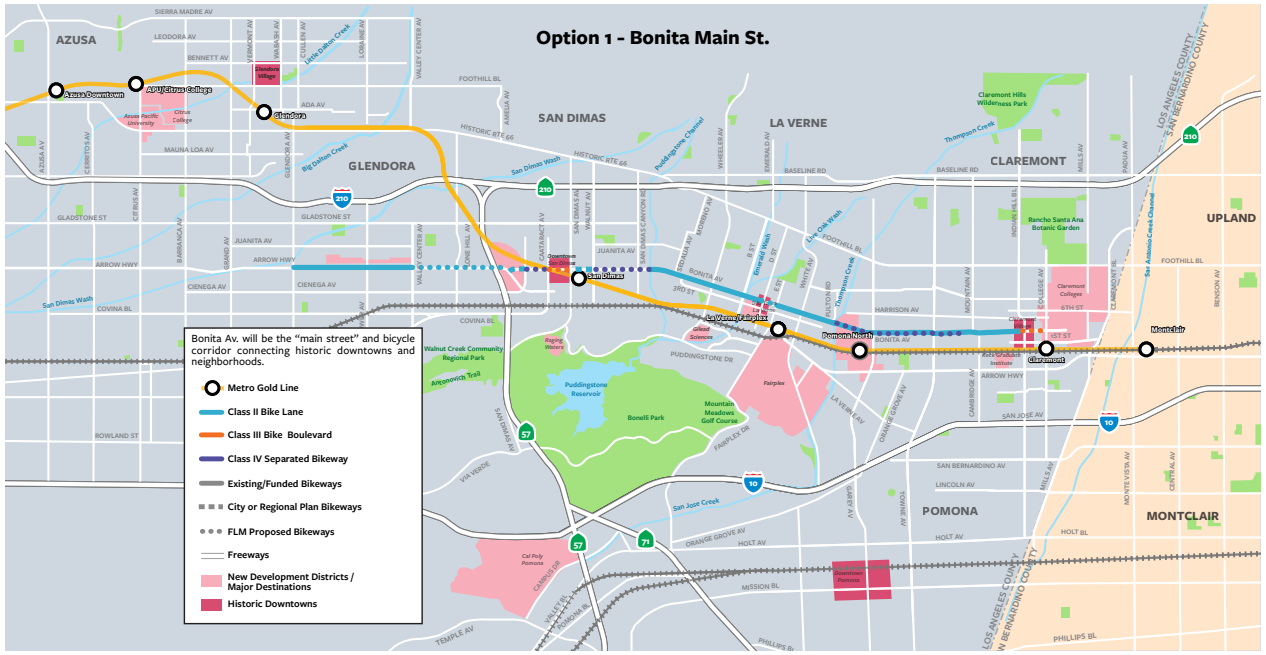
Bonita Avenue will continue to play a major role as a place for community events, including those that require temporary closures of the street in the historic downtowns or along the street's length. With coordinated programming amongst the cities, wider adoption of Citrus Regional Bikeway-themed signage and public art, and wide availability of electric bikeshare, local tourism undertaken by bicycles can flourish.

Arrow Highway will be a regional mobility corridor that serves longer-distance bicycle riders as well as drivers and transit users. In the short term, adjustments will be made to establish a nearly continuous Class II bikeway (i.e., striped bike lanes) from the end of the Pacific Electric Trail in Claremont to Barranca Avenue in Azusa/Glendora, a ten-mile distance. This will create an adequate environment for commuters and other more experienced, long-distance riders.

In the longer term, Arrow Highway can morph into a complete street which will provide a safer and more pleasant environment for people traveling by all modes, especially those walking, cycling, and riding transit. People riding bicycles will be physically separated from vehicles, and green infrastructure elements such as bioswales and sidewalk trees will humanize the street. The planted median that is present on many sections of the street will be upgraded and harmonized (though not made uniform) to restore a taste of the historic experience to the street. In at least one key location in each city, however, the pattern will be broken to create "pedestrian hubs" - localized districts with higher pedestrian activity, slower traffic flow and opportunities for new, modern, pedestrian-friendly development often connected to transit.

Option #1: Bonita Main Street

This option proposes Bonita Avenue as the main street and bicycle corridor connecting historic downtowns and neighborhoods.



Connects downtowns.

Connects downtowns.

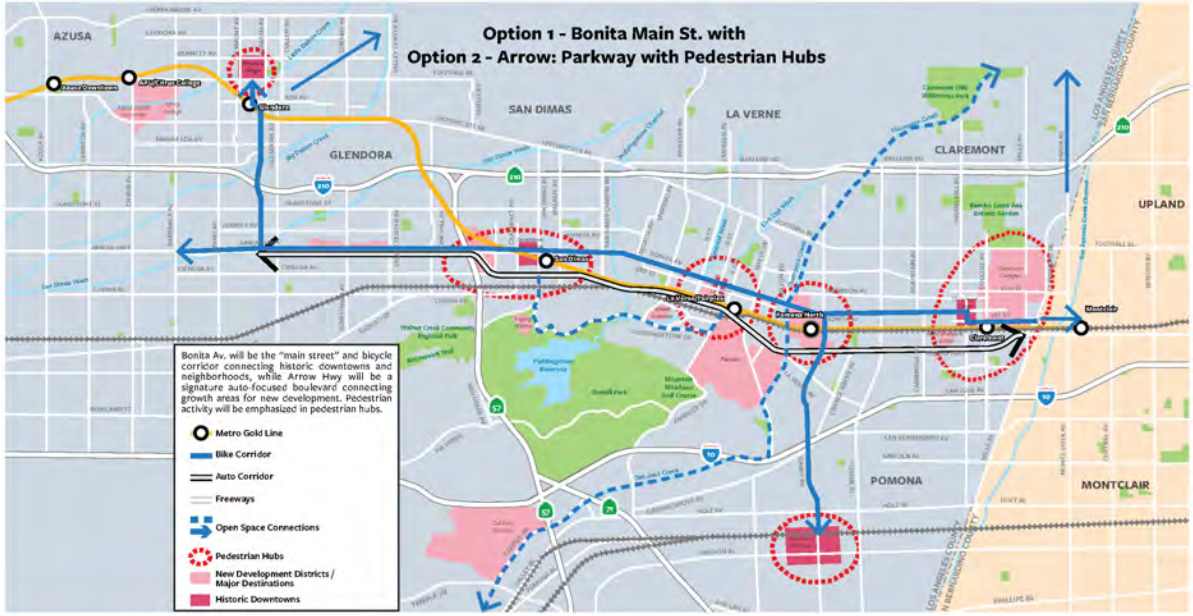
Add Class II or IV bikeways, address deficient sidewalks and add trees where possible.

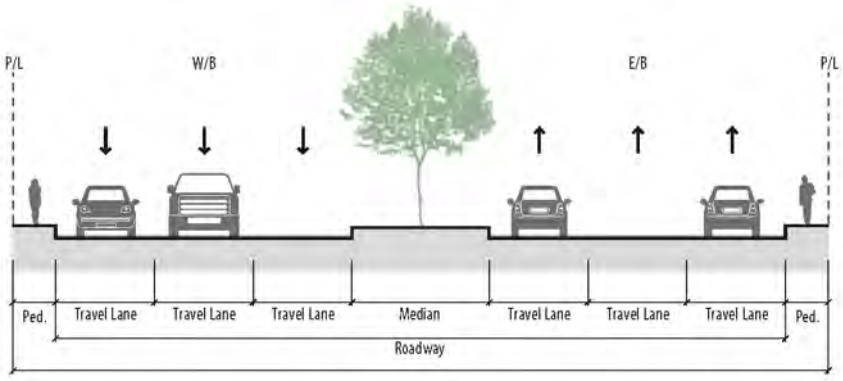
Citrus Regional Bikeway branding can support events and tourism.

High potential for street closures, events and local tourism.

Option #2: Bonita Main Street + Arrow Highway Parkway with Pedestrian Hubs

This option envisions Arrow Highway as a signature auto-focused boulevard connecting new pedestrian hub growth areas for new development, while bicycle circulation is focused on Bonita Avenue.

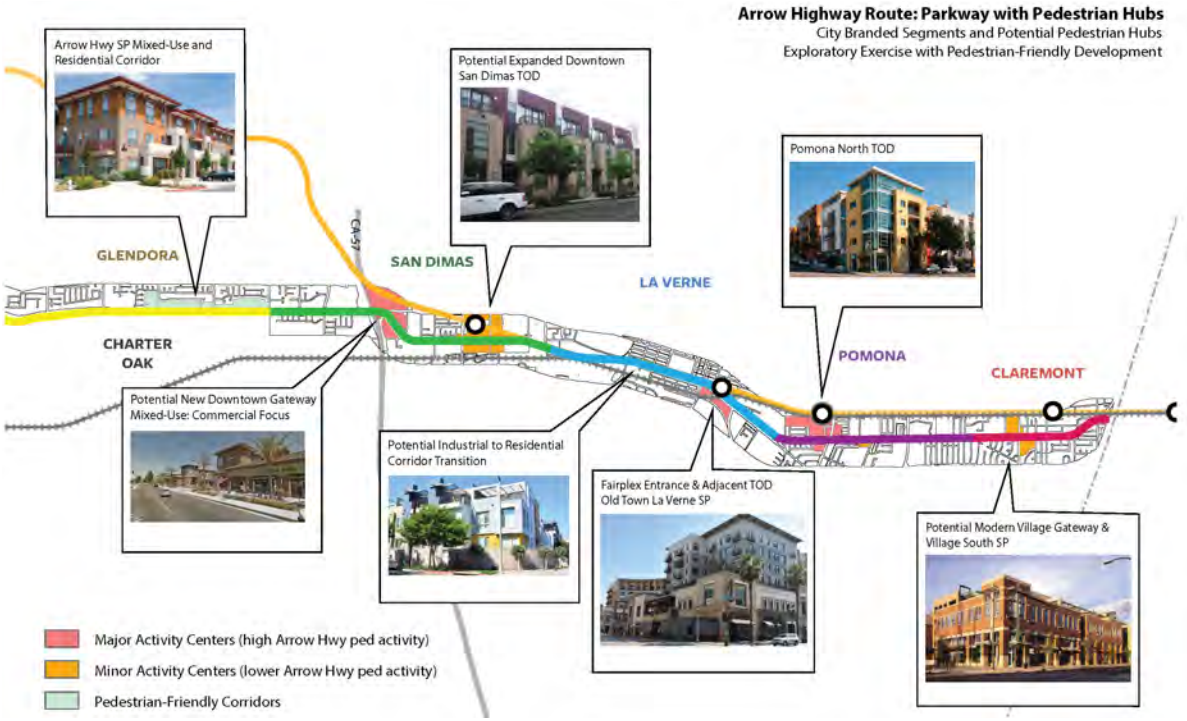


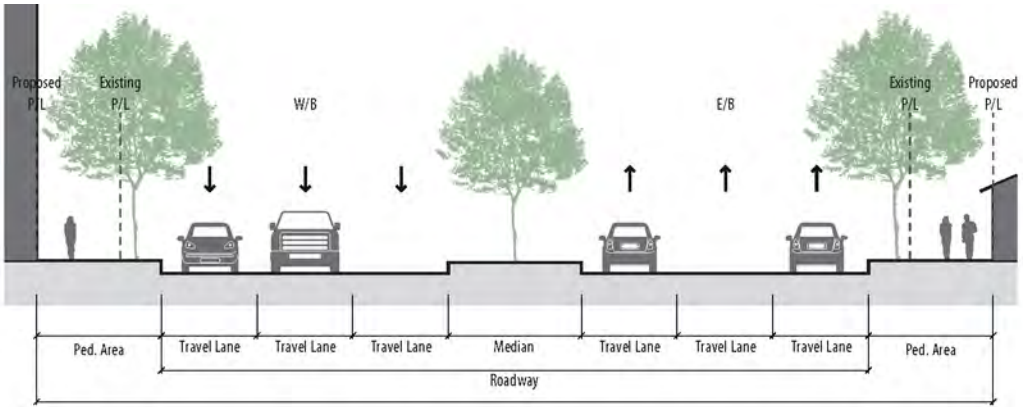


Arrow Highway in this option would continue to primarily serve motor vehicle drivers

Median with gateway signage

Signature median with street trees unique to each city





Arrow Highway with proposed expanded pedestrian space in pedestrian hubs

Mid-block signalized crossings with median, denser planting median

High visibility/artistic signalized crossings.

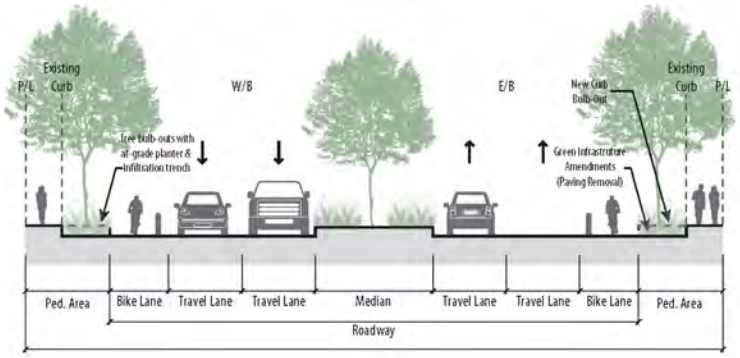
Pedestrian-friendly sidewalk with trees, lighting, furniture and retail

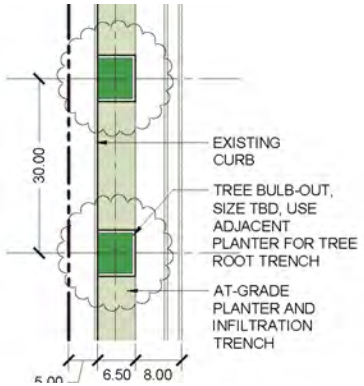
Option #3: Arrow Complete Street

This option proposes multimodal improvements on Arrow Highway so that it will serve pedestrians, cyclists, and transit riders, as well as drivers.

Low at-grade planter inbetween trees/Tree bulb (new curb)

Heavy bollards for car/bike separator, separated bike lane

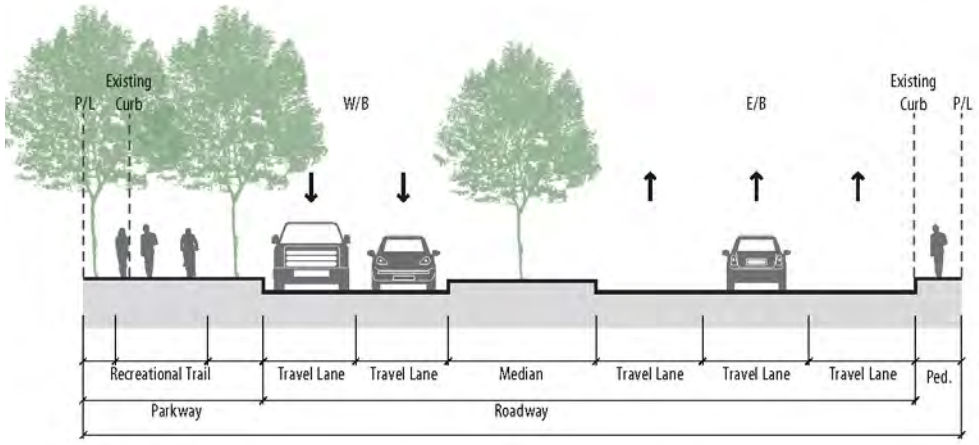




Arrow Highway with potential Complete Street elements

Option #4: Bonita Main Street + Arrow Recreational Trail

This option proposes a recreational soft-surface trail along one side of Arrow Highway to complement an improved bikeway on Bonita Ave.



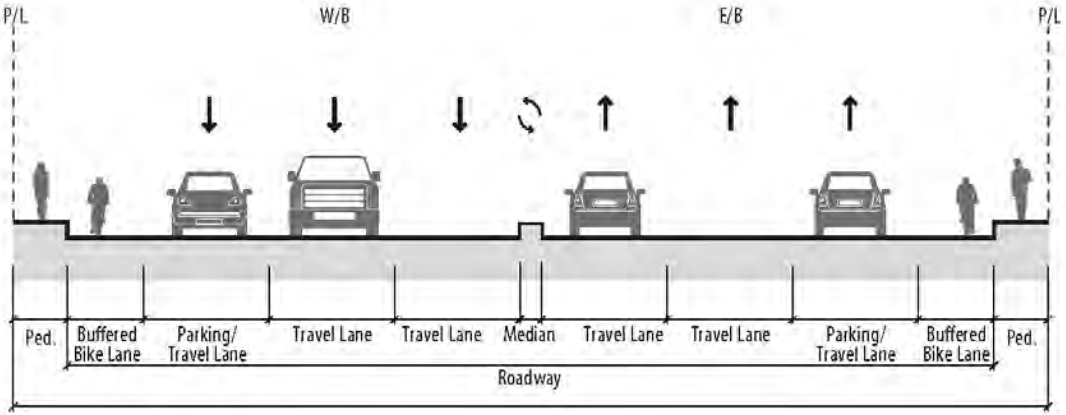
Arrow Highway with potential recreational trail along one side

Recreational trail

Recreational trail signage

Option #5: Bonita Main Street + Arrow Regional Commuter Bikeway

This option explores the possibility of eliminating medians and restriping the Arrow Highway roadway in order to accommodate a bikeway with minimal traffic impact.



Arrow Highway with potential regional commuter bikeway

Painted bike lane buffer (1'-3')

Bike lane (4'-6')

Concrete separator for access management (2')

Option #6: Neighborhood Route

This option proposes bikeways on Juanita Avenue on the west end of the route and La Verne Avenue/San Jose Avenue on the east end in order to serve cyclists on lower-stress roadways.

Branding, signage and pavement markings can help guide cyclists.

Separated bikeway.

Curb extensions for traffic calming and safe crossings.

Trees in tree wells and sharrow markings.

Members of the Community Advisory Committee weighed the pros and cons of each vision alternative, and the majority eventually stated a preference for Option 1 (Bonita Main St.) due to its existing status as a relatively popular bike route and its role as the “Main Street” in some of the cities.

This was followed closely by Option 3 (Arrow Complete Street), which is a more aspirational, long-term alternative that could potentially be implemented alongside increased commercial and housing development on Arrow Highway. The project team considered elements of all options when developing the Corridor Plan.


VERBAL BUILDING

02 EXISTING CONDITIONS

INTRODUCTION

Arrow Highway, Bonita Avenue, and other parallel routes in the corridor vary throughout the study area with regards to roadway characteristics, volumes and behaviors of various users, surrounding land uses, and existing walking and bicycling comfort and convenience. However, walking and bicycling conditions are generally challenging along the high-speed Arrow Highway, while conditions along Bonita Avenue and nearby residential streets are relatively more pleasant for people walking, bicycling, and rolling.

Prior to developing any physical or programmatic improvements in the corridor, the project team collected and analyzed a variety of data to present a snapshot of existing mobility and safety conditions. These data analyses included the following:

- Traffic Analysis
- Collision Analysis
- Pedestrian & Bicycle Counts
- Bicycle Level of Traffic Stress Analysis

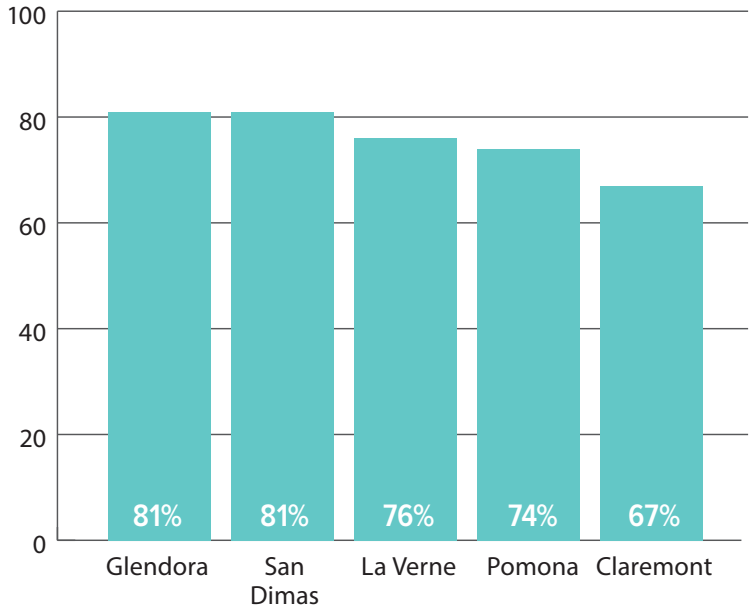


FIgure 1: Percentage of Employed Residents who Drive Alone to Work

Source: SCAG 2019 Local Profiles

TRAFFIC ANALYSIS

The project team evaluated current traffic and safety conditions along Arrow Highway and parallel routes to inform the subsequent evaluation of route alternatives within the Arrow Highway corridor. To help develop adequate multimodal recommendations for the Arrow Highway corridor, the project team reviewed and analyzed existing roadway cross-sections, bicycle facilities, and traffic volumes and speeds.

ROADWAY CROSS-SECTIONS

For the traffic analysis, the project team first collected data on existing roadway cross-section dimensions and the presence of any bikeway facilities, shown in Tables 2 (Arrow Highway) and 3 (parallel routes).

Table 2. Roadway Cross-Sections along Arrow Highway

City	From	To	Total Pavement width	Total Number of Lanes	Median Type	Median Width	Parking	Existing Bicycle Facility
Glendora	Barranca Ave	Glendora Ave	80’	5	Two-Way Left Turn Lane	14’	Yes	None
	Glendora Ave	Valley Center Ave	80’	5	Concrete	14’-16’	Yes	Class II
San Dimas	Valley Center Ave	San Dimas Canyon Rd	80’	7	Concrete	14’-16’	None	None
La Verne	San Dimas Canyon Rd	La Verne Ave	80’	7	Concrete	14’-16’	None	None
Pomona	La Verne Ave	Garey Ave	80’	5	Concrete	14’-16’	Yes	None
	Garey Ave	Cambridge Ave	78’	7	Concrete	14’-16’	None	None
Claremont	Cambridge Ave	Indian Hill Blvd	84’	5	Concrete	14’-16’	Yes (N Side Only)	Class II
	Indian Hill Blvd	Spring St	76’	5	Two-Way Left Turn Lane	11’	Yes (~8’ wide)	None
	Spring St	College Ave	64’	5	Two-Way Left Turn Lane	11’	None	None
	College Ave	Elder Dr	60’	4	None	None	Yes	None
	Elder Dr	Claremont Blvd/Mills Ave	64’	4	None	None	Yes	None

Table 3. Roadway Cross-Sections along Parallel Routes

City	Roadway	Begin	End	Total Pavement Width	Total Number of Lanes	Parking	Median	Existing Bicycle Facility
Glendora	Juanita Ave	Grand Ave	Valley Center Ave	38’	2	Both Sides	No	None
San Dimas	Bonita Ave	Arrow Hwy	San Dimas Canyon Rd	66’	3-5	Varies	Varies	Class II
	Cienega Ave	Barranca Ave	Valley Center Ave	64’	4	Both Sides	No	None
	Cienega Ave	Valley Center Ave	Arrow Hwy	62’	5	Varies	No	None
	Gladstone St	Grand Ave	Valley Center Ave	64’	4-5	Varies	No	None
La Verne	Bonita Ave	San Dimas Canyon Rd	Wheeler Ave	66’	3-5	Varies	Varies	None
	Bonita Ave	Wheeler Ave	Fulton Rd	50’	2-3	Varies	No	Class II
Pomona	Bonita Ave	Fulton Rd	Carnegie Avenue	50’	2-3	Varies	No	Class II
	Harrison Ave	Garey Ave	Towne Ave	36’	2	Both Sides	No	None
	La Verne Ave	Arrow Hwy	Garey Ave	54’	3	Both Sides	No	Class II
	La Verne Ave	Garey Ave	Mountain Ave	54’	4	Both Sides	No	None
Claremont	Bonita Ave	Carnegie Avenue	College Ave	50’	2-3	Both Sides	No	Class II

VEHICULAR TRAFFIC VOLUMES AND SPEEDS

The project team collected existing vehicular traffic volumes through 48-hour vehicle counts during weekdays in November 2019. Table 4 summarizes the results of the traffic volume data collection. The locations of the volume counts were chosen based on stakeholder input. They include Arrow Highway, key parallel routes, as well as intersecting routes, all of which affect the overall flow of traffic and mobility for all road users. Additionally, the results illustrate the roadway segments that experience higher percentages of truck volumes, which affects multimodal considerations. Vehicle speeds were also collected for all of the studied locations, as summarized in Table 5.

The analysis found that while Arrow Highway carries higher traffic volumes than parallel streets in the area, including a higher percentage of trucks, it is currently operating at acceptable levels of service.[1] Additionally, while the posted speed limit along Arrow Highway ranges between 40 mph and 45 mph, vehicles generally travel slower than the posted speeds; therefore, there is potential to evaluate the possibility of reducing the posted speed limits. Existing on-street parking locations were also documented. The analysis revealed that, while additional traffic analysis would be needed, considering the removal of travel lanes along some sections of Arrow Highway to accommodate multimodal facilities is feasible.

See Appendix A for further results of the volume and speed analysis.

1. According to FHWA's 2017 Simplified Highway Capacity Calculation Method for the Highway Performance Monitoring System, an urban 4-lane roadway with up to 10% heavy trucks can accommodate up to 32,800 AADT at LOS B, and a six-lane roadway has capacity for 49,200 AADT.

Table 4. Vehicular Traffic Volumes

City	Corridor	Between		No. Travel Lanes	Total Volume	Vehicles/Lane	% Trucks / Buses / RV
Claremont	Arrow Hwy	Cambridge Ave	Indian Hill Blvd	4	20,160	5,040	11.90%
	Arrow Hwy	College Ave	Mills Ave/Claremont Blvd	4	19,394	4,849	11.30%
	Bonita Ave	Indian Hill Blvd	Alley 37/38	2	4,780	2,390	11.00%
Glendora	Arrow Hwy	Sunflower Ave	Valley Center Ave	4	20,683	5,171	11.30%
	Bonnie Cove Ave	Juanita Ave	Arrow Hwy	2	4,867	2,434	12.90%
	Juanita Ave	Glendora Ave	Bonnie Cove Ave	2	3,048	1,524	12.70%
	Sunflower Ave	Juanita Ave	Arrow Hwy	5	12,736	2,547	16.20%
La Verne	Arrow Hwy	Carrion Rd	Wheeler Ave	6	21,928	3,655	10.70%
	Arrow Hwy	E St	White Ave	6	23,256	3,876	8.00%
	Bonita Ave	Wheeler Ave	A St	2	11,385	5,693	14.30%
	Wheeler Ave	2nd St	3rd St	4	10,676	2,669	11.50%
Pomona	Arrow Hwy	Garey Ave	Maple Ave	5	17,557	3,511	14.30%
	Bonita Ave	Towne Ave	Garey Ave	3	12,152	4,051	10.50%
	Harrison Ave	Vamana St	Summer Ave	2	2,641	1,321	8.30%
	Towne Ave	Bonita Ave	Metrolink	4	24,605	6,151	14.30%
San Dimas	Bonita Ave	San Dimas Ave	Walnut Ave	3	14,635	4,878	12.10%
	Cienega Ave	Huntington Ave	SR 57 Fwy	5	12,451	2,490	12.50%
	San Dimas Ave	Bonita Ave	Arrow Hwy	4	10,716	2,679	11.00%

Table 5. Vehicle Speeds

City	Route		Between	Posted Speed Limit	Average Speed	85th Percentile Speed
Glendora	Arrow Hwy	Sunflower Ave	Valley Center Ave	45 MPH	35 MPH	42 MPH
	Bonnie Cove Ave	Juanita Ave	Arrow Hwy	30 MPH	22 MPH	30 MPH
	Juanita Ave	Glendora Ave	Bonnie Cove Ave	30 MPH	27 MPH	34 MPH
	Sunflower Ave	Juanita AVe	Arrow Hwy	35 MPH	32 MPH	39 MPH
San Dimas*	Bonita Ave	San Dimas Ave	Walnut Ave	25 MPH	21 MPH	27 MPH
	Cienega Ave	Huntington Ave	SR 57 Fwy	40 MPH	37 MPH	43 MPH
	San Dimas Ave	Bonita Ave	Arrow Hwy	35 MPH	24 MPH	29 MPH
La Verne	Arrow Hwy	Carrion Rd	Wheeler Ave	45 MPH	36 MPH	44 MPH
	Arrow Hwy	E St	White St	45 MPH	27 MPH	35 MPH
	Bonita Ave	Wheeler Ave	A St	35 MPH	31 MPH	36 MPH
	Wheeler Ave	2nd St	3rd St	40 MPH	30 MPH	36 MPH
Pomona	Arrow Hwy	Garey Ave	Maple	45 MPH	33 MPH	41 MPH
	Bonita Ave	Garey Ave	Towne Ave	35 MPH	33 MPH	39 MPH
	Towne Ave	Bonita Ave	Metrolink	40 MPH	31 MPH	38 MPH
Claremont	Arrow Hwy	Cambridge Ave	Indian Hill Blvd	45 MPH	36 MPH	43 MPH
	Arrow Hwy	College Ave	Mills Ave	40 MPH*	34 MPH	40 MPH

**A separate traffic study conducted by the City of San Dimas in 2017 showed slightly higher 85th percentile speeds. Specifically, 85th percentile speeds were 34 MPH, 44 MPH, and 35 MPH for Bonita Avenue, Cienega Avenue, and San Dimas Avenue, respectively. This indicates a need for additional speed management strategies to create a more pedestrian and bike-friendly environment.*

COLLISIONS

Pedestrian- and bicyclist-involved collisions were analyzed to understand current safety conditions in the five focus cities. Collision data was gathered from the Transportation Injury Mapping System (TIMS) developed by the Safe Transportation Research and Education Center at the University of California, Berkeley, based on data from the California Statewide Integrated Traffic Report System (SWITRS). It is important to note that the number of collisions reported to SWITRS is likely an underestimate of the actual number of collisions that take place because some parties do not report minor collisions to law enforcement. Additionally, TIMS does not include any "property damage only" collisions, such as a crash that damages someone's bicycle but does not cause personal injuries.

Between 2014 and 2018, there were 11,570 total crash-related injuries in the project area. Of these, 1,048 injured people were biking or walking (9% of total injuries). In total, 37% of fatalities were people biking or walking, including four bicyclists and 44 pedestrians. An additional 24% (26 bicyclists and 57 pedestrians) were severely injured during collisions. Figure 2 shows the number of bicyclist- and pedestrian-involved collisions per year between 2014 and 2018, with the highest number of collisions occurring in 2015 and 2016

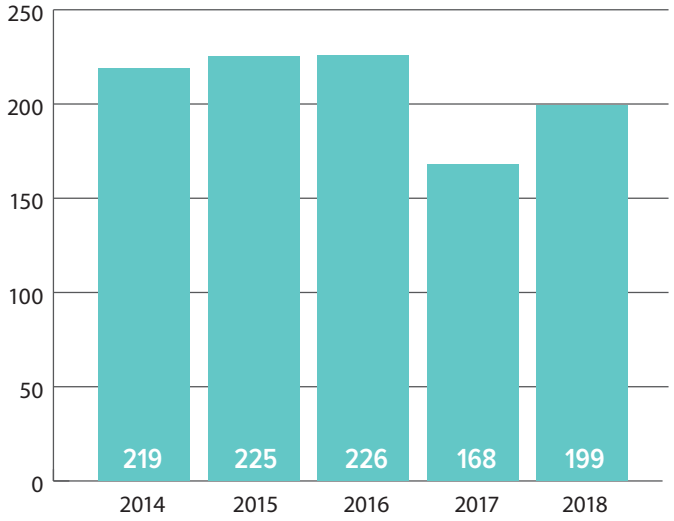


Figure 2: Number of Pedestrian- and Bicyclist-Involved Collisions per Year (2014-2018)

and declining in 2017. Figure 3 shows project area-wide bicyclist and pedestrian collision hot spots, allowing us to assess the overall study area.

Figure 4 summarizes bicycle and pedestrian collisions along the studied routes. The map shows an aggregated count of collisions along the routes, along with locations of fatal collisions. The map highlights areas along the corridor where a large number of collisions have occurred. The map shows that the distribution of collisions is not equal along the studied routes. Areas with an especially high number of collisions include the areas surrounding the Claremont Metrolink station, the University of La Verne, and areas along West San Jose Avenue and La Verne Avenue where they run parallel to the San Bernardino Freeway.

While the collision hexagons highlight problematic areas, specific high collision intersections were also identified. Figure 5 shows intersections where 4 or more collisions occurred. It should be noted that some of these high collision intersections are close in proximity to or along the same street as other high collision intersections.

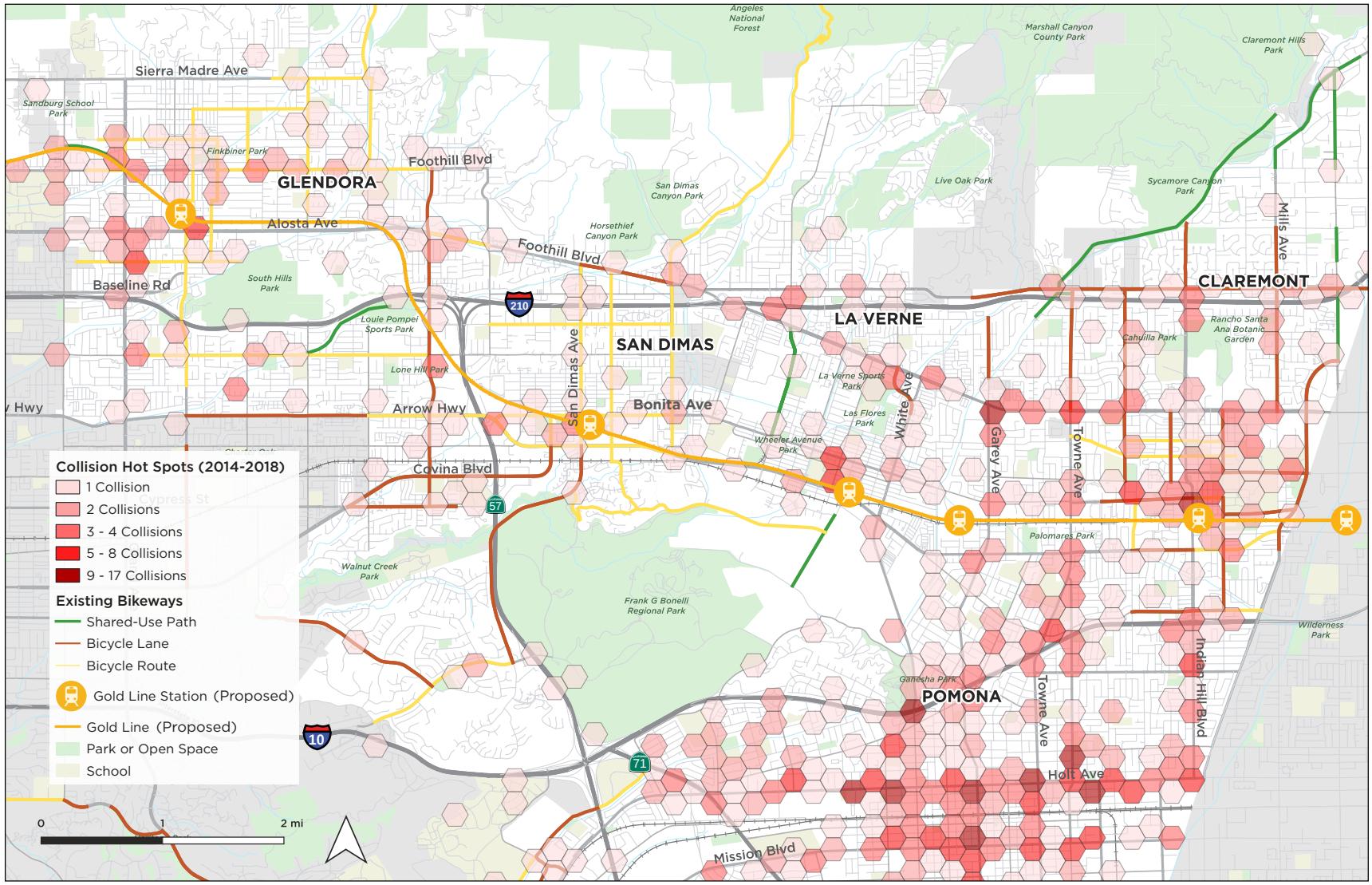


Figure 3: Map of Bicyclist and Pedestrian Collision Hot Spots

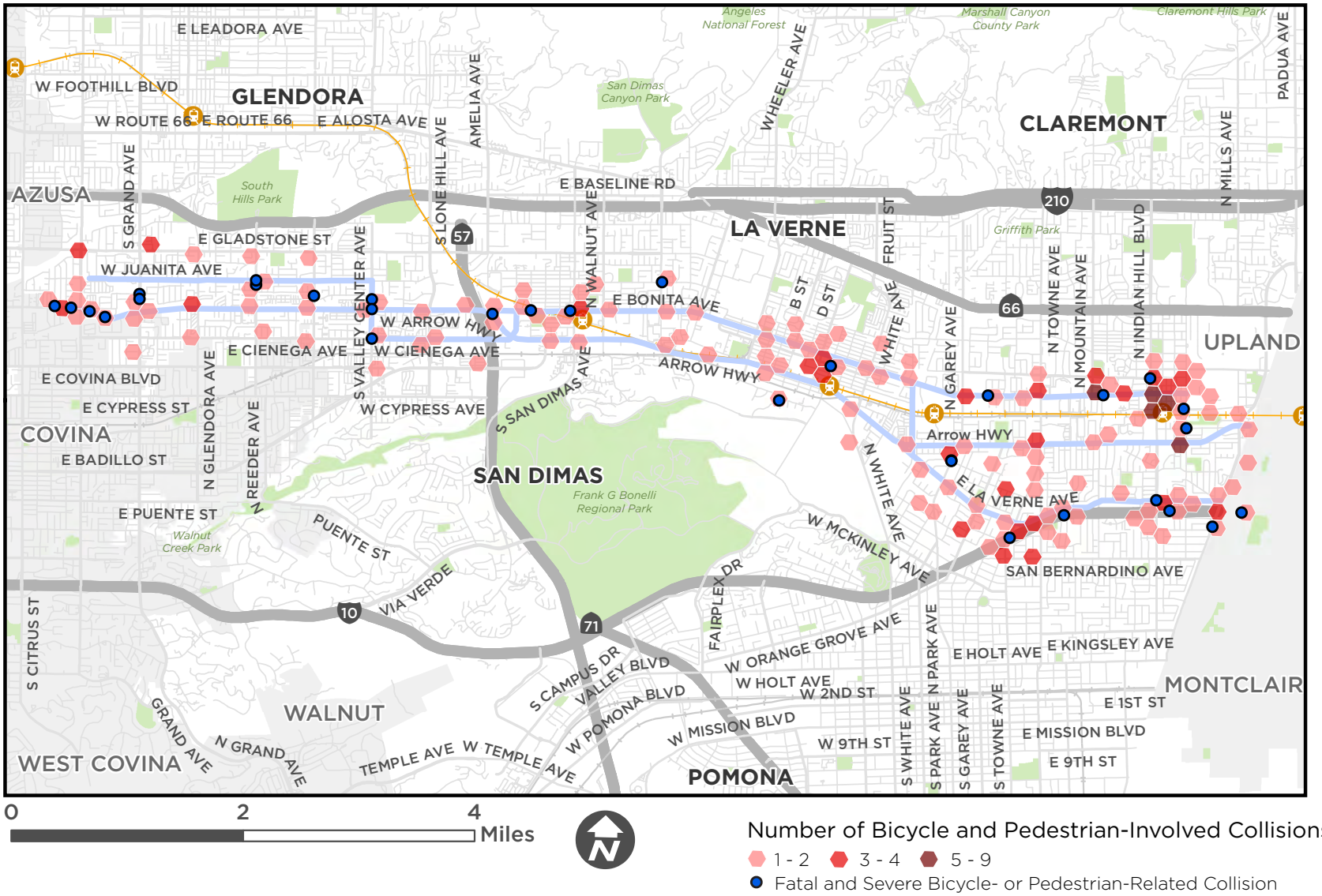


Figure 4: Bicycle and Pedestrian Collision Map for the Study Corridor

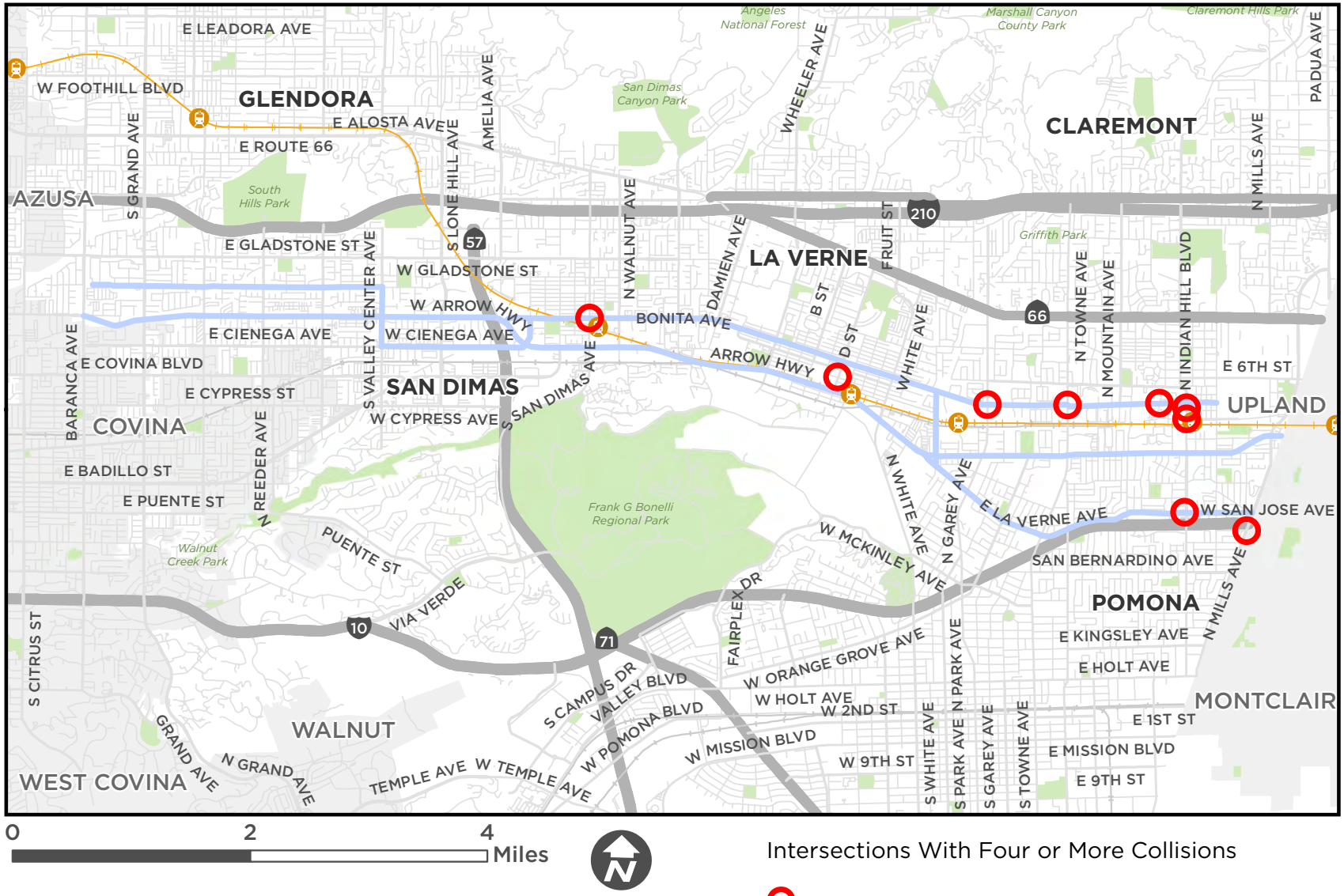


Figure 5: High Collision Intersection Map for the Study Corridor

PEDESTRIAN & BICYCLE COUNTS

Pedestrian and bicycle counts were conducted to allow the project team to evaluate projects and programs, determine where to prioritize funding, and monitor the long-term trends of walking and biking. Count, or volume, data provide the foundation for measuring bicycle and pedestrian travel and monitoring trends of a facility or network. They put crash data in context to better understand the exposure to risk and can be used to help estimate social, economic, and health impacts of walking and biking. When used with geospatial data inventories of facilities, volume data can help explain where people are walking and bicycling.

The counts were obtained through two methods: conducting manual counts at specific locations and through the intersection turning movement counts (TMCs) collected for this project. Per SCAG count methodologies, counts took place on Tuesdays and Thursdays from 7:00 to 9:00am and from 4:00 to 6:00pm and on Saturdays from 11:00am to 1:00pm. Time slots were kept consistent to compare data accurately. Two locations per city were identified with help of the Community Advisory Committee (CAC). The manual counts were then uploaded onto the Southern California Association of Government's (SCAG) Active Transportation Database (ATD).

Based on the counts, several intersections along Arrow Highway exhibited relatively higher volumes of pedestrians and bicyclists; including at Glendora Avenue, Towne Avenue, Kimball Avenue, and College Avenue. Additionally, a review of the crash trends along Arrow Highway revealed that there were intersections that experienced multiple pedestrian and bicyclist crashes, including at Bonita Avenue, E Street, and Indian Hill Boulevard. Pedestrian and bicycle crashes also occurred at midblock locations. The pedestrian and bicycle demand observed through the counts and crash history indicates that additional multimodal facilities are needed along Arrow Highway. A summary of the locations and count data by corridor can be found in Tables 6 through 10.

Arrow Highway

Along Arrow Highway, the data collected shows that the intersections at Glendora Avenue and Towne Avenue had the highest number of pedestrians crossing. The latter intersection, as well as the intersections at Kimball Avenue and College Avenue, exhibited a high number of bicyclists crossing.

Table 6. Pedestrian and Bicycle Counts along Arrow Highway

Source	Location	Date(s)	Pedestrians	Bicyclists	Scooters
ATD	Arrow Hwy at Cataract Ave	9/2/19-9/7/19	9	5	0
ATD	Arrow Hwy at Glendora Ave	9/9/19-9/14/19	100	15	6
ATD	Arrow Hwy at Kimball Ave	9/16/19-9/21/19	38	24	2
ATD	Arrow Hwy at College Ave	9/23/19-10/12/19	53	17	5
ATD	Arrow Hwy at E St/Fairplex	9/30/19-10/5/19	3	8	0
TMC	Arrow Hwy at Glendora Ave	11/5/19 7:00 – 9:00 am 4:00 – 6:00 pm	 57 48	 9 9	 N/A
TMC	Arrow Hwy at D St	11/5/19 7:00 – 9:00 am 4:00 – 6:00 pm	 15 15	 5 8	 N/A
TMC	Arrow Hwy at Towne Ave	11/5/19 7:00 – 9:00 am 4:00 – 6:00 pm	 75 128	 11 19	 N/A
TMC	Arrow Hwy at College Ave	11/5/19 7:00 – 9:00 am 4:00 – 6:00 pm	 64 42	 14 12	 N/A
TMC	Arrow Hwy at Mountain Ave	11/5/19 7:00 – 9:00 am 4:00 – 6:00 pm	 25 42	 9 9	 N/A

The counts were obtained through two methods: conducting manual counts at specific locations and through the intersection Turning Movement Counts (TMCs) collected for this project. Per SCAG count methodologies, counts took place on Tuesdays and Thursdays from 7-9am and 4-6pm and on Saturdays from 11am-1pm. Time slots were kept consistent to compare data accurately. Two locations per city were identified with help of the Community Advisory Committee (CAC). The manual counts were then uploaded onto the Southern California Association of Governments (SCAG) Active Transportation Database (ATD).

Bonita Avenue

Counts data collected for Bonita Avenue shows that the intersection of Bonita at Monte Vista Avenue and Bonita Avenue between D Street and E Street had the most pedestrian activity. The highest numbers of bicyclists along Bonita Avenue were counted at the intersections with Melbourne Avenue, White Avenue (in the morning), and College Avenue.

Table 7. Bicycle and Pedestrian Counts along Bonita Avenue

Source	Location	Date(s)	Pedestrians	Bicyclists	Scooters
ATD	Bonita Avenue at Monte Vista	9/4/19-9/7/19	278	26	9
ATD	Bonita Avenue at College Avenue	9/25/19-10/12/19	53	72	9
ATD	Bonita Avenue at Melbourne	9/18/19-9/21/19	27	95	2
ATD	Bonita Avenue between D Street and E Street	9/30/19-10/5/19	193	64	3
TMC	Bonita Ave at Eucla Ave	11/5/19 7:00 – 9:00 am 4:00 – 6:00 pm	 15 31	 6 26	 N/A
TMC	Bonita Ave at White Ave	11/13/19 7:00 – 9:00 am 4:00 – 6:00 pm	 25 38	 83 29	 N/A
TMC	Bonita Ave at Garey Ave	11/5/19 7:00 – 9:00 am 4:00 – 6:00 pm	 35 53	 27 28	 N/A

Juanita Avenue

Counts were conducted at one location along Juanita Avenue, at the intersection of Glendora Avenue. Compared to count locations along other corridors, pedestrian and bicyclist volumes were relatively low.

Table 8. Bicycle and Pedestrian Counts along Juanita Avenue

Source	Location	Date(s)	Pedestrians	Bicyclists	Scooters
ATD	Juanita Ave at Glendora Ave	9/11/19-9/14/19	19	5	1

Cienega Avenue

Counts were conducted at one location along Cienega Avenue, at the intersection of Lone Hill Avenue. The bicycle and pedestrian counts collected are relatively high for this type of roadway, given the higher vehicular volumes and posted speed limit.

Table 9. Bicycle and Pedestrian Counts along Cienega Avenue

Source	Location	Date(s)	Pedestrians	Bicyclists	Scooters
TMC	Cienega Ave at Lone Hill Ave	11/5/19			
		7:00 – 9:00 am	33	8	N/A
		4:00 – 6:00 pm	25	17	

Gladstone Street

Counts were conducted at one location along Gladstone Street, at the intersection of Sunflower Avenue. Compared to count locations along other corridors, pedestrian and bicyclist volumes were relatively low.

Table 10. Bicycle and Pedestrian Counts along Gladstone Street

Source	Location	Date(s)	Pedestrians	Bicyclists	Scooters
TMC	Gladstone St at Sunflower Ave	11/5/19, 11/19/19			
		7:00 – 9:00 am	12	2	N/A
		4:00 – 6:00 pm	12	9	

BICYCLE LEVEL OF TRAFFIC STRESS

To further assist in analyzing the existing roadway conditions of Arrow Highway and parallel routes, the project team conducted a Bicycle Level of Traffic Stress (BLTS) assessment. BLTS is a numeric value assigned to each segment of a specified road network, aiming to approximate the level of stress experienced by people bicycling on those streets. BLTS is calculated directly from available street network data, considering the following built environment factors:

- Number of through travel lanes
- Posted speed limit
- Type of existing bicycle facility (if any)

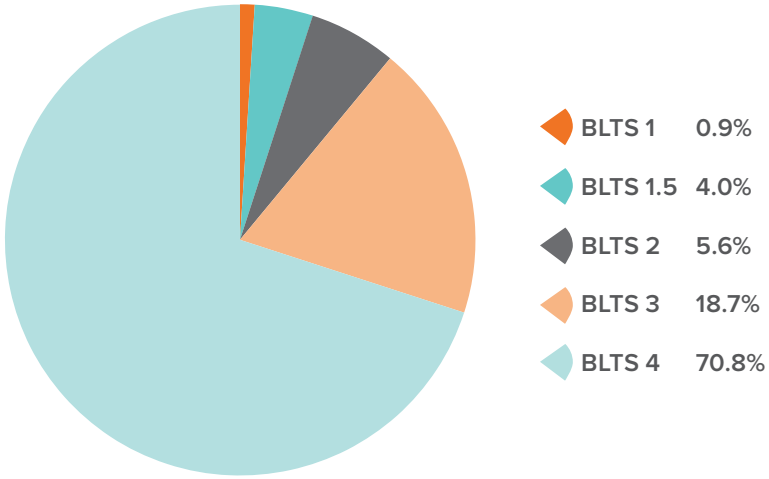
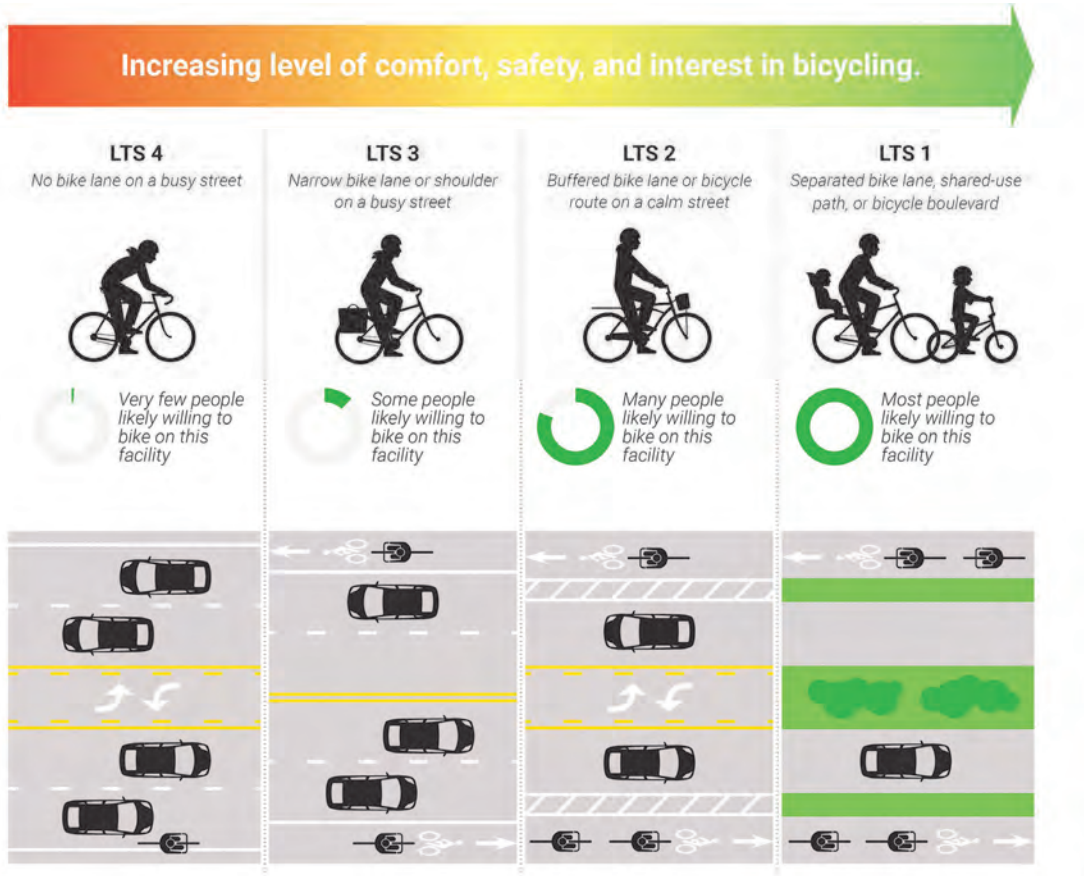


Figure 6: Percentage of Studied Roadway Length Associated with Each Level of Traffic Stress

BLTS values have a range between 1 and 4, with lower numbers signifying lower traffic stress levels. These BLTS values are defined as follows:

- BLTS 1: roadway is comfortable for all ages and abilities
- BLTS 1.5: roadway is comfortable for people of most ages and abilities, but does not feature a bicycle facility
- BLTS 2: roadway is comfortable for "interested but concerned" cyclists
- BLTS 3: roadway is comfortable for somewhat confident cyclists
- BLTS 4: roadway is comfortable for very confident cyclists

Figure 7 shows the BLTS scores for various roadway segments, and Figure 8 identifies where bicycle facilities exist along the studied routes. The current BLTS along nearly 90% of the total length of routes being studied is either a 3 or 4—roads that most people find too dangerous or uncomfortable to ride on. As seen in Figure 8, only about 10% of the total length of roadways being studied is BLTS 2 or lower, while over 70% is BLTS 4, the highest level of traffic stress. The entire lengths of



Arrow Highway and Cienega Avenue are BLTS 4. The speed limit for these roads is 40 mph or 45 mph with the exception of a mile long 35 mph segment on Cienega Avenue between Bonnie Cove Avenue and Valley Center Avenue[1]. See Appendix B for more information about the methodology and findings of the BLTS analysis.

1. Cienega Avenue, Gladstone Street, and Harrison Avenue were included in the BLTS analysis prior to them being removed from the overall study of east-west routes.

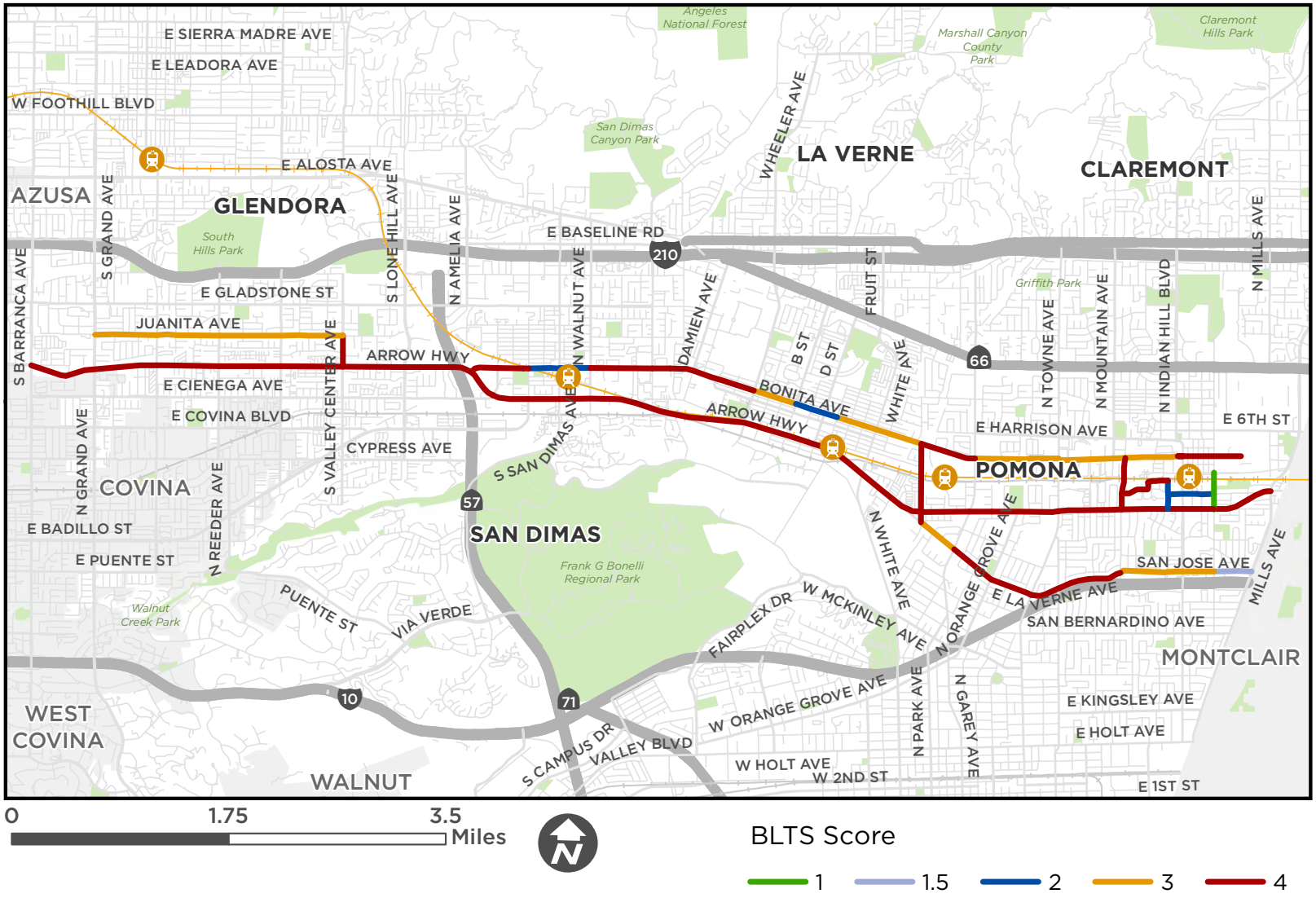


Figure 7: Bicycle Level of Traffic Stress (BLTS) on Arrow Highway and Parallel Routes

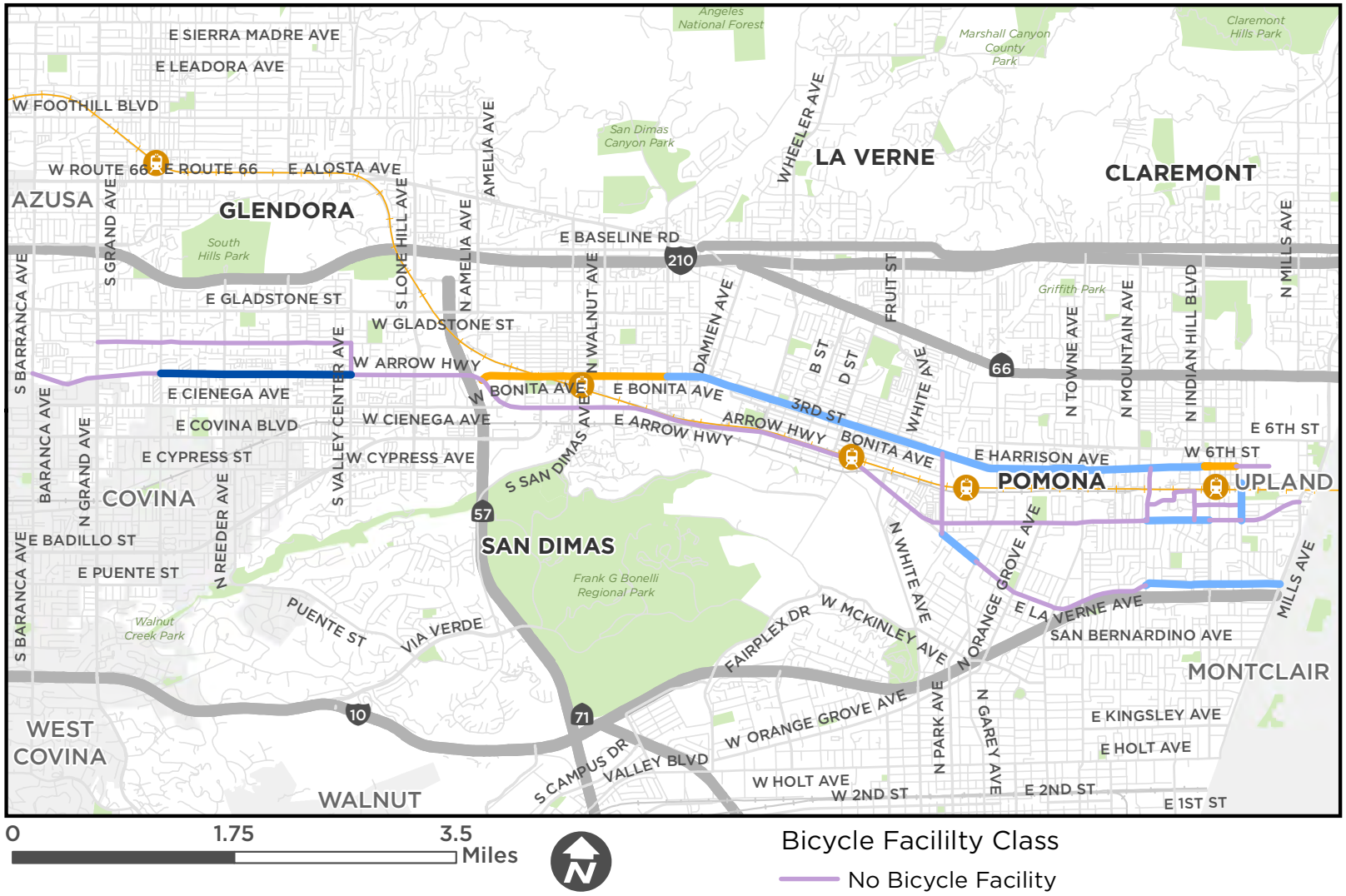


Figure 8: Existing Bicycle Facilities on Arrow Highway and Parallel Routes

03 ENGAGEMENT PROCESS

ENGAGEMENT STRATEGY

This chapter provides an overview of stakeholder engagement conducted to develop the Arrow Highway Regional Corridor Study. This public process contributed to the development of the recommendations presented later in this Plan.

Extensive stakeholder input to inform recommendations was collected through:

- Formation of a Community Advisory Committee (CAC)
- A project website with an interactive mapping tool
- Surveying
- Community events and presentations to stakeholder groups
- A Go Human demonstration event in Glendora

COMMUNITY ADVISORY COMMITTEE

A Community Advisory Committee (CAC) was formed at the start of the project to provide guidance on stakeholder engagement efforts and inform the planning process. The CAC also provided advice on stakeholder priorities and preferences. They met six times during key milestones throughout the project. The CAC was comprised of representatives from the following local stakeholder groups:

- Cities of San Dimas, Claremont, Glendora, Pomona, La Verne
- San Gabriel Valley Council of Governments
- Schools, universities, and school districts: Damien High School, Cal Poly Pomona, University of La Verne, Bonita Unified School District, Claremont Unified School District
- Day One
- Sustainable Claremont
- La Verne Bicycle Coalition
- La Verne Chamber of Commerce
- Claremont Chamber of Commerce
- Pomona Fairplex
- San Dimas Historical Society
- San Dimas Planning Commission
- Claremont Traffic and Transportation Commission
- Residents

PROJECT WEBSITE

A project website, **EastSGVConnect.com**, was developed to share information with the public and to serve as another way to collect input. The website included a description of the project, key milestones and deliverables, upcoming events and presentations, a comment form, and an interactive public input map (described in the following section).

Interactive Public Input Map

The project team developed an interactive mapping tool that allowed the public to provide location-specific input (Figure 10). Between September 2019 and January 2020, users provided over 60 comments on walking and biking barriers, destinations, and individual's walking and biking routes. Other participants could "like", "dislike", or comment on people's input – creating an online conversation. Overall, comments indicated a desire for additional and more separated bicycle facilities and pedestrian connections to many key community destinations, such as transit stops and grocery stores.

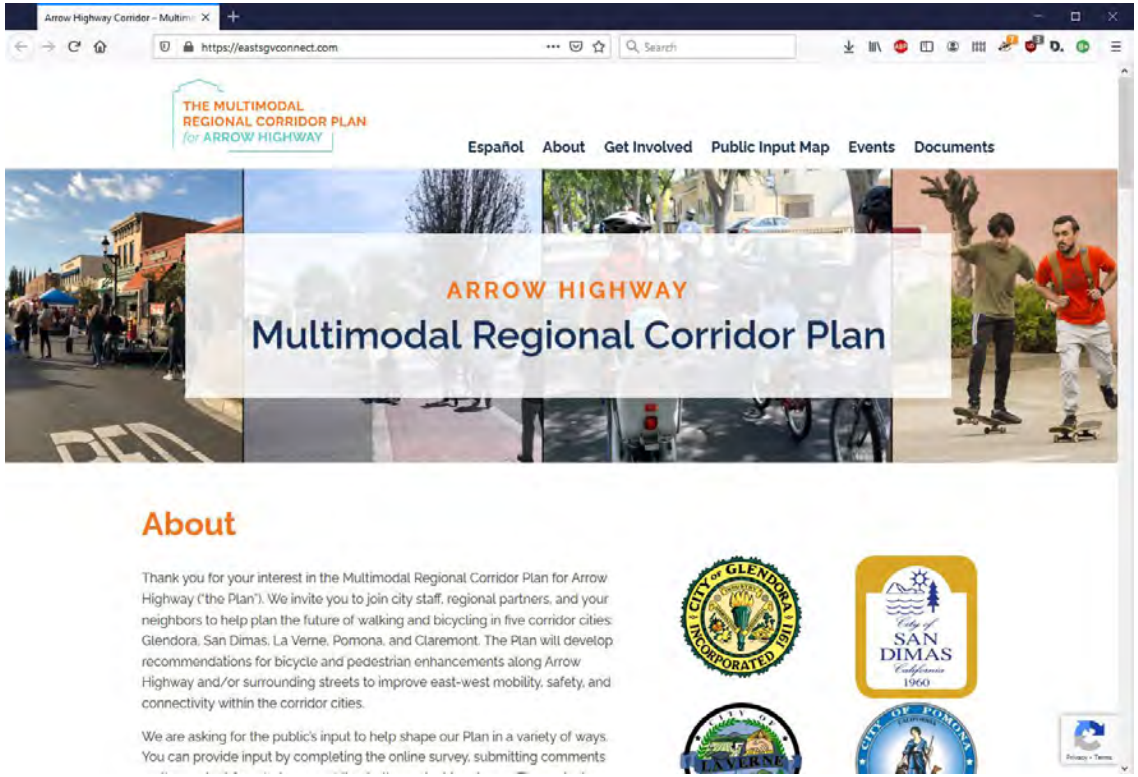


Figure 9: Project Website

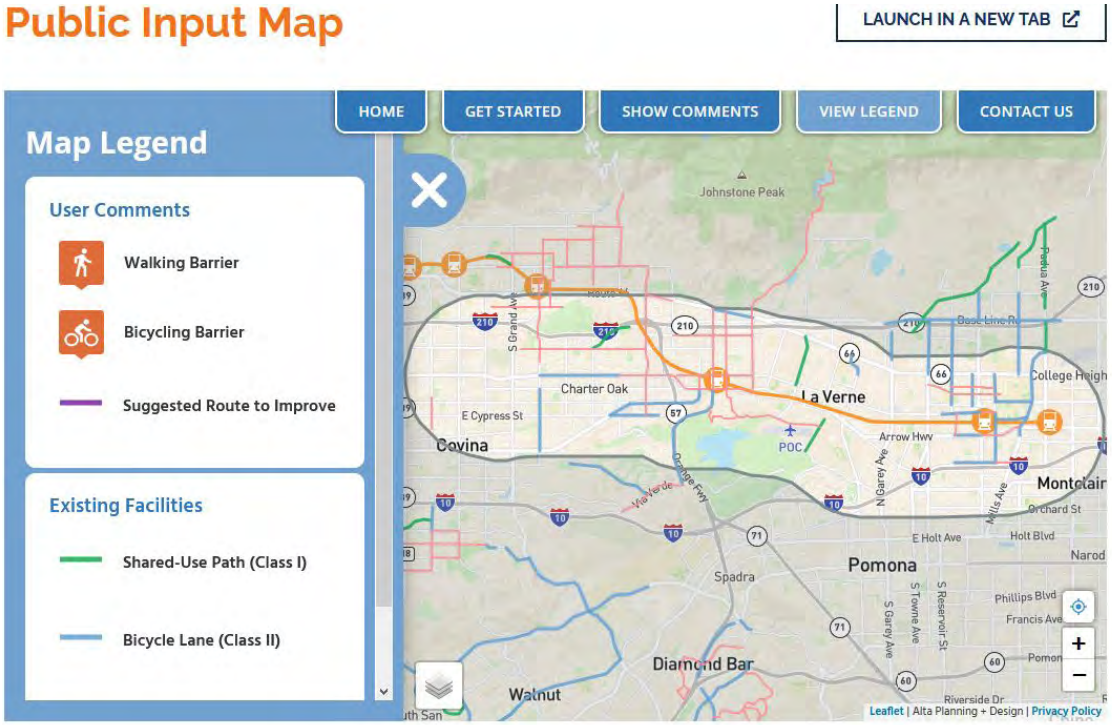
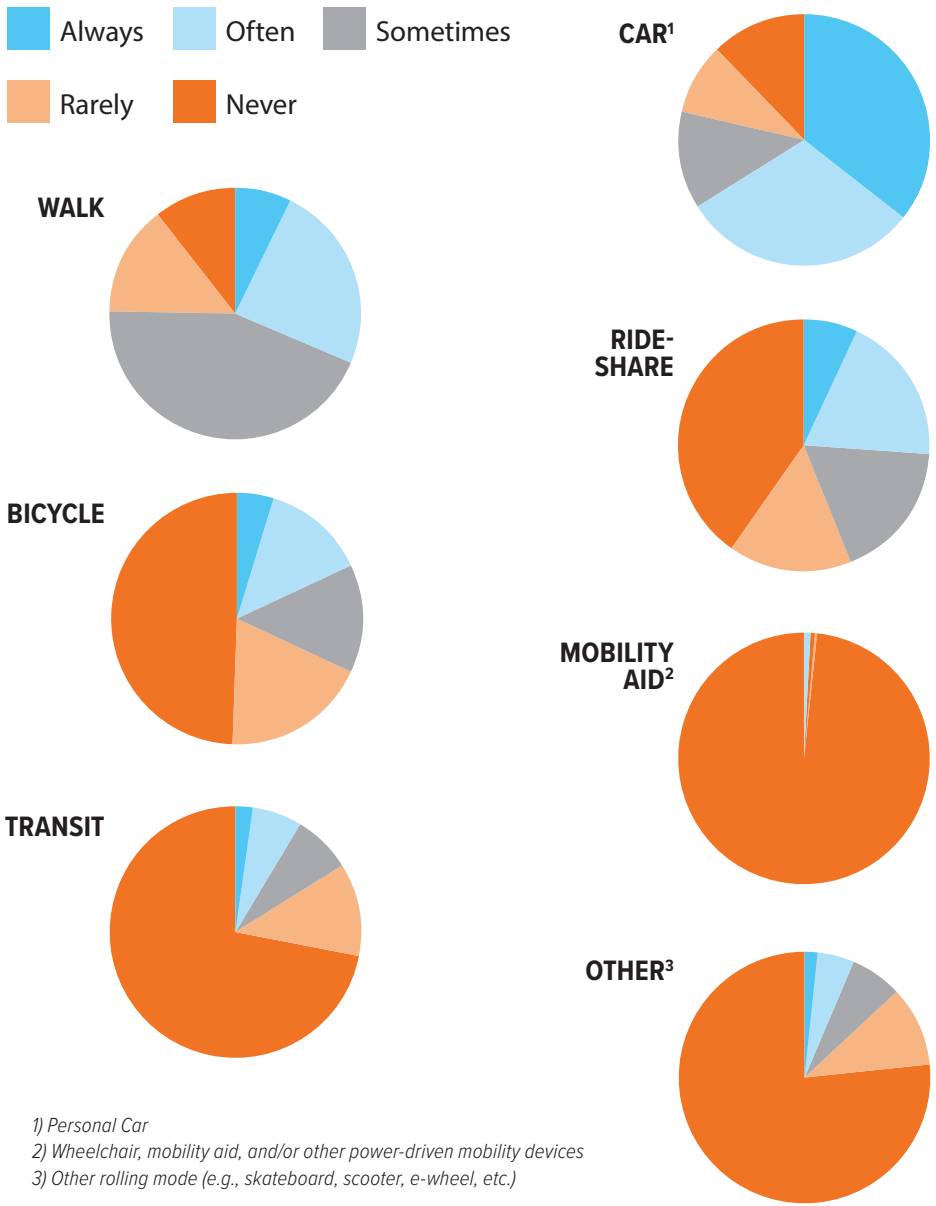


Figure 10: Public Input Map

Public Survey

A public survey was developed to gather input from community members regarding existing levels and conditions of biking and walking along Arrow Highway. Surveys were provided in English and Spanish and were available in print and digital formats. Surveys were collected at various community events as well as during classroom presentations at local schools (e.g., San Dimas High School). Surveys were also collected from local running groups in the area (Pomona Valley Runners, Claremont Trotters, and San Dimas Runners).

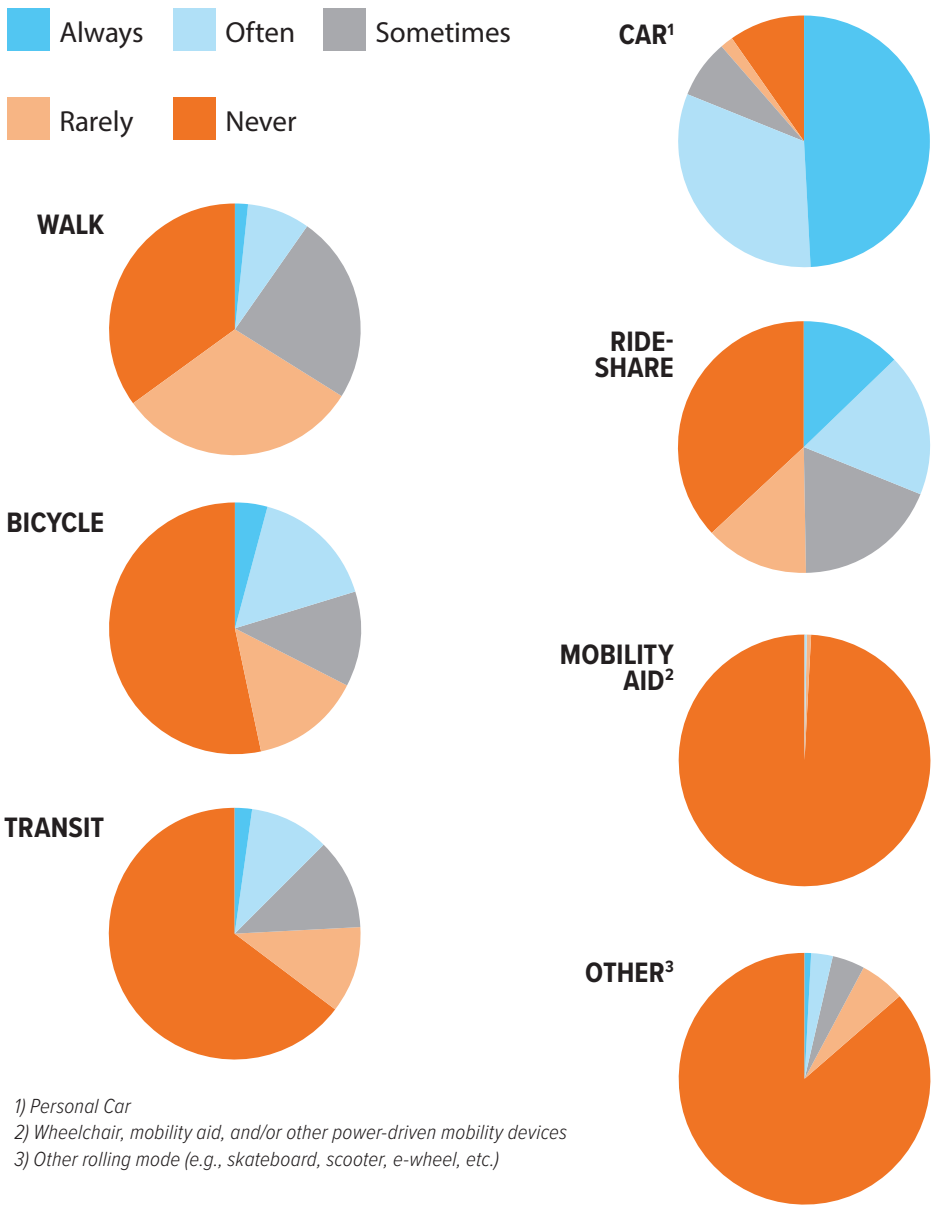
Figure 11: Responses to the question "When you make trips of less than ONE mile, how do you typically travel?"



1) Personal Car
2) Wheelchair, mobility aid, and/or other power-driven mobility devices
3) Other rolling mode (e.g., skateboard, scooter, e-wheel, etc.)

Overall, community stakeholders completed 231 project surveys. Of the people who responded, over 65% drive to destinations less than a mile away always or often, and over 80% drive to destinations between one and five miles away always or often. Most respondents identified exercise and enjoyment as the main reasons they walk or ride a bicycle. When asked what prevents them from walking more often along Arrow Highway, participants indicated that destinations are too far, concerns about vehicle traffic, and not having enough time as primary concerns. Participants also identified concerns about vehicle traffic, lack of dedicated bikeways, and destinations located too far away as primary reasons they do not ride a bicycle more often. Over a third of respondents indicated that they do not feel safe from cars when walking or biking along Arrow Highway. Multiple participants also noted the lack of bike parking at destinations along Arrow Highway.

Figure 12: Responses to the question “When you make trips of between ONE and FIVE miles, how do you typically travel?”



1) Personal Car
2) Wheelchair, mobility aid, and/or other power-driven mobility devices
3) Other rolling mode (e.g., skateboard, scooter, e-wheel, etc.)

COMMUNITY EVENTS AND PRESENTATIONS

The project team engaged with the public through ten community events and presentations during the existing conditions and recommendation phases of the study, as shown in Table 12. Based on feedback from members of the CAC, presentations about the project were given to local groups including school boards, committees, and neighborhood groups.

Table 12. Community Outreach Activities, By City

City	Date	Event Info
Glendora	Nov. 22, 2019	Holiday Tree Lighting - Roll to the Stroll - Go Human Demo
San Dimas	Dec. 7, 2019	Holiday Extravaganza - Bonita Avenue in Old Town
	Dec. 18, 2019	Classroom presentations - Bonita Unified School District
La Verne	Dec. 14, 2019	Winter Wonderland - Old Town La Verne, corner of Third Street & D Street
	Jan. 8, 2020	Bonita Unified School District Board Meeting
	Jan. 14, 2020	La Verne Active Transportation Committee
Pomona	Oct. 12, 2019	Downtown Pomona 5K
	Oct. 14, 2019	Class presentation at Cal Poly Pomona
	Jan. 18, 2020	Claremont Trotters & Pomona Valley Runners Social - Sanctum Brewing
Claremont	Dec. 16, 2020	Claremont Bicycle & Pedestrian Advisory Committee and Sustainable Claremont - Virtual Presentation

Go Human Demonstration

As part of the engagement process, the project team also implemented a Go Human demonstration event, "Roll to the Stroll" in Glendora. Roll to the Stroll took place simultaneously with the City's annual Holiday Stroll and Tree Lighting Festival to offer community members a unique way to experience Glendora Avenue. Together, the events opened up the City of Glendora's main street between Bennett and Carroll Avenues, and allowed residents to preview potential street improvements intended to make walking and biking in Glendora safer and more enjoyable. Residents were able to test out and share their feedback on a parking-protected separated bikeway, curb extensions, wayfinding signage, and a parklet. To help organize the event, a Project Advisory Committee was formed, made up of representatives from Glendora Transportation Division, Glendora Public Works Department, SCAG, and ActiveSGV.

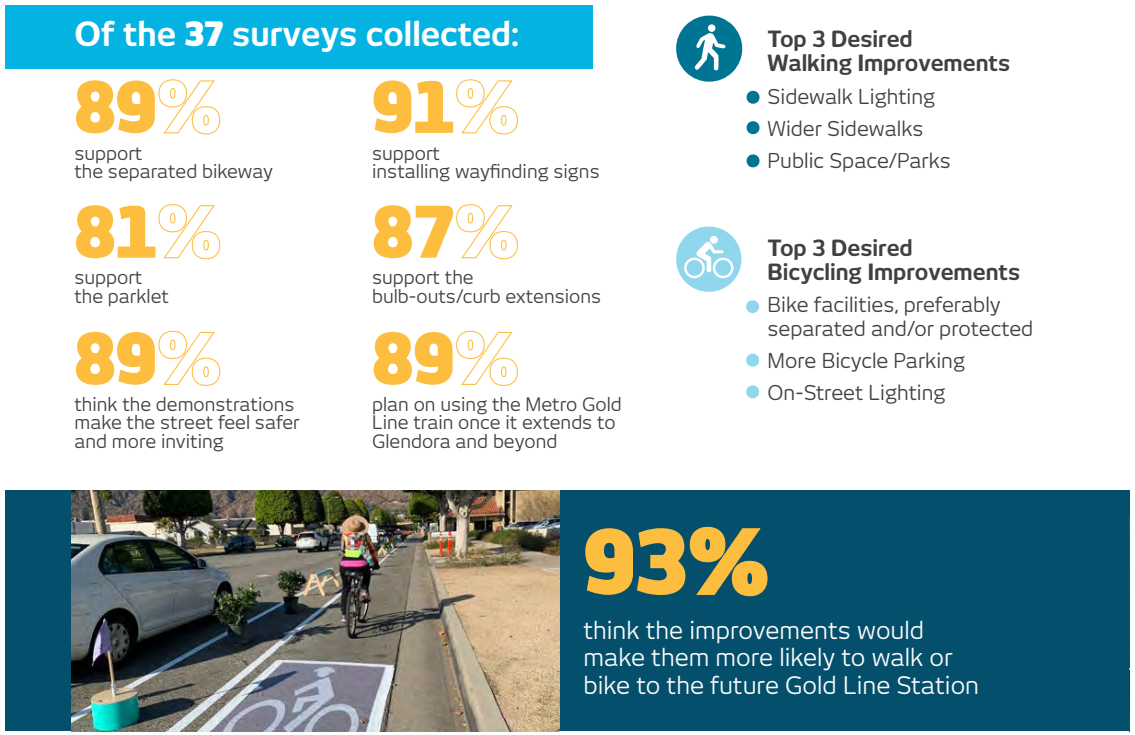


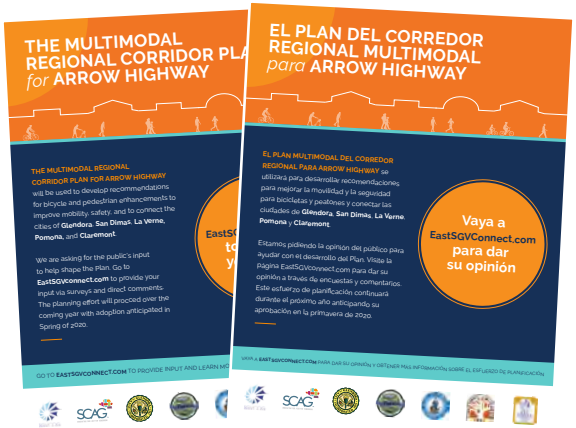
Figure 13: Results from Roll to the Stroll survey

It is estimated 3,000 to 5,000 people engaged with or witnessed the Roll to the Stroll demonstration. During the event, 37 surveys were collected. The top three desired walking improvements identified by survey respondents were sidewalk lighting, wider sidewalks, and additional public space/parks. They also identified separated/protected bike facilities, additional bike parking, and on-street lighting as their top three desired biking improvements. Additional results of these surveys are shown in Figure 13.

Promotional Materials

To help spread the word about the Plan and associated outreach events, the project team developed and distributed various branded promotional materials in English and Spanish. A project information sheet was distributed at multiple outreach events as well as made available on the project website.

In addition to the project information distributed by the project team, CAC members sent out information through their local network including chamber of commerce, sustainability groups, and local schools (elementary to college). The participating cities also provided information to residents via City websites, information items at City Council meetings, and through local commissions.



WHAT WE HEARD

During the engagement process, some common themes arose:

Conditions do not support safe walking, biking, and rolling	Arrow Highway remains a very car-centric corridor that is not friendly for people walking or riding bicycles. Sidewalks, crosswalks, bikeways, and other new facilities help ensure streets provid e safe places for people to walk and bike.
Streets lack lighting and shade	Various stretches lack lighting, shade, and/or sidewalks.
Residents feel car-dependent	People living in the Foothill cities shared that they are generally dependent on their cars and choose to drive to most of their destinations, including those that are less than one mile away.
Residents want Complete Streets	Many residents expressed interest in developing complete streets that include safer crosswalks, protected bike/roll lanes, and wayfinding signs.
Residents want to walk, bike, and roll on their neighborhood streets	Residents said they would get out of their cars more if their less trafficked neighborhood streets felt safer on foot, bike, or other mobility device.

04 INFRASTRUCTURE RECOMMENDATIONS

This chapter introduces the bicycle and pedestrian infrastructure and supporting amenities that the project cities intend to implement in the future, and the overall strategy employed in evaluating which type of facilities should be recommended at specific locations.

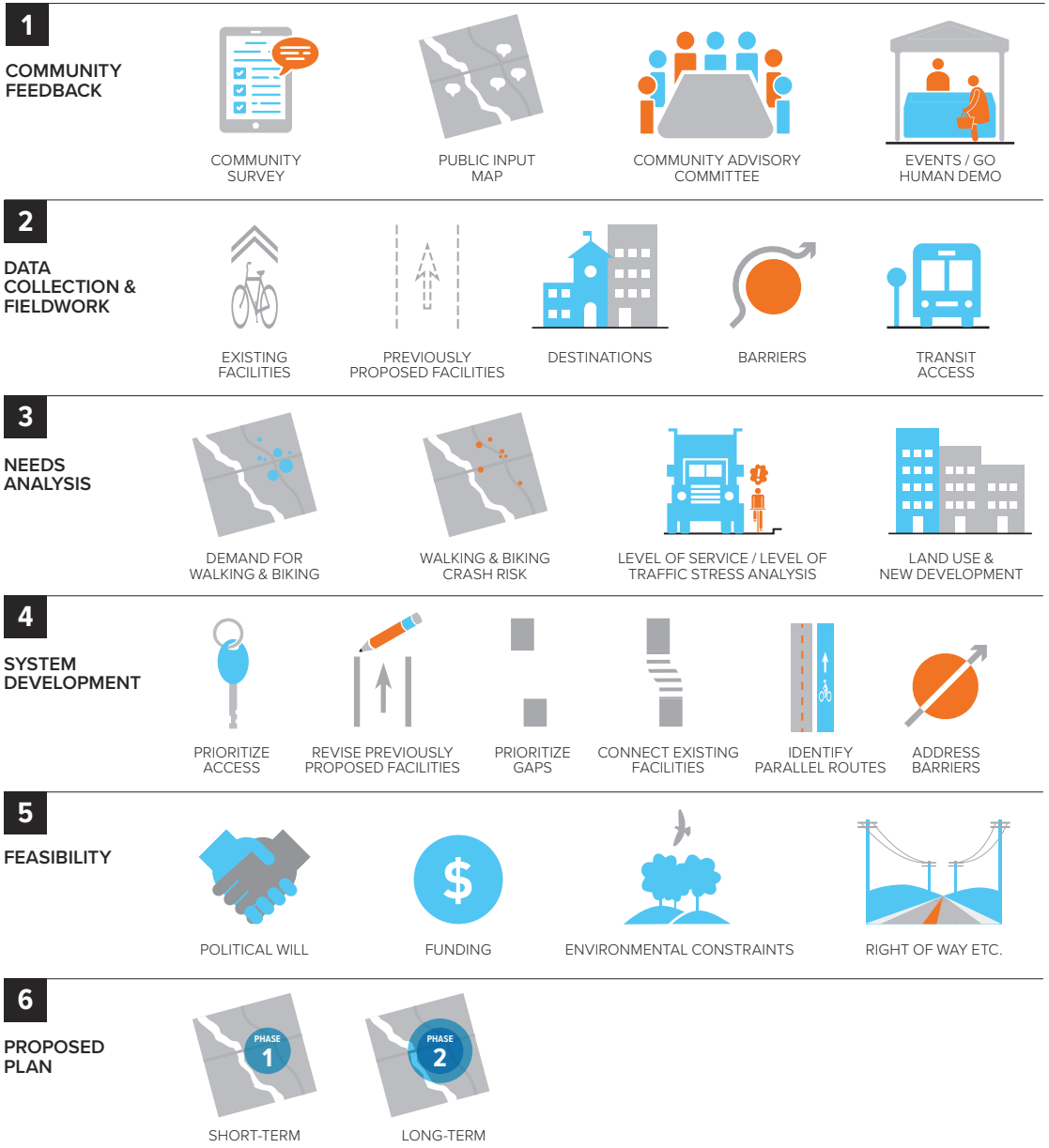
The following recommendations are considered "planning-level", meaning they will be used as a guide when implementing projects. In some cases, a traffic impact analysis and a more detailed design analysis will be required to evaluate specific site conditions and develop designs that reflect conditions and constraints.

Table 13. Key Themes

What We Heard	What We Propose
Conditions do not support safe walking, biking, and rolling	**Make it Safe** Sidewalks, crosswalks, bikeways, and other new facilities help ensure streets provide safe places for people to walk, bike, and roll.
Streets lack lighting and shade	**Make it Comfortable** Street lighting, trees, and bus stop shelters will make walking, biking, rolling, and waiting for transit more comfortable. Lighting will also help to improve visibility for all roadway users.
Residents feel car-dependent	**Make it Connected and Regional** The proposed east-west multimodal routes will connect all five cities to each other and to important destinations within the communities. The proposed multimodal facilities will also connect to regional transportation options.
Residents want Complete Streets	**Make it Transformative** The long-term transformation of Arrow Highway will encourage active transportation by providing protected bike/roll lanes and improved crossing opportunities throughout the corridor.
Residents want to walk, bike, and roll on their neighborhood streets	**Make it Local** While the recommendations focus on connecting the five cities, they also provide connections to local destinations and improved facilities for walking, biking, and rolling within local neighborhoods.

Developing recommendations is a multi-step process that requires understanding community feedback, existing conditions, and project feasibility, among many other factors. Key themes from the public input guided our overall recommendations. Various outlets allowed for public support for new and improved bicycle and pedestrian facilities to be voiced and recorded throughout the development of the Plan: events such as the tabling and presenting at local events and community groups, online and physical surveys, the online public input map, and the Go Human demonstration event. Roadways and areas that were mentioned multiple times across different outreach methods were examined as a high priority for inclusion in the recommended projects. Additionally, the project team worked closely with the CAC to develop the recommendations.

Recommendation Development Process




Glendora Ave
DELI & FAMILY RESTAURANT

To help readers better understand the following recommendations, we developed a Bicycle and Pedestrian Toolkit to detail the types of bicycle and pedestrian facilities/ treatments that are recommended in the Plan. These recommendations vary from well known and existing infrastructure like bike lanes and sidewalks to more intensive treatments like a separated bikeway and traffic calming devices.

Bicycle Facility Types

CLASS I

Shared-Use Path

- Paths completely separated from motor vehicle traffic used by people walking and biking.
- Comfortable for people of all ages and abilities.
- Typically located immediately adjacent and parallel to a roadway or in its own independent right-of-way, such as within a park or along a body of water.

CLASS II

Bicycle Lane

- A dedicated lane for bicycle travel adjacent to traffic.
- A painted white line separates the bicycle lane from motor vehicle traffic.

CLASS IIB

Buffered Bicycle Lane

- A dedicated lane for bicycle travel separated from vehicle traffic by a painted buffer.
- The buffer provides additional comfort for users by providing space from motor vehicles or parked cars.

CLASS III

Bicycle Route

- A signed bike route that people biking share with motor vehicles.
- Can include pavement markings.
- Comfortable facility for more confident bicyclists.
- Recommended when space for a bike lane may not be feasible.

COLOR PAVEMENT TREATMENT

Green Conflict Striping

- Colored pavement within a bicycle lane and separated bikeways increases the visibility of the facility, identifies potential areas of conflict, and reinforces priority to bicyclists in conflict areas
- This treatment is to be used at intersections and driveways; as part of bicycle lanes and separated bicycle facilities.

CLASS IV

Separated Bikeway

- An on-street bikeway separated from motor vehicle traffic by a curb, median, planters, parking delineators, or other physical barrier.

Pedestrian Facility Types

Sidewalks & Paths

- Completely separated from motor vehicle traffic.
- Used by people walking or using mobility devices such as wheelchairs.
- Sidewalks are typically located immediately adjacent and parallel to a roadway. Shared-use paths can be located in their own independent right-of-way, such as within a park or along a body of water.

Crossing Facilities

- Make crossing the street at intersections and midblock safer and more comfortable.
- High-visibility crosswalk markings are more visible to approaching vehicles and have been shown to improve yielding behavior.
- Advance yield markings, or "shark's teeth," show drivers where to stop when someone is using a crosswalk at a midblock or unsignalized location.

Curb Treatments

- Curb ramps allow users of all abilities to make the transition from the street to the sidewalk. They are required by the Americans with Disabilities Act (ADA) at all crosswalks, including those that are unmarked.
- Curb extensions create safer and shorter crossings for pedestrians. They can help slow vehicle traffic by visually narrowing the roadway. They also increase the available space for street furniture, plantings, and street trees.

Beacons & Signals

- Beacons and signals both indicate to drivers that someone may be crossing the street.
- Make crossing the street safer and more comfortable.
- Pedestrian countdown signals create a more predictable crossing environment and give adequate warning to pedestrians attempting to cross a roadway.
- Leading pedestrian intervals allow a pedestrian to begin crossing the street before the traffic signal turns green.

Pedestrian-scale Lighting

- Improves visibility for people walking, as opposed to street lights intended to light the roadway.
- Additional care and emphasis on pedestrian lighting should be taken at and near crosswalks.

Traffic Calming

- Encourage drivers to travel at slower speeds.
- Some treatments alter the configuration of a roadway, while others change how drivers perceive and respond to a street.
- Can be used at targeted locations such as a dangerous intersection, or along corridors.

PROPOSED BICYCLE AND PEDESTRIAN SPOT IMPROVEMENTS

The multi-step development process yielded spot bicycle and pedestrian improvement recommendations for the three studied routes: Arrow Highway, Bonita/Main Street, and the Neighborhood Route. The proposed infrastructure treatments and enhancements will improve the various routes for people walking, biking, rolling, and using transit. The proposed spot improvements are both short-term and long-term in nature, and they work in conjunction with the larger corridor vision recommendations to address existing deficiencies related to safety, comfort, and access. The types of spot recommendations include detectable curb ramps, high-visibility crosswalks, new or improved sidewalks, rectangular flashing beacons (RRFB), improved bicycle facilities, and enhanced transit stops (e.g., shelters with benches) that promote comfort and access for road users of all ages and abilities. Proposed Arrow Highway bikeways included here are generally long-term counterparts to those described in the subsequent section ("Arrow Highway Short-Term Bikeway Recommendations and Proposed Cross-Sections").

Figures 14 through 29 detail the location of each of the recommended improvements, and Tables 14 through 23 list the recommendations; the recommendations are separated by city. The prioritization of these proposed projects will be discussed in the subsequent Implementation chapter.

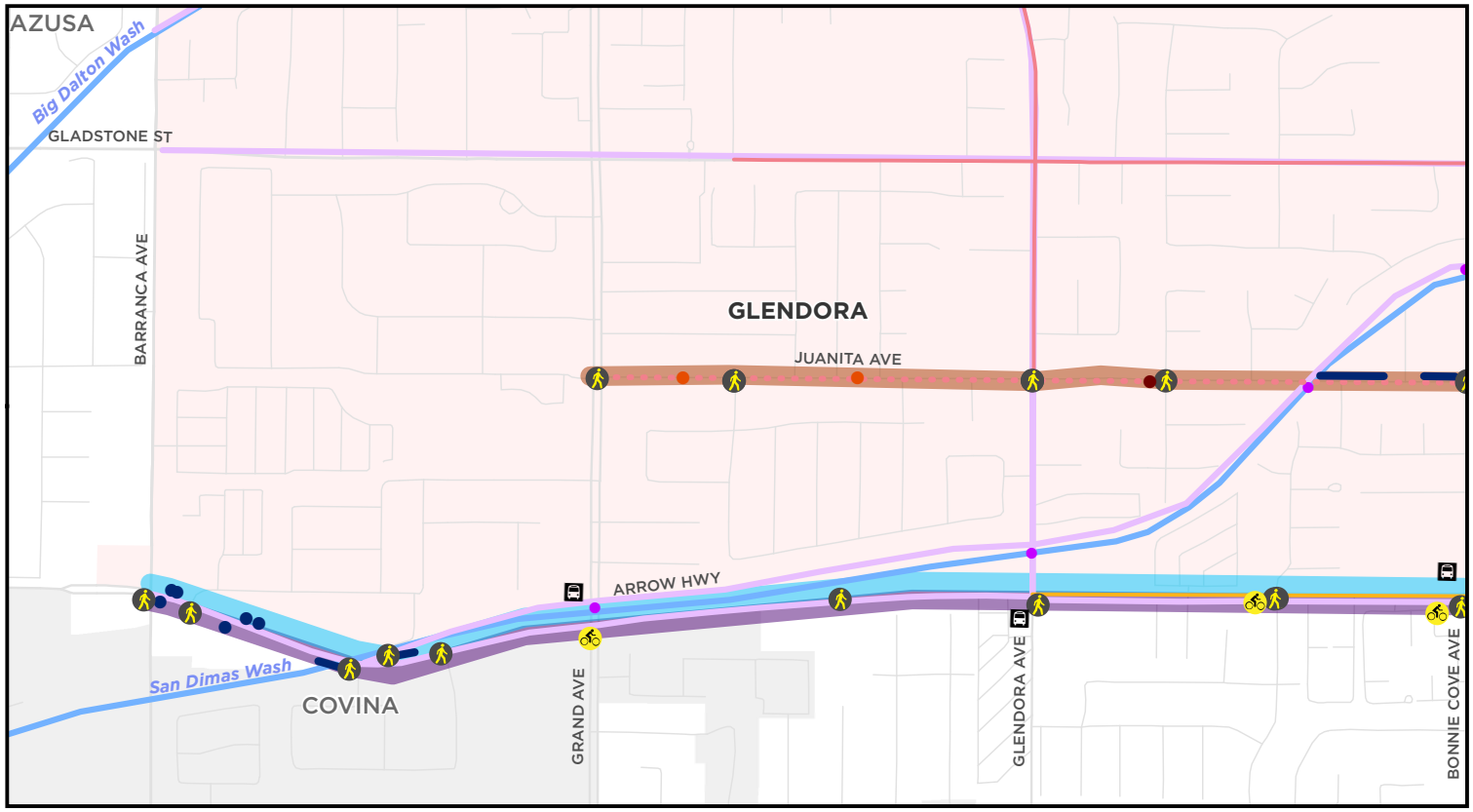


Figure 14: Glendora Recommended Improvements

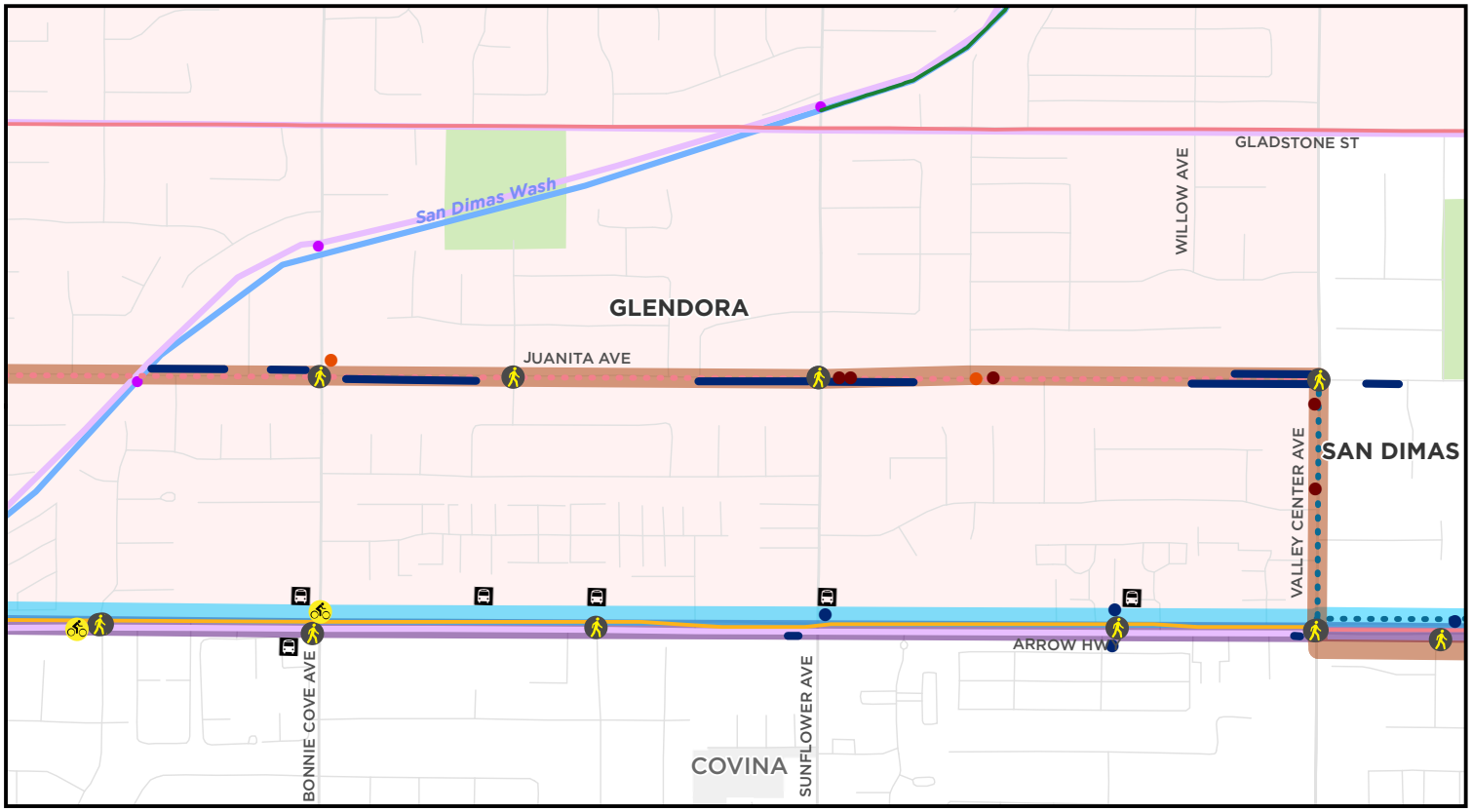


Figure 15: Glendora Recommended Improvements

Table 14. Glendora Linear Recommendations

Primary Street	From	To	Recommendation
Arrow Hwy	Barranca Ave	Arrow Grand Cir	Widen Sidewalk
Juanita Ave	Grand Ave	Valley Center Ave	Class III Bike Route/Bike Boulevard
Juanita Ave	Treanor Ave	Valley Center Ave	Close Sidewalk Gap
Juanita Ave	Heritage Pl	Bonnie Cove Ave	Close Sidewalk Gap
Juanita Ave	Bonnie Cove Ave	Bruning Ave	Close Sidewalk Gap
Juanita Ave	Sunflower Ave	Burnaby Dr	Close Sidewalk Gap
Juanita Ave	San Dimas Wash	Heritage Pl	Close Sidewalk Gap
Juanita Ave	Greer Ave	Sunflower Ave	Close Sidewalk Gap
Juanita Ave	Treanor Ave	Valley Center Ave	Close Sidewalk Gap
Arrow Hwy*	Lyman Ave	Sunflower Ave	Remove Sidewalk Obstruction
Arrow Hwy*	Sunflower Ave	Valley Center Ave	Widen Sidewalk

** This location is within an unincorporated portion of Los Angeles County. Coordination between the City and County will be required to implement this recommendation*

Table 15. Glendora Point Recommendations

Street 1	Street 2	Recommendation
Arrow Hwy	Bonita Ave	New or Improved Curb Ramp
Arrow Hwy	Bonita Ave	New or Improved Curb Ramp
Arrow Hwy	Bonita Ave	New or Improved Curb Ramp
Barranca Ave	Arrow Hwy	New or Improved Curb Ramp
Arrow Hwy	Bonita Ave	Correct Sidewalk Defect
Arrow Hwy	Grand Ave	Bus Stop Improvement
Arrow Hwy	Bonita Ave	Correct Sidewalk Defect
Arrow Hwy	Grand Ave	Bike Rack
Arrow Hwy	Sunflower Ave	Bus Stop Improvement
Arrow Hwy	Arrow Grand Cir	New or Improved Curb Ramp
Bonnie Cove Ave	Arrow Hwy	Bus Stop Improvement
Arrow Hwy	Sunflower Ave	Widen Sidewalk
Arrow Hwy	Lyman Ave	Bus Stop Improvement
Arrow Hwy	B St	High Visibility Crosswalk
Arrow Hwy	Lyman Ave	No Bus Stop Improvement here
Strawberry Ln	Arrow Hwy	Bus Stop Improvement
Strawberry Ln	Arrow Hwy	Remove Sidewalk Obstruction
Bonnie Cove Ave	Juanita Ave	High Visibility Crosswalk(s)
Bonnie Cove Ave	Juanita Ave	Mini-Roundabout
Valley Center Ave	Valley Center Ave	Trees
Bonnie Cove Ave	Juanita Ave	Curb Extensions
Sunflower Ave	Juanita Ave	High Visibility Crosswalk(s)
Grand Ave	Juanita Ave	High Visibility Crosswalk(s)
Sunflower Ave	Juanita Ave	Leading Pedestrian Interval

Street 1	Street 2	Recommendation
Sunflower Ave	Juanita Ave	Parkway Trees
Grand Ave	Juanita Ave	Leading Pedestrian Interval
Juanita Ave	Glendora Ave	High Visibility Crosswalk(s)
Rimhurst Ave	Juanita Ave	High Visibility Crosswalk(s)
Rimhurst Ave	Juanita Ave	Parkway Trees
Juanita Ave	Glendora Ave	Leading Pedestrian Interval
Burnaby Dr	Juanita Ave	Parkway Trees
Burnaby Dr	Juanita Ave	Speed Management
Bender Ave	Juanita Ave	High Visibility Crosswalk
Sunflower Ave	Juanita Ave	Chicanes with trees
Bender Ave	Juanita Ave	Chicane with Trees
Valley Center Ave	Juanita Ave	High Visibility Crosswalk(s)
Valley Center Ave	Juanita Ave	New or Improved Curb Ramp
Valley Center Ave	Juanita Ave	New or Improved Curb Ramp
Juanita Ave	Bruning Ave	Crosswalk
Bender Ave	Juanita Ave	Curb Extension w/ Stormwater Capture
Jenifer Ave	Juanita Ave	Chicane with Trees
Valley Center Ave	Juanita Ave	Chicanes with trees
Arrow Hwy*	Bonita Ave	New or Improved Curb Ramp
Glendora Ave*	Arrow Hwy	Bus Stop Improvement
Barranca Ave*	Arrow Hwy	New or Improved Curb Ramp
Barranca Ave*	Arrow Hwy	New or Improved Curb Ramp

** This location is within an unincorporated portion of Los Angeles County. Coordination between the City and County will be required to implement this recommendation*

Street 1	Street 2	Recommendation
Glendora Ave*	Arrow Hwy	New or Improved Curb Ramp
Sunflower Ave*	Arrow Hwy	Bus Stop Improvement
Barranca Ave*	Arrow Hwy	Widen Sidewalk
Bonnie Cove Ave*	Arrow Hwy	Install Class II Bike Lanes
Bonnie Cove Ave*	Arrow Hwy	Bus Stop Improvement
Arrow Hwy*	Bonita Ave	Remove Sidewalk Obstruction
Bonnie Cove Ave*	Arrow Hwy	New or Improved Curb Ramp
Bonnie Cove Ave*	Arrow Hwy	New or Improved Curb Ramp
Bonnie Cove Ave*	Arrow Hwy	Bike Rack
Banna Ave*	Arrow Hwy	Crosswalk and PHB
Arrow Hwy*	Strawberry Ln	Crosswalk and PHB
Banna Ave*	Arrow Hwy	Upgrade Sharrows to Conflict Zone Striping
Banna Ave*	Arrow Hwy	Median Refuge Island
Arrow Hwy*	B St	RRFB or PHB
Arrow Hwy*	Lyman Ave	Crosswalk
Arrow Hwy*	Strawberry Ln	Remove Sidewalk Obstruction
Valley Center Ave*	Arrow Hwy	New or Improved Curb Ramp
Valley Center Ave*	Arrow Hwy	Leading Pedestrian Interval

** This location is within an unincorporated portion of Los Angeles County. Coordination between the City and County will be required to implement this recommendation*

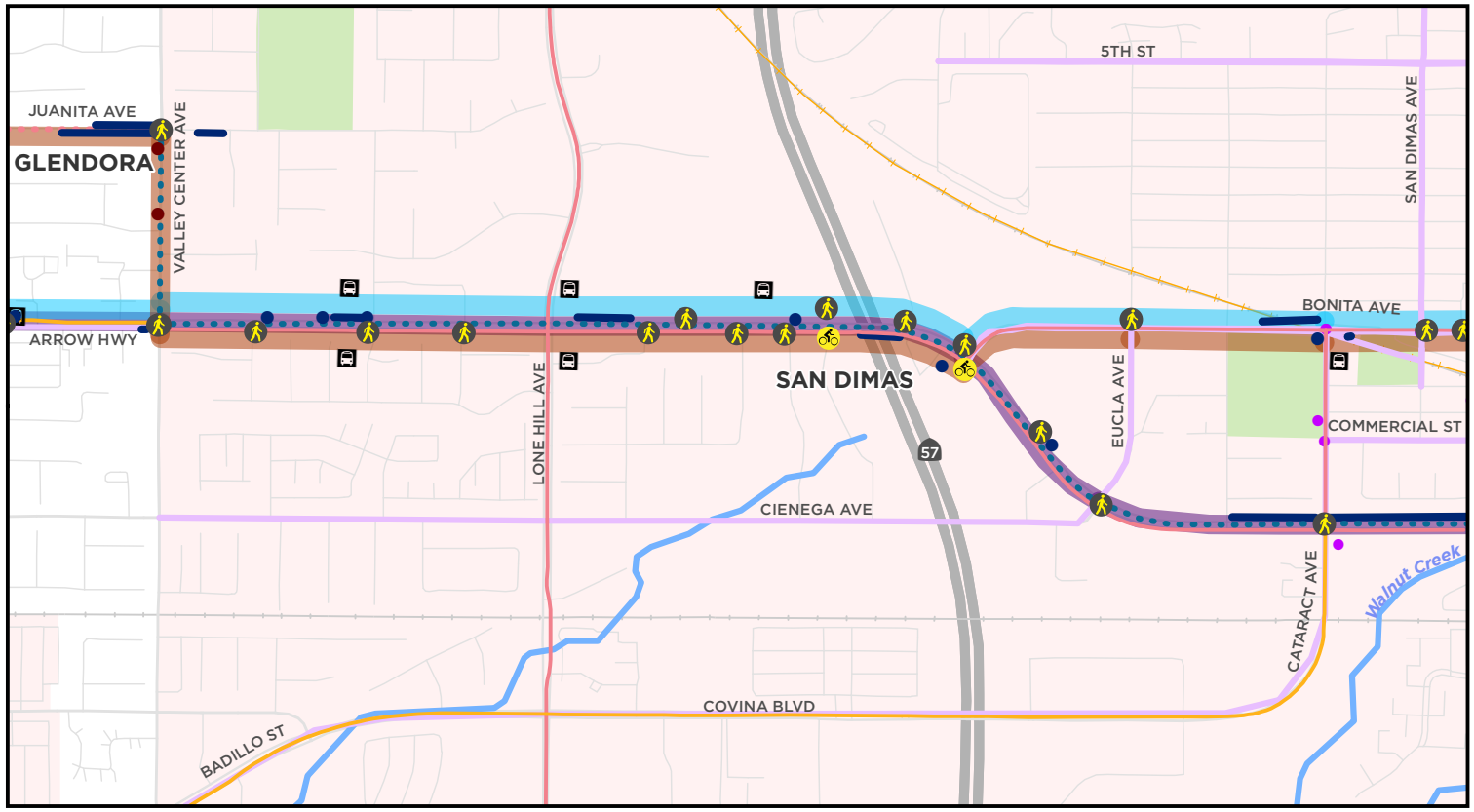


Figure 16: San Dimas Recommended Improvements

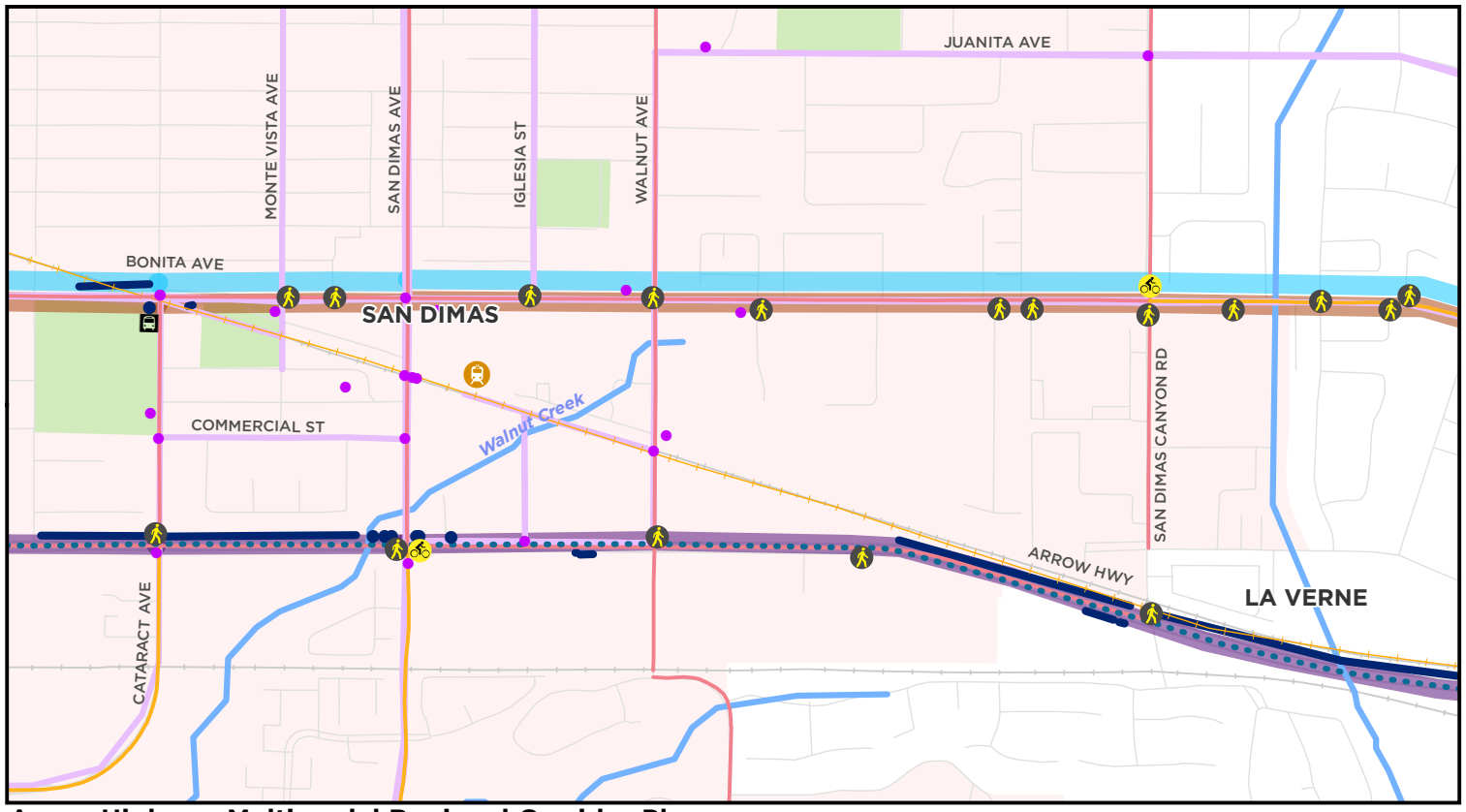


Figure 17: San DImas Recommended Improvements

Table 16. San Dimas Linear Recommendations

Primary Street	From	To	Recommendation
Arrow Hwy	Cataract Ave	San Dimas Ave	Close Sidewalk Gap
Arrow Hwy	Walnut Ave	San Dimas Canyon Rd	Close Sidewalk Gap
Arrow Hwy	Acacia St	Cataract Ave	Close Sidewalk Gap
Arrow Hwy	San Dimas Ave	Walnut Ave	Close Sidewalk Gap
Arrow Hwy	Valley Center Ave	San Dimas Canyon Rd	Class IV Separated Bikeway
Arrow Hwy	SR 57 Fwy	Bonita Ave	Widen Sidewalk
Valley Center Ave	Juanita Ave	Arrow Hwy	Class IV Separated Bikeway
Arrow Hwy	Lone Hill Ave	Maimone Ave	Widen Sidewalk
Arrow Hwy	Valley Center Ave	Rennell Ave	Widen Sidewalk
Bonita Ave	Acacia St	Cataract Ave	Close Sidewalk Gap
Juanita Ave	Valley Center Ave	Nugget Ct	Close Sidewalk Gap

Table 17. San Dimas Point Recommendations

Street 1	Street 2	Recommendation
Arrow Hwy	San Dimas Ave	New or Improved Curb Ramp
Arrow Hwy	San Dimas Ave	Bike Rack
Arrow Hwy	San Dimas Ave	Remove Sidewalk Obstruction
Arrow Hwy	San Dimas Ave	Remove Sidewalk Obstruction
Arrow Hwy	San Dimas Ave	Remove Sidewalk Obstruction
Arrow Hwy	San Dimas Ave	Remove Sidewalk Obstruction
Arrow Hwy	San Dimas Ave	Remove Sidewalk Obstruction
Arrow Hwy	San Dimas Ave	Remove Sidewalk Obstruction
Arrow Hwy	San Dimas Canyon Rd	New or Improved Curb Ramp
Arrow Hwy	Cataract Ave	New or Improved Curb Ramp
Arrow Hwy	Cataract Ave	New or Improved Curb Ramp
Arrow Hwy	Cataract Ave	New or Improved Curb Ramp
Arrow Hwy	Cataract Ave	New or Improved Curb Ramp
Arrow Hwy	Walnut Ave	New or Improved Curb Ramp
Arrow Hwy	Walnut Ave	New or Improved Curb Ramp
Arrow Hwy	Walnut Ave	New or Improved Curb Ramp
Arrow Hwy	Artesian Ct	New or Improved Curb Ramp
Arrow Hwy	Walnut Ave	New or Improved Curb Ramp
Arrow Hwy	Artesian Ct	New or Improved Curb Ramp
Eucla Ave	Arrow Hwy	New or Improved Curb Ramp
Eucla Ave	Arrow Hwy	New or Improved Curb Ramp
Eucla Ave	Arrow Hwy	Close Sidewalk Gap
Village Ct	Arrow Hwy	New or Improved Curb Ramp
Arrow Hwy	Bonita Ave	New or Improved Curb Ramp
Village Ct	Arrow Hwy	New or Improved Curb Ramp
Arrow Hwy	Bonita Ave	Remove Sidewalk Obstruction

Street 1	Street 2	Recommendation
Valley Center Ave	Arrow Hwy	New or Improved Curb Ramp
Arrow Hwy	Bonita Ave	New or Improved Curb Ramp
Arrow Hwy	Bonita Ave	New or Improved Curb Ramp
Valley Center Ave	Arrow Hwy	High Visibility Crosswalk(s)
Arrow Hwy	Bonita Ave	New or Improved Curb Ramp
Arrow Hwy	Bonita Ave	Green Conflict Striping
Arrow Hwy	Maimone Ave	New or Improved Curb Ramp
Arrow Hwy	Lone Hill Ave	Bus Stop Improvement
Arrow Hwy	Maimone Ave	New or Improved Curb Ramp
Arrow Hwy	Lone Hill Ave	Bus Stop Improvement
Arrow Hwy	Maimone Ave	Bus Stop Improvement
Arrow Hwy	SR 57 Fwy	Pedestrian Crossing Signs
Arrow Hwy	Maimone Ave	New or Improved Curb Ramp
Arrow Hwy	Maimone Ave	New or Improved Curb Ramp
Arrow Hwy	Maimone Ave	New or Improved Curb Ramp
Arrow Hwy	Bonita Ave	Remove Sidewalk Obstruction
Arrow Hwy	SR 57 Fwy	Bicycle Conflict Zone Striping
Arrow Hwy	Lone Hill Ave	New or Improved Curb Ramp
Arrow Hwy	Lone Hill Ave	New or Improved Curb Ramp
Arrow Hwy	Maimone Ave	New or Improved Curb Ramp
Arrow Hwy	Maimone Ave	Remove Sidewalk Obstruction
Rennell Ave	Arrow Hwy	New or Improved Curb Ramp
Arrow Hwy	Ingleton Ave	New or Improved Curb Ramp
Rennell Ave	Arrow Hwy	New or Improved Curb Ramp
Arrow Hwy	Ingleton Ave	New or Improved Curb Ramp
Buckingham Ave	Arrow Hwy	New or Improved Curb Ramp

Street 1	Street 2	Recommendation
Rennell Ave	Arrow Hwy	Bus Stop Improvement
Buckingham Ave	Arrow Hwy	New or Improved Curb Ramp
Rennell Ave	Arrow Hwy	Bus Stop Improvement
Rennell Ave	Arrow Hwy	Remove Sidewalk Obstruction
Arrow Hwy	Ingleton Ave	Widen Sidewalk
Rennell Ave	Arrow Hwy	Widen Sidewalk
Eucla Ave	Arrow Hwy	New or Improved Curb Ramp
Eucla Ave	Arrow Hwy	New or Improved Curb Ramp
Exchange Pl	Bonita Ave	Advance Yield Markings
Bonita Ave	San Dimas Canyon Rd	New or Improved Curb Ramp
Bonita Ave	San Dimas Canyon Rd	Leading Pedestrian Interval
Bonita Ave	Walnut Ave	High Visibility Crosswalk(s)
Monte Vista Ave	Bonita Ave	Advance Yield Markings
Bonita Ave	Iglesia St	High Visibility Crosswalk(s)
Pony Express Rd	Bonita Ave	New or Improved Curb Ramp
Pony Express Rd	Bonita Ave	New or Improved Curb Ramp
Cataract Ave	Bonita Ave	Bus Stop Improvement
Bonita Ave	San Dimas Canyon Rd	Bike-Friendly Intersection
Cataract Ave	Bonita Ave	Remove Sidewalk Obstruction
Bonita Ave	Eucla Ave	New or Improved Curb Ramp
Bonita Ave	Eucla Ave	New or Improved Curb Ramp
Bonita Ave	Eucla Ave	New or Improved Curb Ramp
Bonita Ave	Eucla Ave	New or Improved Curb Ramp
Gaffney Ave	Bonita Ave	New or Improved Curb Ramp
Gaffney Ave	Bonita Ave	New or Improved Curb Ramp
Gaffney Ave	Bonita Ave	New or Improved Curb Ramp
Gaffney Ave	Bonita Ave	New or Improved Curb Ramp

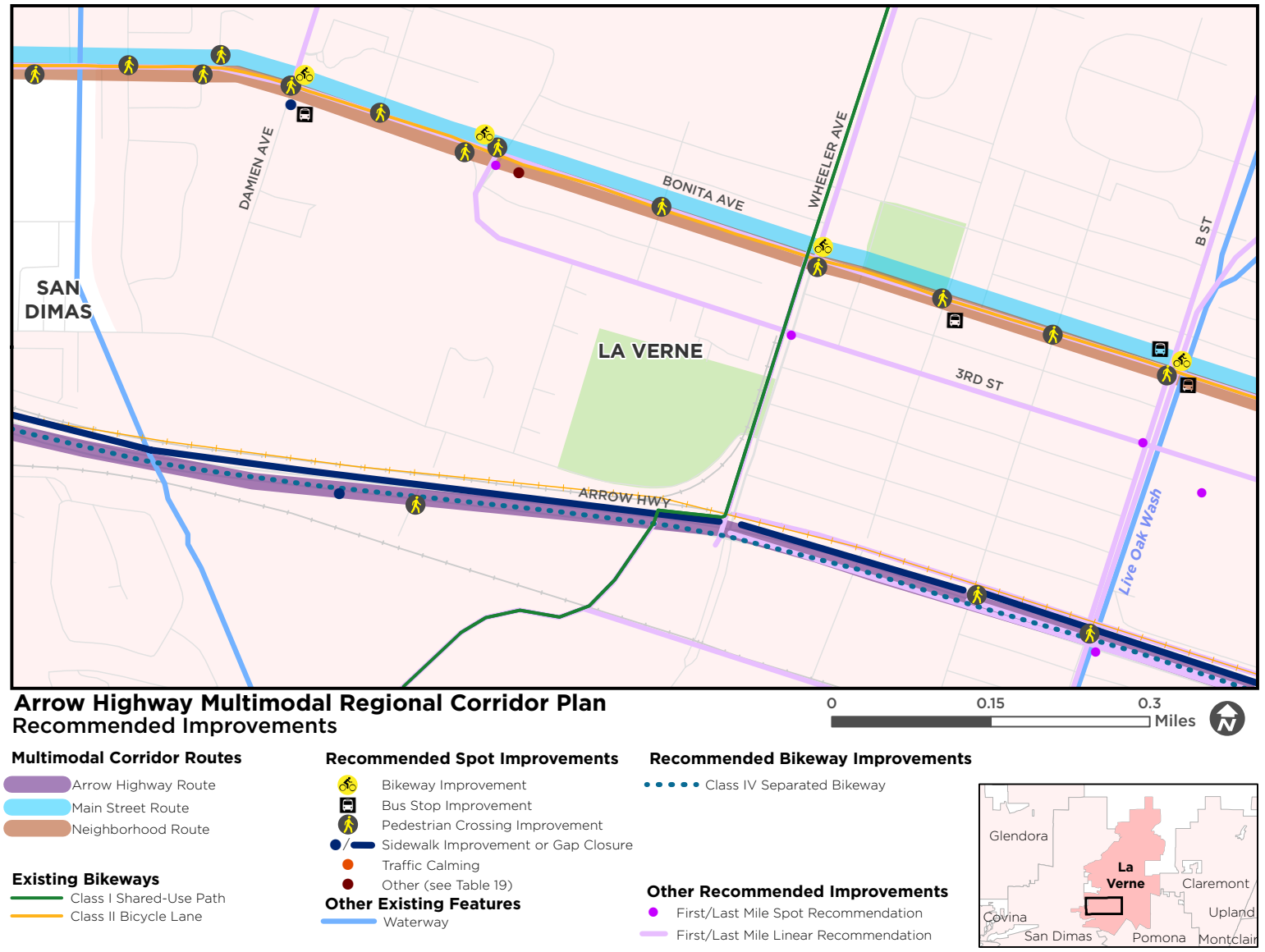


Figure 18: La Verne Recommended Improvements

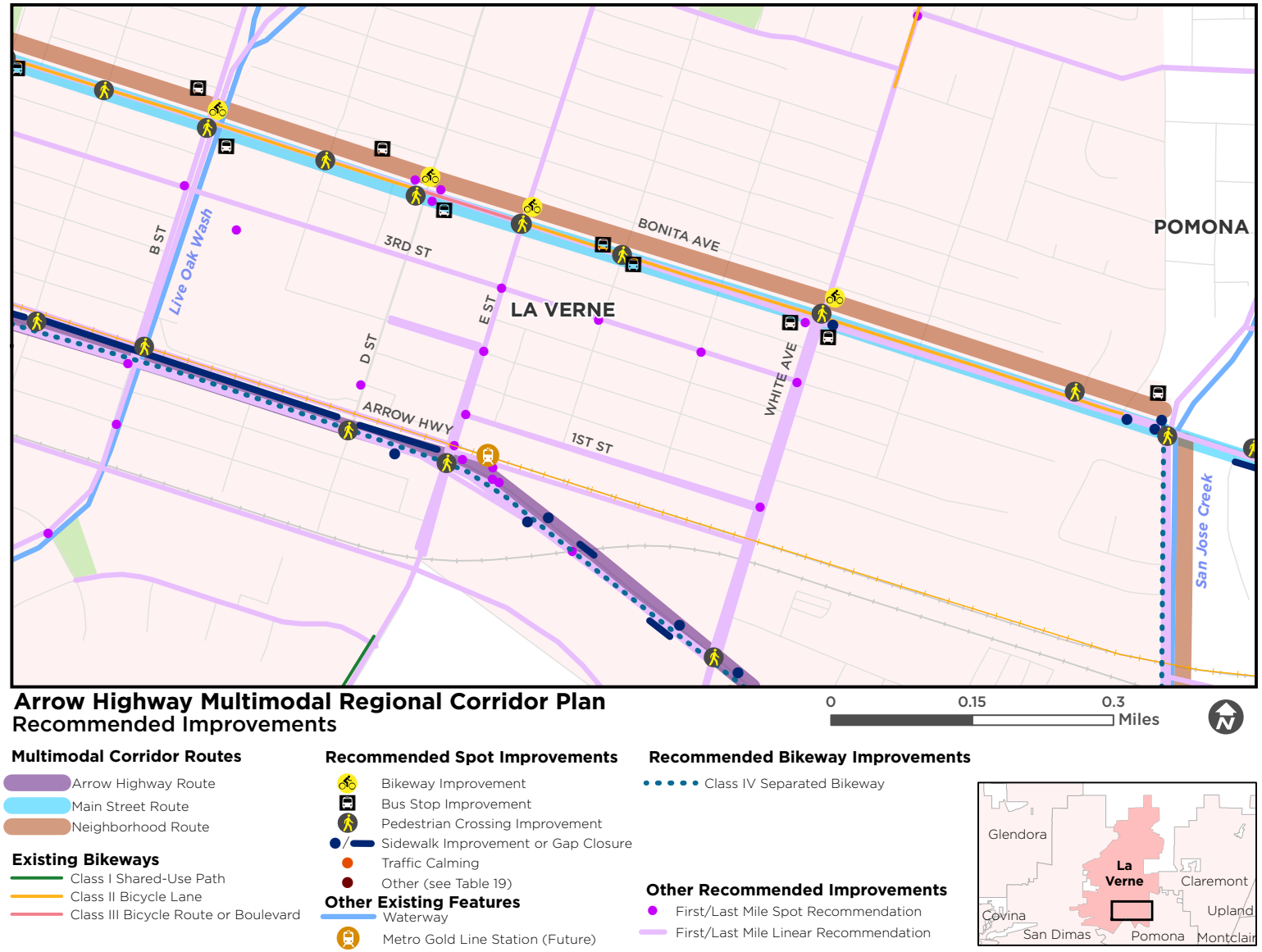


Figure 19: La Verne Recommended Improvements

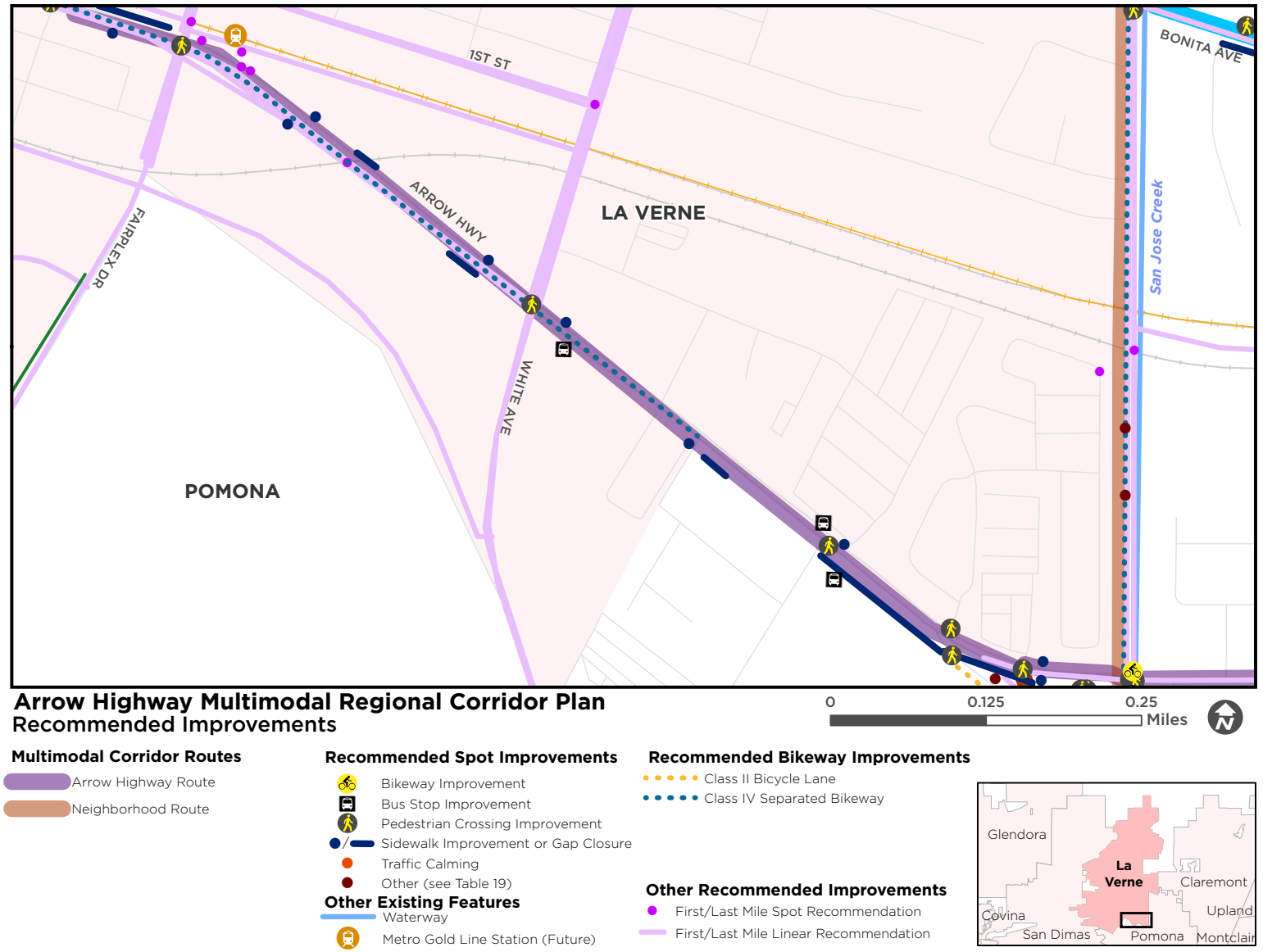


Figure 20: La Verne Recommended Improvements

Table 18. La Verne Linear Recommendations*

Primary Street	From	To	Recommendation
Arrow Hwy	San Dimas Canyon Rd	Fulton Rd	Class IV Separated Bikeway
Arrow Hwy	Fairplex Dr	White Ave	Widen Sidewalk
Arrow Hwy	San Dimas Canyon Rd	D St	Close Sidewalk Gap
Arrow Hwy	San Dimas Canyon Rd	Fairplex Dr	Close Sidewalk Gap
Arrow Hwy	Wheeler Ave	A St	Close Sidewalk Gap
Arrow Hwy	San Dimas Canyon Rd	Wheeler Ave	Close Sidewalk Gap
Arrow Hwy	Fairplex Dr	White Ave	Close Sidewalk Gap
Arrow Hwy	Walnut Ave	San Dimas Canyon Rd	Close Sidewalk Gap
Arrow Hwy	San Dimas Canyon Rd	Wheeler Ave	Close Sidewalk Gap
Arrow Hwy	Walnut Ave	San Dimas Canyon Rd	Close Sidewalk Gap
Fulton Rd	Bonita Ave	Arrow Hwy	Class IV Separated Bikeway

**Refer to the City of La Verne's Active Transportation Plan for further information on pedestrian and bicycle facility recommendations.*

Table 19. La Verne Point Recommendations

Street 1	Street 2	Recommendation
White Ave	Arrow Hwy	New or Improved Curb Ramp
White Ave	Arrow Hwy	New or Improved Curb Ramp
Arrow Hwy	White Ave	New or Improved Curb Ramp
White Ave	Arrow Hwy	New or Improved Curb Ramp
Arrow Hwy	White Ave	Bus Stop Improvement
Arrow Hwy	E St	Crosswalk Upgrades
Arrow Hwy	White Ave	Remove Sidewalk Obstruction
White Ave	Arrow Hwy	Remove Sidewalk Obstruction
Arrow Ave	A St	New or Improved Curb Ramp
Arrow Hwy	B St	Crosswalk
Arrow Hwy	B St	New or Improved Curb Ramp
Arrow Hwy	B St	Enhance Crosswalk with PHB or RRFB
D St	Arrow Hwy	Crosswalk Upgrades
Arrow Hwy	La Verne Ave	New or Improved Curb Ramp
Arrow Hwy	La Verne Ave	New or Improved Curb Ramp
Fair Ave	Arrow Hwy	Bus Stop Improvement
Arrow Hwy	Southern Pacific RR	Remove Sidewalk Obstruction
Arrow Hwy	San Dimas Canyon Rd	New or Improved Curb Ramp
Arrow Hwy	Southern Pacific RR	Remove Sidewalk Obstruction
Arrow Hwy	San Dimas Canyon Rd	New or Improved Curb Ramp
D St	Arrow Hwy	Remove Sidewalk Obstruction
Arrow Hwy	San Dimas Canyon Rd	New or Improved Curb Ramp
Arrow Hwy	Carrion Rd	New or Improved Curb Ramp
Munster St	Arrow Hwy	Remove Sidewalk Obstruction
Arrow Hwy	Carrion Rd	Remove Sidewalk Obstruction

Street 1	Street 2	Recommendation
Arrow Hwy	Fulton Rd	New or Improved Curb Ramp
Arrow Hwy	La Verne Ave	New or Improved Curb Ramp
Arrow Hwy	La Verne Ave	Remove Sidewalk Obstruction
Arrow Hwy	La Verne Ave	Remove Sidewalk Obstruction
Southern Pacific RR	Fulton Rd	Lighting
Bonita Ave	D St	High Visibility Crosswalk(s)
Bonita Ave	D St	Leading Pedestrian Interval
Bonita Ave	D St	Bus Stop Improvement
Bonita Ave	D St	Bus Stop Improvement
Bonita Ave	D St	Bike-Friendly Intersection
Bonita Ave	D St	Bike-Friendly Intersection
Bonita Ave	C St	Crosswalk
E St	Bonita Ave	Leading Pedestrian Interval
E St	Bonita Ave	High Visibility Crosswalk(s)
Bonita Ave	San Dimas Canyon Rd	High Visibility Crosswalk(s)
Bonita Ave	Sedalia Ave	New or Improved Curb Ramp
Bonita Ave	Sedalia Ave	New or Improved Curb Ramp
White Ave	Bonita Ave	High Visibility Crosswalk(s)
White Ave	Bonita Ave	New or Improved Curb Ramp
White Ave	Bonita Ave	New or Improved Curb Ramp
White Ave	Bonita Ave	Bus Stop Improvement
Damien Ave	Bonita Ave	Leading Pedestrian Interval
Bonita Ave	Sylvan Ln	New or Improved Curb Ramp
Damien Ave	Bonita Ave	High Visibility Crosswalks
White Ave	Bonita Ave	Bus Stop Improvement
White Ave	Bonita Ave	Leading Pedestrian Interval

Street 1	Street 2	Recommendation
Damien Ave	Bonita Ave	Bus Stop Improvement
Bonita Ave	Fulton Rd	New or Improved Curb Ramp
Bonita Ave	Moss Cir	New or Improved Curb Ramp
Bonita Ave	Moss Cir	New or Improved Curb Ramp
Bonita Ave	Fulton Rd	Bus Stop Improvement
Bonita Ave	San Dimas Canyon Rd	Bike-Friendly Intersection
Bonita Ave	Sylvan Ln	New or Improved Curb Ramp
Bonita Ave	Sylvan Ln	New or Improved Curb Ramp
Wheeler Ave	Bonita Ave	Leading Pedestrian Interval
Wheeler Ave	Bonita Ave	High Visibility Crosswalk(s)
White Ave	Bonita Ave	Bike-Friendly Intersection
White Ave	Bonita Ave	Remove Sidewalk Obstructions
Bonita Ave	Damien Ave	Bike-Friendly Intersection
Bonita Ave	F St	Bus Stop Improvement
Damien Ave	Bonita Ave	Bike-Friendly Intersection
E St	Bonita Ave	Bike-Friendly Intersection
Damien Ave	Bonita Ave	Remove Sidewalk Obstructions
Bonita Ave	White Ave	Bike-Friendly Intersection
Glenfield Ave	Bonita Ave	New or Improved Curb Ramp
Bonita Ave	3rd St	High Visibility Crosswalk
Glenfield Ave	Bonita Ave	New or Improved Curb Ramp
Glenfield Ave	Bonita Ave	High Visibility Crosswalk
Glenfield Ave	Bonita Ave	New or Improved Curb Ramp
Glenfield Ave	Bonita Ave	High Visibility Crosswalk
Glenfield Ave	Bonita Ave	New or Improved Curb Ramp
Glenfield Ave	Bonita Ave	Crosswalk with PHB or RRFB and Pedestrian Refuge Island

Street 1	Street 2	Recommendation
Glenfield Ave	Bonita Ave	Parkway Trees
Bonita Ave	B St	Bus Stop Improvement
Bonita Ave	Fulton Rd	Remove Sidewalk Obstruction
Bonita Ave	Fulton Rd	Remove Sidewalk Obstruction
Bonita Ave	Fulton Rd	Remove Sidewalk Obstruction
Bonita Ave	B St	High Visibility Crosswalk(s)
Bonita Ave	B St	Leading Pedestrian Interval
Bonita Ave	Pattiglen Ave	Crosswalk with RRFB and Pedestrian Refuge Island
Wheeler Ave	Bonita Ave	Bike-Friendly Intersection
Bonita Ave	Wheeler Ave	Bike-Friendly Intersection
Bonita Ave	F St	Crosswalk with RRFB
Bonita Ave	F St	Bus Stop Improvement
Bonita Ave	Glenfield Ave	Bike-Friendly Intersection
Bonita Ave	3rd St	Curb Extension
Bonita Ave	B St	Bike-Friendly Intersection
Bonita Ave	B St	Bike-Friendly Intersection
Esther Ave	Bonita Ave	New or Improved Curb Ramp
Esther Ave	Bonita Ave	New or Improved Curb Ramp
Esther Ave	Bonita Ave	New or Improved Curb Ramp
Esther Ave	Bonita Ave	New or Improved Curb Ramp
Bonita Ave	B St	Bus Stop Improvement
Park Ave	Bonita Ave	Bus Stop Improvement
Park Ave	Bonita Ave	Bus Stop Improvement
Park Ave	Bonita Ave	Crosswalk with RRFB
Bonita Ave	A St	Crosswalk with RRFB

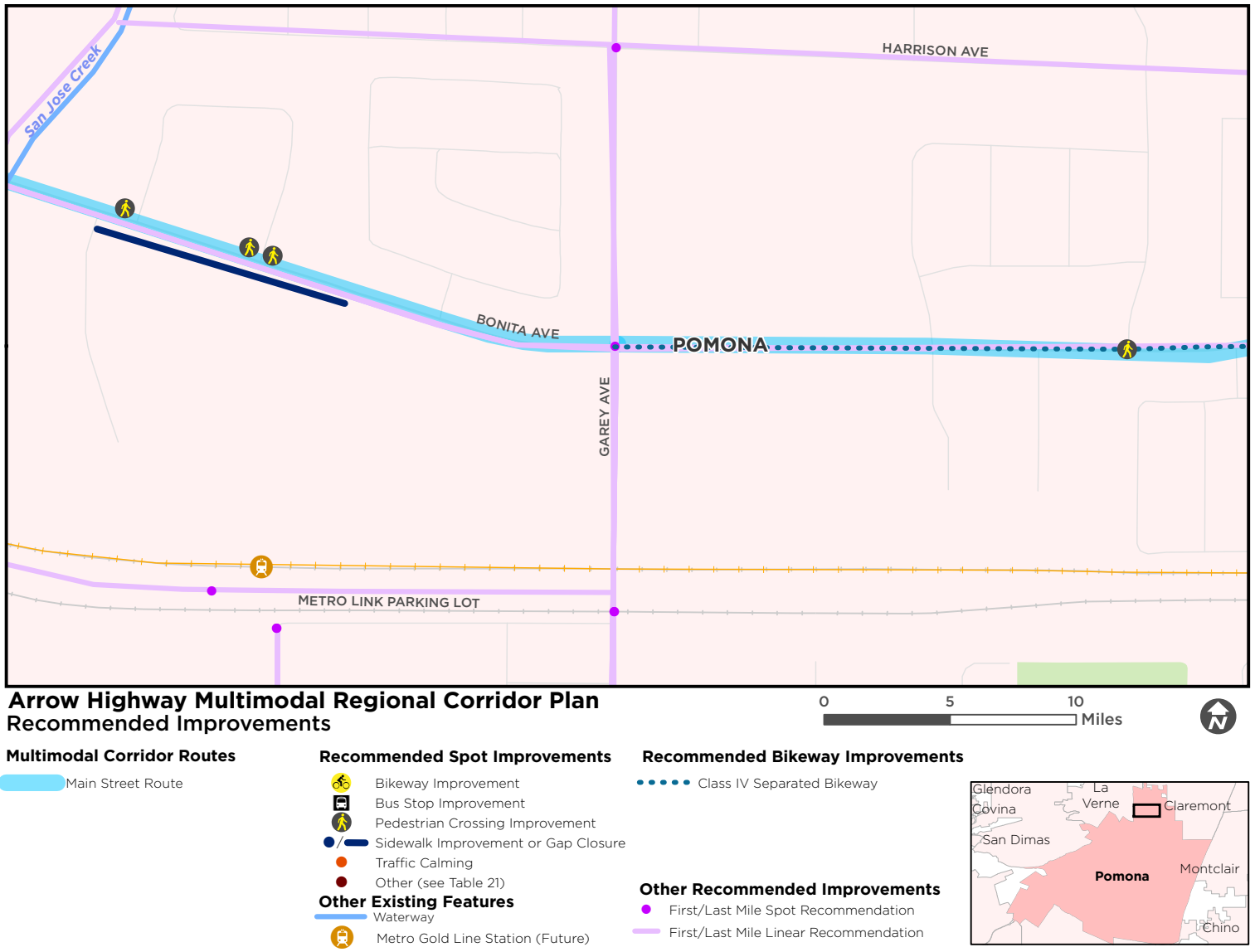


Figure 21: Pomona Recommended Improvements

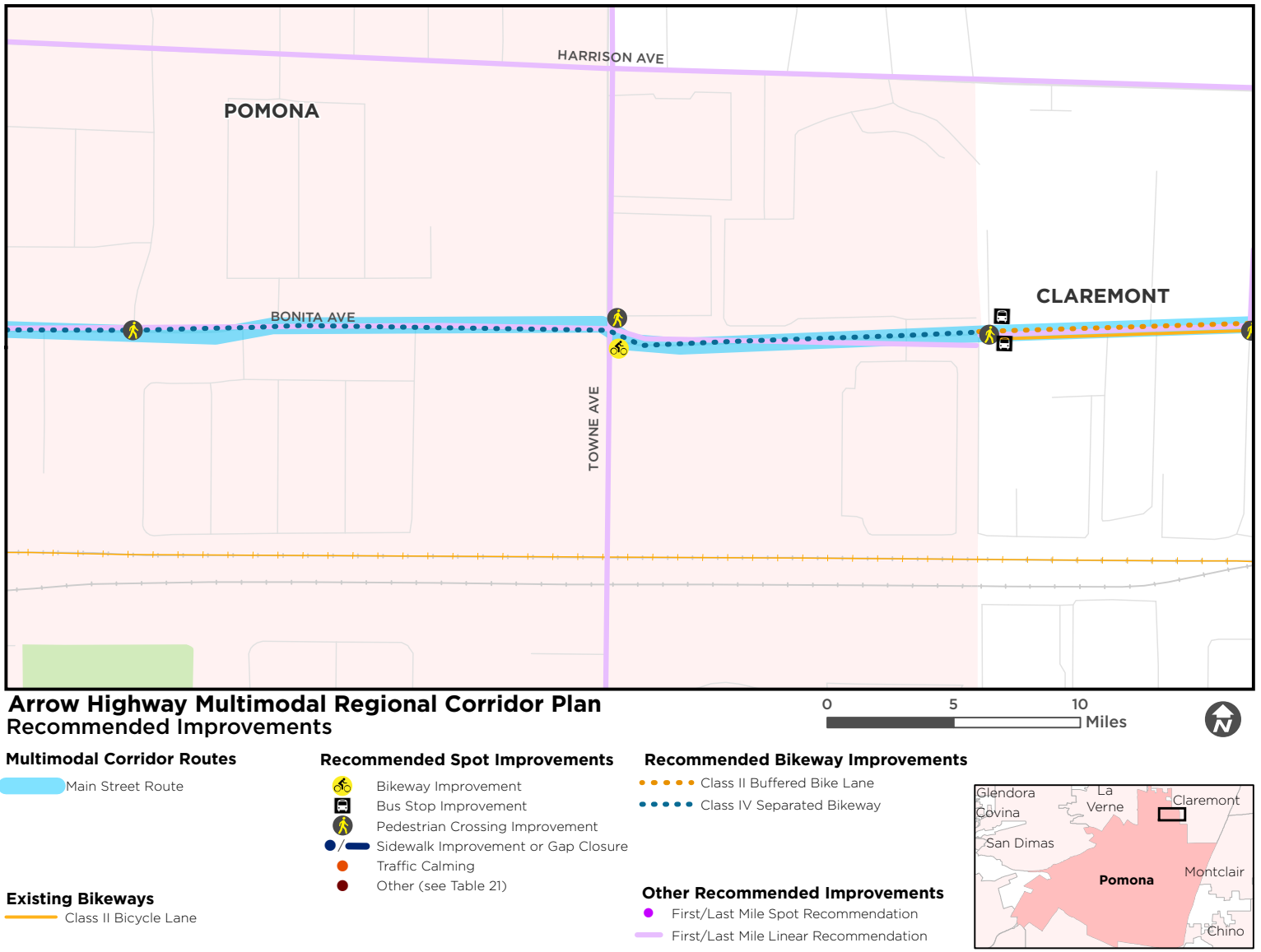


Figure 22: Pomona Recommended Improvements

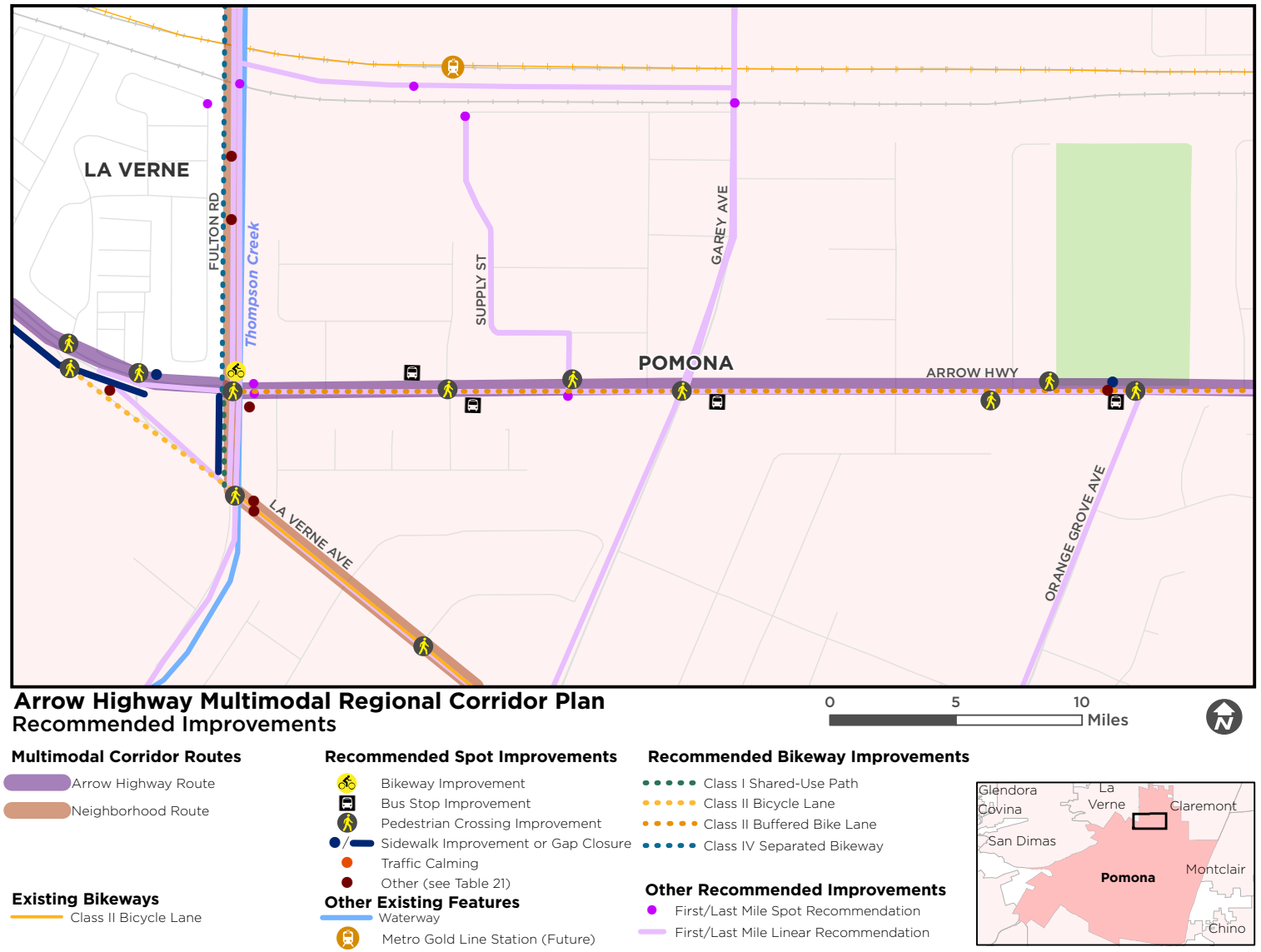


Figure 23: Pomona Recommended Improvements

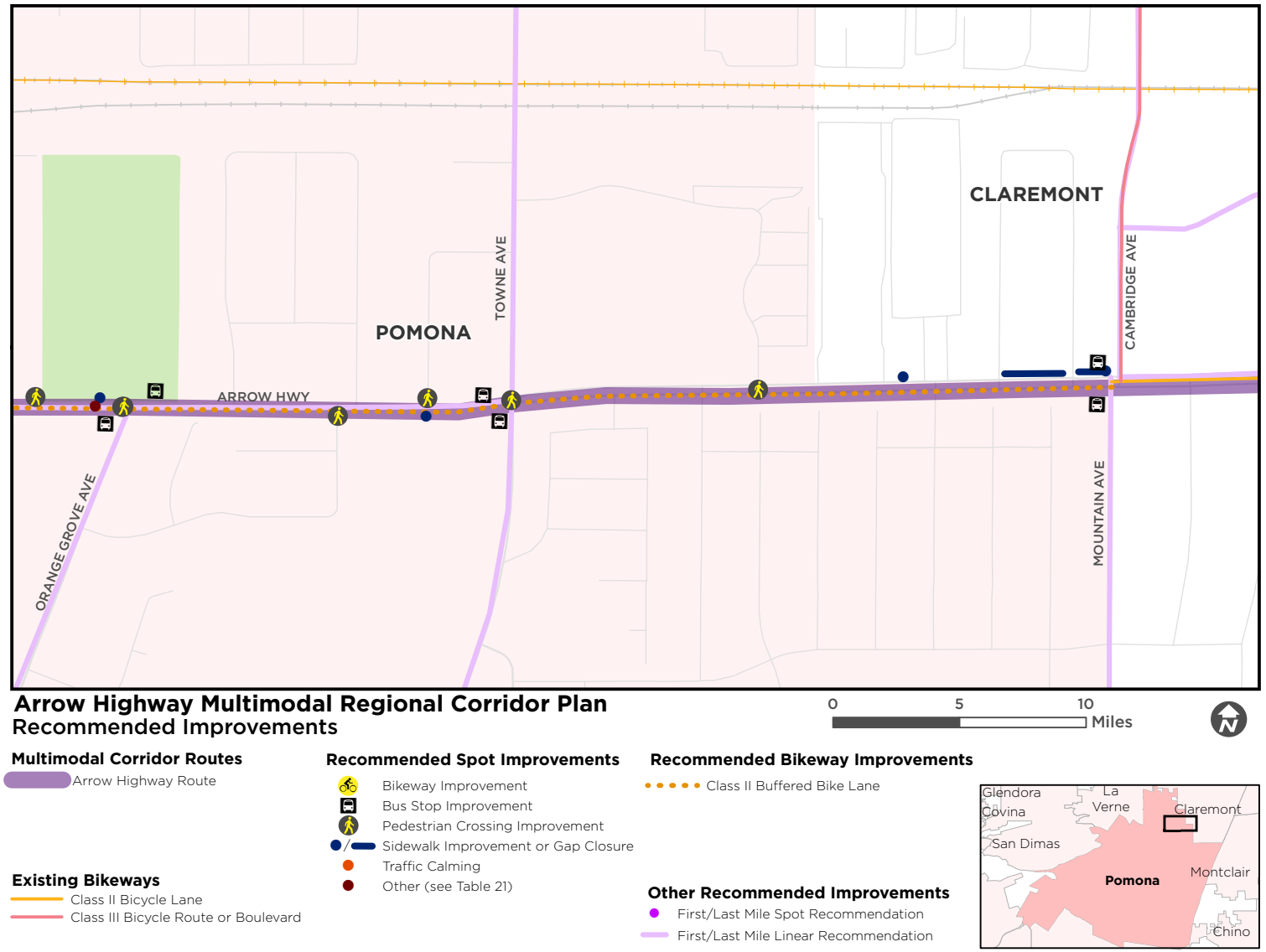


Figure 24: Pomona Recommended Improvements

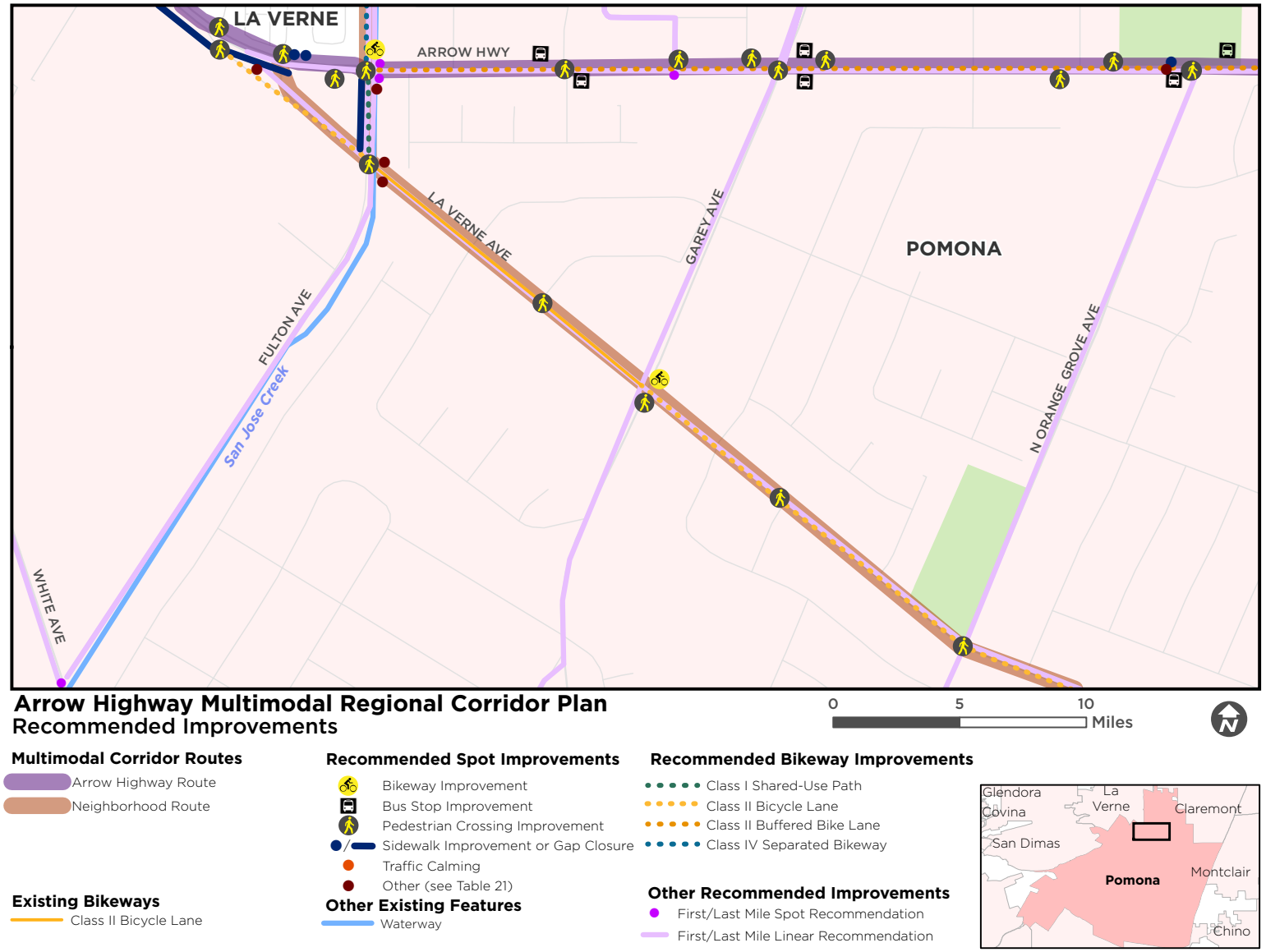


Figure 25: Pomona Recommended Improvements

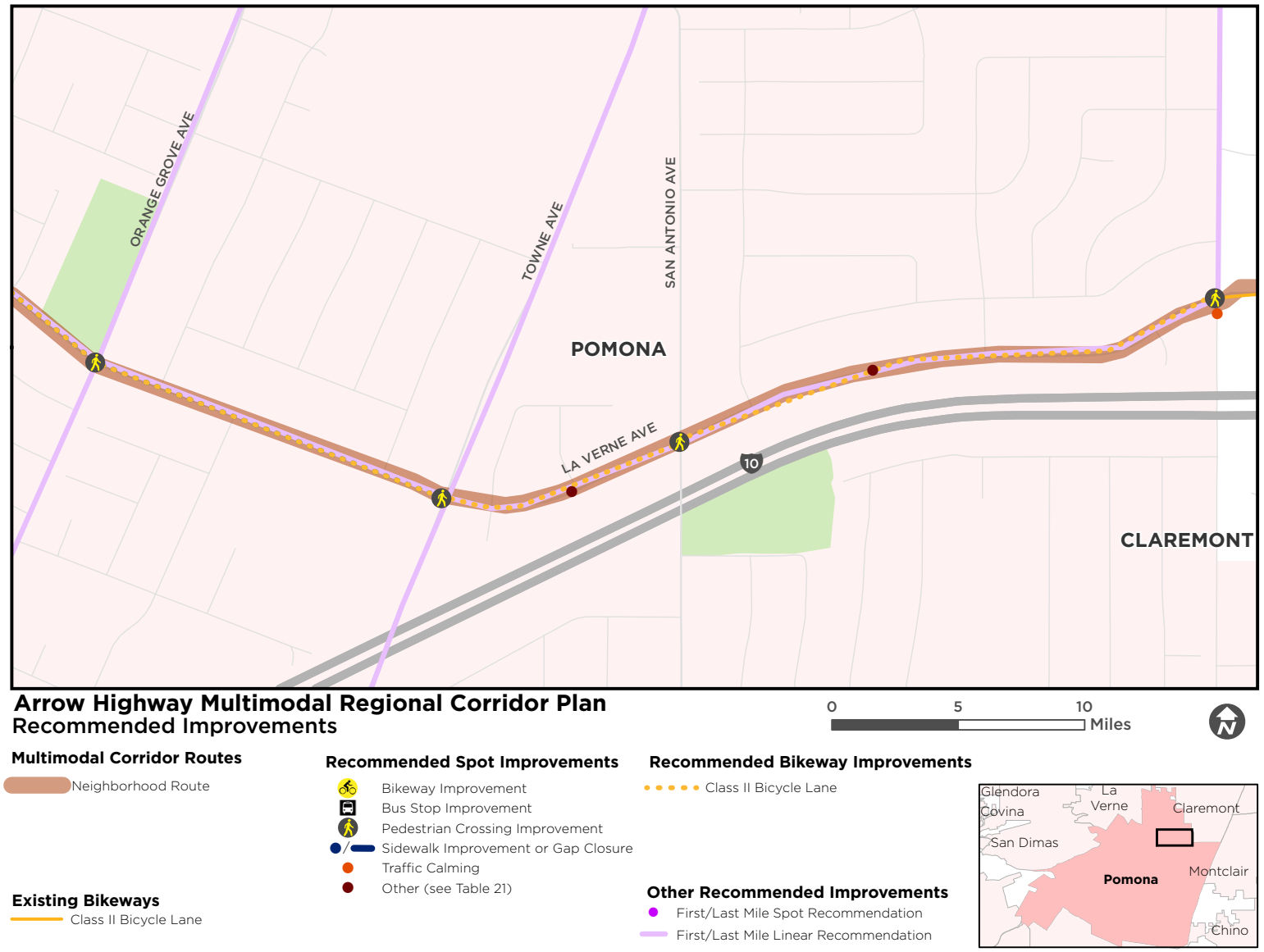


Figure 26: Pomona Recommended Improvements

Table 20. Pomona Linear Recommendations

Primary Street	From	To	Recommendation
Fulton Rd	Arrow Hwy	La Verne Ave	Close Sidewalk Gap
Fulton Rd	Arrow Hwy	La Verne Ave	Class I Shared-Use Path
Arrow Hwy	Fair Ave	La Verne Ave	Widen Sidewalk
Arrow Hwy	Fulton Rd	Mountain Ave	Class II Buffered Bike Lanes
Arrow Hwy	Lordsburg Ct	Fair Ave	Widen Sidewalk
Arrow Hwy	La Verne Ave	Fulton Rd	Close Sidewalk Gap connection
Bonita Ave	Garey Ave	Towne Ave	Class IV Separated Bikeway
Bonita Ave	Towne Ave	Carnegie Ave	Class IV Separated Bikeway
Bonita Ave	Thompson Creek Rd	Garey Ave	Close Sidewalk Gap
La Verne Ave	Arrow Hwy	Fulton Rd	Class II Bike Lanes
La Verne Ave	Garey Ave	Mountain Ave	Class II Bike Lanes

Table 21. Pomona Point Recommendations

Street 1	Street 2	Recommendation
Wilkie Dr	Arrow Hwy	New or Improved Curb Ramp
Arrow Hwy	Towne Ave	Bus Stop Improvement
Arrow Hwy	Yorkshire Wy	New or Improved Curb Ramp
Arrow Hwy	Towne Ave	New or Improved Curb Ramp
Arrow Hwy	Towne Ave	Upgrade Crosswalk(s)
Arrow Hwy	Towne Ave	Bus Stop Improvement
Arrow Hwy	Towne Ave	New or Improved Curb Ramp
Arrow Hwy	Garey Ave	New or Improved Curb Ramp
Arrow Hwy	Garey Ave	Bus Stop Improvement
Arrow Hwy	Garey Ave	New or Improved Curb Ramp
Arrow Hwy	Yorkshire Wy	Correct Sidewalk Defect
Arrow Hwy	Yorkshire Wy	New or Improved Curb Ramp
Arrow Hwy	Garey Ave	Bus Stop Improvement
Arrow Hwy	Garey Ave	Crosswalk Upgrades
Arrow Hwy	Amberson St	New or Improved Curb Ramp
Arrow Hwy	Pine St	New or Improved Curb Ramp
Arrow Hwy	Pine St	New or Improved Curb Ramp
Wilkie Dr	Arrow Hwy	New or Improved Curb Ramp
Mariposa St	Arrow Hwy	Bus Stop Improvement
Mariposa St	Arrow Hwy	Bus Stop Improvement
Mariposa St	Arrow Hwy	Crosswalk with PHB or RRFB
Mountain Ave	Arrow Hwy	Bus Stop Improvement
Arrow Hwy	La Verne Ave	Remove High-Speed Slip Lane

Street 1	Street 2	Recommendation
Arrow Hwy	Amberson St	New or Improved Curb Ramp
Fair Ave	Arrow Hwy	Crosswalk
Fair Ave	Arrow Hwy	Bus Stop Improvement
Arrow Hwy	Towne Center Dr	New or Improved Curb Ramp
Arrow Hwy	Towne Center Dr	New or Improved Curb Ramp
Fair Ave	Arrow Hwy	Remove Sidewalk Obstruction
Fair Ave	Arrow Hwy	Remove Sidewalk Obstruction
Arrow Hwy	Orange Grove Ave	Pedestrian Refuge Island
Arrow Hwy	Orange Grove Ave	New or Improved Curb Ramp
Arrow Hwy	Orange Grove Ave	Upgrade Crosswalk(s)
Arrow Hwy	Orange Grove Ave	New or Improved Curb Ramp
Arrow Hwy	Kimball Ave	New or Improved Curb Ramp
Arrow Hwy	Kimball Ave	New or Improved Curb Ramp
Arrow Hwy	Orange Grove Ave	Bus Stop Improvement
Arrow Hwy	Orange Grove Ave	Leading Pedestrian Interval
Arrow Hwy	Orange Grove Ave	Bus Stop Improvement
Arrow Hwy	Kimball Ave	New or Improved Curb Ramp
Arrow Hwy	Orange Grove Ave	Trees
Arrow Hwy	Orange Grove Ave	Remove Sidewalk Obstruction
Arrow Hwy	Fulton Rd	Lighting
Arrow Hwy	Fulton Rd	Crosswalk with PHB
Arrow Hwy	Fulton Rd	HAWK Signal
Arrow Hwy	Fulton Rd	Pedestrian Refuge Island
Arrow Hwy	Fulton Rd	New or Improved Curb Ramp

Street 1	Street 2	Recommendation
Arrow Hwy	Fulton Rd	New or Improved Curb Ramp
Arrow Hwy	Fulton Rd	Wayfinding Upgrade
Arrow Hwy	Fulton Rd	Bike-Friendly Intersection
Arrow Hwy	La Verne Ave	Trees
Arrow Hwy	Fulton Rd	Curb Extensions
Bonita Ave	Towne Ave	New or Improved Curb Ramp
Bonita Ave	Towne Ave	New or Improved Curb Ramp
Towne Ave	Bonita Ave	Bikeway Striping
Towne Ave	Bonita Ave	High Visibility Crosswalk(s)
Towne Ave	Bonita Ave	Leading Pedestrian Interval
Bonita Ave	Metropolitan Pl	New or Improved Curb Ramp
Bonita Ave	Metropolitan Pl	New or Improved Curb Ramp
Bonita Ave	Metropolitan Pl	New or Improved Curb Ramp
Bonita Ave	Sumner Ave	Pedestrian Crossing
Towne Ave	La Verne Ave	High Visibility Crosswalk(s)
Towne Ave	La Verne Ave	Leading Pedestrian Interval
La Verne Ave	Rollins Wy	Parkway Trees
Fulton Rd	La Verne Ave	High Visibility Striping
La Verne Ave	La Verne Ave	High Visibility Crosswalk(s)
La Verne Ave	La Verne Ave	Leading Pedestrian Interval
La Verne Ave	La Verne Ave	Bike Lane Conflict Striping
La Verne Ave	Orange Grove Ave	High Visibility Crosswalk(s)
Fulton Rd	Arrow Hwy	Trees
La Verne Ave	San Antonio Ave	Leading Pedestrian Interval

Street 1	Street 2	Recommendation
La Verne Ave	Los Flores St	Parkway Trees
La Verne Ave	San Antonio Ave	High Visibility Crosswalk(s)
Fulton Rd	La Verne Ave	Trees
Fulton Rd	La Verne Ave	Center Median Trees
Fulton Rd	La Verne Ave	High Visibility Crosswalk with Curb Extensions
Fulton Rd	La Verne Ave	High Visibility Striping
Sharon Dr	La Verne Ave	Curb Extensions
La Verne Ave	La Luna Wy	RRFB & Curb Extensions
San Jose Ave	Mountain Ave	Roundabout
San Jose Ave	Mountain Ave	High Visibility Crosswalk(s)
San Jose Ave	Mountain Ave	Curb Extensions
Bonita Ave	Fulton Rd	New or Improved Curb Ramp
Bonita Ave	Fulton Rd	Crosswalk with RRFB

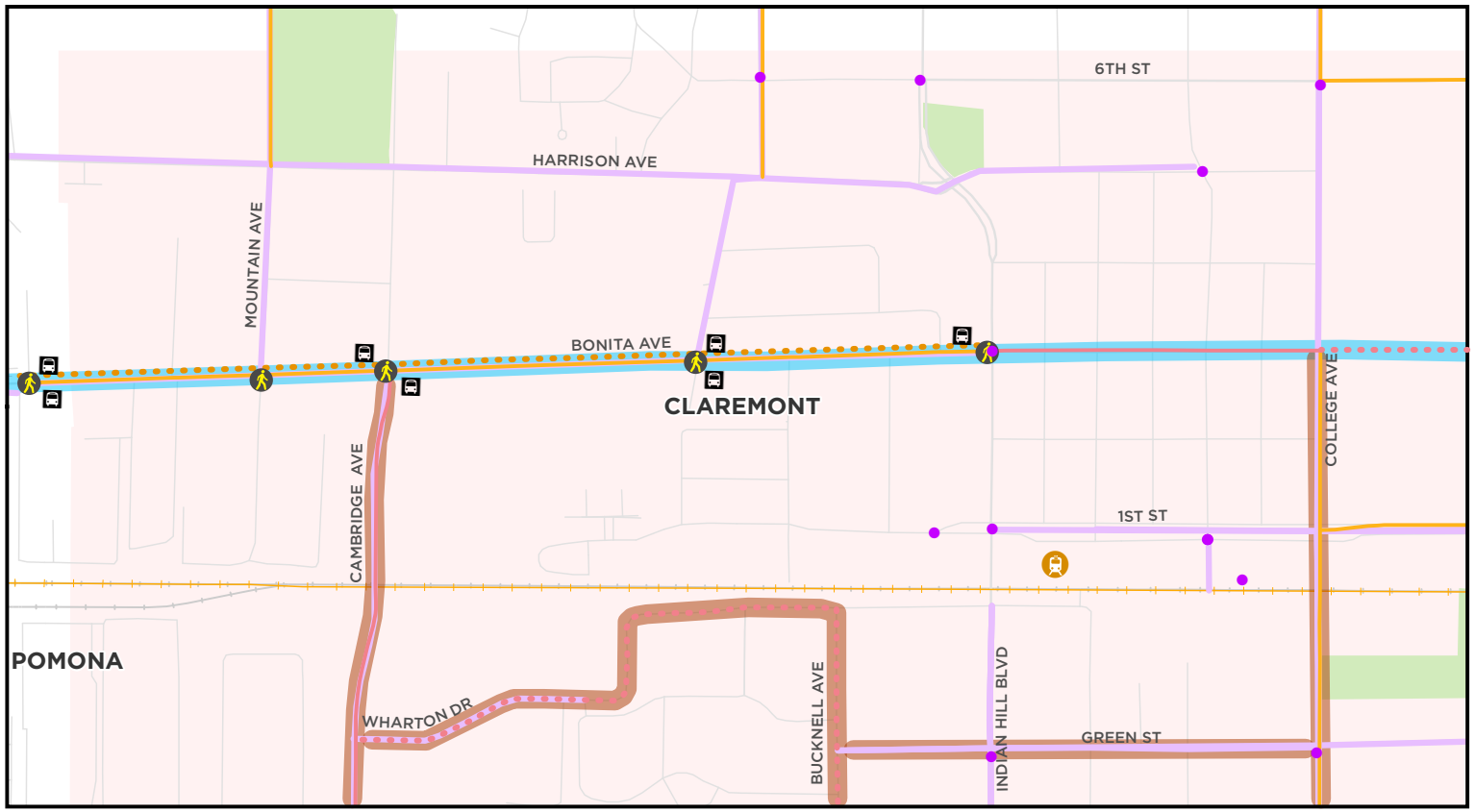
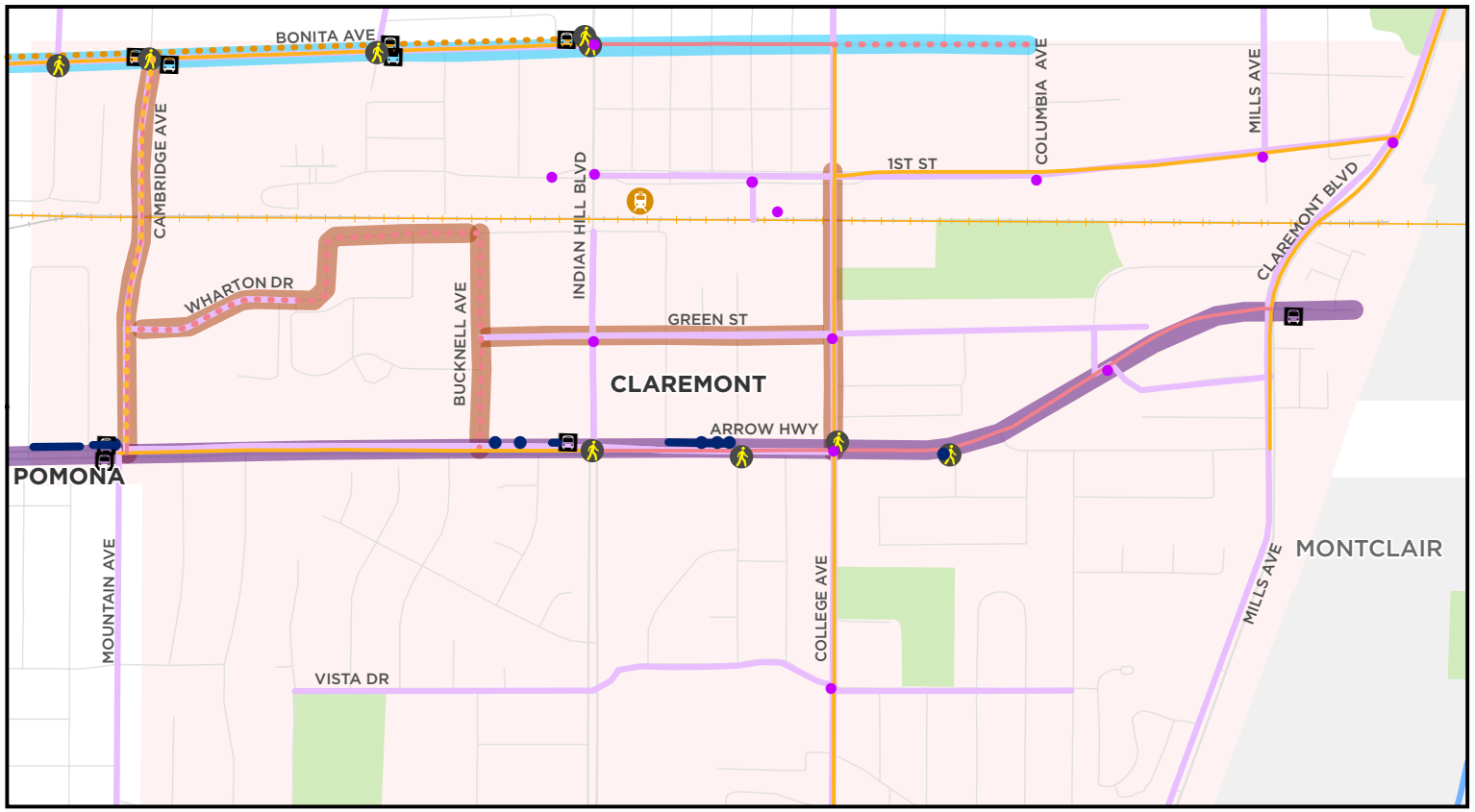


Figure 27: Claremont Recommended Improvements



Arrow Highway Multimodal Regional Corridor Plan
Recommended Improvements

0 0.2 0.4 Miles

Multimodal Corridor Routes
- Arrow Highway Route
- Main Street Route
- Neighborhood Route

Existing Bikeways
- Class II Bicycle Lane
- Class III Bicycle Route or Boulevard

Recommended Spot Improvements
- Bikeway Improvement
- Bus Stop Improvement
- Pedestrian Crossing Improvement
- Sidewalk Improvement or Gap Closure
- Traffic Calming

Other Existing Features
- Waterway
- Metro Gold Line Station (Future)

Recommended Bikeway Improvements
- Class II Bicycle Lane
- Class II Buffered Bike Lane
- Class III Bicycle Route

Other Recommended Improvements
- First/Last Mile Spot Recommendation
- First/Last Mile Linear Recommendation

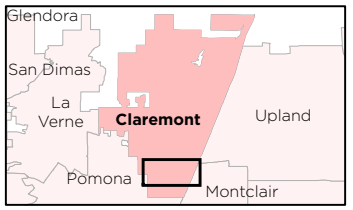


Figure 28: Claremont Recommended Improvements

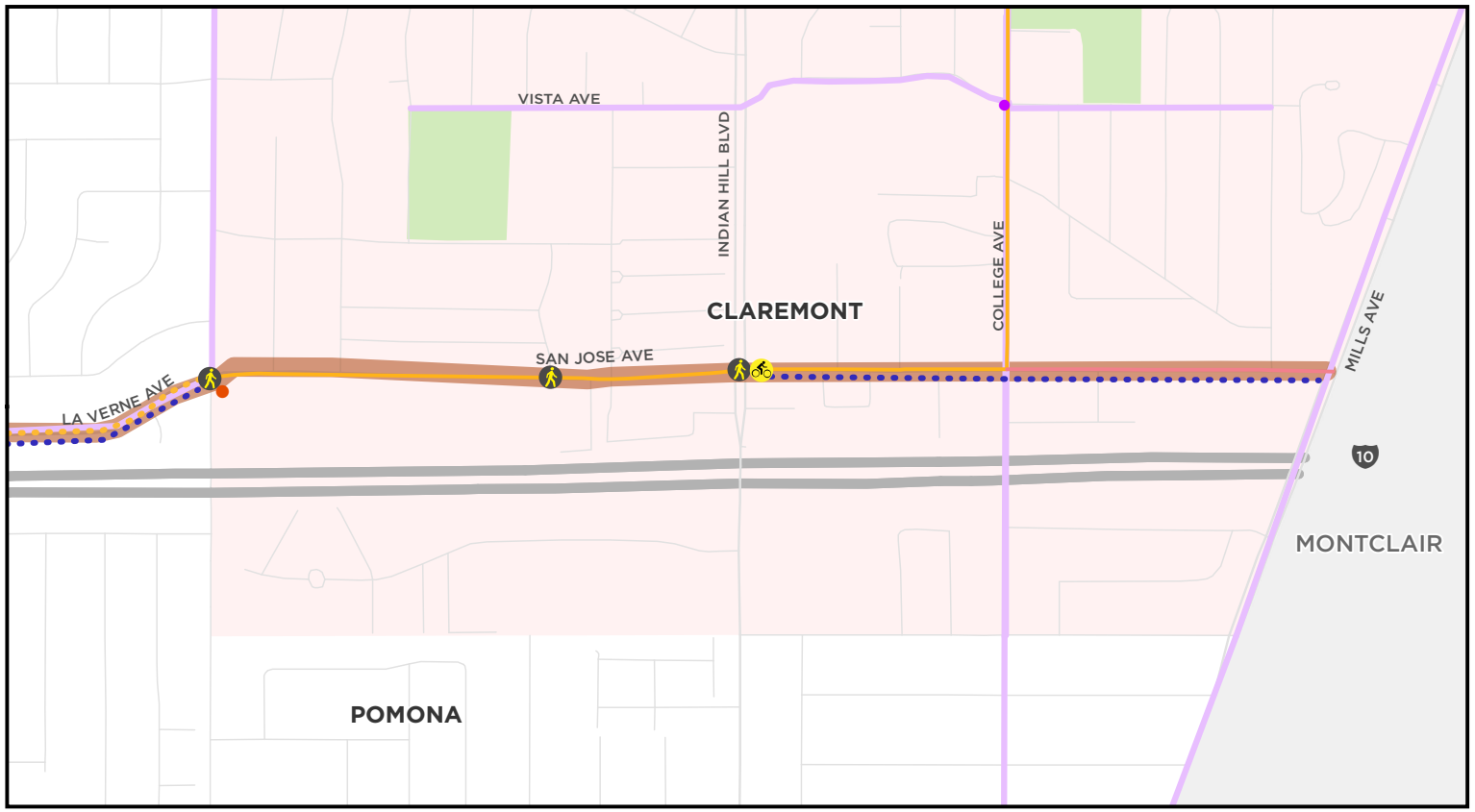


Figure 29: Claremont Recommended Improvements

Table 22. Claremont Linear Recommendations

Primary Street	From	To	Recommendation
Arrow Hwy	Olive St	Spring St	Widen Sidewalk
Arrow Hwy	Piedmont Ave	Princeton Ave	Widen Sidewalk
Arrow Hwy	Princeton Ave	Cambridge Ave	Widen Sidewalk
Arrow Hwy	Virginia Rd	Indian Hill Blvd	Widen Sidewalk
Bonita Ave	Carnegie Ave	Indian Hill Blvd	Class II Buffered Bike Lanes
Bonita Ave	Harvard Ln	Columbia Ave	Class III Bike Route / Bike Boulevard
Bucknell Ave	Wharton Dr	Arrow Hwy	Class III Bike Route / Bike Boulevard
Cambridge Ave	Bonita Ave	Arrow Hwy	Class II Bike Lanes
San Jose Ave	Indian Hill Blvd	Mills Ave	Clarify Policy Allowing Parking in Bike Lanes
Wharton Dr	Cambridge Ave	Bucknell Ave	Class III Bike Route / Bike Boulevard

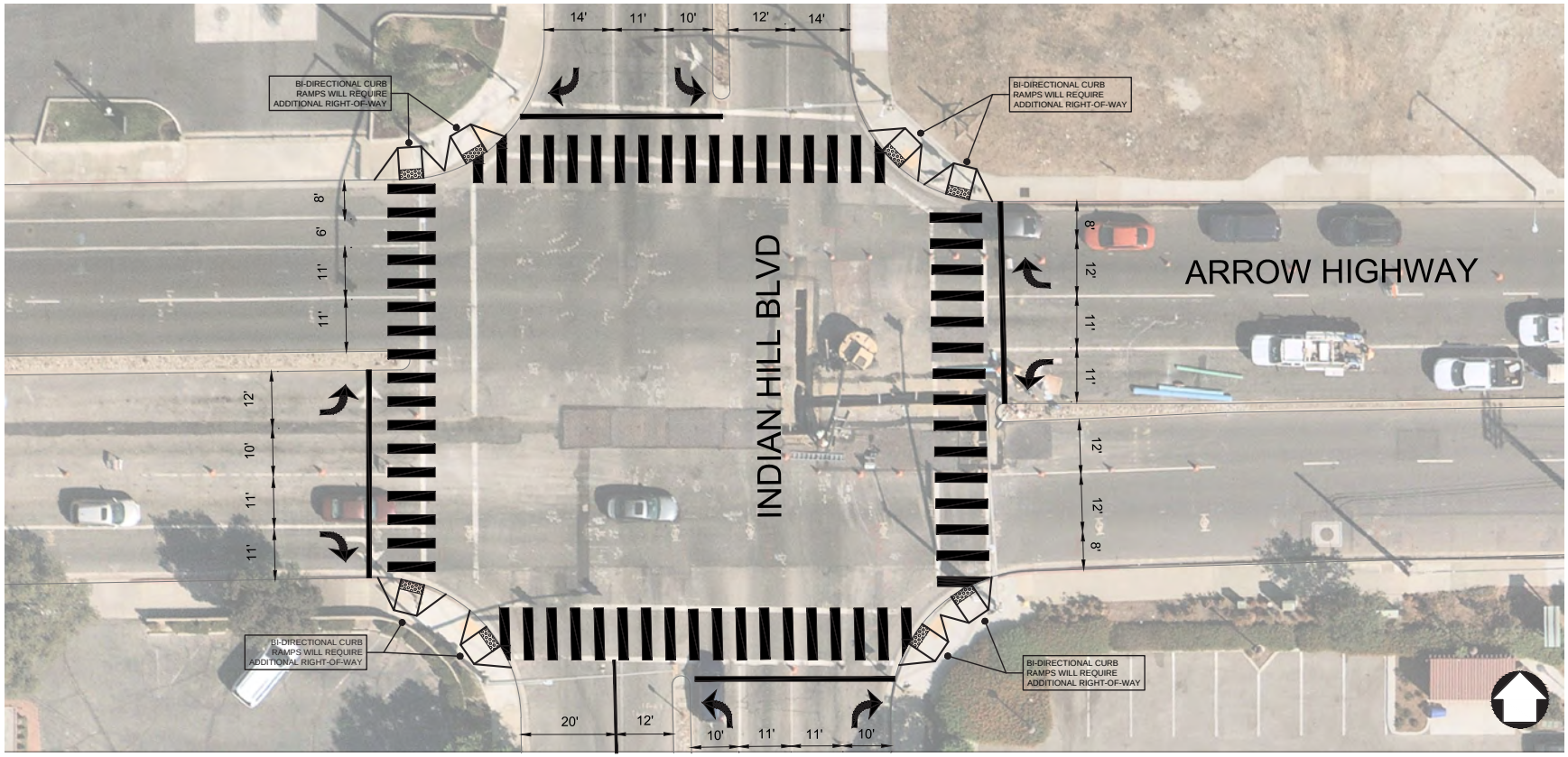
Table 23. Claremont Point Recommendations

Street 1	Street 2	Recommendation
College Ave	Arrow Hwy	New or Improved Curb Ramp
Arrow Hwy	Springfield St	New or Improved Curb Ramp
Arrow Hwy	Spring St	Remove Sidewalk Obstruction
Arrow Hwy	Spring St	Remove Sidewalk Obstruction
Arrow Hwy	Spring St	Remove Sidewalk Obstruction
Mountain Ave	Arrow Hwy	Bus Stop Improvement
Indian Hill Blvd	Arrow Hwy	Bus Stop Improvement
Indian Hill Blvd	Arrow Hwy	Install Bi-Directional Curb Ramps*
Indian Hill Blvd	Arrow Hwy	Upgrade Crosswalk(s)
Mountain Ave	Arrow Hwy	Remove Sidewalk Obstruction
Arrow Hwy	Virginia Rd	Remove Sidewalk Obstruction
Bucknell Ave	Arrow Hwy	Remove Sidewalk Obstruction
Arrow Hwy	Villanova Dr	New or Improved Curb Ramp
Mills Ave	Arrow Hwy	Bus Stop Improvement
Marywood Ave	Arrow Hwy	Remove Sidewalk Obstruction

**Figure 30 illustrates the proposed curb ramp and crosswalk improvements at the intersection of Indian Hill Boulevard and Arrow Highway.*

Street 1	Street 2	Recommendation
Arrow Hwy	Villanova Dr	Remove Sidewalk Obstruction
Bonita Ave	Grinnell Dr	Bus Stop Improvement
Indian Hill Blvd	Bonita Ave	Leading Pedestrian Interval
Indian Hill Blvd	Bonita Ave	Curb Extension
Bonita Ave	Cambridge Ave	Bus Stop Improvement
Bonita Ave	Berkeley Ave	Bus Stop Improvement
Bonita Ave	Berkeley Ave	Bus Stop Improvement
Bonita Ave	Berkeley Ave	Leading Pedestrian Interval
Bonita Ave	Cambridge Ave	Leading Pedestrian Interval
Bonita Ave	Cambridge Ave	Bus Stop Improvement
Bonita Ave	Mountain Ave	Leading Pedestrian Interval
Bonita Ave	Carnegie Ave	Crosswalk with RRFB
Bonita Ave	Carnegie Ave	Bus Stop Improvement
Bonita Ave	Carnegie Ave	Bus Stop Improvement
San Jose Ave	Indian Hill Blvd	Leading Pedestrian Interval
San Jose Ave	Indian Hill Blvd	High Visibility Crosswalk(s)
San Jose Ave	Indian Hill Blvd	Restripe Bike Lanes
San Jose Ave	Lehigh Dr	High Visibility Crosswalk(s)
San Jose Ave	Lehigh Dr	Curb Extensions

Figure 30: Proposed improvements at the intersection of Indian Hill Boulevard and Arrow Highway.



ARROW HIGHWAY SHORT-TERM BIKEWAY RECOMMENDATIONS AND PROPOSED CROSS-SECTIONS

Based on the review of existing conditions, right-of-way (ROW) constraints, and traffic volumes, the project team developed recommendations for proposed short-term bicycle facilities along Arrow Highway. Chapter one describes the longer-term vision for an Arrow Highway "Complete Street", including physically separated bikeways; Figure 31 illustrates how this future Complete Street might look.

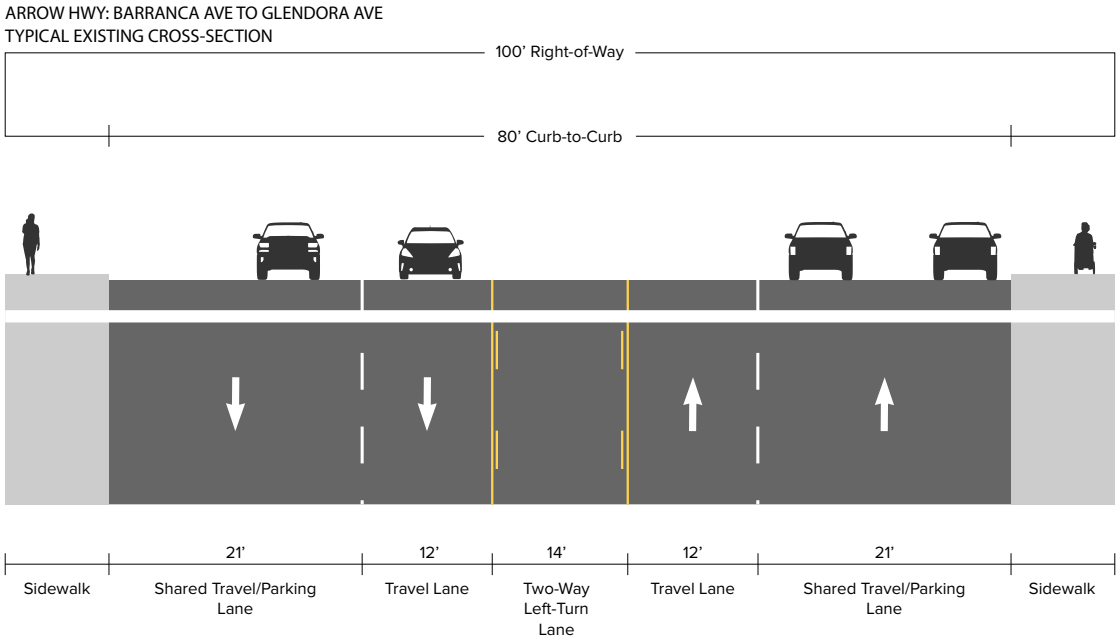
Given that the cross-section along Arrow Highway varies considerably within the study area, we created proposed bikeway facilities that align with the current and future needs within each of the five cities, as well as unincorporated Los Angeles County. One of the primary elements that the team took into account in proposing bikeways was to provide a consistent and continuous bike facility. This approach also took into account the fact that there are existing Class II bike lane facilities along intermittent sections of Arrow Highway. Additionally, the team aimed to present a low-cost, high-impact solution to accommodating bike facilities while maintaining the pavement width and existing curb and gutter.

The following distinct proposed cross-sections were developed for Arrow Highway.

Figure 31: Potential long-term Complete Street improvements along Arrow Highway in San Dimas.

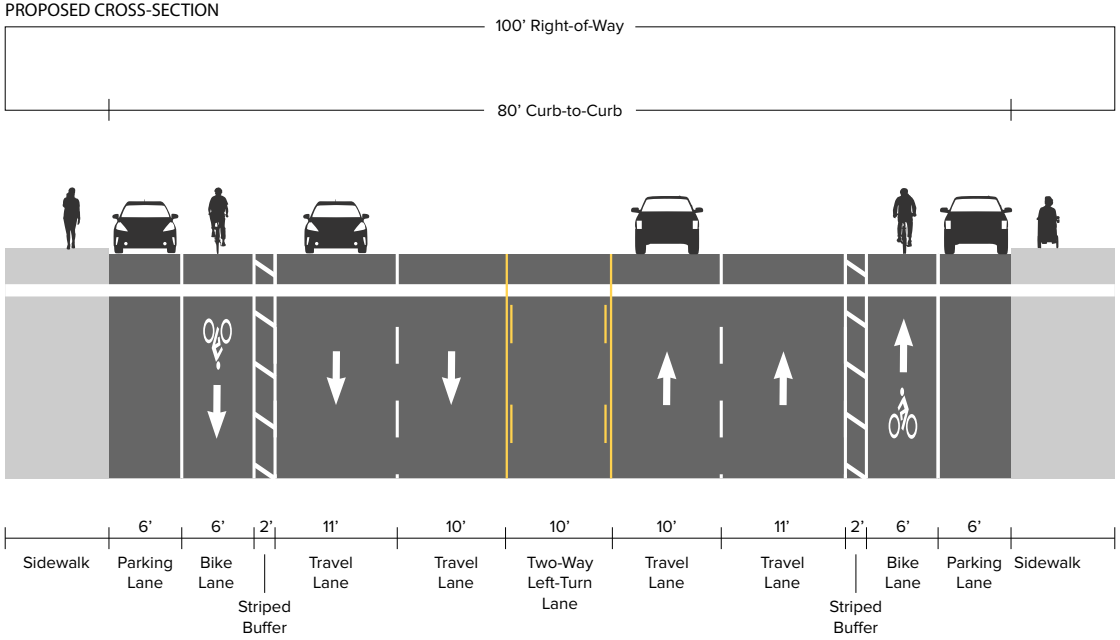
City of Glendora

Between Barranca Avenue and Glendora Avenue, Arrow Highway has a total edge of pavement width of approximately 80 feet. The travelway consists of 5 lanes: two in each direction and a 14-foot wide center Two-Way Left-Turn Lane (TWLTL). There is on-street parking on both sides of the street. The total ROW is approximately 100 feet wide in that section.



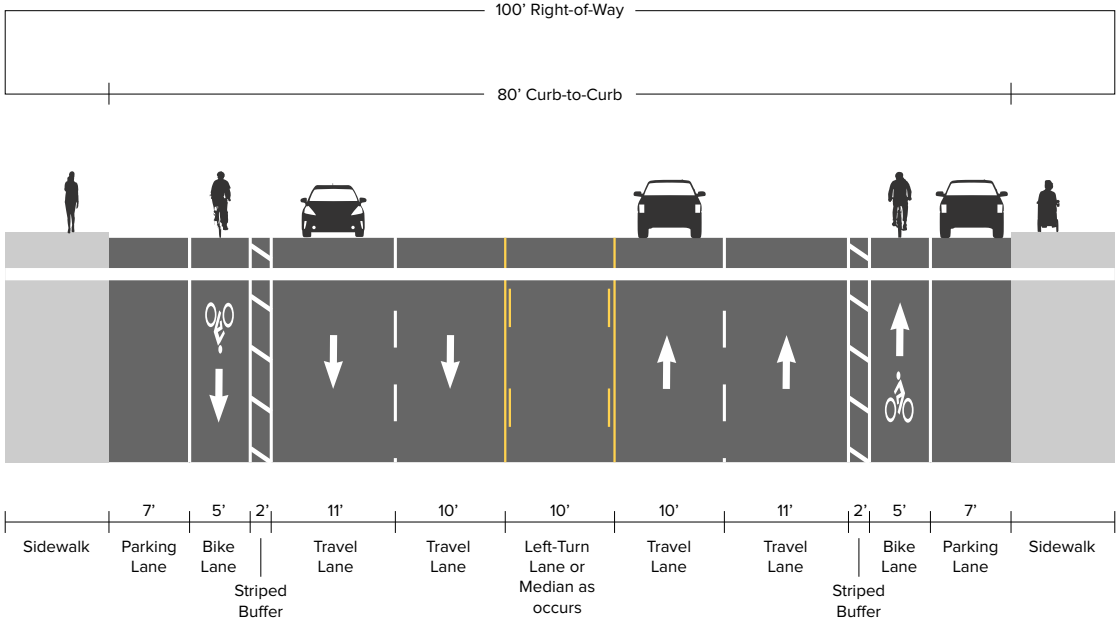
Given the wider outside lanes and on-street parking along this segment, there is an opportunity to repurpose the existing pavement to accommodate bike facilities without moving the existing curb. On-street parking will be maintained on both sides of the street, but will be reduced to 6 feet wide on pavement, utilizing the gutter for the remaining needed width. Given that Arrow Highway is a designated truck route, the outside lanes are proposed at 11 feet in each direction, while the inside lanes can be reduced to 10 feet each. The existing wide center TWLTL will be reduced to a 10-foot wide median, which will allow for 10-foot wide left-turn lanes at major intersections, and a landscaped median in other sections along this segment. This narrowing of the existing lanes allows for installing Class II bike facilities. The on-street bike lanes are proposed to be 6-feet wide, with a 2-foot painted buffer separation from the travelway.

ARROW HWY: BARRANCA AVE TO GLENDORA AVE
PROPOSED CROSS-SECTION



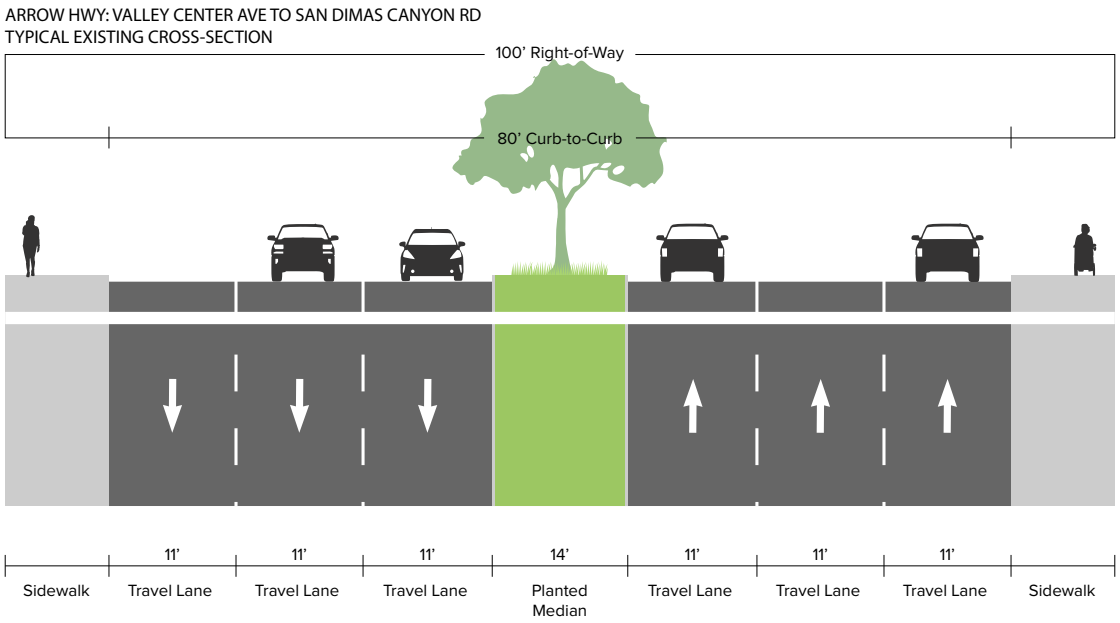
East of Glendora Avenue within the City of Glendora, Arrow Highway includes existing on-street bike lanes up to Valley Center Avenue. The 80-foot pavement width includes two lanes in each direction, a center TWLTL, 7-foot on-street parking on each side, and 5-foot Class II bike lanes with a 2-foot painted buffer.

ARROW HWY: GLENDORA AVE TO VALLEY CENTER AVE
TYPICAL EXISTING CROSS-SECTION



City of San Dimas

Within the City of San Dimas, the pavement width for Arrow Highway between Valley Center Avenue and San Dimas Canyon Road remains at 80-feet wide; however, instead of on-street parking on both sides, the cross-section consists of three 11-foot lanes in each direction and a center 14-foot planted median that has openings at controlled intersections and major driveways.



The review of existing traffic conditions revealed that the Average Annual Daily Traffic (AADT) west of San Dimas (in Pomona) is 17,557, and is 20,683 east of San Dimas (in Glendora). According to the FHWA "*Simplified Highway Capacity CalculationMethod for the Highway PerformanceMonitoring System*", a 4-lane roadway with a heavy truck percentage under 10% can accommodate up to 32,800 at LOS B. This shows that if the lanes along Arrow Highway within the City of San Dimas were reduced from six through lanes to four lanes, LOS would remain at an acceptable level. This assumption is based on the existing traffic data collected as part of this study, and on national generalized volumes for multilane highways.

Therefore, to accommodate on-street bike facilities along this section of Arrow Highway, we recommend removing one lane in each direction. This leaves 2 lanes of through vehicle lanes in each direction, with the inside lanes proposed to be 10 feet wide and the outside lanes 11 feet wide to accommodate transit and truck traffic. The center median with access openings at major intersections and driveways will be maintained. The proposed Class II bike facilities are 6 feet wide with a 2-foot buffer. Figure 30 shows a rendering of the proposed buffered bike lanes along Arrow Highway east of San Dimas Avenue.

In addition, this would allow for expanding the pedestrian space. The pedestrian realm could be extended into the current roadway cost-effectively by selectively installing landscaping that provides a buffer between the sidewalk and travel lanes. Strategically placed at-grade planters with infiltration trenches, tree bulb-outs, and curb extensions at crossings could improve the pedestrian experience significantly without requiring wholesale relocation of curb and gutter.

ARROW HWY: VALLEY CENTER AVE TO SAN DIMAS CANYON RD
PROPOSED CROSS-SECTION

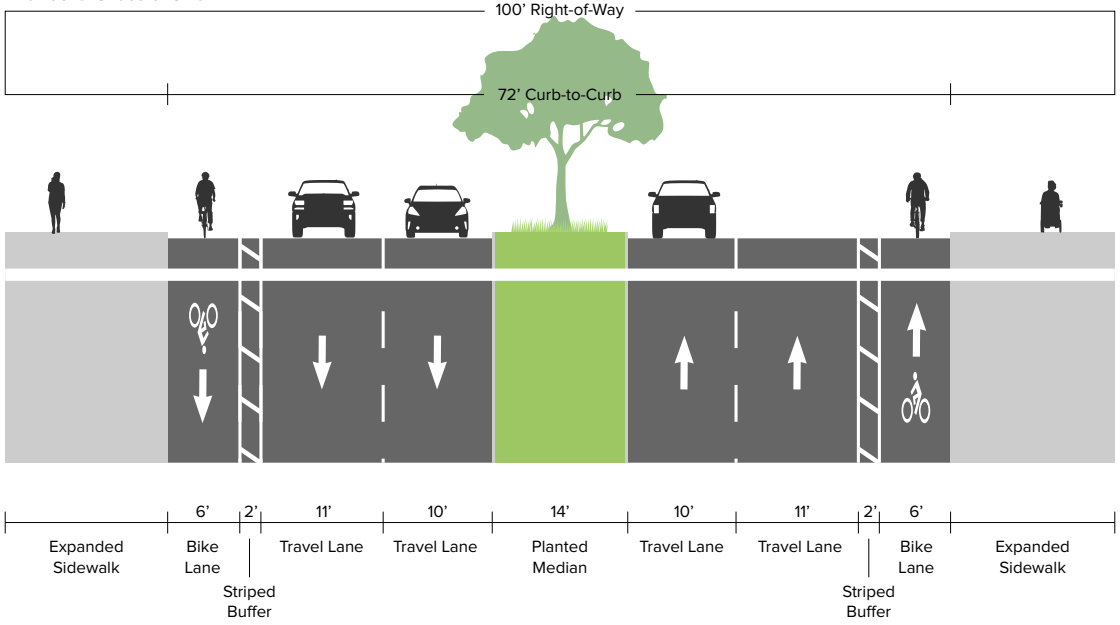
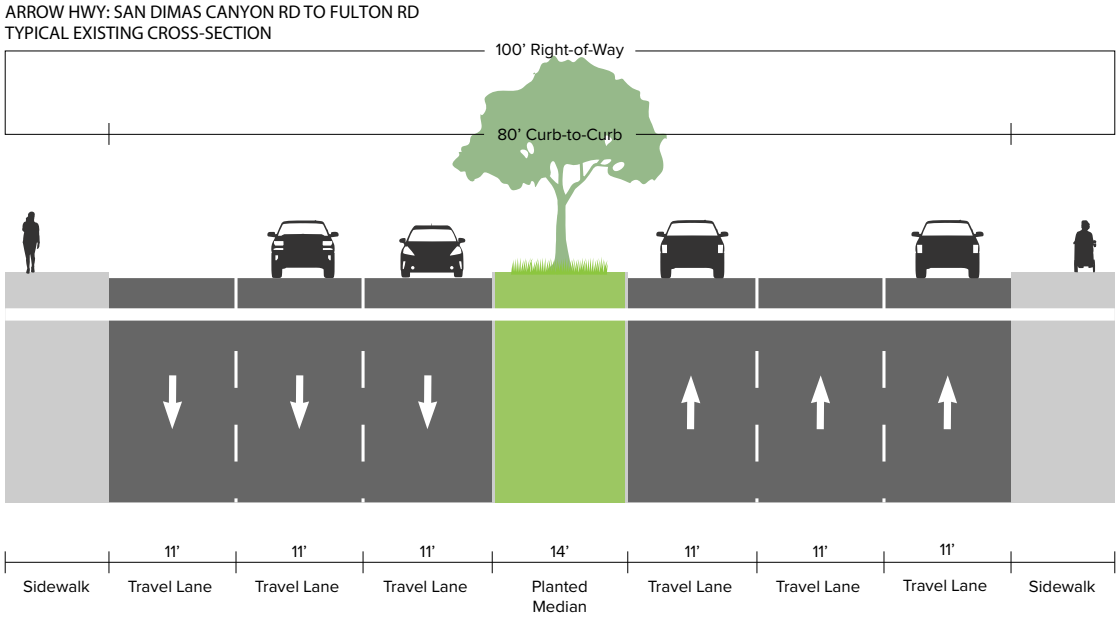


Figure 32: Rendering of proposed Class II buffered bike lanes between San Dimas Avenue and Walnut Avenue.

City of La Verne

Between San Dimas Canyon Road and Fulton Road, Arrow Highway traverses the City of La Verne. Similar to the section within the City of San Dimas, Arrow Highway along this segment consists of a 6-lane divided roadway with a 14-foot median. While the AADT slightly increases in this area to a little over 23,000; it is still well below the maximum capacity of a LOS B 4-lane roadway.



Therefore, reducing the travel lanes from six to four lanes to accommodate on-street bicycle lanes is considered feasible. The cross-section proposed within the City of San Dimas would continue through the City of La Verne with a 14-foot median, 10-foot inside travel lanes, 11-foot outside lanes, 6-foot bike lanes with a 2-foot buffer, and room for an expanded pedestrian space. Figure 15 illustrates how this potential configuration would look along Arrow Highway in La Verne. While this is a short-term recommendation for Arrow Highway, La Verne's Active Transportation Plan recommends a Class IV separated bikeway along Arrow Highway in the long-term.

ARROW HWY: SAN DIMAS CANYON RD TO FULTON RD
PROPOSED CROSS-SECTION

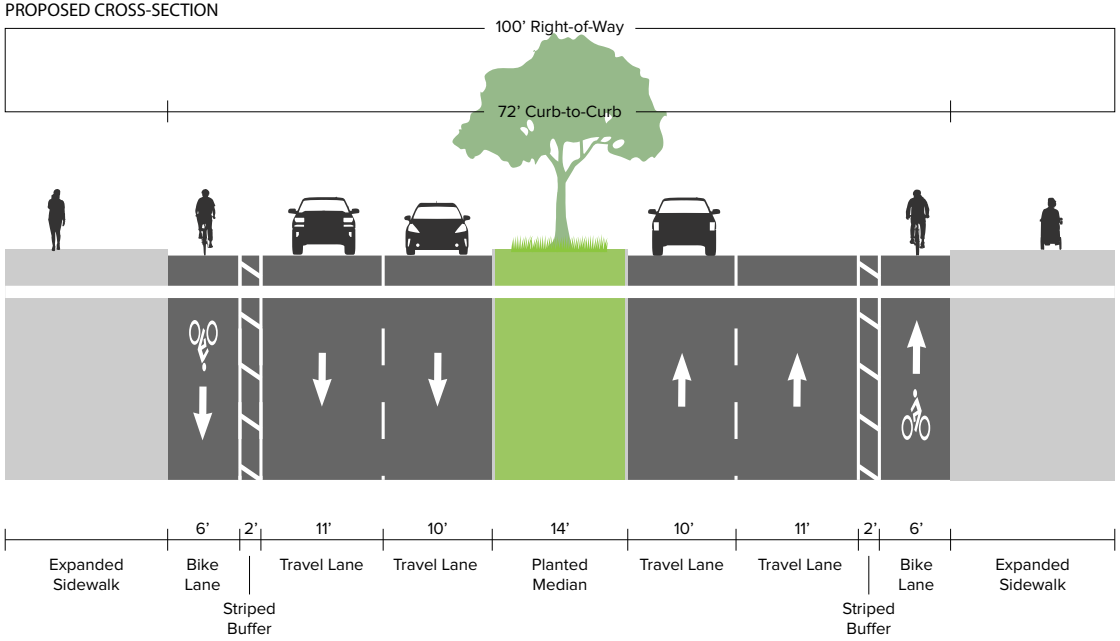
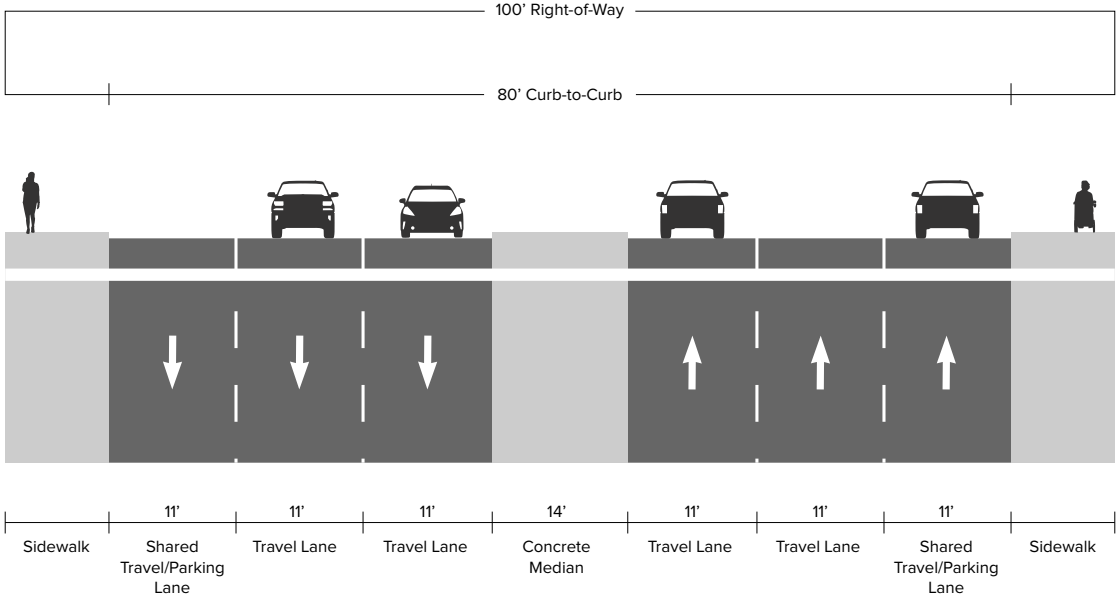


Figure 33: Rendering of buffered bike lanes along Arrow Highway between Park Avenue and A Street.

City of Pomona

While Arrow Highway between Fulton Road and Garey Avenue within the City of Pomona continues as a six-lane divided roadway, the outside lanes also serve as on-street parking during certain times of the day. The AADT drops below 20,000 along this section.

ARROW HWY: FULTON RD TO GAREY AVE
TYPICAL EXISTING CROSS-SECTION



By removing a travel lane in each direction, not only does it become feasible to install on-street bike facilities, but 6-foot parking can be accommodated on both sides of the roadway. The on-street parking would also utilize the gutter space for larger vehicles. The 14-foot planted median would be maintained, with 10-foot inside lanes and 11-foot outside lanes. Minimum 4-foot bike lanes with 2-foot buffers are proposed. The illustration below shows how these buffered bike lanes might look.

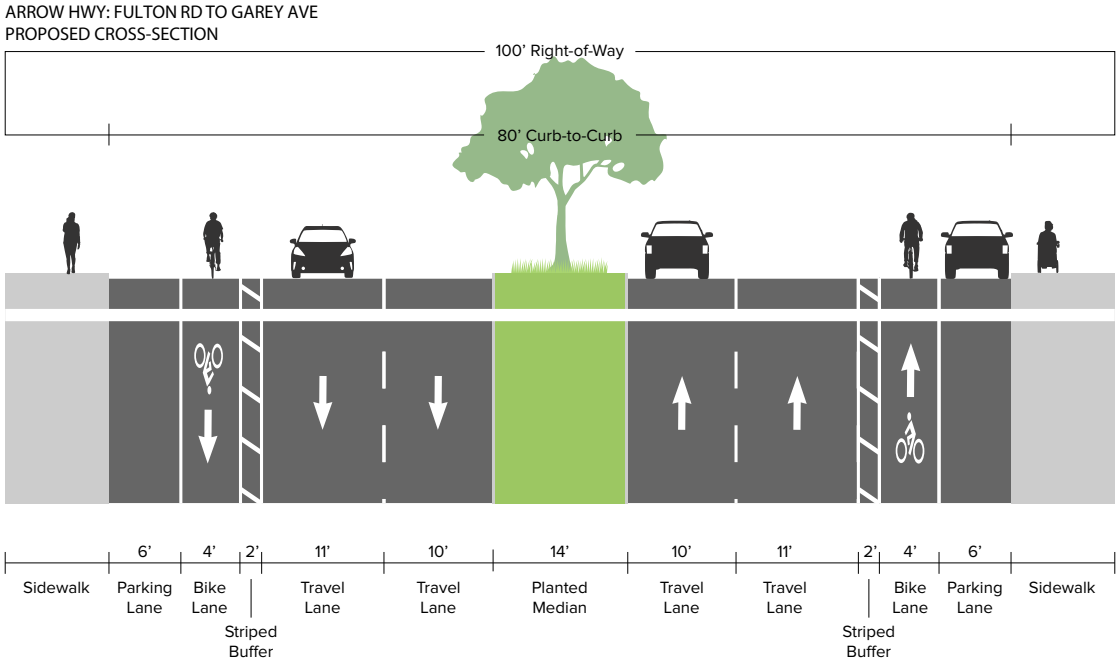
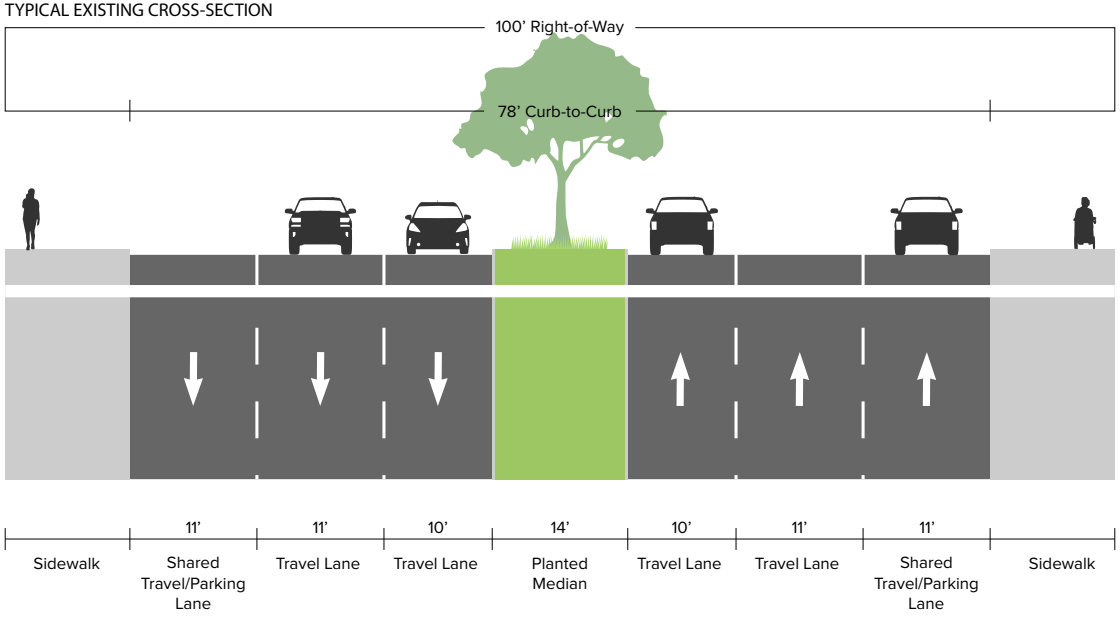


Figure 34: Depiction of potential buffered bike lanes along Arrow Highway at Esmond Street.

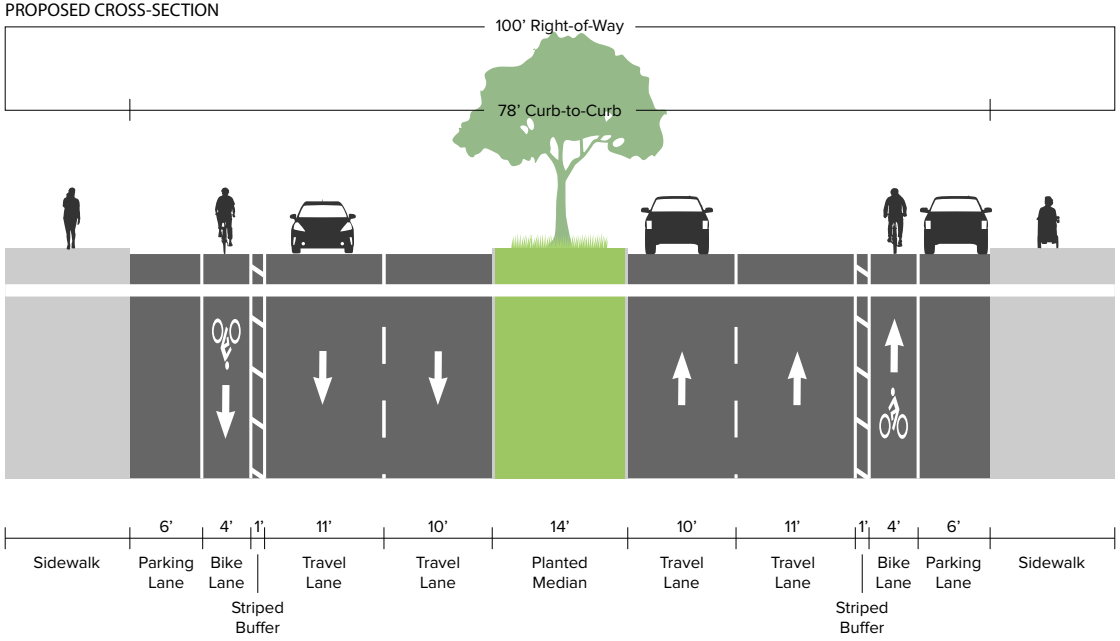
The remaining section of Arrow Highway within the City of Pomona is bound by Cambridge Avenue to the east. A similar cross-section exists, with three lanes in each direction and a 14-foot planted median. However, the pavement width along this section is 78 feet rather than 80 feet.

ARROW HWY: GAREY AVE TO CAMBRIDGE AVE
TYPICAL EXISTING CROSS-SECTION



A similar alternate cross-section is proposed along this section, except for the ability to accommodate only one-foot bike buffers between the bicycle lanes and the travelway. It should be noted that the proposed cross-section represents a short-term solution to installing bike facilities and improving pedestrian space along Arrow Highway. Long-term, it is recommended that the right-of-way space is reevaluated to accommodate more comfortable multimodal amenities.

ARROW HWY: GAREY AVE TO CAMBRIDGE AVE
PROPOSED CROSS-SECTION

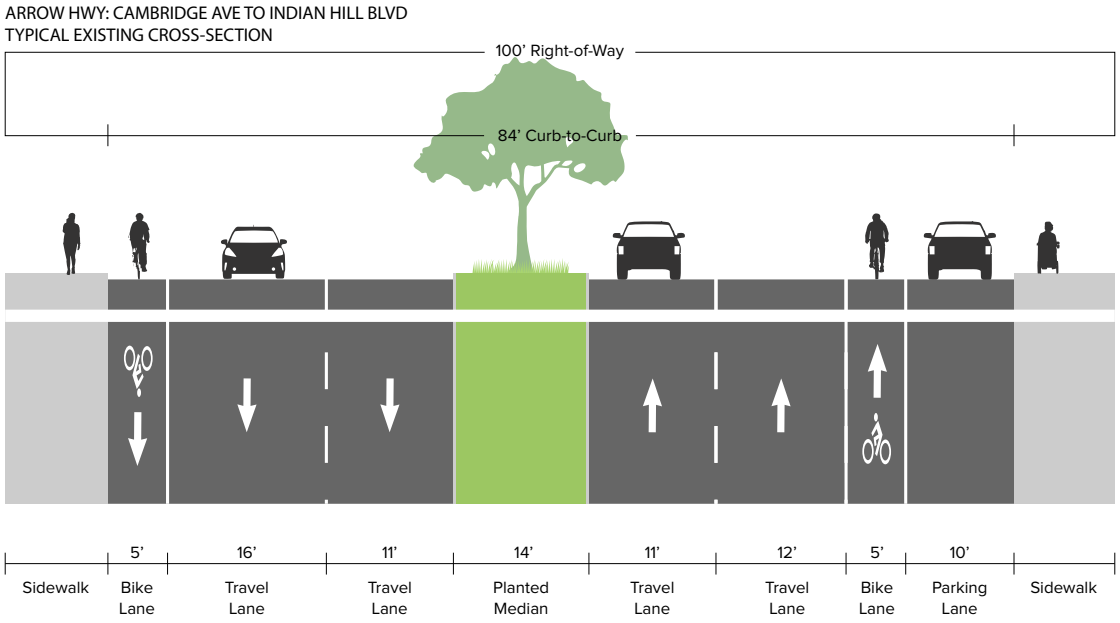


City of Claremont

Within the City of Claremont, the total pavement width for Arrow Highway varies considerably, and it is generally the most constrained section of the corridor within the study area. Therefore, it was not initially deemed feasible to provide a continuous bikeway along Arrow Highway throughout the City of Claremont. However, based on feedback from the City's Traffic and Transportation Commission and from local pedestrian and bicycle advocates, the project team developed two alternative sets of proposed cross-sections to accommodate continuous on-street bicycle lanes, sometimes requiring the reconfiguration of automobile parking or travel lanes. Detailed traffic studies will be required prior to selection of a preferred alternative.

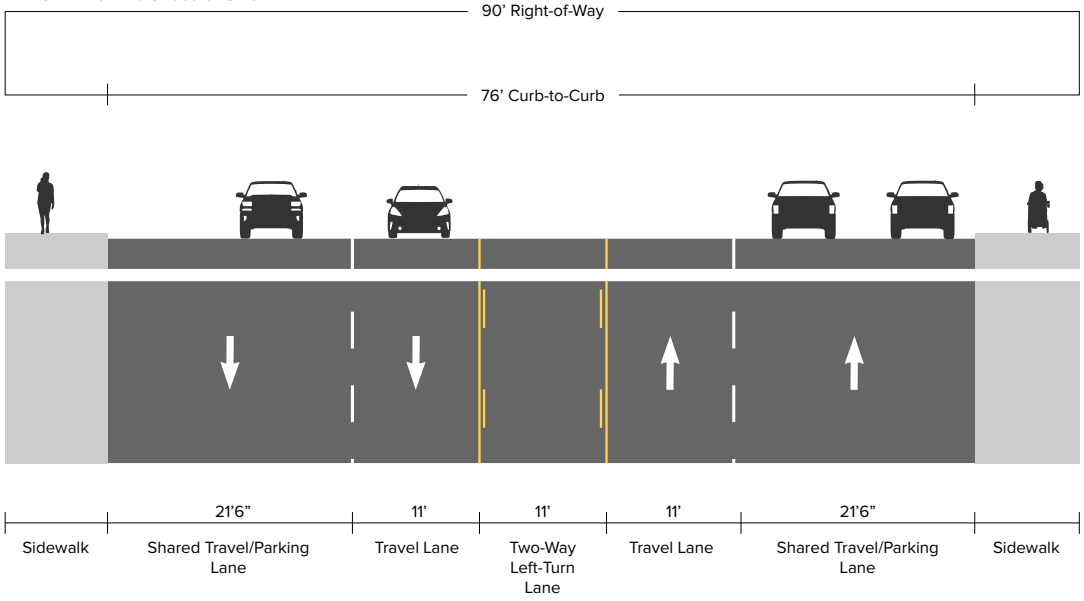
CONSTRAINED ALTERNATIVE

Between Cambridge Avenue and Indian Hill Boulevard, there are existing unbuffered 5-foot bike lanes.



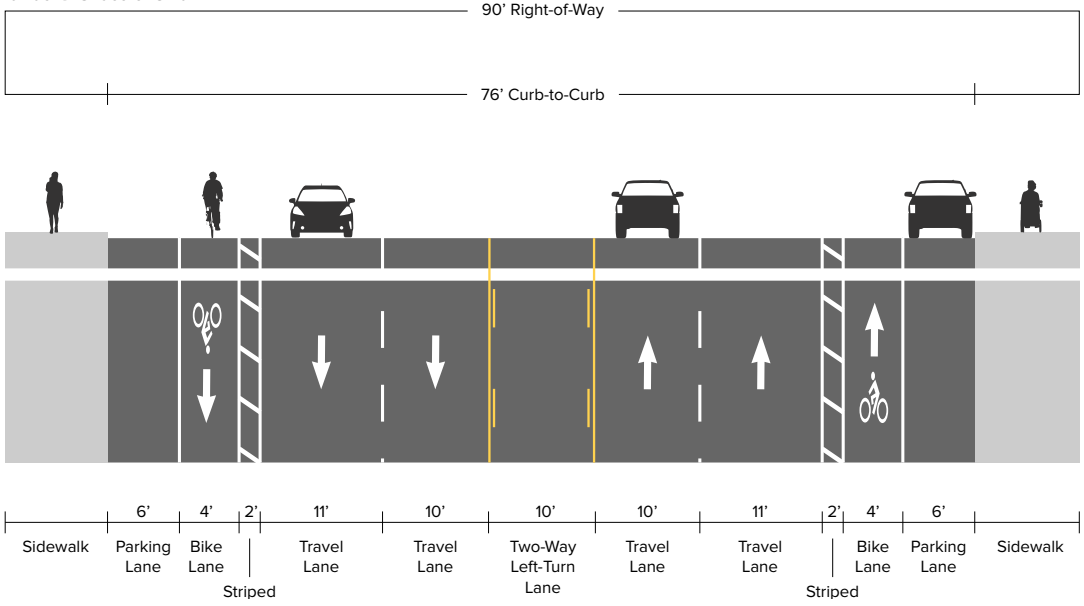
Between Indian Hill Boulevard and Spring Street, however, there are no bike lanes, and instead, there is an 11-foot center TWLTL, 11-foot inside lanes, and a 21.5-foot shared outside lane/parking space, where the on-street parking is not demarcated.

ARROW HWY: INDIAN HILL BLVD TO SPRING ST
TYPICAL EXISTING CROSS-SECTION



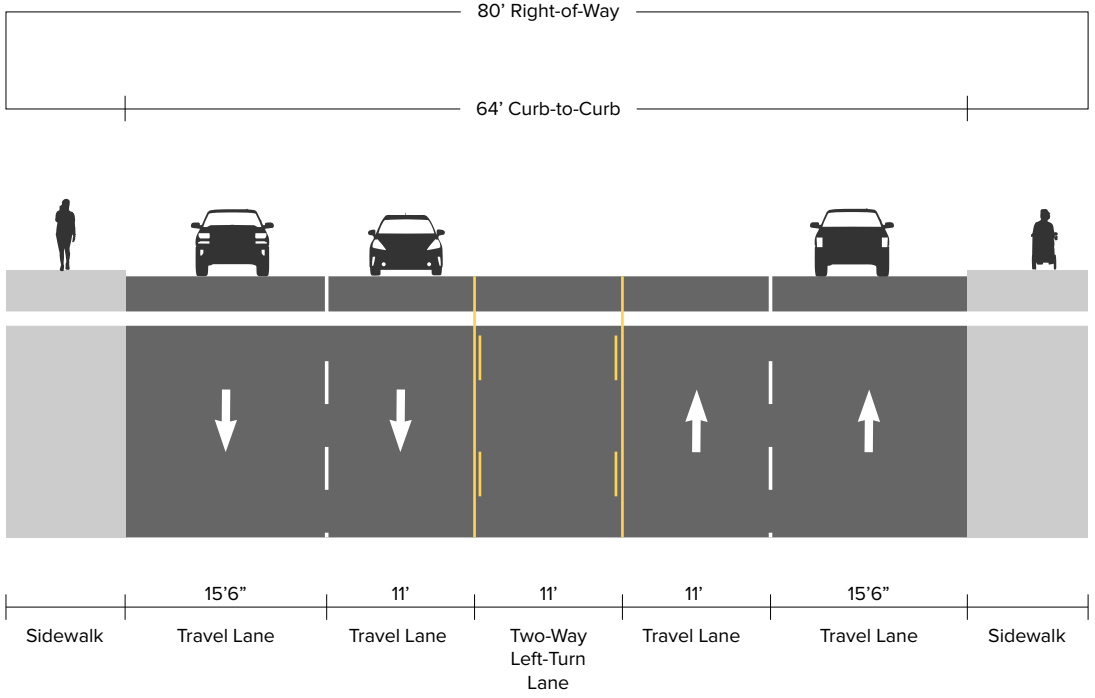
Given the wide outside lane/parking space along this section, it is possible to maintain the number of lanes, as well as on-street parking on both sides of the street, while also installing buffered bike lanes. The median and inside lanes would be reduced to 10 feet, and the outside lanes are proposed at 11 feet. A minimum of 4-foot bike lanes with 2-foot painted buffers are proposed.

ARROW HWY: INDIAN HILL BLVD TO SPRING ST
PROPOSED CROSS-SECTION



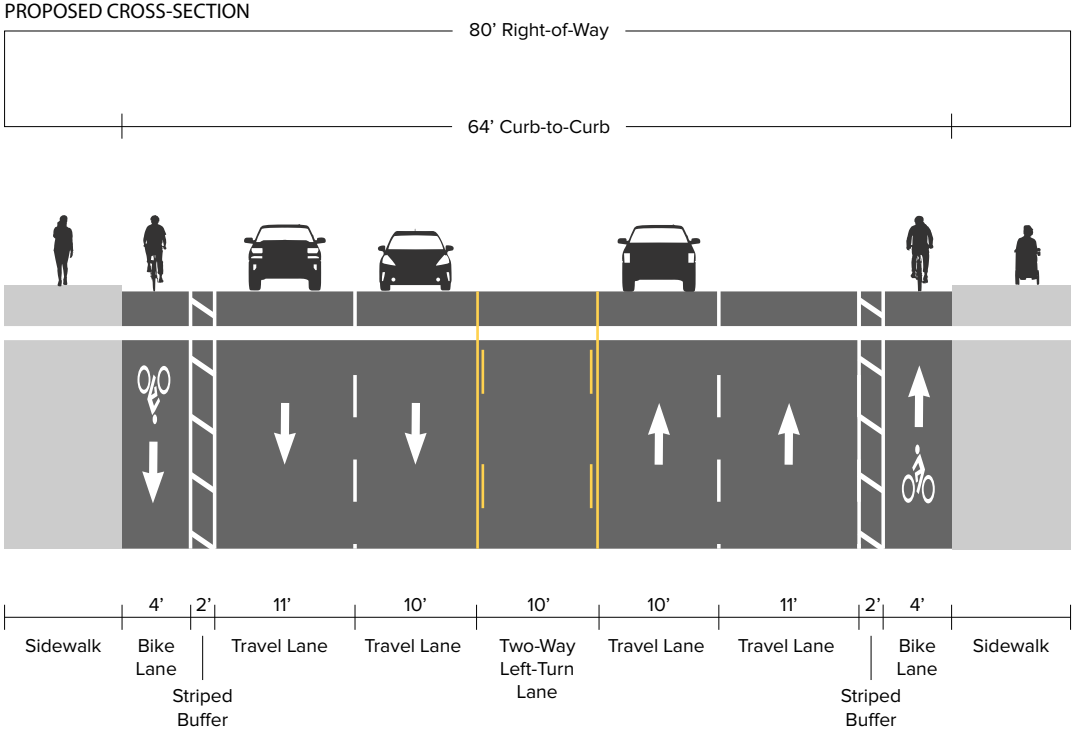
The Arrow Highway segment to the east of Springs Street, up to College Avenue, presents a similar existing scenario, with 11-foot inside lanes and an 11-foot TWLTL and wider shared outside lanes. The total pavement width is more constrained in that area, however, no on-street parking exists.

ARROW HWY: SPRING ST TO COLLEGE AVE
TYPICAL EXISTING CROSS-SECTION



Therefore, this allows for installing on-street bicycle lanes and a 2-foot buffer, while maintaining the number of travel lanes.

ARROW HWY: SPRING ST TO COLLEGE AVE
PROPOSED CROSS-SECTION



Between College Avenue and Elder Drive, the existing pavement width narrows further to 60 feet. While there is no center lane, the four-lane section includes on-street parking on both sides of the street. Based on input from stakeholders and City staff, removing on-street parking is not considered a popular option given the limited parking opportunities for residents and businesses in the area. Therefore, this section of Arrow Highway is the only segment where proposed bike lanes are not feasible.

However, for bicyclists wishing to travel east of College Avenue, an alternative bike route is proposed along the street network parallel to Arrow Highway. West of Indian Hill Boulevard, people bicycling would be able to turn north onto either Cambridge Avenue's proposed bike lanes or Bucknell Avenue to connect with an east-west bike route along Wharton Drive; Figure 33 illustrates a potential new signal at Arrow Highway and Bucknell Avenue to facilitate this connection. To implement this recommendation, which would also improve safety and access for people walking and driving, a traffic study should be conducted to evaluate design and traffic operations conditions and needs. This includes evaluating access to Notre Dame Road and Virginia Road, both of which are within the influence area of the intersection.

As part of the Village South Specific Plan, another Class III bicycle route is proposed along the future "Green Street Extension" between Bucknell Avenue and Indian Hill Boulevard, allowing people on bicycles to continue east along Green Street to College Avenue. A Class IV separated bikeway is proposed along College Avenue between Arrow Highway and 1st Street, which would complete this lower-stress bicycling route to major destinations such as the Village, Claremont Colleges, Metrolink and future Gold Line stations, and terminus of the Pacific Electric Trail. More information on these proposed connections between Arrow Highway and key destinations is provided in the Metro Foothill Gold Line Phase 2B First/Last Mile Plan and the Village South Specific Plan.

ARROW HWY: COLLEGE AVE TO ELDER DR
TYPICAL EXISTING CROSS-SECTION

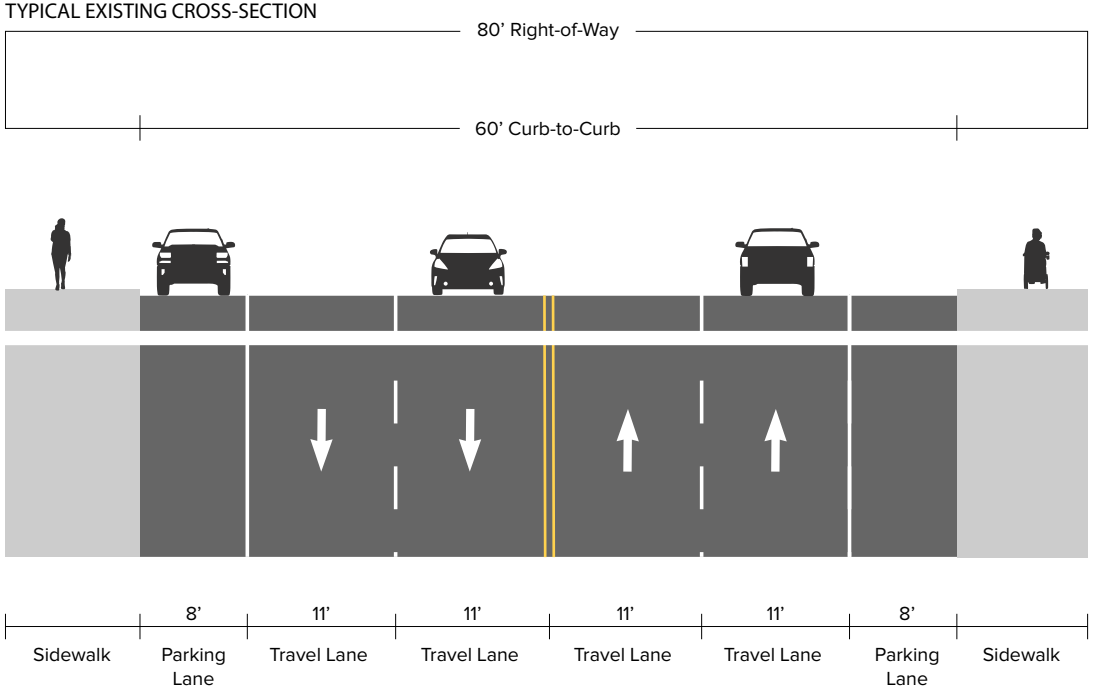
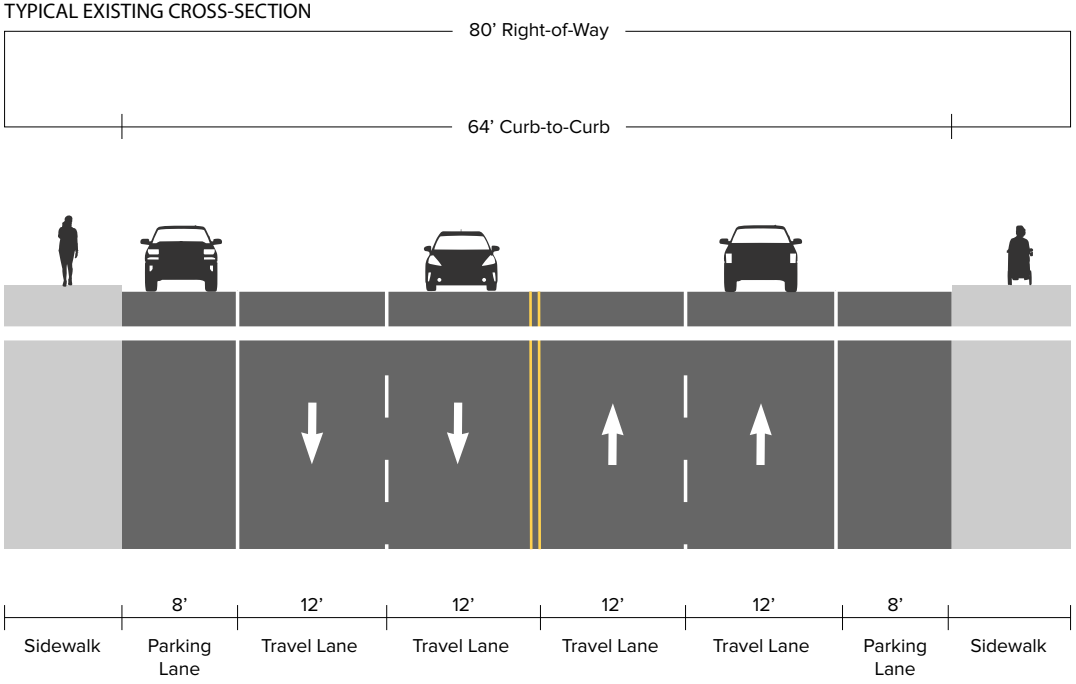


Figure 35: Rendering of a potential connection between Arrow Highway and a future bike route along Bucknell Avenue.

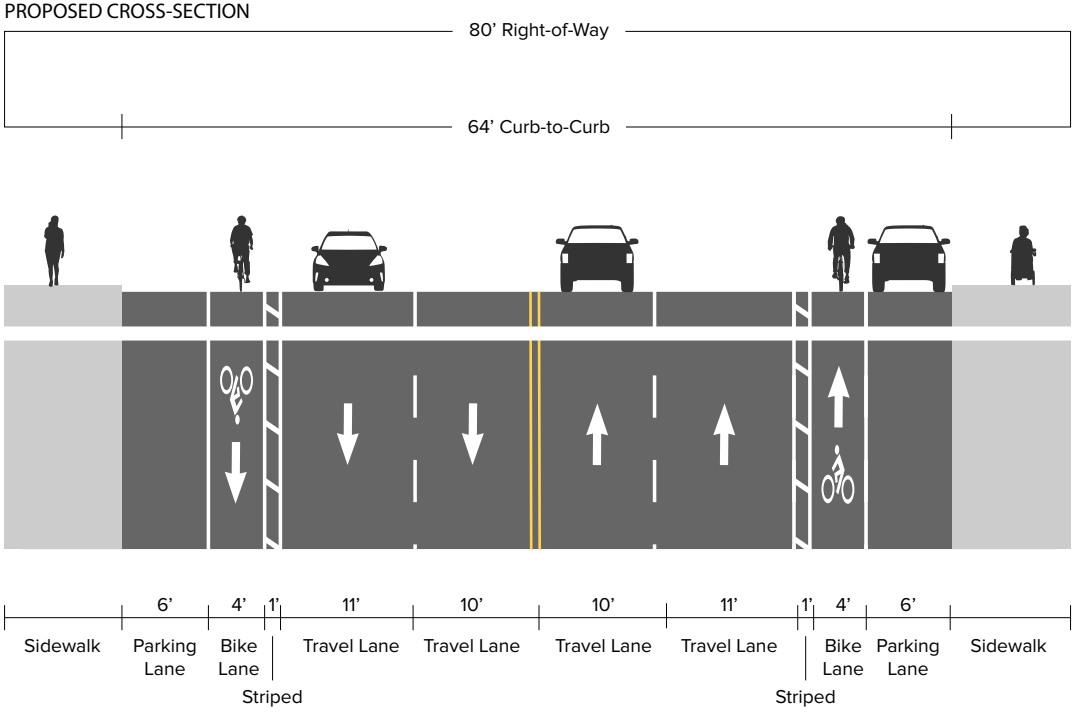
East of Elder Drive, up to the eastern limits of the City of Claremont (Claremont Boulevard/Mills Avenue), the existing pavement width widens back to 64 feet. While on-street parking exists on both sides of the street, currently, the undivided roadway consists of wider travel lanes at 12 feet each, in addition to the 8-foot wide parking lanes. This allows for some lane narrowing to accommodate bike lanes.

ARROW HWY: ELDER DR TO CLAREMONT BLVD/MILLS AVE
TYPICAL EXISTING CROSS-SECTION



Since on-street parking abuts the gutter, 6-foot parking lanes are proposed. Inside lanes are reduced to 10 feet, and outside lanes are proposed at 11 feet to accommodate transit and truck traffic. This allows for a minimum of 4-foot bike lanes with a 1-foot buffer.

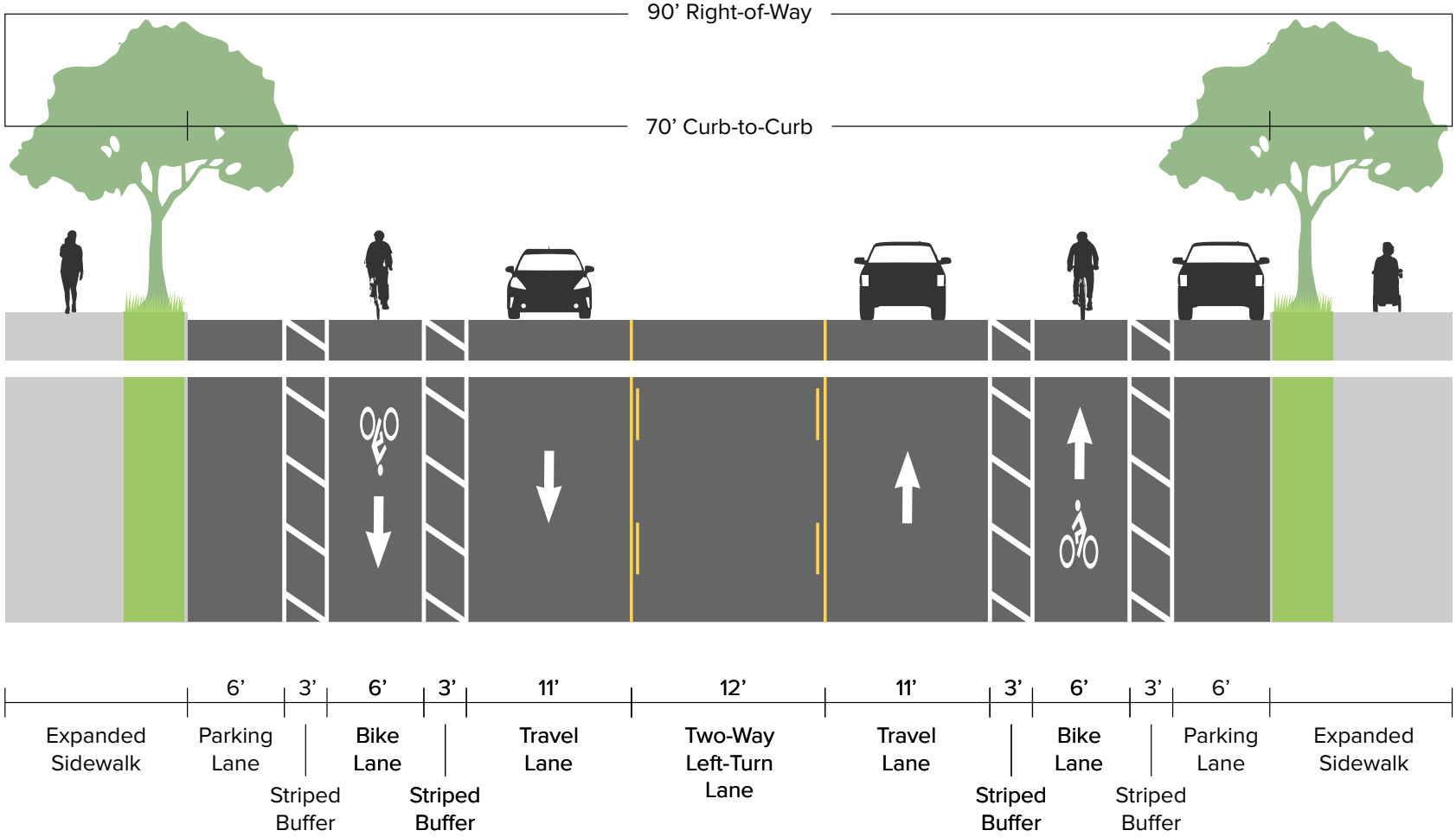
ARROW HWY: ELDER DR TO CLAREMONT BLVD/MILLS AVE
PROPOSED CROSS-SECTION



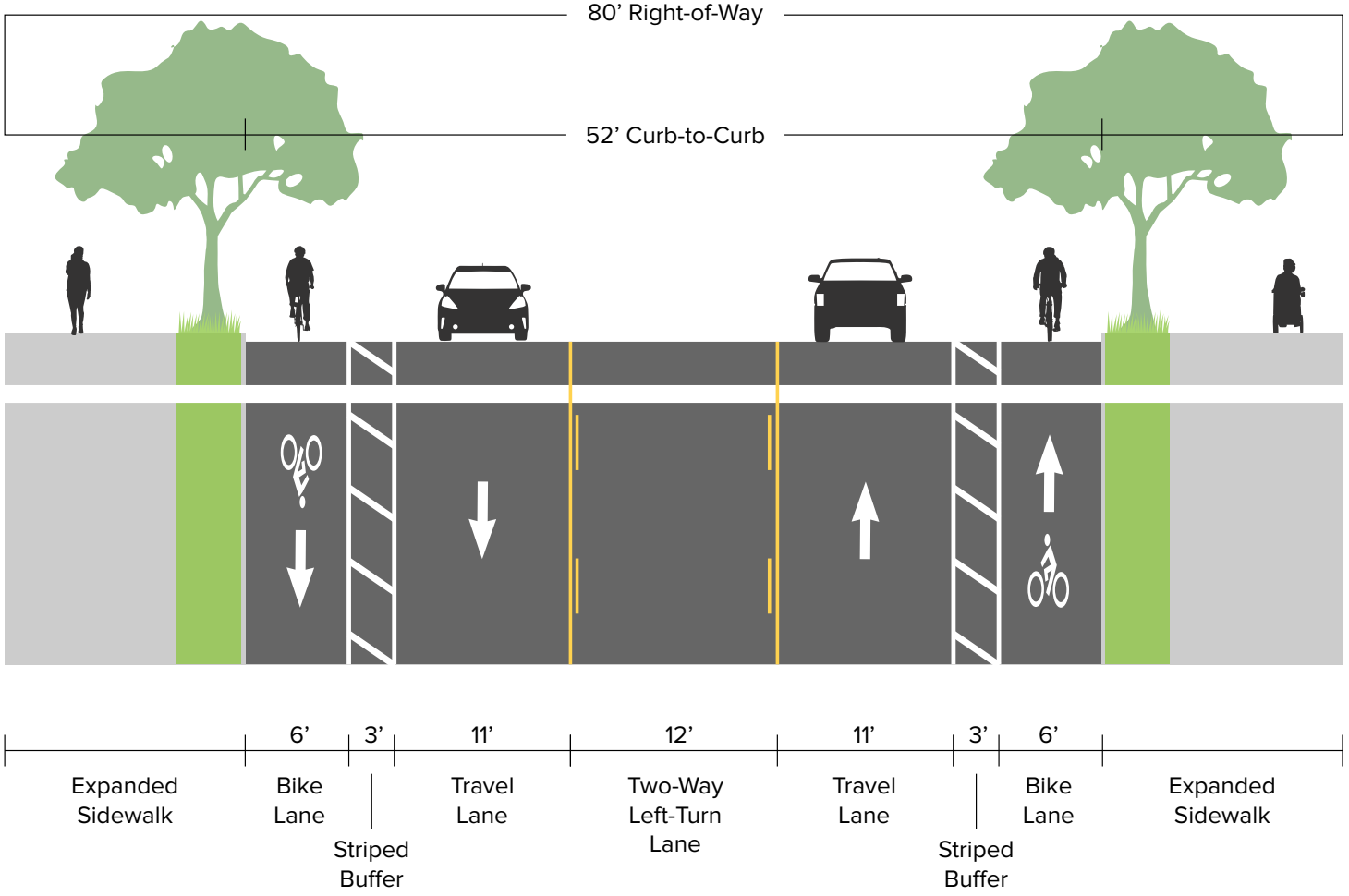
City of Claremont

TRAVEL LANE RECONFIGURATION

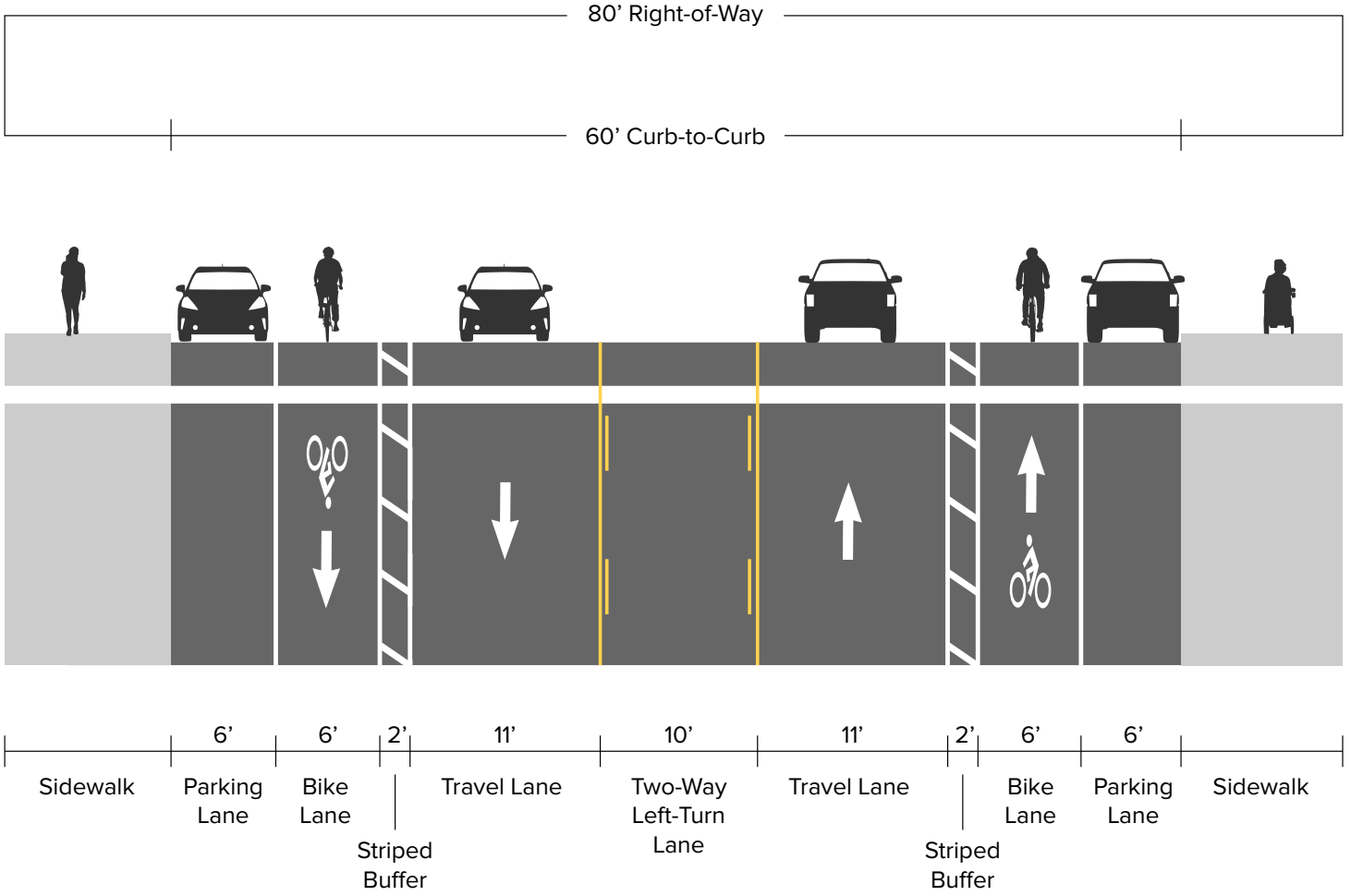
ARROW HWY: INDIAN HILL BLVD TO SPRING ST
PROPOSED CROSS-SECTION



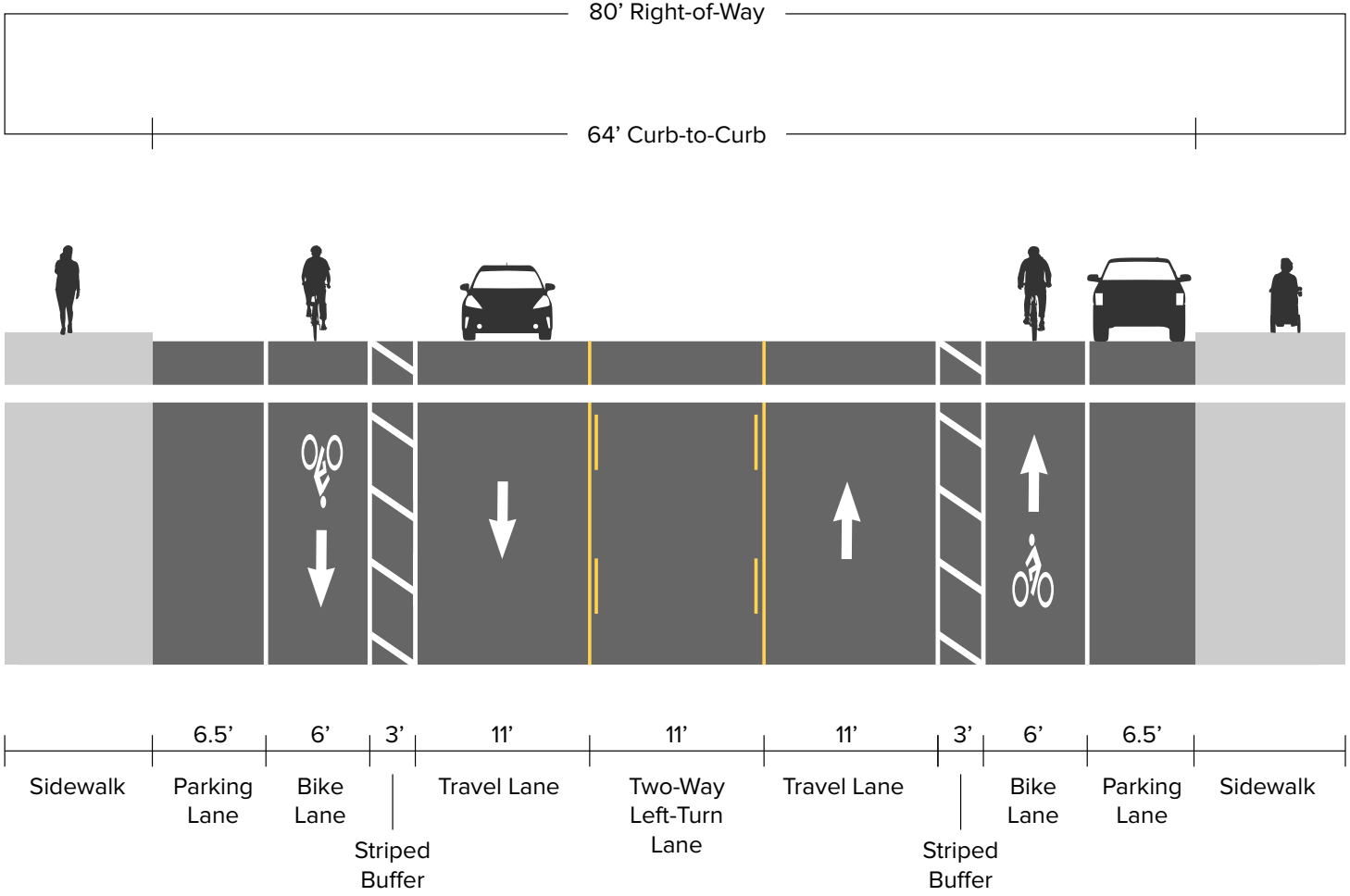
ARROW HWY: SPRING ST TO COLLEGE AVE
PROPOSED CROSS-SECTION



ARROW HWY: COLLEGE AVE TO ELDER DR
PROPOSED CROSS-SECTION



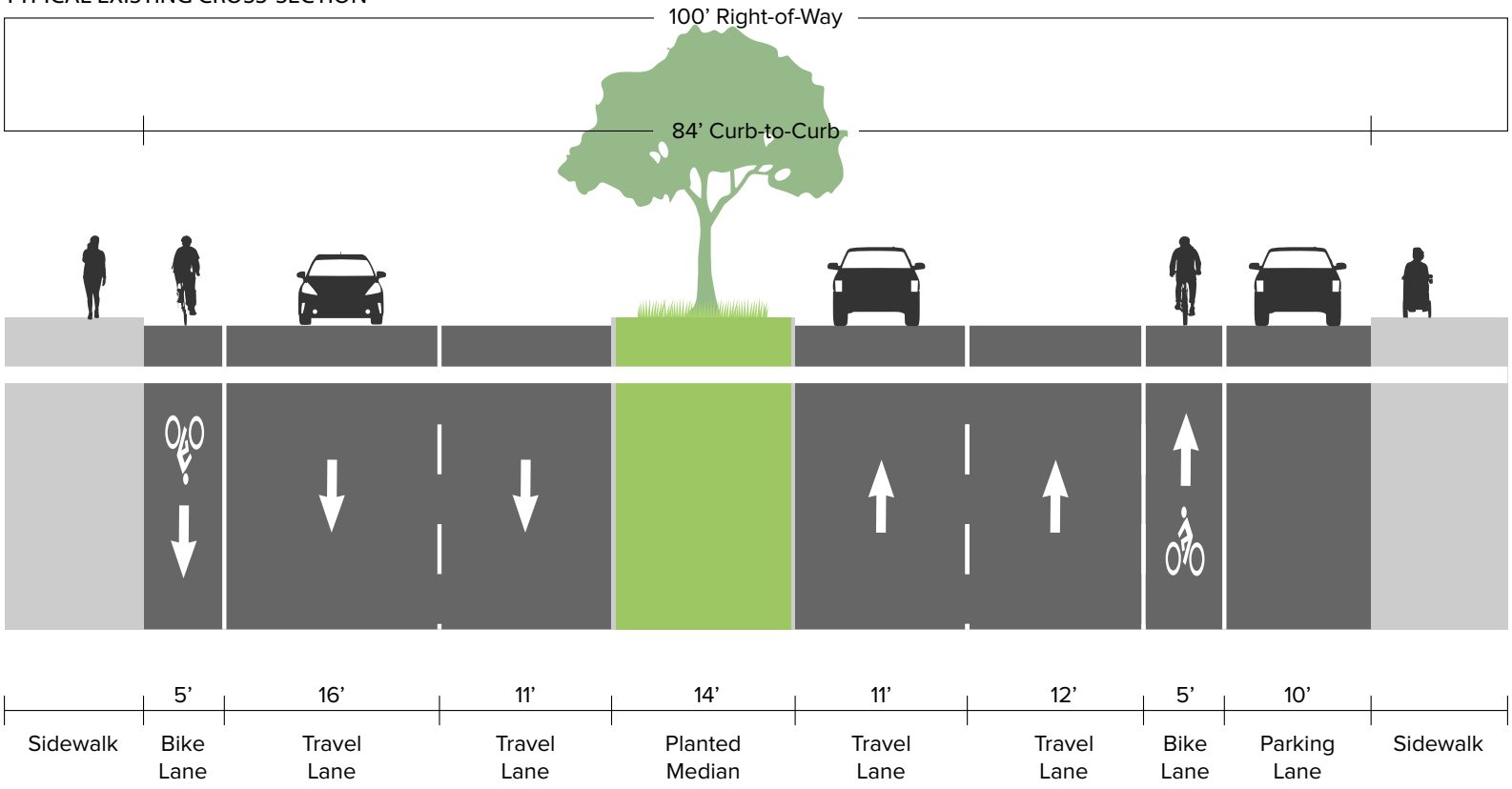
ARROW HWY: ELDER DR TO CLAREMONT BLVD/MILLS AVE
PROPOSED CROSS-SECTION



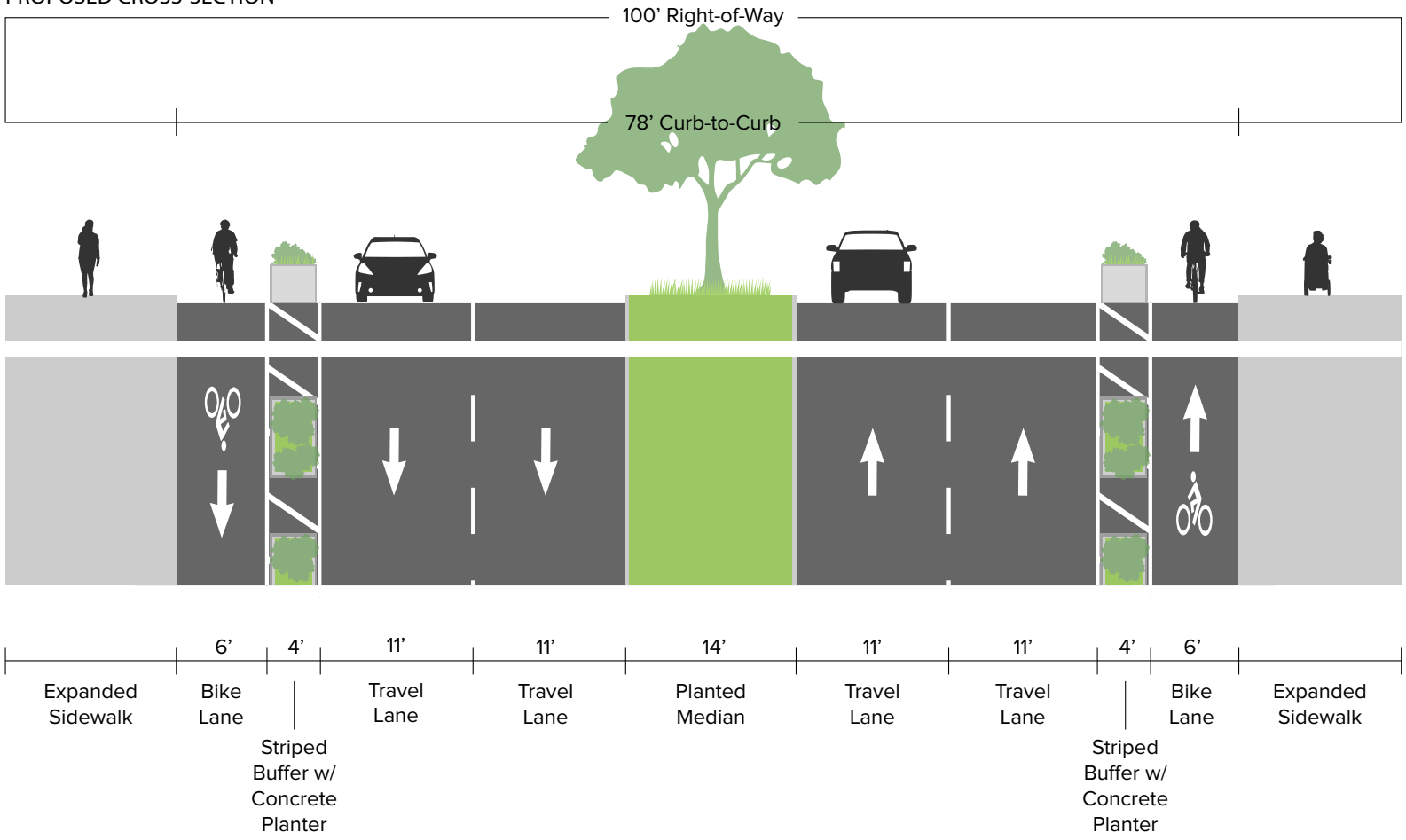
City of Claremont

PARKING RECONFIGURATION

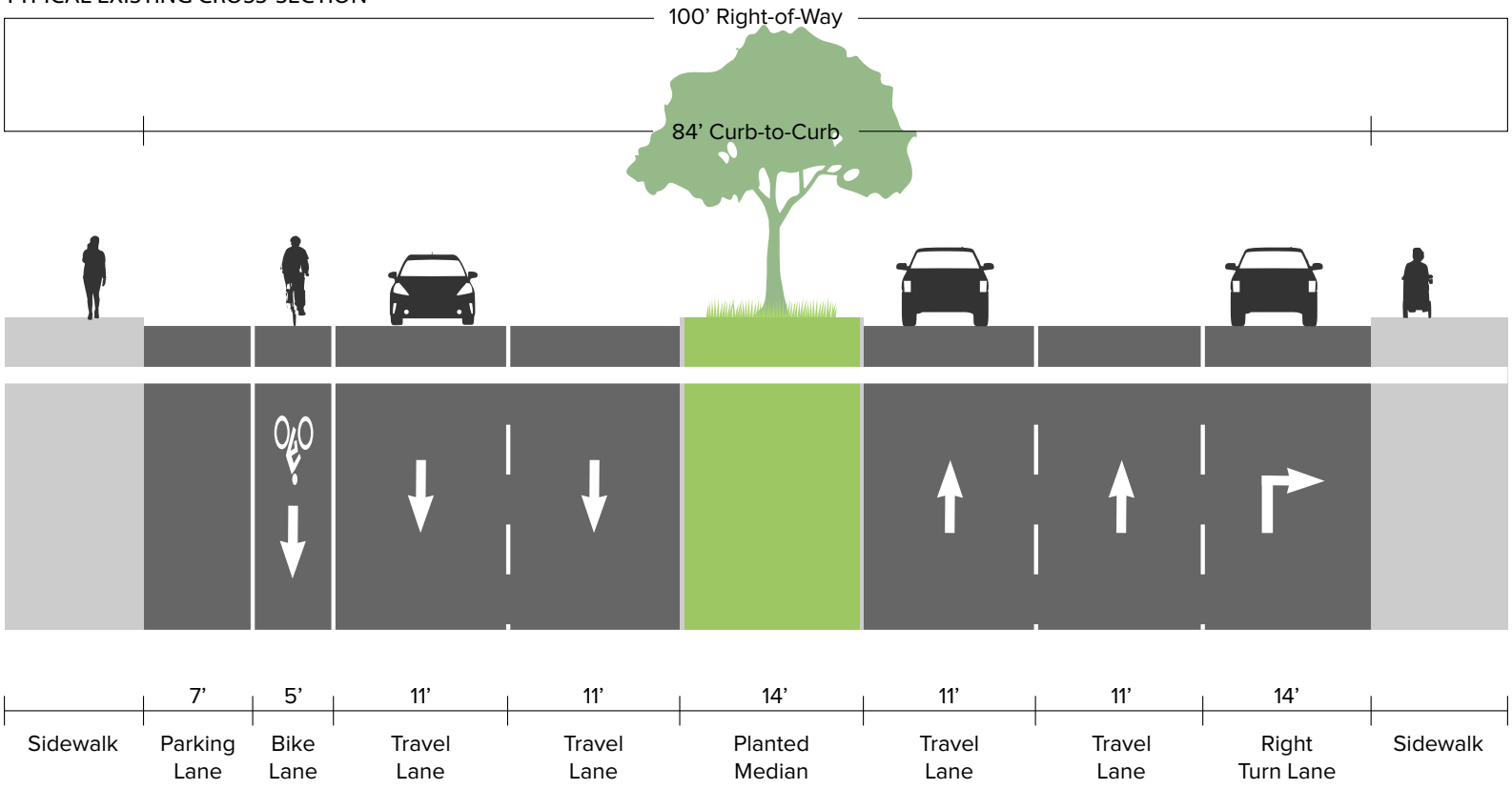
ARROW HWY: CAMBRIDGE AVE TO NOTRE DAME RD
TYPICAL EXISTING CROSS-SECTION



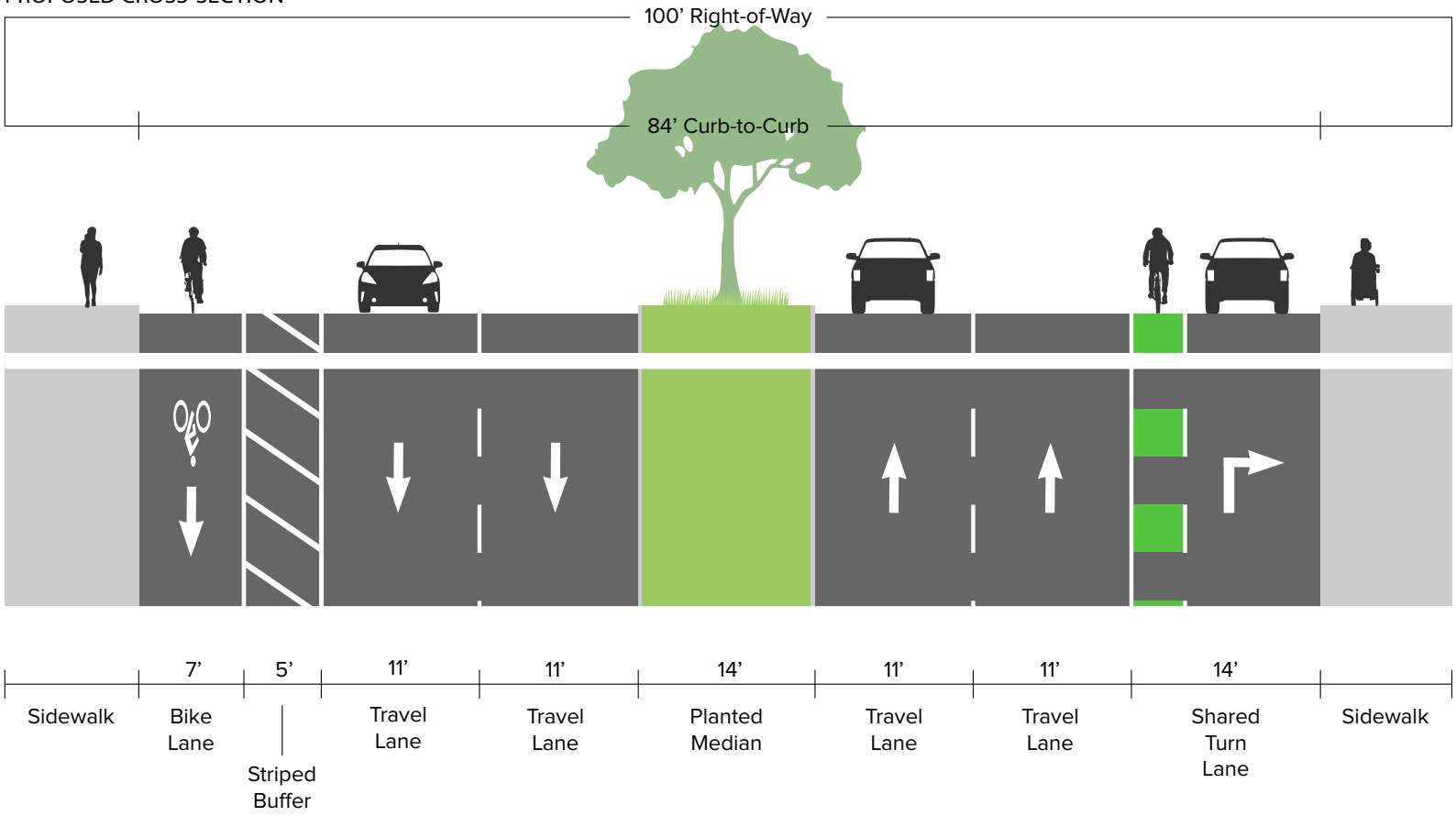
ARROW HWY: CAMBRIDGE AVE TO NOTRE DAME RD
PROPOSED CROSS-SECTION



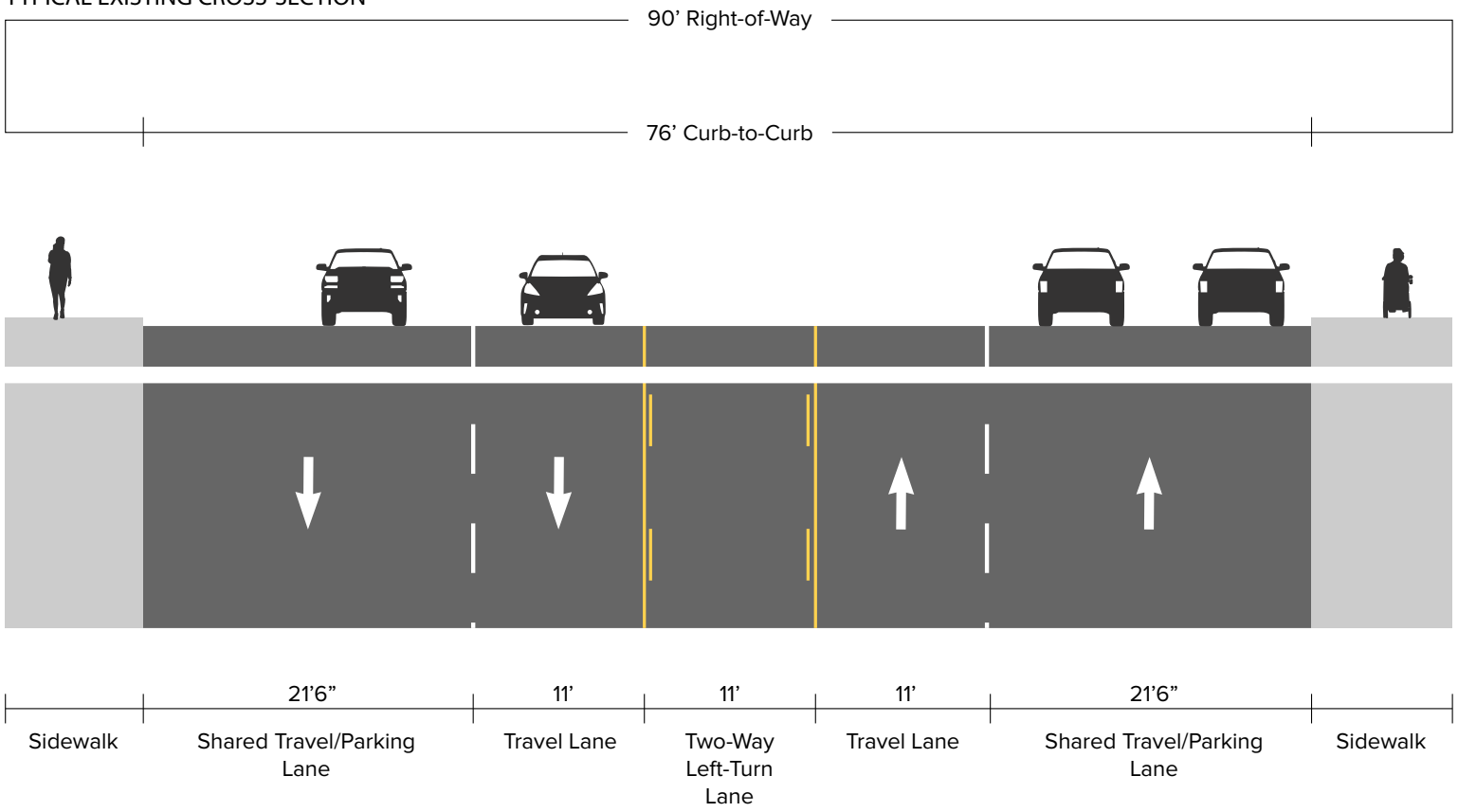
ARROW HWY: NOTRE DAME RD TO INDIAN HILL BLVD
TYPICAL EXISTING CROSS-SECTION



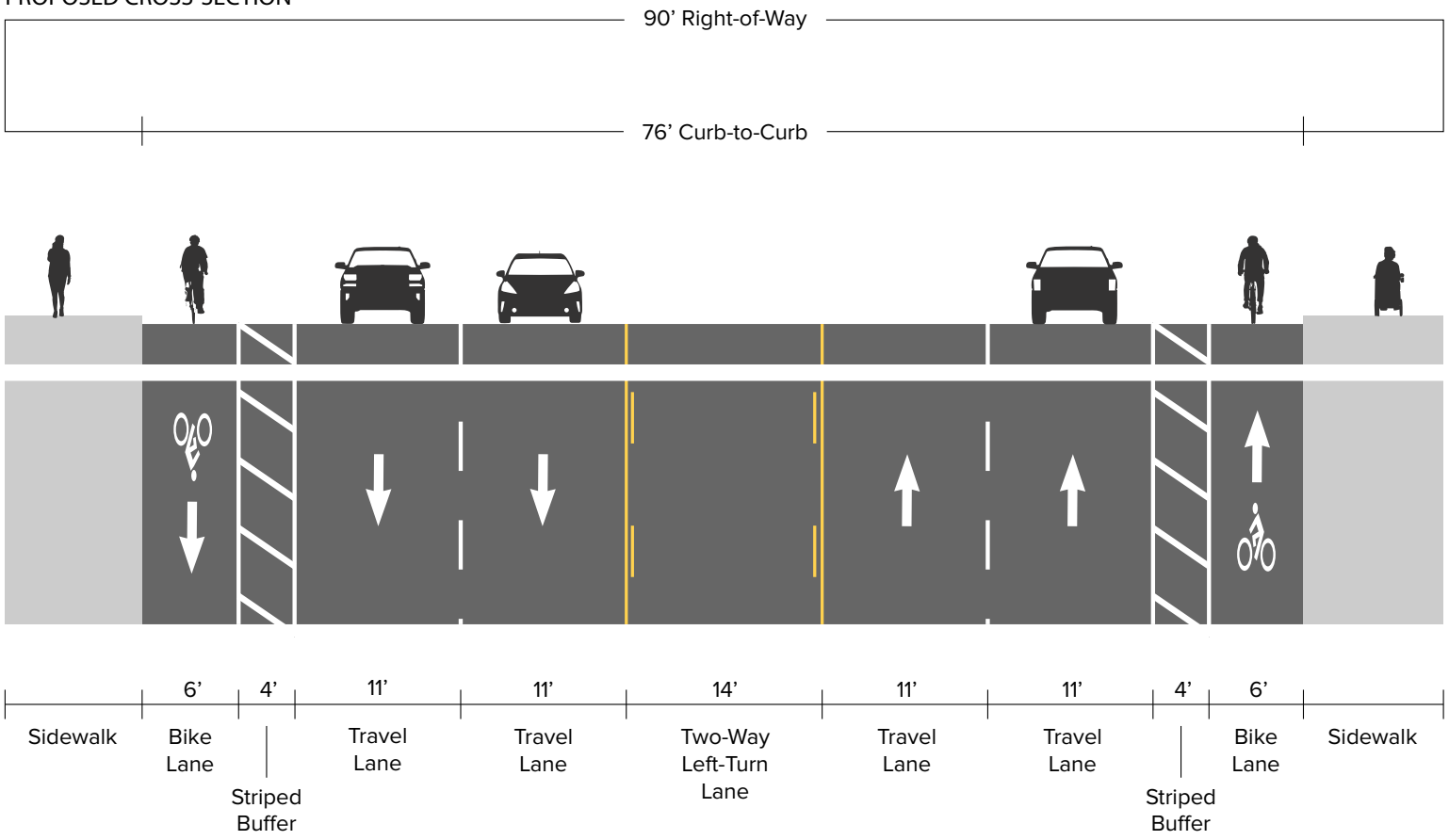
ARROW HWY: NOTRE DAME RD TO INDIAN HILL BLVD
PROPOSED CROSS-SECTION



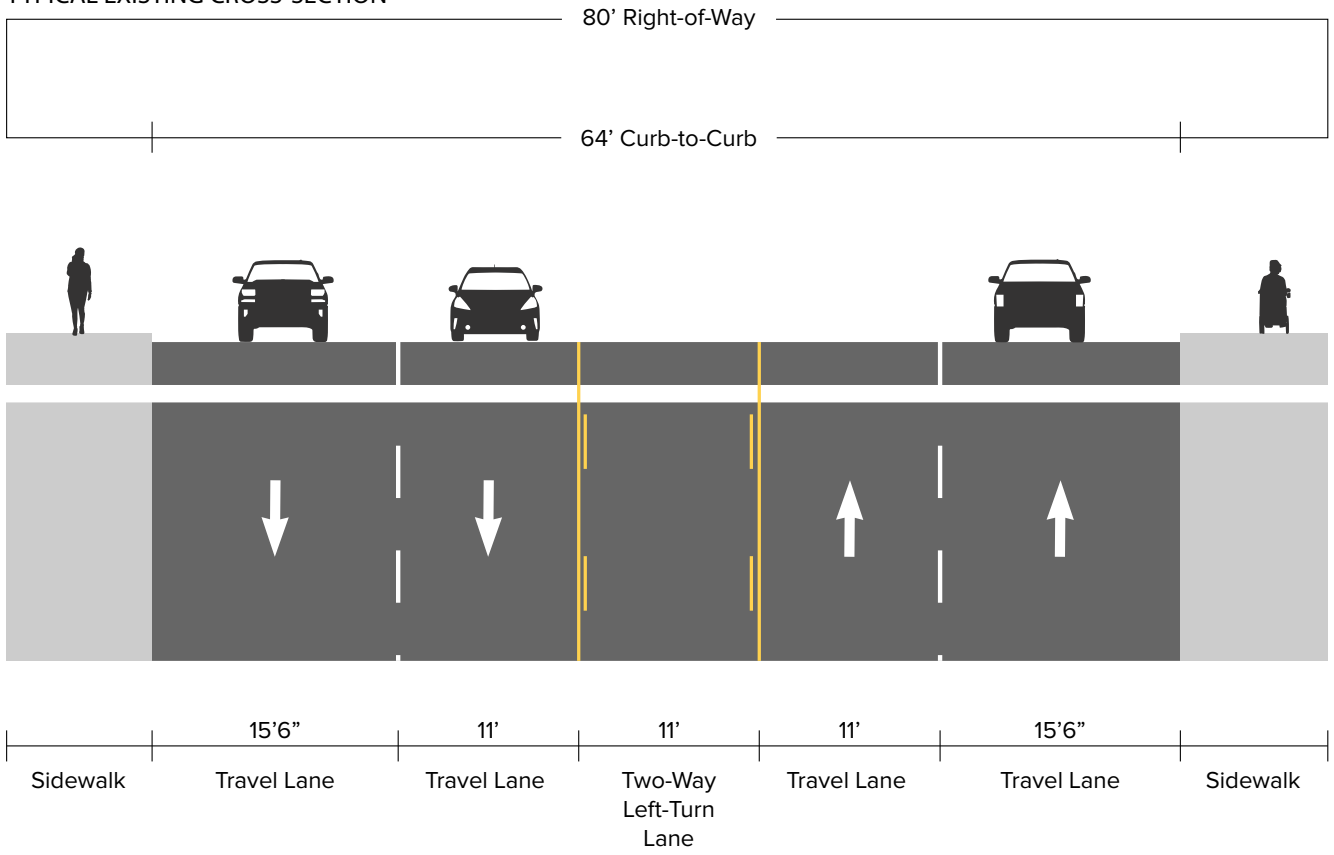
ARROW HWY: INDIAN HILL BLVD TO SPRING ST
TYPICAL EXISTING CROSS-SECTION



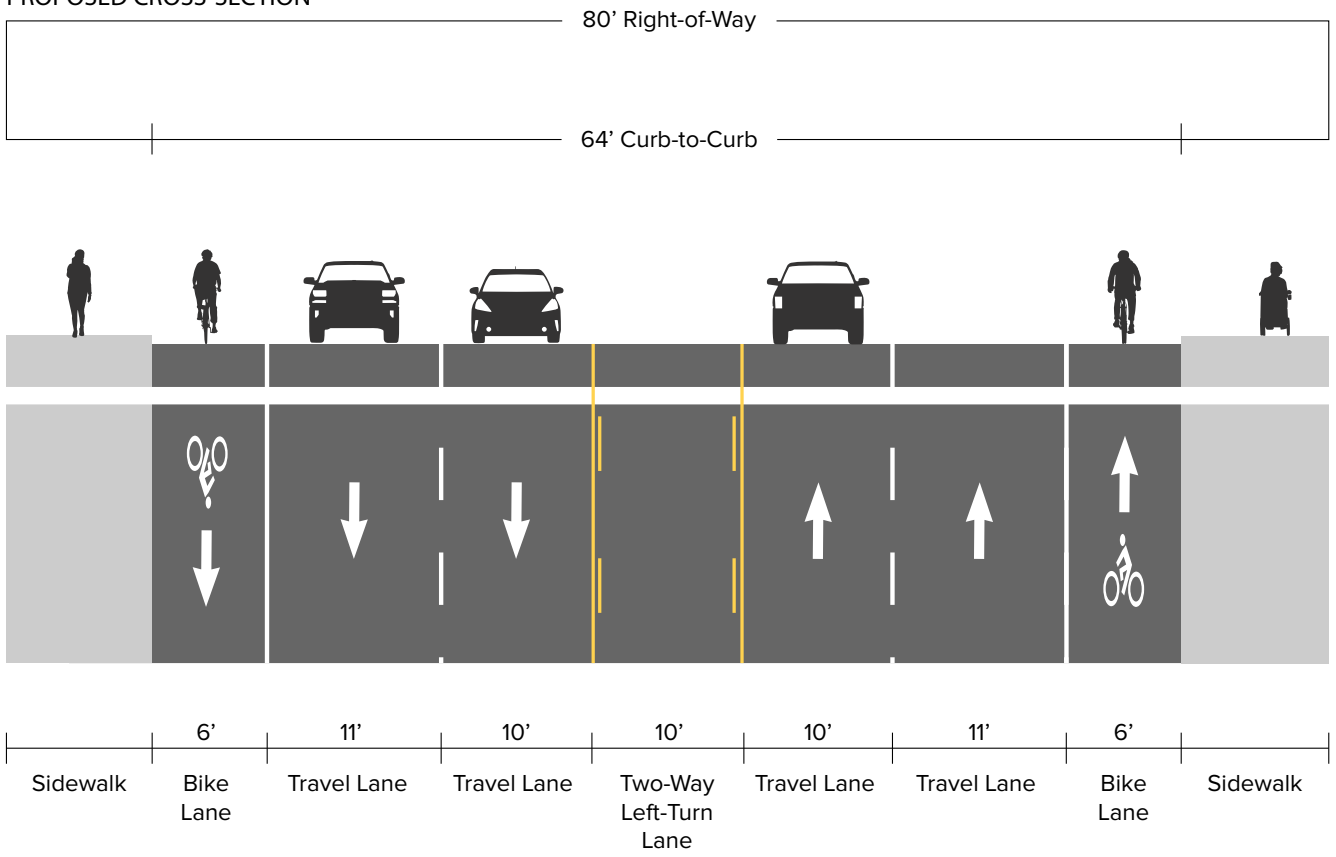
ARROW HWY: INDIAN HILL BLVD TO SPRING ST
PROPOSED CROSS-SECTION



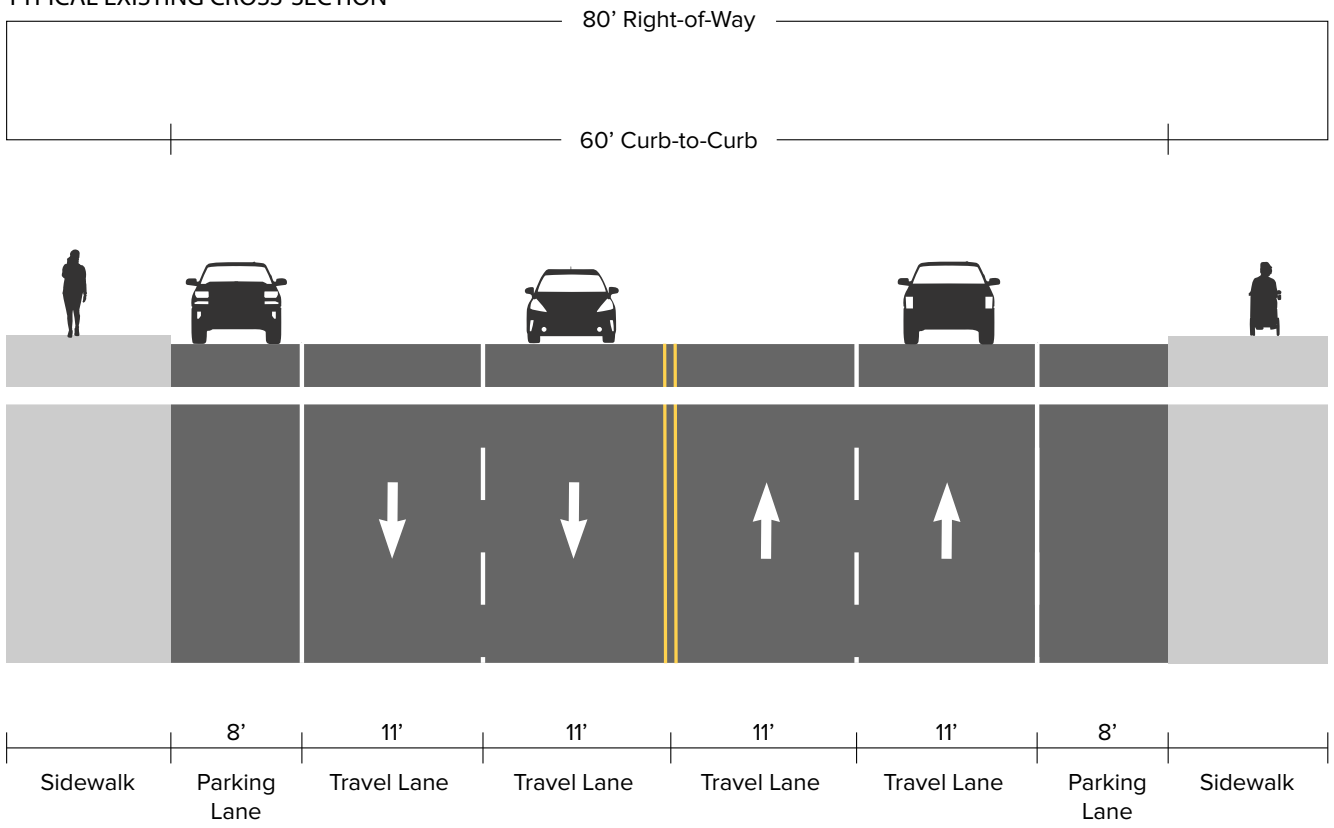
ARROW HWY: SPRING ST TO COLLEGE AVE
TYPICAL EXISTING CROSS-SECTION



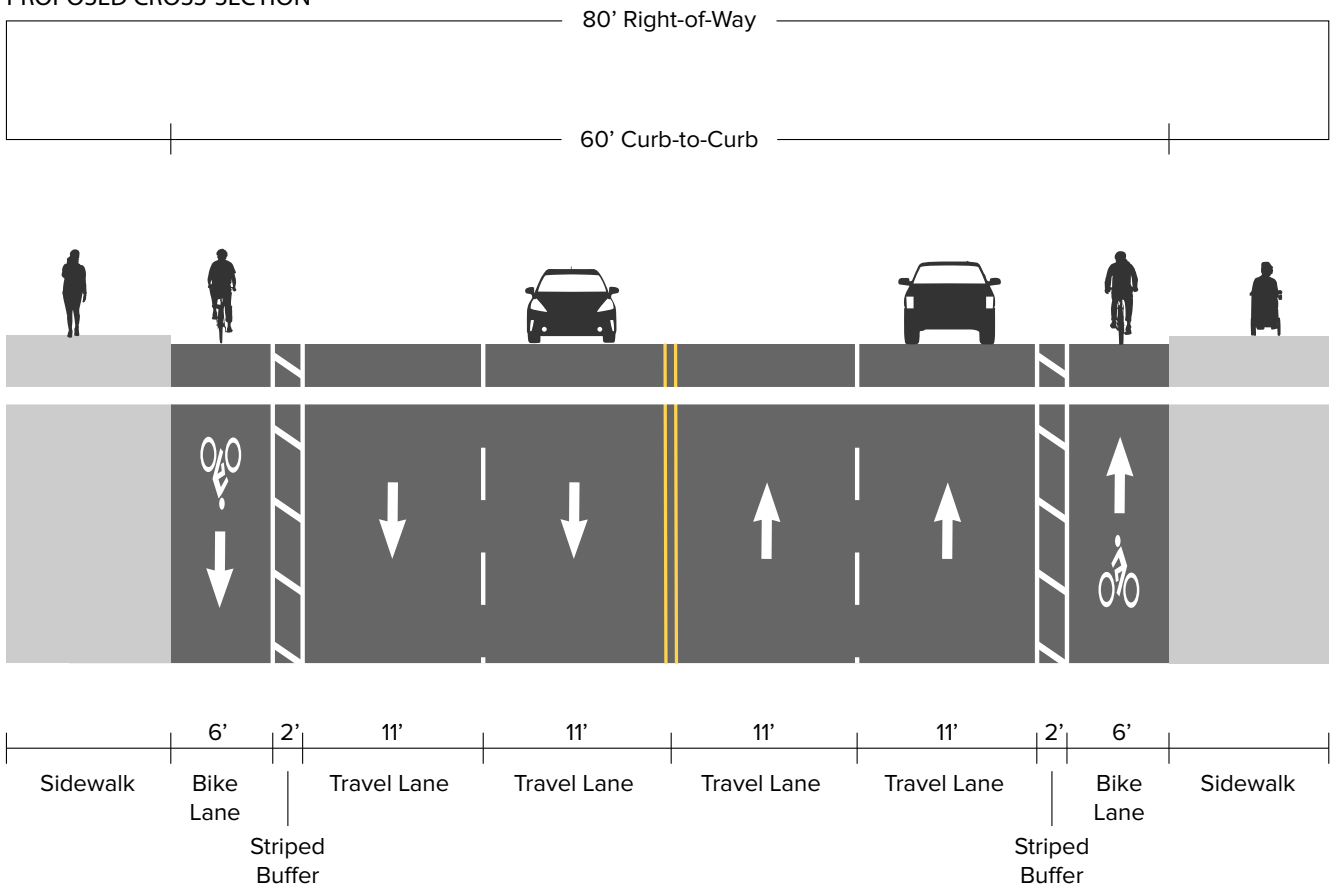
ARROW HWY: SPRING ST TO COLLEGE AVE
PROPOSED CROSS-SECTION



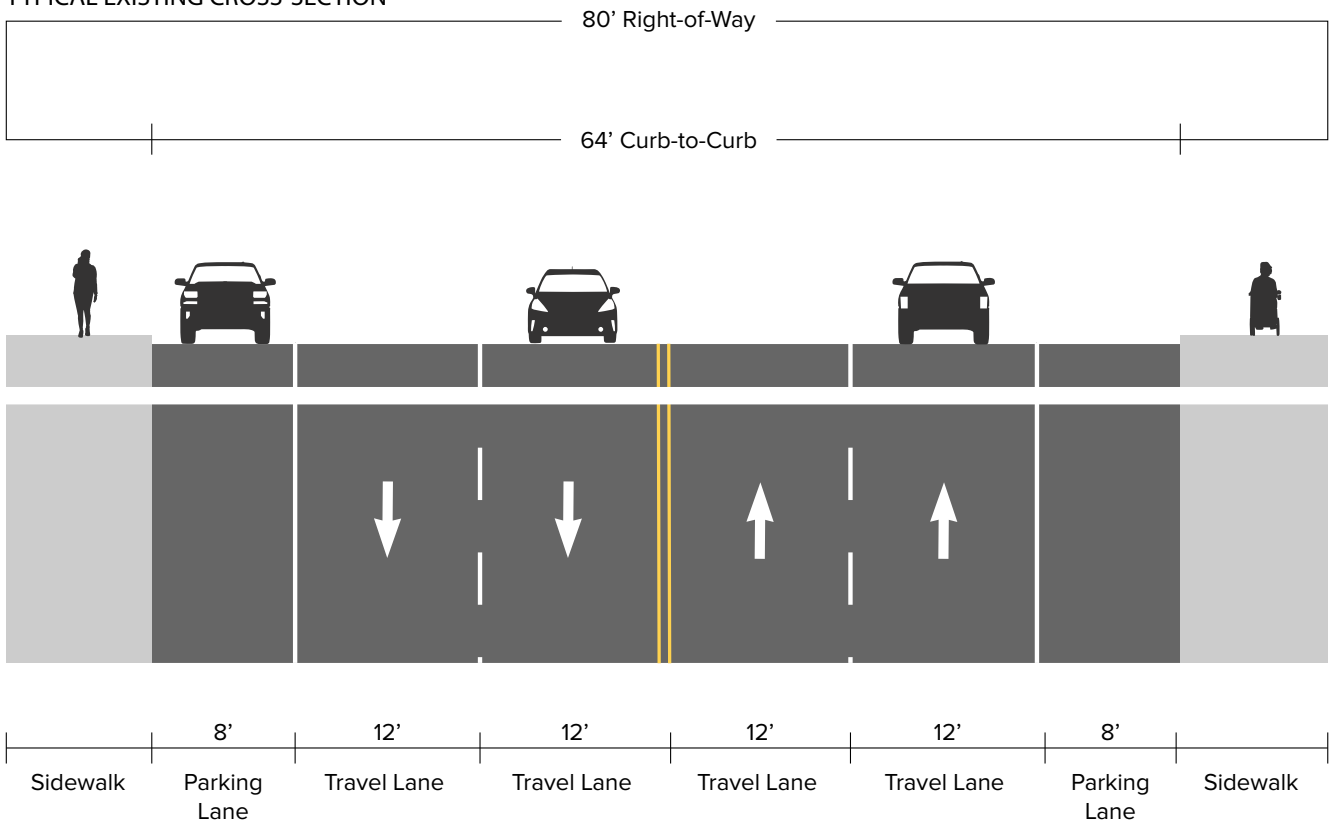
ARROW HWY: COLLEGE AVE TO ELDER DR
TYPICAL EXISTING CROSS-SECTION



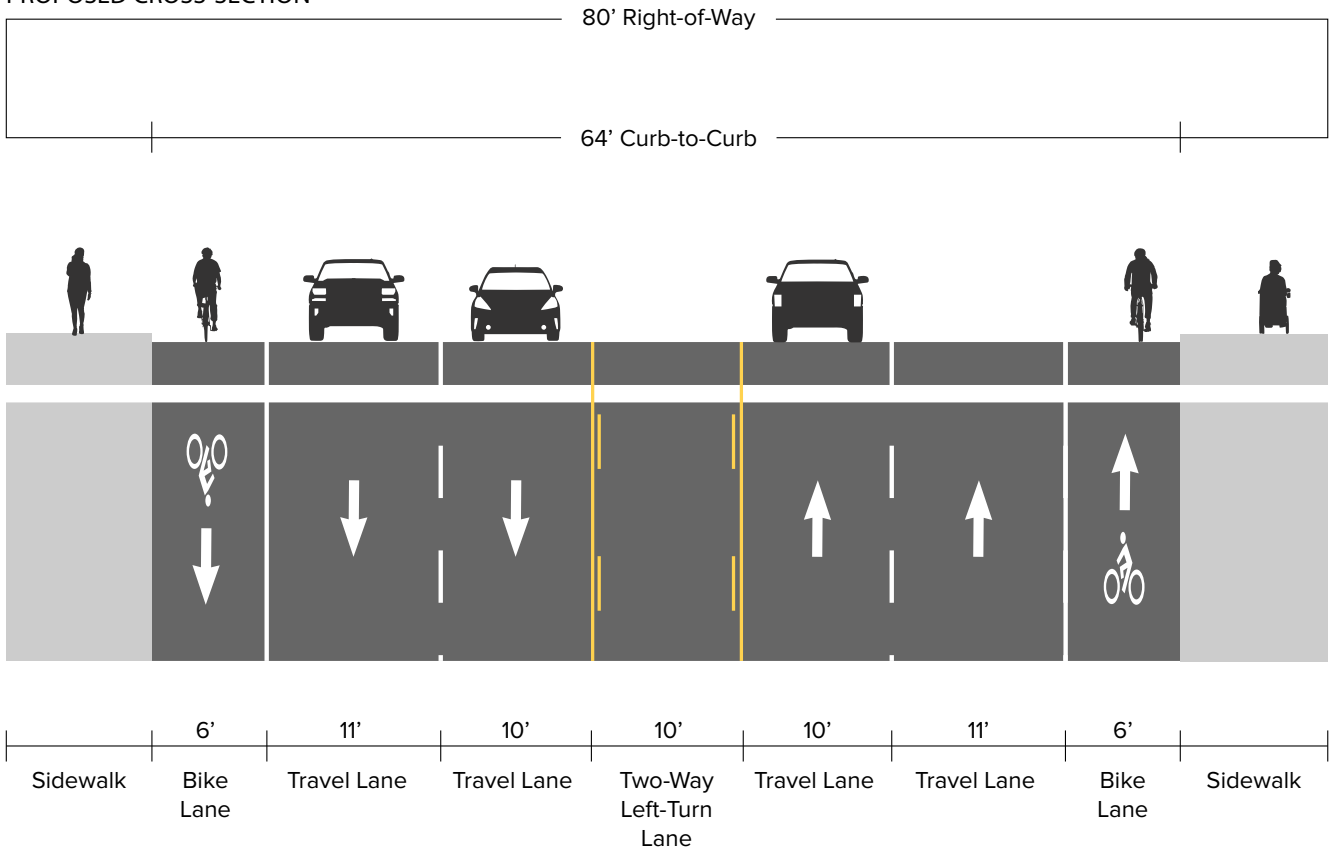
ARROW HWY: COLLEGE AVE TO ELDER DR
PROPOSED CROSS-SECTION



ARROW HWY: ELDER DR TO CLAREMONT BLVD/MILLS AVE
TYPICAL EXISTING CROSS-SECTION



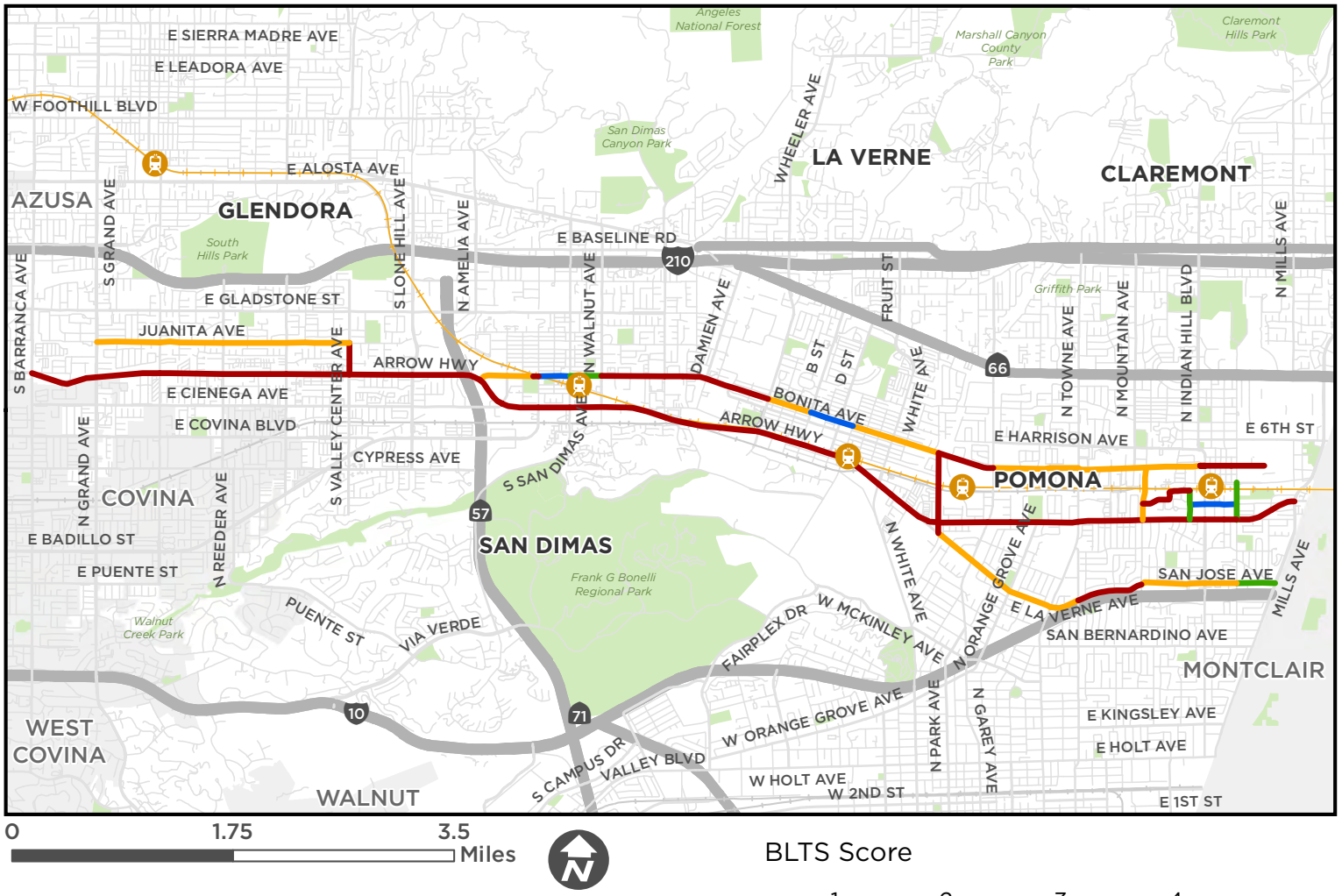
ARROW HWY: ELDER DR TO CLAREMONT BLVD/MILLS AVE
PROPOSED CROSS-SECTION



Bicycle Level of Traffic Stress with Full Implementation of Recommendations

A Bicycle Level of Traffic Stress (BLTS) analysis, first introduced and described in Chapter 2: Existing Conditions, was conducted a second time for each of the three routes based on the speed limit, presence and class of bicycle facility, and the number of travel lanes. BLTS values were assessed for current roadway configurations, and again to show how the BLTS would change upon implementation of the short-term and long-term recommendations. The following maps show the resultant BLTS and the amount of change in BLTS once short-term and long-term recommendations are implemented.

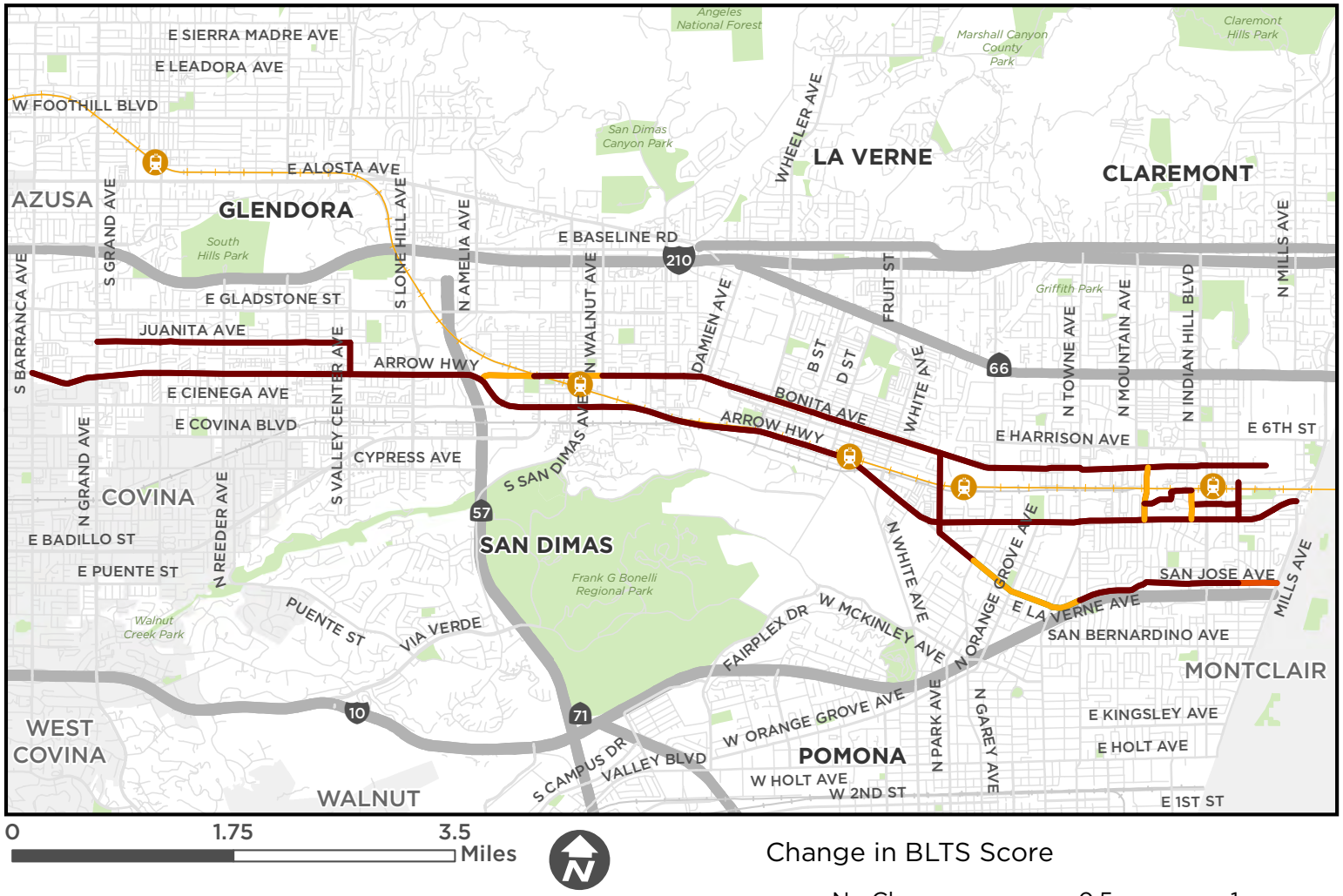
The maps in Figures 36–39 show that with implementation of the short-term recommendations, the three study routes remain largely high-stress. Implementation of the long-term recommendations, on the other hand, would have a large impact and greatly lower the BLTS along the three routes.



Arrow Highway Multimodal Regional Corridor Plan

Bicycle Level of Traffic Stress (BLTS) with Implementation of Short-Term Recommendations

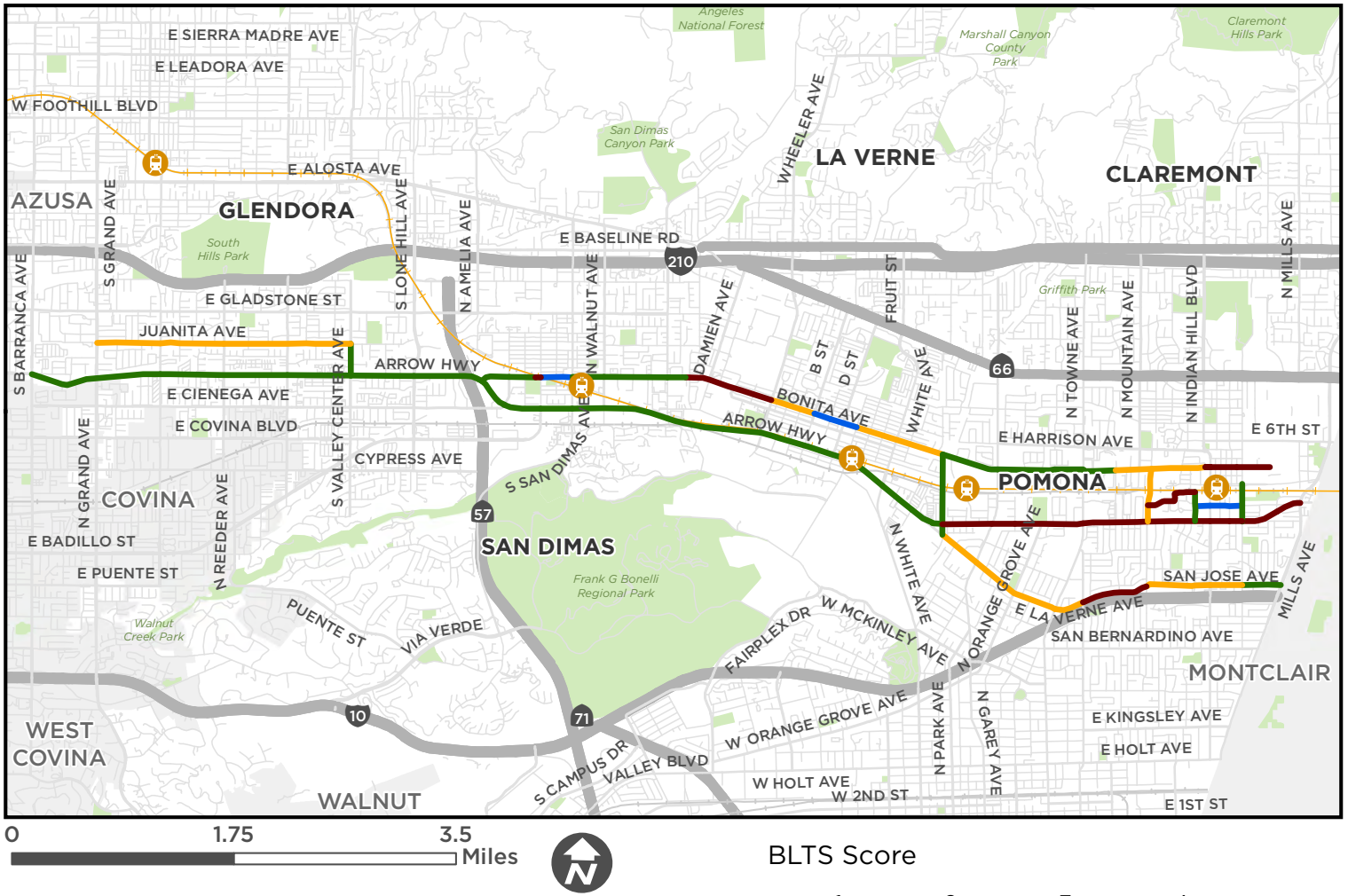
Figure 36: Short-Term Recommendations BLTS



Arrow Highway Multimodal Regional Corridor Plan

Total Change in Bicycle Level of Traffic Stress (BLTS) with Implementation of Short-Term Recommendations

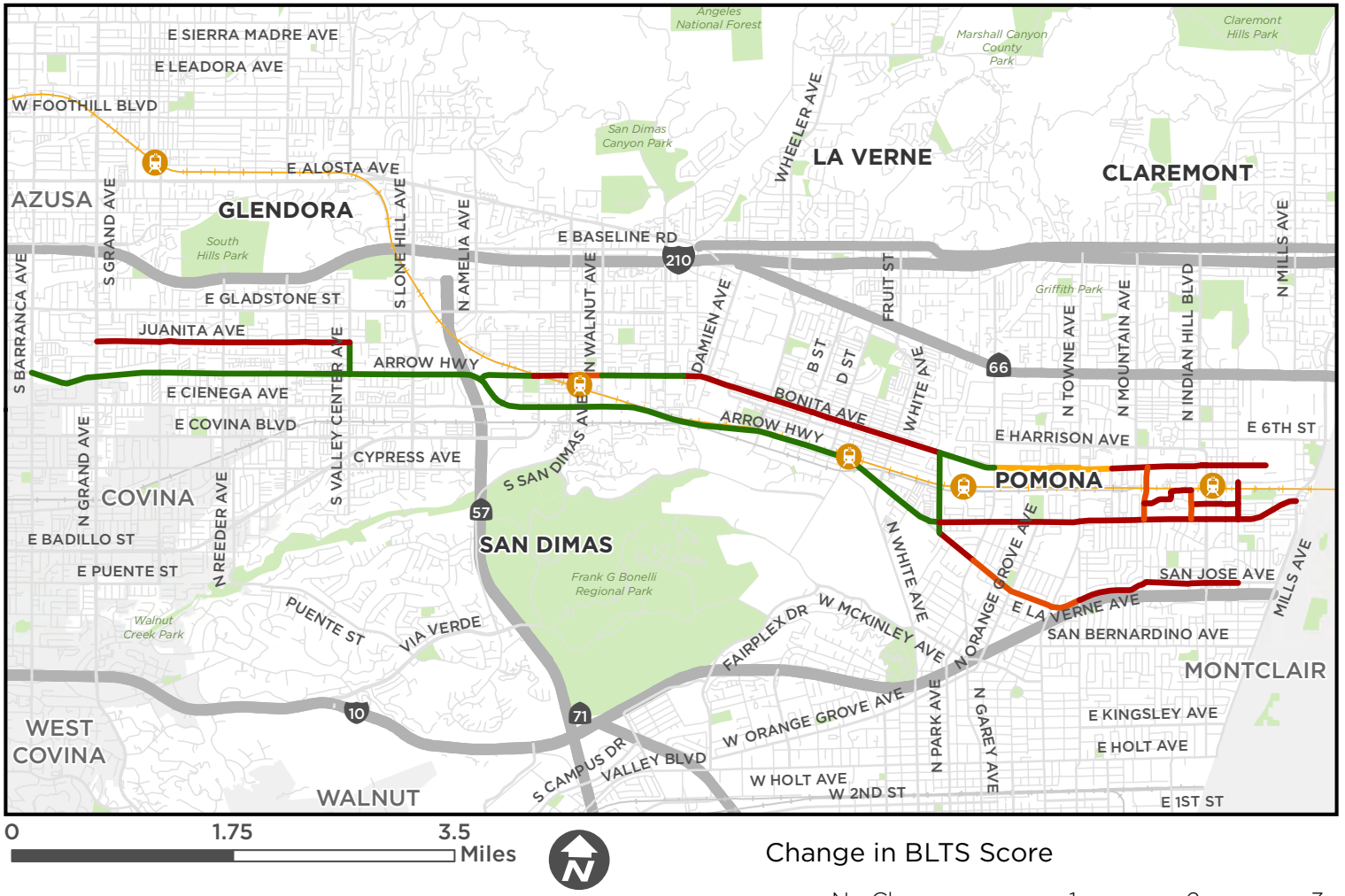
Figure 37: Short-Term Recommendations Change in BLTS



Arrow Highway Multimodal Regional Corridor Plan

Bicycle Level of Traffic Stress (BLTS) with Implementation of Long-Term Recommendations

Figure 38: Long-Term Recommendations BLTS



Arrow Highway Multimodal Regional Corridor Plan

Total Change in Bicycle Level of Traffic Stress (BLTS) with Implementation of Long-Term Recommendations

Figure 39: Long-Term Recommendations Change in BLTS


College

05

IMPLEMENTATION

This chapter provides a roadmap for achieving the vision and goals established in Chapter 1 of the Plan by outlining short and long term implementation strategies, project prioritization, user promotion, and funding sources.

The five cities will be responsible for the implementation of active transportation infrastructure projects within their city boundaries. User promotion to encourage walking, bicycling, and using other active modes or to provide safety education are the responsibility of City departments and can be supported by local and regional agencies and stakeholders such as our school districts, colleges, business and San Gabriel Valley COG.

Additionally, a safer and more active east San Gabriel Valley is not possible without the involvement of community members as our residents have invaluable local knowledge about the streets in our community. As cities move forward with the implementation of active transportation projects, additional community engagement and outreach will be essential.

To begin implementing the projects and strategies, the cities need to adopt the Plan. The adoption process is illustrated below:

PLAN ADOPTION

Adoption of the content of this plan by the five involved municipalities is critical to ensure that the vision is implemented across all jurisdictions. Local governments have the opportunity to adopt this plan in one of several ways:

1. Adopt the plan with a resolution that stipulates that their action applies only to the projects and recommendations within the subject jurisdiction.

2. Prepare and adopt amendments to each City's planning documents (General Plan, Specific Plans, Active Transportation Plans, Capital Improvement Plans) to incorporate the recommendations of this plan.

3. Adopt a focused program of projects for grant applications.

Adoption of Metro First/Last Mile Plan content may also take any of these forms and may occur at the same time.

PROJECT PRIORITIZATION, PHASING STRATEGY, AND COST ESTIMATES

To guide implementation, a prioritization framework was developed to evaluate proposed bicycle and pedestrian projects using the criteria outlined in Table 24. These criteria include safety, demand/proximity to community destinations, increased access to the future Gold Line stations, and equity; these criteria are aligned with the State's Active Transportation Program grant criteria, which is the primary source of state funding for pedestrian and bicycle infrastructure.

For each criterion, projects received an individual score; a composite score was developed based on the sum of all four factors evaluated.

Table 24. Prioritization Criteria and Scoring

CATEGORY	RATIONALE	CRITERIA	SCORE
Safety	Safety is paramount to active transportation and a core goal of the Arrow Highway Multimodal Regional Corridor Plan. This criterion prioritizes project pedestrian- and cyclist-involved collision locations as identified through publicly available 2014-2018 TIMS/SWITRS data.	1.1 - Within the past five years: the following number of pedestrian- and/or cyclist-involved collisions have occurred within 500 feet of the project routes:	
		More than 5	20
		4-5	15
		2-3	10
		1	5
		1.2 - Within the past five years: at least one collision within 500 feet of the project routes resulted in a pedestrian and/or bicycle rider fatality	5
Demand	Projects in areas of high demand provide benefit to a greater number of people. This criterion prioritizes projects at or near destinations that are important for community well-being and that generate a higher number of trips.	2.1 - Project is located within 1/4 mile of one or more schools.	
		More than 1	5
		1	2
		3.1 - Project is located within 1/4 mile of one or more park, library, hospital, or senior center.	
		More than 4	5
		4	4
		3	3
		2	2
		1	1

CATEGORY	RATIONALE	CRITERIA	SCORE
Gold Line	Projects that increase or improve active transportation access to future Gold Line stations are prioritized.	6.1 - Project is located within the following distance of a future Gold Line station:	
		1/8 mile	10
		1/4 mile	7
		1/2 mile	4
Equity	Members of disadvantaged communities are more likely to depend on transit, walking, and bicycling for transportation, and disproportionately represented in severe and fatal injuries from collisions. CalEnviroScreen measures the level of demographic disadvantage and environmental burden experienced by residents of each census tract.	7.1 - CalEnviroScreen 3.0 Percentile Score	
		90-100%	10
		80-90%	9
		70-80%	8
		60-70%	7
		50-60%	6
		40-50%	5
		30-40%	4
		20-30%	3
		10-20%	2
		0-10%	1
MAXIMUM NUMBER OF POINTS			**55**

The recommended projects in Tables 25 through 34 were assigned to one of three priority tiers:

Tier 1: High Priority Projects. These are projects that cities will actively seek funding for and dedicate resources to planning and implementation in the immediate years. Timelines for outreach, and identification of funding sources will be a high priority and immediate next step. The Tier 1 projects that are lower-scale and cost will be considered for immediate implementation in the coming fiscal years.

Tier 2: Medium Priority Projects. These are projects that cities will maintain as potential projects, in the event that funding sources (such as developer impact fees) become available. Each City's repaving plan will also take these projects into account as street repaving plans are implemented. These projects may be combined with Tier 1 projects to strengthen the network and gap closure portions of grant applications, and to complement other projects.

Tier 3: Lower Priority Projects. These are projects that cities will pursue longer-term. However, should any City have the opportunity to implement projects from any of the three tiers, they will work to develop these projects in order to close network gaps and improve walking, biking, rolling, and connecting to transit.

In general, the projects scoring within the highest third of all bicycle or pedestrian projects were selected as Tier 1; projects scoring in the middle third are Tier 2; and projects in the lower third are Tier 3.

The prioritization list acts as a guide to implementation for the cities. When funding sources become available, the cities will take all available opportunities to propose the most competitive projects. Should opportunities arise to complete projects on lower tiers of the prioritization list, they will be taken. For example, if a new development is required to provide a public benefit along these corridors, proposed bikeways or sidewalks can be considered as an option. If a city plans to repave a corridor that has a recommended bikeway or pedestrian project in this Plan, cities will explore ways to install facilities as the street is repaved.

Planning-level construction cost estimates for each project are also provided in Tables 25 through 34. Since this a planning level assessment, project unknowns exist, and the cities will likely need to conduct additional study for specific projects. The potential costs are appropriate given the level of uncertainty in the design at this point in the planning process. For many improvement types in the following recommendation tables, an estimated cost range is given to further reflect the uncertainty of individual project circumstances. Appendix C provides an explanation of the unit cost assumptions used to calculate the planning-level cost estimates.

Glendora

Table 25. Glendora Linear Recommendations

Primary Street	From	To	Recommendation	Total Score	Priority Tier	Cost
Juanita Ave	Grand Ave	Valley Center Ave	Class III Bike Route/ Bike Boulevard	33	Tier 1: High	$24,000 - $48,100
Juanita Ave	Treanor Ave	Valley Center Ave	Fill Sidewalk Gap	30	Tier 1: High	$9,100 - $15,200
Juanita Ave	Heritage Pl	Bonnie Cove Ave	Fill Sidewalk Gap	25	Tier 1: High	$4,400 - $7,300
Arrow Hwy *	Sunflower Ave	Valley Center Ave	Widen Sidewalk	24	Tier 2: Medium	$1,600 - $5,100
Arrow Hwy	Barranca Ave	Arrow Grand Cir	Widen Sidewalk	24	Tier 2: Medium	$6,500 - $19,900
Arrow Hwy*	Lyman Ave	Sunflower Ave	Remove Sidewalk Obstruction	23	Tier 2: Medium	$9,000
Juanita Ave	Bonnie Cove Ave	Bruning Ave	Fill Sidewalk Gap	20	Tier 2: Medium	$15,800 - $26,400
Juanita Ave	Sunflower Ave	Burnaby Dr	Fill Sidewalk Gap	17	Tier 3: Lower Priority	$10,300 - $17,200
Juanita Ave	Greer Ave	Sunflower Ave	Fill Sidewalk Gap	12	Tier 3: Lower Priority	$13,500 - $22,400
Juanita Ave	San Dimas Wash	Heritage Pl	Fill Sidewalk Gap	12	Tier 3: Lower Priority	$29,300 - $48,800
Juanita Ave	Treanor Ave	Valley Center Ave	Fill Sidewalk Gap	9	Tier 3: Lower Priority	$14,700 - $24,400

** This location is within an unincorporated portion of Los Angeles County. Coordination between the City and County will be required to implement this recommendation.*

Table 26. Glendora Point Recommendations

Street 1	Street 2	Recommendation	Total Score	Priority Tier	Cost
Arrow Hwy	Bonita Ave	Repair Sidewalk Defect	34	Tier 1: High	$700
Arrow Hwy	Bonita Ave	New or Improved Curb Ramp	34	Tier 1: High	$3,900
Arrow Hwy	Bonita Ave	New or Improved Curb Ramp	34	Tier 1: High	$750 - $1,500
Arrow Hwy	Bonita Ave	New or Improved Curb Ramp	34	Tier 1: High	$750 - $1,500
Arrow Hwy*	Bonita Ave	New or Improved Curb Ramp	34	Tier 1: High	$3,900
Barranca Ave	Arrow Hwy	New or Improved Curb Ramp	34	Tier 1: High	$3,900
Glendora Ave*	Arrow Hwy	Improve Bus Stop	34	Tier 1: High	$25,000 - $50,000
Barranca Ave*	Arrow Hwy	New or Improved Curb Ramp	33	Tier 1: High	$750 - $1,500
Barranca Ave*	Arrow Hwy	New or Improved Curb Ramp	33	Tier 1: High	$750 - $1,500
Arrow Hwy	Arrow Grand Cir	New or Improved Curb Ramp	29	Tier 1: High	$3,900
Arrow Hwy	Bonita Ave	Repair Sidewalk Defect	29	Tier 1: High	$700
Arrow Hwy	Grand Ave	Bike Rack	29	Tier 1: High	$900
Arrow Hwy	Grand Ave	Improve Bus Stop	29	Tier 1: High	$25,000 - $50,000
Arrow Hwy	Sunflower Ave	Improve Bus Stop	29	Tier 1: High	$25,000 - $50,000
Glendora Ave*	Arrow Hwy	New or Improved Curb Ramp	29	Tier 1: High	$750 - $1,500
Valley Center Ave*	Arrow Hwy	Leading Pedestrian Interval	29	Tier 1: High	$55,000
Valley Center Ave*	Arrow Hwy	New or Improved Curb Ramp	29	Tier 1: High	$750 - $1,500
Barranca Ave*	Arrow Hwy	Widen Sidewalk	28	Tier 1: High	$1,600
Sunflower Ave*	Arrow Hwy	Improve Bus Stop	28	Tier 1: High	$25,000 - $50,000
Bonnie Cove Ave	Arrow Hwy	Improve Bus Stop	25	Tier 2: Medium	$25,000 - $50,000
Bonnie Cove Ave*	Arrow Hwy	Upgrade to Class II Bike Lane	25	Tier 2: Medium	$6,600

** This location is within an unincorporated portion of Los Angeles County. Coordination between the City and County will be required to implement this recommendation.*

Street 1	Street 2	Recommendation	Total Score	Priority Tier	Cost
Bonnie Cove Ave*	Arrow Hwy	Improve Bus Stop	25	Tier 2: Medium	$25,000 - $50,000
Bonnie Cove Ave	Juanita Ave	High Visibility Crosswalks	25	Tier 2: Medium	$11,000
Bonnie Cove Ave	Juanita Ave	Mini-Roundabout	25	Tier 2: Medium	$55,000
Arrow Hwy*	Bonita Ave	Remove Sidewalk Obstruction	24	Tier 2: Medium	$27,000 - $55,000
Arrow Hwy	Sunflower Ave	Narrow Sidewalk	24	Tier 2: Medium	$1,600
Bonnie Cove Ave*	Arrow Hwy	Bike Rack	24	Tier 2: Medium	$900
Bonnie Cove Ave*	Arrow Hwy	New or Improved Curb Ramp	24	Tier 2: Medium	$750 - $1,500
Bonnie Cove Ave*	Arrow Hwy	New or Improved Curb Ramp	24	Tier 2: Medium	$750 - $1,500
Valley Center Ave	Valley Center Ave	Plant Trees in Parkways	22	Tier 2: Medium	$5,500
Bonnie Cove Ave	Juanita Ave	Curb Extensions	20	Tier 2: Medium	$180,000 - $360,000
Arrow Hwy	B St	High Visibility Crosswalk	19	Tier 3: Lower Priority	$11,000
Arrow Hwy*	B St	RRFB	19	Tier 3: Lower Priority	$33,000
Arrow Hwy*	Lyman Ave	Crosswalk	19	Tier 3: Lower Priority	$11,000
Arrow Hwy*	Strawberry Ln	Crosswalk & PHB	19	Tier 3: Lower Priority	$44,000
Banna Ave*	Arrow Hwy	Upgrade Sharrows	19	Tier 3: Lower Priority	$1,700
Banna Ave*	Arrow Hwy	Crosswalk & PHB	19	Tier 3: Lower Priority	$44,000
Banna Ave*	Arrow Hwy	Median Refuge Island	19	Tier 3: Lower Priority	$11,000 - $55,000
Grand Ave	Juanita Ave	High Visibility Crosswalks	19	Tier 3: Lower Priority	$11,000
Grand Ave	Juanita Ave	Leading Pedestrian Interval	19	Tier 3: Lower Priority	$55,000
Strawberry Ln	Arrow Hwy	Improve Bus Stop	19	Tier 3: Lower Priority	$25,000 - $50,000
Sunflower Ave	Juanita Ave	Plant Trees in Parkways	19	Tier 3: Lower Priority	$5,500

** This location is within an unincorporated portion of Los Angeles County. Coordination between the City and County will be required to implement this recommendation.*

Street 1	Street 2	Recommendation	Total Score	Priority Tier	Cost
Sunflower Ave	Juanita Ave	High Visibility Crosswalks	19	Tier 3: Lower Priority	$11,000
Sunflower Ave	Juanita Ave	Leading Pedestrian Interval	19	Tier 3: Lower Priority	$55,000
Juanita Ave	Glendora Ave	High Visibility Crosswalks	17	Tier 3: Lower Priority	$11,000
Juanita Ave	Glendora Ave	Leading Pedestrian Interval	17	Tier 3: Lower Priority	$55,000
Rimhurst Ave	Juanita Ave	Plant Trees in Parkways	17	Tier 3: Lower Priority	$5,500
Rimhurst Ave	Juanita Ave	High Visibility Crosswalks	17	Tier 3: Lower Priority	$11,000
Burnaby Dr	Juanita Ave	Plant Trees in Parkways	16	Tier 3: Lower Priority	$5,500
Burnaby Dr	Juanita Ave	Speed Management	16	Tier 3: Lower Priority	Further Study Needed
Arrow Hwy*	Strawberry Ln	Remove Sidewalk Obstruction	14	Tier 3: Lower Priority	$400
Bender Ave	Juanita Ave	High Visibility Crosswalk	14	Tier 3: Lower Priority	$11,000
Bender Ave	Juanita Ave	Chicane with Trees	14	Tier 3: Lower Priority	$16,500
Strawberry Ln	Arrow Hwy	Remove Sidewalk Obstruction	14	Tier 3: Lower Priority	$400
Sunflower Ave	Juanita Ave	Chicanes with Trees	14	Tier 3: Lower Priority	$16,500
Valley Center Ave	Juanita Ave	New or Improved Curb Ramp	12	Tier 3: Lower Priority	$3,900
Valley Center Ave	Juanita Ave	New or Improved Curb Ramp	12	Tier 3: Lower Priority	$3,900
Valley Center Ave	Juanita Ave	High Visibility Crosswalks	12	Tier 3: Lower Priority	$11,000
Juanita Ave	Bruning Ave	Crosswalk	10	Tier 3: Lower Priority	$33,000
Bender Ave	Juanita Ave	Curb Extension w/ Stormwater Capture	9	Tier 3: Lower Priority	$107,800
Jenifer Ave	Juanita Ave	Chicane with Trees	9	Tier 3: Lower Priority	$16,500
Valley Center Ave	Juanita Ave	Chicanes with Trees	7	Tier 3: Lower Priority	$16,500

** This location is within an unincorporated portion of Los Angeles County. Coordination between the City and County will be required to implement this recommendation.*

San Dimas

Table 27. San Dimas Linear Recommendations

Primary Street	From	To	Recommendation	Total Score	Priority Tier	Cost
Arrow Hwy	Valley Center Ave	San Dimas Canyon Rd	Class IV Separated Bikeway	43	Tier 1: High	$592,400 - $1,678,500
Arrow Hwy	Cataract Ave	San Dimas Ave	Fill Sidewalk Gap	30	Tier 1: High	$76,400 - $127,400
Bonita Ave	Acacia St	Cataract Ave	Fill Sidewalk Gap	28	Tier 1: High	$28,100 - $46,900
Arrow Hwy	SR 57 Fwy	Bonita Ave	Widen Sidewalk	26	Tier 1: High	$6,500 - $19,900
Arrow Hwy	Walnut Ave	San Dimas Canyon Rd	Fill Sidewalk Gap	23	Tier 2: Medium	$60,200 - $170,500
Valley Center Ave	Juanita Ave	Arrow Hwy	Class IV Separated Bikeway	22	Tier 2: Medium	$8,600 - $26,600
Arrow Hwy	Lone Hill Ave	Maimone Ave	Widen Sidewalk	21	Tier 2: Medium	$42,400 - $70,600
Arrow Hwy	Acacia St	Cataract Ave	Fill Sidewalk Gap	17	Tier 3: Lower Priority	$5,500 - $9,200
Arrow Hwy	San Dimas Ave	Walnut Ave	Fill Sidewalk Gap	16	Tier 3: Lower Priority	$9,500 - $29,300
Arrow Hwy	Valley Center Ave	Rennell Ave	Widen Sidewalk	12	Tier 3: Lower Priority	$1,600 - $5,100
Juanita Ave	Valley Center Ave	Nugget Ct	Fill Sidewalk Gap	7	Tier 3: Lower Priority	$27,500 - $55,000

Table 28. San Dimas Point Recommendations

Street 1	Street 2	Recommendation	Total Score	Priority Tier	Cost
Exchange Pl	Bonita Ave	Advance Yield Markings	43	Tier 1: High	Further Study Needed
Bonita Ave	San Dimas Canyon Rd	New or Improved Curb Ramp	31	Tier 1: High	$750 - $1,500
Bonita Ave	San Dimas Canyon Rd	Leading Pedestrian Interval	31	Tier 1: High	Further Study Needed
Bonita Ave	Walnut Ave	High Visibility Crosswalks	31	Tier 1: High	$44,000
Monte Vista Ave	Bonita Ave	Advance Yield Markings	31	Tier 1: High	Further Study Needed
Village Ct	Arrow Hwy	New or Improved Curb Ramp	31	Tier 1: High	$750 - $1,500
Arrow Hwy	Bonita Ave	Green Conflict Striping	29	Tier 1: High	$2,900
Arrow Hwy	Bonita Ave	Remove Sidewalk Obstruction	29	Tier 1: High	$27,000 - $55,000
Arrow Hwy	Bonita Ave	New or Improved Curb Ramp	29	Tier 1: High	$750 - $1,500
Arrow Hwy	Bonita Ave	New or Improved Curb Ramp	29	Tier 1: High	$750 - $1,500
Arrow Hwy	Bonita Ave	New or Improved Curb Ramp	29	Tier 1: High	$750 - $1,500
Arrow Hwy	Bonita Ave	New or Improved Curb Ramp	29	Tier 1: High	$750 - $1,500
Arrow Hwy	San Dimas Ave	Bike Rack	29	Tier 1: High	$900
Arrow Hwy	San Dimas Ave	New or Improved Curb Ramp	29	Tier 1: High	$750 - $1,500
Bonita Ave	Iglesia St	High Visibility Crosswalks	29	Tier 1: High	$33,000
Valley Center Ave	Arrow Hwy	High Visibility Crosswalks	29	Tier 1: High	$44,000
Valley Center Ave	Arrow Hwy	New or Improved Curb Ramp	29	Tier 1: High	$750 - $1,500
Village Ct	Arrow Hwy	New or Improved Curb Ramp	29	Tier 1: High	$750 - $1,500
Cataract Ave	Bonita Ave	Improve Bus Stop	28	Tier 1: High	$25,000 - $50,000
Pony Express Rd	Bonita Ave	New or Improved Curb Ramp	28	Tier 1: High	$750 - $1,500

Street 1	Street 2	Recommendation	Total Score	Priority Tier	Cost
Pony Express Rd	Bonita Ave	New or Improved Curb Ramp	28	Tier 1: High	$750 - $1,500
Arrow Hwy	Lone Hill Ave	Improve Bus Stop	26	Tier 1: High	$25,000 - $50,000
Arrow Hwy	Lone Hill Ave	Improve Bus Stop	26	Tier 1: High	$25,000 - $50,000
Arrow Hwy	Maimone Ave	Improve Bus Stop	26	Tier 1: High	$25,000 - $50,000
Arrow Hwy	Maimone Ave	New or Improved Curb Ramp	26	Tier 1: High	$750 - $1,500
Arrow Hwy	Maimone Ave	New or Improved Curb Ramp	26	Tier 1: High	$750 - $1,500
Arrow Hwy	Maimone Ave	New or Improved Curb Ramp	26	Tier 1: High	$750 - $1,500
Arrow Hwy	Maimone Ave	New or Improved Curb Ramp	26	Tier 1: High	$750 - $1,500
Arrow Hwy	Maimone Ave	New or Improved Curb Ramp	26	Tier 1: High	$750 - $1,500
Arrow Hwy	SR 57 Fwy	Ped Crossing Signs	26	Tier 1: High	$800
Bonita Ave	San Dimas Canyon Rd	Bike-Friendly Intersection	26	Tier 1: High	Further Study Needed
Arrow Hwy	San Dimas Ave	Remove Sidewalk Obstruction	25	Tier 2: Medium	$27,000 - $55,000
Arrow Hwy	Bonita Ave	Remove Sidewalk Obstruction	24	Tier 2: Medium	$27,000 - $55,000
Arrow Hwy	San Dimas Ave	Remove Sidewalk Obstruction	24	Tier 2: Medium	$27,000 - $55,000
Arrow Hwy	San Dimas Ave	Remove Sidewalk Obstruction	24	Tier 2: Medium	$27,000 - $55,000
Arrow Hwy	San Dimas Ave	Remove Sidewalk Obstruction	24	Tier 2: Medium	$27,000 - $55,000
Arrow Hwy	San Dimas Ave	Remove Sidewalk Obstruction	24	Tier 2: Medium	$27,000 - $55,000
Arrow Hwy	San Dimas Ave	Remove Sidewalk Obstruction	24	Tier 2: Medium	$27,000 - $55,000
Arrow Hwy	San Dimas Canyon Rd	New or Improved Curb Ramp	24	Tier 2: Medium	$750 - $1,500
Cataract Ave	Bonita Ave	Remove Sidewalk Obstruction	23	Tier 2: Medium	$27,000 - $55,000
Arrow Hwy	Cataract Ave	New or Improved Curb Ramp	22	Tier 2: Medium	$750 - $1,500
Arrow Hwy	Cataract Ave	New or Improved Curb Ramp	22	Tier 2: Medium	$750 - $1,500

Street 1	Street 2	Recommendation	Total Score	Priority Tier	Cost
Arrow Hwy	Cataract Ave	New or Improved Curb Ramp	22	Tier 2: Medium	$750 - $1,500
Arrow Hwy	Cataract Ave	New or Improved Curb Ramp	22	Tier 2: Medium	$750 - $1,500
Bonita Ave	Eucla Ave	New or Improved Curb Ramp	22	Tier 2: Medium	$750 - $1,500
Bonita Ave	Eucla Ave	New or Improved Curb Ramp	22	Tier 2: Medium	$750 - $1,500
Bonita Ave	Eucla Ave	New or Improved Curb Ramp	22	Tier 2: Medium	$750 - $1,500
Bonita Ave	Eucla Ave	New or Improved Curb Ramp	22	Tier 2: Medium	$750 - $1,500
Arrow Hwy	Lone Hill Ave	New or Improved Curb Ramp	21	Tier 2: Medium	$750 - $1,500
Arrow Hwy	Lone Hill Ave	New or Improved Curb Ramp	21	Tier 2: Medium	$750 - $1,500
Arrow Hwy	Maimone Ave	Remove Sidewalk Obstruction	21	Tier 2: Medium	$27,000 - $55,000
Arrow Hwy	Maimone Ave	New or Improved Curb Ramp	21	Tier 2: Medium	$750 - $1,500
Arrow Hwy	SR 57 Fwy	Bicycle Conflict Zone Striping	21	Tier 2: Medium	$2,900
Arrow Hwy	Walnut Ave	New or Improved Curb Ramp	21	Tier 2: Medium	$750 - $1,500
Arrow Hwy	Walnut Ave	New or Improved Curb Ramp	21	Tier 2: Medium	$750 - $1,500
Gaffney Ave	Bonita Ave	New or Improved Curb Ramp	21	Tier 2: Medium	$750 - $1,500
Gaffney Ave	Bonita Ave	New or Improved Curb Ramp	21	Tier 2: Medium	$750 - $1,500
Gaffney Ave	Bonita Ave	New or Improved Curb Ramp	21	Tier 2: Medium	$750 - $1,500
Gaffney Ave	Bonita Ave	New or Improved Curb Ramp	21	Tier 2: Medium	$750 - $1,500
Arrow Hwy	Ingleton Ave	New or Improved Curb Ramp	19	Tier 3: Lower Priority	$750 - $1,500
Arrow Hwy	Ingleton Ave	New or Improved Curb Ramp	19	Tier 3: Lower Priority	$750 - $1,500
Buckingham Ave	Arrow Hwy	New or Improved Curb Ramp	19	Tier 3: Lower Priority	$750 - $1,500
Buckingham Ave	Arrow Hwy	New or Improved Curb Ramp	19	Tier 3: Lower Priority	$750 - $1,500
Rennell Ave	Arrow Hwy	Improve Bus Stop	19	Tier 3: Lower Priority	$25,000 - $50,000
Rennell Ave	Arrow Hwy	New or Improved Curb Ramp	19	Tier 3: Lower Priority	$750 - $1,500
Rennell Ave	Arrow Hwy	New or Improved Curb Ramp	19	Tier 3: Lower Priority	$750 - $1,500

Street 1	Street 2	Recommendation	Total Score	Priority Tier	Cost
Arrow Hwy	Artesian Ct	New or Improved Curb Ramp	18	Tier 3: Lower Priority	$750 - $1,500
Arrow Hwy	Artesian Ct	New or Improved Curb Ramp	18	Tier 3: Lower Priority	$750 - $1,500
Arrow Hwy	Walnut Ave	New or Improved Curb Ramp	18	Tier 3: Lower Priority	$750 - $1,500
Arrow Hwy	Walnut Ave	New or Improved Curb Ramp	18	Tier 3: Lower Priority	$750 - $1,500
Eucla Ave	Arrow Hwy	New or Improved Curb Ramp	17	Tier 3: Lower Priority	$750 - $1,500
Eucla Ave	Arrow Hwy	New or Improved Curb Ramp	17	Tier 3: Lower Priority	$750 - $1,500
Eucla Ave	Arrow Hwy	New or Improved Curb Ramp	17	Tier 3: Lower Priority	$750 - $1,500
Eucla Ave	Arrow Hwy	New or Improved Curb Ramp	17	Tier 3: Lower Priority	$750 - $1,500
Rennell Ave	Arrow Hwy	Improve Bus Stop	17	Tier 3: Lower Priority	$25,000 - $50,000
Rennell Ave	Arrow Hwy	Remove Sidewalk Obstruction	17	Tier 3: Lower Priority	$27,000 - $55,000
Arrow Hwy	Ingleton Ave	Widen Sidewalk	12	Tier 3: Lower Priority	$1,600
Eucla Ave	Arrow Hwy	Fill Sidewalk Gap	12	Tier 3: Lower Priority	$2,800
Rennell Ave	Arrow Hwy	Widen Sidewalk	12	Tier 3: Lower Priority	$1,600

La Verne

Table 29. La Verne Linear Recommendations

Primary Street	From	To	Recommendation	Total Score	Priority Tier	Cost
Arrow Hwy	San Dimas Canyon Rd	Fulton Rd	Class IV Separated Bikeway	48	Tier 1: High	$513,200 - $1,454,100
Fulton Rd	Bonita Ave	Arrow Hwy	Class IV Separated Bikeway	33	Tier 1: High	$132,300 - $374,700
Arrow Hwy	Fairplex Dr	White Ave	Widen Sidewalk	31	Tier 1: High	$7,000 - $21,500
Arrow Hwy	San Dimas Canyon Rd	Wheeler Ave	Fill Sidewalk Gap	19	Tier 2: Medium	$287,500 - $479,200
Arrow Hwy	San Dimas Canyon Rd	D St	Fill Sidewalk Gap	29	Tier 1: High	$262,900 - $438,200
Arrow Hwy	San Dimas Canyon Rd	Fairplex Dr	Fill Sidewalk Gap	24	Tier 2: Medium	$68,500 - $114,200
Arrow Hwy	Wheeler Ave	A St	Fill Sidewalk Gap	23	Tier 2: Medium	$172,700 - $287,800
Arrow Hwy	San Dimas Canyon Rd	Wheeler Ave	Fill Sidewalk Gap	22	Tier 2: Medium	$287,500 - $479,200
Arrow Hwy	Fairplex Dr	White Ave	Fill Sidewalk Gap	21	Tier 2: Medium	$7,500 - $12,500
Arrow Hwy	Walnut Ave	San Dimas Canyon Rd	Fill Sidewalk Gap	19	Tier 2: Medium	$4,800 - $7,900
Arrow Hwy	Walnut Ave	San Dimas Canyon Rd	Fill Sidewalk Gap	19	Tier 2: Medium	$23,400 - $38,900

Table 30. La Verne Point Recommendations

Street 1	Street 2	Recommendation	Total Score	Priority Tier	Cost
Bonita Ave	D St	High Visibility Crosswalks	39	Tier 1: High	$11,000
Bonita Ave	D St	Leading Pedestrian Interval	39	Tier 1: High	$55,000
Bonita Ave	D St	Improve Bus Stop	39	Tier 1: High	$25,000 - $50,000
Bonita Ave	D St	Improve Bus Stop	39	Tier 1: High	$25,000 - $50,000
Bonita Ave	D St	Bike-Friendly Intersection	34	Tier 1: High	$8,800
Bonita Ave	D St	Bike-Friendly Intersection	34	Tier 1: High	$8,800
Arrow Hwy	White Ave	Improve Bus Stop	33	Tier 1: High	$25,000 - $50,000
Arrow Hwy	White Ave	New or Improved Curb Ramp	33	Tier 1: High	$750 - $1,500
White Ave	Arrow Hwy	New or Improved Curb Ramp	33	Tier 1: High	$750 - $1,500
White Ave	Arrow Hwy	New or Improved Curb Ramp	33	Tier 1: High	$750 - $1,500
White Ave	Arrow Hwy	New or Improved Curb Ramp	33	Tier 1: High	$750 - $1,500
Bonita Ave	C St	Crosswalk	32	Tier 1: High	$44,000
E St	Bonita Ave	High Visibility Crosswalks	32	Tier 1: High	$11,000
E St	Bonita Ave	Leading Pedestrian Interval	32	Tier 1: High	$55,000
Bonita Ave	San Dimas Canyon Rd	High Visibility Crosswalks	31	Tier 1: High	$11,000
Arrow Hwy	Fulton Rd	New or Improved Curb Ramp	30	Tier 1: High	$750 - $1,500
Arrow Hwy	La Verne Ave	New or Improved Curb Ramp	30	Tier 1: High	$3,900
Bonita Ave	Sedalia Ave	New or Improved Curb Ramp	30	Tier 1: High	$750 - $1,500
Bonita Ave	Sedalia Ave	New or Improved Curb Ramp	30	Tier 1: High	$750 - $1,500
Arrow Hwy	E St	Crosswalk Upgrades	29	Tier 1: High	$11,000
Bonita Ave	Sylvan Ln	New or Improved Curb Ramp	29	Tier 1: High	$3,900
Damien Ave	Bonita Ave	High Visibility Crosswalks	29	Tier 1: High	$11,000
Damien Ave	Bonita Ave	Leading Pedestrian Interval	29	Tier 1: High	$55,000

Street 1	Street 2	Recommendation	Total Score	Priority Tier	Cost
Damien Ave	Bonita Ave	Improve Bus Stop	29	Tier 1: High	$750 - $1,500
White Ave	Bonita Ave	High Visibility Crosswalks	29	Tier 1: High	$11,000
White Ave	Bonita Ave	Leading Pedestrian Interval	29	Tier 1: High	$55,000
White Ave	Bonita Ave	Improve Bus Stop	29	Tier 1: High	$25,000 - $50,000
White Ave	Bonita Ave	New or Improved Curb Ramp	29	Tier 1: High	$750 - $1,500
White Ave	Bonita Ave	Improve Bus Stop	29	Tier 1: High	$750 - $1,500
White Ave	Bonita Ave	New or Improved Curb Ramp	29	Tier 1: High	Further Study Needed
Arrow Hwy	White Ave	Remove Sidewalk Obstruction	28	Tier 1: High	$27,000 - $55,000
Southern Pacific RR	Fulton Rd	Improve Lighting	28	Tier 1: High	$275,000
White Ave	Arrow Hwy	Remove Sidewalk Obstruction	28	Tier 1: High	$400
Arrow Ave	A St	New or Improved Curb Ramp	27	Tier 1: High	$750 - $1,500
Bonita Ave	Fulton Rd	Improve Bus Stop	27	Tier 1: High	$25,000 - $50,000
Bonita Ave	Fulton Rd	New or Improved Curb Ramp	27	Tier 1: High	$750 - $1,500
Bonita Ave	Moss Cir	New or Improved Curb Ramp	27	Tier 1: High	$750 - $1,500
Bonita Ave	Moss Cir	New or Improved Curb Ramp	27	Tier 1: High	$750 - $1,500
Arrow Hwy	B St	New or Improved Curb Ramp	26	Tier 1: High	$3,900
Arrow Hwy	B St	Crosswalk	26	Tier 1: High	$11,000
Arrow Hwy	B St	Enhance Crosswalk with PHB or RRFB	26	Tier 1: High	$33,000
Bonita Ave	San Dimas Canyon Rd	Bike-Friendly Intersection	26	Tier 1: High	$8,800
Bonita Ave	Sylvan Ln	New or Improved Curb Ramp	26	Tier 1: High	$750 - $1,500
Bonita Ave	Sylvan Ln	New or Improved Curb Ramp	26	Tier 1: High	$750 - $1,500
D St	Arrow Hwy	Crosswalk Upgrades	26	Tier 1: High	$11,000

Street 1	Street 2	Recommendation	Total Score	Priority Tier	Cost
Arrow Hwy	La Verne Ave	New or Improved Curb Ramp	25	Tier 2: Medium	$3,900
Arrow Hwy	La Verne Ave	New or Improved Curb Ramp	25	Tier 2: Medium	$3,900
Arrow Hwy	La Verne Ave	Remove Sidewalk Obstruction	25	Tier 2: Medium	$27,000 - $55,000
Arrow Hwy	La Verne Ave	Remove Sidewalk Obstruction	25	Tier 2: Medium	$27,000 - $55,000
Fair Ave	Arrow Hwy	Improve Bus Stop	25	Tier 2: Medium	$25,000 - $50,000
Arrow Hwy	San Dimas Canyon Rd	New or Improved Curb Ramp	24	Tier 2: Medium	$3,900
Arrow Hwy	San Dimas Canyon Rd	New or Improved Curb Ramp	24	Tier 2: Medium	$750 - $1,500
Arrow Hwy	San Dimas Canyon Rd	New or Improved Curb Ramp	24	Tier 2: Medium	$750 - $1,500
Arrow Hwy	Southern Pacific RR	Remove Sidewalk Obstruction	24	Tier 2: Medium	$27,000 - $55,000
Arrow Hwy	Southern Pacific RR	Remove Sidewalk Obstruction	24	Tier 2: Medium	$27,000 - $55,000
Bonita Ave	Damien Ave	Bike-Friendly Intersection	24	Tier 2: Medium	$8,800
Bonita Ave	F St	Improve Bus Stop	24	Tier 2: Medium	$25,000 - $50,000
Bonita Ave	White Ave	Bike-Friendly Intersection	24	Tier 2: Medium	$8,800
D St	Arrow Hwy	Remove Sidewalk Obstruction	24	Tier 2: Medium	$27,000 - $55,000
Damien Ave	Bonita Ave	Bike-Friendly Intersection	24	Tier 2: Medium	$8,800
Damien Ave	Bonita Ave	Remove Sidewalk Obstructions	24	Tier 2: Medium	$27,000 - $55,000
E St	Bonita Ave	Bike-Friendly Intersection	24	Tier 2: Medium	$8,800
Wheeler Ave	Bonita Ave	High Visibility Crosswalks	24	Tier 2: Medium	$44,000
Wheeler Ave	Bonita Ave	Leading Pedestrian Interval	24	Tier 2: Medium	$55,000
White Ave	Bonita Ave	Bike-Friendly Intersection	24	Tier 2: Medium	$8,800
White Ave	Bonita Ave	Remove Sidewalk Obstructions	24	Tier 2: Medium	$27,000 - $55,000
Bonita Ave	3rd St	High Visibility Crosswalk	23	Tier 2: Medium	$11,000
Glenfield Ave	Bonita Ave	Plant Trees in Parkways	23	Tier 2: Medium	$5,500
Glenfield Ave	Bonita Ave	High Visibility Crosswalk	23	Tier 2: Medium	$11,000
Glenfield Ave	Bonita Ave	High Visibility Crosswalk	23	Tier 2: Medium	$11,000

Street 1	Street 2	Recommendation	Total Score	Priority Tier	Cost
Glenfield Ave	Bonita Ave	Crosswalk with PHB or RRFB and Pedestrian Refuge Island	23	Tier 2: Medium	$44,000 - $88,000
Glenfield Ave	Bonita Ave	New or Improved Curb Ramp	23	Tier 2: Medium	$750 - $1,500
Glenfield Ave	Bonita Ave	New or Improved Curb Ramp	23	Tier 2: Medium	$750 - $1,500
Glenfield Ave	Bonita Ave	New or Improved Curb Ramp	23	Tier 2: Medium	$750 - $1,500
Glenfield Ave	Bonita Ave	New or Improved Curb Ramp	23	Tier 2: Medium	$750 - $1,500
Arrow Hwy	Carrion Rd	New or Improved Curb Ramp	22	Tier 2: Medium	$750 - $1,500
Bonita Ave	B St	High Visibility Crosswalks	22	Tier 2: Medium	$11,000
Bonita Ave	B St	Leading Pedestrian Interval	22	Tier 2: Medium	$55,000
Bonita Ave	B St	Improve Bus Stop	22	Tier 2: Medium	$25,000 - $50,000
Bonita Ave	Fulton Rd	Remove Sidewalk Obstruction	22	Tier 2: Medium	$27,000 - $55,000
Bonita Ave	Fulton Rd	Remove Sidewalk Obstruction	22	Tier 2: Medium	$27,000 - $55,000
Bonita Ave	Fulton Rd	Remove Sidewalk Obstruction	22	Tier 2: Medium	$27,000 - $55,000
Bonita Ave	Pattiglen Ave	Crosswalk with RRFB & Pedestrian Refuge Island	21	Tier 2: Medium	$44,000 - $88,000
Munster St	Arrow Hwy	Remove Sidewalk Obstruction	20	Tier 2: Medium	$27,000 - $55,000
Arrow Hwy	Carrion Rd	Remove Sidewalk Obstruction	19	Tier 3: Lower Priority	$27,000 - $55,000
Bonita Ave	F St	Crosswalk with RRFB	19	Tier 3: Lower Priority	$33,000
Bonita Ave	F St	Improve Bus Stop	19	Tier 3: Lower Priority	$25,000 - $50,000
Bonita Ave	Wheeler Ave	Bike-Friendly Intersection	19	Tier 3: Lower Priority	$8,800
Wheeler Ave	Bonita Ave	Bike-Friendly Intersection	19	Tier 3: Lower Priority	$8,800
Bonita Ave	3rd St	Curb Extension	18	Tier 3: Lower Priority	$45,000 - $90,000
Bonita Ave	Glenfield Ave	Bike-Friendly Intersection	18	Tier 3: Lower Priority	$8,800
Bonita Ave	B St	Bike-Friendly Intersection	17	Tier 3: Lower Priority	$8,800

Street 1	Street 2	Recommendation	Total Score	Priority Tier	Cost
Bonita Ave	B St	Bike-Friendly Intersection	17	Tier 3: Lower Priority	$8,800
Esther Ave	Bonita Ave	New or Improved Curb Ramp	16	Tier 3: Lower Priority	$750 - $1,500
Esther Ave	Bonita Ave	New or Improved Curb Ramp	16	Tier 3: Lower Priority	$750 - $1,500
Esther Ave	Bonita Ave	New or Improved Curb Ramp	16	Tier 3: Lower Priority	$750 - $1,500
Esther Ave	Bonita Ave	New or Improved Curb Ramp	16	Tier 3: Lower Priority	$750 - $1,500
Bonita Ave	B St	Improve Bus Stop	15	Tier 3: Lower Priority	$25,000 - $50,000
Park Ave	Bonita Ave	Crosswalk with RRFB	14	Tier 3: Lower Priority	$33,000
Park Ave	Bonita Ave	Improve Bus Stop	14	Tier 3: Lower Priority	$25,000 - $50,000
Park Ave	Bonita Ave	Improve Bus Stop	14	Tier 3: Lower Priority	$25,000 - $50,000
Bonita Ave	A St	Crosswalk with RRFB	13	Tier 3: Lower Priority	$33,000

Pomona

Table 31. Pomona Linear Recommendations

Primary Street	From	To	Recommendation	Total Score	Priority Tier	Cost
Bonita Ave	Garey Ave	Towne Ave	Class IV Separated Bikeway	46	Tier 1: High	$536,200 - $1,519,200
Arrow Hwy	Fulton Rd	Mountain Ave	Class II Buffered Bike Lanes	44	Tier 1: High	$295,700 - $633,600
La Verne Ave	Garey Ave	Mountain Ave	Class II Bike Lanes	43	Tier 1: High	$237,600 - $475,200
Fulton Rd	Arrow Hwy	La Verne Ave	Fill Sidewalk Gap	27	Tier 1: High	$7,900 - $13,200
La Verne Ave	Arrow Hwy	Fulton Rd	Class II Bike Lanes	27	Tier 1: High	$8,200 - $16,500
Fulton Rd	Arrow Hwy	La Verne Ave	Class I Shared-Use Path	27	Tier 1: High	$19,900 - $39,100
Arrow Hwy	La Verne Ave	Fulton Rd	Fill Sidewalk Gap	25	Tier 1: High	$59,800 - $99,700
Bonita Ave	Towne Ave	Carnegie Ave	Class IV Separated Bikeway	25	Tier 1: High	$62,600 - $177,300
Bonita Ave	Thompson Creek Rd	Garey Ave	Fill Sidewalk Gap	22	Tier 2: Medium	$70,500 - $117,500
Arrow Hwy	Fair Ave	La Verne Ave	Widen Sidewalk	20	Tier 2: Medium	$31,400 - $96,900
Arrow Hwy	Lordsburg Ct	Fair Ave	Widen Sidewalk	16	Tier 3: Lower Priority	$2,900 - $9,000

Table 32. Pomona Point Recommendations

Street 1	Street 2	Recommendation	Total Score	Priority Tier	Cost
Arrow Hwy	Towne Ave	Upgrade Crosswalks	38	Tier 1: High	$11,000
Arrow Hwy	Towne Ave	Improve Bus Stop	38	Tier 1: High	$25,000 - $50,000
Arrow Hwy	Towne Ave	Improve Bus Stop	38	Tier 1: High	$25,000 - $50,000
Arrow Hwy	Towne Ave	New or Improved Curb Ramp	38	Tier 1: High	$750 - $1,500
Arrow Hwy	Towne Ave	New or Improved Curb Ramp	38	Tier 1: High	$750 - $1,500
Arrow Hwy	Yorkshire Wy	New or Improved Curb Ramp	38	Tier 1: High	$750 - $1,500
Wilkie Dr	Arrow Hwy	New or Improved Curb Ramp	38	Tier 1: High	$750 - $1,500
Arrow Hwy	Garey Ave	New or Improved Curb Ramp	37	Tier 1: High	$3,900
Arrow Hwy	Garey Ave	Crosswalk Upgrades	37	Tier 1: High	$11,000
Arrow Hwy	Garey Ave	Improve Bus Stop	37	Tier 1: High	$25,000 - $50,000
Arrow Hwy	Garey Ave	Improve Bus Stop	37	Tier 1: High	$25,000 - $50,000
Arrow Hwy	Garey Ave	New or Improved Curb Ramp	37	Tier 1: High	$750 - $1,500
Arrow Hwy	Yorkshire Wy	Repair Sidewalk Defect	37	Tier 1: High	$700
Arrow Hwy	Yorkshire Wy	New or Improved Curb Ramp	37	Tier 1: High	$750 - $1,500
Towne Ave	La Verne Ave	High Visibility Crosswalks	37	Tier 1: High	$11,000
Towne Ave	La Verne Ave	Leading Pedestrian Interval	37	Tier 1: High	$55,000
Arrow Hwy	Amberson St	New or Improved Curb Ramp	35	Tier 1: High	$750 - $1,500
Arrow Hwy	Pine St	New or Improved Curb Ramp	35	Tier 1: High	$3,900
Arrow Hwy	Pine St	New or Improved Curb Ramp	35	Tier 1: High	$750 - $1,500
Bonita Ave	Towne Ave	New or Improved Curb Ramp	35	Tier 1: High	$750 - $1,500
La Verne Ave	Rollins Wy	Plant Trees in Parkways	33	Tier 1: High	$5,500
Wilkie Dr	Arrow Hwy	New or Improved Curb Ramp	33	Tier 1: High	$750 - $1,500
Arrow Hwy	Fulton Rd	Add Street Lighting	32	Tier 1: High	$275,000

Street 1	Street 2	Recommendation	Total Score	Priority Tier	Cost
Fulton Rd	La Verne Ave	High Visibility Striping	32	Tier 1: High	Further Study Needed
Arrow Hwy	Fulton Rd	New or Improved Curb Ramp	30	Tier 1: High	$3,900
Arrow Hwy	Fulton Rd	New or Improved Curb Ramp	30	Tier 1: High	$3,900
Arrow Hwy	Fulton Rd	Crosswalk with PHB	30	Tier 1: High	$44,000
Arrow Hwy	Fulton Rd	HAWK	30	Tier 1: High	$220,000
Arrow Hwy	Fulton Rd	Pedestrian Refuge Island	30	Tier 1: High	$11,000 - $55,000
Arrow Hwy	Fulton Rd	Wayfinding Upgrade	30	Tier 1: High	Further Study Needed
Bonita Ave	Towne Ave	New or Improved Curb Ramp	30	Tier 1: High	$750 - $1,500
La Verne Ave	La Verne Ave	Bike Lane Conflict Striping	30	Tier 1: High	$2,900
La Verne Ave	La Verne Ave	High Visibility Crosswalks	30	Tier 1: High	$11,000
La Verne Ave	La Verne Ave	Leading Pedestrian Interval	30	Tier 1: High	$55,000
Towne Ave	Bonita Ave	Bikeway Striping	30	Tier 1: High	$2,900
Towne Ave	Bonita Ave	High Visibility Crosswalks	30	Tier 1: High	$11,000
Towne Ave	Bonita Ave	Leading Pedestrian Interval	30	Tier 1: High	$55,000
La Verne Ave	Orange Grove Ave	High Visibility Crosswalks	29	Tier 1: High	$11,000
Fulton Rd	Arrow Hwy	Plant Trees in Parkways	28	Tier 1: High	$5,500
Bonita Ave	Fulton Rd	Crosswalk with RRFB	27	Tier 1: High	$33,000
Bonita Ave	Fulton Rd	New or Improved Curb Ramp	27	Tier 1: High	$750 - $1,500
Mariposa St	Arrow Hwy	Crosswalk with PHB/RRFB	27	Tier 1: High	$33,000
Mariposa St	Arrow Hwy	Improve Bus Stop	27	Tier 1: High	$25,000 - $50,000
Mariposa St	Arrow Hwy	Improve Bus Stop	27	Tier 1: High	$25,000 - $50,000
Mountain Ave	Arrow Hwy	Improve Bus Stop	26	Tier 1: High	$25,000 - $50,000
Arrow Highway	Fulton Rd	Bike-Friendly Intersection	25	Tier 2: Medium	$8,800
Arrow Hwy	Amberson St	New or Improved Curb Ramp	25	Tier 2: Medium	$750 - $1,500
Arrow Hwy	Fulton Rd	Curb Extensions	25	Tier 2: Medium	$90,000 - $180,000

Street 1	Street 2	Recommendation	Total Score	Priority Tier	Cost
Arrow Hwy	La Verne Ave	Plant Trees in Parkways	25	Tier 2: Medium	$5,500
Arrow Hwy	La Verne Ave	Remove High-Speed Slip Lane	25	Tier 2: Medium	Further Study Needed
Fair Ave	Arrow Hwy	Crosswalk	25	Tier 2: Medium	$11,000
Fair Ave	Arrow Hwy	Improve Bus Stop	25	Tier 2: Medium	$25,000 - $50,000
Bonita Ave	Metropolitan Pl	New or Improved Curb Ramp	24	Tier 2: Medium	$750 - $1,500
Arrow Hwy	Towne Center Dr	New or Improved Curb Ramp	23	Tier 2: Medium	$750 - $1,500
Arrow Hwy	Towne Center Dr	New or Improved Curb Ramp	23	Tier 2: Medium	$750 - $1,500
La Verne Ave	Los Flores St	Plant Trees in Parkways	23	Tier 2: Medium	$5,500
La Verne Ave	San Antonio Ave	High Visibility Crosswalks	23	Tier 2: Medium	$44,000
La Verne Ave	San Antonio Ave	Leading Pedestrian Interval	23	Tier 2: Medium	$55,000
Bonita Ave	Metropolitan Pl	New or Improved Curb Ramp	22	Tier 2: Medium	$750 - $1,500
Bonita Ave	Metropolitan Pl	New or Improved Curb Ramp	22	Tier 2: Medium	$750 - $1,500
Fulton Rd	La Verne Ave	Center Median Trees	22	Tier 2: Medium	$5,500
Fulton Rd	La Verne Ave	Plant Trees in Parkways	22	Tier 2: Medium	$5,500
Fulton Rd	La Verne Ave	High Visibility Crosswalk with Curb Extensions	22	Tier 2: Medium	$107,800
Fulton Rd	La Verne Ave	High Visibility Striping	22	Tier 2: Medium	Further Study Needed
Sharon Dr	La Verne Ave	Curb Extensions	22	Tier 2: Medium	$90,000 - $180,000
Bonita Ave	Sumner Ave	Pedestrian Crossing	20	Tier 2: Medium	$44,000 - $88,000
Fair Ave	Arrow Hwy	Remove Sidewalk Obstruction	20	Tier 2: Medium	$27,000 - $55,000
Fair Ave	Arrow Hwy	Remove Sidewalk Obstruction	20	Tier 2: Medium	$27,000 - $55,000
Arrow Hwy	Kimball Ave	New or Improved Curb Ramp	18	Tier 3: Lower Priority	$3,900
Arrow Hwy	Kimball Ave	New or Improved Curb Ramp	18	Tier 3: Lower Priority	$3,900
Arrow Hwy	Kimball Ave	New or Improved Curb Ramp	18	Tier 3: Lower Priority	$750 - $1,500

Street 1	Street 2	Recommendation	Total Score	Priority Tier	Cost
Arrow Hwy	Orange Grove Ave	Plant Trees in Parkways	18	Tier 3: Lower Priority	$5,500
Arrow Hwy	Orange Grove Ave	Upgrade Crosswalks	18	Tier 3: Lower Priority	$11,000
Arrow Hwy	Orange Grove Ave	Leading Pedestrian Interval	18	Tier 3: Lower Priority	$55,000
Arrow Hwy	Orange Grove Ave	Pedestrian Refuge Island	18	Tier 3: Lower Priority	$11,000-$55,000
Arrow Hwy	Orange Grove Ave	Improve Bus Stop	18	Tier 3: Lower Priority	$25,000 - $50,000
Arrow Hwy	Orange Grove Ave	Improve Bus Stop	18	Tier 3: Lower Priority	$25,000 - $50,000
Arrow Hwy	Orange Grove Ave	New or Improved Curb Ramp	18	Tier 3: Lower Priority	$750 - $1,500
Arrow Hwy	Orange Grove Ave	New or Improved Curb Ramp	18	Tier 3: Lower Priority	$750 - $1,500
La Verne Ave	La Luna Wy	RRFB & Curb Extensions	18	Tier 3: Lower Priority	$129,800
San Jose Ave	Mountain Ave	High Visibility Crosswalks	14	Tier 3: Lower Priority	$11,000
San Jose Ave	Mountain Ave	Roundabout	14	Tier 3: Lower Priority	$50,000 - $150,000
Arrow Hwy	Orange Grove Ave	Remove Sidewalk Obstruction	13	Tier 3: Lower Priority	$27,000 - $55,000
San Jose Ave	Mountain Ave	Curb Extensions	9	Tier 3: Lower Priority	$180,000 - $360,000

Claremont

Table 33. Claremont Linear Recommendations

Primary Street	From	To	Recommendation	Total Score	Priority Tier	Cost
Bonita Ave	Carnegie Ave	Indian Hill Blvd	Class II Buffered Bike Lanes	46	Tier 1: High	$110,900-$221,800
San Jose Ave	Indian Hill Blvd	Mills Ave	Remove Parking or Remove Bike Lane Designation	43	Tier 1: High	$1,800 - $2,600
Bonita Ave	College Ave	Columbia Ave	Class III Bike Route / Bike Boulevard	36	Tier 1: High	$7,900-$15,800
Cambridge Ave	Bonita Ave	Arrow Hwy	Class II Bike Lanes	32	Tier 1: High	$63,400-$126,700
Wharton Dr	Cambridge Ave	Bucknell Ave	Class III Bike Route / Bike Boulevard	32	Tier 1: High	$15,800-$31,700
Arrow Hwy	Olive St	Spring St	Widen Sidewalk	31	Tier 1: High	$8,200 - $25,400
Bucknell Ave	Wharton Dr	Arrow Hwy	Class III Bike Route / Bike Boulevard	30	Tier 1: High	$9,100-$18,200
Arrow Hwy	Piedmont Ave	Princeton Ave	Widen Sidewalk	21	Tier 2: Medium	$6,200 - $19,100
Arrow Hwy	Princeton Ave	Cambridge Ave	Widen Sidewalk	21	Tier 2: Medium	$2,900 - $9,000
Arrow Hwy	Virginia Rd	Indian Hill Blvd	Widen Sidewalk	21	Tier 2: Medium	$800 - $2,300

Table 34. Claremont Point Recommendations

Street 1	Street 2	Recommendation	Total Score	Priority Tier	Cost
Bonita Ave	Grinnell Dr	Improve Bus Stop	45	Tier 1: High	$25,000 - $50,000
Indian Hill Blvd	Bonita Ave	Leading Pedestrian Interval	43	Tier 1: High	$55,000
San Jose Ave	Indian Hill Blvd	Restripe Bike Lanes	40	Tier 1: High	$100
San Jose Ave	Indian Hill Blvd	High Visibility Crosswalks	40	Tier 1: High	$11,000
San Jose Ave	Indian Hill Blvd	Leading Pedestrian Interval	40	Tier 1: High	$55,000
Indian Hill Blvd	Bonita Ave	Curb Extension	38	Tier 1: High	$45,000 - $90,000
Arrow Hwy	Spring St	New or Improved Curb Ramp	36	Tier 1: High	$800
College Ave	Arrow Hwy	New or Improved Curb Ramp	36	Tier 1: High	$3,900
Bonita Ave	Cambridge Ave	Improve Bus Stop	33	Tier 1: High	$25,000 - $50,000
Arrow Hwy	Spring St	Remove Sidewalk Obstruction	31	Tier 1: High	$27,000 - $55,000
Arrow Hwy	Spring St	Remove Sidewalk Obstruction	31	Tier 1: High	$27,000 - $55,000
Arrow Hwy	Spring St	Remove Sidewalk Obstruction	31	Tier 1: High	$27,000 - $55,000
Bonita Ave	Berkeley Ave	Leading Pedestrian Interval	31	Tier 1: High	$55,000
Bonita Ave	Berkeley Ave	Improve Bus Stop	31	Tier 1: High	$25,000 - $50,000
Bonita Ave	Berkeley Ave	Improve Bus Stop	31	Tier 1: High	$25,000 - $50,000
Bonita Ave	Cambridge Ave	Leading Pedestrian Interval	28	Tier 1: High	$55,000
Bonita Ave	Cambridge Ave	Improve Bus Stop	28	Tier 1: High	$25,000 - $50,000
Bonita Ave	Mountain Ave	Leading Pedestrian Interval	26	Tier 1: High	$55,000

Street 1	Street 2	Recommendation	Total Score	Priority Tier	Cost
Indian Hill Blvd	Arrow Hwy	Improve Bus Stop	26	Tier 1: High	$25,000 - $50,000
Mountain Ave	Arrow Hwy	Improve Bus Stop	26	Tier 1: High	$25,000 - $50,000
Indian Hill Blvd	Arrow Hwy	Upgrade Crosswalks	25	Tier 2: Medium	$11,000
Indian Hill Blvd	Arrow Hwy	Install Bi-Directional Curb Ramps	25	Tier 2: Medium	$40,000 - $60,000
Mountain Ave	Arrow Hwy	Remove Sidewalk Obstruction	21	Tier 2: Medium	$27,000 - $55,000
Arrow Hwy	Villanova Dr	New or Improved Curb Ramp	20	Tier 2: Medium	$800
Arrow Hwy	Virginia Rd	Remove Sidewalk Obstruction	20	Tier 2: Medium	$27,000 - $55,000
Bucknell Ave	Arrow Hwy	Remove Sidewalk Obstruction	20	Tier 2: Medium	Further Study Needed
Bonita Ave	Bonita Ave	Crosswalk with RRFB	18	Tier 3: Lower Priority	$33,000
Bonita Ave	Bonita Ave	Improve Bus Stop	18	Tier 3: Lower Priority	$25,000 - $50,000
Mills Ave	Arrow Hwy	Improve Bus Stop	18	Tier 3: Lower Priority	$25,000 - $50,000
Marywood Ave	Arrow Hwy	Remove Sidewalk Obstruction	16	Tier 3: Lower Priority	$27,000 - $55,000
Arrow Hwy	Villanova Dr	Remove Sidewalk Obstruction	15	Tier 3: Lower Priority	$27,000 - $55,000
Bonita Ave	Bonita Ave	Improve Bus Stop	15	Tier 3: Lower Priority	$25,000 - $50,000
San Jose Ave	Lehigh Dr	High Visibility Crosswalks	14	Tier 3: Lower Priority	$11,000
San Jose Ave	Lehigh Dr	Curb Extensions	9	Tier 3: Lower Priority	$180,000 - $360,000

IMPLEMENTATION STRATEGY

The project prioritization and phasing gives us an understanding of order and importance of projects relative to each other. The implementation strategies describe how these projects can be implemented. These strategies discuss both short- and long-term ideas on how to implement these projects both individually as cities and jointly in order to potentially access more funding opportunities. Additionally, we will be presenting strategies to incorporate these projects into existing construction and repaving programs to ensure that cities take advantage of all opportunities.

Table 35. Arrow Highway Strategy: Short-Term Improvements

Action	Timeline	Responsible Party/Parties
Continue coordination between the five cities at the technical staff level through meetings of the Arrow Highway Project Management Committee and/or other coordination mechanisms (e.g. Foothill Gold Line Joint Powers Authority Technical Advisory Committee). This inter-jurisdictional working group should work to obtain sponsorship of all cities for all grant applications and coordinate the design and timing of improvements.	Ongoing	Cities Jointly
File a joint application to do a SCAG quick-build demonstration project. Quick-build projects are demonstration projects that are intended to last for three months to one year. They are to gather public feedback or refine the design of active transportation improvements that are under consideration. Alternatively, organize a self-funded quick-build project before the conclusion of the COVID-19 pandemic, when traffic volumes are still lighter than normal. Under either scenario, conduct a concurrent public information campaign to let people know the motives behind the demonstration project. Reach out directly to abutters, preferably through face-to-face contact. Request community feedback with best practices from short-term demonstration projects, including methods for users to provide immediate feedback on their experience. Gather before and after data, including speeds, traffic volumes, traffic delay, and volumes on parallel streets.	2020-2021	Cities Jointly
Taking into account information learned from the quick-build project, prepare design for continuous bicycle facility and spot improvements on Arrow Highway; submit grant applications and construct prior to the opening of the Metro A (Gold) Line.	2021-2025	Cities Jointly

Table 36. Arrow Highway Strategy: Long-Term Improvements

Action	Timeline	Responsible Party/Parties
Study including sites located within potential Arrow Highway pedestrian hubs as Regional Housing Needs Assessment housing sites	2020-2021	Cities Individually
Update land use plans to encourage development in pedestrian hubs and establish objective development standards that will create a pedestrian-friendly environment	2021-2025	Cities Individually
Designate Arrow Highway projects as appropriate mitigation measures for transportation impacts	2021-2025	Cities Individually
Implement pedestrian projects through public/private partnerships • Conditions of development • Affordable housing grant programs (AHSC, IIG) • Value capture mechanisms (EIFD, CRIA)	2021-2040	Cities Individually
Pursue larger grant opportunities to build out a continuous complete street and Class IV bikeway, piece by piece	2025-2040	Cities Jointly

Table 37. Bonita Avenue Strategy

Action	Timeline	Responsible Party/Parties
Complete Bonita Avenue bikeway, using grants if necessary	2021-2025	City of San Dimas
Adopt a consensus brand for the route, such as Citrus Regional Bikeway	2021-2023	Cities Jointly
Install commonly-themed signage, banners and/or public art, and promote the bikeway for use by visitors	2021-2030	Cities Jointly, Business Improvement Districts
Pursue additional infrastructure projects to upgrade the Class II bikeway to Class IV, where feasible, filling in bike lane gaps, improving pedestrian crossings and adding shade and width to the pedestrian environment	2021-2040	Cities Individually and Jointly

PROJECT CONSTRUCTION MECHANISMS

Integrate into Local Programs

Capital improvements program (CIP) - Adding proposed projects to cities' capital improvement programs is the most straightforward way of getting larger projects built. Even adding unfunded projects to the CIP can assist cities in grant applications.

Street resurfacing program - Restriping projects can be done as a part of resurfacing the road. Resurfacing projects are an opportunity to implement other spot improvements concurrently, such as improved crossings.

Urban forestry - Local departments responsible for urban forestry can plant new trees where sufficient space exists on sidewalks and parkways.

Construct through Real Estate Development

Establish and Impose Development Conditions - Any active transportation improvement which requires widening of the roadway or sidewalks is most likely to be implemented through development conditions. Improvements within the existing public right-of-way which have a reasonable nexus to the development project being proposed may also be required of development projects. Due to the Housing Accountability Act, it is critical to have such improvements specified as conditions of development in adopted plans prior to the submission of development applications in any zone that allows housing.

Implement through Foothill Gold Line Construction Authority

While the Foothill Gold Line is already under construction from Azusa to Pomona, the opportunity still exists for cities to request "betterments" which will allow the Construction Authority to build active transportation projects as part of the overall construction, reducing their cost. Some projects can be incorporated for very little additional cost, including a Gold Line-adjacent path between San Dimas and La Verne, and projects involving park-and-ride lots.

FUNDING SOURCES

Below is a non-exhaustive listing of some of the most promising public funding sources for constructing the projects described in this plan, followed by a more comprehensive table of funding opportunities with the eligible project types identified for each respective source.

Key External Funding Sources

Active Transportation Program (ATP) - Administered by the CA Transportation Commission, the program is in its fifth cycle of grants. Eligible projects include all types of infrastructure improvements that can be demonstrated to improve pedestrian and bicycle safety. The application is arduous and highly competitive; therefore, it is best targeted to large projects which are located in disadvantaged communities and are proximate to high-collision corridors. Metro offers grant writing assistance to cities with first/last mile projects that have completed initial design.

Sustainable Transportation Planning Grants (STPG) - Administered by the California Transportation Commission. Eligible projects include all types of infrastructure improvements that can be demonstrated to improve pedestrian and bicycle safety. The application is highly competitive but more shorter and more manageable for cities to write. There is a bonus for disadvantaged communities; so it is important to target locations with disadvantaged communities and show how these improvements can improve sustainability.

Affordable Housing and Sustainable Communities (AHSC) and **Infill Infrastructure Grant** (IIG) - AHSC and IIG are given to fund affordable housing projects which reduce greenhouse gas emissions. Active transportation projects must be incorporated with the housing project in order to receive the grant. The best-scoring projects are dense affordable or mixed-income projects which create new pedestrian or bicycle links; awards can reach the tens of millions of dollars.

SCAG Sustainable Communities Program - This grant opportunity is typically available annually, and it includes three sub-categories under the larger Active Transportation & Safety Projects category: Community or Area Wide Plans, Network Visioning & Implementation, and Quick Build Projects. Quick Build projects may be implemented for one to five years, providing a flexible method for testing various designs and materials while gathering community feedback.

Measure M Sub-regional Funds - These funds are allocated from the Measure M ½ cent sales tax to projects prioritized by the San Gabriel Valley Council of Governments and approved by Metro. A new program of projects is produced every five years, with the next cycle beginning in fiscal year 2022-2023. The 2017-2022 cycle includes projects under the Active Transportation Program, First/Last Mile, and Complete Streets Program categories.

Urban Greening Program - This program is administered by the California Natural Resources Agency and may fund active transportation improvements, the planting of street trees, or stormwater infrastructure in medians or as curb extensions.

Measure W - Los Angeles County Measure W funds green stormwater infrastructure projects which improve the County's water quality. Eligible projects are similar to the Urban Greening Program.

Potential New Local Funding Sources

Enhanced Infrastructure Financing District (EIFD) - The EIFD is a type of tax increment financing that allows for bonds to be floated based on expected revenue streams from higher property values that result from upzoning or new transit infrastructure. The City of La Verne has one of California's first EIFDs, which it is using to fund streetscape improvements to Arrow Highway and Fairplex Drive, as well as a pedestrian bridge over Arrow Highway. Other cities may consider it for areas in which growth will be targeted.

Payment in Lieu of Taxes (PILOT) - Non-profit universities and hospitals are exempt from tax; yet in recognition of their large footprint and need of City services, PILOT agreements are often negotiated between these institutions and their respective municipalities. These agreements can include agreements to fund improvements that are of mutual benefit.

Business Improvement Districts (BIDs) - Smaller projects such as public art, signage, landscaping, and crosswalk improvements are good candidates for funding by Business Improvement Districts where they exist. Currently, the only Business Improvement Districts in the planning area are the Old Town La Verne BID and the Claremont Village BID.

Table 38. Funding Sources

FUNDING SOURCE	On-Street Bikeways	Pedestrian Infrastructure	Trails	Safe Routes to School	Safe Routes to Transit	Crossings/ Intersections	Bicycle Parking Facilities	Programs	Studies
Federal Sources									
Fixing America's Surface Transportation Act (FHWA)	✓	✓	✓	✓		✓		✓	
Congestion Mitigation and Air Quality Improvement Program (FHWA)	✓	✓	✓	✓					
Bus and Bus Facilities Grant Program (FTA)	✓				✓		✓		
Highway Safety Improvement Program (HSIP)	✓	✓		✓	✓	✓			
Better Utilizing Investments to Leverage Development (BUILD) Discretionary Grants (USDOT)	✓	✓	✓			✓	✓	✓	
Community Development Block Grant (CDBG) Program (US HUD)	✓	✓	✓			✓			
National Priority Safety Program (NHTSA)								✓	
Our Town (National Endowment for the Arts)		✓						✓	✓
Urbanized Area Formula Program (FTA)					✓		✓		
Pilot Program for Transit-Oriented Development (TOD) Planning (FTA)					✓				✓
State Sources									
Active Transportation Program (CTC)	✓	✓	✓	✓	✓	✓		✓	
Sustainable Transportation Planning Grants (Caltrans)									✓
Transportation Development Act Article III (SB 821, Caltrans)	✓	✓	✓	✓	✓	✓			
State Transportation Improvement Program (CTC)	✓	✓	✓			✓			
Local Partnership Program (CTC)	✓	✓		✓	✓	✓		✓	
Solutions for Congested Corridors (CTC)	✓	✓	✓			✓			
Office of Traffic Safety (CA OTS)								✓	
Environmental Enhancement and Mitigation Funds (CA NRA)			✓						

FUNDING SOURCE	On-Street Bikeways	Pedestrian Infrastructure	Trails	Safe Routes to School	Safe Routes to Transit	Crossings/ Intersections	Bicycle Parking Facilities	Programs	Studies
Recreational Trails Program (CA DPR)			✓						
Affordable Housing & Sustainable Communities (CA HCD)	✓	✓			✓	✓	✓	✓	
Urban Greening Grants (CA NRA)	✓	✓	✓	✓	✓	✓			
Land and Water Conservation Fund (CA DPR)			✓						
Habitat Conservation Fund			✓						
Road Maintenance and Rehabilitation Program (Controller's Office)	✓	✓		✓	✓				✓
Coastal Conservancy Proposition 1 Grants (SCC)	✓	✓	✓			✓			
Regional + Local Sources									
Sustainability Planning Grant (SCAG)				✓	✓				✓
Benefit Assessment Districts	✓	✓	✓			✓	✓		
Community Facilities Districts or Mello-Roos	✓	✓	✓			✓			
Enhanced Infrastructure Financing District (EIFD)	✓	✓	✓			✓			
Private Sources									
Community Grant Program (PeopleForBikes)	✓		✓				✓		
Plan4Health Coalitions (APA & APHA)									✓
Doppelt Family Trail Development Fund (Rails-to-Trails Conservancy)			✓						
10-Minute Walk Campaign (National Recreation and Park Association)									✓
American Greenways Eastman Kodak Awards (Getches-Wilkinson Center)			✓						✓

USER PROMOTION

Walking and biking face not only physical but also cultural and behavioral barriers as modes of transportation. Ongoing programs and promotional campaigns can help recalibrate people's attitudes toward getting around the planning area.

Regional Bike Share System

While individual cities in the San Gabriel Valley have considered and sometimes implemented local bike share programs, a coordinated regional system would provide more mobility and access to residents and visitors. Bike share hubs should be prioritized along portions of the planning area that have existing bikeway facilities (especially Bonita Avenue) and at transit stations, and electric-assist bicycles should at least make up a portion of the shared fleet.

Branding, Signage, and Wayfinding

We recommend that the Bonita Avenue corridor have consistent branding that identifies it as a unique, safe, historic, and pleasant pedestrian/bicycle experience. “Citrus Regional Bikeway” was originally used for this corridor and may continue to be desirable. Streetlight banners can be a cheap way to establish in the minds of passersby, who later may return to the street to experience it on foot or by bicycle. Pedestrian street level signage indicating approximate travel times by foot and bike to key destinations such as downtown districts and transit stations can help raise awareness about their relative proximity and the viability of active modes of travel within a suburban context where walking/biking trips are more commonly viewed as recreational activities.

Special Events

Events that invite people to experience public space as social space encourage a more holistic view of streets in the urban fabric, opening people up to alternative modes of transportation. Open streets events such as CicLAvia, are an excellent example of this; 2018’s “Heart of the Foothills” CicLAvia on Bonita Avenue was a resounding success. Annual national events such as Walktober (October) and Bike Month (May) are also low-cost opportunities for communities to promote active transportation. Even events that have nothing to do with transportation or public space can encourage the use of active transportation with feeder rides, bicycle tours, historical walks, etc.

Workplace Wellness

Municipalities, large employers, and other institutions can promote physical and mental health and sustainability by incentivizing walking, biking, and other modes of active transportation via incentive programs such as free/discounted membership to transit and bike share programs (e.g., GoSGV), hosting step count challenges with monthly participation raffles, and encouraging walking meetings.

PHOTO: ACTIVESGV / ANDY RODRIGUEZ

PHOTO: ACTIVESGV / ERIC JUNG

PHOTO: ACTIVESGV / OTTO SAYES

PHOTO: ACTIVESGV / ERNEST LEE

THIS PAGE INTENTIONALLY BLANK

APPENDIX A: EXISTING CONDITIONS ROADWAY AND TRAFFIC ANALYSIS

617 W. 7th Street, Suite 1103
Los Angeles, CA 90017
(213) 489-7443
www.altaplanning.com

MEMORANDUM

To: Hannah Brunelle, SCAG, and members of the Project Management Committee

From: Alta Planning + Design

Date: 5/27/2020

Re: Arrow Highway Multimodal Regional Corridor Study - Existing Conditions Roadway and Traffic Analysis

Introduction

The purpose of the **Arrow Highway Multimodal Regional Corridor Study** is to assess active transportation and transit access opportunities and challenges along Arrow Highway, which runs west-to-east in San Gabriel Valley. The study area is located within Los Angeles County, California, and traverses five municipalities. While Arrow Highway varies in roadway classification, surrounding land uses, and configuration, existing bicycling and walking conditions are generally challenging along the high-speed roadway, despite serving as a major transit route. For this reason, Alta Planning + Design was tasked by the Southern California Association of Governments (SCAG) to evaluate and inform future investments in bicycle and pedestrian improvements along Arrow Highway. Consequently, the Arrow Highway Multimodal Regional Corridor Study was commissioned to assess current conditions and develop recommendations that can serve as a blueprint for improving bicycling, walking, and use of other active modes along the corridor.

Additionally, to facilitate bicycle and pedestrian facility connections within the street network surrounding Arrow Highway, key parallel roadways were evaluated as part of this study. These connections leverage Arrow Highway as both a local and regional connection with viable multimodal options. The surrounding routes will also enhance first/last mile access to adjacent and nearby transit services, including the future Metro Gold Line extension to Claremont. This report describes the traffic and safety roadway analysis conducted to assess existing conditions along Arrow Highway and the surrounding street network. Physical and operational conditions, crash trends, access, and bicycle and pedestrian facilities are evaluated in this report. The report culminates in an existing conditions summary and potential recommendations that are put forth for further evaluation as the study progresses. This preliminary assessment serves as a starting point and has been developed based on input from stakeholders. The final report of the study will include additional community and stakeholder feedback, as well as refinements to the preliminary potential solutions, in order to develop final recommendations.

Arrow Highway Corridor Study - Existing Conditions Roadway Analysis

Analysis Framework

The analysis includes a review of existing traffic conditions, and an operational analysis related to the mobility of people walking, bicycling, and driving. Specifically, the analysis includes the following elements:

1. Roadway widths and number of lanes
2. Traffic volumes
3. Safety and mobility
4. On-street parking and median access
5. Presence or absence of bicycle and pedestrian facilities
6. Level of Service (LOS) and delay
7. Qualitative review and assessment of pedestrian, bicycle, and transit use and access

The study area includes Arrow Highway and parallel routes within the San Gabriel Valley. The roadways pass through the following municipalities:

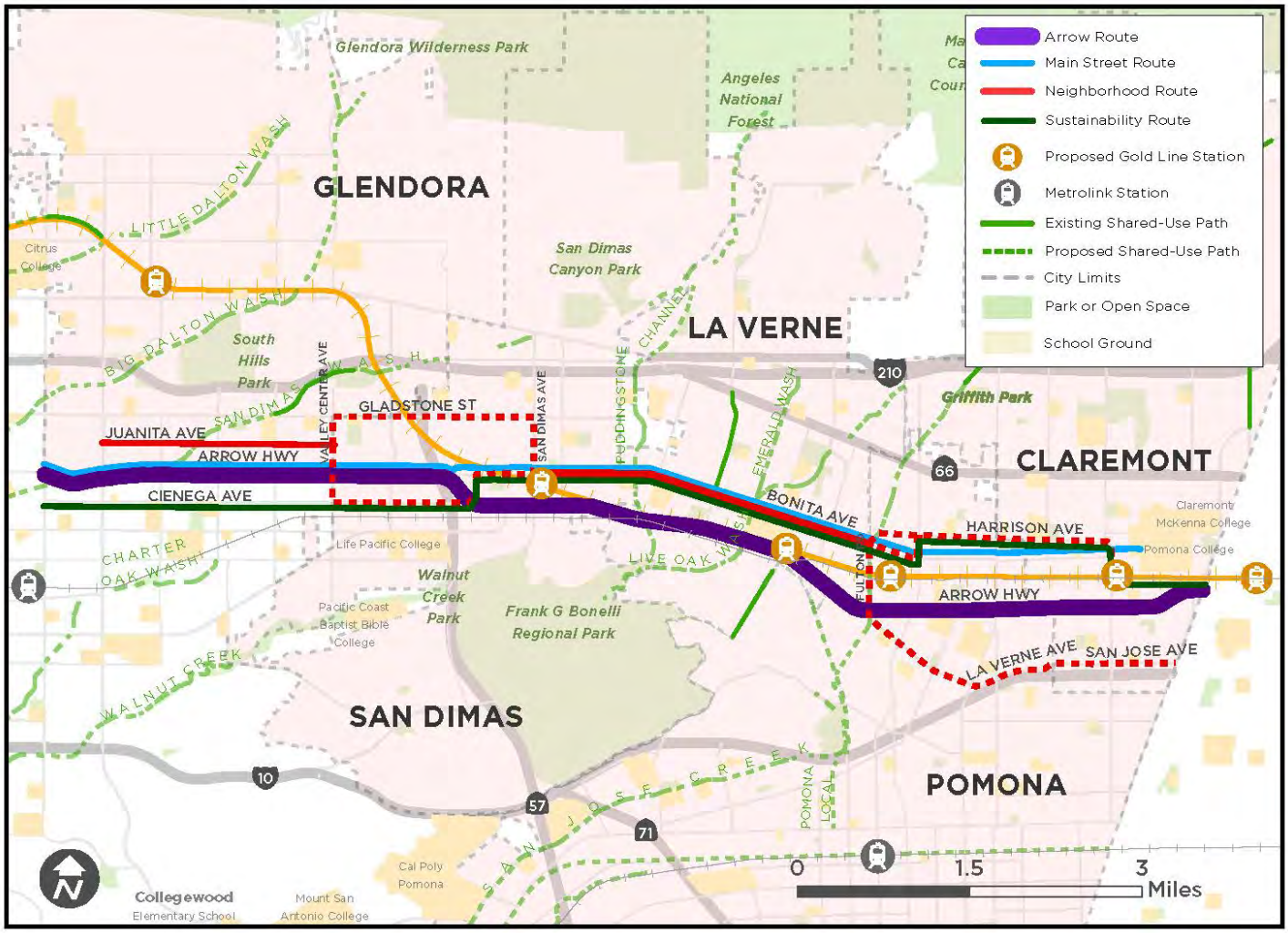
- Claremont
- Glendora
- La Verne
- Pomona
- San Dimas
- Unincorporated County of Los Angeles

Through an extensive stakeholder involvement process, parallel routes to Arrow Highway were identified. Those routes include roadways with different contexts and multimodal mobility potential. The routes are intended to complement Arrow Highway, by offering a more complete multimodal transportation network that connects people walking and bicycling in the area. These roadways, located within the same study area extents as Arrow Highway, include:

1. Bonita Avenue
2. Cienega Avenue
3. Gladstone Street
4. Harrison Avenue
5. Juanita Avenue
6. La Verne/San Jose Avenue

In subsequent discussions, it was determined that Gladstone Street and Harrison Avenue are not adequate routes as a parallel alternative to Arrow Highway; therefore, they were removed from further consideration.

Arrow Highway Corridor and Alternative Routes



Existing Conditions Analysis

This section summarizes the findings of the existing conditions analysis for Arrow Highway and the surrounding street network.

Roadway Cross-Sections

Roadway segments along Arrow Highway and key parallel routes were categorized into main cross-section types[1]. **Table 1** summarizes these cross-sections, including the main cross-section elements. **Table 1A** shows the cross sections for Arrow

[1] Some minor variations within each main cross-section may exist, however, the cross-section segments are intended to represent overall existing roadway conditions.

Highway traversing the five cities within the study area, from west to east. As shown, Class II bicycle facilities along Arrow Highway exist within Claremont and Glendora city limits; however, there are no designated bicycle facilities along the other sections of Arrow Highway within the study area. Combined with other factors such as vehicular and speeds and the presence of sidewalks, this information will help guide the multimodal recommendations along Arrow Highway.

Table 1: Roadway Sections and Configurations

TABLE 1A

City	From	To	Total Pavement width	Total Number of Lanes	Median Type	Median Width	Parking	Exist Bike Lanes
Glendora	Barranca Ave	Glendora Ave	80'	5	Two-Way Left Turn Lane	14'	Y	N
	Glendora Ave	Valley Center Ave	80'	5	Concrete	14'-16'	Y	Y
San Dimas	Valley Center Ave	San Dimas Canyon Rd	80'	7	Concrete	14'-16'	N	N
La Verne	San Dimas Canyon Rd	La Verne Ave	80'	7	Concrete	14'-16'	N	N
Pomona	La Verne Ave	Garey Ave	80'	5	Concrete	14'-16'	Y	N
	Garey Ave	Cambridge Ave	78'	7	Concrete	14'-16'	N	N
Claremont	Cambridge Ave	Indian Hill Blvd	84'	5	Concrete	14'-16'	Y (N Side Only)	Y
	Indian Hill Blvd	Spring St	76'	5	Two-Way Left Turn Lane	11'	Y (~8' wide)	N
	Spring St	College Ave	64'	5	Two-Way Left Turn Lane	11'	N	N
	College Ave	Elder Dr	60'	4	None	None	Y	N
	Elder Dr	Claremont Blvd/Mills Ave	64'	4	None	None	Y	N

Table 1B represents the cross-sections along the routes parallel to Arrow Highway. As shown, Class II bike lanes exist along Bonita Avenue in the cities of La Verne, Pomona, and Claremont.

TABLE 1B

City	Roadway	Begin	End	Width	No. of Vehicle Lanes	On Street Parking?	Median Present?	Bicycle Facility
Glendora	Juanita Ave	Grand Ave	Valley Center Ave	38'	2	Both Sides	No	None
San Dimas	Bonita Ave	Arrow Hwy	San Dimas Canyon Rd	66'	3-5	Varies	Varies	None
	Cienega Ave	Barranca Ave	Valley Center Ave	64'	4	Both Sides	No	None
	Cienega Ave	Valley Center Ave	Arrow Hwy	62'	5	Varies	No	None
	Gladstone St	Grand Ave	Valley Center Ave	64'	4-5	Varies	No	None
La Verne	Bonita Ave	San Dimas Canyon Rd	Wheeler Ave	66'	3-5	Varies	Varies	None
	Bonita Ave	Wheeler Ave	Fulton Rd	50'	2-3	Varies	No	Class II
Pomona	Bonita Ave	Fulton Rd	Carnegie Avenue	50'	2-3	Varies	No	Class II
	Harrison Ave	Garey Ave	Towne Ave	36'	2	Both Sides	No	None
	La Verne Ave	Arrow Hwy	Garey Ave	54'	3	Both Sides	No	Class II
	La Verne Ave	Garey Ave	Mountain Ave	54'	4	Both Sides	No	None
Claremont	Bonita Ave	Carnegie Avenue	College Ave	50'	2-3	Both Sides	No	Class II

Existing Traffic Conditions

Existing traffic volumes were collected through 48-hour vehicle counts. The data was collected during weekdays in November 2019[2]. **Table 2** summarizes the volume data results. (See **Appendix A*** for additional data collected.) The locations of the volume counts were chosen based on stakeholder input. They include Arrow Highway, key parallel routes, as well as intersecting routes, all of which affect the overall flow of traffic and mobility for all road users. Additionally, the results

[2] Collection dates vary by location, and include November 5, 6, 13, and 21. See **Appendix A** for data collection dates for each location.

*Appendix available upon request

illustrate the roadway segments that experience higher percentages of truck volumes, which affects multimodal considerations.

Table 2: Vehicular Volumes

City	Corridor	Between		No. Travel lanes	Total Volume	Veh. / Ln.	% Buses	% Trucks
Glendora	Arrow Hwy	Sunflower Ave	Valley Center Ave	4	20,683	5,171	0.4%	2.7%
	Bonnie Cove Ave	Juanita Ave	Arrow Hwy	2	4,867	2,434	0.1%	0.4%
	Juanita Ave	Glendora Ave	Bonnie Cove Ave	2	3,048	1,524	0.0%	0.7%
	Sunflower Ave	Juanita Ave	Arrow Hwy	5	12,736	2,547	0.1%	1.4%
San Dimas	Bonita Ave	San Dimas Ave	Walnut Ave	3	14,635	4,878	0.6%	0.3%
	Cienega Ave	Huntington Ave	SR 57 Fwy	5	12,451	2,490	0.1%	0.9%
	San Dimas Ave	Bonita Ave	Arrow Hwy	4	10,716	2,679	0.6%	0.5%
La Verne	Arrow Hwy	Carrion Rd	Wheeler Ave	6	21,928	3,655	0.2%	2.3%
	Arrow Hwy	E St	White Ave	6	23,256	3,876	0.1%	2.4%
	Bonita Ave	Wheeler Ave	A St	2	11,385	5,693	0.7%	0.2%
	Wheeler Ave	2nd St	3rd St	4	10,676	2,669	0.2%	1.1%
Pomona	Arrow Hwy	Garey Ave	Maple Ave	5	17,557	3,511	0.4%	2.5%
	Bonita Ave	Towne Ave	Garey	3	12,152	4,051	0.8%	0.6%
	Towne Ave	Bonita Ave	Metrolink	4	24,605	6,151	0.2%	1.9%
Claremont	Arrow Hwy	Cambridge Ave	Indian Hill Blvd	4	20,160	5,040	0.4%	2.0%
	Arrow Hwy	College Ave	Mills Ave/Claremont Blvd	4	19,394	4,849	0.5%	1.9%
	Bonita Ave	Indian Hill Blvd	Alley 37/38	2	4,780	2,390	0.2%	3.0%

Based on the traffic data collected, the following is a summary of the main observations:

- Towne Avenue between Bonita Avenue and the Metrolink Line (in the City of Pomona) experiences the heaviest volumes of traffic, with 24,605 vehicles per day (vpd), or 6,151 vehicles per day per travel lane.
- Arrow Highway also experiences high traffic volumes, compared to the other routes studied, generally carrying over 20,000 vpd.
- Arrow Highway also carries a relatively higher percentage of trucks.

Vehicle speeds were also collected in conjunction with the traffic volumes for all of the studied locations. The results of the speed study are summarized in **Table 3**.

Table 3: Collected Vehicle Speeds

City	Route	Between		Posted Speed Limit	Average Speed	85th Percentile Speed
Glendora	Arrow Hwy	Sunflower Ave	Valley Center Ave	45 MPH	35 MPH	42 MPH
	Bonnie Cove Ave	Juanita Ave	Arrow Hwy	30 MPH	22 MPH	30 MPH
	Juanita Ave	Glendora Ave	Bonnie Cove Ave	30 MPH	27 mph	34 mph
	Sunflower Ave	Juanita Ave	Arrow Hwy	35 MPH	32 MPH	39 MPH
San Dimas	Bonita Ave	San Dimas Ave	Walnut Ave	25 MPH	21 MPH	27 MPH
	Cienega Ave	Huntington Ave	SR 57 Fwy	40 MPH	37 MPH	43 MPH
	San Dimas Ave	Bonita Ave	Arrow Hwy	35 MPH	24 MPH	29 MPH
La Verne	Arrow Hwy	Carrion Rd	Wheeler Ave	45 MPH	36 MPH	44 MPH
	Arrow Hwy	E St	White St	45 MPH	27 MPH	35 MPH
	Bonita Ave	Wheeler Ave	A St	35 MPH	31 MPH	36 MPH
	Wheeler Ave	2nd St	3rd St	40 MPH	30 MPH	36 MPH
Pomona	Arrow Hwy	Garey Ave	Maple	45 MPH	33 MPH	41 MPH
	Bonita Ave	Garey Ave	Towne Ave	35 MPH	33 MPH	39 MPH
	Towne Ave	Bonita Ave	Metrolink	40 MPH	31 MPH	38 MPH
Claremont	Arrow Hwy	Cambridge Ave	Indian Hill Blvd	45 MPH	36 MPH	43 MPH
	Arrow Hwy	College Ave	Mills Ave	40 MPH*	34 MPH	40 MPH

** Represents the school zone speed limit, applicable while students are present.*

The following observations were derived based on the speed study:

- Cienega Avenue between Huntington Street and Orange Street within the City of San Dimas had the highest average speed at 37 MPH.
- Arrow Highway between Carrion Avenue and Wheeler Avenue within the City of La Verne, had the highest 85th percentile speed at 44 MPH.
- All of the locations studied had 85th percentile speeds less than 5 MPH over the posted speed limit. Those same sections have varying vehicular volumes. The roadway sections with 85th percentile speeds over the posted speed limit include:
    - Bonita Avenue between:
        - Wheeler Avenue and A Street.
        - Towne Avenue and Garey Avenue.
        - San Dimas Avenue and Walnut Avenue.
    - Cienega Avenue between Huntington Avenue and the SR-57 Freeway.
    - Juanita Avenue between Glendora Avenue and Bonnie Cover Avenue.

Existing Level of Service (LOS)

Turning movement counts (TMCs) were collected at 10 signalized intersections that were identified through meetings with the Project Management Committee. These intersections are:

1. Arrow Highway at Glendora Avenue (City of Glendora).
2. Gladstone Street at Sunflower Avenue (City of Glendora).
3. Arrow Highway at San Dimas Avenue (City of San Dimas).
4. Bonita Avenue at Eucla Avenue (City of La Verne).
5. Cienega Avenue at Lone Hill Avenue (City of San Dimas)
6. Arrow Highway at D Street (City of La Verne).
7. Arrow Highway at Towne Avenue (City of Claremont).
8. Bonita Avenue at Garey Avenue (City of Pomona).
9. Arrow Highway at College Avenue (City of Claremont).
10. Arrow Highway at Mountain Avenue (City of Claremont).

TMCs were collected during peak hours: AM (7-9 am) and PM (4-6 pm), during weekdays in November 2019[3]. The data included multimodal movement counts, including separate counts for motor vehicles, large vehicles, pedestrians, and bicyclists. The TMC data collection reports can be found in **Appendix A**.*

Capacity analyses was performed for the existing AM and PM peak hour periods using Synchro software (v.10) to determine the Level of Service (LOS) and delay for each of the study intersections. The analysis uses the *Highway Capacity Manual* (HCM) 6th Edition methodology, and accounts for roadway characteristics such as intersection geometry, traffic control devices, and traffic (vehicle and pedestrian) volumes.

LOS is defined by letter characters that range from A to F, with A representing traffic operating conditions that have little or no delay to vehicles utilizing the intersection and F characterizing poor conditions that have significant delay. LOS A through D are typically considered good or fair operations, while LOS E is representative of conditions where improvements could be needed if traffic volumes are expected to significantly increase in the future, or else future conditions may be expected to be failing operationally. LOS F is considered failing operations indicating the demand exceeds the capacity of the intersection as currently designed, and significant delays can be expected. Under these circumstances, improvements may be needed, in the form of traffic control modifications, geometric changes, or a combination of both, to reduce vehicle delay.

The delay limits for each LOS category, based on the HCM, are shown in **Table 4**.

[3] Collection dates vary by location, and include November 5, 13, and 19. See **Appendix A** for data collection dates for each location.

*Appendix available upon request

Arrow Highway Corridor Study - Existing Conditions Roadway Analysis

Table 4: LOS Thresholds

Level of Service (LOS)	Signalized Intersection Delay per Vehicle (sec/veh)	Unsignalized Intersection Delay per Vehicle (sec/veh)
A	≤10.0	≤10.0
B	10.1 - 20.0	10.1 - 15.0
C	20.1 - 35.0	15.1 - 25.0
D	35.1 - 55.0	25.1 - 35.0
E	55.1 - 80.0	35.1 - 50.0
F	> 80.0	> 50.0

Less Congestion

More Congestion

Municipalities define their acceptable LOS on their roadways through their policy and comprehensive plan. Since Arrow Highway and the alternative routes analyzed in this study traverse multiple municipalities, different requirements for operational levels apply along different sections of the roadways. See **Table 5** for the breakdown of each municipality's requirements per roadway classification.

Table 5: Acceptable LOS by Functional Classification and Municipality

City / Municipality	Major Arterial	Secondary Arterial	Rural Secondary Arterial	Collector	Local Street
Claremont	E	D	D	C	B
Glendora	D	D	D	D	D
La Verne	D	D	D	D	D
Pomona	D	D	D	D	C
San Dimas	E	E	E	E	E

The Synchro model incorporated all available traffic data including TMCs, heavy vehicle percentages, and lane configuration data. The phasing of intersections was based upon team observations. Signal cycle lengths and phase splits were optimized for operational efficiency according to Synchro's programming. The resulting LOS for the study signalized intersections are summarized in **Table 6**. A detailed LOS summary can be seen in **Appendix*B**.

*Appendix available upon request

Arrow Highway Corridor Study - Existing Conditions Roadway Analysis

Table 6: Peak Hour Intersection LOS – Existing Conditions (2019)

ID	Intersection Location	City	AM Peak		PM Peak	
			Delay	LOS	Delay	LOS
1	Arrow Highway at Glendora Avenue	Glendora	15.3	B	13.1	B
2	Gladstone Street at Sunflower Avenue	Glendora	50.8	D	28.0	C
3	Arrow Highway at San Dimas Avenue	San Dimas	30.4	C	29.9	C
4	Bonita Avenue at Eucla Avenue	San Dimas	13.5	B	13.1	B
5	Cienega Avenue at Lone Hill Avenue	San Dimas	15.3	B	18.8	B
6	Arrow Highway at D Street	La Verne	17.6	B	18.0	B
7	Arrow Highway at Towne Avenue	Pomona	45.9	D	39.2	D
8	Bonita Avenue at Garey Avenue	Pomona	38.4	D	43.6	D
9	Arrow Highway at College Avenue	Claremont	12.6	B	12.9	B
10	Arrow Highway at Mountain Avenue	Claremont	30.2	C	23.9	C

Notes:

Delay is presented in seconds per vehicle; LOS = Level of Service

As indicated in **Table 6**, all of the intersections currently operate at an acceptable LOS.

Bicycle and Pedestrian Counts

The TMCs conducted as part of this traffic analysis effort included bicycle and pedestrian counts during AM and PM peak hours. The counts were collected at several locations along Arrow Highway, and a few intersections within the nearby surrounding network. The TMCs were also supplemented with manual counts that were collected by the consultant team. The manual counts were conducted in September and October 2019 over the course of five weeks; and occurred on Tuesdays and Thursdays from 7-9 am and 4-6 pm, and on Saturdays from 11 am-1pm. **Appendix C** documents both the TMC and manual bicycle and pedestrian counts.*

Based on the bicycle and pedestrian counts:

- The intersections of Arrow Highway at Glendora Avenue, and Arrow Highway at Towne Avenue exhibited the highest volumes of pedestrians. The latter intersection also exhibited a relatively high number of bicyclists.

*Appendix available upon request

- Other intersections that also showed relatively higher bicycle volumes are Arrow Highway at both Kimball Avenue and College Avenue.
- Amongst the parallel routes to Arrow Highway, significant pedestrian volumes were observed at Bonita Avenue at Monte Vista, and along Bonita Avenue between D and E Streets; relatively higher bicycle volumes were observed at the intersections of Bonita Avenue with Melbourne Avenue, White Avenue, and College Avenue.

Crashes

As part of the traffic and safety analysis of existing conditions, traffic crashes were observed along Arrow Highway and the surrounding street network. The crash data examined was over a five-year period between 2014 and 2018, and was obtained from the Statewide Integrated Traffic Records System (SWITRS). The observations found that the locations with higher bicycle and pedestrian volumes did not necessarily coincide with where the bicycle and pedestrian crashes occurred. The following is a summary of the crash statistics along Arrow Highway:

- The most frequent bicycle and pedestrian crashes along Arrow Highway occurred at Bonita Avenue, E Street, and Indian Hill Boulevard.
- The most severe bicycle and pedestrian crashes along Arrow Highway occurred at Bonita Avenue, E Street, Indian Hill Boulevard, Lone Hill Avenue, San Dimas Avenue, and San Dimas Canyon Road.
- Overall, most of the major intersections along Arrow Highway within the study area recorded at least one traffic crash.
- Rear-end collisions occurred at both signalized and unsignalized intersections. Rear-end crashes are typically associated with congested conditions.
- Head-on collisions occurred along Arrow Highway at White Avenue and at the State Route (SR) 57 Freeway.

Crash observations along the street network parallel to Arrow Highway include:

- While Bonita Avenue generally has lower traffic volumes and vehicle speeds, bicycle and pedestrian crashes occurred at multiple locations; including at Arrow Highway, San Dimas Avenue, Wheeler Avenue, E Street, White Avenue, Garey Avenue, Towne Avenue, Mountain Avenue, and Indian Hill Boulevard. These locations vary by context and require additional evaluations to identify specific safety countermeasures that could be design-, enforcement-, or operations-related.
- Bicycle and pedestrian crashes were also observed at almost all the major intersections along La Verne/San Jose Avenue, including at Arrow Highway, Garey Avenue, Orange Grove Avenue, Towne Avenue, San Antonio Avenue, Indian Hill Boulevard, and Mountain Avenue. Rear-end collisions occurred at the intersections of La Verne/San Jose Avenue with San Antonio Avenue, Victoria Way, and Orange Grove Avenue.

Arrow Highway Corridor Study - Existing Conditions Roadway Analysis

Summary

The intent of the **Arrow Highway Multimodal Regional Corridor Study** is to evaluate and enhance multimodal transportation conditions for Arrow Highway. While Arrow Highway is the main arterial that traverses the study area, parallel and converging roadways were also considered to provide a comprehensive perspective of the street network within the study area. This system-wide approach allows an understanding of the priorities to consider in improving bicyc and pedestrian mobility along Arrow Highway. The following is a summary of the existing conditions analysis conducted.

Arrow Highway

Arrow Highway is a major arterial and has relatively higher vehicular volumes and speeds. It is also a designated truck rou and is an active transit corridor. However, as the bicycle and pedestrian counts have shown, there are currently people w bicycle and walk along the roadway. Therefore, it is critical to repurpose the existing roadway configurations to install a b facility and wider sidewalks. A closer look into the different sections of Arrow Highway throughout the study area reveale possible solutions to implementing a Class IIB bike facility, except for one section in the City of Claremont. Additionally, sidewalk expansions are possible along some sections long-term. The following are preliminary solutions to install a connected bike facility along Arrow Highway. It is important to note that additional traffic analysis is needed to solidify th specific alternative once it is chosen as the preferred option.

City of Glendora

There are no bicycle lanes between Barranca Avenue and Glendora Avenue. Installing bike lanes in this section is feasible while maintaining all lanes of traffic if travel lanes are narrowed. Given that Arrow Highway is a truck route and also an active transit route, it is recommended that the outside lanes are a minimum of 11 feet, while the two inside lanes and th center two-way left turn lane can be reduced to 10-foot lanes. This allows for retaining on-street parking as well. As a result, 5-foot bike lanes with a 2-foot buffer can be installed in this section. Alternatively, if the center two-way left turn lane is removed: (1) a wider buffered bike lane, or (2) a buffered bike lane and a wider sidewalk can be accommodated. T proposed layout would tie into the Arrow Highway section between Glendora Avenue and Valley Center Avenue within th City of Glendora, where bike lanes exist.

City of San Dimas

The Arrow Highway section between Valley Center Avenue and San Dimas Canyon Road lies within the City of San Dimas. Currently, there are a total of 7 travel lanes (3 in each direction + a center lane) along that section. It is possible to install bike lanes at minimum width and no buffer; however, this is not desirable. If the center lane is removed, or alternatively, one through lane in each direction is removed, a combination of a buffered bike lane and widened sidewalk can be implemented.

City of La Verne

Arrow Highway also currently consists of 7 travel lanes between San Dimas Canyon Road and La Verne Avenue within the City of La Verne. Similar to the section within the City of San Dimas, a minimal, no-buffer bike lane can be installed while keeping all lanes of traffic. However, to implement a bike facility that is designed for and will be used by bicyclists of all ag and abilities, it is recommended that at minimum the center lane is removed to allow for buffered bike lanes. Removing a lane in each direction would additionally allow for wider sidewalks.

Arrow Highway Corridor Study - Existing Conditions Roadway Analysis

City of Pomona

Within the City of Pomona, Arrow Highway consists of two distinct sections, with the first section (between La Verne Avenue and Garey Avenue) including 5 traffic lanes, on-street parking, and no bike lanes. Bike lanes can be accommodated in this section by narrowing travel lanes. Removing the center median (and replacing it with a 4-foot concrete barrier to prevent illegal turns) would allow for sidewalk expansion in addition to the proposed bike lanes.

Between Garey Avenue and Cambridge Avenue, Arrow Highway widens to 7 travel lanes; however, no on-street parking or bike lanes currently exist. By either removing the center turn lane or removing one through lane in each direction, buffered bike lanes, in addition to wider sidewalks, can be accommodated.

City of Claremont

The narrowest sections of Arrow Highway within the study area are within the City of Claremont. Between Indian Hill Boulevard and Spring Street, there are currently 5 travel lanes, including a center two-way left turn lane, in addition to on-street parking. To accommodate bike lanes while retaining all lanes of travel, travel lanes can be narrowed to accommodate a 4-foot bike lane with a 1-foot bike buffer.

Between Spring Street and College Avenue, 5 travel lanes remain with a narrower pavement footprint. Since there is no on-street parking, however, 4-foot bike lanes and a 2-foot buffer can be accommodated.

The only Arrow Highway section within the study area where bike lanes could not be accommodated is between College Avenue and Elder Drive. This section includes a total of 4 travel lanes, two in each direction. Given Arrow Highway's designation as a truck route, reducing travel lanes to one in each direction might create congestion and safety concerns borne out of competing modes. Utilizing an alternative for bike travel along this block is recommended.

The easternmost section of Arrow Highway also includes two travel lanes in each direction; however, the slightly wider pavement width allows for minimum width bike lanes, with no buffer.

Additional Considerations

In addition to the above proposed cross sections, the following are elements that should be considered. Collectively, these elements create an environment that is conducive to a comfortable walking and biking environment:

1. Redesigning streets to be more welcoming for pedestrians includes reducing the crossing distance, allowing sufficient time to cross, providing more opportunities to cross, and installing landscaping and street furniture that provides shade and protection from vehicles. A number of improvements are either programmed or recommended along Arrow Highway. This includes the proposed curb extensions at specific intersections, mid-block crossings near Glendora Avenue, Valley Center Avenue, and other locations, and the proposed median improvements. This is especially important to slowing cars down, as evidenced in the speed study where sections of Arrow Highway exhibited 85th percentile speeds that are higher than the posted speed limit.
2. Additional safety evaluations are recommended for locations where bicycle and pedestrian crashes occurred.
3. The sidewalk system along Arrow Highway should be evaluated for maintenance needs, ADA-compliance, and a comfortable environment for people walking.
4. The study identified Arrow Highway as a major transit route with frequent bus stops. Given this and the proximity to the planned Gold Line extension, transit enhancements are recommended to create a more multimodal environment along Arrow Highway. This includes implementing bus pullouts at key locations.

5. To prioritize bicycle and pedestrian improvements, special attention should be attributed to locations that have shown high numbers of bicyclists and pedestrians crossing, as well as the surrounding land uses that are considered pedestrian "generators" and "attractors" such as homes, schools, and parks.
6. As shown in the analysis, all intersections within the study area operate at an acceptable LOS, including the intersections along Arrow Highway. This provides an opportunity to consider operational improvements that would better accommodate bicyclists and pedestrians, accounting for their vulnerability as road users. This could include implementing Leading Pedestrian Intervals (LPIs) at locations that show high volumes of pedestrians, evaluating cycle lengths to shorten pedestrian wait times, and installing bicycle signalization once designated bicycle facilities and routes are established throughout the street network.

Parallel Routes

The following is a summary of existing conditions along the parallel routes within the study area:

- Bonita Avenue: Bonita Avenue is mostly a minor arterial. It transitions into a major arterial between San Dimas Canyon Road and Fulton Road. Class II bicycle facilities currently exist along some portions of Bonita Avenue, and it has relatively lower vehicular volumes and speeds. Recent improvements by the City of Claremont have enhanced conditions for people walking and bicycling in that part of the study area. Priority should be placed at locations that were shown to have high bicyclist and pedestrian traffic and/or crashes, such as at the Bonita Avenue intersections at D Street and E Streets in the City of La Verne, as well as intersections near the Pomona College campus in Claremont.
- Cienega Avenue: Cienega Avenue is classified as a minor arterial. Vehicular volumes and speeds along Cienega Avenue are relatively higher than the other roadways evaluated. Existing pavement width does not allow for on-street bicycle facilities. However, given the predominantly residential nature of this route and an acceptable vehicular LOS, enhancements such as curb extensions, medians, and narrower lanes could be considered to create a more bikeable and walkable environment along Cienega Avenue. Class I shared-use path facilities could also be considered if right-of-way allows.
- Juanita Avenue: Juanita Avenue is a minor arterial between Grand Avenue and Valley Center Avenue, and then transitions into a local street from Valley Center Avenue to where it dead-ends to the east near the SR-57 Freeway. This route has relatively low vehicular volumes and speeds, and very low truck volumes. Juanita Avenue can serve as a connection for the surrounding neighborhoods to the rest of the bicycle and pedestrian network within the study area that provides access to key destinations and mass transit. However, the route's utility as a regional connection is limited given its shorter span.
- La Verne/San Jose Avenue: La Verne Avenue is primarily a minor arterial; however, it is classified as a major collector from Towne Avenue to its eastern terminus. San Jose Avenue is also a minor arterial from Mountain Avenue to College Avenue. Existing bicycle and pedestrian facilities could be enhanced through narrowing travel lanes, considering the removal of on-street parking, or further evaluating the potential of a lane reconfiguration.

Arrow Highway Corridor Study - Existing Conditions Roadway Analysis

The largest barrier for pedestrians along La Verne/San Jose Avenue is the intersection with Arrow Highway. The intersection has complex geometry, includes a large slip lane onto La Verne Avenue, and there is not a pedestrian crossing for any of the approaches. The current configuration is more representative of a limited access facility and, as previously stated, is a physical barrier for bicyclists and pedestrians to traverse La Verne/San Jose Avenue. Redesigning the intersection should include consideration of a complete reconfiguration into other types of intersections, such as a roundabout.

Image 1: La Verne Avenue & Arrow Highway Intersection

APPENDIX B: BICYCLE LEVEL OF TRAFFIC STRESS ANALYSIS METHODOLOGY

MEMORANDUM

617 W 7th Street, Suite 1103
Los Angeles, CA 90017
(213) 489-7443
www.altaplanning.com

To: Project Management Committee

From: Ryan Johnson and Aaron Fraint, Alta Planning + Design

Date: April 20, 2020

Re: Bicycle Level of Traffic Stress Analysis – Arrow Highway Multimodal Regional Corridor Plan

Introduction

This memo catalogs the process of creating a Bicycle Level of Traffic Stress (BLTS) assessment for the potential east/west multimodal corridor alternatives to the Arrow Highway. This includes the acquisition of source data, the methodology to classify stress levels, as well as a discussion of the results, which are also graphically displayed in the attached set of maps. The methodology described in this document is adapted from the Mineta Transportation Institute's *Low Stress Bicycling and Network Connectivity* (2012)[1], and has been adjusted to reflect the data available for this project.

Background

BLTS is a numeric value assigned to each segment of a road network, aiming to approximate the level of stress experienced by bicyclists. BLTS is calculated directly from available street network data, considering the following built environment parameters:

- Number of through travel lanes
- Posted speed limit
- Class of bicycle facility (if any)

Definition of LTS Values

BLTS values have a range between 1 and 4, with lower numbers signifying lower traffic stress levels. These BLTS values are defined as follows:

- BLTS 1: roadway is comfortable for all ages and abilities
- BLTS 1.5: roadway is comfortable for people of most ages and abilities, but does not feature a bicycle facility
- BLTS 2: roadway is comfortable for "interested but concerned" cyclists
- BLTS 3: roadway is comfortable for "enthused and confident" cyclists
- BLTS 4: roadway is comfortable for "strong and fearless" cyclists

[1] https://transweb.sjsu.edu/sites/default/files/1005-low-stress-bicycling-network-connectivity.pdf

Data Inputs

The data used in this BLTS was collected through a desktop review of Google Street View and Google satellite imagery of the corridor to identify the number of through lanes, the speed limit, and the type of bicycle facility, if any, along each potential corridor. The corridors were segmented wherever there was a change in any of the aforementioned roadway attributes.

Methodology

Segment-Based Methodology

The process for defining segment-specific BLTS consists of assigning initial values based upon the combination of speed limit and roadway width (defined by number of travel lanes). This initial classification is adapted from the Mineta Transportation Institute report, and is shown in Table 1 below.

Table 1 - Segment BLTS

Speed Limit	Street Width: 2 lanes without centerline	2 - 3 lanes with centerline	4 - 5 lanes	6 + lanes
<= 25 mph	1.5	2	3	4
30 mph	2	3	4	4
>= 35 mph	4	4	4	4

Where bicycle facilities exist, the BLTS is updated as follows:

- Class I shared-use paths or Class IV separated bikeways will be given a BLTS of 1, which accounts for the physical separation provided by these facilities and the associated reduction in stress for bicyclists.
- Class III bicycle routes will be given a BLTS of 1 if the road's initial LTS value was 1.5. Otherwise, the initial BLTS value will be used. This accounts for the fact that Class III bicycle routes reduce stress on residential streets, but do not substantially reduce stress on wider, faster streets.
- Where Class II bicycle lanes exist, the BLTS value will be calculated as shown in Table 2 below.

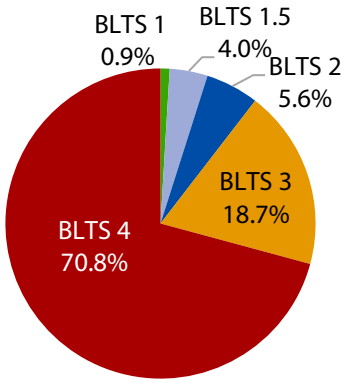
Table 2 - Class II Bike Lane BLTS

Speed Limit	Street Width: Less than 4 lanes	Street Width: 4 or more lanes
<= 25 mph	1	3
30 mph	2	3
35 mph	3	3
>= 40 mph	4	4

Existing BLTS

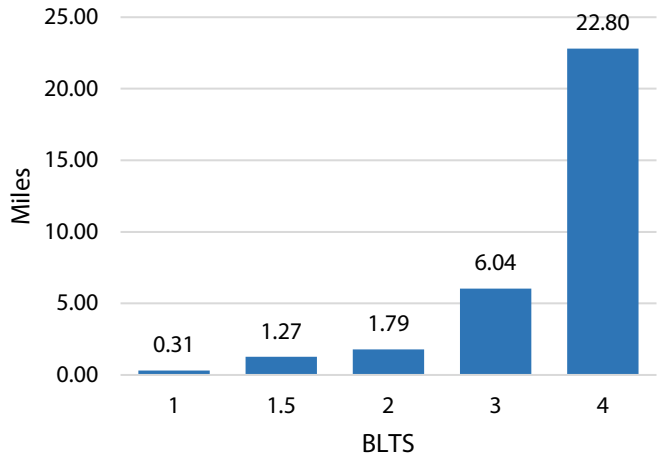
The current BLTS along nearly 90% of the total length of routes being studied is either a 3 or 4 - roads that most people find too dangerous or uncomfortable to ride on. As seen in the figure to the right, only about 10% of the total length of roadways being studied is BLTS 2 or lower, while over 70% is BLTS 4, the highest level of traffic stress. The entire lengths of Arrow Highway and Cienega Avenue are BLTS 4. The speed limit for these roads is 40 mph or 45 mph with the exception of a mile long 35 mph segment on Cienega Avenue between Bonnie Cove Avenue and Valley Center Avenue.

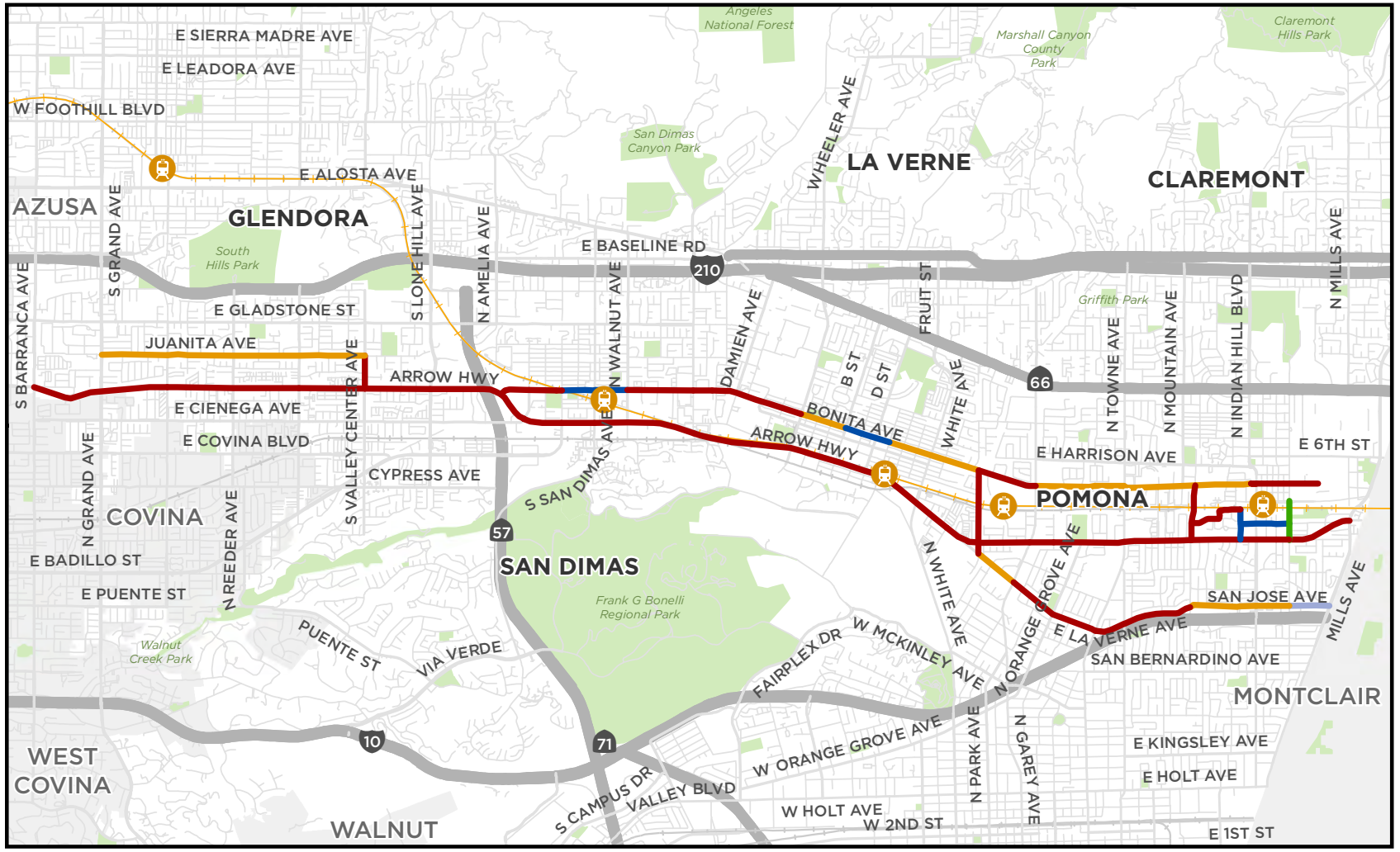
Percentage of Studied Roadway Length Associated with Each Level of Traffic Stress



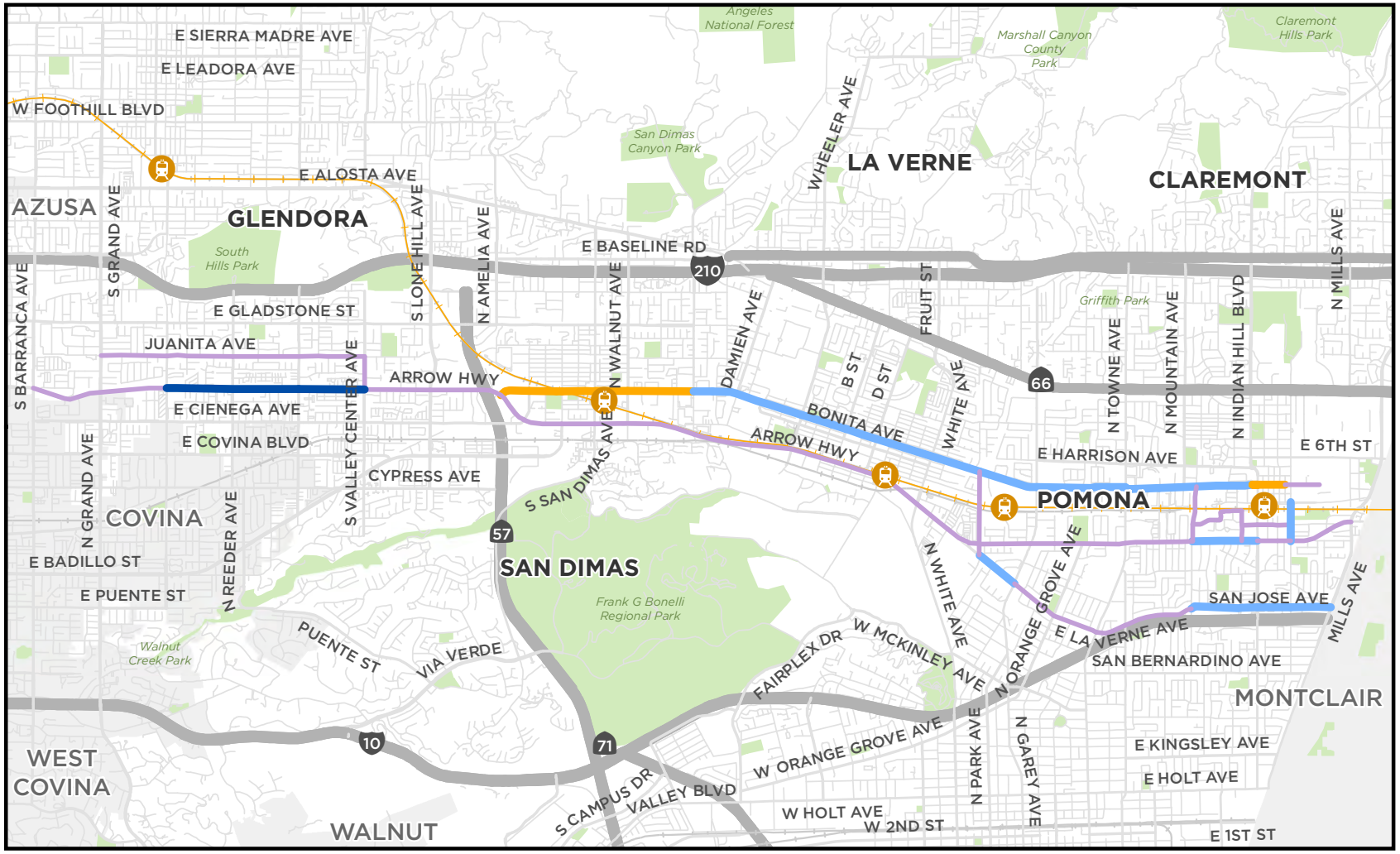
The chart below shows the number of miles associated with each level of traffic stress. Nearly 23 of the 32 total miles of the roadways being studied are currently BLTS 4, and an additional 6 miles are BLTS 3. Only about 2.5 miles of the roadways being studied are BLTS 2 or lower.

Number of Miles Associated with Each Level of Traffic Stress





Arrow Highway Multimodal Regional Corridor Plan
Bike Level of Traffic Stress (BLTS)



Arrow Highway Multimodal Regional Corridor Plan
Existing Bicycle Facilities along Studied Routes

Bicycle Facililty Class

- No Bicycle Facility
- Class II Bicycle Lane
- Class II Buffered Bicycle Lane
- Class III Bicycle Route

Metro Gold Line Station (Future)

Park or Open Space

APPENDIX C: **UNIT COST ASSUMPTIONS**

Improvement Type	Unit	Cost per Unit Cost Assumption (Low)	Cost per Unit Cost Assumption (High)	Unit	Cost per Unit Cost Assumption (Low)	Cost per Unit Cost Assumption (High)
Signing & Striping						
High Visibility Continental Crosswalk	Square Foot	$3.50	$5.00			
Advanced Limit Line	Square Foot	$3.50	$5.00			
Yield Line	Square Foot	$3.50	$5.00			
Remove Conflict Striping	Linear Foot	$1.50	$3.50		Low	High
Off-Street Shared-Use Path (Class I)	Linear Foot	$145.00	$285.00	Per Mile	$765,600.00	$1,504,800.00
Standard Bike Lanes (Class II)	Linear Foot	$30.00	$60.00	Per Mile	$158,400.00	$316,800.00
Buffered Bike Lanes (Class II)	Linear Foot	$35.00	$75.00	Per Mile	$184,800.00	$396,000.00
Bike Route (Class III)	Linear Foot	$7.50	$15.00	Per Mile	$39,600.00	$79,200.00
Unidirectional On-Street Separated Bikeway (Class IV)	Linear Foot	$150.00	$425.00	Per Mile	$792,000.00	$2,244,000.00
Bidirectional On-Street Separated Bikeway (Class IV)	Linear Foot	$170.00	$450.00	Per Mile	$897,600.00	$2,376,000.00
Install New Sign & Pole	Each	$375.00	$500.00			
Speed Feedback Sign	Each	$3,500.00	$8,000.00			
Narrow Travel Lanes	Linear Foot	$4.00	$7.00	Per Mile	$21,120.00	$36,960.00
Reconfigure Lanes	Linear Foot	$4.00	$7.00	Per Mile	$21,120.00	$36,960.00
Remove Center Lane	Linear Foot	$2.00	$3.00	Per Mile	$10,560.00	$15,840.00
Remove Parking	Linear Foot	$2.00	$3.00	Per Mile	$10,560.00	$15,840.00
Remove Bike Lane	Linear Foot	$2.00	$3.00	Per Mile	$10,560.00	$15,840.00
Traffic Signal						
Improve Street Lighting	Lump Sum	$250,000.00				
Install New Traffic Signal	Each	$375,000.00				
Signal Modification (e.g., Protected Left-Turn, Leading Pedestrian Phase)	Lump Sum	$50,000.00				
Rectangular Rapid Flashing Beacons	Each	$30,000.00				
Civil Design Work						
Curb Extension	Each	$45,000.00	$90,000.00			
Curb Radius Reduction	Each	$15,000.00	$125,000.00			
Traffic Circle	Each	$50,000.00	$150,000.00			
Raised Crosswalk	Each	$15,000.00	$30,000.00			
Speed Humps/Lumps	Each	$6,000.00	$7,500.00			
Install Sidewalk (5-ft)	Linear Foot	$75.00	$125.00	Per Mile	$396,000.00	$660,000.00
Widen Sidewalk	Linear Foot	$24.00	$74.00	Per Mile	$126,720.00	$390,720.00
Truncated Domes	Each	$750.00	$1,500.00			
Install Bus Shelter	Each	$25,000.00	$50,000.00			
Install Pedestrian Bridge	Square Foot	$250.00	$500.00			
Install Pedestrian Fence	Linear Foot	$95.00	$150.00			
Raised Median	Square Foot	$20.00	$50.00			
Remove Sidewalk Obstruction	Each	$27,500.00	$55,000.00			