



EAST SAN GABRIEL VALLEY MOBILITY ACTION PLAN

DRAFT PLAN

Prepared for **County of Los Angeles Department of Regional Planning**
by **IBI Group**, with **Evan Brooks Associates** and **HereLA**
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EXECUTIVE SUMMARY



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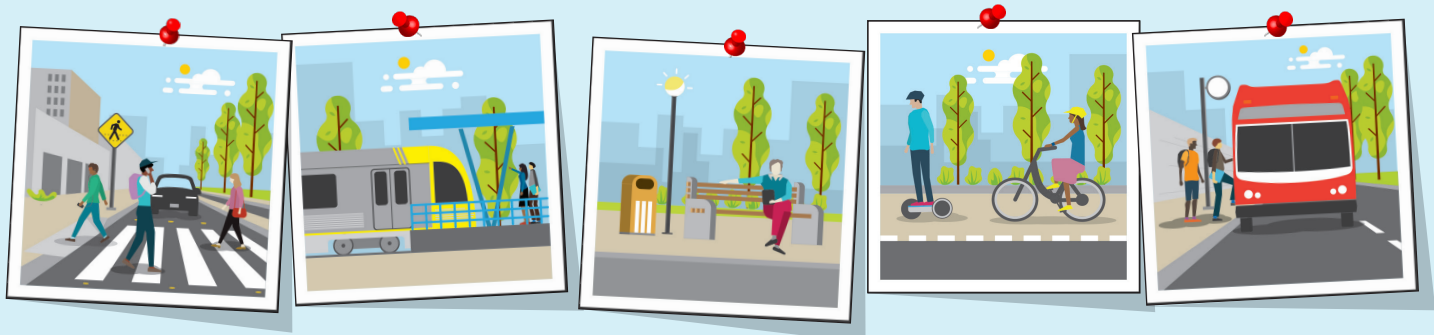
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Your ideas WANTED!

The Los Angeles County Department of Regional Planning needs your help in planning East San Gabriel Valley's

1. EXECUTIVE SUMMARY



Plan Overview

The purpose of the East San Gabriel Valley (ESGV) Mobility Action Plan (MAP) is to identify ideas and projects to make it easier and safer to walk, bike, and use transit in and between the 24 unincorporated communities located in the East San Gabriel Valley. These communities are:

Avocado Heights	North Claremont	South San Jose Hills
Charter Oak	Northeast La Verne	South Walnut
Covina Islands	Northeast San Dimas	Unincorporated South El Monte
East Azusa	North Pomona	Valinda
East Irwindale	North Whittier	West Claremont
East San Dimas	Pellissier Village	Walnut Islands
Glendora Islands	Rowland Heights	West Puente Valley
Hacienda Heights	South Diamond Bar	West San Dimas

The County of Los Angeles recognizes that its residents face challenges related to equity, systemic racism, climate change, disparate access to opportunity, and the impacts of traffic congestion and emissions from transportation sources. By acknowledging these challenges and the people they impact, the MAP outlines strategies to improve mobility in a sustainable, equitable, and achievable way.



Mobility Indicators

Mobility needs vary for different groups of people. Demographic indicators can provide insight regarding not only who lives in the study area, but also their mobility needs and propensity to use certain modes of travel. Some key demographic mobility indicators in the ESGV include:

- ✓ **Senior Populations** - Senior residents make up as much as 60 percent of the total population in areas between Pomona and Walnut, beside the SR-57, and east of La Verne along Foothill Boulevard.
- ✓ **Youth Population** - Youth make up about a quarter of the population in some of the easternmost communities of the ESGV including Unincorporated South El Monte, West Puente Valley, Hacienda Heights, Valinda, and Covina Islands, as well as Northeast La Verne, North Claremont, and North Pomona.
- ✓ **People of Color** - Areas with the highest concentrations (around 75 percent or higher up to 97 percent) of non-white population include the areas in and around the unincorporated communities of Rowland Heights and Hacienda Heights, and the cities of Walnut, West Covina, Baldwin Park, and Diamond Bar.
- ✓ **Low-Income Households** - Areas with particularly high percentages (over 50 percent) of low-income households include the areas around the unincorporated communities of Walnut Islands and Rowland Heights, as well as the cities of Pomona, Baldwin Park, La Puente, and Azusa.
- ✓ **Education Attainment** - Broadly, the areas with the highest percentage of Bachelor's degree attainment include the communities in and around the cities of Glendora, La Verne, Claremont, Walnut, and Diamond Bar, as well as the unincorporated communities of Rowland Heights and Hacienda Heights.
- ✓ **Zero-car Households** - As many as about 40 percent of all households do not own a vehicle in some areas in the East San Gabriel Valley, and therefore may rely on transit or active modes of transportation. These households are dispersed throughout the region, showcasing reliance on different travel modes throughout the region.
- ✓ **Disadvantaged Communities** - According to CalEnviroScreen, areas with the greatest concern include the unincorporated communities of West Puente Valley and Hacienda Heights, as well as the cities of Baldwin Park and Pomona. The western portion of the unincorporated West Puente Valley community falls within the 96 to 100 percentiles, thus indicating the highest environmental concern.

Policy Priorities

The policies recommended for the ESGV MAP are:

✓ Policy 1

Prioritize connections to food systems, health care facilities, parks, and other locations that support public well-being.

✓ Policy 2

Prioritize mobility improvements that link transit, schools, parks, and other key destinations in the community.

✓ Policy 3

Utilize technology to implement more flexible transportation options that supplement existing service or address gaps in the existing network.

✓ Policy 4

Incorporate sustainable design components into street treatments that increase safety for pedestrians, bicyclists, and sensitive groups such as youth and older adults while supporting environmental stewardship.

✓ Policy 5

Implement and connect safe bicycle- and pedestrian-friendly streets, sidewalks, paths and trails that promote active transportation and transit use.

✓ Policy 6

Reduce car dependency by supporting the implementation of safe and convenient active transportation infrastructure that connects with and compliments the transit network.

✓ Policy 7

Support integrated land use and transportation planning to support a more sustainable and multimodal East San Gabriel Valley.

✓ Policy 8

Support mode shift to lower- or zero-emission travel modes that can balance increased emissions that may derive from increased travel/mobility.

✓ Policy 9

Identify locations for innovative traffic safety features that support safety, accessibility, and sustainability.

✓ Policy 10

Address inequities created by a history of car-centric design in the ESGV by prioritizing the mobility and safety needs of priority populations such as youth, older adults, zero car households, and residents living in areas with environmental justice concerns.

✓ Policy 11

Address real and perceived safety concerns, and identify barriers to walking and rolling.

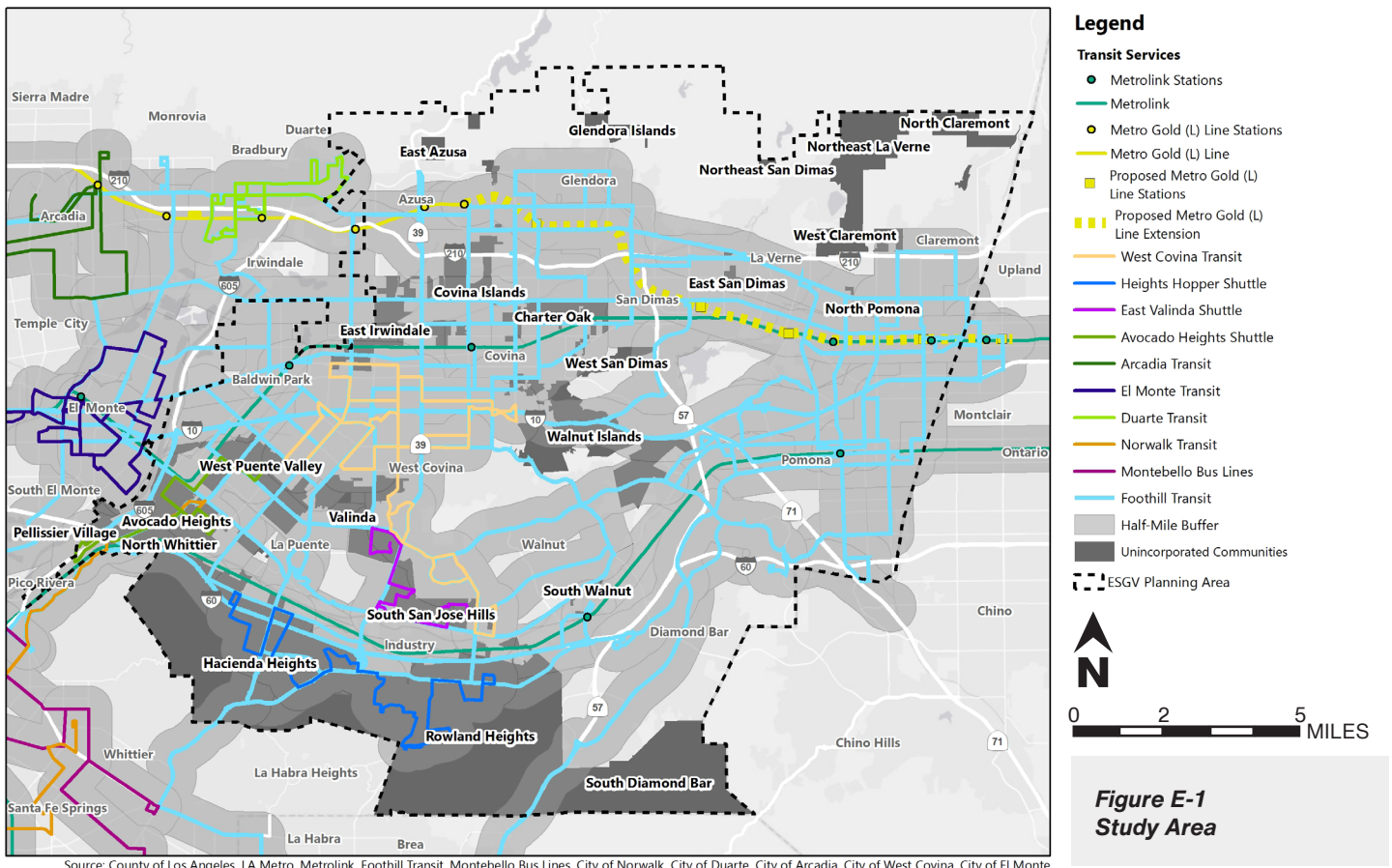


Mobility Gaps and Needs

Residents in the East San Gabriel Valley are impacted by limited transit and multi-modal transportation options and significant amounts of traffic, resulting from the subregion’s location as a crossroads for traffic traveling between Los Angeles County, the Inland Empire, and Orange County. As described in Section 7, analysis of the region identified several key mobility gaps:

Need for Enhanced Fixed Route Transit Services	Information and Other Assistance
Need for Enhanced Paratransit (Access) Services	Transportation for Youth and Children
Connectivity Between Transit Services	Affordability and Access to Autos
Transit Service	Bicycle and Pedestrian Network Gaps
Transit Experienced	First/Last Mile Connectivity
Transit Alternatives	Land Use

Figure E-1 displays a half-mile buffer around the fixed-route transit services in the study area. The darkest gray areas do not have access to fixed-route transit within a half-mile. These areas include the communities of Glendora Islands, Northeast San Dimas, North and West Claremont, Walnut Islands, South Diamond Bar, and portions of Hacienda Heights and Rowland Heights.



Technical analysis revealed a high density of pedestrian collisions in the eastern portion of the study area in Pomona, along Colima Road in Rowland Heights, Baldwin Park, and along SR 39 in Azusa. The density of pedestrian collisions is low to moderate, but still considerable in Covina at the interchange of I-10 and SR 39, in West Puente Valley, along SR 66 in Hacienda Heights, Rowland Heights, and Valinda. Similarly, bicyclist collision density was highest in the City of Pomona, south of I-10. Bicyclist collision density was moderate to high in East Azusa along SR 33, in the City of Baldwin Park along I-10, and in La Puente. Bicyclist collision density was low to moderate, but still significant, in North Pomona, Claremont, Glendora, East Irwindale, Covina, West Puente Valley, and Rowland Heights. Additionally, areas of high bicyclist and pedestrian-involved collisions should be prioritized for improvement.

Recommendations to Improve Mobility

In order to address these mobility gaps, needs, and safety issues, the technical team analyzed a range of solutions, such as Personal Mobility on Demand (PMoD), on-demand micromobility, scheduled micro-mobility, active transportation vehicle sharing, mobility technologies (trip discovery, trip booking, and cashless payment systems), and active transportation infrastructure improvements. The three primary mobility solutions recommended are:

- ✔ **Flexible Microtransit** – a type of transit service that uses smaller vehicles in a defined service area, with routing based on customer demand
- ✔ **Personal Mobility on Demand (PMoD)** – a lower-capacity service that pairs individuals or small groups with a ride to their destination and that helps address need during off-peak periods such as early mornings or late at night
- ✔ **Active Transportation Improvements** – improved bicycle and pedestrian infrastructure along key corridors and designed to close existing gaps

2

INTRODUCTION



2. INTRODUCTION

2.1 MAP Purpose

The purpose of the East San Gabriel Valley (ESGV) Mobility Action Plan (MAP) is to identify strategies and projects to make it easier and safer to walk, bike, and use transit in and between the 24 unincorporated communities located in the East San Gabriel Valley. These communities include:

Avocado Heights	North Claremont	South San Jose Hills
Charter Oak	Northeast La Verne	South Walnut
Covina Islands	Northeast San Dimas	Unincorporated South El Monte
East Azusa	North Pomona	Valinda
East Irwindale	North Whittier	West Claremont
East San Dimas	Pellissier Village	Walnut Islands
Glendora Islands	Rowland Heights	West Puente Valley
Hacienda Heights	South Diamond Bar	West San Dimas

These communities border several different incorporated cities in the ESGV region, including Azusa, Baldwin Park, Claremont, Covina, Diamond Bar, El Monte, Industry, La Puente, La Verne, San Dimas, and West Covina.

The County of Los Angeles recognizes that its residents face challenges related to equity, systemic racism, climate change, disparate access to opportunity, and the impacts of traffic congestion and emissions from transportation sources. By acknowledging these challenges and the people they impact, the MAP outlines strategies to improve mobility in a sustainable, equitable, and achievable way.

2.2 MAP Relationship to Area Plan

Planning in the County of Los Angeles takes place at multiple scales. At the highest level, the General Plan establishes countywide values and a vision for the future, and is based on a primary goal to foster healthy, livable, and sustainable communities. The General Plan establishes a Planning Areas Framework, whereby unincorporated communities are subdivided into eleven areas—each receiving its own Area Plan. These Area Plans build on the General Plan goals, priorities, and programs at a more local scale, identify strategies that fit the planning areas, shape communities to provide diverse housing, jobs, and services, and are coordinated with adjacent jurisdictions.

The ESGV Area Plan covers nine elements: land use, economic development, community character and design, mobility, natural resources and open space, environmental justice, health and safety, public services and facilities, and cultural and historic resources. Although the MAP is one component of the Area Plan, and was produced separately from the other elements, the two efforts included coordination between the technical teams to ensure that the recommendations and implementation strategies related to land use and mobility are aligned and mutually supportive.

2.3 County Priorities

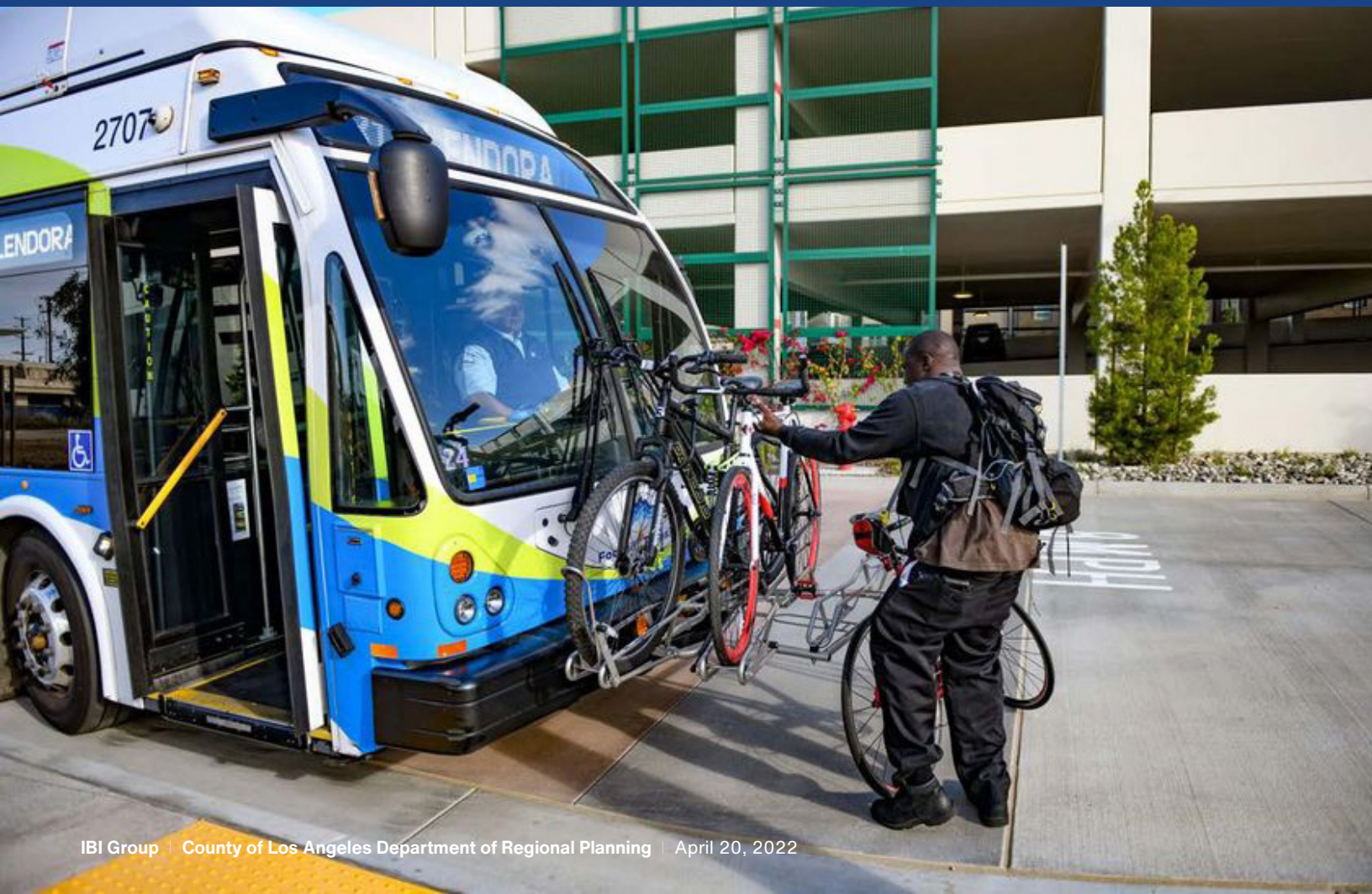
The MAP and the Area Plan were guided by policy priorities from the County of Los Angeles, the Department of Regional Planning, and other County agencies that will help achieve the goal of providing healthy, livable, and sustainable communities. These priorities and their definitions are as follows:

- **Environmental Justice** - Defined as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies.
- **Sustainability** - Broadly refers to a long-term approach to human activity that balances economic, social, and environmental needs.
- **Climate Change** - The phenomenon of changing climate patterns and global temperature increases accelerated by increased greenhouse gas (GHG) emissions in particular, and the County's efforts to slow and counteract its impacts.
- **Equity** - An approach to decision making and the distribution of resources that is inclusive to individual and community needs, focused on alleviating past and present barriers to accessing resources needed to succeed and thrive.

Improved access to a greater diversity of safe, convenient, and affordable mobility options can help address each of these policy priorities and support the wellbeing of County residents.

3

MOBILITY DEMAND



3. MOBILITY DEMAND

3.1 Existing Transit Services and Active Transportation Infrastructure

Owing to its proximity to Downtown Los Angeles, the ESGV enjoys access to quality transit services provided primarily by Metro and Foothill Transit. These services are complemented by other intercity transit services including Montebello Transit and Norwalk Transit. Further, there are several local fixed route and community based (dial-a-ride and on-demand) transit/mobility services serving the ESGV study area.

3.1.1 Inter-City Transit Services

The following transit services provide inter-city bus and/or rail service in the study area, as well as the immediately surrounding area. These routes generally align with where population and employment is densest in the region.

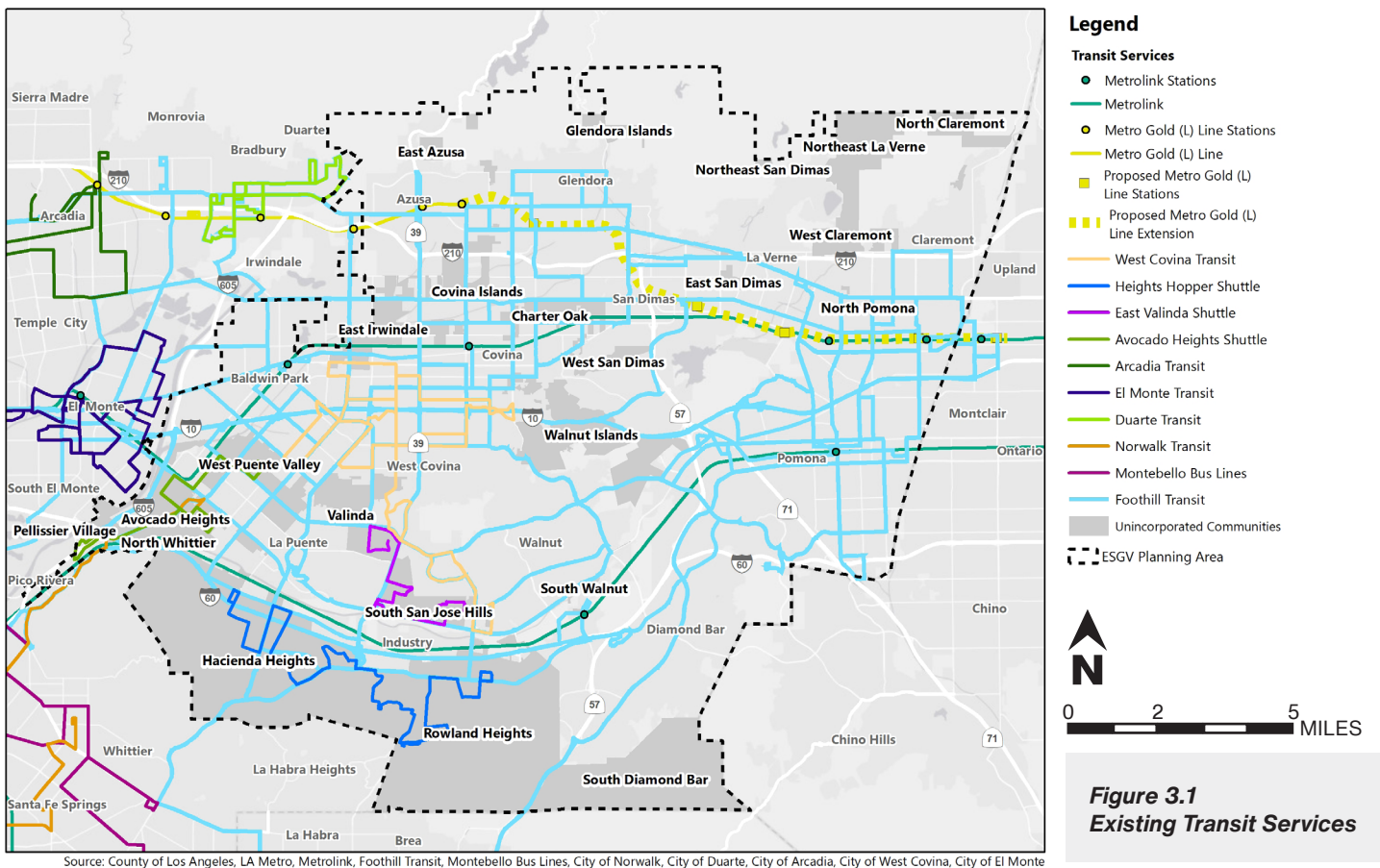
TRANSIT SERVICE	ROUTES	SERVICE FREQUENCY (RANGE)
Metro	Gold (L) Line	12 to 20 minutes
Metro	Multiple bus routes	6 to 60 minutes
Access	Paratransit service	Demand-response
Foothill Transit	Multiple Express, Local, and School Supplementary bus routes	12 to 60 minutes
Montebello Bus Lines	Multiple bus routes	8 to 55 minutes on weekdays 18 to 65 on weekends
Norwalk Transit	Multiple bus routes	30 to 80 minutes

3.1.2 Municipal Transit Services

Municipal transit services in and around the study area include local fixed-route and/or dial-a-ride, including taxi/ transportation network company (TNC) partnerships, but typically within a prescribed service area aligning with city limits. These services often provide transportation for seniors, persons with disabilities, commuters, or other specialized populations, but are sometimes also available to the general public. These services often provide transportation for seniors, persons with disabilities, commuters, or other specialized populations, but are sometimes also available to the general public.

TRANSIT SERVICE	ROUTES	SERVICE AREA	SERVICE FREQUENCY (RANGE)
Montebello Bus Lines	Dial-A-Taxi (seniors and persons with disabilities)	Within Montebello, medical trips allowed outside city boundaries	Demand-response
Montebello Link Service	Five semi-fixed routes	To and from Montebello Metrolink Station	Reservation-based

TRANSIT SERVICE	ROUTES	SERVICE AREA	SERVICE FREQUENCY (RANGE)
City of Claremont	Dial-A-Ride (general public)	Within Claremont (can travel outside service area for additional fee)	Demand-response
Pomona Valley Transportation Authority (Claremont, La Verne, Pomona, San Dimas)	Get About (seniors and persons with disabilities)	Within Claremont, La Verne, Pomona, and San Dimas (can travel to adjacent areas for additional fee)	Demand-response
City of Duarte (DuarteBus Powered by Foothill Transit)	Line 860 Duarte Blue and Line 861 Duarte Green	Within Duarte	60 minutes
City of Covina	Dial-A-Ride (seniors and Access Services members)	Within Covina and within 3 mile radius of Covina	Demand-response
City of Arcadia Transit	Green Line, Blue Line, Red Line	Within Arcadia	50-15 minutes
City of Arcadia Transit	Dial-A-Ride (seniors and persons with disabilities)	Within Arcadia	Demand-response
GoMonrovia	GoMonrovia subsidized Classic Lyft rides	Within Monrovia, to Target in Duarte (connection to Duarte Transit), within three miles of city limits for medical	Demand-response
El Monte Transit	Five fixed-route trolley lines	Within El Monte	50 minutes
City of El Monte	5 commuter shuttles	Within El Monte (to and from El Monte Metrolink Station)	60-27 minutes
West Covina Transit	Red Line, Green Line, Blue Line	Within West Covina	56-52 minutes (Red Line) 30 minutes (Green Line) 65 minutes (Blue Line)
Los Angeles County	Avocado Heights Shuttle	Avocado Heights/Bassett/ West Valinda	100-60 minutes
Los Angeles County	Heights Hopper Shuttle	Rowland Heights, Hacienda Heights	90 minutes
Los Angeles County	East Valinda Shuttle	East Valinda	115-70 minutes



3.1.3 Active Transportation Infrastructure

There are a number of existing bikeways in the ESGV. Figure 3.2 displays the locations of the Class I, Class II, and Class III bikeways in the study area. There are no Class IV bikeways in the unincorporated areas currently. While there are a number of new bikeways planned within the ESGV through the East San Gabriel Active Transportation Plan and Los Angeles County Bicycle Master Plan that is expected to be updated in 2025, among others, the current network is fragmented. A disconnected network makes travel via active transportation modes difficult and not welcoming, especially in areas with high densities of populations who are more likely to use and would benefit the most from active transportation infrastructure improvements. These include seniors, youth, residents without access to a car, and disadvantaged populations.

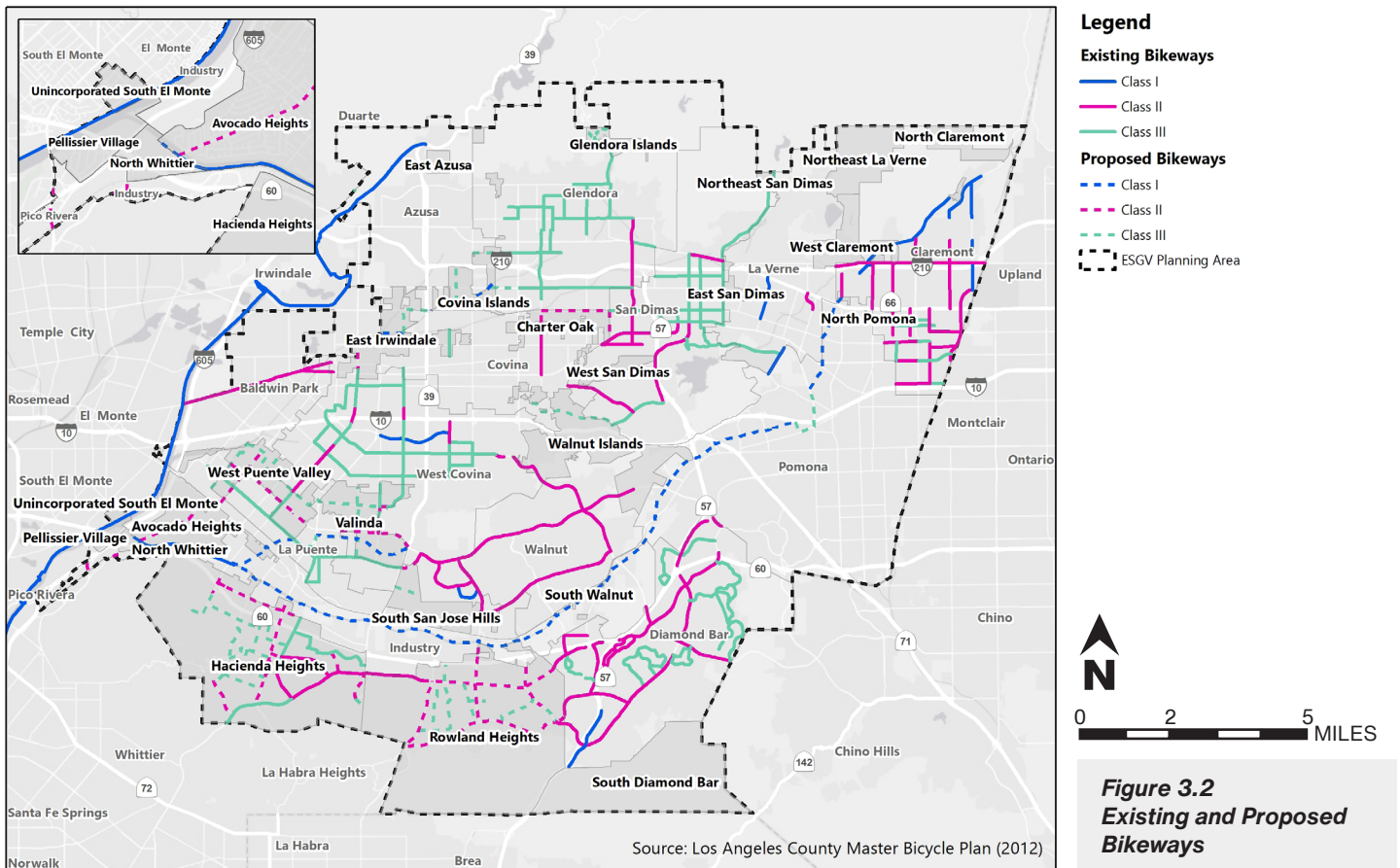


Figure 3.2
Existing and Proposed
Bikeways

3.2 Transit Propensity Score

An analysis of transit propensity considers an area’s characteristics to determine if residents of the area have a higher likelihood or predisposition to use transit. Metro developed a transit propensity index that considered the following three major components of predisposition to ride transit:

1. Elements of demand: Population and employment densities, including seniors, persons aged 18-34, persons that are attending grades K-12, low-income workers.
2. Market segments: Commuters, transit-dependent persons, choice riders.
3. Built environment: Walkability, square footage of built development, housing density.

A higher transit propensity score (TPS) correlates to a higher likelihood of taking transit. According to this index, much of the region has relatively low transit propensity scores (Figure 3.3). Further, current high order public transit bus and rail services exist in key corridors and are supplemented by local and community based services.

It is important to note that notwithstanding relatively low transit propensity scores as developed by Metro’s TPS, there are many pockets of the study area that are beyond a reasonable walking distance to transit - usually defined as a half-mile, or 10-minute walk – particularly in the unincorporated areas. Hence, these areas specifically would not only benefit by the availability of transit/ mobility solutions but would also provide an opportunity to influence travel behavior by providing additional mobility options.

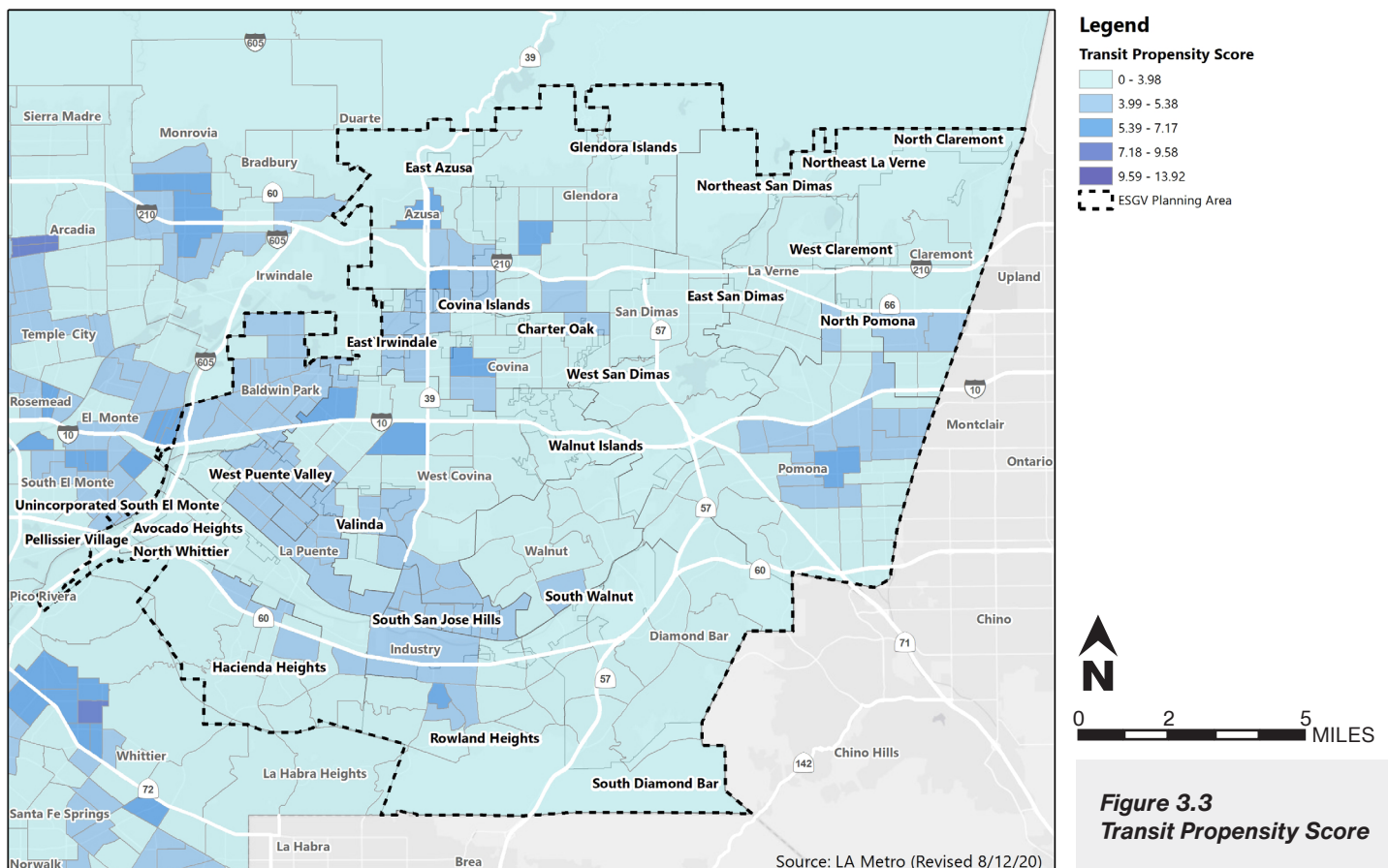


Figure 3.3
Transit Propensity Score

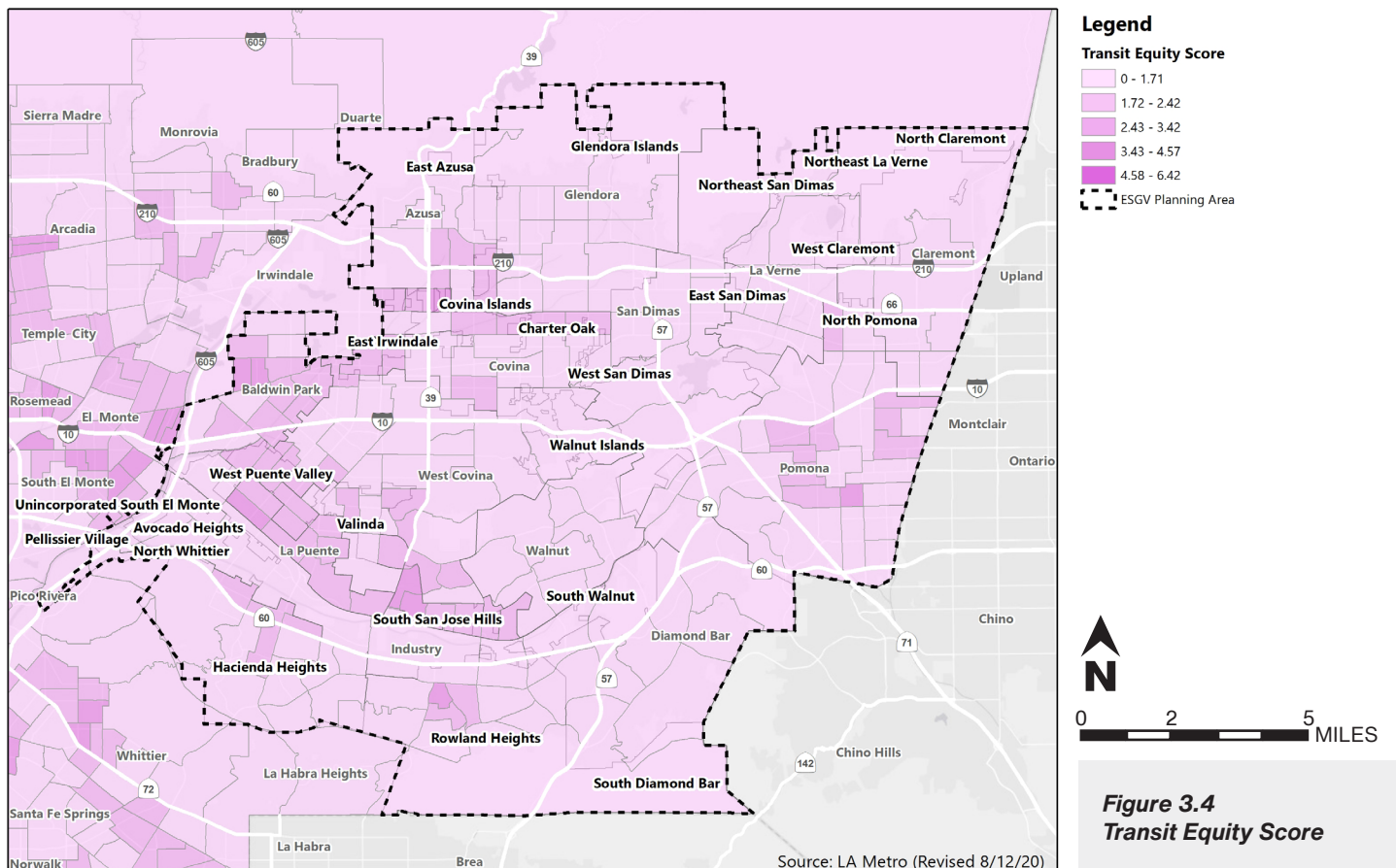
3.3 Transit Equity Score

Similar to the TPS, Metro’s Transit Equity Score (TES) indicates where transit is of most need based on key socioeconomic indicators within Los Angeles County. TES consists of seven measures:

1. Zero Car Households per Acre
2. Poverty/Low Income Households per Acre
3. School Age Students (age 10 -19) per Acre
4. Seniors over 55 as of 2010 per Acre
5. Single Mothers per Acre
6. Disabled Persons per Acre
7. Minorities per Acre

There are relatively low transit equity scores as developed by Metro’s NextGen Data Center, specifically in the unincorporated areas of the study area (Figure 3.4). Communities with low TES in the study area include: Glendora Islands; Northeast San Dimas and La Verne, North Claremont, Walnut Islands, Diamond Bar and South Diamond Bar, and Hacienda Heights.

These areas, as determined by the above listed seven measures, are considered transportation disadvantaged populations, and they are concentrated in the higher density areas of the study area. This may suggest mobility gaps reflecting availability by time of day, day of week, affordability, excessive travel times, etc.



4

MOBILITY GAPS



4. MOBILITY GAPS

4.1 Gaps and Opportunities

Residents in the ESGV are impacted by limited access to transit and multi-modal transportation options and significant amounts of traffic, resulting from the subregion's location as a crossroads for traffic traveling between Los Angeles County, the Inland Empire, and Orange County.

The area's relatively concentrated pockets of population and employment density along some of the most-utilized corridors in the region indicate the need for special attention to the residents of unincorporated communities living along the major highways in the region, and particularly west of SR-39, to ensure that sufficient mobility options are planned and the mobility needs of those communities are met. Additionally, the less dense central areas indicate a potentially high usage of vehicle travel in these communities, further supported by the area's mode share being primarily vehicle-dominant, as well as disconnected bicycle facilities. These findings, along with the region's continuing growth, present challenges to addressing traffic congestion and providing opportunities for non-vehicular travel to key destinations in the region.

While there are various types of mobility options available to travelers within the ESGV study area, they are not without their limitations reflecting geographic/spatial, temporal, infrastructure, and technology constraints.

Figure 4.1 displays a half-mile buffer around the fixed-route transit services in the study area. The darkest gray areas do not have access to fixed-route transit within a half-mile. These areas include the communities of Glendora Islands, Northeast San Dimas, North and West Claremont, Walnut Islands, South Diamond Bar, and portions of Hacienda Heights and Rowland Heights. These areas also tend to have high concentrations of seniors and households without access to a vehicle who may rely on transit to get around.

Additionally, areas of high bicyclist and pedestrian-involved collisions should be prioritized for improvement. Areas with high densities of collisions may indicate a lack of safe infrastructure and a need for further analysis to determine the need for physical improvements to either provide the infrastructure or slow vehicle traffic. An analysis of pedestrian collision density indicated that between 2014 and 2018, a high density of pedestrian collisions appears in the eastern portion of the study area in Pomona, along Colima Road in Rowland Heights, Baldwin Park, and along SR 39 in Azusa (Figure 4.2). The density of pedestrian collisions is low to moderate, but still considerable, in Covina at the interchange of I-10 and SR 39, in West Puente Valley, along SR 66 in Hacienda Heights and Rowland Heights, and in Valinda. Similarly, bicyclist collision density was highest in the City of Pomona, south of I-10 (Figure 4.3). Moreover, bicyclist collision density was moderate to high in East Azusa along SR 39, in Baldwin Park along I-10, and in La Puente. Bicyclist collision density was low to moderate, but still significant, in North Pomona, Claremont, Glendora, East Irwindale, Covina, West Puente Valley, and Rowland Heights. These areas tend to align with areas of high concentration of youth and disadvantaged populations, and may indicate a need for improvements to better protect these vulnerable populations while they walk or bike to their everyday destinations.

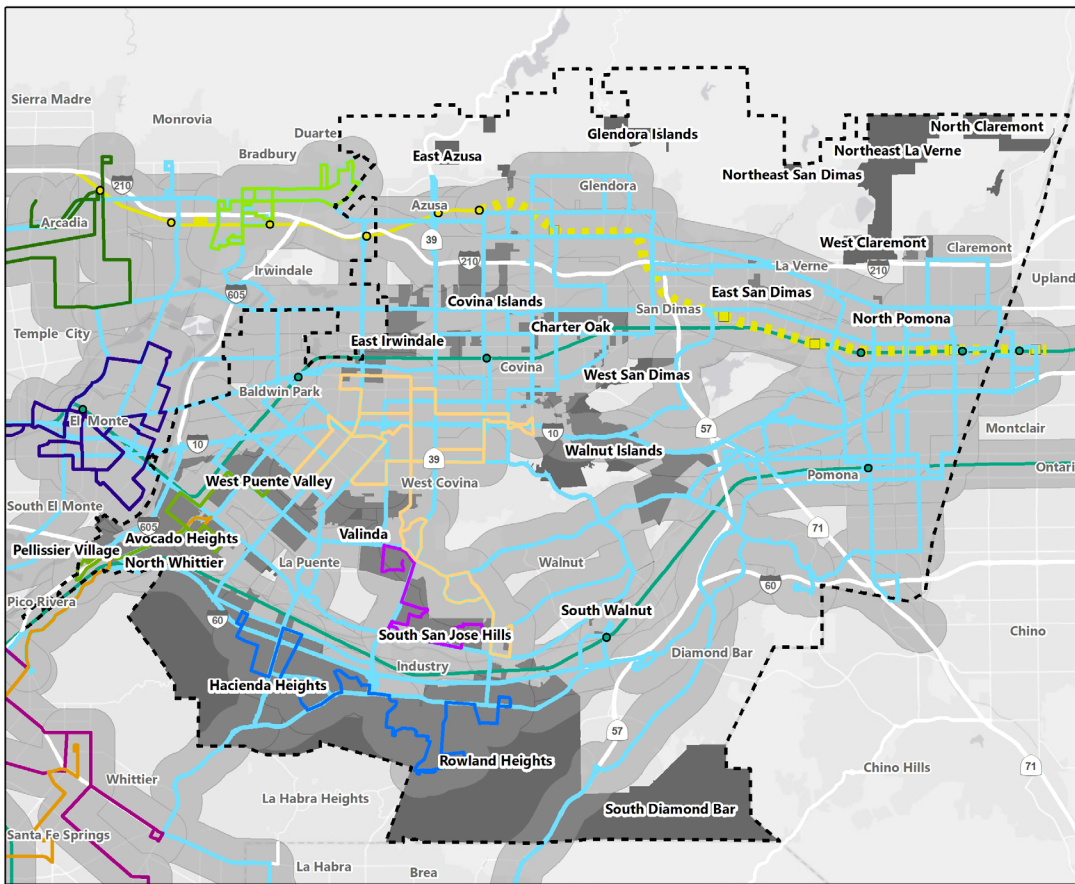


Figure 4.1
Half-Mile Buffer Around Fixed-Route Transit

Source: County of Los Angeles, LA Metro, Metrolink, Foothill Transit, Montebello Bus Lines, City of Norwalk, City of Duarte, City of Arcadia, City of West Covina, City of El Monte

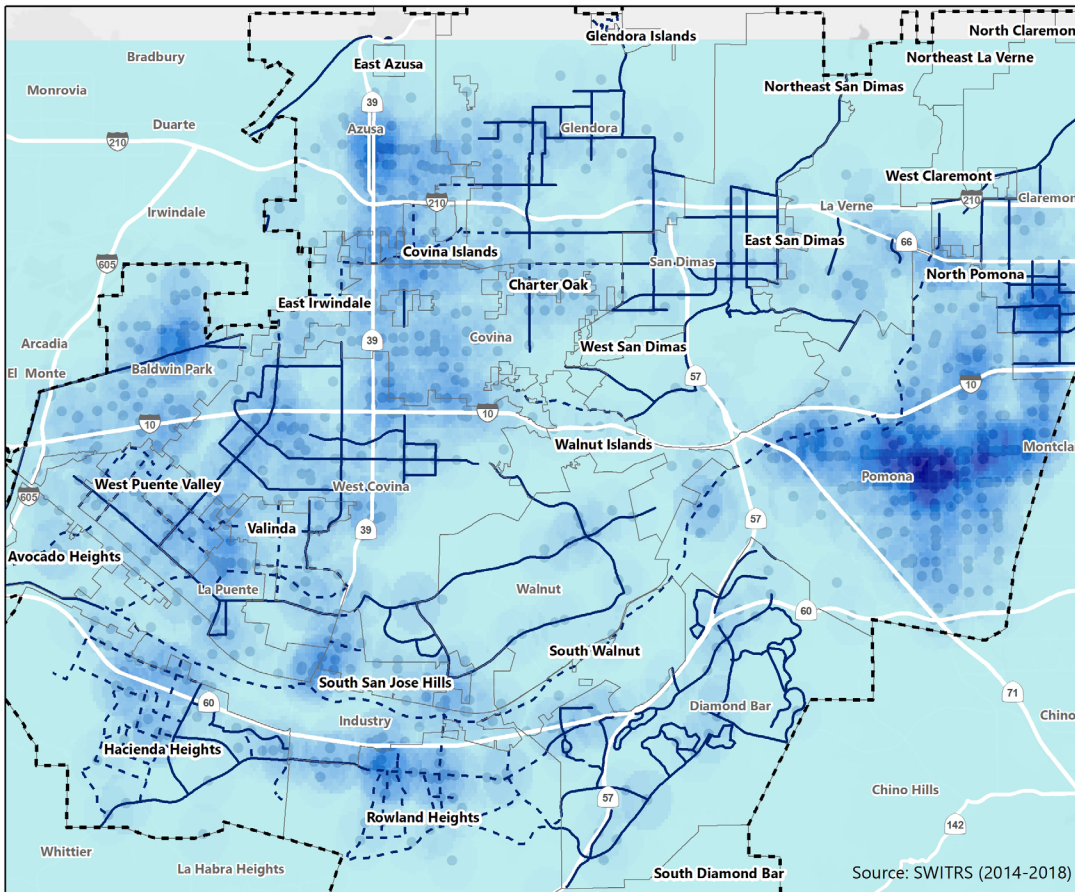
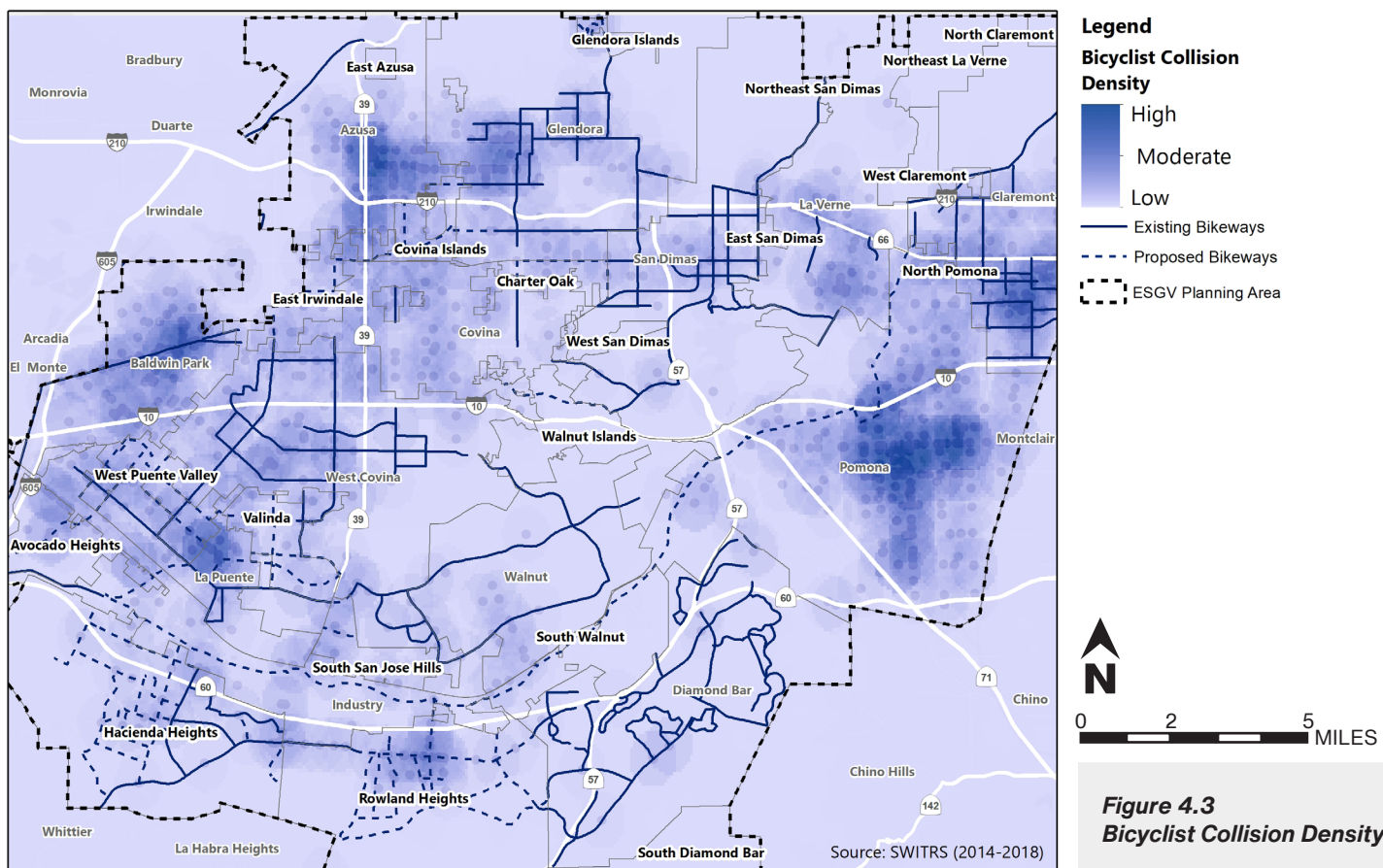


Figure 4.2
Pedestrian Collision Density

Source: SWITRS (2014-2018)



Based on the analysis of existing conditions and feedback received through the public engagement process, the following were identified as mobility gaps to be addressed by the MAP:

- **Enhanced Fixed Route Transit Services** - For persons who can and do use the fixed route transit system, there may be a need for additional service in the ESGV study area not currently served, and for more direct service to key activity centers.
- **Enhanced (Access) Paratransit Services** - Paratransit users may need a level of service above and beyond what is required by the Americans with Disabilities Act (ADA), such as service provided on the same day it is requested (e.g. taxis or Transportation Network Companies (TNCs)), where and when the fixed route service does not operate, or the ability to accommodate “uncommon” wheelchairs or other mobility devices. Some paratransit users who are parents may note that it is difficult to transport children to school and other activities via ADA paratransit.
- **Connectivity between Transit Services** - The need for better connectivity between service providers, both for inter-regional and intra-ESGV travel, whether using paratransit or fixed-route service. To promote more seamless travel, customers may need better shelters and bus stops as well as other amenities at transfer sites. Some persons with wheelchairs may have difficulty making effective use of the system due to accessibility barriers and may have a need for enhanced accessibility of vehicles and related infrastructure, such as shelters and stops. The cost of transferring between systems may be noted as an issue for both paratransit and fixed-route service. In addition, there may be a need for loading and waiting zones at transit stations for taxis, TNCs, or vans, and facilities at stations that drivers of such vehicles can use while they wait for their passengers.

- **Transit Service** - Gaps related to transit service may be identified (or validated), including hours of operation (some transit service may not run early enough in the morning, late enough at night, or on the weekends); frequency (some transit riders may prefer more frequent service than currently provided); reliability (some transit routes may not stay on-schedule or are overcrowded); connections (transit routes may not always transfer or connect with other services); spatial gaps (transit may not always serve destinations that people need to reach, such as schools, employment, medical care or grocery stores); and travel time (travel time between stops and to destinations may be too long, particularly when transfers are required to complete the trip).
- **Transit Experience** - Potential issues related to transit amenities, including bus shelters, bus stop seating if a bus stop cannot accommodate a shelter, and lighting to promote safety at bus stops and at rail stations, especially at night. Safety on transit vehicles may be raised as a concern.
- **Transit Alternatives** - For those who need transportation where public transit (fixed-route or complementary ADA paratransit) is unavailable or unsuitable, alternatives may be needed that enable people to live independently, such as ride-sharing, volunteer-driver programs, short-term medical transportation, or mobile programs that bring support services to people's homes.
- **Information and Other Assistance** - There is a need to clearly articulate information about the availability of transit/mobility services in a variety of formats (including signage) so that older adults and persons with disabilities can learn about the availability and how to use public transit and its accessible features. Similarly, there is a need to ensure drivers, dispatchers, other transit personnel, and the general riding public are sensitive to passenger needs, and know how to provide assistance on-board the vehicle as needed.

In advancing education and information dissemination, ensure to address any problems with the accuracy of transit route schedules; information at bus stops; transit information in languages other than English; information about fares; transfer policies; fares; and routes; and publicized information about local shuttle services.

- **Transportation for Youth and Children** - Transportation gaps specifically related to youth and children may include the cost of transportation for youth, and particularly for a family with multiple children; buses may be over crowded - additional service may be needed in the morning before school starts, and after school; safety for students who ride the bus; and, if no school bus service is available, working parents using transit who drop children off at school or daycare before work can have lengthy and costly trips.
- **Affordability and Access to Autos** - Low-income individuals and families may report that transportation, whether using transit or owning a car, is costly. Fares, monthly passes requiring high-up front costs, and certain transit transfer policies, may be cited as expensive, especially for families with children who rely mainly on transit. Taxi or TNC fares may be cited as unaffordable. Cost is the primary barrier to auto ownership for low-income individuals and families.
- **Bicycle and Pedestrian Network Gaps** - Bicycle and pedestrian networks can often be disconnected, especially where infrastructure, such as bikeways or sidewalks, cross different jurisdictions. A comprehensive look at the existing and planned network and key destinations, and areas of bicyclist- and pedestrian-involved collisions, can help determine where gaps need to be closed and prioritized in order to provide continuity for bicyclists and pedestrians.
- **First/Last Mile Connectivity** - The first and last part of the journey that transit riders walk, bike, or roll to and from their nearest station or bus stop is called the "first/last mile connection." Infrastructure surrounding transit stops and transfer stations should be accessible by multiple modes of transportation in order to ensure first/last mile connectivity. That includes adding or improving bikeways, bicycle amenities, sidewalks, curb cuts, curb ramps, crosswalks, etc. to provide accessible paths of travel.

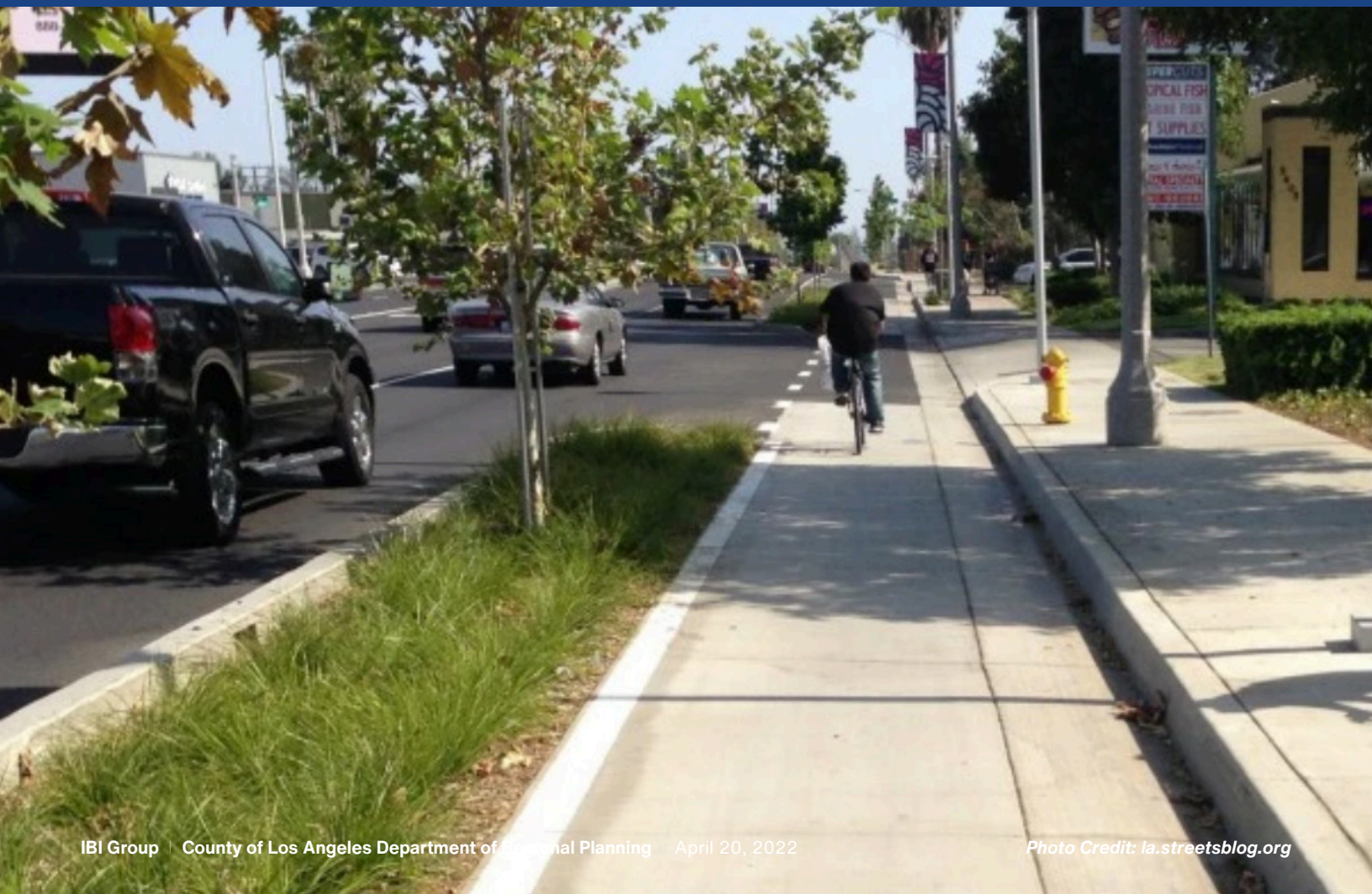
- **Land Use** - Transportation decisions typically affect land use patterns and resulting economic, social, and environmental impacts. These include direct impacts on land used for transportation facilities, and indirect impacts caused by changes to land use development patterns.

County land use strategies in past decades have contributed to mobility gaps. The lack of vibrant, mixed community nodes is partially to blame for the lack of transit use.

These challenges highlight opportunities to address them by planning for suitable land uses, expanding transit use and alternative modes of transportation by improving the network, and innovative approaches to mobility services and technology. While the MAP is focused on the unincorporated communities in the ESGV, coordination with surrounding cities will ensure a successful and cohesive regional approach to mobility.

5

EVALUATION AND RECOMMENDATIONS



5. EVALUATION AND RECOMMENDATIONS

Informed by an understanding of industry practice with next-generation mobility solutions, combined with detailed profiles of the ESGV service area, stakeholder and project management team input, this section presents an evaluation of mobility solutions for select communities in the unincorporated areas. This section presents opportunities for the County and its project partners to pilot alternative mobility schemes for transit service in select unincorporated areas. In addition, this section presents opportunities to plan for a more complete active transportation network and proposed 72 corridors for bicycle/pedestrian improvements. Concepts and assumptions used for this evaluation can be found in the Appendix.

5.1 Evaluation of Transit Services

The Decision Framework is intended to guide both internal discussions as well as conversations with key external stakeholders. The Decision Matrix is shown in Figure 5.1.

The Decision Framework may be used to guide discussion where there is expressed interest in advancing a mobility service. Decisions affecting service design characteristics, service mode, and a potential role for County/Foothill/Municipal Providers may be determined based on consideration of the needs of a particular community and the characteristics of the candidate service modes. While community engagement pursuits generate the initial interest in the project, there may be select communities and/or specific trip attractors or generators that are not interested in participating in initial mobility deployments. Strategies to mitigate this are two-fold: 1) Advancing deployment in alternate communities; and/or 2) Additional dialogue to explore under what conditions they might be interested in participating.

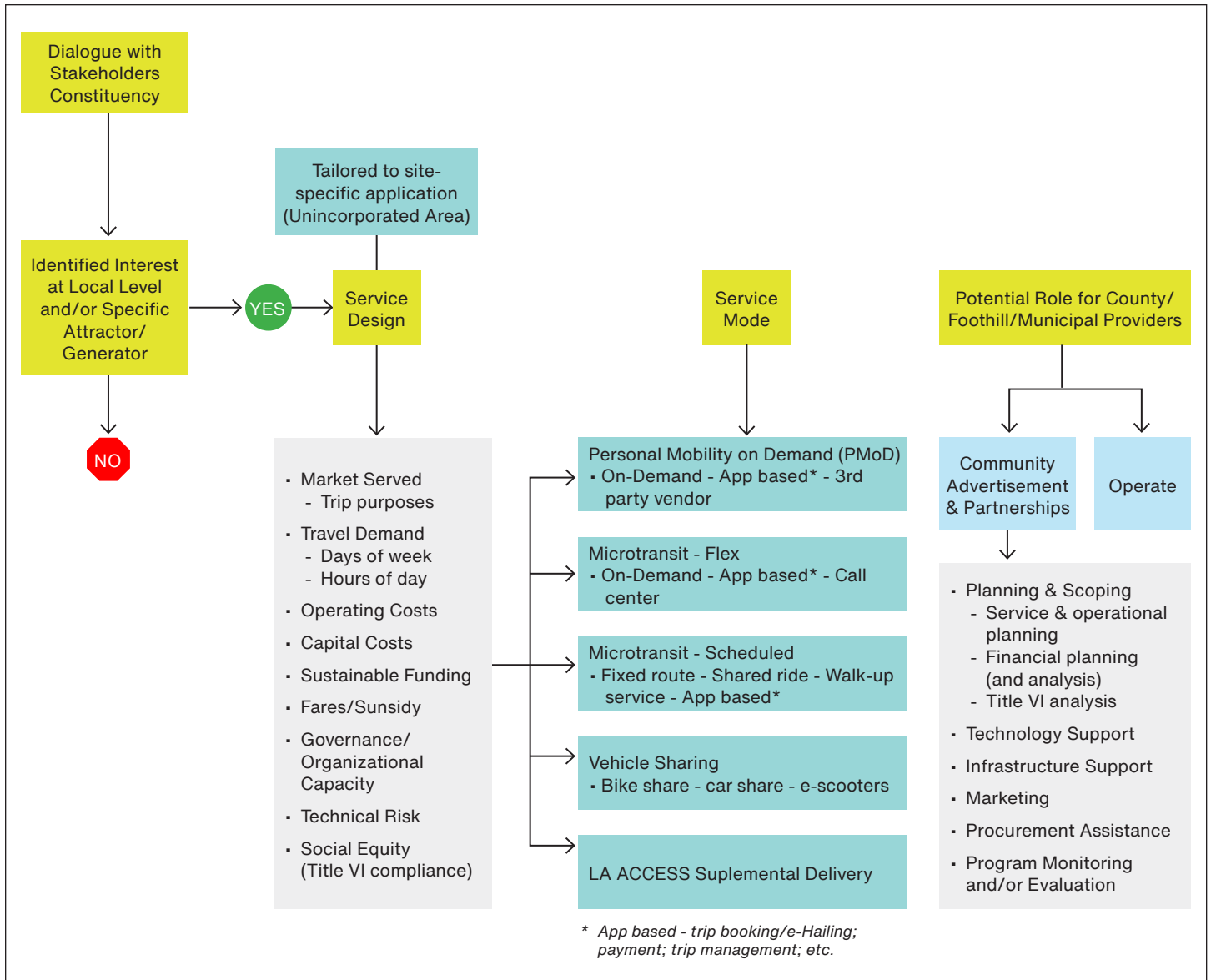


Figure 5.1 Transit Decision Matrix

5.1.1 Transit Service Mode Evaluation Framework

The Evaluation Criteria used is presented below in Figure 5.2.

Figure 5.2 Service Mode Evaluation Matrix

EVALUATION CRITERIA	SERVICE AREA - SERVICE MODE EVALUATION	BIKE/PED INFRASTRUCTURE EVALUATION
Effectiveness - population served & ridership potential	✓	
Effectiveness - propensity for bicyclists/ pedestrians		✓
Economy - total cost of service	✓	
Economy - total cost		✓
Efficiency - cost per trip, per vehicle hour	✓	
Efficiency		✓
Reduce Vehicle Miles Traveled (VMTs) Per Capita	✓	✓
Level of Service	✓	
Quality of Service	✓	
Socio-economic factors	✓	✓
Civil Rights Implications	✓	
Organizational - operational flexibility, control, accountability	✓	
Ease of Implementation	✓	✓
Technical Risk	✓	✓
Political Risk	✓	✓
Financial Risk	✓	✓
Addresses high density of bicyclist/ pedestrian collisions		✓
Closes a gap in infrastructure/service		✓
Improves bicycle or pedestrian facilities		✓
Connects to a community with limited vehicle availability		✓
Increases access to key destinations		✓

Figure 5.3 presents the Service Mode Evaluation Matrix reflecting the 'scoring' of select Evaluation Metrics that help measure the County's guiding principles, Implementation Considerations, and Criteria for each of the Service Alternatives and Mobility Technologies considered.

Figure 5.3 Service Mode Evaluation Matrix

ESGV-MAP - Strategies Evaluation Matrix																								
		Evaluation Metrics					Implementation Considerations			Evaluation Criteria												Overall Rating		
Weight (1-5)		Reduce GHG Emissions	Increase Transit Ridership/Expand Reach of Fixed-Route Network	Contribute to Regional Economic Development	Equitable Access	Actively engage in regional Smart Mobility Initiative	Diversity Service Offering	Synergy with Transit	Technologies - Enhance Customer Experience	Transition Marginal Fixed-Route (Foothill and/or municipal services) Segments to Flexible Services	Effectiveness - population served & ridership potential	Economy - total cost of service	Efficiency - cost per trip, per vehicle hour	Reduce Vehicle Miles Traveled (VMTs) Per Capita	Level of Service	Quality of Service	Socio-economic factors	Civil Rights Implications	Organizational - operational flexibility, control, accountability	Ease of Implementation	Technical Risk		Political Risk	Financial Risk
MoD Strategies																								
SERVICE ALTERNATIVES																								
PMoD / RideShare		1	2	2	1	2	2	2	2	2	2	2	2	0	1	2	1	1	1	1	2	0	1	32
On-Demand Micro-Mobility (flexible)		1	2	2	1	2	2	2	2	2	2	2	2	1	2	2	2	2	2	2	-1	-1	1	34
Scheduled Micro-Mobility		1	2	2	1	2	2	2	2	2	1	2	2	1	2	2	2	2	2	2	-1	-1	1	28
Active Transportation - Vehicle Sharing (bicycle, e-scooters)		2	2	1	-1	2	2	2	0	2	1	2	2	2	2	2	2	0	2	1	2	2	2	34
MOBILITY TECHNOLOGIES																								
Trip Discovery (trip planning)		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	1	-1	-1	-1	34
Trip Booking (e-Hailing)		2	2	2	1	2	2	2	2	2	1	2	2	0	2	2	2	2	2	1	-1	-1	-1	30
Cashless (mobile) Payments		0	1	1	2	2	0	2	2	0	1	1	1	0	1	2	0	2	2	1	-1	-1	-1	18

LEGEND

2	Positive
1	Somewhat positive
0	Neutral / no significant change
-1	Somewhat negative
-2	Negative

5.1.2 Potential Pilot Projects

Informed by the Existing Conditions Analysis and Policy/Literature Review and Mobility Gaps, technical memoranda including consideration of community demographic and socio-economic characteristics, transit equity and propensity scores, proximity to current transit services, etc. two prospective service areas were identified for potential pilot programs to deploy alternate mobility services. These pilot projects are designed to test the concept of operations, including performance monitoring, for the potential application of these alternate mobility types in other unincorporated areas in the ESGV study area.

Two potential pilot service areas are:

1. Northeast La Verne & San Dimas; West & North Claremont; and
2. West San Dimas; Walnut Islands.

While both areas would serve locations with identifiable gaps in transit service, the first pilot service area also aligns with higher densities of the senior population and would provide more options for seniors living in those areas to travel using transit. The second service area aligns with some of the higher concentrations of youth residents as well as households without access to a vehicle.

Recognizing that desired trip patterns include destinations outside of each of the above identified service areas including connectivity to higher-order transit (i.e., Foothill Transit), specific service area design should be inclusive of places where people already want to go. Further, these services will likely require cross-jurisdictional partnerships to achieve improved community-specific circulation.

In advancing potential pilot projects, specifics to service area design, operating/performance characteristics, etc. may incorporate such considerations as using fare policy to influence travel behavior. For example, one (lower) fare for trips providing connectivity to higher order transit (i.e., Foothill routes), and a 'premium' fare for direct travel intra and inter-community travel.

Factors to consider in replicability, based on pilot outcomes, include trip densities; travel patterns (trip origin/destination data); community socio-economic characteristics; opportunities to complement existing mobility services including higher-order transit, to address safe streets infrastructure, complement active transportation initiatives; etc. Future consideration of microtransit deployments may include other high-need communities including West Puente Valley, Valinda (enhancements to PW's current East Valinda Shuttle operations), South San Jose Hills, etc.

5.1.3 Pilot Project Analysis Summary

This section provides an overview of the costs and ridership estimates for each of the two service area candidates for possible pilot deployments. For each area, the following tables present:

- Service Characteristics – level of service³
- Coverage and Ridership Estimate⁴
- Costs and Subsidies⁵

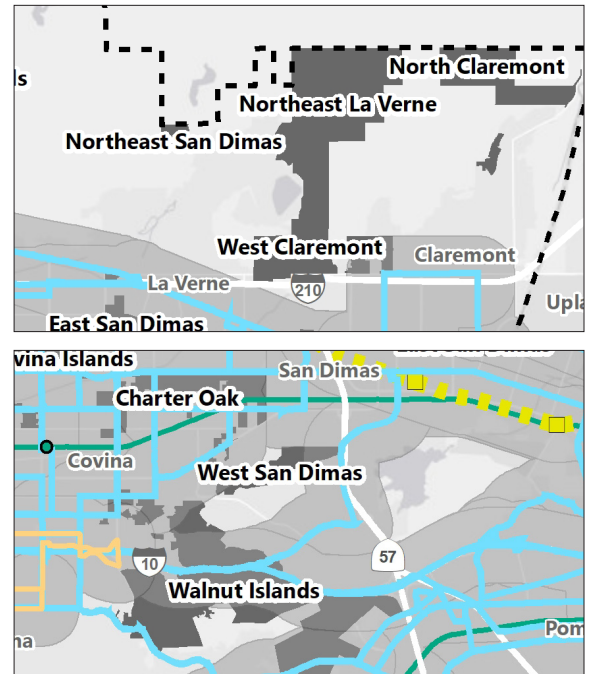


Table 5.1 Service Characteristics – Level of Service

SERVICE AREA	RECOMMENDED LEVEL OF SERVICE - MON. - FRI.	SERVICE MODE(S)	OPERATING SPAN WEEKDAY (HOURS)	OPERATING SPAN SATURDAY (HOURS)	OPERATING SPAN SUN/HOL (HOURS)	WEEKDAY AVERAGE VEHICLES IN SERVICE	SATURDAY AVERAGE VEHICLES IN SERVICE	SUN/HOL AVERAGE VEHICLES IN SERVICE
Northeast La Verne & San Dimas; West & North Claremont	5AM - 6AM, 8:30AM - 1PM, 9PM - 12AM	Personal Mobility on Demand	8.5	19	18	3	2	2
	6AM - 8:30AM & 1PM - 9PM	On-Demand/ Flexible - Microtransit	10.5	0	0	1	0	0
West San Dimas; Walnut Islands	5AM - 6AM, 10AM - 3PM, 7PM - 12AM	Personal Mobility on Demand	11	19	18	3	2	2
	6AM - 10AM & 3PM - 7PM	On-Demand/ Flexible - Microtransit	8	0	0	1	0	0

Table 5.2 Coverage and Ridership Estimates

SERVICE AREA	SERVICE MODE(S)	ANNUAL COVERAGE HOURS	CAPACITY PER COVERAGE HOUR	MAXIMUM ANNUAL SERVICE CAPACITY	LOW DEMAND	HIGH DEMAND	LOW ANNUAL RIDERSHIP ESTIMATE	HIGH ANNUAL RIDERSHIP ESTIMATE
Northeast La Verne & San Dimas; West & North Claremont	Personal Mobility on Demand	9,917	3	29,750	0.33	0.50	9,817	14,875
	On-Demand/ Flexible - Microtransit	2,678	8	21,420	0.50	0.67	10,710	14,351
Total							20,527	29,226
West San Dimas; Walnut Islands	Personal Mobility on Demand	12,219	3	36,657	0.33	0.50	12,097	18,329
	On-Demand/ Flexible - Microtransit	2,040	8	16,320	0.50	0.67	8,160	10,934
Total							20,257	29,263

³ Level of service assumes: (a) PMoD operating early morning, late night, and some mid-day service, with up to three vehicles available for the span of service as indicated; and (b) Microtransit assumes one vehicle for span of service as indicated.

⁴ Low and high demand ridership estimates are based on an assumed utilization ranging from 0.33 to 0.50 to 0.67 for microtransit, of available capacity for each span of service hour. Coverage hours refer to the maximum number of potential revenue service hours that could be deployed if necessary, to meet demand.

⁵ PMoD costs: The net cost of service is calculated on an assumed maximum \$5.00 per trip flat subsidy. Assumes that the customer pays an initial fare equivalent to a regular transit fare; followed by the subsidy; after which the customer is responsible for the cost of longer trips. Flexible microtransit costs: Assumes \$1.00 to transit stop, \$3.00 to any location within the pilot service area.

Table 5.3 Costs and Subsidy

SERVICE AREA	RECOMMENDED LEVEL OF SERVICE - MON. - FRI.	SERVICE MODE(S)	COST PER HOUR	ANNUAL COST	FARE REVENUE LOW DEMAND	FARE REVENUE HIGH DEMAND	NET COST OF SERVICE - LOW DEMAND	NET COST OF SERVICE - HIGH DEMAND	SUBSIDY PER TRIP LOW DEMAND	SUBSIDY PER TRIP HIGH DEMAND
Northeast La Verne & San Dimas; West & North Claremont	5AM - 6AM, 8:30AM - 1PM, 9PM - 12AM	Personal Mobility on Demand	NA	NA	NA	NA	\$49,087	\$74,374	\$5.00	\$5.00
	6AM - 8:30AM & 1PM - 9PM	On-Demand/Flexible - Microtransit	\$84.68	\$226,731	\$10,710	\$14,351	\$216,021	\$212,379	\$20.17	\$14.80
Total							\$265,107	\$286,753	\$12.91	\$9.81
West San Dimas; Walnut Islands	5AM - 6AM, 10AM - 3PM, 7PM - 12AM	Personal Mobility on Demand	NA	NA	NA	NA	\$60,484	\$91,643	\$5.00	\$5.00
	6AM - 10AM & 3PM - 7PM	On-Demand/Flexible - Microtransit	\$84.68	\$172,747	\$8,160	\$10,934	\$164,587	\$161,813	\$20.17	\$14.80
Total							\$225,071	\$253,455	\$11.11	\$8.66

5.1.4 Recommended Mode Alternatives

This section provides a summary of the two mobility mode alternatives that are recommended for pilot projects. The two recommended services are described in Table 5.4.

Table 5.4 Recommended Services

SERVICE	DESCRIPTION
On-Demand/Flexible Microtransit	<ul style="list-style-type: none"> Route is based entirely on customer demand Customer pickups are based on customer requests through an online/mobile app or a customer call center Suited to service areas that lack a strong linear transit corridor and that have dispersed trip origins and destinations
Personal Mobility on Demand (PMoD)	<ul style="list-style-type: none"> Is a low-capacity service designed for individuals and small groups (up to five persons) traveling between various origins and destinations. Is located along a dynamic itinerary formed in response to customer reservations. Like microtransit, reservations are made through an online/mobile application or a call center. The key advantage of PMoD is the cost structure based on service consumed (i.e., fixed subsidy per ride) versus cost based on hours of service provided (i.e., cost per revenue hour). This means that service coverage can be provide at off-peak periods, such as early mornings and evenings, at a far lower cost that other modes including fixed-route and paratransit service. Highly convenient and responsive to customer needs because PMoD is customer demand driven.

5.2 Evaluation of Active Transportation Improvements

While there are a number of new bikeways planned with the East San Gabriel Valley, an assessment of existing conditions in the area found that the current network is fragmented. There are opportunities to close the gaps within the existing and planned network and provide a more continuous network for both bicyclists and pedestrians by including improvements for all non-vehicular users.

As noted in the previous section evaluating transit service alternatives, evaluation of potential corridors for active transportation improvements was conducted using the same evaluation metrics, implementation considerations, and evaluation criteria.

The project team also considered any planned infrastructure according to the Los Angeles County Bicycle Master Plan (2012), East San Gabriel Valley Active Transportation Plan (2019), and the San Gabriel Valley Greenway Network initiative.

Additionally, the team reviewed considerations such as areas with a high number of bicycle or pedestrian collisions, areas with disadvantaged community status, high densities of population/employment/seniors/youth/households without access to a car, areas nearby transit/high quality transit areas or key destinations/community nodes, and nearby planned land use changes and proposed growth areas identified as part of the East San Gabriel Valley Area Plan.

5.2.1 Summary of Proposed Corridors for Improvement

The project team identified a total of 72 corridors for active transportation infrastructure improvement within the unincorporated ESGV. Of these, 46 corridors (highlighted in green in the table below) are either new recommendations or recommendations to upgrade the infrastructure currently proposed by the County. The other 25 corridors were recommendations carried over from the ESGV Active Transportation Plan, completed by Public Works in 2019.

As described in the California Department of Transportation (Caltrans) Highway Design Manual (HDM), bikeways are categorized into four classes. The table below describes each of the four facility types as well as conditions and locations where they are most appropriate. These bikeway types were applied in the list of proposed bikeways displayed in Figure 6.4 and described in Table 5.5.

Table 5.5 Bikeway Classes

CLASS	DESCRIPTION	SITING
Class I (Bike Path or Shared-Use Path)	An off-street bikeway that provides a completely separate right of way for the exclusive use of bicycle and pedestrians with minimal cross-flow.	These are commonly installed along riverbeds, along shorelines, utility or railroad rights-of-way, within school campuses or parks. They often support recreational and commute travel. The state design standard recommends a minimum 8-foot-wide paved path plus a 2 foot wide shoulder.
Class II (Bike Lane or Buffered Bike Lane)	An on-street bikeway that provides a striped lane for one-way bike travel on a street or highway. A buffered bikeway provides greater separation from an adjacent traffic lane on streets with higher speeds by using chevron or diagonal markings.	These are installed alongside vehicle traffic lanes to designate bike travel. The HDM Mandatory Standard requires a minimum width of 4 feet, 5 feet when adjacent on-street parking, and 6 feet when posted speeds are greater than 40 miles per hour.

CLASS	DESCRIPTION	SITING
Class III (Bike Route or Greenway)	A signed, shared roadway that provides for shared use with pedestrians or motor vehicle traffic. A bike route has signs posted identifying it as a bike route and may have shared lane markings (sharrows). Greenways are shared roadways that prioritize bicycle travel for people of all ages and abilities.	Bike routes are appropriate for roadways with lower traffic speeds and volumes. Greenways are best sited on streets without large truck or transit vehicles, and where low traffic volumes and speeds can be further reduced through traffic calming measures.
Class IV (Separated Bikeway or Cycle Track)	An on-street bikeway for the exclusive use of bicycles, requiring a separation via a vertical feature between the bikeway and the through vehicular traffic.	These are appropriate along roadways where features such as on-street parking can provide physical separation or other vertical features such as grade separation, flexible posts, or inflexible physical barriers can be installed.

The map below presents the locations of all 72 corridors. The locations of these corridors help to address gaps in the current network, and also align generally with areas with high concentrations of youth, disadvantaged communities, and households without access to a car. These populations are most likely to travel by active transportation and would benefit from improvements to bicycle and pedestrian infrastructure. To show the corridors' potential connectivity to transit, the map also displays both a half-mile and a three-mile radius around the high-quality transit stops and corridors in the study area, as defined by SCAG⁶. The half-mile radius represents the typical maximum walking distance for people to access a transit stop, while the three-mile radius represents the corresponding maximum radius for bicycle travel to a transit stop.

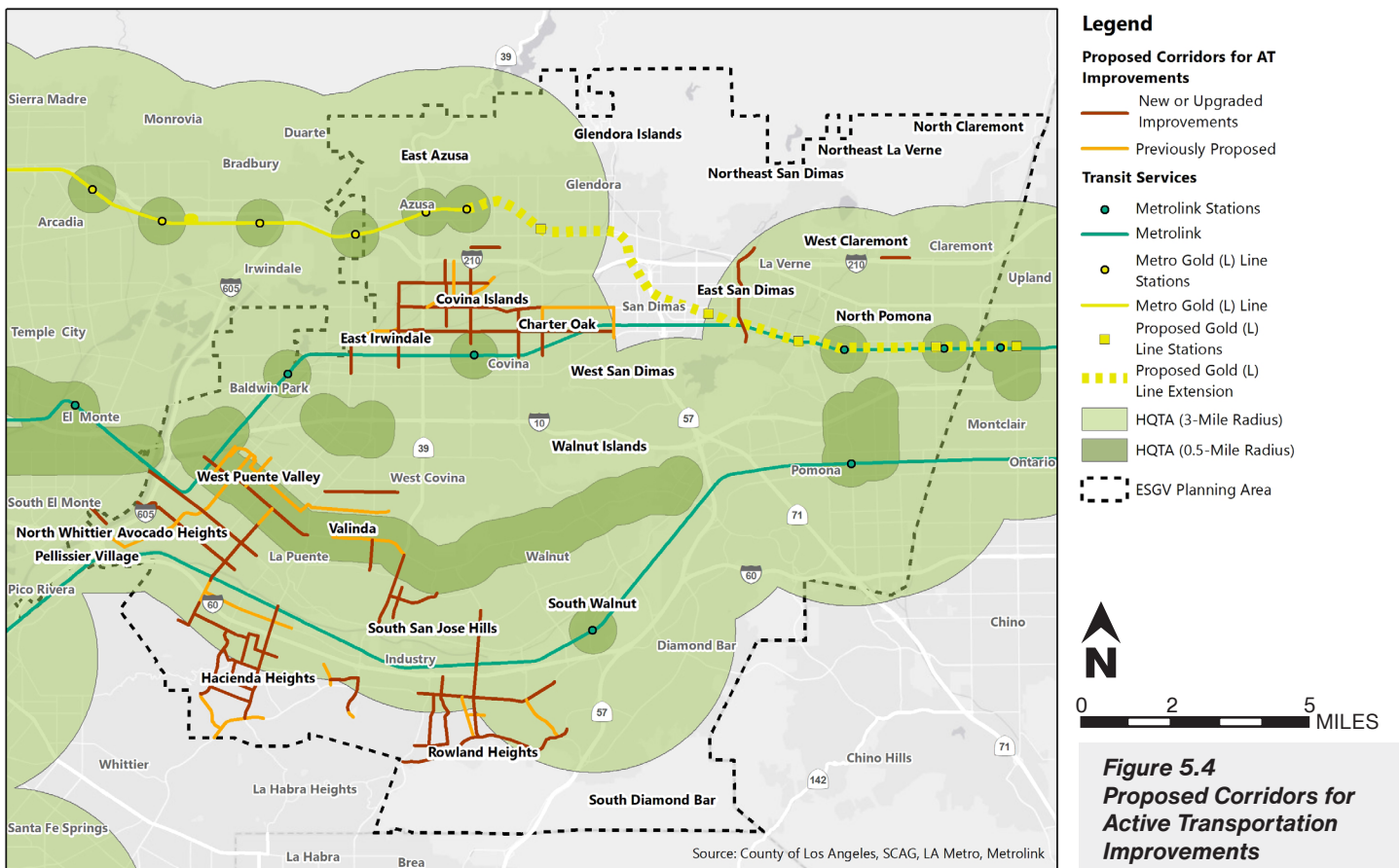


Figure 5.4
Proposed Corridors for Active Transportation Improvements

Table 5.6 presents a detailed list of each of the corridor segments, along with a description of the recommended bicycle and/or pedestrian improvements.

Table 5 Proposed Active Transportation Improvements

ID	CORRIDOR	FROM	TO	UNINCORPORATED AREA	PREVIOUSLY PROPOSED		NEW PROPOSED IMPROVEMENT
					TYPE	SOURCE	
1	7th Ave	Clark Ave	Palm Ave	Hacienda Heights	Class IV	East San Gabriel Valley ATP (2019)	Class IV
2	7th Ave	Palm Ave	Orange Grove Ave	Hacienda Heights	Class III	East San Gabriel Valley ATP (2019)	Greenway
3	7th Ave/ Sunset Ave	Temple Ave	Clark Ave	Avocado Heights			Class II or IV (through industrial areas)
4	Aguiro St	Fullerton Rd	Los Padres Dr	Rowland Heights	Class III	East San Gabriel Valley ATP (2019)	Greenway
5	Amar Rd	Baldwin Park Blvd	Hacienda Blvd	West Puente Valley	Class II between Baldwin Park Blvd and Unruh Ave	LA County Public Works	Class II & ped improvements
6	Amar Rd	Alieron Ave	Azusa Ave	Valinda	Class II & ped improvements	East San Gabriel Valley ATP (2019)	Class II & ped improvements
7	Angelcrest Dr	Newton Ave	La Subida Dr	Hacienda Heights	Class III	LA County Bicycle Master Plan (2012)	Greenway
8	Arrow Hwy	Glendora Ave	Valley Center Ave	Charter Oak	Class IV & ped improvements	East San Gabriel Valley ATP (2019)	Class IV & ped improvements
9	Arrow Hwy	Azusa Ave	Glendora Ave	Covina Islands and Charter Oak			Class II buffered bike lane or Class IV & ped improvements
10	Arrow Hwy	Lark Ellen Ave	Azusa Ave	East Irwindale			Class II
11	Azusa Ave	Amar Rd	San Jose Creek Proposed Bicycle Path	South San Jose Hills			Class IV protected bikeway & ped improvements
12	Azusa Ave	Pepperbrook Way	Glenfold Dr	Hacienda Heights	Class IV between Colima and Glenfold Dr	East San Gabriel Valley ATP (2019)	Class IV & ped improvements
13	Azusa Ave	Glenfold Dr	Tomich Rd	Hacienda Heights	Class III	East San Gabriel Valley ATP (2019)	Class III

⁶ High quality transit areas (HQTAs) are areas within one-half mile from major transit stops and high quality transit corridors and developed based on the language in SB375. A major transit stop is a site containing an existing rail transit station, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods (CA Public Resource Code Section 21064.3). High-Quality Transit Corridor (HQTC) have a fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.

ID	CORRIDOR	FROM	TO	UNINCORPORATED AREA	PREVIOUSLY PROPOSED		NEW PROPOSED IMPROVEMENT
					TYPE	SOURCE	
14	Base Line Rd	Webb Canyon Rd	Mountain Ave	West Claremont			Class IV & ped improvements
15	Batson Ave	Colima Rd	Aguiro St	Rowland Heights	Class III	East San Gabriel Valley ATP (2019)	Greenway
16	Big Dalton Wash	Barranca Ave	Arrow Hwy	Covina Islands	Class I	East San Gabriel Valley ATP (2019)	Class I
17	Big Dalton Wash	Irwindale Ave	Lark Ellen Dr	East Irwindale	Class I	East San Gabriel Valley ATP (2019)	Class I
18	Brea Canyon Cut Off Rd	Balan Rd	Pathfinder Rd	Rowland Heights	Class III & ped improvements	East San Gabriel Valley ATP (2019)	Class III & ped improvements
19	Camino del Sur	Vallecito Dr	Colima Rd	Hacienda Heights	Class IV	East San Gabriel Valley ATP (2019)	Class IV
20	Citrus Ave	I-210	Cypress St	Covina Islands			Class IV & ped improvements
21	Colima Rd	Larkvane Rd	Tierra Luna	Rowland Heights	Class II buffered bike lane	East San Gabriel Valley ATP (2019)	Class IV & ped improvements
22	Colima Rd	Hacienda Blvd	Allenton Ave	Hacienda Heights	Class IV & ped improvements	East San Gabriel Valley ATP (2019)	Class IV & ped improvements
23	Colima Rd	Arroyo San Miguel Open Space Preserve	Hacienda Blvd	Hacienda Heights	Class IV & ped improvements	East San Gabriel Valley ATP (2019)	Class IV & ped improvements
24	Countrywood Ave	Wedgeworth Dr	Colima Rd	Hacienda Heights	Class II	East San Gabriel Valley ATP (2019)	Class II
25	Covina Blvd	Citrus Ave	Valley Center Ave	Charter Oak			Ped improvements
26	Covina Blvd	Big Dalton Wash	Citrus Ave	Covina Islands			Class IV & ped improvements
27	Don Julian Rd	San Gabriel River Trail	Puente Creek Proposed Bicycle Path	Avocado Heights			Greenway
28	Fairway Dr/ Brea Canyon Cut Off Rd	Colima Rd	Balan Rd	Rowland Heights	Class II & ped improvements	East San Gabriel Valley ATP (2019)	Class II & ped improvements
29	Farmstead Ave	Three Palms St	Lujon St	Hacienda Heights	Class III	LA County Bicycle Master Plan (2012)	Greenway
30	Francisquito Ave	Hacienda Blvd	Lark Ellen Ave	Valinda			Greenway
31	Gale Ave	7th Ave	Stimson Ave	Hacienda Heights	Class II & ped improvements	East San Gabriel Valley ATP (2019)	Class II & ped improvements

ID	CORRIDOR	FROM	TO	UNINCORPORATED AREA	PREVIOUSLY PROPOSED		NEW PROPOSED IMPROVEMENT
					TYPE	SOURCE	
32	Gemini St	Azusa Ave	Shadow Oak Dr	South San Jose Hills			Greenway
33	Gladstone St	Vernon Ave	Big Dalton Wash	Covina Islands			Class IV & ped improvements
34	Glendora Ave	Cienega Ave	Wingate St	Charter Oak			Class II & ped improvements
35	Glendora Ave	Arrow Hwy	Cienega Ave	Charter Oak	Class II & ped improvements	East San Gabriel Valley ATP (2019)	Class II & ped improvements
36	Grand Ave	Arrow Hwy	Wingate St	Charter Oak			Class II or IV & ped improvements
37	Hacienda Blvd	San Jose Creek	Colima Rd	Hacienda Heights	Class II	LA County Bicycle Master Plan (2012)	Class II buffered bike lane or Class IV & ped improvements
38	Hollenbeck Ave/Cerritos Ave	I-210	San Dimas Wash	Covina Islands			Class II & ped improvements
39	Irwindale Ave	Big Dalton Wash	Badillo St	East Irwindale	Class III & ped improvements	East San Gabriel Valley ATP (2019)	Class II & ped improvements
40	Jellick Dr/Los Padres Dr	Greenbay Dr	Aguiro St	Rowland Heights	Class III & ped improvements	East San Gabriel Valley ATP (2019)	Class III & ped improvements
41	Killian Ave/Honore St	Paso Real Ave	Otterbien Ave	Rowland Heights	Class III & ped improvements	East San Gabriel Valley ATP (2019)	Class III & ped improvements
42	Kwis Ave	Three Palms Ave	Newton St	Hacienda Heights	Class III	LA County Bicycle Master Plan (2012)	Class II
43	La Subida Dr	Vallecito Dr	Hacienda Blvd	Hacienda Heights	Class III	LA County Bicycle Master Plan (2012)	Class II
44	Lark Ellen Ave	San Bernardino Rd	Gladstone St	East Irwindale	Class III (between Arrow Hwy and Big Dalton Wash)	East San Gabriel Valley ATP (2019)	Class II or IV & ped improvements
45	Las Lomas Dr/Newton St	Vallecito Dr	Hacienda Blvd	Hacienda Heights	Class III	LA County Bicycle Master Plan (2012)	Class II
46	Los Altos Dr	Vallecito Dr	Hacienda Blvd	Hacienda Heights	Class III	LA County Bicycle Master Plan (2012)	Class II
47	Los Padres Dr/Jellick Ave	Aguiro St	Greenbay Dr	Rowland Heights			Greenway
48	Los Robles Ave	7th Ave	Kwis Ave	Hacienda Heights	Class III	LA County Bicycle Master Plan (2012)	Class II

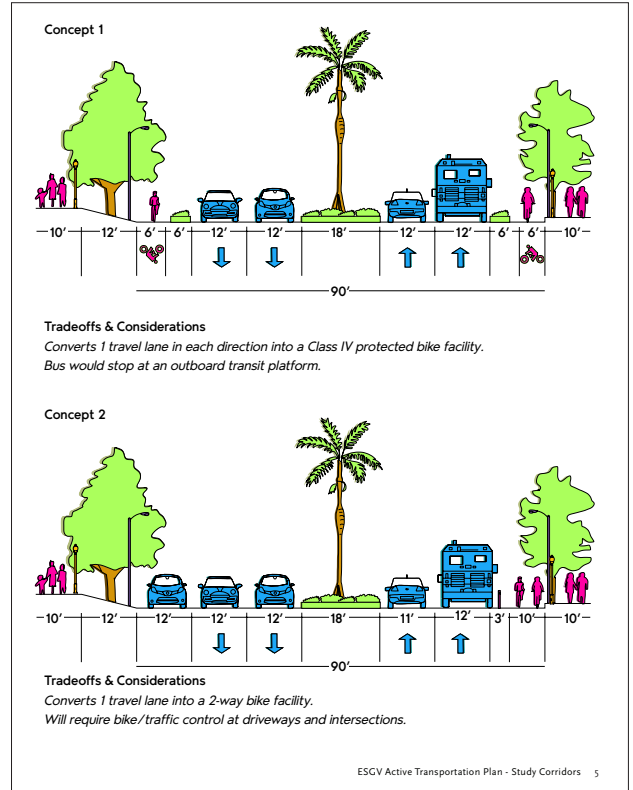
ID	CORRIDOR	FROM	TO	UNINCORPORATED AREA	PREVIOUSLY PROPOSED		NEW PROPOSED IMPROVEMENT
					TYPE	SOURCE	
49	Lujon St	Farmstead Ave	Stimson Ave	Hacienda Heights	Class III	LA County Bicycle Master Plan (2012)	Class II
50	Mauna Loa Ave	Citrus Ave	La Serena Dr	Covina Islands	Class III	East San Gabriel Valley ATP (2019)	Greenway
51	Nogales St	Arenth Ave/ San Jose Creek	Pathfinder Rd	Rowland Heights			Class IV & ped improvements
52	Nogales St	Amanda St	Arenth Ave/ San Jose Creek	South San Jose Hills			Class IV & ped improvements
53	Orange Grove Ave	7th Ave	Beech Hill Ave	Hacienda Heights	Class III	East San Gabriel Valley ATP (2019)	Greenway
54	Paso Real Ave	Colima Rd	Pathfinder Rd	Rowland Heights	Class III	East San Gabriel Valley ATP (2019)	Class III
55	Pathfinder Rd	Fullerton Rd	Canyon Ridge Rd	Rowland Heights	Class II	LA County Bicycle Master Plan (2012)	Class IV
56	Pepper Brook Way	Countrywood Ave	Azusa Ave	Hacienda Heights			Greenway
57	Puente Ave	Barrydale St	Valley Blvd	West Puente Valley	Class II	East San Gabriel Valley ATP (2019)	Class II
58	Puente Ave/ Workman Mill Rd	Valley Blvd	San Jose Creek Proposed Bicycle Path	West Puente Valley	Class IV	East San Gabriel Valley ATP (2019)	Class IV
59	Rath Ave/ Stichman Ave/ Barrydale Ave/ Fairgrove Ave/ Maplegrove Dr	Vineland Ave	Lark Ellen Ave	West Puente Valley	Class III & ped improvements	East San Gabriel Valley ATP (2019)	Class III & ped improvements
60	Riverbed between San Dimas Canyon & Ramona	Los Encinos Park	Puddingstone Dr	East San Dimas			Class I
61	Rockvale Ave	I-210	Woodcroft St	Covina Islands	Class III	East San Gabriel Valley ATP (2019)	Class III
62	Rush St	Durfee Ave	San Gabriel River Trail	South El Monte Island			Class II
63	San Jose Creek	San Gabriel River Trail	Workman Mill Rd	Unincorporated North Whittier/Pellisier Village	Class I	East San Gabriel Valley ATP (2019)	Class I
64	Sandalwood Ave	Winton Ave	Salais St	South San Jose Hills			Greenway

ID	CORRIDOR	FROM	TO	UNINCORPORATED AREA	PREVIOUSLY PROPOSED		NEW PROPOSED IMPROVEMENT
					TYPE	SOURCE	
65	Sunset Ave	Amar Rd	Temple Ave	West Puente Valley	Class II	East San Gabriel Valley ATP (2019)	Class II
66	Three Palms St	Kwis Avenue	Farmstead Ave	Hacienda Heights	Class III	LA County Bicycle Master Plan (2012)	Greenway
67	Valinda Ave	Amar Rd	Temple Ave	Valinda			Class II & ped improvements
68	Vallecito Dr	Los Robles Ave	Camino del Sur	Hacienda Heights	Class III	LA County Bicycle Master Plan (2012)	Class II
69	Valley Blvd	San Gabriel River Trail	Puente Creek Proposed Bicycle Path	Avocado Heights			
70	Valley Center Ave	Arrow Hwy	Badillo St	Charter Oak	Class II	East San Gabriel Valley ATP (2019)	Class II
71	Vineland Ave	Walnut Creek	Temple Ave	West Puente Valley	Class III	East San Gabriel Valley ATP (2019)	Class III
72	Willow Ave	Francisquito Ave	Amar Rd	West Puente Valley	Class III & ped improvements	East San Gabriel Valley ATP (2019)	Class III & ped improvements

5.3 Complete Streets and Green Streets

The concept of a Complete Street is a street that is safe and accessible for all users: pedestrians, bicyclists, transit users, and motor vehicle drivers. Complete Streets accommodate people of all ages and abilities. To take this concept further, Green Streets, specifically, prioritize active transportation users. Through a variety of design and operational treatments, a Green Street is a street that gives priority to bicycle and pedestrian circulation and open space over other transportation uses. This may include sidewalk widening, clearly-marked bikeways, landscaping, traffic calming, and other pedestrian-oriented features.

Out of the 46 corridors proposed for new or upgraded active transportation improvements, 12 were selected for further study, based on whether the corridors were suited for more extensive overhauls using complete street and green street design. The intent is to provide visual representations of recommended improvements to visualize what the proposed corridors could look like once recommendations are implemented. The methodology for selecting these corridors included the following:



1. Select the corridors with both bicycle and pedestrian recommendations proposed.
2. From that list, select the corridors proposed as either a Class I shared-use path, Class III greenway, or Class IV separated bikeway.
3. Select 12 of those corridors based on the following qualitative criteria:
 - General opportunities for Complete Street improvements (width, bus interface, commercial corridor, modes, etc.)
 - Opportunity for greening (area for bioswales, bulb-outs, trees, permeable paving, etc.)
 - Nearby destinations (if the corridor is notable or important due to destinations around it)
 - Nearby transit stops (if the corridor serves transit)
 - Regional connector (if the corridor provides connections regionally)
 - Geographic coverage (to ensure the corridors represent various parts of the county)
 - Project Type Diversity (to ensure the corridor drawings represent various types of improvements)
 - Equity Considerations (to ensure the corridors selected include representation of neighborhoods that need improvements the most)

Based on the above methodology, the following 12 corridors were selected:

CORRIDOR	FROM	TO	COMMUNITY
Azusa Ave	Amar Rd.	San Jose Creek Proposed Bicycle Path	South San Jose Hills
Colima Rd.	Larkvane Rd.	Tierra Luna	Rowland Heights
Hacienda Blvd/ Colima Rd	San Jose Creek	Arroyo San Miguel Trail Head	Hacienda Heights

CORRIDOR	FROM	TO	COMMUNITY
Arrow Hwy	Azusa Ave.	Glendora Ave.	Covina Islands/ Charter Oak
Citrus Ave	I-210	Cypress St.	Covina Islands
Don Julian Rd	San Gabriel River Trail	Puente Creek Proposed Bicycle Path	Avocado Heights
Grand Ave	Arrow Hwy	Wingate St	Charter Oak
Covina Blvd	Big Dalton Wash	Citrus Ave.	Covina Islands
Batson Ave.	Colima Rd.	Aguiro St.	Rowland Heights
Nogales St.	Amanda St.	Arenth Ave/San Jose Creek	South San Jose Hills
Lark Ellen Ave.	San Bernardino Rd.	Gladstone St.	East Irwindale
Gemini St.	Azusa Ave.	Shadow Oak Dr	South San Jose Hills

The goal of this analysis was to select corridors for study that offered regional connectivity to commercial areas and nearby destinations and/or transit, corridors that traveled through neighborhoods with lower Disadvantaged Communities or CalEnviroScreen scores, and corridors that showed promise from a street improvement perspective because they were missing many of the elements that would make them green, pleasant, and multi-modal.

5.4 Vignettes and Renderings

This section presents recommended streetscape enhancements along the 12 corridors selected above. While not prescriptive in nature, these illustrations show how these corridors (and others like them) can be better designed to accommodate all roadway users, including people walking, biking, and rolling. The goal is to make a full network of streets available to active transportation users, by ensuring that streets that are safe, more pleasant to be on, and easier to navigate. On streets with high vehicular volumes, this could mean reallocating roadway space to protected and buffered bicycle facilities. On neighborhoods streets, this could mean adding “Greenway” enhancements, like small traffic circles or slow speed signage and infrastructure that benefits people walking and rolling along the street.

Recommendations are not exhaustive and are conceptual in nature, without survey or utility analysis. For each study corridor, a set of possible improvements is outlined. Actual design and layout may vary from block to block and will need to be designed. Dimensions shown are approximate. The goal of the document is to showcase a set of improvement types that can be used throughout the ESGV to improve connectivity and access for active transportation users.

Improving Wide Arterials

Example Streets:*

Azusa Hwy, Colima Rd, Hacienda Rd, Arrow Hwy, Citrus Ave, Covina Blvd, and Nogales St.

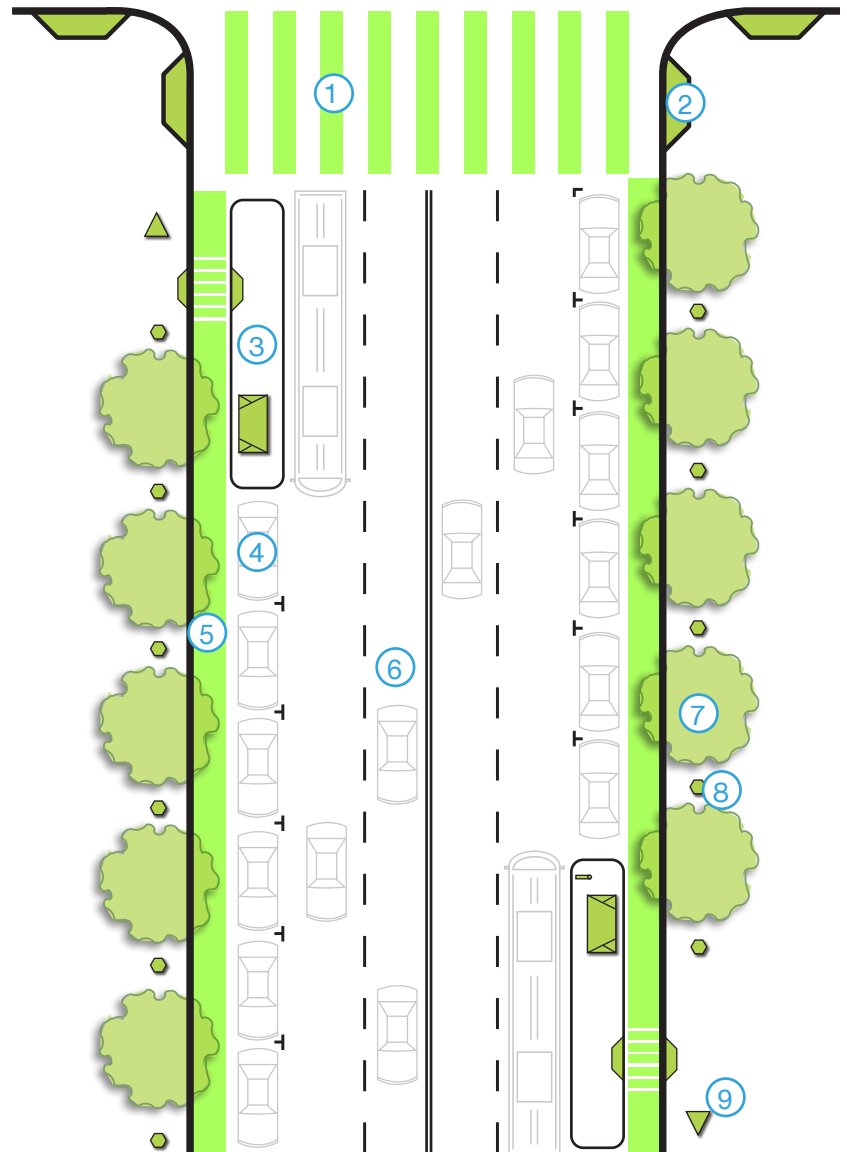
Typical Conditions (Before):

Existing arterials are often busy and feel unsafe for people walking and biking due to their wide right-of-way, swiftly moving vehicles, limited sidewalk space, infrequent pedestrian amenities (like trees and sidewalk lighting), and long blocks.

Improvements Recommended:

Protected bicycle facilities can be added, including bicycle lanes that are protected behind vertical bollards or tucked in between the parking lane and the curb. For streets with buses, bus stops can be placed outboard of the bicycle lane, on platforms with bus shelters, real-time signage, and seating (see diagram, right). In addition, sidewalks are enhanced with trees and landscaping, pedestrian lighting, and wayfinding signage that is oriented to people walking and biking. Sidewalks can be widened where possible. The number of travel lanes may be reduced and/or narrowed to accommodate these improvements.

* Each street may not accommodate all of the proposed enhancements. Detailed design work would need to be completed to evaluate the most appropriate treatments for each street. The ideas included here showcase a range of possible improvements.



- ① High visibility crosswalk
- ② Dual curb ramps
- ③ Outboard bus platform
- ④ Outboard parking
- ⑤ Bike lane color
- ⑥ Reduced lane/lane width
- ⑦ Trees and planting
- ⑧ Pedestrian lights
- ⑨ Wayfinding signage



Typical Conditions (Before)



Improvements Recommended

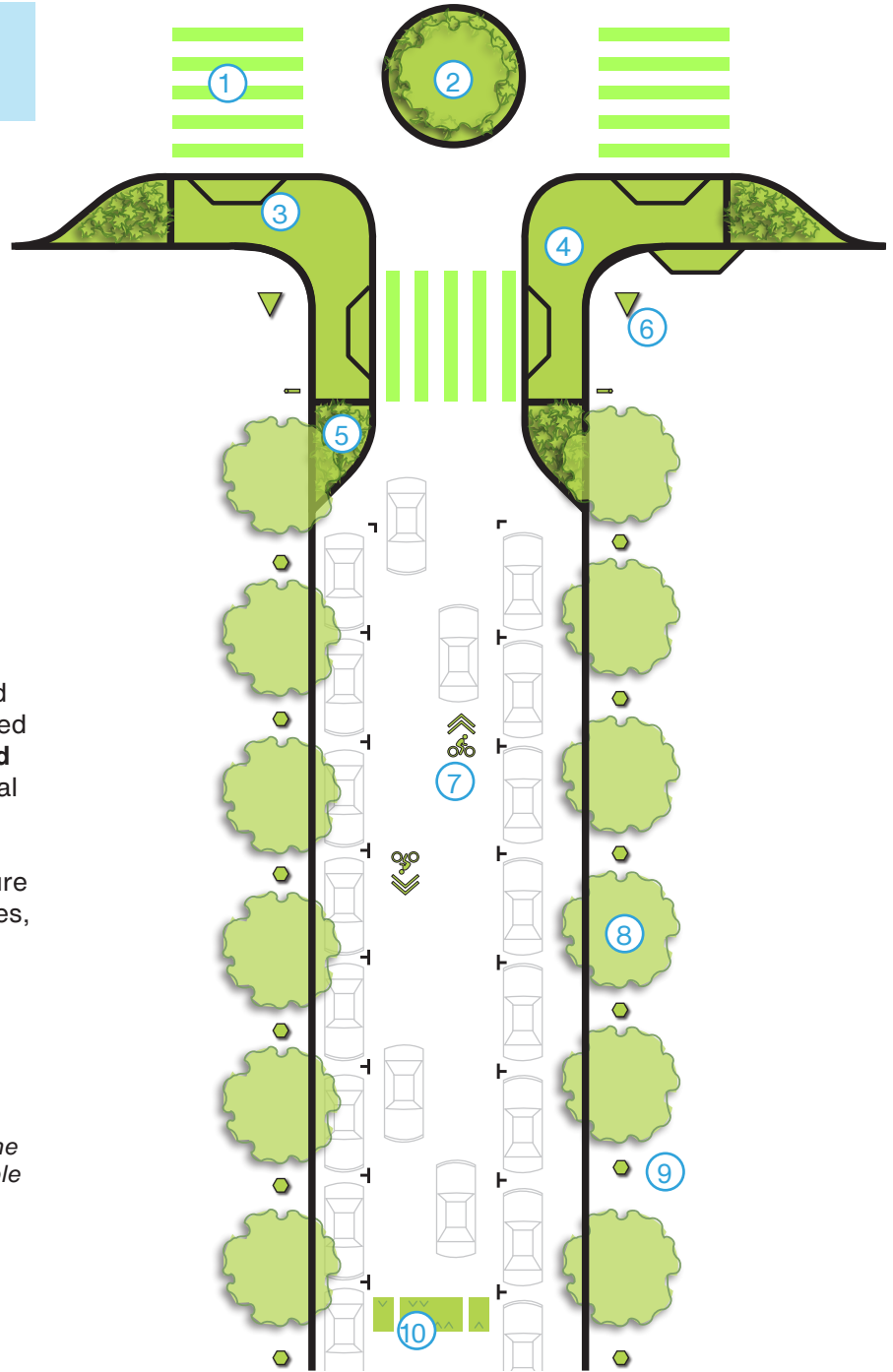
Improving Neighborhood Streets

Example Streets:*
 Batson Ave, Don Julian Rd, and Gemini St.

Typical Conditions (Before):
 While existing neighborhood streets tend to have less vehicular traffic and are generally more comfortable for people walking and biking, compared to wide arterials in the San Gabriel Valley, neighborhood streets can be further enhanced for comfort and safety. Typical neighborhood streets are 3-4 lanes wide, often with parking. Some streets have sidewalks and others do not. Blocks can be long and tree cover is spotty.

Improvements Recommended:
 Neighborhood streets can be enhanced for people walking and biking, and transformed into Neighborhood Greenways. **Neighborhood Greenways** are low traffic, primarily residential streets that are enhanced with trees and landscaping, pedestrian lighting, wayfinding signage, slow speed signage and infrastructure (such as speed humps, traffic circles, chicanes, and splitter islands), sharrow markings, and crossing enhancements (e.g. crosswalks and corner bulb-outs)

* Each street may not accommodate all of the proposed enhancements. Detailed design work would need to be completed to evaluate the most appropriate treatments for each street. The ideas included here showcase a range of possible improvements.



- ① High visibility crosswalk
- ② Traffic circle
- ③ Dual curb ramps
- ④ Corner bulb-outs
- ⑤ Bioswales/greening
- ⑥ Wayfinding signage
- ⑦ Sharrow markings
- ⑧ Shade trees
- ⑨ Pedestrian lights
- ⑩ Speed humps



Typical Conditions (Before)



Improvements Recommended

Improving Wide Intersections

Example Streets:*

Azusa Hwy, Colima Rd, Hacienda Rd, Arrow Hwy, Citrus Ave, Covina Blvd, and Nogales St.

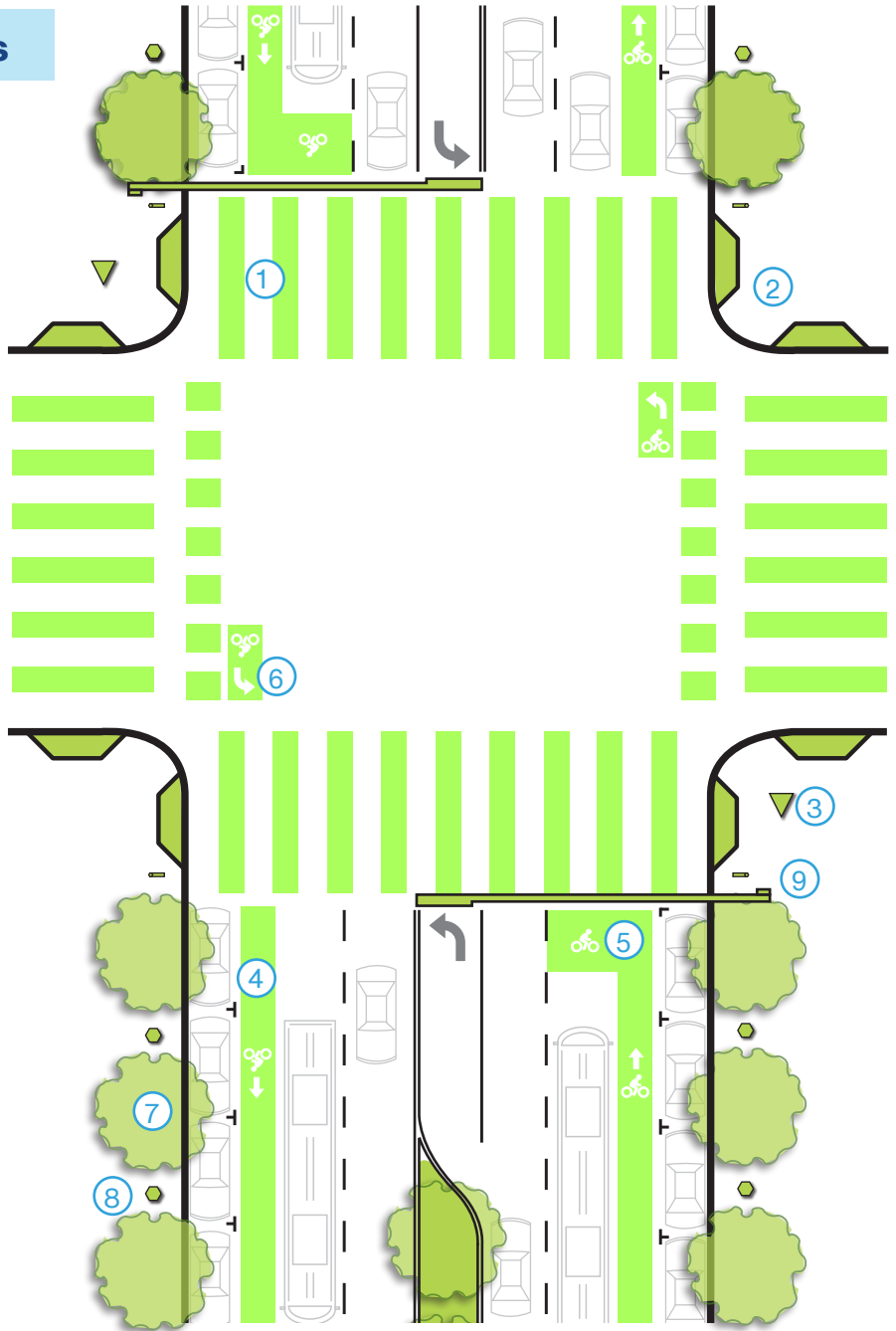
Typical Conditions (Before):

When two wide and busy arterials intersect, the crossing experience for people on foot or on bike can be challenging. Traffic is quickly moving, crossing times can be difficult for people who need more time or are in wheelchairs, and crossing on a bike can be difficult.

Improvements Recommended:

Bike boxes at intersections can be added, along with two-stage queue left turn boxes. These improvements make it easier for people riding bikes, to cross the street as well as turn left. For pedestrians, enhancements such as high-visibility crosswalks, leading pedestrian intervals (LPIs), trees and landscaping, pedestrian lighting, and wayfinding signage, can be added.

* Each street may not accommodate all of the proposed enhancements. Detailed design work would need to be completed to evaluate the most appropriate treatments for each street. The ideas included here showcase a range of possible improvements.



- ① High visibility crosswalk
- ② Dual curb ramps
- ③ Wayfinding signage
- ④ Bike lane color
- ⑤ Bike box
- ⑥ Two-stage left turn box
- ⑦ Trees and planting
- ⑧ Pedestrian lights
- ⑨ Leading pedestrian interval (LPI)



Typical Conditions (Before)



Improvements Recommended

6

POLICY RECOMMENDATIONS



6. POLICY RECOMMENDATIONS

The policies recommended for the MAP are responsive to the technical analysis completed over the course of the project and meet at least one of the following three primary criteria:

1. They address mobility gaps and needs as defined in the technical analysis.
2. They are broadly consistent with the regional or state-level goals of partner agencies and may support the County's pursuit of funding for mobility improvements.
3. They are an innovation proven elsewhere that is not currently implemented in the ESGV.

The policies recommended for the ESGV MAP are:

- ✔ **Policy 1:** Prioritize connections to food systems, health care facilities, parks, and other locations that support public well-being.
- ✔ **Policy 2:** Prioritize mobility improvements that link transit, schools, parks, and other key destinations in the community.
- ✔ **Policy 3:** Utilize technology to implement more flexible transportation options that supplement existing service or address gaps in the existing network.
- ✔ **Policy 4:** Incorporate sustainable design components into street treatments that increase safety for pedestrians, bicyclists, and sensitive groups such as youth and older adults while supporting environmental stewardship.
- ✔ **Policy 5:** Implement and connect safe bicycle- and pedestrian-friendly streets, sidewalks, paths and trails that promote active transportation and transit use.
- ✔ **Policy 6:** Reduce car dependency by supporting the implementation of safe and convenient active transportation infrastructure that connects with and compliments the transit network.
- ✔ **Policy 7:** Support integrated land use and transportation planning to support a more sustainable and multimodal East San Gabriel Valley.
- ✔ **Policy 8:** Support mode shift to lower- or zero-emission travel modes that can balance increased emissions that may derive from increased travel/mobility.
- ✔ **Policy 9:** Identify locations for innovative traffic safety features or pilot programs that support safety, accessibility, and sustainability.
- ✔ **Policy 10:** Address inequities created by a history of car-centric design in the ESGV by prioritizing the mobility and safety needs of priority populations such as youth, older adults, zero car households, and residents living in areas with environmental justice concerns.
- ✔ **Policy 11:** Address real and perceived safety concerns to encourage walking and rolling, and identify barriers to walking and rolling in unincorporated areas.

7

IMPLEMENTATION



7. IMPLEMENTATION

7.1 Next Steps: Mobility Plan

The recommendations (integrated mobility solutions) provide the foundation for the Mobility Action Plan.

7.1.1 Implementation of Mobility Alternatives

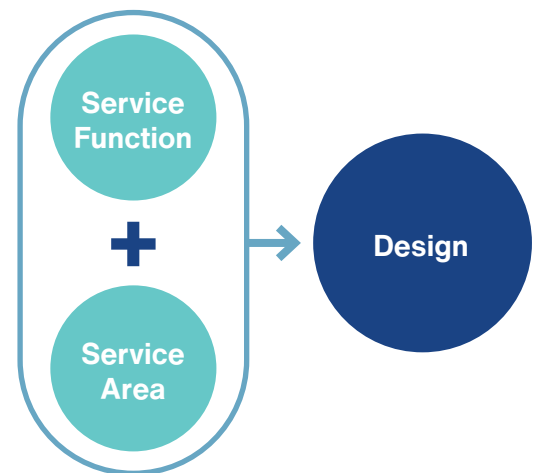
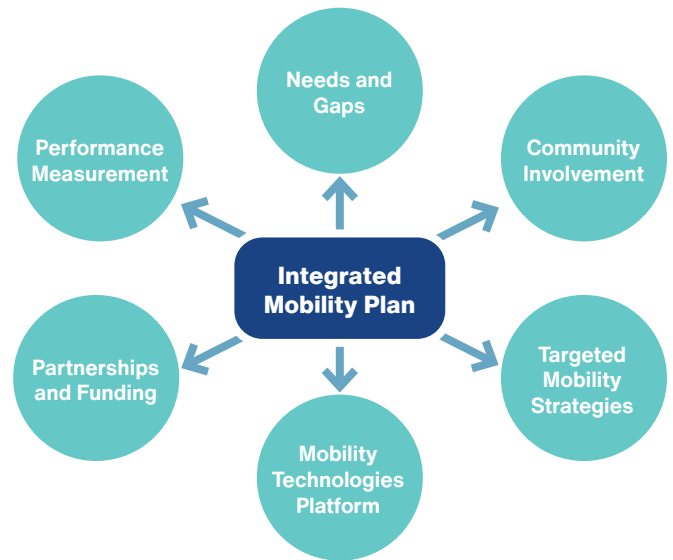
The foregoing analysis is based on preliminary service planning assumptions and intended for planning and comparative purposes. Further service planning will be required as a next step to refine operational parameters, develop run-cutting, confirm fleet requirements, and improve operations and maintenance cost forecasts. There are also service optimization opportunities, such as sharing vehicles among the select pilot areas during off-peak periods, which were beyond the scope of this analysis. Coordination with future fixed-route scheduling, to facilitate convenient transfers at transit connection hubs, is another future consideration.

It is anticipated that service plan refinement will also involve further engagement of external stakeholders to fine-tune service delivery, adjust service area boundaries or service routing, and finalize hours of service and fare policy.

Further community engagement may also identify business partnership opportunities to support service deployment or to address specific needs. Such partnerships may have an impact on service plan development, fleet requirements, etc.

User comprehension is an important element of the success of new mobility options. This includes where it goes, how to use the service, and what to pay. Adjustments to service area boundaries to ensure user comprehension (e.g., alignment with political boundaries, inclusion of local landmarks) is likely to be a topic of ongoing discussion with community stakeholders.

Finally, an initial service plan launch should be revisited based on community response. Realized customer demand after the service launch will merit a re-evaluation of service levels within each deployment zone, including coverage, frequency, service span, etc.). Should customer response be less than initially anticipated, the County may wish to make clear to external stakeholders that it reserves the right to redeploy resources to more productive uses.



7.1.2 Operational and Organizational Readiness

As a new mode, implementation of the mobility alternatives will require organizational/staffing capacity, development of policies and standard operating procedures, process re-engineering, and training. These changes will impact senior management, support departments, and front-line customer service personnel including drivers.

An important aspect of organizational change is establishment of a call center function to support customer trip requests and other questions or concerns.⁴

Modal integration is another consideration to ensure that new mobility alternatives are integrated appropriately with fixed route and paratransit operations at transit connection hubs for the convenience and safety of transferring passengers.

7.1.3 Marketing and Branding

As a new service offering, it is important to consider the branding, marketing, and roll-out of the new mobility services.

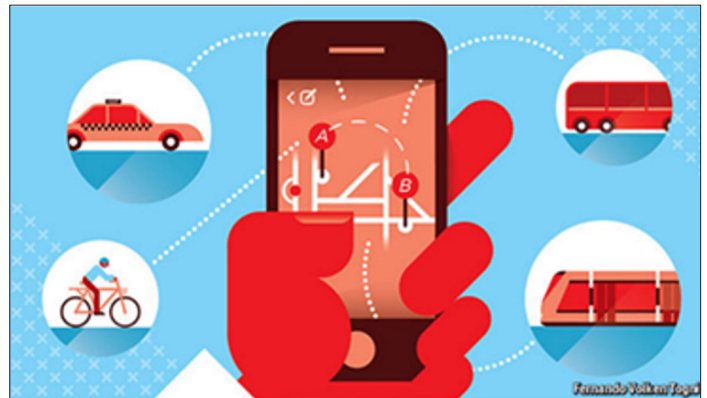
Several peer agencies have opted to create a unique sub-brand for their mobility services, to create a more visible brand presence and to generate interest around the new service. That said, it is important to communicate that any new service offerings are an integral part of the overall transit network.

User awareness and training is a key aspect of a successful launch. Existing and potential customers must understand what the service is, where it goes, and how to use it. Customers must also be familiarized with the technology tools that support the service, as well as the options available to them if they cannot access those tools.

7.1.4 Technology Procurement and Implementation

As a technology-enabled mode, the new mobility experience is highly dependent on the quality and functionality of technology systems.

Project partners have experience with advanced technology implementation for fixed route and microtransit services; a lesson learned is the significant amount of time and effort that is required to ensure successful technology implementation that meets the operational requirements of the system and the expectations of increasingly tech-savvy customers.



The following are technology systems that will be required to support new mobility implementation:

- Trip planning/trip discovery application and/or integration with enterprise systems
- Mobility dispatch and operations management system
- Customer reservations/trip booking system
- Customer service/call center reservations support system
- Fare system integration and/or mobile or in-app fare payment options.

⁴ The cost center functionality may be incorporated in the PMod and/or microtransit contractor procurement. Other options for a call center may include incorporating in an existing call center service (e.g., Foothill Transit, existing Dial-a-Ride operation, etc.)

7.1.5 PMoD and Microtransit Operator Procurement

Both PMoD and microtransit service deployment are envisioned as contract-operated services. PMoD payment will be based on service consumed, not hours of service provided. Conversely, the delivery of on-demand/flexible microtransit service will be based on an hourly rate.

It is assumed that both PMoD and microtransit service operation will be through a competitive procurement process. There is an increasing body of transit agency experience with procurement, contracting, and performance monitoring for PMoD and microtransit services.



7.2 Funding Opportunities

Potential funding sources for the implementation of mobility improvements in the ESGV include a mixture of Federal, State, and local sources. The matrix presented below as Table 7.1 provides an overview of the various funding sources currently available, a high-level description of the grant/funding source requirements, and discussion of the types or projects and/or project phases that are eligible for funding under each program.

Table 7.1: Funding Sources

FUNDING SOURCE	PROGRAM PURPOSE
Federal Programs	
Surface Transportation Block Grants – Transportation Alternatives (STBG-TA)	Creates long-term funding for surface transportation, focusing on smaller scale transportation projects, including pedestrian and bicycle facilities, recreational trails and Safe Routes to School projects.
Highway Safety Improvement Program (HSIP)	Helps fund projects that reduce fatalities and serious injuries on all public roads.
Congestion Mitigation and Air Quality Improvement Grant (CMAQ)	Federal initiative that supports a range of projects aimed at reducing transportation-related air emissions in air quality nonattainment areas.
Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Transportation Discretionary Grant	Previously known as the TIGER and BUILD programs, the RAISE Discretionary Grant Program funds nearly \$10 billion over thirteen rounds of investment in projects with significant local or regional impact.
Land and Water Conservation Fund (LWCF)	Originally established in 1964 by President Lyndon B. Johnson, the annual LWCF program provides federal support for the acquisition and development of outdoor recreation space.
Recreational Trails Program	FHWA offers local jurisdictions funding for active transportation infrastructure, focusing primarily on multi-use trails in open space areas.

FUNDING SOURCE	PROGRAM PURPOSE
The Transportation Infrastructure Finance and Innovation Act (TIFIA)	Provides credit assistance for qualified large-scale surface transportation projects of regional and national significance, including pedestrian and bicycle infrastructure networks. The TIFIA credit program is designed to fill market gaps and leverage substantial private co-investment by providing supplemental and subordinate capital.
State Programs	
The Road Repair and Accountability Act of 2017 (SB 1)	This legislative package invests \$54 billion over the next decade to fix roads, freeways and bridges in communities across California and puts more dollars toward transit and safety. These funds will be split equally between state and local investments.
Caltrans Active Transportation Program	A leading source of funding for bicycle, pedestrian and Safe Routes to School projects in the State of California, the ATP program was created in 2013 and consolidated existing federal and state transportation programs. Under SB 1, the ATP has been expanded to provide an additional \$100M to cities, counties and regional transportation agencies for bike lanes, pedestrian paths, sidewalks, safe routes to schools, and other projects that help reduce reliance on cars. The additional funding represents an 83 percent increase to the ATP program after adoption of SB 1
Local Partnership Program (LPP)	LPP supplements voter-approved transportation tax investments made by local communities by providing matching funds. The California Transportation Commission (CTC) intends for this program to balance the priority of directing increased revenues to areas of the state with the highest level of transportation need while maintaining fair distribution of grant funds statewide.
State Transportation Improvement Plan (STIP)	A multi-year capital improvement program for transportation projects on and off the State Highway System funded by revenues from the Transportation Investment Fund and other federal sources.
State Highway Operation and Protection Program (SHOPP)	SHOPP is the State's "fix-it first" funding mechanism for the rehabilitation and reconstruction of all state highways and bridges. SHOPP also provides the opportunities to address other vital State priorities, such as the reduction of transportation related greenhouse gas (GHG) emissions and implementation of Complete Streets elements like pedestrian and bicycle facilities.
Local Streets and Roads Program (LSRP)	SB 1 dedicates approximately 1.5\$ billion per year in new formula revenues to cities and counties for basic road maintenance, rehabilitation, and critical safety projects on the local streets and roads system.
Solutions for Congested Corridors Program (SCCP)	Provides funding to achieve a balanced set of transportation, environmental, and community access improvements to reduce congestion throughout the state. Initiated in 2017 through the passage of SB 1, the program offers 250\$ million annually for projects that implement specific transportation performance improvements and are part of a comprehensive corridor plan, such as providing more transportation choices while preserving the character of local communities and creating opportunities for neighborhood enhancement.
Adaptation Planning Grant	Allocates funds to local and regional agencies for climate change planning and related improvements. This funding is intended to advance adaptation planning on California's transportation infrastructure, including but not limited to roads, railways, bikeways, trails, bridges, ports, and airports. Note that funding may be provided by another source outside of SB1- in the future.
Office of Traffic Safety Grants (OTS)	The California Office of Traffic Safety (OTS) administers federal grant funds allocated to California under the National Highway Safety Act. The OTS has several priority areas for grant funding, including Pedestrian and Bicycle Safety.

FUNDING SOURCE	PROGRAM PURPOSE
Environmental Enhancement and Mitigation (EEM) Grant Program	The EEM Grant Program is a State fund established by the Legislature to fund beautification improvements to roadsides to mitigate the effects of transportation projects. It offers funding to local, state, and federal governmental agencies and to nonprofit organizations for projects to mitigate the environmental impacts caused by new or modified public transportation facilities.
Proposition 68 Greening Infrastructure Grant Program	Proposition 68 authorized the Legislature to appropriate 18.5\$ million to the California Natural Resources Agency for competitive grants for multibenefit green infrastructure investments in or benefiting disadvantaged or severely disadvantaged communities.
Affordable Housing and Sustainable Communities Program (AHSC)	The AHSC Program is a joint effort by the Strategic Growth Council and California Department of Housing and Community Development. The Program assists affordable housing developments, sustainable transportation infrastructure, transportation-related amenities, and multi-modal transit promotion.
Systemic Safety Analysis Report Program (SSARP)	Provides local agencies with funding assistance to perform collision analyses, identify roadway safety issues, and develop cost-effective collision countermeasures. SSARP exchanges federal Highway Safety Improvement Program (HSIP) funds for State Highway Account (SHA) funds, simplifying the application process and improving participation by agencies that are less familiar with federal requirements.
Urban and Community Forestry Program	Provides grant funding for projects that result in a net reduction of greenhouse gases through reforestation efforts.
Mobile Source Air Pollution Reduction Review Committee (MSRC)	The program awards funding to projects that deliver clean vehicles to school districts and funds transit agencies to obtain alternative fuel buses. MSRC also accepts grant applications for a variety of complete street projects, including goods movement and first/last mile solutions. The program provides funding to projects that help commuters reduce the number of miles they drive, including purchase incentives for electric-assist bicycles, bike racks on buses, and bicycles for law enforcement patrols.
Transportation Development Act (TDA)	TDA funds a wide variety of transportation programs, including planning and program activities, pedestrian and bicycle facilities, community transit services, public transportation, and bus and rail projects.
California Endowment Grants/PRI/DCA/SPGs	The California Endowment's grantmaking is guided by their Building Healthy Communities (BHC) effort, awarding single- and multi-year grants and Direct Charitable Activity (DCA) contracts.
Caltrans Sustainable Transportation Planning Grant Program	The Sustainable Transportation Planning Grant Program includes two programs - (1) Sustainable Communities, to encourage local and regional planning that furthers state goals, including the Regional Transportation Plan Guidelines adopted by the California Transportation Commission. (2) Strategic Partnerships, to identify

Regional Programs

Measure M	Passed by LA County voters in 2016, Measure M is a half-cent sales tax measure designed to ease traffic, repair local streets and sidewalks, expand public transportation, earthquake retrofit bridges and subsidize transit fares for students, seniors and persons with disabilities. It partially funds many Metro projects and makes funding available to local jurisdictions via the Metro Subregional Program (MSP); Metro Active Transportation, Transit and First/Last Mile (MAT) Program, and Local Return.
Sustainability Planning Grant Program	As a key source in funding active transportation and multi-modal plans in Orange County and Southern California, SCAG provides funding for projects that promote and implement regional sustainable community strategies through planning and policy.

FUNDING SOURCE	PROGRAM PURPOSE
Air Pollution Control Projects that Reduce/Mitigate Emissions/Toxic Exposure	On a semi-regular basis, the South Coast Air Quality Management District (SCAQMD) releases a Request for Proposals (RFP) for projects that reduce emissions in the SCAQMD monitoring area.
RMC Grant Program	The San Gabriel and Lower Los Angeles Rivers and Mountain Conservancy (RMC) awards approximately 30\$ million each year to projects that protect open space, preserve or restore natural habitat, and encourage low-impact uses. RMC's jurisdiction includes eastern Los Angeles County and western Orange County. There are a total of 68 cities within the RMC jurisdiction.
Fostering Healthy Environments	Funded by the California Wellness Foundation (Cal Wellness), Fostering Healthy Environments grants are available to nonprofit organizations and public organizations interested in promoting environmental justice, equitable access to healthy food, and park equity for low-income communities.

7.3 Local and Regional Agency Partnerships

Transportation and mobility are based fundamentally on networks: interconnected systems and lines of roads, bridges, transit services, bicycle and pedestrian infrastructure, and the flow of people and goods from one place to another. The recommendations in the MAP are designed with partnership in mind and will require coordination with local and regional agencies to implement. These agencies include incorporated cities in the ESGV (along with their departments of transportation and public works), as well as regional transit agencies that operate in the ESGV, including Metro, Foothill Transit, and Metrolink. Additional coordination and support may come from SCAG or local offices of agencies from the State of California (such as Caltrans District 7). Partnerships with these agencies are often essential to the successful pursuit of grant funding opportunities.

7.4 Community Partnerships

Long-range planning is most effective when community-based organizations (CBOs) and the public at large are engaged in the planning process, when their feedback and needs are incorporated into the plan's recommendations, and when the recommendations contain opportunities to partner with and support CBOs and the public. Community partnerships that could support delivery of the projects recommend in the MAP may include:

- **Farmer's markets, food banks, and community gardens** – to ensure that projects allow for greater access to nutritious, healthful food.
- **Mobility-limited groups, such as seniors and people with disabilities** – to ensure that projects connect those who may not be able to drive with the places they need to go.
- **Schools and universities** – to ensure that students can travel to and from school safely and independently, and that young people and returning students have increased access to opportunity as a result of education.
- **Hospitals and health care facilities** – to ensure that essential workers and the people for whom they care can access treatment and preventative care.
- **Environmental justice and mobility advocacy groups** – whose local knowledge and expertise can support equity-focused delivery of projects.

APPENDIX A

POLICY PRIORITIES



A. GOALS AND POLICIES

A.1 Policy Priorities

In order to evaluate potential policies for the East San Gabriel Valley Mobility Action Plan, the team considered three main sources: plans and programs adopted by the Department of Regional Planning (responsible for long range planning among other duties), plans and programs adopted by Public Works (responsible for providing and maintaining transportation infrastructure), and the technical team's understanding of how mobility and transportation are evolving in Los Angeles County. These priorities are listed in the table below.

SOURCE	POLICY PRIORITIES	DEFINITION / EXAMPLE
DRP	Environmental Justice	Defined as the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies.
DRP	Sustainability	Broadly refers to a long-term approach to human activity that balances economic, social, and environmental needs.
DRP	Climate Change	The phenomenon of changing climate patterns and global temperature increases accelerated by increased greenhouse gas (GHG) emissions in particular, and the County's efforts to slow and counteract its impacts.
DRP / PW	Equity	An approach to decision making and the distribution of resources that is inclusive to individual and community needs, focused on alleviating past and present barriers to accessing resources needed to succeed and thrive.
PW	Accessibility	A measurement of where people can or cannot travel using various modes of travel, as well as how accommodating those places and modes of travel are to persons with disabilities.
PW	Connectivity	Relates to the ways in which travel modes connect or fail to connect to each other. May also be supported through use or deployment of technology.
PW	Safety	Relates to how dangerous a mode of travel or street corridor is to use for travel, with a focus on non-automotive travel. Primarily analyzed through the County's Vision Zero program and plan.
Consultant Team	Technology	Relates to ways in which technology can be used to address mobility needs or gaps.
Consultant Team	Land Use	The ways in which land is used have a major impact on travel need, and integrated transit and land use planning is coordinated between the teams

In addition to the policy priorities above, a number of other plans and policies from the County of Los Angeles and other relevant agencies were reviewed. These documents and their sources included:

- **County of Los Angeles**
 - General Plan and Mobility Element
 - Vision Zero Action Plan
 - OurCounty Sustainability Plan
 - Step-by-Step: Pedestrian Plan for Unincorporated Communities
- **Southern California Association of Governments (SCAG)**
 - Connect SoCal 2020
- **California Department of Transportation (Caltrans)**
 - California Transportation Plan
 - California Freight Mobility Plan
- **Los Angeles County Metropolitan Transportation Agency (Metro)**
 - Active Transportation Strategic Plan
 - Bicycle Mobility Plan
 - East San Gabriel Valley Active Transportation Plan

These plans and policies were reviewed to ensure that the recommendations for the East San Gabriel Valley are both broadly consistent with these documents and specific enough to the project study area that meaningful and relevant guidance is provided. Coordination of these plans also ensures that the recommendations to improve mobility will meet the guidelines of potential funding opportunities.

These priorities were used to formulate and evaluate the range of potential policies considered for the MAP. Section 8 of the MAP lists the policy recommendations for the ESGV area.

APPENDIX B

COMMUNITY ENGAGEMENT



B. COMMUNITY ENGAGEMENT

B.1 Strategy and Target Audiences

Public engagement played a pivotal role in understanding concerns and challenges faced by community members, business owners, visitors, and commuters in the ESGV. Residents and daily commuters of the area have a unique understanding of the physical and social limitations of the San Gabriel Valley, and clear mobility preferences and needs. These considerations helped adapt the strategies designed for the study to the local context, as communicated by the communities individually and collectively. They also informed the types of innovations and improvements recommended, so that only those that are both effective and acceptable to the community are carried forward.

The initial Public Engagement Plan detailed strategies and tools that were anticipated to be used to reach out to the various communities in the area. The study area itself is economically and ethnically diverse, but poor air quality and a lack of affordable transit options are widespread. The plan identified key stakeholders and populations to be engaged, with specific focus on vulnerable and historically-underrepresented groups. The plan detailed multiple phases of engagement that were to take place over the course of the study, their specific goals, intent, and expected outcomes.

With a diverse population with varying needs, it was imperative to understand these populations, and as such, multiple entities and groups of individuals were engaged across the development of the plan, sharing of plan outcomes and recommendations, and the structure of the final plan as a whole. The following compose the majority of stakeholders that were engaged as a part of the process:

Steering Committee / Technical Committees

The Agency Steering Committee, composed of representatives of local jurisdictions and public agencies either located within the project study area (such as the cities of Azusa, La Verne, Baldwin Park, San Dimas, Covina, Claremont, Diamond Bar, Glendora, and Pomona) or at the regional level (such as SCAG). The committee's membership was developed in consultation with DRP staff, and was crucial to understanding long-range planning efforts within the study area, relevant projects that may have an impact, and policies that need to be coordinated for the feasibility of recommendations. This audience's impact and engagement was high, given their own projects and programs that may coincide with the ESGV MAP, as well as their intimate understanding of their constituencies.

Stakeholders & Organizations

Community-based organizations, including environmental groups, transportation advocates, community advocates, and the like were critical audiences who were well informed and interested in specific issues that they represent and for which they advocate. These groups needed to be involved in regular communications, in meetings, and in some cases one-on-one, and were important channels for reaching hard to reach communities and populations. This audience's impact and engagement was high, given their intimate understanding of their own stakeholders.

Community Youth

Outreach to and engagement with young people was a crucial component of the engagement effort. Even in auto-oriented East San Gabriel Valley, young people show interest in non-automotive travel options. Auto-centricity has been disrupted by many intersecting issues such as its financial burden, its impact on the environment, and the rise of Mobility as a Service (MaaS) options. Young people of today will also become the commuters of tomorrow, and their unique perspective is traditionally under-represented in planning activities.

The project's learning academies, workshops, and other community events featured specific youth outreach activities. This audience's impact was high, but their engagement was low. This challenging engagement is exacerbated by limitations in direct contact through either schools and/or through families.

Community Members & Broader Public

Due to the regional character of the study, engagement activities needed to capture the input from the general public as much as possible. This included visitors and tourists heading to key activity centers, and other community members beyond the study area. This group became a core engagement opportunity as a result of attendance at pop-up event locations across the East San Gabriel Valley.

B.2 Challenges and Opportunities

Outreach in the East San Gabriel Valley requires a varied approach for successful engagement and connectivity to the communities served within the ESGV MAP project area. COVID-19 protocols, restrictions, and concerns limited traditional engagement activities. Additionally, community members may have become overwhelmed, and oftentimes burned out from digital methods of engagement. Despite these challenges, engagement results have yielded surprising numbers, which speaks to the need and success of the varied community engagement efforts. Some challenges still persisted, including lack of larger attendance at events, two-way discussions on social media, and access to school-aged children. As such, some engagement activities were one-direction only.

With the myriad mobility needs of families and school-aged children, the team prioritized outreach to these groups as an opportunity to plan for the future and develop the next generation of involved stakeholders. Initial goals were to include high school students in a process to develop awareness not only of the MAP effort, but also important mobility and urban planning efforts like tactical urbanism. Although repeated efforts to engage schools throughout the study area were unsuccessful, planned outreach through MAPlibs and social media "story" posts did move forward without the direct involvement of schools.

B.3 Overview of Activities



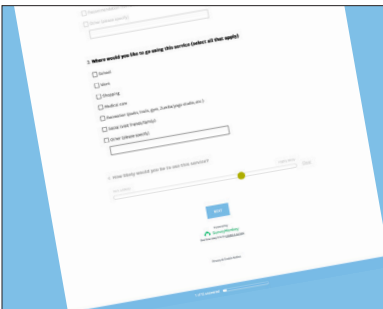
Digital Foyer

To facilitate community engagement, the MAP team utilized a “digital foyer,” an online platform that acts as a continuous, virtual meeting space. The foyer hosted informational documents and videos, online surveys, interactive maps, and links to more information about the County of Los Angeles Department of Regional Planning’s work.



Social Media

There was an immense response to boosted social media postings as a result of in-person pop-ups, as well as four programmatic surveys. These boosted posts yielded significant engagement and reach—including greater than 92,000 individuals reached during the program surveys, Area Plan/MAP meeting posts, and pop-up notifications. This outreach included very pointed and direct project-related comments and feedback, as well as participation in and completion of surveys.



Online Surveys

The MAP team distributed seven online surveys to better understand community mobility needs and priorities. Survey topics included:

- “Gains and Pains”: what works well now—and what doesn’t-- in the ESGV.
- Mobility Priorities: to understand what is most important to area residents.
- Bicycling Survey
- Walking Survey
- Transit Survey
- Other Mobility Improvements Survey
- Mobility Recommendations: to gather feedback on the recommendations made in the Draft Plan.



MAPLibs

Based on children’s “Mad Libs,” MAPLibs are fun fill-in-the-blank games that gathered community members’ stories of where they like to walk, bicycle, or roll in the ESGV. To further promote the project, the team also installed temporary stencils of the MAPLibs at key activity centers (such as parks) in the project study area. Residents could then scan a QR code to learn more about the project and what their neighbors wrote.

Key Engagement Statistics:

92,000
social media impressions

800
bus cards posted

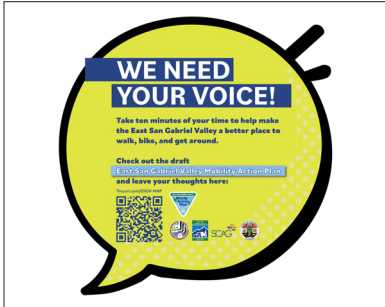
8
MapLib art installations posted

8
pop-up events conducted



Bus Cards

In collaboration and coordination with Foothill Transit, the project team printed 800 11-inch by 26-inch posters, printed on cardstock, of artwork to be displayed on Foothill Transit buses. These posts were placed in interior bus locations to maximize visibility and assist in publicizing the Mobility Action Plan process, outcomes, and upcoming events and opportunities for engagement. Artwork was provided to Foothill Transit on January 3, 2022, and ran on their bus fleet through June 2022.



Sign Installations

Pivoting and finding new, creative ways to get the word out about the MAP and the draft MAP availability, the concept below was proposed and approved by the project management team to be placed at high visibility locations that were relevant to the project. Eye-catching signs were developed and installed at nine locations:

- Along nine of the 12 identified focus corridors for complete and green streets, which have concept designs in the draft MAP.
- On utility poles/streetlights in front of or near popular commercial destinations (where people are likely walking and gathering).

Signs were in English and Spanish and provided:

- General information about the MAP
- Invitation to review the draft with QR link to the draft Plan
- Description of the specific corridor where the sign is placed

Presentations and Technical Meetings

The technical team and DRP staff delivered presentations and to key stakeholders and the general public over the course of the plan development process. These dates, the audiences, and the topics included:

- March 2021 – Steering Committee – Initial project kick-off and background
- June 2021 – Steering Committee – Summary of existing conditions analysis
- October 2021 – Steering Committee – Review of engagement activities and discussion of plan goals
- January 2021 – San Gabriel Valley Council of Governments (SGVCOG) Technical Advisory and Transportation Committee – Review of engagement activities and technical work
- January 2021 Planners Technical Advisory Committee
- April 2022 – General Public – Mobility Action Plan Workshop
- May 2022 – Steering Committee – Overview of the draft plan

B.4 Feedback and Recommendations

This final plan is responsive to and includes recommendations based on the feedback received during the community engagement process. Key themes and their recommendations include:

- **Safety** – Due to the high rates of drivers' speed, as well as a lack of sidewalks, bicycle lanes, or protected bicycle lanes, survey participants frequently expressed concerns for their safety while traveling.
 - Recommendation: Existing safety data was a major factor in the selection of corridors recommended for streetscape improvements in the plan.
- **Accessibility (ADA)** – A lack of sidewalks, curb ramps, and other features that would make it easier for all pedestrians to walk or roll to their destinations was the most common concern of respondents in the pedestrian survey. Respondents also identified ADA accessibility as critical to their use of the flexible microtransit or Personal Mobility on Demand services.
 - Recommendation: The technical team evaluated corridors throughout the service area with a focus on closing gaps in sidewalks and addressing a lack of accessibility.
- **Accessibility (Land Use/Transit Integration)** – Survey respondents and engagement participants frequently expressed a desire to be able to accomplish more of their daily tasks (such as shopping or visits to the grocery store, going to the gym, and accessing community amenities like parks and libraries) using transit or active transportation.
 - Recommendation: Flexible microtransit and Personal Mobility on Demand were recommended as options to pursue because they would be able to address gaps in existing fixed-route transit service that many not easily be remedied through adjustments to routing.
- **Comfort** – A common thread across the surveys administered was a desire by the community to have more comfortable infrastructure in their communities, such as more street trees that provide shade, or better protection from cars.
 - The plan identifies several corridors that are recommended for streetscape improvements that include additional greening and buffers between vehicles and pedestrians or cyclists.
- **Convenience and Flexibility** – When asked what would benefit people's ability to take transit, the most popular responses was more frequent service.
 - Recommendation: The flexible microtransit and Personal Mobility on Demand services recommended were selected for their ability to augment existing transit service, either by closing gaps in the network, providing service in off-peak hours, or where increased service frequency may not be possible.
- **Information** – Fewer than a third of survey respondents were familiar with or had used either flexible microtransit or Personal Mobility on Demand.
 - Recommendation: Should deployment of these services be pursued, a thorough public engagement and education campaign will be needed, including how-to videos, in-person activities, and coupons for discounted or free rides for new customers.

APPENDIX C

EVALUATION CONCEPTS AND ASSUMPTIONS



C. EVALUATION CONCEPTS AND ASSUMPTIONS

Informed by the technical review, MAP goals and policies, feedback from the community, and evaluation of mobility options, the following sections provide transit service and active transportation infrastructure concepts, as well as more detailed steps for implementing recommendations offered in Chapter 5.

C.1 Concepts and Assumptions

C.1.1 Unincorporated Areas - Connected First/Last Mile Service

The purpose of providing connected first/last mile service is to improve connectivity to Foothill (and local service providers) frequent local network in proximity to unincorporated areas covered by less frequent local lines.

Personal Mobility on Demand (PMoD)

Service Design – Subsidized PMoD connections between key Foothill Transit bus stops and origins/destinations located in proximity.

Level of Service - Assumes three vehicles on weekdays; two vehicles on Saturdays; two vehicles on Sundays.

Ridership - Range estimate of 9,817 – 14,875; assuming 9,917 potential coverage hours, and customer demand ranging from 50% to 67% of available capacity. “Coverage hours” refer to the maximum number of potential revenue service hours that could be deployed if necessary, to meet demand for personal mobility service.

Costing - Net cost of service is calculated on assumed \$5.00 per trip flat subsidy distributed through fare policy. Assumes that the customer pays an initial fare equivalent to a regular transit fare, followed by the subsidy, after which the customer is responsible for the cost of longer trips.

Example: Customer pays the first \$2.00 of taxi/TNC market-based fare; sponsor(s) pay a flat \$5.00 subsidy; customer pays any amount above a \$7.00 one- way ride.²

² Based on prevailing TNC rates, a \$7.00 trip would yield a 2.5 to 3 mile trip, an amount and trip distance suitable to accommodate the first/last mile requirement. The \$2.00 customer fare is comparable to a regular transit fare, hence a \$5.00 subsidy. These figures were used to populate the cost/ridership estimation tool, which is a working model and may be amended to reflect alternate fare and/or subsidy levels.

BUSINESS FUNCTION	SAMPLE KPIS	REQUIRED DATA
Equity	<ul style="list-style-type: none"> Trips delivered to low-income communities Increased access to destinations in communities Trips delivered to unbanked/underbanked communities Trip requests by mobile app vs. telephone requests through call-center 	<ul style="list-style-type: none"> Socio-economic and demography data Trip details
Customer Satisfaction	<ul style="list-style-type: none"> Number of customer complaints Passenger wait time Average on-board time Average trip length Number of service denials Successful transfer connections (for feeder services) Reduced number of personal vehicle mileage 	<ul style="list-style-type: none"> Trip details; Origin-Destination Ridership Payments Vehicle travel time and schedule adherence data Missed connections
Finance	<ul style="list-style-type: none"> Revenue trend Trends in cash and non-cash payments Cost/trip Subsidy/trip Cost/revenue hour Cost/revenue mile 	<ul style="list-style-type: none"> Cost and revenue data
Environmental	<ul style="list-style-type: none"> GHG reduction Increased Mode share of electric vehicles 	<ul style="list-style-type: none"> Vehicle Miles Travelled (VMT) by modes delivering service



Flexible Microtransit

Service Design – One or two flexible routes anchored to a Foothill Transit park-ride lot, transit center or key transit hub, providing weekday peak and reverse travel connections between residences, employment locations, and other transit trip generators within a lower to medium density suburban area. Resources may be deployed to either supplement or replace Foothill Transit lower frequency conventional fixed route service.

Level of Service - Assumes one vehicle operating initially on weekdays only for a 10.5-hour service day. Initial service capacity of 8 customers per revenue service hour.

Ridership - Range estimate of 10,710 – 14,351; assuming 2,678 annual revenue service hours, and customer demand ranging from 50% to 67% of available capacity.

Costing³ - Assumes total contract operating cost of \$100 per service hour for 2,678 hours. Fare revenue ranging from \$10,710 to \$14,351, depending on customer demand. Net cost of service ranges from \$257,040 to \$253,399; assuming customer pays \$1.00 average fare. Subsidy per trip range estimate \$17.66 to \$24.00 per passenger, depending on ridership.

A range estimate of the net cost of service for a single-zone service in a connected suburban/unincorporated area is \$49,087 - \$74,374; assuming the range ridership estimates indicated above, and a maximum \$5.00 subsidy per one-way trip.

C.1.2 Active Transportation Infrastructure

To complement new and improved transit options and provide connectivity to transit services, infrastructure improvements can close the gaps in the bicycle and pedestrian network and provide additional mobility options to members of the community, especially those who may not have access to a vehicle. Multimodal considerations such as existing roadway widths, curbside infrastructure, vehicle speeds and volumes, and alignment with other plans, will determine what types of improvements should be implemented along each of the recommended corridors.

C.2 Service Performance Management

Table C.1 presents suggested key performance indicators (KPIs) to be used in the evaluation of On-Demand Flexible Microtransit and PMoD services. Evaluation may include both measuring the effectiveness and efficiencies of service delivery as well as to gauge customer acceptance of new mobility services.

Table C.1: Recommended Key Performance Indicators

BUSINESS FUNCTION	SAMPLE KPIS	REQUIRED DATA
Mobility/ Service O&M	<ul style="list-style-type: none"> ▪ Riders per hour ▪ Ridership by service area/zones ▪ On-time performance ▪ Service reliability ▪ Number of booked and completed trips ▪ Number of no-shows and cancellations ▪ Vehicle revenue hours and miles ▪ Number of trips originating /terminating within a zone or predefined location ▪ Average vehicle miles without maintenance 	<ul style="list-style-type: none"> ▪ Trip details, Origin-Destination ▪ Ridership ▪ Payments and Payment Methods ▪ Vehicle travel time and schedule adherence data ▪ Vehicle maintenance data

³ Cost estimates/ranges are annualized figures, reflecting annual revenue hours.

APPENDIX D

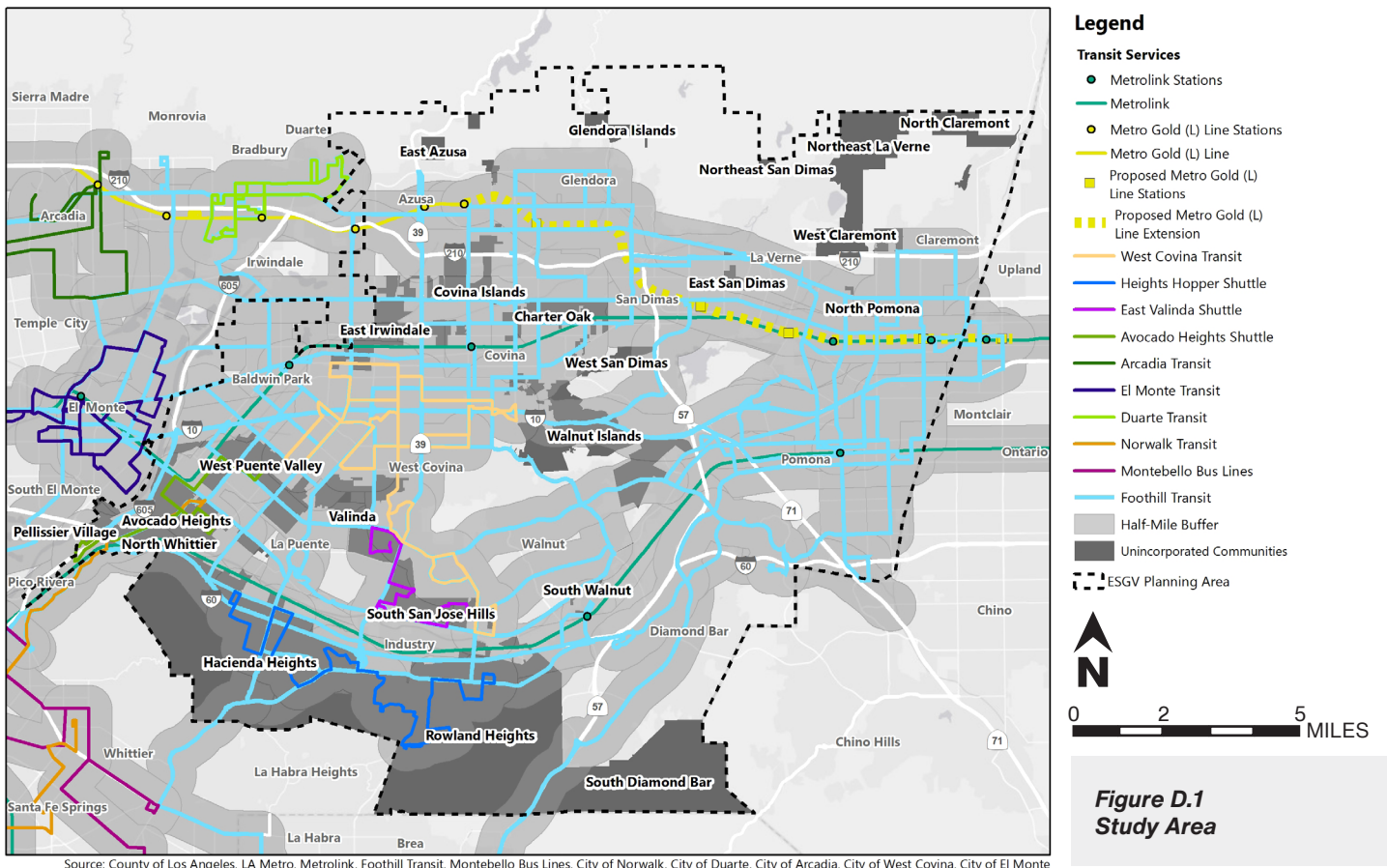
COMMUNITY PROFILE



D. COMMUNITY PROFILE

D.1 Study Area

The MAP study area spans 210 square miles and is located east of I-605 Freeway, south of the Angeles National Forest and the San Gabriel Mountains, west of the Los Angeles County Line, and north of the Puente Hills. The major east-west highways running through the study area are I-210 in the north, I-10 in the center, and SR-60 to the south. Figure 3.1 presents the study area boundary, highlighting the locations of the unincorporated communities and cities within the ESGV.



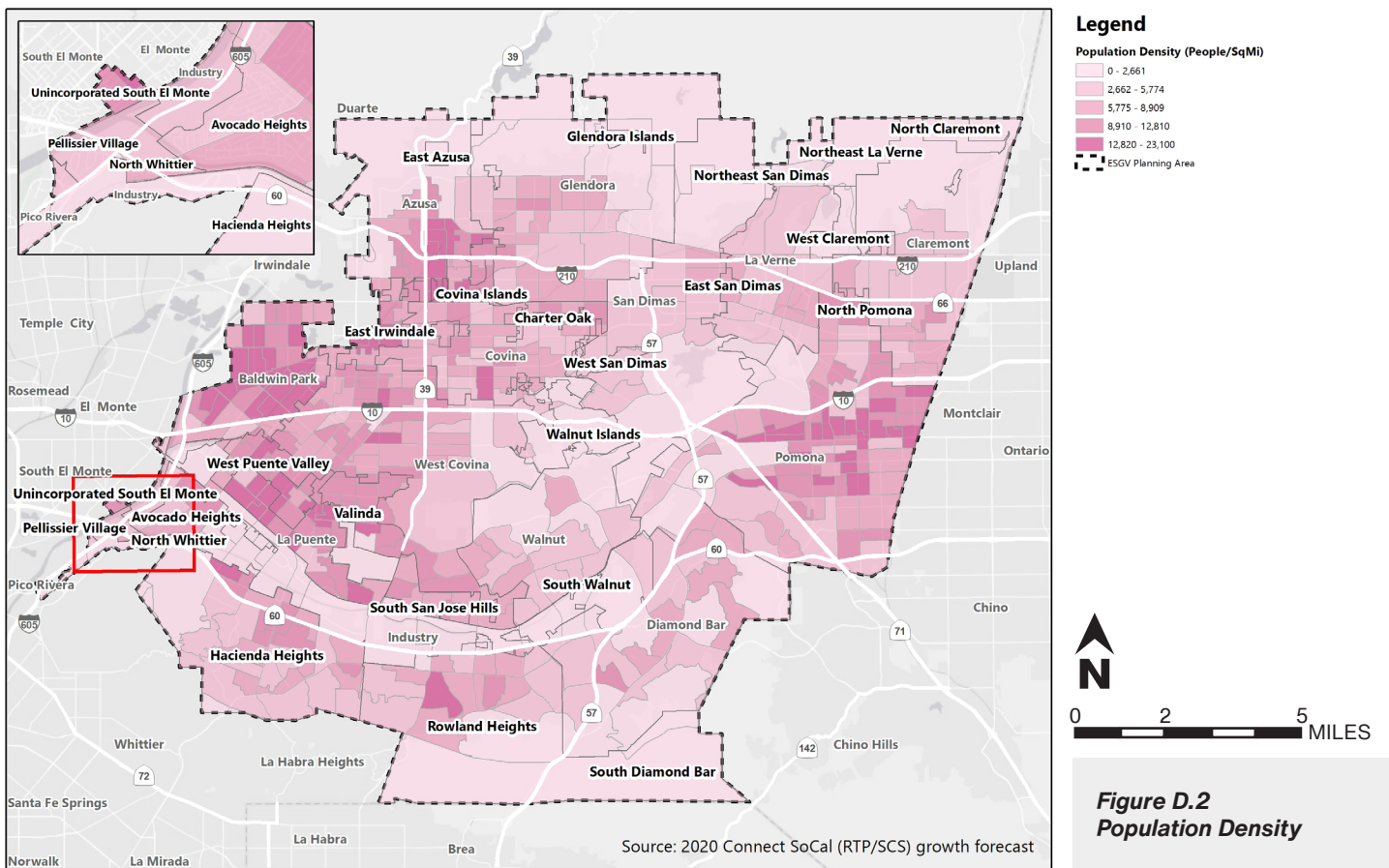
D.2 Population/Employment

According to the Southern California Association of Government’s (SCAG) 2020 Connect SoCal (RTP/SCS) growth forecast, the ESGV Planning Area has a population of about 1,057,000 residents, with moderately dense populated areas, likely due to its more suburban development pattern. Understanding population and employment distribution throughout the study area is important to determine potential locations of where people are traveling to and from.

Population Density

Population density is most concentrated in the western area of the region, where there are several unincorporated communities. Several unincorporated communities have high population densities as compared to adjacent cities in the ESGV. Others have very low population densities. Figure 3.2 illustrates the following:

1. Population is concentrated in the western portion of the study area near the I-10 and SR-39 corridors. This includes the unincorporated communities of La Puente, West Puente Valley, Valinda, East Irwindale, and Covina Islands, as well as the cities of Baldwin Park and La Puente.
2. Population is also concentrated in the eastern portion of the study area in and around the City of Pomona.



Legend

Population Density (People/SqMi)

- 0 - 2,661
- 2,662 - 5,774
- 5,775 - 8,909
- 8,910 - 12,810
- 12,820 - 23,100

ESGV Planning Area

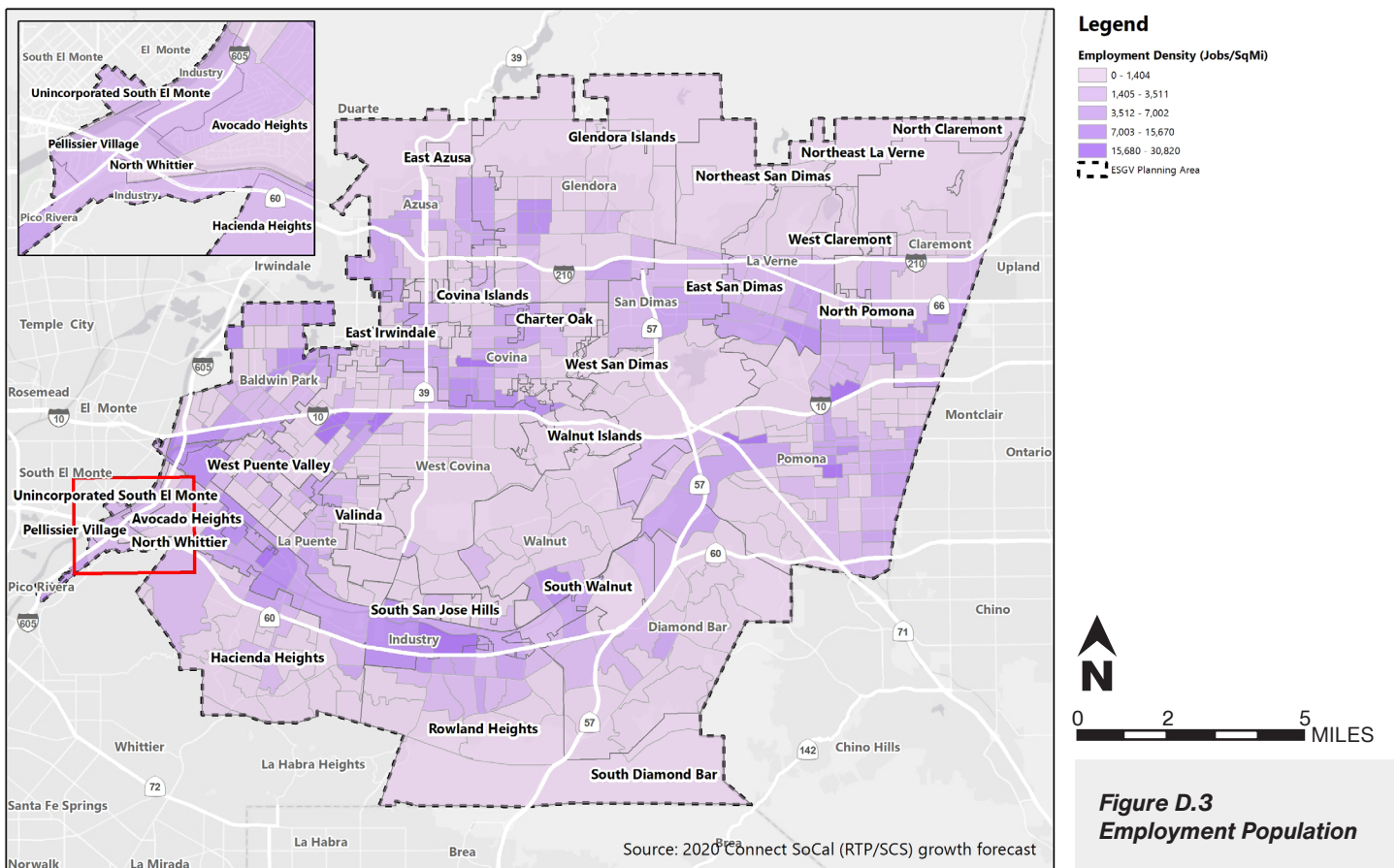
0 2 5 MILES

Figure D.2
Population Density

Employment Density

Employment density is concentrated in certain areas, particularly adjacent to major highways. As employment density does not always correlate with population density, residents may have to commute to work somewhere further than where they live. Across California, 37% of residents work in the city or place where they live. In the ESGV, only 15% of residents work in the city or place where they live. These figures highlight that most ESGV residents commute longer distances to reach their place of employment. This condition has implications on travel time, travel costs, and access to different employment opportunities. Figure 3.3 indicates that:

1. Employment is concentrated along SR-60 and I-10, particularly in the cities of La Puente and Industry.
2. Other areas of high employment include communities in the cities of Covina, West Covina, La Verne, Claremont, and Pomona.



Population Characteristics

Mobility needs vary for different groups of people. Demographic indicators can provide insight into who lives in the study area and their mobility needs and propensity to use certain modes of travel. The following figures illustrate these indicators across the study area:

Senior Population: Senior residents can have limited ability to travel by driving and may need alternative modes of travel. The transportation infrastructure in the ESGV is generally not supportive of seniors. Meeting the mobility needs of this demographic group would have co-benefits for other groups as well.

1. Senior residents make up as much as 60 percent of the total population in areas between Pomona and Walnut, beside the SR-57, and east of La Verne along Foothill Boulevard.
2. Typically, where there is a higher concentration of senior population, employment density tends to be sparse.

Youth Population: Youth and school-aged children (age 5-17) are particularly vulnerable travelers who may be less visible to motorists along the many car-centric streets in the ESGV. They need safe infrastructure when walking and biking, including safe intersections and crosswalks, especially near schools and parks.

1. Youth make up about a quarter of the population in some of the easternmost unincorporated areas of the ESGV, including Unincorporated South El Monte, West Puente Valley, Hacienda Heights, Valinda, and Covina Islands, as well as Northeast La Verne, North Claremont, and North Pomona.

People of Color: Residents of the ESGV are racially diverse. This include residents who have lived in Los Angeles County for multiple generations and some who are recent immigrants. According to the Census Bureau, in 2018, 34% of residents in the ESGV were foreign-born population, which is much higher than the national average of 13.8%. Asian residents make up more than half of the area's population, followed by White and Latino/Hispanic residents as the second and third most common race or ethnicity.

1. The percent of non-white population reaches over 50 percent in many areas, particularly in the central, and southern, and western areas of the study area that includes the City of Industry, Diamond Bar, Walnut, La Puente, and Azusa.
2. Areas with the highest concentrations (around 75 percent or higher up to 97 percent) of non-white population include the communities in and around the unincorporated communities of Rowland Heights and Hacienda Heights, and the cities of Walnut, West Covina, Baldwin Park, and Diamond Bar.

Low-Income Households: Low-income households (defined by SCAG as households with an annual income of less than \$35,000) are more likely to use transit or other alternative forms of transportation, and need a safe and reliable network for mobility.

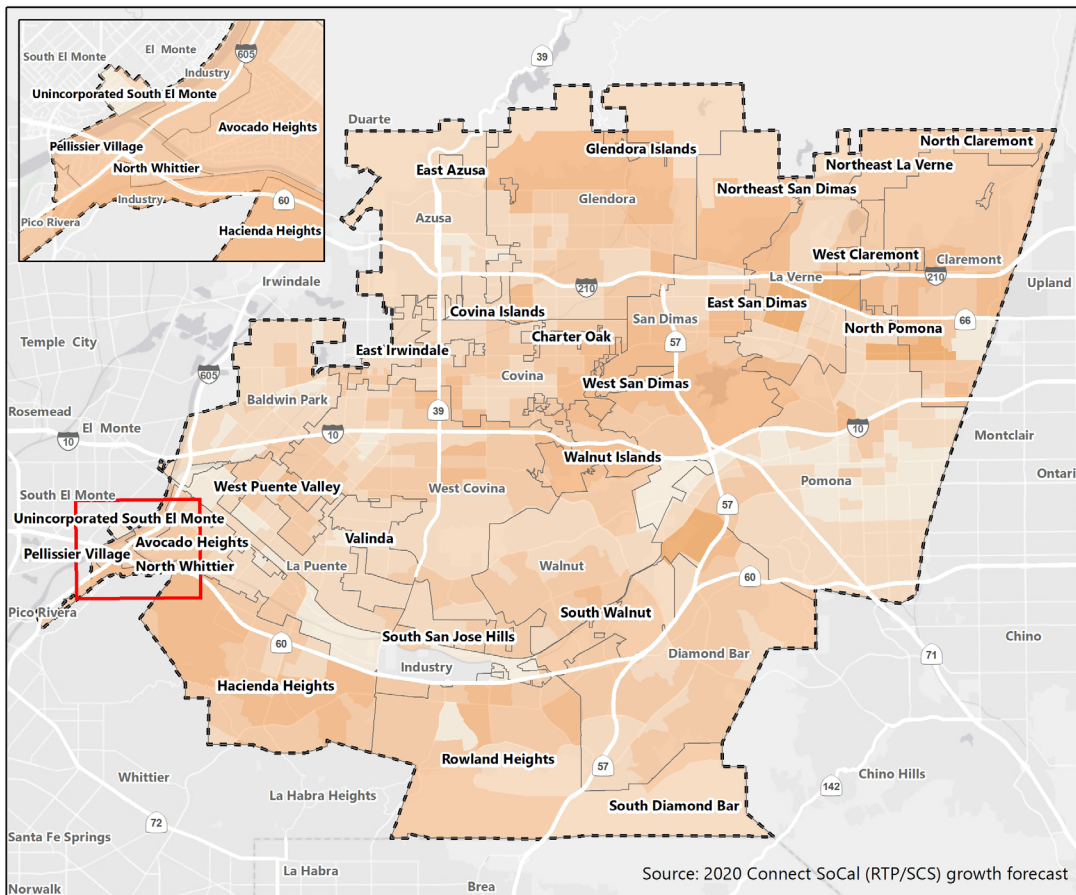
1. Areas with particularly high percentages (over 50 percent) of low-income households include the communities around the unincorporated communities of Walnut Islands and Rowland Heights, as well as the cities of Pomona, Baldwin Park, La Puente, and Azusa.

Educational Attainment: Those with higher levels of educational attainment tend to earn more than people with less education and are likely to live in communities that are less polluted and have access to the resources necessary for good health, such as health facilities, healthy grocery stores, green space, and high-quality schools. Those with lower levels of educational attainment may find it more challenging to access these healthy resources if they do not live in these same communities.

1. Broadly, the areas with the highest percentage of Bachelor's degree attainment include the communities in and around the cities of Glendora, La Verne, Claremont, Walnut, and Diamond Bar, as well as the unincorporated communities of Rowland Heights and Hacienda Heights.

Vehicle Ownership: Access to a personal vehicle in an auto-dependent area such as the ESGV influences a person's ease of access to job opportunities, healthy grocery stores, or other quality amenities for a healthy lifestyle.

1. As many as about 40 percent of all households do not own a vehicle in some areas in the ESGV, and therefore may rely on transit or active modes of transportation. These households are dispersed throughout the region, showcasing reliance on different travel modes throughout the region.



Legend

Percent Senior Population

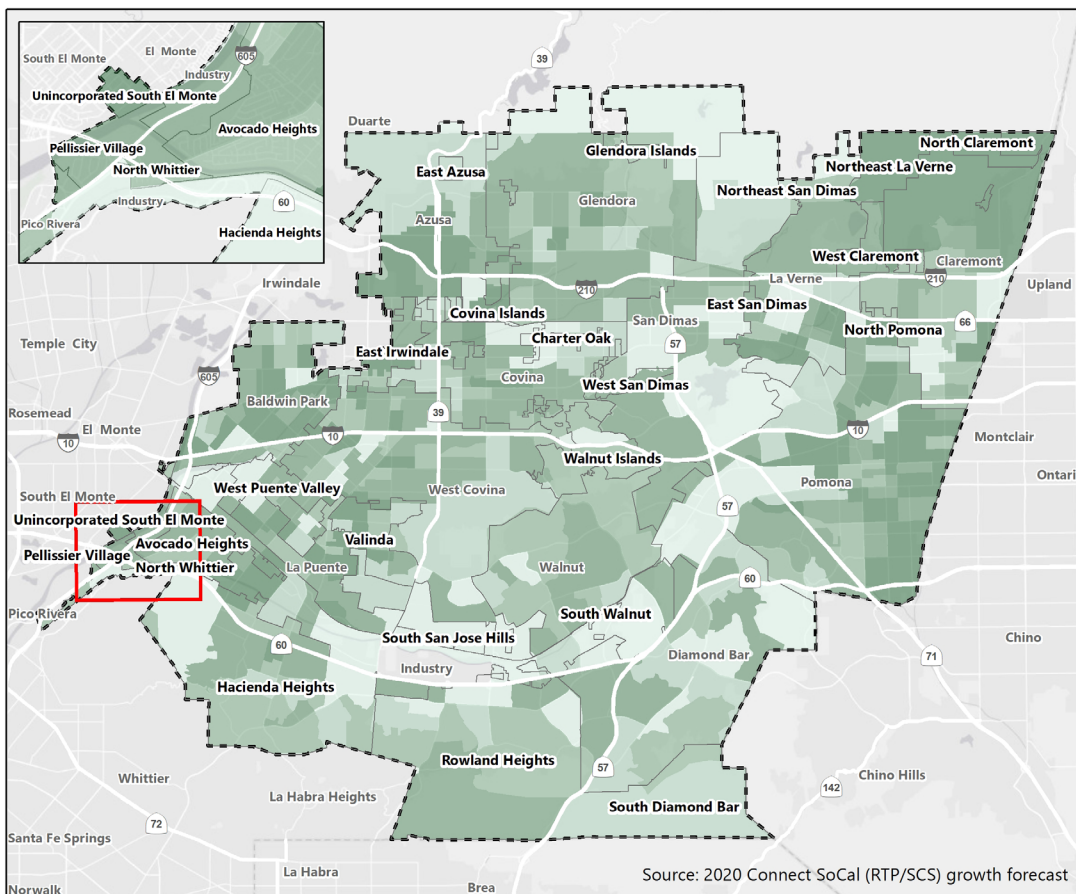
- 0% - 9%
- 10% - 15%
- 16% - 22%
- 23% - 34%
- 35% - 60%

--- ESGV Planning Area

N

0 2 5 MILES

Figure D.4
Senior Population



Legend

Percent Youth Population

- 0% - 5%
- 5% - 12%
- 13% - 16%
- 17% - 20%
- 21% - 27%

--- ESGV Planning Area

N

0 2 5 MILES

Figure D.5
Youth Population

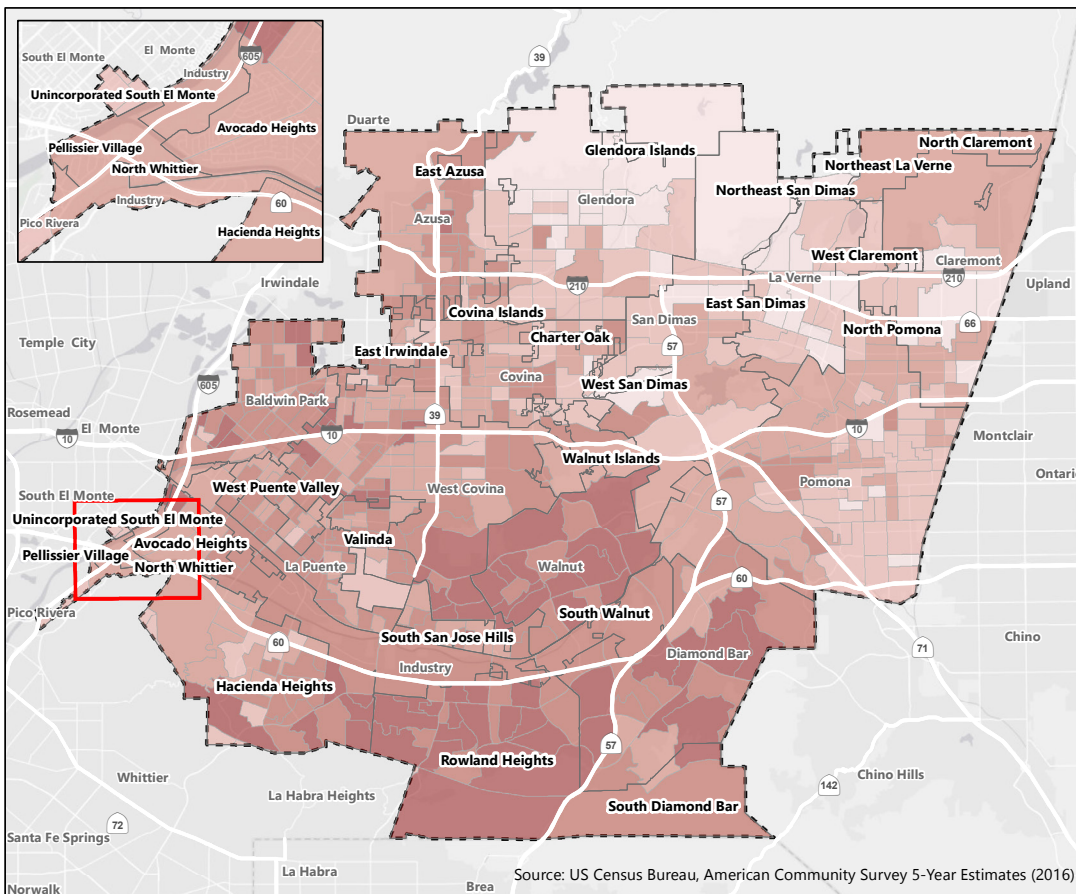


Figure D.6
Minority Population

0 2 5 MILES

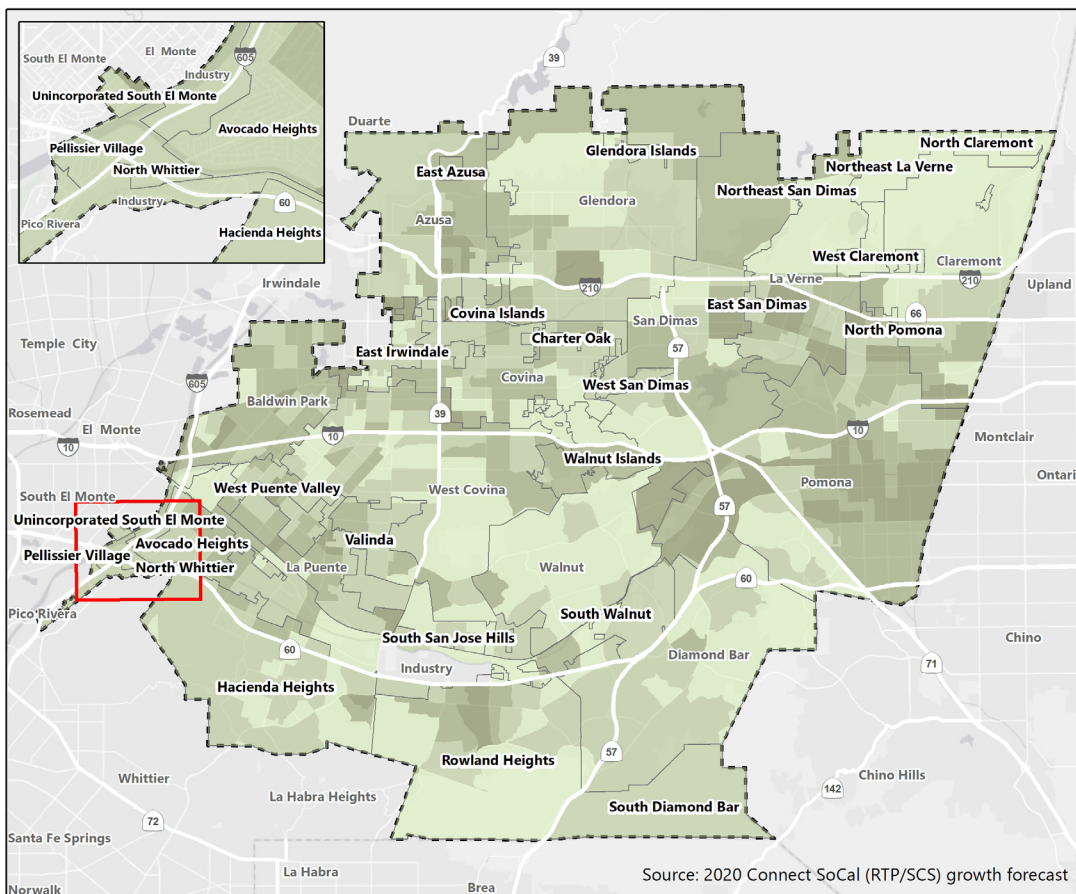
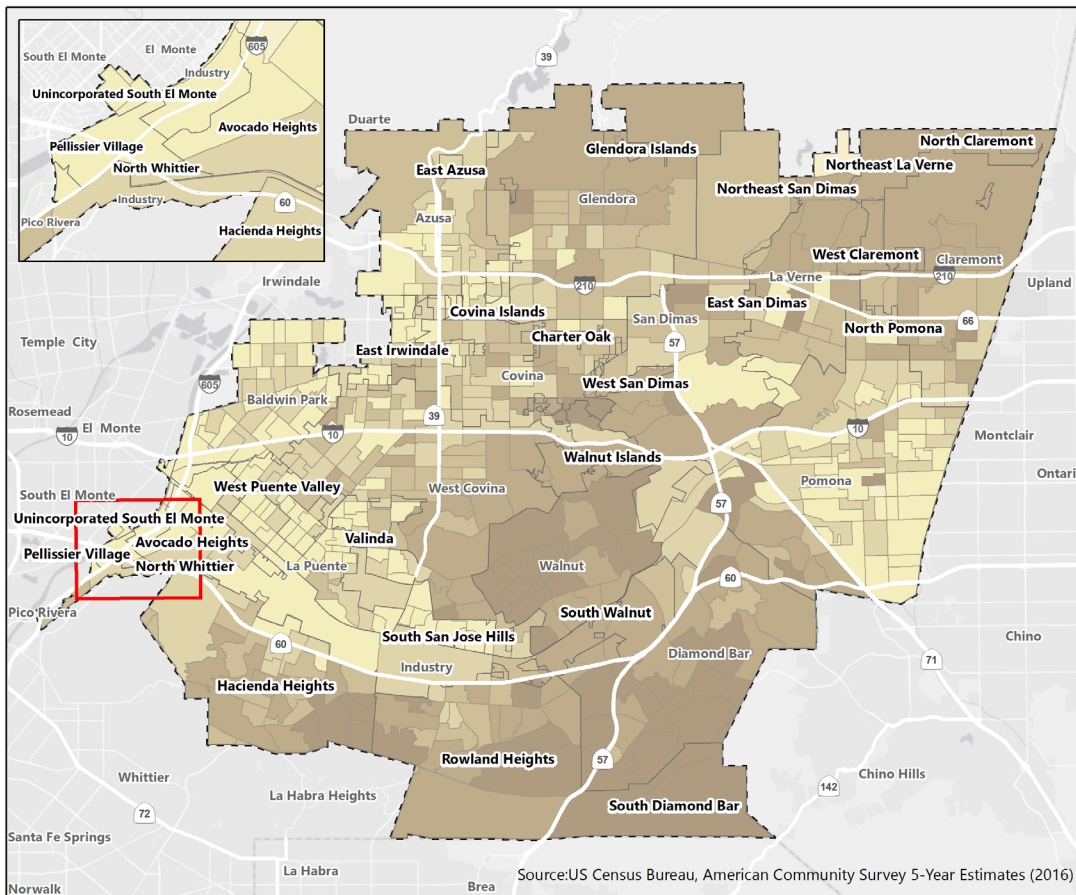


Figure D.7
Low-Income Population

0 2 5 MILES



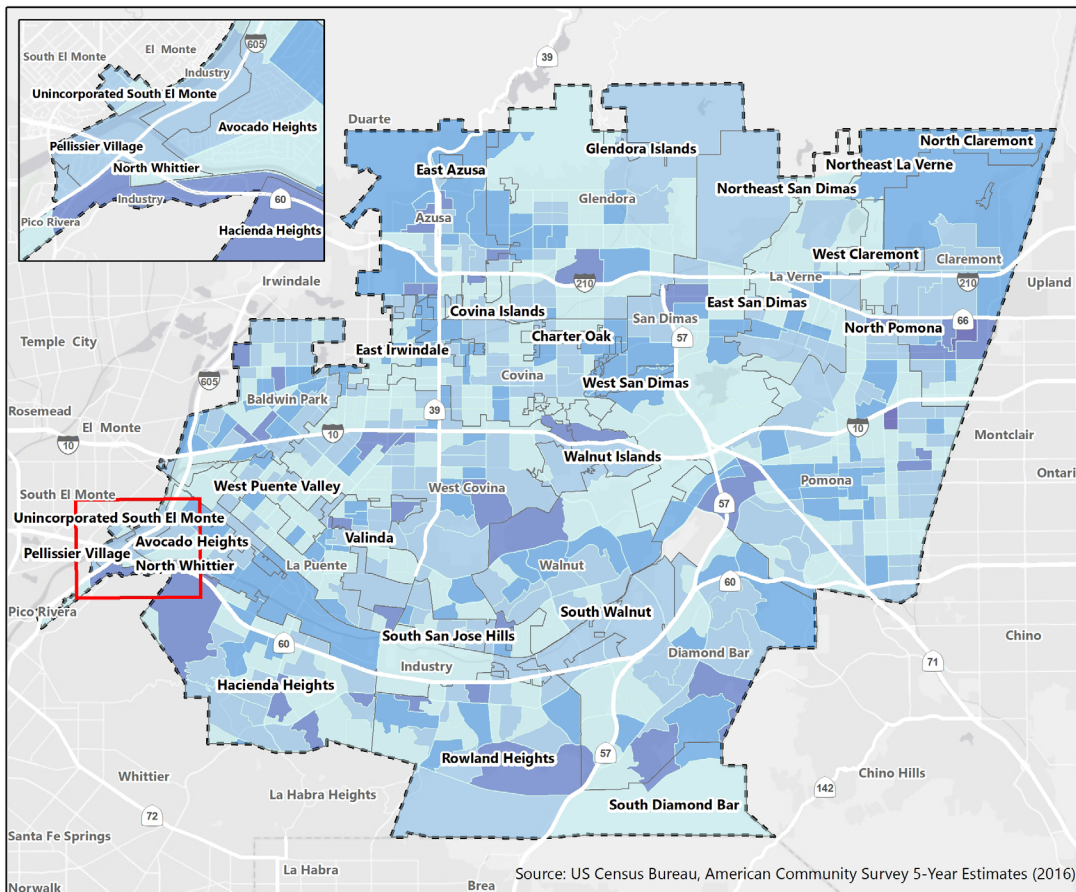
Legend
Percent Population with a Bachelors Degree

- 1% - 10%
 - 11% - 17%
 - 18% - 25%
 - 26% - 34%
 - 35% - 55%
- ESGV Planning Area



0 2 5 MILES

Figure D.8
Educational Attainment



Legend
% of Households with No Vehicle Available

- 0% - 2.2%
 - 2.3% - 6.5%
 - 6.6% - 11.7%
 - 11.8% - 21.1%
 - 21.2% - 43.3%
- ESGV Planning Area

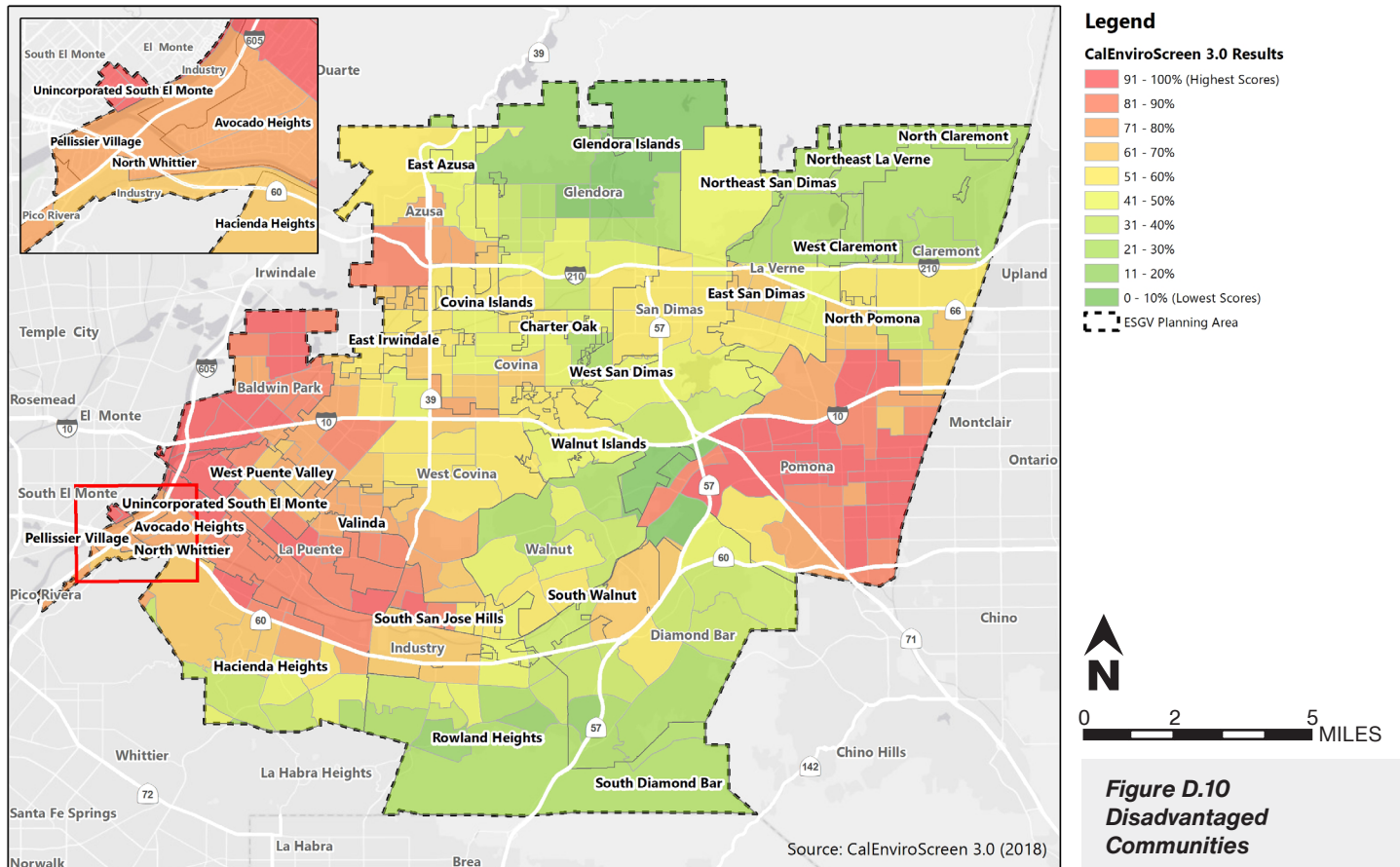


0 2 5 MILES

Figure D.9
Low-Income Households

D.3 Disadvantaged Communities

Mobility strategies should include equitable consideration of the several communities in the study area with differing socioeconomic and environmental needs. Of the 224 census tracts in the study area, a total of 76 census tracts are designated as disadvantaged, according to CalEnviroScreen¹ scores. These census tracts are located in the unincorporated communities of West Puente Valley, Valinda, North Whittier, and Walnut Islands, as well as the cities of Baldwin Park, parts of West Covina and southern Azusa, La Puente, and Pomona as shown in Figure 3.10:



¹ The Office of Environmental Health Hazard Assessment’s online tool, CalEnviroScreen 3.0, uses several indicators to determine a community’s status as disadvantaged, pursuant to Senate Bill 535, which was passed in April 2017. The indicators re organized into four categories per census tract: 1) exposure indicators – indicators based on measurements of different types of pollution that people may come into contact with; 2) environmental effect indicators – indicators based on the locations of toxic chemicals in or near communities; 3) sensitive population indicators – indicators that measure the number of people in a community who may be more severely affected by pollution because of their health or age; 4) socioeconomic factor indicators – conditions that may increase people’s stress or make healthy living difficult and cause them to be more sensitive to pollution’s effects. Data for exposure and environmental indicators are sourced from a variety of statewide organizations, including the California Air Resources Board. Data for demographic-related indicators are sourced from the American Community Survey through the U.S. Census Bureau and the California Department of Public Health. Each census tract is then given an overall score based on these indicators.