FOOTHILL BOULEVARD ACTIVE TRANSPORTATION PLAN

Table of Contents

1 Introduction 1
1.1 Background & Project Area 2
1.2 Active Transportation 3
1.3 Benefits of Active Transportation 7
1.4 Planning Documents 9
2 Existing Conditions & Analysis 14
2.1 Demographics 15
2.2 Transportation Mode 16
2.3 Existing Bicycle Facilities 18
2.4 Existing Pedestrian Facilities 21
2.5 Existing Transit Facilities 21
2.6 Land Use and Major Destinations 23
2.7 Pedestrian and Bicycle Collisions 26
2.8 Safe Route to School 26
2.9 Next Steps 27

List of Figures

Figure 1-1: Project Limits 3
Figure 2-1: Vehicle Ownership Within Three Jurisdiction 16
Figure 2-2: Transportation Modal Distribution - Adjacent and Nearby Census Tract 17
Figure 2-3: Transportation Modal Distribution - Three Jurisdictions 17
Figure 2-4: Level of Stress Analysis 20
Figure 2-5: Existing Bus Routes 22
Figure 2-6: City of Glendale Land Use 23
Figure 2-7: Unincorporated Community of La Crescenta-Montrose Land Use 24
Figure 2-8: City of La Cañada Flintridge Land Use 25
Figure 2-9: Bike and Pedestrian Collision Analysis 26

List of Tables

Table 2-1: Demographics – Sex and Age by Jurisdictions 15
Table 2-2: Demographics – Race by Jurisdictions 15
Table 2-3: Level of Traffic Stress 18
Table 2-4: Criteria for Bike Lanes Alongside a Parking Lane 19
Table 2-5: Criteria for Bike Lanes Not Alongside a Parking Lane 19

1 Introduction

1.1 Background & Project Area

In March 2021, Los Angeles County Public Works (Public Works) initiated development of the Foothill Boulevard Active Transportation Plan (Plan) in collaboration with the Cities of Glendale and La Cañada Flintridge. The Plan will assess the existing active transportation network and propose recommendations to increase accessibility, mobility, and connectivity in the area. Active transportation is the utilization of non-motorized transportation modes for travel, such as walking, biking, and skateboarding. For longer trips, active transportation can be combined with transit to reach a destination, making it crucial for active transportation infrastructure, such as bike lanes and sidewalks, to connect to nearby bus routes and rail networks.

The Plan will evaluate approximately six miles of Foothill Boulevard from Lowell Avenue in the City of Glendale to Oak Grove Drive in the City of La Cañada Flintridge. This corridor connects the two cities with the unincorporated community of La Crescenta-Montrose, as shown in Figure 1-1.

The study corridor is located approximately 13 miles north of downtown Los Angeles, nestled in the foothills of the San Gabriel Mountains, between the Angeles National Forest to the north and Interstate 210 Freeway to the south. The roadway width ranges from 39 to 80 feet and the study corridor generally has a total of five lanes, consisting of two lanes in each direction with a middle lane allowing left turns from either direction. Street parking is also generally available throughout the corridor with existing bike lanes in both directions between Alta Canyada Road in La Cañada Flintridge to Lowell Avenue in City of Glendale.

Within a half-mile radius of the study corridor, there are a variety of destinations, including 14 schools, four hiking trails, six parks, the Jet Propulsion Laboratory (JPL), major retail stores, and numerous restaurants. Enhanced active transportation infrastructure will improve mobility and accessibility along the corridor, which is also surrounded by both low- and high-density residential dwellings. The Plan will help shape future active transportation improvements along Foothill Boulevard and guide the transformation of the corridor to support all users of the roadway.

Figure 1-1: *Project Limits*

1.2 Active Transportation

Active transportation infrastructure can take many forms, but typically includes a variety of elements to build up a holistic network providing mobility and connectivity for all members of a community. The following examples are some typical improvements that can be implemented to increase the use of active transportation in a community:

Bicycle Facilities

Class I Bikeway (Bike Path)

A Class I bike path is dedicated right-of-way for bicyclists separate from the roadway. Pedestrians may also use the bike path only if there is no adequate pedestrian facility nearby.

Source: Google Maps

Class II Bikeway (Bike Lane)

A Class II bike lane is a restricted right-of-way designated for bicyclists to travel alongside motorists. Class II Bikeways do not permit pedestrian or vehicle through traffic but may allow pedestrian and motorist crossflows.

Source: Google Maps

Class III Bikeway (Bike Route)

A Class III bike route is a low-speed and low-volume roadway in which cyclists and motorists share the road. It is usually designated with a "BIKE ROUTE" road sign and/or "Sharrow" pavement markings. Bike routes are often intended to bridge missing bikeway segments to provide a continuous network.

Source: Google Maps

Class IV Bikeway (Separated Bike Lane)

A Class IV bike lane is an enhanced Class II bike lane with a raised physical separation between the bike lane and the vehicle lane. Physical separations can include a buffer with posts, grade separation, or on-street parking.

Source: Google Maps

Pedestrian Facilities

High Visibility Crosswalk

A high visibility crosswalk, including ladder style and continental style, can enhance existing street crossings and help motorists share the roadway with pedestrians by improving their awareness of potential activity.

Ladder Style Crosswalk, Source: Google Maps

Continental Style Crosswalk, Source: Google Maps

Curb Extension (Bulb-out)

A curb extension, or bulb-out, provides additional sidewalk space for pedestrians by extending the walkway into the roadway. Curb extensions shorten the crossing distance for pedestrians, slow turning vehicles, and enhance the ability of pedestrians and motorists to see each other. Curb extensions can be constructed with paint and flexible posts or bollards and/or concrete curb and gutter.

Source: Google Maps

Rectangular Rapid Flashing Beacon

Rectangular rapid flashing beacons provide flashing amber LED lighting that supplements pedestrian crossing signs to increase motorist awareness of pedestrian crossings. They can be user- or passively activated and can be installed at midblock locations or at unsignalized intersections without multiway stops.

Source: Google Maps

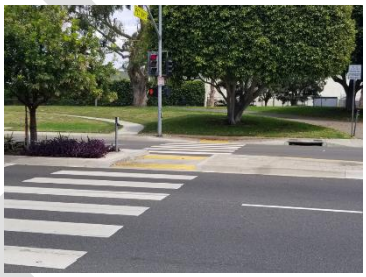
Midblock Crossing

In areas with long blocks where the intersections are spaced far apart, midblock crosswalks can provide a convenient crossing location for pedestrians. The safety of midblock crossings can be enhanced by installing high-visibility crosswalks, advanced stop lines, and pedestrian warning beacons.

Source: Google Maps

Pedestrian Refuge Island

A pedestrian refuge island is a protected area for pedestrians in the middle of a roadway. Refuge islands allow pedestrians crossing a multi-lane roadway to focus on only one direction of traffic at time by creating a safe waiting area until there is an adequate gap in traffic before starting the second phase of a crossing.



Source: Step by Step Los Angeles County: Pedestrian Plans for Unincorporated Communities

Signage and Amenities

Wayfinding Signage

Wayfinding signs provide guidance for all roadway users to various key destinations such as downtown, recreational attractions, city hall, and more.

Source: Google Maps

Bicycle Racks

Bicycle racks can provide a convenient space to temporarily store bicycles. Widespread availability of bicycle racks can increase bicycle ridership and encourage a cultural shift in favor of active transportation. Their design can also incorporate artistic or cultural elements that reflect community identity.

Source: Google Maps

Trees and Landscaping

Adding trees and landscaping along a parkway or raised median can enhance the experience for all travelers. Trees can reduce temperatures during the summer months and mitigate heat island effects. Landscaping can also act as a traffic calming measure by narrowing a motorist's field of vision to enhance safety for active transportation users, as well as motorists.

Source: Google Maps

1.3 Benefits of Active Transportation

Communities that embrace active transportation can experience various health, environmental, economic, and social equity benefits. Choosing to travel by walking or biking increases physical activity and can reduce the chance of developing heart disease and strengthen bones and muscles. Reducing the number of single-occupancy vehicular trips helps create a healthier environment and combats the effects of climate change by reducing greenhouse gas emissions. The implementation of this Plan will help promote health equity by providing increased transportation alternatives for transit-dependent and zero-vehicle households who live within and/or use the corridor.

Health

Despite life expectancy increasing over the decades, health in America continues to be a concern. According to the Southern California Association of Governments (SCAG) Connect SoCal Public Health Report, 30 percent of the population among the six counties in the SCAG Region (Los Angeles, Orange, Riverside, San Bernardino, Ventura, and Imperial) was obese in 2016. Furthermore, adults in these counties spent approximately $13 billion on healthcare-related costs in 2016. If the current trend continues, healthcare-related costs are anticipated to climb to over $17 billion in 2045 for the top three chronic diseases: high blood pressure, heart disease, and type 2 diabetes.[1]

[1] Southern California Association of Governments (2020). Connect SoCal Plan Performance Public Health

In addition to increased obesity rates and high blood pressure cases, vehicular pollutants such as fine particulate matter ("PM 2.5") and nitrogen dioxide, poses additional respiratory issues that can lead to and exacerbate poor health conditions. PM 2.5 are small particles emitted by vehicles and trucks. Breathing these particles can lead to adverse health effects such as heart and lung disease. Nitrogen dioxide is one of the byproducts of burning fossil fuel which, according to the Environmental Protection Agency (EPA), can irritate airways in the respiratory system, and long-term exposure can lead to asthma and respiratory infections.

The increased use of active transportation increases physical activity, which is an essential component in maintaining good physical and mental health. Opting for active travel modes whenever possible, such as biking and walking, can benefit individual and community wellness. When more travelers opt to utilize active transportation in lieu of driving motor vehicles, a community will benefit from reduced vehicular pollutants thereby reducing exposure to particles that can lead to poor respiratory health.

Environmental

Greenhouse gases are a byproduct of burning fossil fuel that negatively impacts the environment and public health. The EPA estimates that the average vehicle travels 11,500 miles and emits 4.6 metric tons of greenhouse gases per year.[2] The American Community Survey (ACS) conducted by the U.S. Census Bureau estimates that in 2019, approximately 90,000 single-occupancy vehicles commuted daily across Glendale, La Crescenta-Montrose, and La Cañada Flintridge.[3] A five percent reduction of vehicles would equate to an annual decrease of 21,000 metric tons of greenhouse gas emissions. According to the California Air Resources Board, greenhouse gas emissions from transportation accounted for 41 percent of the total emissions in California in 2018.[4] Encouraging and providing opportunities for increased active transportation is crucial as it can reduce the number of vehicles on the road, which will improve local and regional air quality.

Economic

Active transportation provides a sustainable alternative to single-vehicle occupancy trips and provides multiple economic benefits. Over the years, the costs to own and maintain a vehicle have been increasing. In 2021, the average price of a new vehicle in the U.S. was over $40,000 according to Kelley Blue Book.[5] The American Automobile Association estimates that the annual cost to own a vehicle in 2019 was over $9,000.[6] Shifting from vehicular to active transportation can substantially reduce household transportation-related expenditures. Fewer vehicles on the road will slow roadway deterioration, reducing maintenance costs. Active transportation facilities can help attract tourists and increase sales for lodging, retail, and restaurants which can bolster the local economy.

[2] United States Environmental Protection Agency (2018). Greenhouse Gas Emissions from a Typical Passenger Vehicle

[3] U.S. Census Bureau American Community Survey 2015 – 2019 5-Year Data Profile

[4] California Air Resources Board 2000 – 2018 GHG Inventory (2020 Edition)

[5] Buehler, Brenna. Average New-Vehicle Prices Continue to Surpass $40,000 Up More Than 5% in January 2021, According to Kelley Blue Book (2021). Kelley Blue Book Press Release

[6] Sheldon, Andrew. It Now Costs More Than Ever to Own a Car (2020). YourAAA Daily

Residents along robust and attractive active transportation corridors can also benefit from increased property values.

Social Equity
According to 2019 ACS data, approximately 12 percent of households in the City of Glendale, La Crescenta-Montrose community, and the City of La Cañada Flintridge are living in poverty and are therefore less likely to own a reliable vehicle. Individuals who do not own a vehicle or have been impacted by increased transportation costs will benefit greatly from the increased mobility and connectivity provided by active transportation improvements. This can improve one's personal economy as the enhanced active transportation network can provide connections to greater job opportunities. Improving the existing active transportation infrastructure will foster equity for disadvantaged communities and communities of color by allowing for greater employment opportunities and positive health benefits.

1.4 Planning Documents

Local, regional, and state planning documents provide guidance on active transportation goals and strategies to help create a sustainable and equitable transportation infrastructure. These documents were reviewed to ensure that the recommendations in this Plan align with the guidelines and objectives of existing planning documents. This Plan will utilize goals and strategies listed in the following documents for guidance in developing proposed improvements:

Los Angeles County
County of Los Angeles Bicycle Master Plan 2012 – Adopted in 2012, the Bicycle Master Plan established a comprehensive vision for the Countywide bikeway network and infrastructure to create additional opportunities for active transportation and recreation. This plan was an update to the previous 1975 County Bikeway Plan and expanded from 144 to over 200 miles of bikeway facilities. The following bicycle facilities are proposed along corridors within the La Crescenta-Montrose community:

Class II
- Ocean View Boulevard between Foothill Boulevard and Honolulu Avenue
- Montrose Avenue between Rosemont Avenue and Montrose Lane

Class III
- Ramsdell Ave between Markridge Road and Montrose Avenue
- La Crescenta Avenue between Orange Avenue and Montrose Avenue
- Rosemont Ave between Rockdell Street to Honolulu Avenue
- Briggs Avenue between Shields Street to Foothill Boulevard
- Orange Avenue between Pennsylvania Avenue to Briggs

Public Works is currently in the process of updating the County of Los Angeles Bicycle Master Plan 2012, which will reevaluate the proposed corridors and potentially, add additional corridors. The updated plan is expected to be completed in mid-2024.

Vision Zero Los Angeles County: A Plan for Safer Roadways – Vision Zero is a data-driven, international traffic safety movement to eliminate traffic fatalities and injuries. The goal of Los Angeles County's Vision Zero initiative is to eliminate traffic-related fatalities on unincorporated County roadways by 2035. The Vision Zero Action Plan identified Collision Concentration Corridors (CCCs) throughout the County, which is defined as any half-mile roadway segment that contained three or more fatal or severe injury collisions between January 1, 2013 and December 31, 2017 within County roadways. No segments along the project area or its surrounding corridors have been identified as CCCs. However, this project will review if any of the recommended actions can be implemented along Foothill Boulevard to further enhance safety consistent with the goals of Vision Zero.

Los Angeles County General Plan – This high-level policy document outlines a planning framework for the County's 2,600+ square miles, including measures to employ smart growth; create a strong and diverse economy; manage the County's natural resources; and provide healthy, livable and equitable communities. Foothill Boulevard is identified as an active commercial corridor that provides retail, restaurants, and services to the communities and an opportunity for pedestrian and bicycle infrastructure improvements. Creating a multimodal transportation system for motorists, pedestrians, and bicyclists is one of the goals set in the County General Plan. Relevant goals to improve mobility include the following:

- Street designs that incorporate the needs of all users
- Interconnected and safe bicycle- and pedestrian-friendly streets, sidewalks, paths, and trails that promote active transportation and transit use
- Streets that incorporate innovative designs
- An efficient multimodal transportation system that serves the needs of all residents

Step by Step Los Angeles County: Pedestrian Plans for Unincorporated Communities – This General Plan-level document identifies actions, policies, procedures, and programs to increase walkability across the County's unincorporated communities, including La Crescenta-Montrose. Two major goals of the plan are elimination of all fatalities and severe injuries involving pedestrians and making walking the easy and healthy choice for residents. To date, it also includes Community Pedestrian Plans with specific infrastructure and program recommendations for four unincorporated communities; with additional communities prioritized based on safety and equity as resources allow. A future La Crescenta-Montrose Community Pedestrian Plan would be informed in part by this Foothill Boulevard Active Transportation Plan.

Neighboring Cities

City of La Cañada Flintridge General Plan 2030 – Adopted in 2013, the document developed goals, objectives, and policies that provide direction for the City's 2030 vision. The vision includes maintaining the City's safe and small town feeling while continuing to make the downtown vibrant where residents can enjoy shopping and dining. The latest General Plan is the first major update since 1980 and includes considerations such as land use, housing, circulation, and safety. The General Plan recommends a combination

of Class II and III bikeways along Foothill Boulevard. Additional Class III bikeways have been proposed for side streets such as Oakwood Avenue and La Cañada Boulevard.

Glendale Safe & Healthy Streets Plan – Adopted in 2011, the City of Glendale collaborated with the Los Angeles County Bicycle Coalition to develop the City's first Safe and Healthy Streets Plan. The document developed goals and identified resources to create a safer and healthier environment for residents. The Glendale Safe & Healthy Streets Plan aims to reduce barriers for vulnerable communities and create a better transportation network with equity in mind. The five main goals of the document are the following:

- Goal 1: Educate and inform residents about pedestrians and bicycle safety
- Goal 2: Encourage the Glendale community to walk or ride a bike for recreation, transportation, and health
- Goal 3: Support enforcement best practices for bicycle and pedestrian safety
- Goal 4: Continue to enhance pedestrian and bicycle safety in all Capital Improvement Projects. Use best practices to improve and enhance ease of use and safety, ensuring routine accommodation of pedestrians and bicyclists
- Goal 5: Develop performance measures that track and analyze the effectiveness of policies, programs, infrastructure, and events

North Glendale Community Plan – In 2011, the City adopted the North Glendale Community Plan which outlines policies for neighborhood and commercial development near La Crescenta-Montrose. Foothill Boulevard is considered a "suburban corridor", intended to move vehicular traffic through commercial areas; and is designated a "Pedestrian Priority Area" between Lauderdale and Dunsmore Avenues. The Plan suggests specific enhancements for the priority area including curb extensions, a bus-only lane, streetscape improvements, median refuge islands, and signalized mid-block crossings. The document also recommends improvements to accommodate all users along the corridor, including the following:

- Improve streetscapes, landscapes, and intersections for all users
- Maintain existing bikeways and provide bicycle parking
- Maintain existing transit service and enhance bus stop amenities such as shelters, benches, and trash cans

City of Glendale Bicycle Transportation Plan – In 2012, the City of Glendale adopted a citywide bicycle plan to create healthier lifestyles, reduce dependence on vehicles, and create vibrant neighborhoods. The City collaborated with local advocates, schools, business owners, etc. and created an inclusive bicycle plan. The Bicycle Transportation Plan helped plan, design, and implement bicycle facilities and the current document is being updated with an estimated completion date of 2023. The document identified existing bikeways near Foothill Boulevard, which include Class II bike lanes on Santa Carlotta Street and Class III bike routes along New York Avenue and Dunsmore Avenue.

Glendale Citywide Pedestrian Plan – Adopted in 2021, this two-part planning document focuses on improving pedestrian facilities and safety. Part 1 of the plan analyzed existing planning documents/policies, counts, and infrastructure. Part 2 identified potential pedestrian facility improvements along various corridors and developed policies to create a convenient and safe environment for pedestrians. Below are policies relevant to this Plan:

- Implement Leading Pedestrian Intervals at select intersections based on pedestrian volumes and collision history
- Optimize signal timing, phasing, and hardware tools to separate conflicting pedestrian-vehicle movements and provide default walk signal phases
- Explore opportunities to deploy automated enforcement technologies citywide, especially in high priority areas and where there are large concentrations of vulnerable pedestrians, including schoolchildren and seniors
- The Glendale Citywide Pedestrian Plan will develop the Glendale Vision Zero Plan to help eliminate fatal and serious pedestrian collisions throughout the City. The main focus of the document includes safe street design, speed reduction, education/enforcement, and equity.

Regional

Connect SoCal – This is the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy developed by the Southern California Association of Governments (SCAG), a metropolitan planning organization that oversees six counties and 191 cities. Connect SoCal is a long-range vision planning document that outlines strategies to address issues in transportation, housing, public health, environment, and more. The latest plan proposed over 4,000 transportation projects based on input from local governments, stakeholders, non-profit organizations, and businesses.

State

California Transportation Plan 2050 – Adopted in 2021, this is the State's long-term transportation plan that identified 14 recommendations and support actions to improve transportation mobility and to work towards creating sustainable transportation. The plan focused on transportation safety, accessibility, equity, public health, economy, environment, and infrastructure. It planned to tackle climate change and support Senate Bill 391 California Transportation Plan (2009) to reduce greenhouse gas emissions to 80 percent below 1990 levels by 2050.

Toward an Active California, State Bicycle + Pedestrian Plan – This is the first statewide plan for active transportation that supports travel by biking and walking. The vision of the plan is for all residents of California to safely, conveniently, and comfortably walk and bike by 2040. The plan developed four objectives to improve bicycle and pedestrian facilities:

- **Safety** – Reduce the number, rate, and severity of bicycle and pedestrian involved collisions
- **Mobility** – Increase walking and bicycling in California
- **Preservation** – Maintain a high-quality active transportation system

- **Social Equity** – Invest resources in communities that are most dependent on active transportation and transit

To support the objectives, the document identified 15 strategies and 60 actions. The strategies and actions will help achieve the goal of significantly increasing walking/biking trips while reducing fatalities by 10 percent per year and increase complete streets projects. Below are few strategies and actions relevant to the Foothill Boulevard Active Transportation Plan:

Strategies

- Develop local and regional networks of high-quality bicycle and pedestrian facilities for all ages and abilities
- Promote bicycling and walking for everyday transportation, recreation, improved health, and active living
- Integrate bicycle and pedestrian needs in planning and design of multimodal transportation systems and services

Actions

- Incorporate first mile/last mile planning for bicycle/pedestrian access needs for all intercity/high speed rail and transit systems
- Consider access to economic opportunity as a critical component to serving disadvantaged communities

2 Existing Conditions & Analysis

2.1 Demographics

Understanding the demographics of a community helps decision makers plan for and identity appropriate traffic safety projects and programs. The six-mile Foothill Boulevard corridor traverses through the Cities of Glendale and La Cañada Flintridge and the unincorporated community of La Crescenta-Montrose. The City of Glendale is located adjacent to the Verdugo Mountains at the western end of the study corridor with an area of 31 square miles. According to 2019 ACS, Glendale's population was 200,232, making it the largest out of the three jurisdictions. The City of La Cañada Flintridge is located at the eastern end of the study corridor in the Crescenta Valley. The City has an area of 8.6 square miles with a population of 20,261 residents. La Crescenta-Montrose is located in-between the Cities of Glendale and La Cañada Flintridge. The community is approximately 3.4 square miles with a population of 19,689[7]. Demographics for the three jurisdictions, including sex, age, and race, were compiled using the 2019 ACS and are shown in Tables 2-1 and 2-2.

	Male	Female	Median Age
Glendale	47%	53%	42
La Cañada Flintridge	48%	52%	45
La Crescenta-Montrose	49%	51%	43
Adjacent/Nearby Census Tracts	48%	52%	N/A

Table 2-1: *Demographics – Sex and Age by Jurisdictions*

	White	Hispanic or Latino	Asian	Black	Two or More Races	All Other
Glendale	74.1%	17.5%	16.2%	1.8%	3.4%	4.5%
La Cañada Flintridge	60.3%	10%	31.1%	0.8%	6%	1.8%
La Crescenta-Montrose	61.1%	16.3%	27.8%	0.3%	5.2%	5.6%
Adjacent/Nearby Census Tracts	61.5%	16.8%	27.8%	0.5%	5.8%	4.4%

Table 2-2: *Demographics – Race by Jurisdictions*

[7] U.S. Census Bureau American Community Survey 2015 – 2019 5-Year Data Profile

2.2 Transportation Mode

Within all three jurisdictions, single-occupancy vehicles were the most utilized mode choice of transportation. According to the 2019 ACS estimate, 90 percent of households within the three jurisdictions own at least one vehicle.

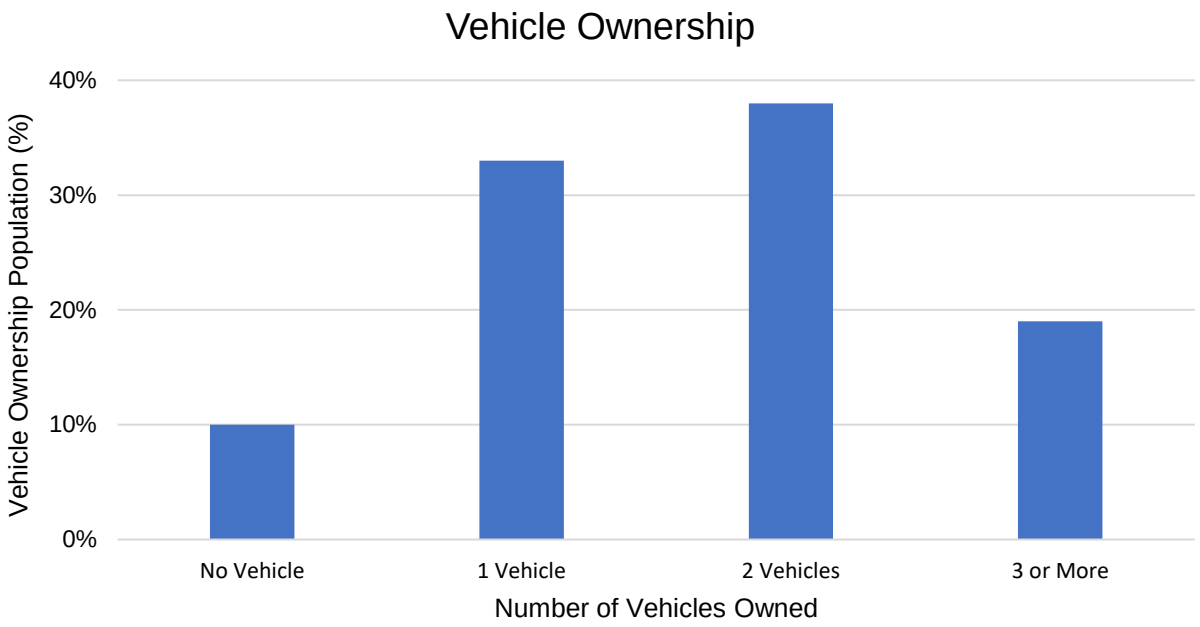


Figure 2-1: *Vehicle Ownership Within Three Jurisdiction*

The latest active transportation data were evaluated to understand the demographics and the type of improvements that would be most appropriate. Using 2019 ACS data, there were over 114,000 residents in the workforce across all three jurisdictions who were at least 16 years old. The figure below illustrates the breakdown of the transportation mode utilized by residents when commuting to work. The data found that nearly 80 percent of the residents drove alone to work and only three percent walk or utilize public transit as a viable mean of transportation. Figure 2-2 provides further breakdown of the different transportation modes. Along adjacent and nearby census tracts, commuters who drove alone to work increased to 83 percent while those who walked accounted for only one percent as shown in Figure 2-3.[8] Single-occupancy vehicle trips still account for most travel to work, which suggests an opportunity for providing alternatives to driving alone.

[8] U.S. Census Bureau American Community Survey 2015 – 2019 5-Year Data Profile

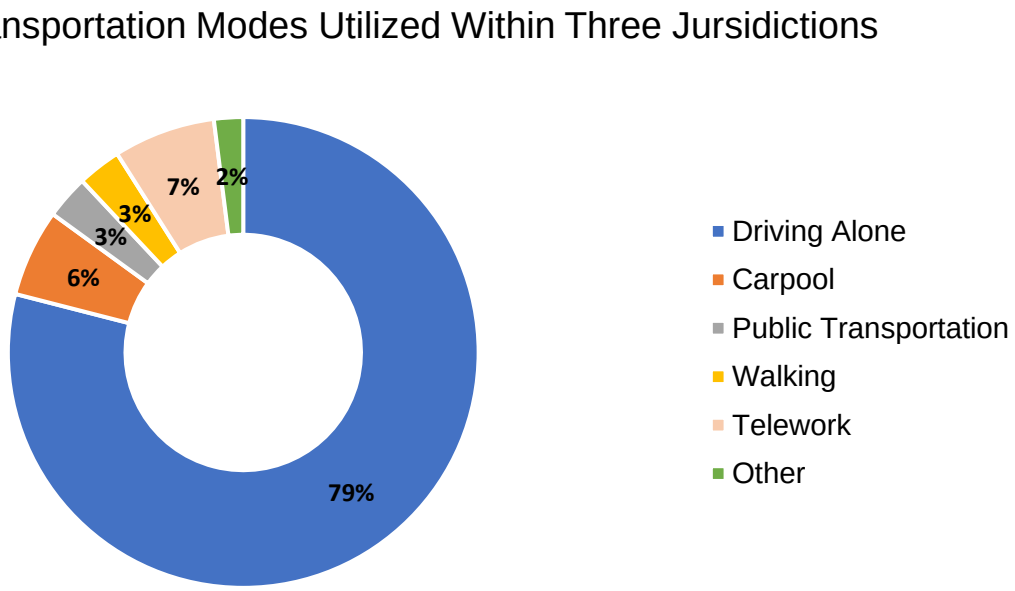


Figure 2-2: *Transportation Modal Distribution - Adjacent and Nearby Census Tract*

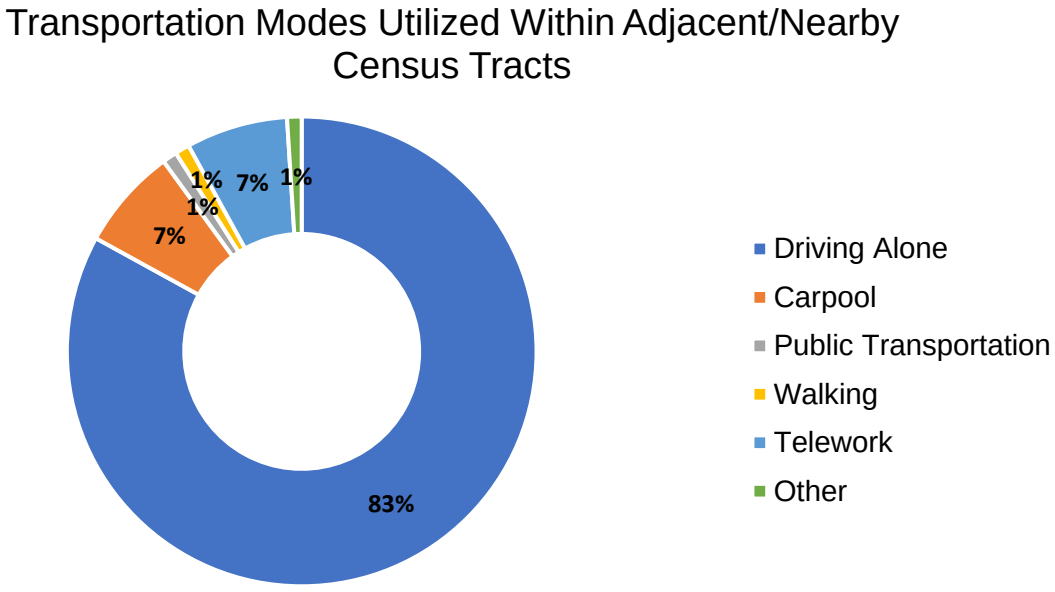


Figure 2-3: *Transportation Modal Distribution - Three Jurisdictions*

2.3 Existing Bicycle Facilities

Existing bicycle facilities along Foothill Boulevard generally consist of Class II bike lanes that start west of Alta Canyada Road in La Cañada Flintridge and continue through La Crescenta-Montrose and beyond the westerly project boundary at Lowell Avenue in Glendale. The Class II bike lane ranges from four to six feet wide and is striped between the travel lane and the parking lane within the project boundary.

The City of La Cañada Flintridge is planning to improve active transportation facilities along Foothill Boulevard between La Cañada Plaza Road and Hillard Avenue through their Foothill Boulevard Link Bikeway & Pedestrian Greenbelt Project. Bicycle facility improvements include a half mile of new Class I bike path on the south side of Foothill Boulevard, bicycle signal detection, bicycle push buttons, and more. Travel lanes will be narrowed to accommodate the proposed improvements and the project is anticipated to be completed in early 2022.

Level of Traffic Stress is a rating system developed by the Mineta Transportation Institute at San Jose State University which measures the comfort level of bicyclists based on roadway characteristics. This rating system is commonly used to help planners identify the stress level experienced by cyclists along a roadway. The characteristics considered include roadway width, combined bike and parking lane width, posted speed limit, and bike lane blockage (e.g., double-parked cars, cars maneuvering into parking places, etc.). There are four levels (LTS 1 to 4) in the rating system that rate the roadway as shown in Table 2-3. Roadways having a LTS 1 are considered suitable for all bicyclists while LTS 4 represents a high-stress environment and is typically only suited for the most experienced bicyclists.

Level of Traffic Stress	
LTS 1	Presenting little traffic stress and demanding little attention from bicyclists and attractive enough for a relaxing bike ride. Suitable for almost all bicyclists, including children
LTS 2	Presenting little traffic stress and therefore suitable to most adult bicyclists but demanding more attention than might be expected from children
LTS 3	Presenting moderate traffic stress and suitable for confident bicyclists
LTS 4	Presenting moderate to heavy traffic stress and suitable for the most experienced bicyclists

Table 2-3: *Level of Traffic Stress*
Source: Low-Stress Bicycling and Network Connectivity MTI Report 11-19

Using the LTS analysis, the study corridor was evaluated to determine the comfort level for bicyclists traveling along a roadway. The LTS analysis have criteria for dedicated bike lanes and bike routes. For dedicated bike lanes, there are different criteria based on whether the bike lane is adjacent to on-street parking or the street curb. Since there are segments of bike lanes along Foothill Boulevard that are adjacent to on-street parking or the curb, both criteria were used to determine the LTS. Tables 2-4 and 2-5 provide detailed descriptions of the criteria used to evaluate the stress level. Each criterion has four parameters: vehicle lane width, parking lane and/or bike lane width, speed limit or prevailing speed, and bike lane blockage. When conducting analysis of different

segments along the corridor, the parameter with the highest stress level governs[9]. For example, if a roadway has two lanes in each direction with a speed limit of 30 mph, it would be classified as LTS 3 due to the number of lanes.

Criteria for Bike Lanes Alongside a Parking Lane				
	LTS ≥ 1	LTS ≥ 2	LTS ≥ 3	LTS ≥ 4
Number of vehicle lanes (through lanes per direction)	1	N/A	2 or more	N/A
Sum of bike and parking lane width (includes marked buffer and paved gutter)	15 ft or more	14 or 14.5 ft[a]	13.5 ft or less	N/A
Speed limit or prevailing speed	25 mph or less	30 mph	35 mph	40 mph or more
Bike lane blockage (typically applies in commercial areas)	rare	N/A	frequent	N/A

Table 2-4: *Criteria for Bike Lanes Alongside a Parking Lane*
N/A = factor does not trigger an increase to this level of traffic stress
[a] if speed limit < 25 mph or Class = residential, then any width is acceptable for LTS 2
Source: Low-Stress Bicycling and Network Connectivity MTI Report 11-19

Criteria for Bike Lanes Not Alongside a Parking Lane				
	LTS ≥ 1	LTS ≥ 2	LTS ≥ 3	LTS ≥ 4
Number of vehicle lanes (through lanes per direction)	1	2 with raised median	More than 2, or 2 with no raised median	N/A
Bike lane width (includes marked buffer and paved gutter)	6 ft or more	5.5 ft or less	N/A	N/A
Speed limit or prevailing speed	30 mph or less	(no effect)	35 mph	40 mph or more
Bike lane blockage (typically applies in commercial areas	rare	N/A	frequent	N/A

Table 2-5: *Criteria for Bike Lanes Not Alongside a Parking Lane*
N/A = factor does not trigger an increase to this level of traffic stress
Source: Low-Stress Bicycling and Network Connectivity MTI Report 11-19

There are two travel lanes in each direction along Foothill Boulevard. The 85th-percentile speed, or prevailing speed, is defined as the observed speed at or below where 85 percent of vehicles travel. The 85th-percentile speed is a factor that is considered when evaluating bikeway feasibility. The 2017 speed data is listed below:

[9] Furth, Peter G. and Mekuria, Maaza C. and Nixon, Hilary. Low-Street Bicycling and Network Connectivity (2012). San Jose State University Mineta Transportation Institute Report 11-19

City of La Cañada Flintridge

- Speed ranges between 33 to 40 mph where the posted speed limit is between 30 and 35 mph (Oak Grove Drive to West City Limit)

Unincorporated Community of La Crescenta-Montrose

- Speed ranges between 40 to 41 mph where the posted speed limit is 40 mph (Glenwood Avenue to Cloud Avenue)

City of Glendale

- Speed ranges between 39 to 41 mph where the posted speed limit is 40 mph (Pennsylvania Avenue to Lowell Avenue)

The combined width of bicycle and street parking lanes range between 12 to 14 feet and the bike lane width ranges between 4 to 6.5 feet within the project boundary. Using the parameters above, the corridor consists of LTS 3 and 4, as shown on the map below.

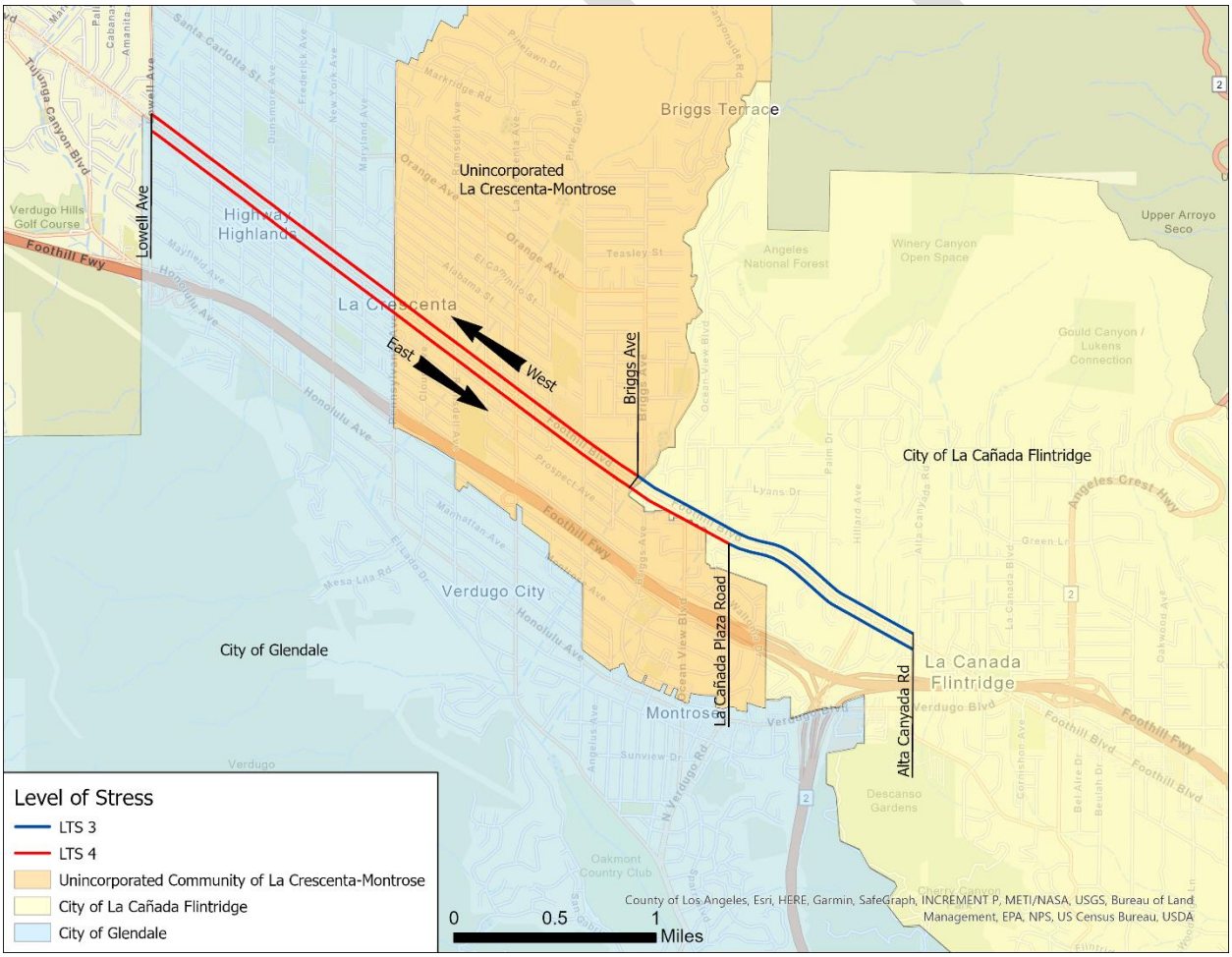


Figure 2-4: *Level of Stress Analysis*

2.4 Existing Pedestrian Facilities

The existing conditions of pedestrian facilities were field evaluated along the study corridor between April and May 2021. The evaluation included noting the presence of and user experience at sidewalks, crosswalks, curb ramps, pedestrian signals, and more. Overall, existing pedestrian facilities were adequate and generally did not hinder mobility or connectivity.

In addition to the proposed Class I bike path, the City of La Cañada Flintridge's Foothill Boulevard Link Bikeway & Pedestrian Greenbelt Project will incorporate pedestrian paths, bulb-outs, and street lighting to further enhance pedestrian mobility and safety along the corridor. The project scope will also include streetscape beautification to further encourage active transportation use and improve safety by creating a barrier between vehicles and pedestrians.

2.5 Existing Transit Facilities

The field analysis also evaluated bus waiting areas and the majority included a shade structure, bench, and trash receptacle that are in good condition. However, there are multiple locations where shade structures do not exist. In addition, the design and the material of the structure varies depending on the jurisdictions. This Plan will evaluate if recommendations can be made to improve existing transit facilities and potentially increase ridership and create cohesion along the corridor between the jurisdictions.

There are two bus routes (Route 3 and 33) from the Glendale Beeline, a municipal bus service operated by the City of Glendale, as well as Route 90 operated by the Los Angeles County Metropolitan Transportation Authority (LA Metro) within the area. Route 33 connects the Jet Propulsion Laboratory (JPL) in La Cañada Flintridge to the La Crescenta-Montrose community, and Route 3 connects Downtown Glendale to JPL and other popular destinations such as the Glendale Community College, The Americana at Brand, Memorial Park, La Cañada Flintridge Civic Center, and more. Route 90 extends from Downtown Los Angeles to Foothill Boulevard and continues beyond the project area where it provides connection to Hollywood Burbank Airport. Route 690 is another bus service just north of the project area that connects to Sylmar and the City of San Fernando.

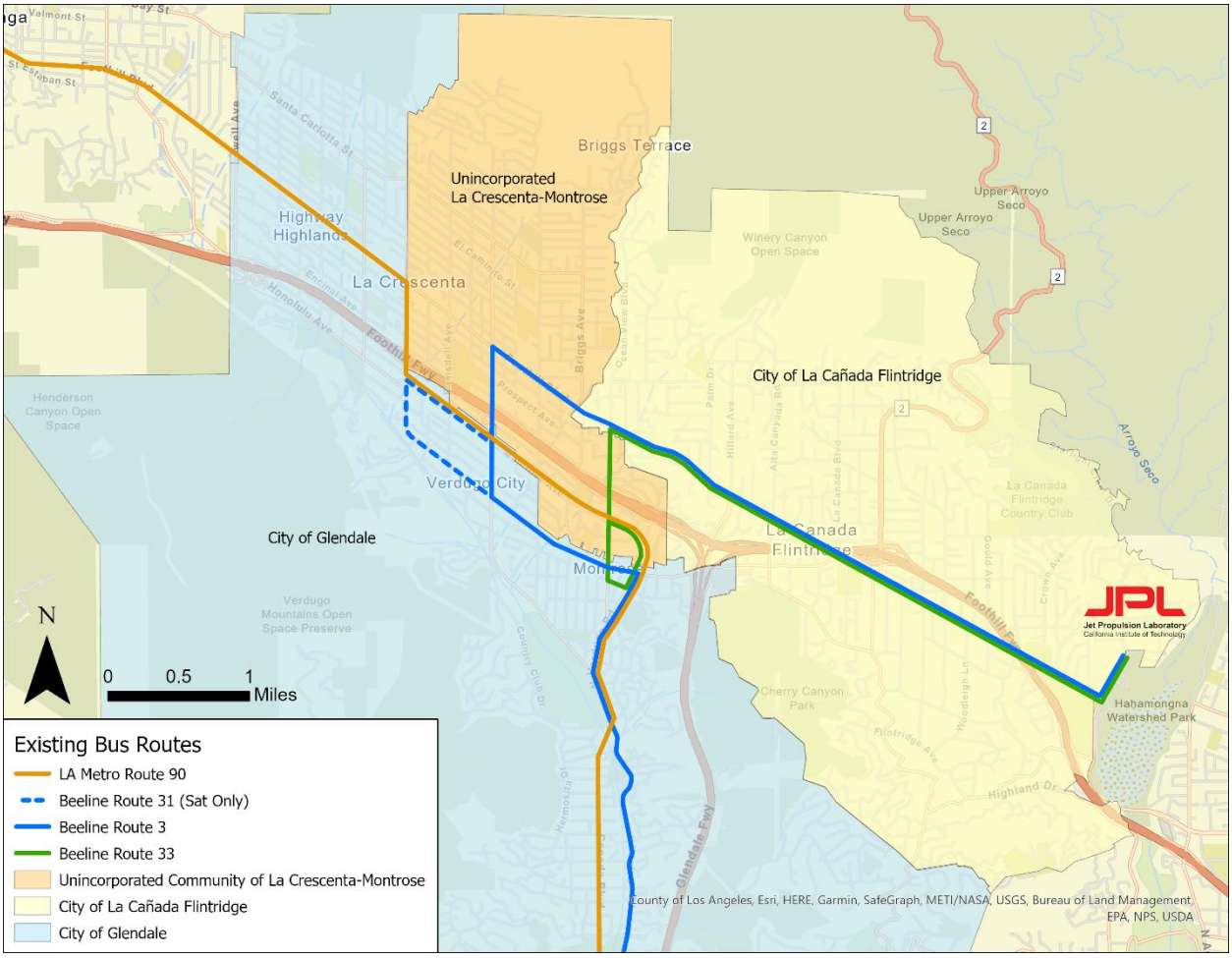


Figure 2-5: *Existing Bus Routes*

2.6 Land Use and Major Destinations

City of Glendale

Existing land use within the City of Glendale boundary (Foothill Boulevard between Lowell Avenue and Pennsylvania Avenue) mainly consists of commercial buildings along both sides of the corridor with low-density residential dwellings. Glendale has large areas of recreational/open space near the northern city limit at Deukmejian Wilderness Park as well as Dunsmore Park and New York Park near Foothill Boulevard. The Montrose Shopping Park along Honolulu Avenue is a major retail destination with nearly 200 businesses including shopping, dining, and beauty services. The Montrose Shopping Park also hosts community events such as the Montrose Harvest Market every Sunday, Montrose Car Show, Montrose Arts and Crafts Festival, and Halloween Spooktacular.

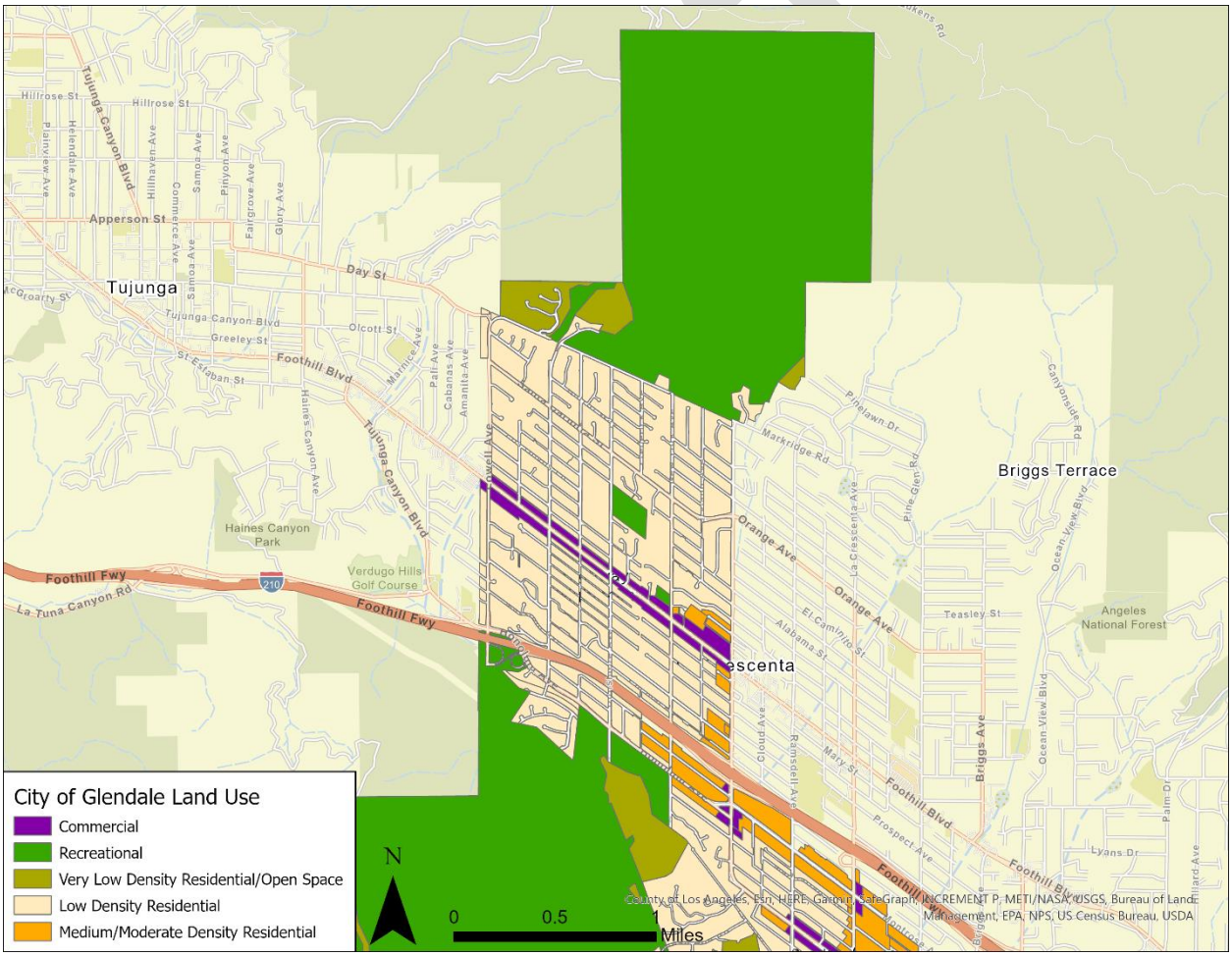


Figure 2-6: *City of Glendale Land Use*

La Crescenta-Montrose

Land use along the corridor within La Crescenta-Montrose consists of commercial and retail properties that include restaurants and personal/professional services, with single- and multi-family residential properties to the north and south. Other key destinations include the library, park, shopping center, and multiple dining establishments.

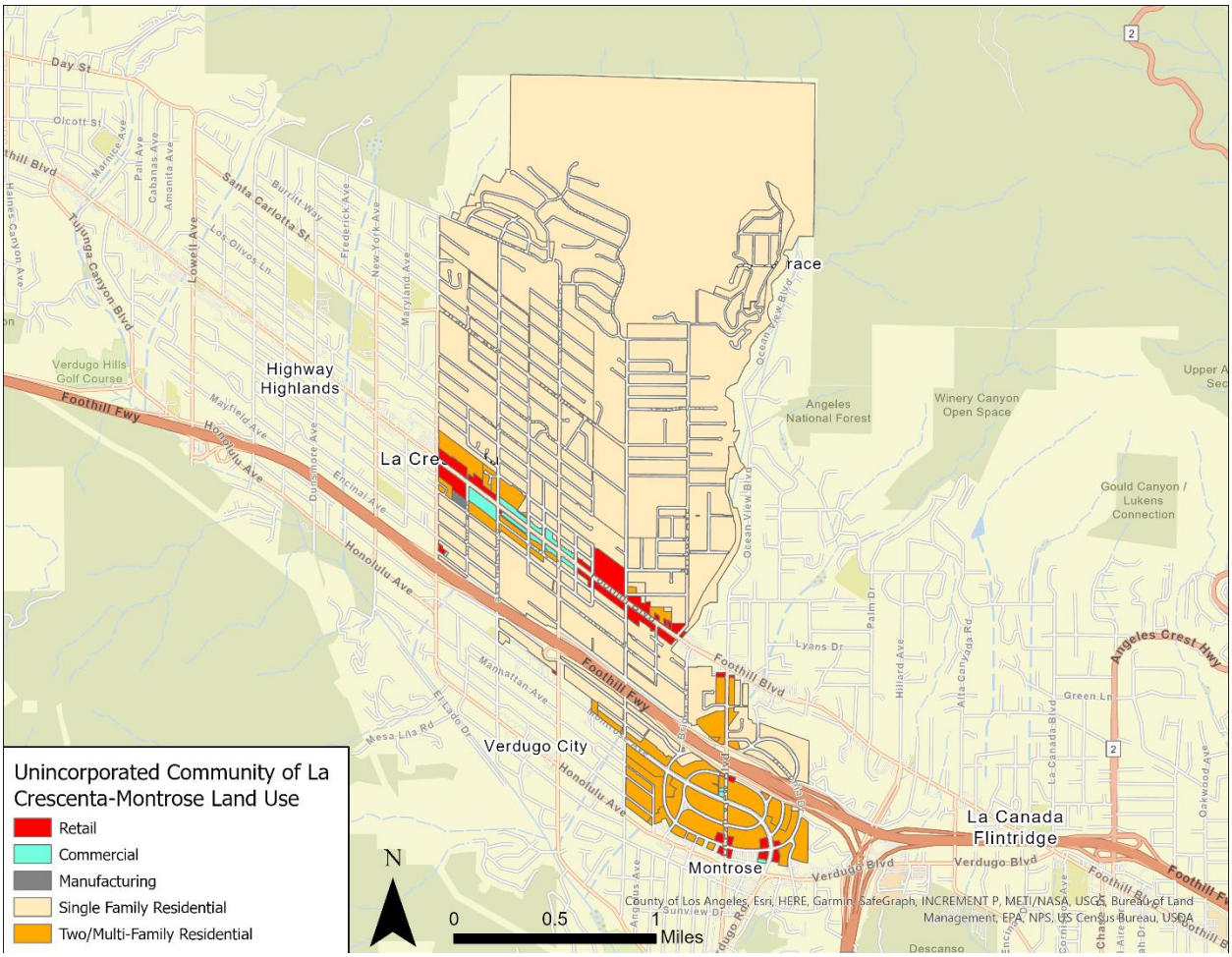


Figure 2-7: *Unincorporated Community of La Crescenta-Montrose Land Use*

La Cañada Flintridge

The City of La Cañada Flintridge has a vibrant "Downtown Village" along Foothill Boulevard in the heart of the community, consisting of retail, office, residential, and senior housing. There are residential dwellings and commercial/office space to the north and south. Key destinations include department stores, grocery stores, libraries, and dining establishments. Additionally, within a half-mile radius of the corridor, there are multiple schools, parks, and trails, such as La Cañada High School, Mountain Avenue Elementary School, La Crescenta Library, Gould Canyon Trail, and Memorial Park.

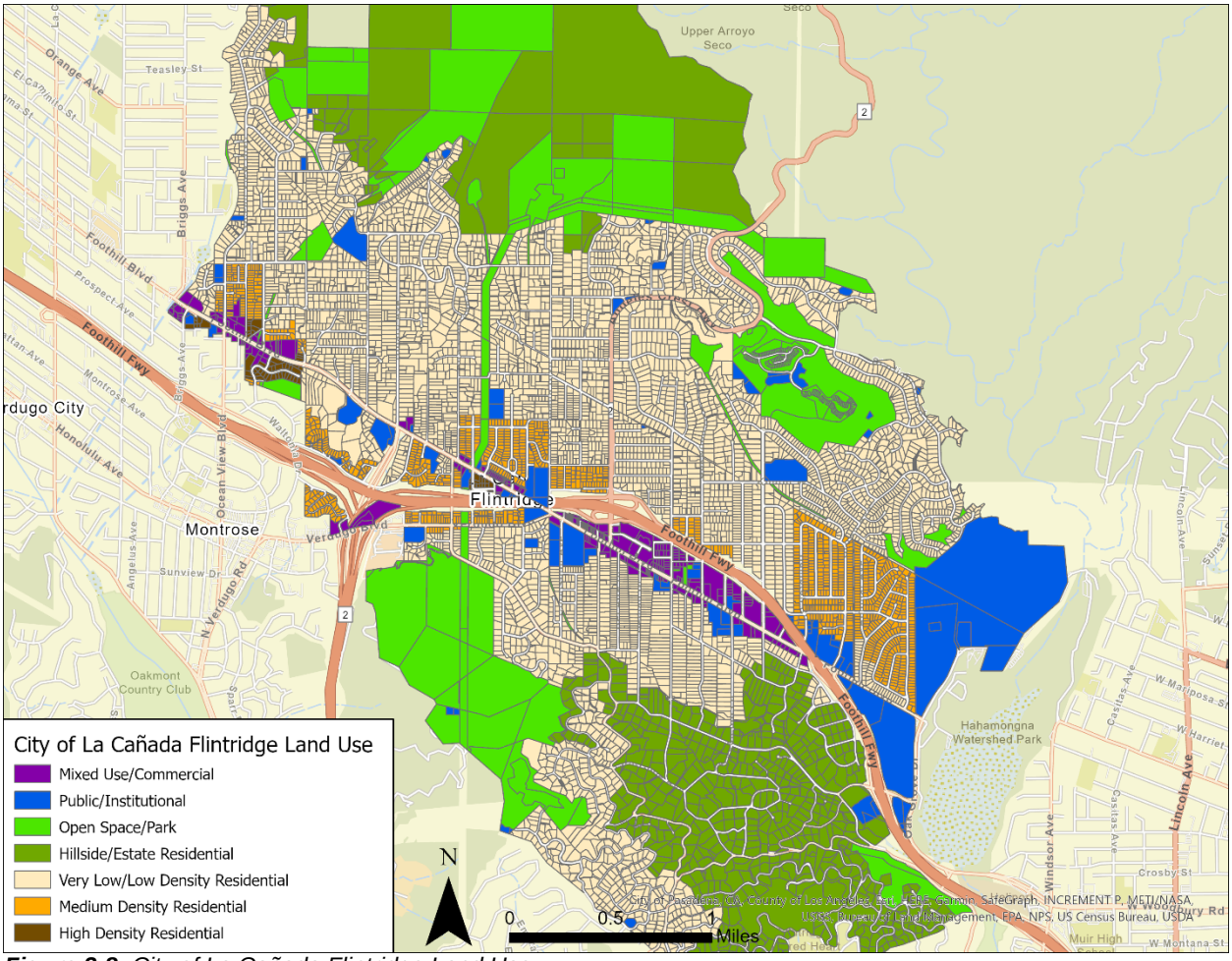


Figure 2-8: *City of La Cañada Flintridge Land Use*

2.7 Pedestrian and Bicycle Collisions

Vehicular collision data involving pedestrians and bicyclists have been obtained from the Statewide Integrated Traffic Records System (SWITRS). The SWITRS data reported 45 collisions involving pedestrians or bicyclists between 2015 to 2020 within a half-mile radius of Foothill Boulevard. Of those, 27occurred at intersections and 18 were mid-block. Collision types included vehicle/pedestrian (23), broadside (14), sideswipe (4), and head-on (4). Additionally, four collisions resulted in severe injuries, 22 resulted in minor injuries, 16 included a report of pain, and three involved property damage with no bodily injury.

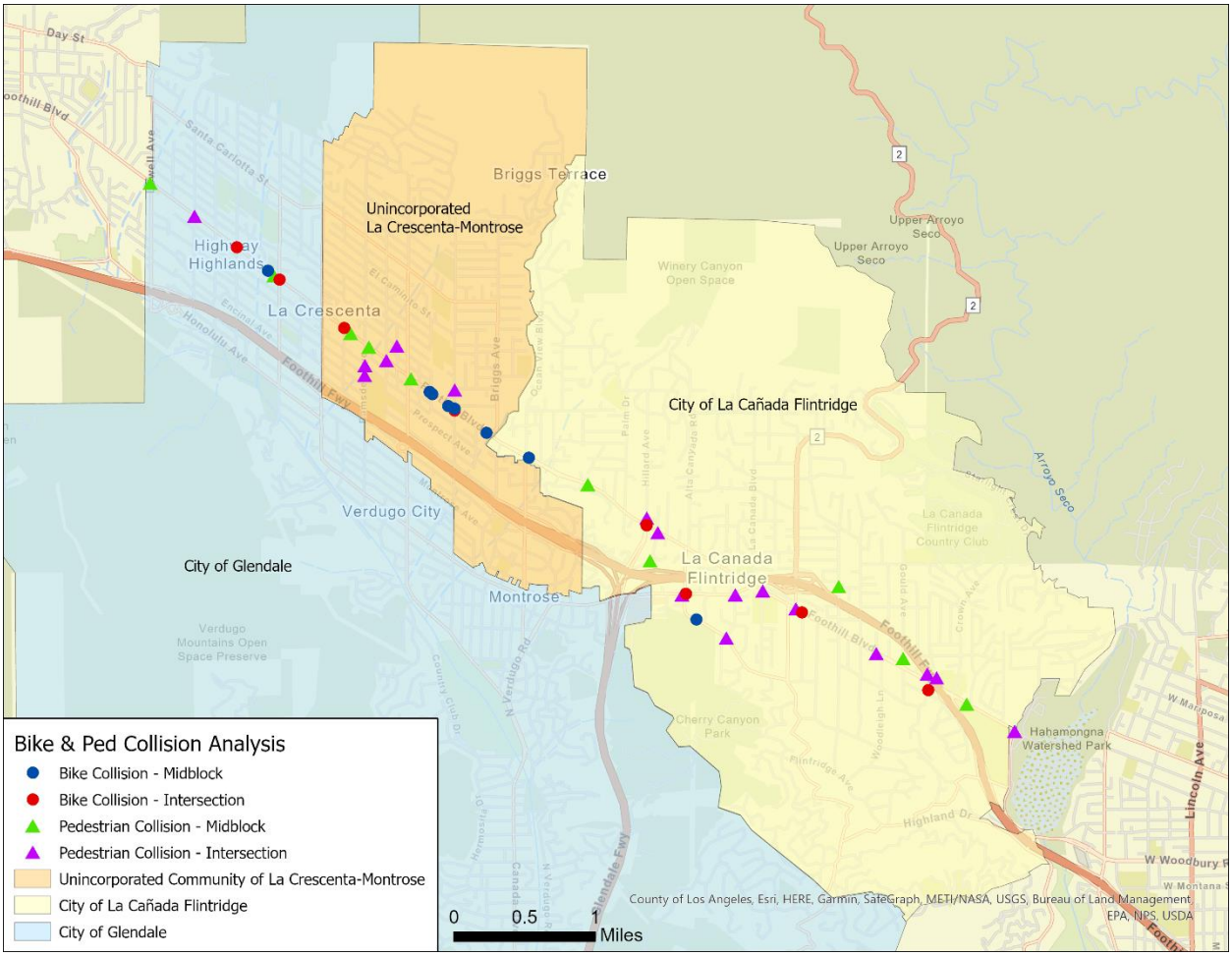


Figure 2-9: *Bike and Pedestrian Collision Analysis*

2.8 Safe Route to School

The City of Glendale has developed a city-wide Safe Routes to School program for all schools in the City to further encourage students to walk and bike to school while reducing potential injuries and fatalities. The program also promoted safe driving near the school and the responsibility drivers have in creating a safe environment. The Four E's (Education, Encouragement, Enforcement, and Evaluation) were incorporated to create a well-rounded program and activities/events:

- Education and Encouragement – The City hosted multiple workshops to engage students and parents to learn about traffic signs and signals, safety tips, proper helmet fitting, bike maintenance, and more
- Enforcement – The City collaborated with the Glendale Police Department to monitor school pick-up/drop-off areas, evaluate collision data, observe unsafe student/driver behavior, and evaluate the needs for potential enforcement activities/outreach
- Evaluation – Parents and teachers took surveys twice a year (at the beginning and end of the school year) to learn about commuting trends and habits. The City collected this data to learn about different transportation modes, distance travelled, and the number of students who walked or biked to school

The program also implemented infrastructure improvements to enhance safety that included bulb-outs, pavement reconstruction/resurfacing, traffic signal modifications, curb ramp reconstruction, and other safety enhancements. To date, these improvements have been implemented at 20 schools.

2.9 Next Steps

The Foothill Boulevard corridor serves as a vital thoroughfare of the Historic Route 66 for residents of Glendale, La Cañada Flintridge, and La Crescenta-Montrose to travel between home, work, school, and play. While the corridor has some existing active transportation infrastructure, residents may benefit from improvements and additions to the network that provide more options for mobility.

Understanding the current active transportation infrastructure is an important first step for all stakeholders to identify gaps and opportunities to improve the active transportation network. Los Angeles County Public Works and the cities of Glendale and La Cañada Flintridge will continue to engage with their communities to solicit feedback and recommendations for improvements that provide safe, clean, and efficient transportation choices to enhance mobility and quality of life for all who travel through the Foothill Boulevard Corridor.