

4.1 INTRODUCTION

This chapter identifies various transportation systems in the City to create a complete transportation network, including automobile travel, transit, non-motorized transportation, and goods movement. Other aspects of circulation such as parking

and emergency access are also addressed in this chapter. The policy direction established in this chapter supports other chapters of the General Plan by providing and enhancing multi-modal transportation options and supporting adjacent land uses.

RELATIONSHIP TO STATE LAW

State law (Government Code Section 65302(b)(1)) requires general plans to include a circulation element consisting of the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, any military airports and ports, and other local public utilities and facilities, all correlated with the land use element of the plan. This chapter is closely tied to Chapter 2: Land Use and Economic Development as it seeks to provide sufficient transportation capacity for all travel modes to accommodate the mobility needs of existing and planned development.

This chapter reflects important policy changes across California including the California Complete Streets Act (Assembly Bill [AB] 1358), which requires general plans updated after January 30, 2011 to incorporate Complete Street policies and frameworks. Complete Streets policies aim to provide a balanced, multi-modal transportation network that meets the needs of all users of streets, roads, and highways for safe and convenient travel in a manner that is suitable to the rural, suburban, or urban context of the general plan.

Other considerations of this plan include Senate Bill (SB) 32, which



requires California to reduce greenhouse gas (GHG) emissions to 40 percent below 1990 levels by 2030, and Executive Order B-16-12, which provides a target of 80 percent below 1990 emissions levels for the transportation sector by 2050. Executive Order B-55-18 directs the State to be carbon neutral by 2045. The California Air Resources Board (CARB) has determined that it will not be possible to achieve the State's long-term climate goals without reducing per capita vehicle miles traveled (VMT) growth, given that the transportation sector is the State's largest source of air pollution and GHG emissions. To this end, SB 743 has amended the California

Environmental Quality Act (CEQA) guidelines related to the analysis of transportation impacts. Specifically, the guidelines shift from the traditional vehicle-based level of service (LOS) analysis to VMT, which better evaluates goals related to sustainability, accessibility and multi-modal transportation options. Nevertheless, the City recognizes the continued importance of LOS to ensure efficient vehicular movement and prevent congestion and traffic delays. LOS standards are thus established in the Circulation Chapter to help decision-makers understand traffic conditions and guide strategic improvements to the roadway network.

RELATIONSHIP TO OTHER ELEMENTS

This chapter relates to Chapter 2, Land Use and Economic Development, Chapter 5, Resource Conservation, and Chapter 8, Community Health and Sustainability. As referenced above, this chapter is closely tied to the Land Use and Economic Development in that it seeks to lay out a transportation network and transportation capacity for all travel modes to accommodate the mobility needs of existing and planned land uses and development. The transportation

system supports other chapters of the overall General Plan including Resource Conservation (Chapter 5) and Community Health and Sustainability (Chapter 8) by providing and enhancing safe multi-modal transportation options that link parks, open spaces, and regional hiking trails; integrating opportunities for physical activity into daily life; and providing approaches to reduce vehicle emissions to improve air quality and reach State GHG targets.

4.2 TRANSPORTATION NETWORK

According to the U.S. Census, as of 2019 the vast majority of commuters in Diamond Bar drive to work, most often using single-occupant vehicles.¹ The single-occupant vehicle mode share for Diamond Bar is higher than the average for Los Angeles County and the state. Chief among the reasons for this high level of vehicular travel is the City's existing land use pattern, which is primarily suburban residential which requires residents

to travel longer distances for work and to serve daily needs. While it is anticipated that vehicular travel will remain Diamond Bar's dominant mode share during the horizon of this General Plan, the Plan seeks to reduce single-occupant vehicle mode share and VMT in line with State goals and regulations by introducing new mixed-use development and facilities for alternative modes of transportation such as bicycles and pedestrians.

COMPLETE STREETS

As mentioned above, California passed the California Complete Streets Act in 2008, requiring circulation elements to include a complete streets approach that balances the needs of all users of the street. Complete Streets are streets designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists, and transit riders of all ages and abilities.

The precise definition of a Complete Street can vary depending on the context and primary roadway users, but there are some common elements found in successful Complete Streets policies. These policies consider the needs of all

users of the street in the planning, design, construction, operation, and maintenance of transportation networks (National Complete Streets Coalition, 2017). This framework allows policymakers to shift the goals, priorities, and vision of local transportation planning efforts by emphasizing a diversity of modes and users. While the City of Diamond Bar has previously maintained goals and policies to promote a multi-modal network, this chapter reinforces the importance of accommodating a variety of travel modes to balance the transportation needs of Diamond Bar residents through additional Complete Streets policies.

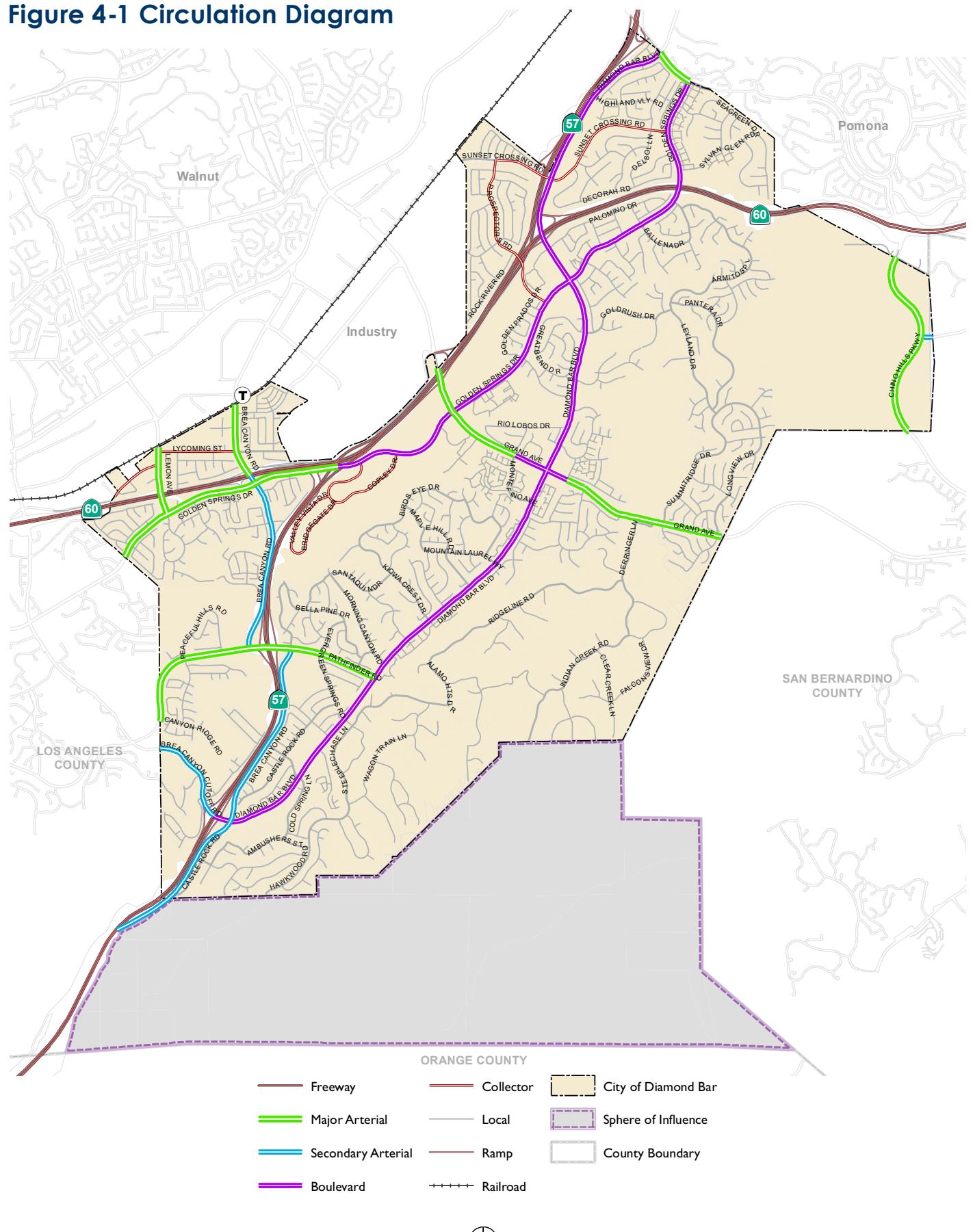
CIRCULATION DIAGRAM

Circulation Diagram (Figure 4-1) depicts the proposed circulation system to support development

under the Land Use Diagram. The system is represented by a set of roadway classifications that

¹ Note that data from the U.S. census presents limitations in that it doesn't allow individuals to select more than one mode of travel, should they split their commute between modes, and it doesn't account for non-work trips such as errands, trips related to recreation, or school drop-offs and pick-ups, which represent an important proportion of trips in any given place. It is thus possible that the single-occupant vehicle mode share of non-commute trips is lower.

Figure 4-1 Circulation Diagram



Source: Fehr & Peers, 2019;
City of Diamond Bar, 2019; Dyett & Bhatia, 2019

0 0.375 0.75 1.5
MILES

have been developed to guide long range transportation planning in Diamond Bar to balance access and capacity. The classification system consists of freeways, arterials, boulevards, collectors, and local roadways. Functional classification refers to how a road accommodates two characteristics: first, the extent to which the roadway prioritizes the through movement of vehicular traffic; and second,

the level of access provided to adjacent properties. Based on these generalized characteristics, roadways often vary in terms of right-of-way, roadway width, number of lanes, intersection and traffic signal spacing, speed, and other factors. In addition, they may contain elements such as pedestrian or bicycle infrastructure to comply with a Complete Streets-based approach to mobility.

ROADWAY CLASSIFICATIONS

Diamond Bar's proposed roadway classifications described below.

Table 4-1 summarizes the roadway classifications and provides high-level design characteristics. Additional roadway design details are provided within the Standard Drawings used by the City of Diamond Bar Public Works Department.

Freeways

Freeways generally provide high speed, high capacity inter-regional access. Their primary function is to move vehicles through or around the city; thus, there is no access to adjacent land, and limited access to arterial streets. Freeways contain anywhere from 4 to 12 lanes with recommended design volumes from 80,000 to 210,000 vehicles per day.

Arterials

Arterial streets carry the majority of traffic traveling through the City. They serve two primary functions: to move vehicles into and through the city, and to serve adjacent commercial land uses. They provide access to freeways as well as major activity centers and residential areas. Driveways and other curb cuts along

arterials are generally designed to minimize disruption to traffic flow. Sidewalks are typically included along arterials, and protected Class I or IV bike lanes are permitted.

The desired maximum roadway capacity on arterials averages from 30,000 to 45,000 vehicles per day depending on number of lanes, type and width of directional separation, presence of on-street parking or bicycle facilities, configuration and frequency of access to adjacent land uses, and intersection configurations. (Bike route classifications are defined in Section 4.4—Pedestrian and Bicycle Circulation.)

Boulevards

Boulevards are a type of arterial designed to connect major destinations within the City, and are highly visible and aesthetically landscaped with shade trees and wide sidewalks. Boulevards provide consolidated access to adjacent commercial and residential uses while balancing the needs of motorists, bicyclists, and pedestrians with sidewalks and protected bicycle facilities.

The desired maximum roadway capacity on boulevards averages from 30,000 to 45,000 vehicles per day depending on number of lanes, type and width of directional separation, presence of on-street parking and bicycle infrastructure, configuration and frequency of access to adjacent land uses, and intersection configurations.

Collectors

Collectors are intended to carry traffic between the arterial street network and local streets or directly from the access drives of higher intensity land uses. Collectors serve commercial, residential, or public uses, and are generally two- or four-lane roadways with sidewalks and Class II or Class IV

bicycle facilities. The desired roadway capacity on a collector street can average up to 20,000 vehicles per day.

Local Streets

Local streets are designed to serve adjacent land uses only. They allow access to residential driveways and often provide parking for the neighborhood. They are not intended to serve through traffic traveling from one street to another, but solely local traffic. Sidewalks and shared bicycle facilities are appropriate on local streets. The desired roadway capacity on a residential street should not exceed about 2,500 vehicles per day and 200-300 vehicles per hour during peak periods. The maximum residential traffic volume that is acceptable to

Table 4-1: Hierarchy of Streets and Street Standards

| Description | Local | Collector | Boulevard | Arterial | Freeway |
|----------------------------------|---------------------------|------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|------------------------------|
| Vehicular Travel Lanes | 2 | 2-4 | 2-4 | 4+ | 4+ |
| Speed Limit | 25 mph | 25-35 mph | 25-55 mph | 25-55 mph | 65 mph |
| Level of Service Standard | D | D | D | D | D |
| Average Daily Trips | Up to 2,500 | Up to 20,000 | 30,000 - 45,000 | 30,000 - 45,000 | 80,000 - 210,000 |
| Access | Individual parcel access. | Some individual parcel access, with connection to schools, parks, shopping centers, secondary collectors and arterials | Emphasis on limiting individual lot access, instead encourage joint driveways, back-up lots and access-ways to reduce driveways. | Emphasis on limiting individual lot access, instead encourage joint driveways, back-up lots and access- ways to reduce driveways. | Grade separated interchanges |
| Parking | Typically permitted | May be permitted | May be permitted | May be permitted | Prohibited |
| Bicycle Facilities | Shared roadway | Class II or Class IV | Class II or Class IV | Parallel Class I or Class IV | None |
| Pedestrian Facilities | Sidewalk | Sidewalk | Sidewalk | Sidewalk | None |

Note: One service level deviation may be permitted for projects that support other goals from the General Plan including transit, active transportation and economic development consistent with goal CR-G-7 and policies CR-P12, CR-P-14, and CR-P-16.

persons living along a street may vary from one street to another depending on roadway width, type of dwelling units (i.e., high density apartments versus single-family homes), presence of schools and

other factors. The maximum volume of 2,500 is, therefore, to be used as a guide only, and a neighborhood's sensitivity to potential impacts need to be carefully considered.

CURBSIDE MANAGEMENT

Curbside management is a crucial aspect of any transportation network. The curbside is the public space in a transportation network “where movement meets access.” Curb space has traditionally been used to accommodate private vehicle storage or on-street parking; however, cities are increasingly recognizing the need to accommodate demand for

curbside use generated by transit boarding, emergency vehicle access, ADA access, bicycles and bicycle infrastructure, taxis, transportation network companies (TNCs), and delivery vehicles. The development of a set of curbside management guidelines could help Diamond Bar balance the needs of these different curbside users.

CURBSIDE MANAGEMENT EXAMPLES

Examples of curbside management best practices include:

- Collecting data to create a curb use data inventory;
- Ensuring that pick-up/drop-off areas are in safe locations;
- Configuring roadways to ensure that they do not interfere with bike lanes;
- Accounting for loading and parking needs; and
- Incorporating “flex spaces” that can allow a curb space to play many roles (such as loading, parking, or public space) over time depending on demand.

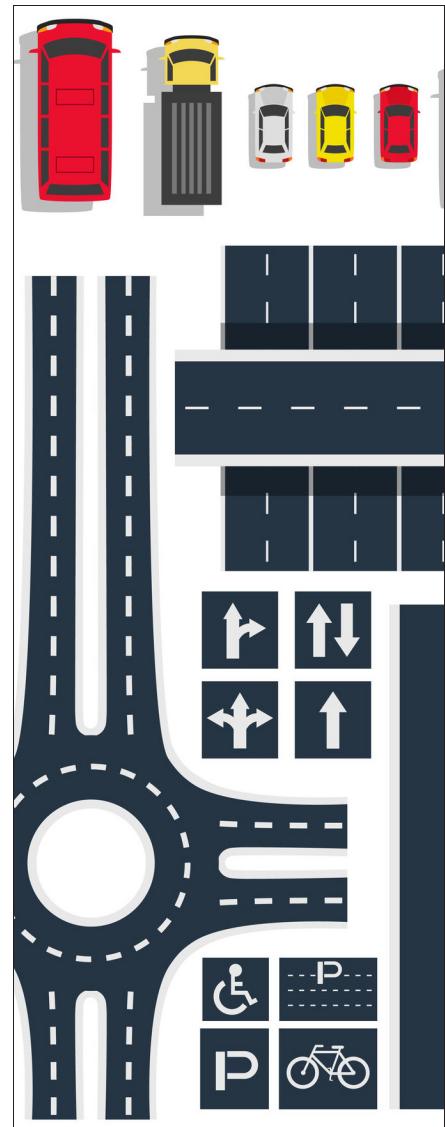


TRANSPORTATION NETWORK AND STREET DESIGN

See Chapter 2: Land Use and Economic Development for additional policies regarding land use designations and street design.

GOALS

- CR-G-1** Improve the operating efficiency of the transportation system by reducing vehicle travel demand and providing opportunities for other modes of travel. Before approving roadway improvements that focus on increasing vehicle capacity, consider alternatives that reduce vehicle volumes and prioritize projects that would reduce single-occupancy vehicle use and greenhouse gas emissions.
- CR-G-2** Maintain a street classification system that considers the broad role of streets as corridors for movement but also reflects a Complete Streets concept that enables safe, comfortable, and attractive access for pedestrians, bicyclists, motorists, and transit users of all ages and abilities, in a form that is compatible with and complementary to adjacent land uses, including neighborhood schools.
- CR-G-3** Strive to achieve a finer grained network of streets and pedestrian/bicycle connections as development occurs, especially in focus areas such as the Transit-Oriented, Neighborhood, Town Center, and Community Core mixed-use areas.
- CR-G-4** Design roadways serving pedestrian-oriented mixed-use areas to promote neighborhood interaction, pedestrian comfort and walkability, and commercial patronage.





CR-G-5 Develop neighborhood streets and alleys that encourage walking, biking, and outdoor activity through engineering and urban design principles that reduce the potential for speeding and cut-through traffic, which may include traffic calming measures.

CR-G-6 Track the use of future transportation options such as Transportation Network Companies (TNCs), ride sharing, and autonomous vehicles (AVs), and adjust City requirements, such as roadway design or parking standards as needed to ensure safety and access for all users and modes.

POLICIES

CR-P-1 When redesigning streets, plan for the needs of different modes by incorporating elements such as shade for pedestrians, safe pedestrian-friendly crossings/intersections, lighting at the pedestrian scale, bike lanes, signage visible to relevant modes, transit amenities, etc.

CR-P-2 Promote new street designs and efforts to retrofit existing streets in residential neighborhoods minimize traffic volumes and/or speed as appropriate without compromising connectivity for emergency vehicles, bicycles, pedestrians, and users of mobility devices.

CR-P-3 Plan for and provide new connections within the Transit-Oriented, Neighborhood, Town Center, and Community Core mixed-use areas to create finer grained, pedestrian-scaled circulation networks that support the development of connected and accessible neighborhoods. Connections should facilitate the use of alternatives to single-occupancy vehicles, such as walking, bicycling, and transit by improving the safety and accessibility of those modes.

CR-P-4 Develop traffic calming strategies for Diamond Bar Boulevard between Temple Avenue and Golden Springs Drive in order to provide a safe and comfortable pedestrian-friendly environment along and through the Neighborhood Mixed Use and Town Center Mixed Use areas.

CR-P-5 Necessary transportation improvements should be in place, or otherwise guaranteed to be installed in a timely manner, before or concurrent with new development. In evaluating whether a transportation improvement is necessary, consider alternatives to the improvement consistent with CR-G-1, and the extent to which the improvement will offset the traffic impacts generated by proposed and expected development.

CR-P-6 Continue to implement congestion mitigation measures to ensure that new projects do not significantly increase local City congestion based on defined level of service (LOS) standards.

CR-P-7 Support the development of City street design standards that:

- a. Address the needs of different modes according to roadway classification
- b. Reduce the potential for conflicts and safety risks between modes; and
- c. Support and manage the use of transportation options that will become increasingly popular in the future, such as TNCs, AVs, micro-transit (privately operated transit), and other emerging transportation technologies.





- CR-P-8** Plan for passenger pick-up/drop-off locations within both public right-of-way and on private properties for AVs, TNCs, and micro-transit to limit traffic disruptions and increase safety by identifying and designating specific locations for pick-ups and drop-offs.
- CR-P-9** Develop a plan for managing limited curb space throughout the City's commercial, mixed-use, and higher density areas to accommodate efficient package and food deliveries; delivery of goods to restaurants/retail; pick-up/drop-off of passengers by transit, taxis, and on-demand shared ride services; and the safe movement of pedestrians and bicyclists.
- CR-P-10** Develop curbside management guidelines that ensure curb spaces meet multi-modal demands safely and efficiently.
- CR-P-11** Implement standards for inventorying and encoding curb use data to monitor the effectiveness of curbside management guidelines and provide evidence to support or make changes to curb space designations and/or management strategies.

4.3 VEHICLE CIRCULATION

As noted above, automobiles are expected to remain the dominant mode of transportation within the planning horizon of the General Plan. Diamond Bar residents have expressed major frustration with vehicular congestion on the City's roadways. For these reasons, ensuring smooth vehicular circulation will continue to be an important effort for the foreseeable future in Diamond Bar. Challenges facing the City include regional cut-through traffic and the tradeoffs implied by the prioritization of other modes of travel. Two freeways

(SR-57 and SR-60) run through the City and along its westerly and northerly boundaries. These heavily-congested freeways are accessed by several on/off-ramps throughout Diamond Bar. Several of these ramp intersections experience high levels of delay during one or both peak hour periods, and high travel volumes along these highways can lead to traffic cutting through the City (on roads such as Diamond Bar Boulevard) to avoid congestion or transfer from one highway to the other.

STANDARDS FOR SERVICE

Level of Service (LOS)

Given Diamond Bar's overall development pattern and that Diamond Bar's vehicular mode share is anticipated to remain relatively high, LOS continues to be a useful measure of the potential localized effects of development and land use changes on the transportation network and

on the efficiency of vehicular travel. Thus, LOS continues as an important measure of mobility in the City even as the General Plan seeks to balance LOS with other considerations and measures.

LOS represents a qualitative description of the traffic operations experienced by the driver at an intersection or along a roadway



Table 4-2: Level of Service Definitions

| LOS | Definition |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Level of Service A | Free-flow travel with freedom to maneuver |
| Level of Service B | Stable operating conditions, but the presence of other road users causes a noticeable, though slight, reduction in convenience, and maneuvering freedom |
| Level of Service C | Stable operating conditions, but the operation of individual users is substantially affected by the interaction with others in the traffic stream. |
| Level of Service D | High-density, but stable flow. Users may experience restriction in speed and freedom to maneuver, with poor levels of convenience. |
| Level of Service E | Operating conditions at or near capacity. Speeds are reduced to a low but relatively uniform value. Freedom to maneuver is difficult with users experiencing frustration and poor convenience. Unstable operation is frequent, and minor disturbances in traffic flow can cause breakdown conditions. |
| Level of Service F | Forced or breakdown conditions. This condition exists wherever the volume of traffic exceeds the capacity of the roadway. Long queues can form behind these bottleneck points with queued traffic traveling in a stop-and-go fashion |

segment. It ranges from LOS "A", with no congestion and little delay, to LOS "F", with excessive congestion and delays. Table 4-2 provides definitions for different LOS levels.

LOS/VMT/Community Character Tradeoffs

With a commitment to Complete Streets and a desire to accommodate other users such as pedestrians and bicyclists, it is particularly important that LOS thresholds, which are commonly evaluated to determine the size and design of the roadway system or the feasibility of development, are balanced with other metrics that seek to reduce vehicle travel and enhance community values. This approach requires consideration of

the following tradeoffs associated with different LOS thresholds, which ensures that the policy will represent clear community priorities and provide specific exceptions when other community values are considered more important than LOS:

1. Costs. Because LOS policies influence the size and type of transportation infrastructure investments, maintaining a higher LOS (e.g. LOS A, B, or C) may be an inefficient use of public funds when considering the cost to build, operate, and maintain the roadway network.
2. Safety. Higher LOS thresholds are often associated with higher vehicle speeds for peak and

- non-peak hours, which increases the potential for and severity of collisions between vehicles and bicyclists or pedestrians.
3. Alternative Transportation Modes. Traditional LOS policy measures driver comfort and convenience, which means that considerations for pedestrians or bicyclists using the same facility are not always incorporated.
 4. Physical Space. The goal of an efficient transportation network is to increase the capacity for person-trips, not just vehicle-trips. Maintaining a higher LOS policy typically focuses on using the public right-of-way or road space to move automobiles through the network instead of people.
 5. Air Quality and GHG. LOS thresholds influence travel speeds and may induce vehicular travel in the case where driving is made easier. Cut-through traffic is an example of induced travel in Diamond Bar. Higher speeds and induced vehicle travel can both result in higher levels of air pollutant and GHG emissions.
 6. Community Character. Achieving LOS thresholds may require changes to the roadway, such as road widening, that can influence the character of neighborhoods by changing the building-to-street relationship, or removing opportunities for green infrastructure and wide sidewalks alongside streets. Some of the proposed mixed-use areas in the General Plan have streets that

would need to have additional pedestrian crossings, street trees, pedestrian-scaled lighting and other features to enable them to be more comfortable for pedestrians, rather than widened to accommodate additional traffic flow.

It is expected that decision-makers and community members will use the policy tradeoffs listed above to make decisions about LOS thresholds on specific roadways should they road conditions change during the implementation of this General Plan.

Vehicle Miles Traveled

VMT is the State preferred performance metric for environmental analyses pursuant to CEQA to describe the overall amount of travel in the City based on distance and is directly related to fuel consumption, air pollution, and GHG emissions. VMT is defined as the total mileage traveled by all vehicles. Although VMT relates specifically to automobiles, it is able to capture the effects of development patterns such as land use mix and density along with transit, bike, and pedestrian infrastructure improvements by reflecting their impacts on vehicle trip generation and trip lengths. The City will use a combination of LOS and VMT metrics to ensure the efficient movement of people and goods as well as reductions in GHG emissions.

Efforts to reduce VMT may include locating housing and jobs near transit stations, implementing transportation demand

management (TDM) strategies such as road or parking pricing, commute trip reduction programs, transit system improvements, or providing facilities for modes of transportation other than single occupant vehicles. Introducing a

greater mix of land uses can also reduce VMT in that residents may have better access to resources and opportunities such as entertainment, shopping, and jobs, thus reducing the length of their trips.

TRANSPORTATION DEMAND MANAGEMENT (TDM)

TDM refers to a comprehensive strategy to reduce driving and resulting VMT by promoting alternatives such as public transit, carpooling, bicycling, walking, and telecommuting. While some TDM measures can be undertaken by the City, such as investments in facilities and programs to encourage alternative modes of

transportation, other TDM measures require collaboration with other jurisdictions, for example with transit providers to seek expanded service, or with employers to encourage flexible work schedules and the provision of on-site childcare, preferential carpool parking, and subsidized transit passes.

INTELLIGENT TRANSPORTATION SYSTEMS

Intelligent Transportation Systems (ITS) refers to a set of tools that facilitates a connected, integrated transportation system. Applications of ITS includes adaptive traffic prioritization signals aimed at congestion management and improving traffic flow, and the collection and dissemination of

real-time travel information such as transit arrivals or traffic incident alerts. Other applications of ITS to be considered as transportation patterns change and emerging technologies come online may include connecting autonomous vehicles and smart city integration.

SAFETY AND TRAFFIC CALMING

Steep grades, wide lanes, and extra capacity on some roadways in the City can lead to high vehicle speeds. Traffic calming is a potential method to discourage high vehicle speeds and improve safety for all road users, including vehicles, which the City has already implemented on local neighborhood streets through its Neighborhood Traffic Management Program. Traffic calming has the added benefit of potentially discouraging regional

cut-through traffic from SR-57 and SR-60 through the City and related vehicle congestion. Implementing traffic calming strategies such as roundabouts, corner bulb-outs, speed cushions, surface textures, raised pavement, road narrowing and others, paying particular attention to collision hotspots as identified by Caltrans collision data and City-level safety analyses, can greatly improve safety for all road users.

GOALS

- CR-G-7** Ensure smooth traffic flows by maintaining or improving traffic levels of service (LOS) that balance operational efficiency, technological and economic feasibility, and safety.
- CR-G-8** Encourage reduction in vehicle miles traveled (VMT) as part of a strategy to reduce greenhouse gas (GHG) emissions.
- CR-G-9** Create and maintain programs for funding transportation improvements, with fair and equitable sharing of transportation improvement costs.
- CR-G-10** Discourage traffic from SR-57 and SR-60 from using Diamond Bar roadways as alternatives to the freeway.

POLICIES

LOS Standards

- CR-P-12** Balance meeting LOS standards with the need to reduce VMT through maintaining and supporting multi-modal connectivity such as transit, bicycling, walking, and by encouraging infill development with a pedestrian-friendly urban design character.
- CR-P-13** Maintain a standard of LOS D during peak hour conditions on all streets in the City's jurisdiction, with exceptions as noted below:
- Brea Canyon Road south of Diamond Bar Boulevard (LOS F)
 - Brea Canyon Road north of Diamond Bar Boulevard (LOS E)
 - Grand Avenue west of Country View Dr (LOS E)
 - Diamond Bar Boulevard at SR-60 Eastbound Ramps (LOS F).





CR-P-14 Prioritize pedestrian movement and safety—through wider sidewalks, more frequent pedestrian crossings, sidewalk bulbouts, median pedestrian refuges etc.—rather than LOS in Community Character Priority Areas, which are areas designated for higher density mixed-use development in the General Plan.

See Section 4.4 for more detailed policies on bicycle and pedestrian movement in mixed-use areas.

CR-P-15 Limit street right-of-way dimensions where appropriate to maintain desired neighborhood character. Consider allowing narrower street rights-of-way and pavement widths for local streets in new residential subdivisions.

CR-P-16 Allow exceptions to LOS standards upon findings by the City Council that achieving the designated LOS would:

- a. Be technologically or economically infeasible; or
- b. Compromise the City's ability to support other important policy priorities, including but not limited to:
 - i. Promoting alternate modes of transportation;
 - ii. Ensuring pedestrian, bicycle and automobile safety, comfort, and convenience;
 - iii. Reducing VMT and GHG emissions; and
 - iv. Preserving and enhancing character of the community.

CR-P-17 Maintain roadway design standards to manage vehicle speeds and traffic volumes, updating them as needed.

CR-P-18 Prioritize and phase improvements through the City's Capital Improvements Program

process as development proceeds, given the extended time frame of General Plan implementation.

- CR-P-19** Develop a prioritized program to implement measures to reduce traffic collisions at collision hot spots. Continue to monitor collision data for type, location, severity, and cause and update the collision reduction program as needed.

Adaptive Traffic Control (ATCS) and Intelligent Traffic Systems (ITS)

- CR-P-20** Implement measures such as additional signal timing and synchronization, speed limit regulations, and ITS techniques to increase safety and reduce congestion. Maintain a pavement management system and maintenance program for all public roadways throughout the City.

- CR-P-21** On an ongoing basis, examine opportunities to avoid delay, spillover, or cut-through traffic onto Diamond Bar's roadways through techniques such as adaptive traffic control systems along major corridors and traffic calming measures along cut-through routes that would reduce speeds and discourage drivers from electing to drive on them. Consider financial and technological feasibility and community priorities to determine whether and how strategies should be implemented.

Safety

- CR-P-22** Implement traffic calming measures to slow traffic on local and collector residential streets and prioritize these measures over congestion management where appropriate and feasible.

- CR-P-23** Maintain the integrity of existing residential areas and discourage cut-through traffic by retaining cul-de-sacs and implementing other traffic calming measures that promote safe driving at speeds appropriate to the surrounding neighborhood.





particularly at Prospectors Road, Chaparral Drive, Sunset Crossing Road, Lycoming Street, and Washington Street.

Transportation Demand Management

- CR-P-24** As opportunities arise, coordinate with local, regional, and State agencies to encourage and support programs that reduce vehicle miles traveled, such as preferential carpool and car share parking, parking pricing, on-site childcare, flexible work schedules, subsidized transit passes, and ridesharing.
- CR-P-25** Encourage participation in transportation demand programs, such as those promoting walking, cycling, and transit, through the use of City publications and public displays in order to decrease use of single occupancy vehicles.

Inter-Jurisdictional Coordination

- CR-P-26** As opportunities arise, coordinate with other jurisdictions, including neighboring cities, Los Angeles County, San Bernardino County, and Caltrans, on improvements to street segments common to the City of Diamond Bar and other jurisdictions.
- CR-P-27** Encourage improvements to regional routes and arterial streets to account for environmental, aesthetic, and noise concerns, as well as to provide adequate buffers to adjacent land uses.
- CR-P-28** As opportunities arise, coordinate with Pomona Unified School District and City of Chino Hills to ensure the timely design and construction of secondary access to Diamond Ranch High School that would not substantially increase traffic in surrounding residential neighborhoods.
- CR-P-29** Solicit State and Federal funds to improve area freeways and local streets.

4.4 PEDESTRIAN AND BICYCLE CIRCULATION

Non-motorized modes of transportation are environmentally-friendly alternatives to motor vehicles that enhance both personal and social well-being through opportunities for exercise and social interaction. These alternatives to motorized transportation are important parts of a complete transportation system that offers residents of Diamond Bar a suite of options for moving around their city. In addition to acting as

alternatives to single-occupant vehicle travel, these modes of travel provide many public access, health, and economic benefits, and are therefore recognized as integral components of Diamond Bar's transportation system. Safe, convenient, attractive, and well-designed pedestrian and bicycle facilities are essential if these modes are to be properly accommodated and encouraged.

PEDESTRIAN FACILITIES

Nearly everyone is a pedestrian. Walking or use of a wheelchair is part of almost every trip, whether it is from the parking lot to a building or from one's home to a bus stop, work, or store. The pedestrian environment is thus a crucial part of an accessible transportation network, while also playing an important role in the public realm where attractive pedestrian environments can spur activity.

Diamond Bar's pedestrian network consists of sidewalks and street crossings as well as off-road paths and trails. While most streets in Diamond Bar have sidewalks, the suburban layout with winding roads and high-speed arterials with narrow sidewalks and spread out crossings can present a difficult pedestrian environment. Factors that affect walkability and the pedestrian experience in the City at large include:

- **Direct, Fine-Grained Pedestrian Networks.** Walking is more

efficient and desirable as a means of transportation if direct pedestrian travel, rather than circuitous routes, are available. This is achieved through the development of fine-grained networks of pedestrian pathways that allow for direct pedestrian access to destinations.

- **Sidewalk Continuity.**

Communities are more walkable if sidewalks do not end abruptly and are present on the entire segment and both sides of a roadway. This is especially important for the mobility-impaired or those pushing small children in strollers.

- **Sidewalk Conditions.** This refers to the physical condition of sidewalk surfaces. Sidewalks that are broken or cracked can deter walkability and pose a safety hazard, particularly for the mobility impaired, such as those in wheel chairs and persons using walkers or strollers.

- **Shading.** People are more inclined to walk in areas where there is shade present, particularly in Southern California with its relatively warm weather and limited rainfall as compared to other locations. Additionally, shade trees create an aesthetic value that is pleasing to the pedestrian.
 - **Grade.** People are more inclined to walk in areas that are relatively flat or have limited grade changes.
 - **Amenities.** All else being equal, people are more inclined to walk in areas that are interesting environments with shopping,
- retail, restaurants, and other similar uses. Pedestrian-friendly amenities include street furniture, attractive paving, way-finding signage, enhanced landscaping, and improved lighting.
- **Buffers.** A more walkable environment is one in which there is some degree of separation between the pedestrian and the motorist. This typically includes wider sidewalks, street parking and sidewalk bulb-outs at intersections where feasible. Crosswalks with appropriate signage serve as an important buffer as well.

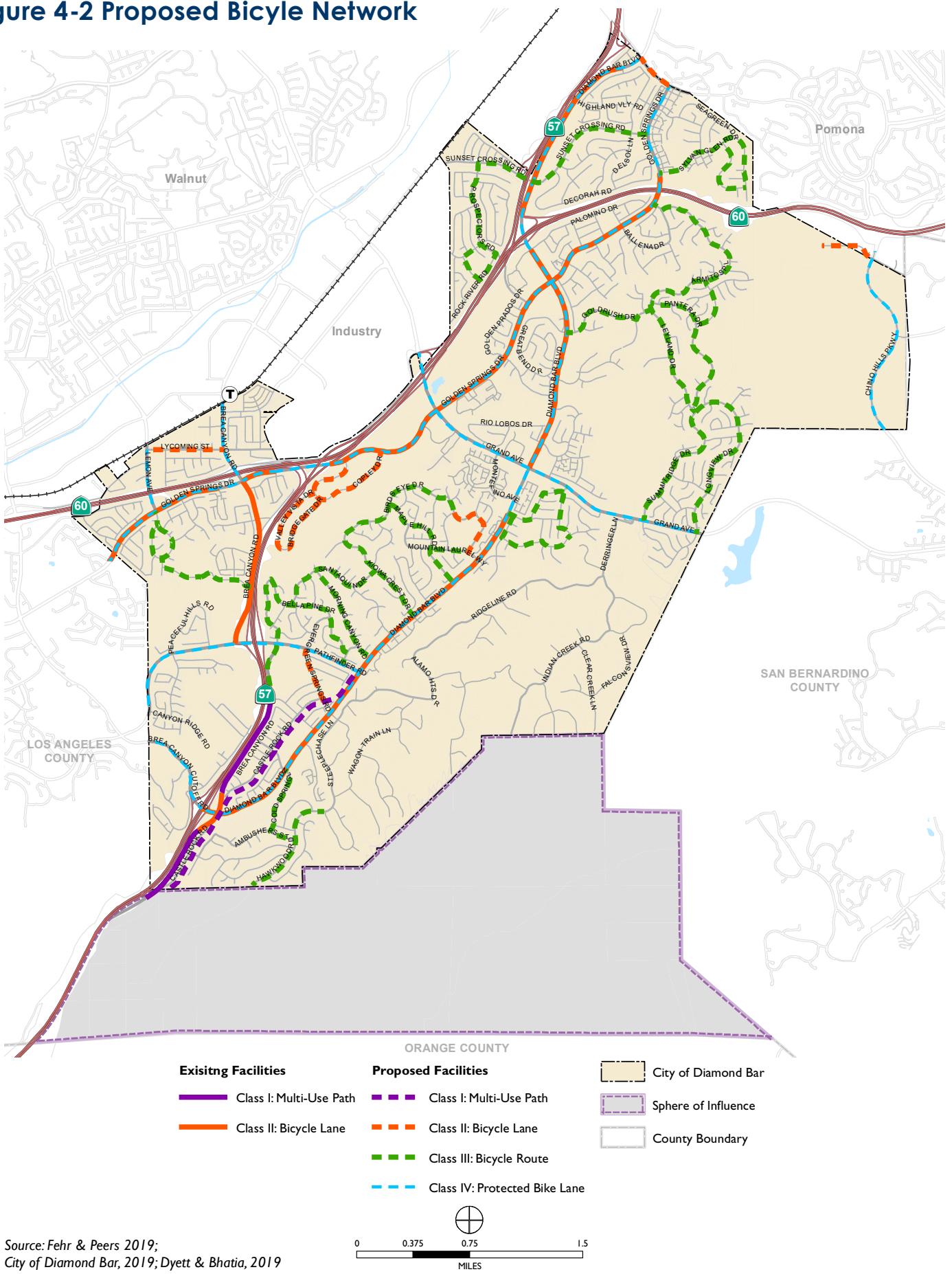
BICYCLE FACILITIES

The City of Diamond Bar has made a concerted effort to expand the ease of alternative transportation options for residents, recognizing both health and environmental benefits. This includes the introduction of bicycle facilities along roads such as Golden Springs Drive and Brea Canyon Road. However, opportunities still exist to further expand and improve these facilities. For example, bicycle lanes on Grand Avenue in neighboring Chino Hills to the east terminate at the City limits despite having sufficient right-of-way to continue. Bicycle lanes on Golden Springs Drive are discontinuous, with gaps on a number of segments through the City. Local neighborhood streets feeding onto roads such

as Diamond Bar Boulevard and Grand Avenue could benefit from designated bicycle routes. Finally, the standard of bicycle infrastructure in California has changed, skewing towards the provision of protected infrastructure where cyclists face higher vehicle volumes and speeds.

The California Department of Transportation's (Caltrans) Highway Design Manual (HDM) (Chapter 1000: Bikeway Planning and Design) and California AB 1193 codify four distinct classifications of bikeways. Bikeways offer various levels of separation from traffic based on vehicle volumes and speed, among other factors.

Figure 4-2 Proposed Bicycle Network



Source: Fehr & Peers 2019;
City of Diamond Bar, 2019; Dyett & Bhatia, 2019



Class I: Multi-Use Path

Class I Multi-Use Paths provide a separate right-of-way and are designated for the exclusive use of people riding bicycles and walking with minimal cross-flow of vehicle traffic. Class I Bikeways offer opportunities not provided by the road system by serving as both recreational areas and/or desirable commuter routes.

Class II: Bicycle Lane

Class II Bicycle Lanes provide designated street space for bicyclists, typically adjacent to the outer vehicle travel lanes. Bike lanes include dedicated lane markings, pavement legends, and signage. Bike lanes may be enhanced with painted buffers between vehicle lanes and/or parking, and green paint at conflict zones (such as driveways or intersections), which can be especially useful on streets with higher vehicle traffic speeds or volumes.

Class III: Bicycle Route

Class III Bicycle Routes provide enhanced mixed-traffic conditions for bicyclists through signage, striping, and/or traffic calming treatments, and to provide continuity to a bikeway network. Bike routes are typically designated along gaps between bike trails or bike lanes, or along low-volume, low-speed streets.

Class IV: Protected Bike Lane

Class IV Protected Bike Lanes, also referred to as cycle tracks or separated bikeways, are bikeways for the exclusive use of bicycles that are physically separated from vehicle traffic. Types of separation may include, but are not limited to, grade separation, flexible posts, physical barriers, or on-street parking.

Figure 4-2 shows existing and planned bicycle facilities in Diamond Bar. Bikeway classifications and existing facilities of each type are described on the following pages. The Circulation Chapter will be the primary guide for bicycle planning in the City until such a time as a more detailed and up-to-date bicycle master plan is developed.

See Chapter 6: Public Facilities and Services for additional policies regarding trails and recreational facilities.

GOALS

- CR-G-11** Expand and strengthen existing pedestrian and cyclist network and facilities.
- CR-G-12** Improve safety and accessibility for pedestrians and cyclists.

POLICIES

Bicycle and Pedestrian Network

- CR-P-30** Use Figure 4-2: Proposed Bicycle Network as the overall guide for undertaking bikeway and pedestrian improvements in the community, with the Parks and Recreation Master Plan providing a more detailed implementation strategy.
- CR-P-31** When updating the Parks and Recreation Master Plan use community input and best practices to identify bicycle infrastructure needs such as gaps in the network, prioritize facilities and improvements, and identify funding for proposed facilities. Review and update the plan as necessary.
- CR-P-32** Promote pedestrian and bicycle connectivity in existing residential neighborhoods, utility easements, and/or flood control channels, including connections through cul-de-sacs to other streets or community facilities where feasible.
- CR-P-33** Ensure that new development integrates with Diamond Bar's bicycle and pedestrian networks by requiring developers to provide sidewalks and bicycle infrastructure on local streets.
- CR-P-34** As opportunities arise, collaborate with neighboring jurisdictions and colleges such as Cal Poly Pomona and Mt. San Antonio College to establish a safe



and efficient bicycle route between Diamond Bar and these institutions.



Design and Programs

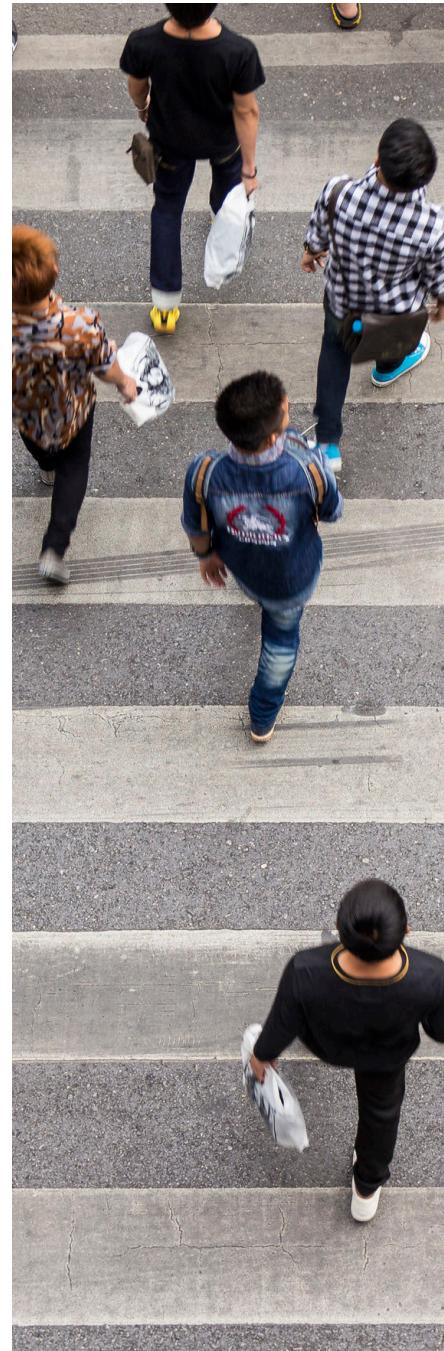
- CR-P-35** Develop bicycle and pedestrian facility standards for pavement design, signage, and roadway and intersection striping for each functional roadway classification, so streets are accessible by all users and modes.
- CR-G-36** Where appropriate, plant street trees and provide landscaping along major pedestrian and bicycle routes to provide shade and barriers between cyclists and motorists, as well as enhance aesthetics.
- CR-P-37** Ensure that secure and convenient bicycle parking is available at major destinations such as the Town Center, commercial centers, transit stops, schools, parks, multi-family housing, and large employers.
- CR-P-38** If warranted by demand, study the feasibility of implementing a bike share program to connect neighborhoods and major destinations, such as the Transit-Oriented, Neighborhood, Town Center, and Community Core Overlay mixed-use areas; local schools and colleges; parks; and commercial centers.

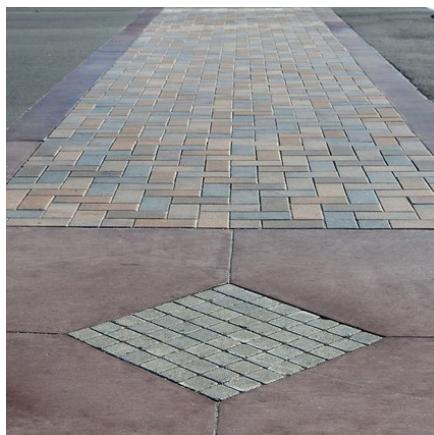
Bicycle and Pedestrian Movement in Mixed Use Areas

- CR-P-39** Ensure a safe environment for pedestrians and cyclists while allowing for local traffic to access freeways in the Neighborhood Mixed Use area through the following strategies:
- a. Widening sidewalks, providing planting strips between sidewalks and streets and providing pedestrian amenities such as shade trees and street furniture along Diamond Bar Boulevard;
 - b. Implementing traffic calming measures such as reduced vehicle speeds, striping and signange along Diamond Bar Boulevard;

- c. Buffering bike lanes along Diamond Bar Boulevard;
- d. Enhancing pedestrian crossings at the intersection of Diamond Bar Boulevard and Sunset Crossing Road, at Diamond Bar Boulevard and Highland Valley Road, and at Diamond Bar Boulevard and the SR-60 on/off ramps; and
- e. Incorporating multi-use pathways internal to new development and connecting to existing development.

| | |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CR-P-40 | Provide for a vibrant Town Center that encourages pedestrian activity and comfort within the Town Center Mixed Use area while accommodating through traffic along Diamond Bar Boulevard through the following strategies: |
| | <ul style="list-style-type: none">a. Establishing a new pedestrian-oriented main street or pedestrian pathway in the Town Center;b. Enhancing the pedestrian experience along Diamond Bar Boulevard within the Town Center area with widened sidewalks, shade trees, and pedestrian amenities such as street furniture, attractive paving, pedestrian-scaled lighting, and landscape buffers;c. Buffering bike lanes along Diamond Bar Boulevard;d. Improving crosswalks at the intersection of Diamond Bar Boulevard and Palomino Drive, at Diamond Bar Boulevard and Golden Springs Drive, and where Diamond Bar Boulevard intersects with the driveway to the Town Center; ande. Strengthening cyclist and pedestrian connections between the Town Center area and nearby schools to provide safe and convenient routes to the Town Center for students by identifying barriers such as safety hazards and gaps in the bicycle and |





pedestrian networks and implementing improvements to address those barriers.

- CR-P-41** Promote a fine-grained network of safe pedestrian, bicycle, and vehicle connections in the Transit Oriented Mixed-Use area, emphasizing connectivity to the Metrolink station through the following strategies:
- Improving crosswalks along Brea Canyon Road and Lemon Avenue;
 - Enhancing the pedestrian experience along South Brea Canyon Road within the Transit Oriented Mixed Use area with widened sidewalks, shade trees, and pedestrian amenities such as street furniture, attractive paving, and pedestrian-scaled lighting, where feasible;
 - Providing high-visibility pedestrian and bicycle connections to the Metrolink station;
 - Incorporating multi-use pathways internal to new development and connecting to existing development; and
 - Studying the potential for shuttle, bikeshare, and/or other linkages to improve the convenience of travel within the mixed-use area.

Safety

- CR-P-42** Develop and implement programs in collaboration with interested stakeholders such as school districts, senior living facilities, and community organizations to encourage active transportation among students and seniors while ensuring student and senior safety.

- CR-P-43** When planning capital improvement programs, ensure that projects incorporate measures that strengthen the protection

of cyclists in bike lanes by implementing improvements such as increasing visibility of lane markings and signage, increasing bike lane widths, raising lanes, designing safer intersection crossings and turns, and buffering lanes from traffic wherever feasible, prioritizing bicycle lanes along arterials.

- CR-P-44** Enhance bicycle and pedestrian safety and comfort where feasible through means such as:
- a. Introducing bicycle- and pedestrian-level street lighting to improve safety at night;
 - b. Furnishing intersections with crosswalks on all legs of the intersection;
 - c. Improving pedestrian safety with intersection design features such as improved signal timing, sidewalk bulb-outs, pedestrian refuge islands with “noses” that extend past the crosswalks, advance vehicle stop bars, high visibility crosswalk striping or decorative paving;
 - d. Improving bicycle safety with intersection design features such as bicycle detection and signalization, painted bike boxes, and intersection crossing markings;
 - e. Widening sidewalks, providing planting strips between sidewalks and streets and providing pedestrian amenities such as shade trees and street furniture; and
 - f. Implementing traffic calming measures to reduce vehicle speeds and congestion.

- CR-P-45** Routinely review pedestrian and cyclist collision data for type, location, severity, and cause, and develop strategies to prevent these collisions.



4.5 PUBLIC TRANSPORTATION

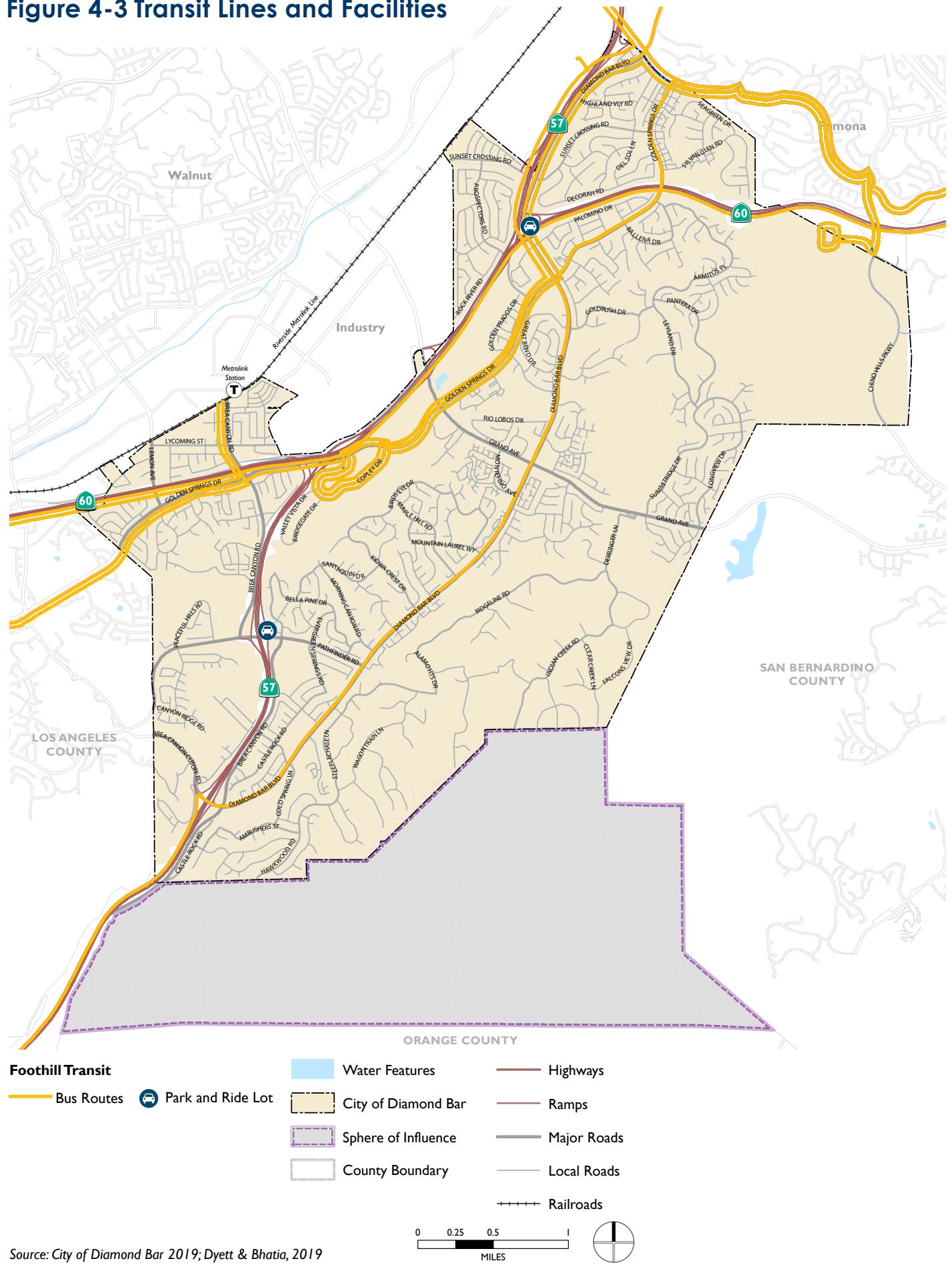
Transit service can provide an alternative to automobile travel and is a critical mode of transportation for those who cannot drive (such as the elderly, youth, or disabled) or do not have access to a vehicle. Limited fixed-route service is provided within Diamond Bar, primarily along major arterials, operated by Foothill Transit and supported by two Caltrans park-and-ride lots on Diamond Bar Boulevard (see Figure 4-3). Paratransit service is provided to qualifying residents by Access Services, a curb-to-curb paratransit program serving Los Angeles County residents unable to use regular bus service, and by the City's Diamond Ride program, which is a subsidized cab program designed to supplement travel means for persons with disabilities and those age 60 and older residing in Diamond Bar. Diamond Bar residents are also served by the Metrolink Riverside Line along the northwestern boundary of the City. This line runs from Downtown Riverside to Union Station in Downtown Los Angeles and provides service Monday to Friday.

Given that the majority of Diamond Bar is of a suburban, low-density character, expanding public transit routes within Diamond Bar would

likely be an inefficient method of attracting greater transit ridership. Other methods of attracting ridership could include focusing on providing high-quality service between employment centers and mixed-use destinations along the spines of the City, supplemented with features such as park-n-rides and pedestrian and bicycle infrastructure to create multi-modal transportation nodes, and coordinating with transit providers to promote bus user satisfaction through strategies such as providing real-time arrival times at stops and through mobile and web-based applications.

This Chapter's policies also support Metrolink ridership by improving bus, bicycle, and pedestrian connections to the station (refer to Figure 4-2: Proposed Bicycle Network and policies in the Chapter 3, Community Character and Placemaking and policies below), and by introducing mixed-use development around the station. Coordination with Metrolink and Union Pacific Railroad (UPRR) to provide more frequent service to increase Metrolink's convenience and ridership amongst Diamond Bar residents represents another potential way to increase transit ridership and satisfaction.

Figure 4-3 Transit Lines and Facilities





GOALS

CR-G-13. Support the availability, efficiency, and effectiveness of public transit service.

POLICIES

CR-P-46 Where feasible, integrate transit nodes and connections with adjacent existing and proposed developments and destinations—such as employment centers, commercial centers, major attractions, and public pedestrian spaces—to make them more accessible to transit users.

CR-P-47 As opportunities arise, coordinate with Foothill Transit, Metrolink, and other transit providers to incorporate real-time information systems at transit stops so that passengers will know when their vehicle is expected to arrive.

CR-P-48 As opportunities arise, work with Foothill Transit to maintain and improve bus stops and shelters, as well as identify areas where service can be improved or expanded to increase system use.

CR-P-49 Create additional pedestrian, bus, and bikeway connections to the Metrolink station to address first- and last-mile (FMLM) connectivity and make it easier to travel to between the station and surrounding neighborhoods.

- CR-P-50** As opportunities arise, coordinate with Metrolink and Union Pacific Railroad (UPRR) to provide more frequent service at the City of Industry station, including service for shorter trips, to increase the convenience and use of transit.
- CR-P-51** Support, where feasible, privately funded local transit systems that are accessible for seniors, youths, and individuals with disabilities, to ensure that all community members have the ability to travel while decreasing congestion.
- CR-P-52** In areas or on routes between destinations that have been determined to be infeasible for public transit providers to serve, explore the use of programs that subsidize the use of TNCs, alternative transit services, or the City's Diamond Ride program, particularly for populations with special needs, such as seniors, youths, or persons with disabilities, until such a time as mass transit becomes feasible.



4.6 PARKING

Parking goals and policies reflect both the necessity of providing for adequate and appropriately located vehicle and bicycle parking in existing and new development, and priorities related to safety, urban design, and transportation demand management. More flexible parking standards for projects that provide VMT reduction and TDM measures such as shared

parking lots, subsidized transit passes, or carshare help to reduce, development costs, remove pedestrian barriers, and create a more pedestrian-friendly and attractive built environment. Parking requirements are implemented primarily through the City's Zoning Ordinance.



GOALS

- CR-G-14.** Provide adequate parking for all land use types, while balancing this against the need to promote walkable, mixed-use districts and neighborhoods in targeted areas, and promoting ride-sharing and alternative transportation modes.

POLICIES

- CR-P-53** Update parking standards in the Development Code to ensure that they are reflective of the community's needs, using current data on parking demand and taking into consideration demographics and access to alternative modes of transportation.
- CR-P-54** Incorporate criteria in the Development Code to allow reductions in parking requirements in exchange for VMT reduction measures.
- CR-P-55** Establish common bicycle parking requirements for appropriate uses—including multi-family residential and office—in the Development Code.
- CR-P-56** Establish requirements to provide dedicated parking and charging stations for electric vehicles.
- CR-P-57** Develop incentives to encourage carpooling, such as preferential parking for high-occupancy vehicles.
- CR-P-58** Encourage public schools to improve parking and loading facilities to minimize congestion and delays on the local circulation system.
- CR-P-59** As opportunities arise, work with Caltrans to evaluate existing Caltrans-operated park-n-ride facilities within the City and expand the facilities where necessary.



4.7 EMERGENCY ACCESS

Adequate emergency vehicle access is crucial in terms of protecting the safety and well-being of Diamond Bar's residents. Emergency access to individual buildings is regulated by the adopted California Fire Code. Emergency access can also be facilitated through roadway design

standards that allow for emergency vehicle movement, as well as the identification of evacuation routes should residents need to leave in the event of a disaster. See Chapter 7: Public Safety regarding goals and policies related to emergency access.

4.8 GOODS MOVEMENT

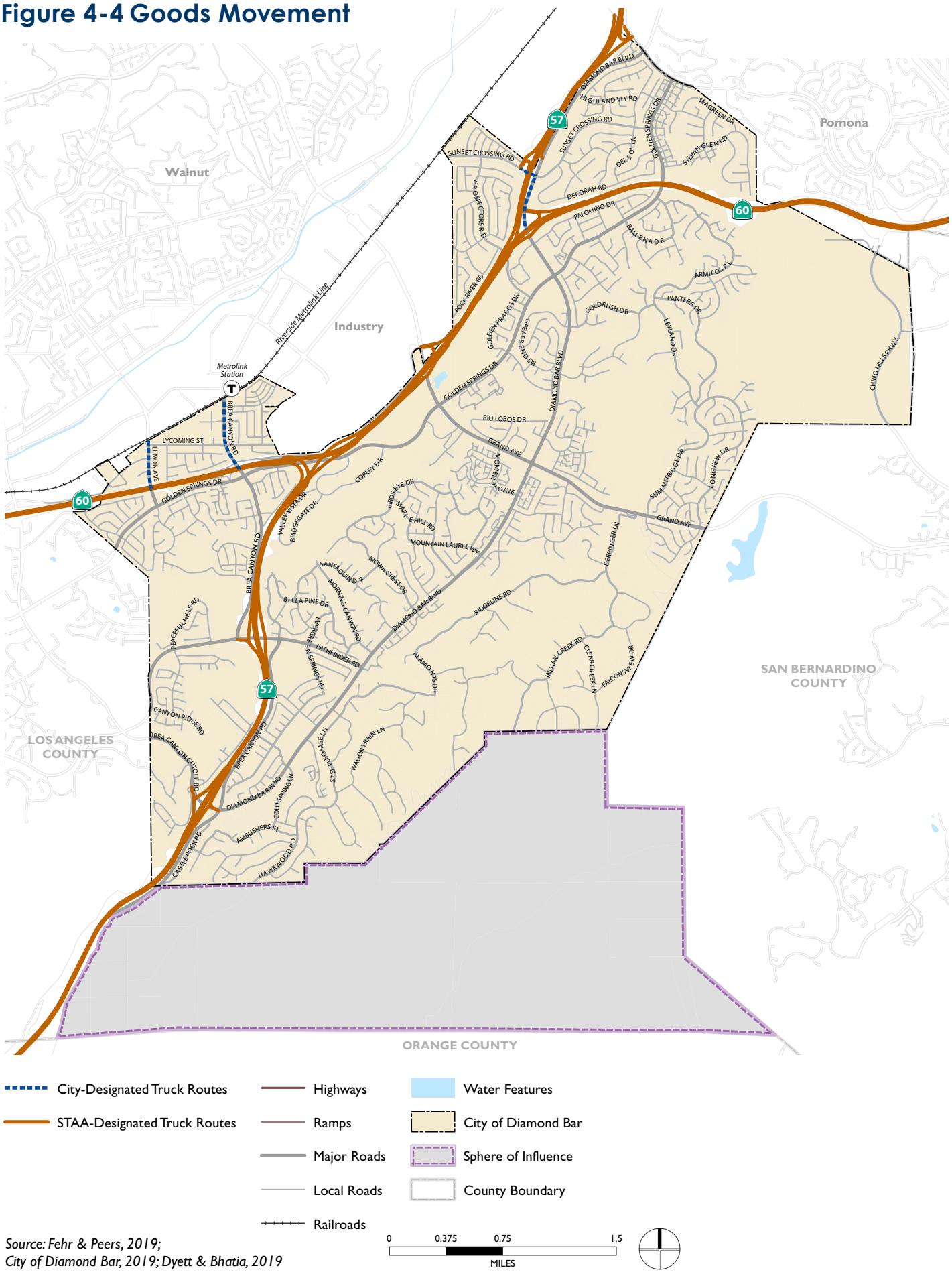
Goods movement plays an important role in both the circulation network and the economy of a city such as Diamond Bar. Often, it can be difficult to balance accommodating trucks and other vehicles without impeding other modes or the well-being of residents of the City. Given its location at the confluence of two highways, Diamond Bar must continue to direct goods movement to appropriate locations in its transportation network.

Due to the operational characteristics of trucks and railroads, goods movement can be incompatible with some land uses and other users of the

transportation system. At the State level, the California Public Utilities Commission (CPUC) has jurisdiction over State-level safety regulations for common carriers (including trucks and rail). The Surface Transportation Assistance Act (STAA) of 1982 also defines a network of highways as truck routes. Large trucks are allowed to operate on these routes. Goods movement into and through Diamond Bar is currently accommodated by STAA-designated SR-57 and SR-60. At the local level, the City of Diamond Bar has a designated truck route network that connects to these STAA-designates routes, as shown on Figure 4-4: Goods Movement.



Figure 4-4 Goods Movement



Source: Fehr & Peers, 2019;
City of Diamond Bar, 2019; Dyett & Bhatia, 2019

TRUCK ROUTE

NOT A DESIGNATED TRUCK ROUTE

GOALS

CR-G-15 Minimize quality of life impacts of goods movement in and through the City while facilitating the movement of goods destined for locations within the City.

CR-G-16 Facilitate safe and efficient movement, loading, and unloading (i.e. pick-up and delivery) of goods at destinations within the City.

CR-G-17 Advocate for regional transportation solutions that are equitable in the distribution of goods movement traffic.

POLICIES

Truck Routes

CR-P-60 Use Figure 4-4: Goods Movement as the guide for designating truck routes in the City.

CR-P-61 Review designated truck routes of adjoining jurisdictions and coordinate as needed to ensure continuity of facilities (e.g. Los Angeles County, City of Industry, City of Pomona, and City of Chino Hills).

CR-P-62 Maintain truck routes with signage between industrial areas and freeway interchanges to discourage truck travel through residential neighborhoods, and provide truck route information to truck routing software providers.

CR-P-63 Develop design guidelines for designated truck routes, including proper turning radii at intersections.

CR-P-64 Continue prohibiting trucks heavier than 5 tons from operating on designated residential streets, except for emergency, maintenance, residential moving trucks, and transit vehicles, to maintain pavement integrity.

CR-P-65 Periodically review collision data for type, location, severity, and cause. Develop countermeasures for sites with recurrent truck-involved collisions.

Delivery and Loading

CR-P-66 Encourage off-peak delivery of goods in non-residential areas through a combination of incentives and restrictions.

CR-P-67 Ensure that trucks do not interfere with cyclist or pedestrian activity by:

- a. Incorporating off-street or buffered bike lanes and walking paths where truck routes overlap with bicycle routes or streets with heavy pedestrian traffic; and
- b. Designing driveways and curb cuts to avoid maneuvering on sidewalks or in street traffic, while also facilitating the safe and efficient movement of trucks.

CR-P-68 Minimize noise impacts from trucks by enforcing delivery restrictions on certain routes and/or during certain times of day in order to minimize noise impacts on sensitive receptors.

CR-P-69 Incorporate provisions for loading/unloading during the development review process. Analysis of assumed loading/unloading activity should be reviewed by both the Planning and Public Works departments to ensure that the location and dimensions of loading location(s) support the planned use and minimize impacts to vehicular traffic, pedestrians, and bicyclists.

CR-P-70 Review and establish standards for off-street loading spaces for multi-family developments; consider short term loading areas or a centralized delivery area for residential complexes and commercial areas.



**CR-P-71**

Investigate the use of “big data” to better understand truck flows within and through the City, such as type of trucks, origin and destination of these trucks, role of different facilities in the City serving origin/destinations in the City, and local serving versus pass-through truck movements in Diamond Bar, and use this information to ensure that truck routes are designated well and that safety, congestion, and maintenance issues along heavily trafficked routes are addressed.

Coordination and Clean Vehicles**CR-P-72**

Continue to support regional solutions to long distance goods movement, but not to the detriment of the quality of life of Diamond Bar residents.

CR-P-73

Advocate for clean truck technology or smaller vehicles with lower emission rates.

RESOURCE CONSERVATION

For the Diamond Bar community, local natural and cultural resources play a major role in making the City a unique and desirable place to live. When asked what they love about their city, Diamond Bar residents highlight its open spaces and the diversity of plants and wildlife that inhabit those areas.



5.1 INTRODUCTION

Maintaining these and other important resources such as water and air quality is key to ensuring both that the community remains livable and the ecosystem remains healthy, particularly in the increasingly urbanized Southern California region. Additionally, in a young city like Diamond Bar, identifying and highlighting

cultural resources will play a part in establishing its identity. This Resource Conservation Chapter provides policies to guide the City's stewardship of its resources, ensuring the conservation and enhancement of open spaces, biological resources, water and air quality, and cultural resources.

RELATIONSHIP TO STATE LAW

California Government Code sections 65302(d)(1) and 65302(e) require cities to adopt conservation and open space elements as part of their general plans. A conservation element is required to provide guidance for the conservation, development, and utilization of natural resources, including water quality and hydraulic force, forests, soils, rivers and other waters, harbors, fisheries, wildlife, minerals, and others as applicable to each jurisdiction. An open space element is intended to ensure that cities and counties

recognize that open space land is a limited and valuable resource and prepare and carry out open space plans that guide the comprehensive long-range preservation and conservation of open space land. The Resource Conservation Chapter is a combination of these two required elements, as several of the issues addressed under each topic are closely related. Relevant resources in Diamond Bar discussed in this chapter include open space, biological resources, water resources, air quality, and cultural resources.



RELATIONSHIP TO OTHER ELEMENTS

This chapter is closely related to Chapter 2, Land Use and Economic Development, Chapter 4, Circulation, Chapter 6, Public Facilities and Services, and Chapter 8, Community Health and Sustainability. Chapter 2 establishes the Land Use Diagram and designates allowable uses throughout the Planning Area, including those that identify lands to be preserved as open space. It also establishes various policies for development to preserve the City's hillsides for the purposes of safety and maintaining Diamond Bar's visual character. Chapter 4 lays out a transportation network and

corresponding policies intended to reduce vehicle miles traveled and related air pollutant emissions. Chapter 6 includes a discussion on parks and recreation, including recreational open space; water supply and demand, which are tied to water quality and hydrology; and wastewater and stormwater facilities, which also relate to water quality. Finally, Chapter 8 includes some discussion related to environmental justice, including air quality, as it pertains to public health; it also considers impacts to natural resources as a result of greenhouse gas (GHG) emissions.



5.2 OPEN SPACE

OPEN SPACE INVENTORY

The open areas within the City are integral to the creation of a sense of place, its health, and its safety, contributing to its countryside atmosphere, providing opportunities for outdoor recreation for all ages, and supporting ecological health and hazard mitigation. Ensuring that areas treasured for their open space values are preserved is a priority for Diamond Bar community members.

Figure 5-1 shows the Planning Area's open space network as of 2019, including designated open spaces, parks, and the Diamond Bar Golf Course, which, while developed, serves a number of open space functions. The figure also shows the Significant Ecological Area in the SOI.

Open space is defined as any parcel or area of land or water that is essentially unimproved and devoted to open space use. Such uses include the preservation of natural resources, the managed production of resources (such as agriculture or forestry), outdoor recreation, the protection of public health and safety, support of the mission of military installations, and the protection of tribal cultural resources (California Government Code Sections 51075 and 65560). Unimproved land that is designated for other uses is considered vacant land rather than open space but may become open space if it is dedicated, acquired by a public entity, or otherwise preserved in perpetuity. Dedicated open spaces are designated on the General Plan Land Use Diagram with the Open Space land use classification.

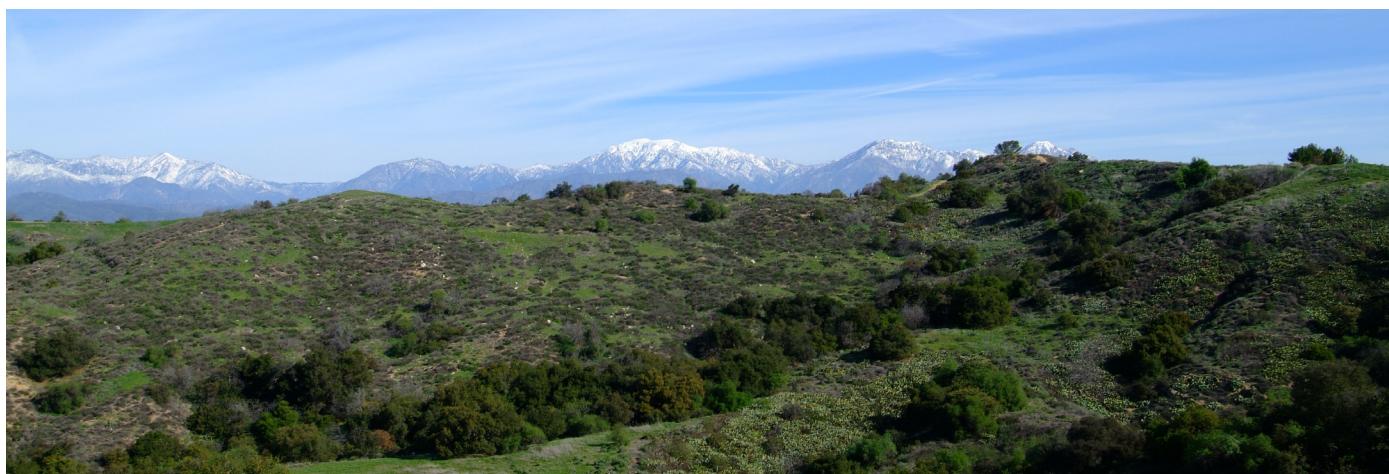
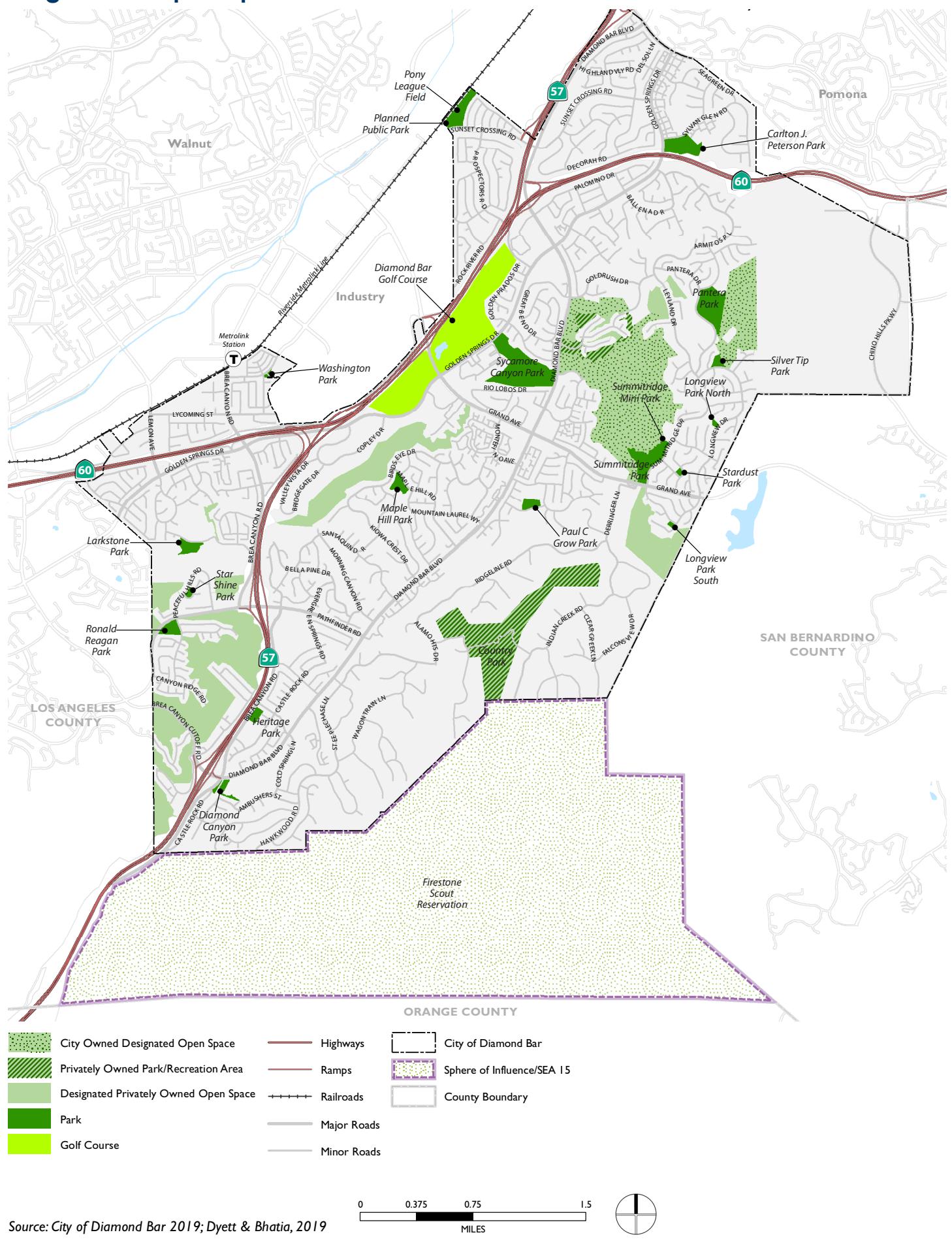


Figure 5-1 Open Space Network



PRESERVATION

Though much of the City is already developed, opportunities remain for the preservation of open space in the future, whether through public acquisition or dedication by property owners. As areawide plans are proposed and developed, they can identify areas that serve important ecological functions or provide important connections to regional wildlife corridors and cluster development away from those areas. Future projects can be designed to incorporate open spaces as buffers to help transition between different types of uses, provide ecosystem services such

as stormwater control and habitat protection, and create passive recreation opportunities and connections to the trail system. The development of public parks in the future can provide similar opportunities. Additionally, topography within the City means that many vacant areas may not developable due to safety and soil stability reasons or the potential for impacts to the visual integrity of the City's hillsides. Over time, these areas can be identified, and the City can explore options to designate them as permanent open space.



OPEN SPACE

See Chapter 2: Land Use and Economic Development for policies regarding the designation of open space land. See Chapter 5: Public Facilities and Services for policies related to parks and recreational facilities.

GOALS

- RC-G-1** Create and maintain a balanced open space system that will preserve scenic beauty and community identity, protect important biological resources, provide open space for outdoor recreation and the enjoyment of nature, conserve natural resources, and ensure public health and safety.
- RC-G-2** Seek to link the various elements of the open space network through the development of an integrated system of trails and greenways.
- RC-G-3** Preserve to the extent possible open space ridgelines, hilltops, and prominent slopes for aesthetic, biological and natural resource conservation, and safety purposes.

POLICIES

- RC-P-1** As opportunities arise, obtain and designate open space land through acquisition techniques such as:
- Incorporating open space and recreational areas into the design of new development projects, preserving and enhancing as open space significant stands of vegetation, natural landforms, and any areas of special ecological significance through site design approaches such as clustering and ecological planning.
 - Allowing clustering or transferring of all or part of the development potential of a site to a portion of the site to preserve significant environmental resources





such as natural and native habitats (oak woodland, coastal sage scrub, etc.), natural creeks, artesian springs, vernal pools, seeps, riverines, wetlands, riparian habitats, wildlife corridors and linkages, and natural geological features within proposed developments as open space.

- c. Allowing for acquisition of open space lands through the entitlement process and the transfer of densities among land uses of like designation.
- d. Collaborating with land trusts and other conservation groups to acquire open space land through, but not limited to, conservation easements.

RC-P-2 As future parks are developed, incorporate existing natural open space, existing water resources and mature vegetation to provide for passive recreation opportunities and wildlife habitats.

RC-P-3 A decision to rescind, terminate, abandon, remove, or modify an open space deed restriction, map restriction or Open Space land use designation must be preceded by both a finding by the City Council that the decision confers a significant benefit on the City and a favorable vote of the electorate at a regular or special election.

RC-P-4 Maintain an inventory of open lands that were set aside for open space uses as part of developments approved prior to City incorporation, and require verification as to the existence of any potential open space restrictions previously approved on a subject property prior to approving development proposals.

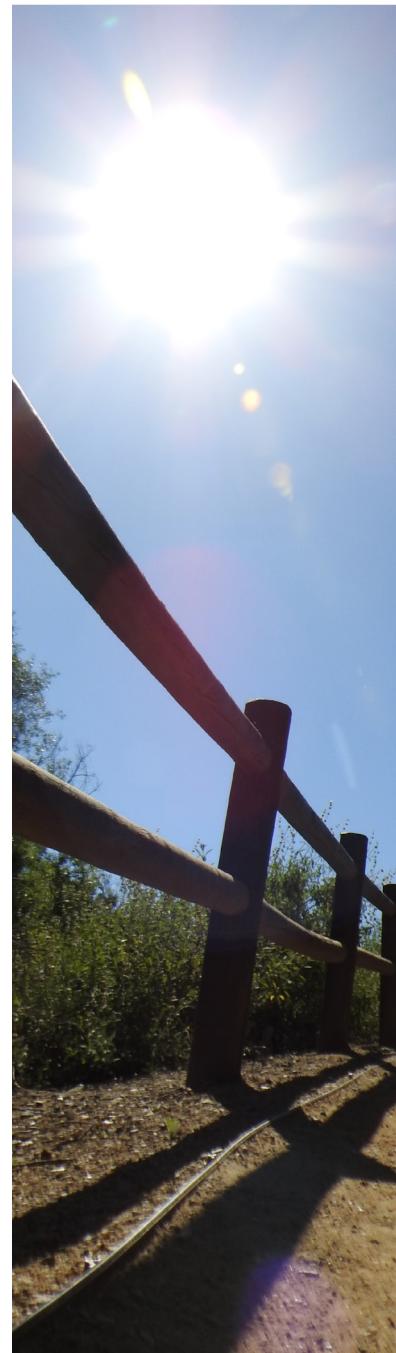
RC-P-5 Link parks, open spaces, and regional hiking trails with a trail network where feasible, acknowledging topographical constraints and other barriers. Incorporate existing trails and bicycle and pedestrian infrastructure, working with willing landowners to prioritize land acquisition where necessary. Where possible, incorporate landscaping and enhance natural features to create greenways along the trail network.

RC-P-6 Update, as appropriate, standards for planning, design, management, and maintenance of trails and pathways within parks, preserves, open space, and rights-of-way.

RC-P-7 Minimize visual and environmental impacts to ridgelines, hilltops, and slopes through regulations that minimize grading, ensure that development conforms to natural topography, and maximize safety, correlating development intensity with the steepness of terrain. Landform grading criteria and maximum allowable densities shall be based upon the slope density formula as set forth in the Development Code.

RC-P-8 To the extent feasible, support and cooperate with the efforts of other jurisdictions and conservation organizations to protect prominent ridges, slopes, and hilltops in and adjacent to the City and its Sphere of Influence.

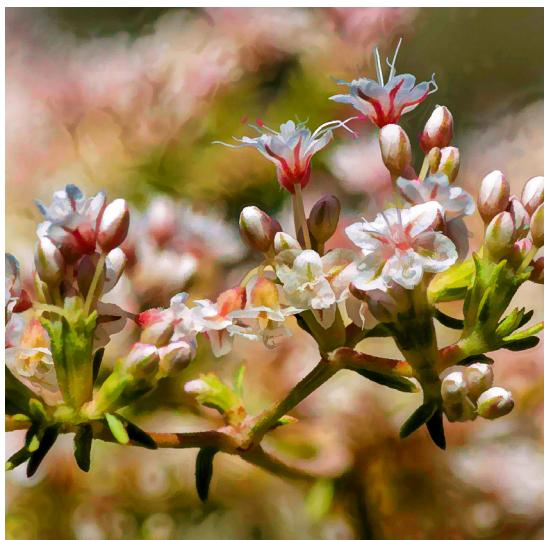
Such features include, but are not limited to, areas identified by Los Angeles County as Significant Ecological Areas; Tonner Canyon; the hills within Tres Hermanos Ranch; and the hillsides along SR-57, between Diamond Bar and Brea.



5.4 BIOLOGICAL RESOURCES

VEGETATION COMMUNITIES

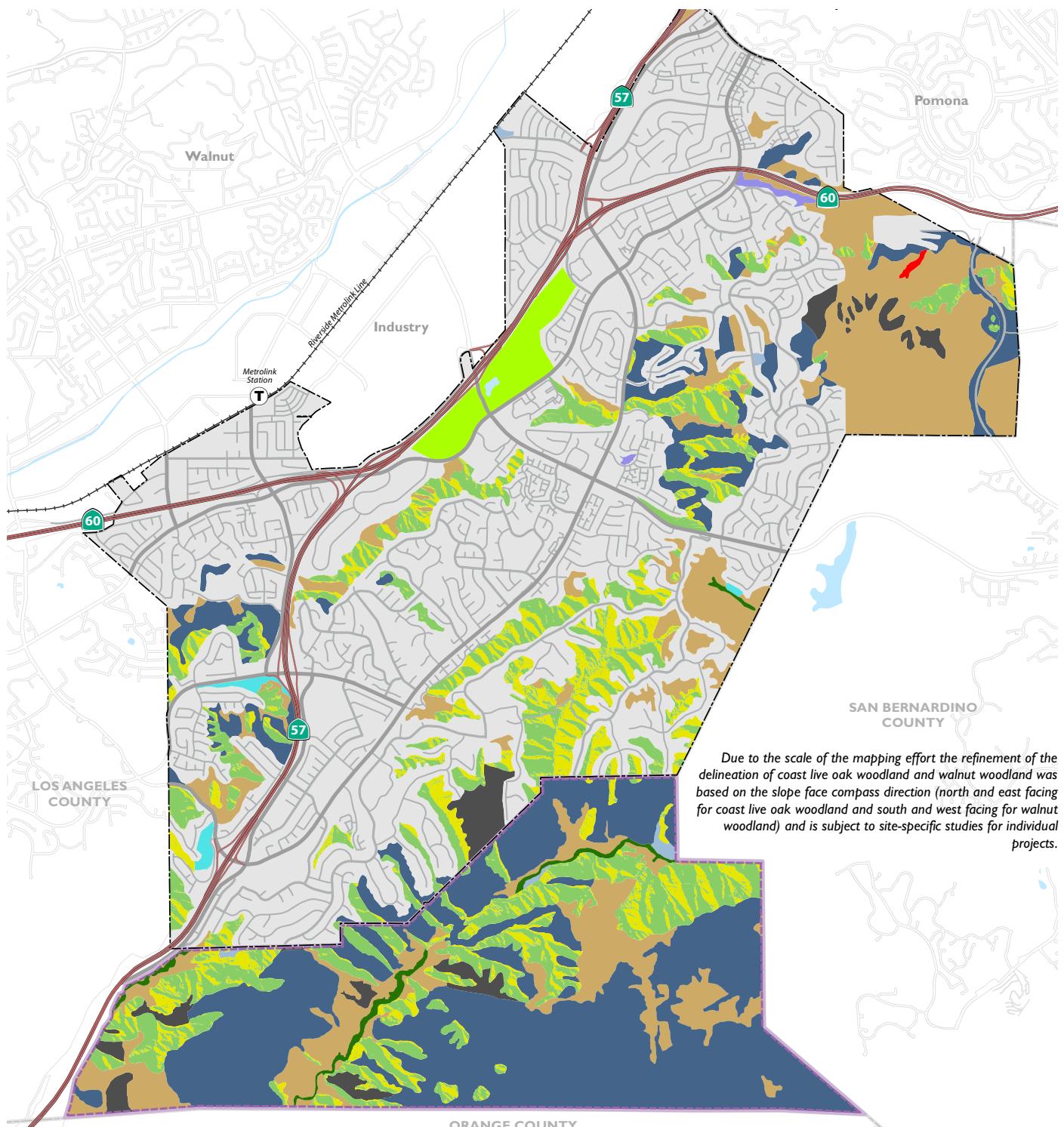
Although Diamond Bar is primarily developed as a residential community, vegetated habitat types have a large presence within the Planning Area's hilly terrain. The following vegetation communities have been identified in the Planning Area. This inventory is based on field reconnaissance undertaken for the General Plan process and review of aerial imagery in 2016, as well as input from the community; it was determined at a broad, citywide scale and is thus for guidance purposes only. For a more detailed understanding of conditions on the ground, particularly as conditions change over time, site-specific study would be required. Examples of situations when such studies should be undertaken include development proposals, trail planning, and mitigation bank planning. The vegetation communities within the Planning Area are mapped in Figure 5-2.



Venturan Coastal Sage Scrub

Venturan coastal sage scrub (VCSS) is a form of coastal sage scrub found in the coastal and cismontane region of Southern California and Baja California. It is composed of low, soft-woody subshrubs on dry slopes below 3,000 feet. The dominant characteristic species found in VCSS within the City include California sagebrush (*Artemesia californica*), California buckwheat (*Eriogonum fasciculatum*), and black and white sage (*Salvia melifera* and *Salvia apiana*). A dominance of California buckwheat is present within some of the VCSS communities, while California sagebrush is the dominant species in other areas. Other species present within this vegetation community include lemonadeberry (*Rhus integrifolia*), brittlebush (*Encelia farinosa*), and coastal prickly pear (*Opuntia littoralis*). The understory is dominated by non-native grasses such as brome (*Bromus spp.*) and wild oats (*Avena spp.*). Where non-native grasses dominate the VCSS communities at greater than 50 percent, the community is categorized as disturbed VCSS. VCSS commonly occurs on south-facing slopes throughout the Planning Area. The California Department of Fish and Wildlife (CDFW) considers VCSS to be a Sensitive Natural Community (the characteristics of Sensitive Natural Communities are described later in this chapter).

Figure 5-2 Natural Communities



| | | | |
|----------------------------|-----------------------------|---------------------------------------|---------------------|
| Oak Woodland | Non-Native Grassland | Disturbed Venturan Coastal Sage Scrub | City of Diamond Bar |
| Walnut Woodland | Non-Native Riparian | Disturbed | Sphere of Influence |
| Sycamore Alluvial Woodland | Southern Willow Scrub | Diamond Bar Golf Course | |
| Non-Native Woodland | Venturan Coastal Sage Scrub | Developed | |

Source: City of Diamond Bar 2019;
ESA PCR, 2016; Dyett & Bhatia, 2019

0 0.375 0.75 1.5
MILES



Non-Native Grassland

Non-native grassland consists of dense to sparse annual grasses less than three feet high. Within the City, this community is dominated by bromes, oats, tocalote (*Centaurea melitensis*), Russian thistle (*Salsola tragus*), Mediterranean mustard (*Hirschfeldia incana*), and telegraph weed (*Heterotheca grandiflora*). Other broadleaf weeds may also be present. Non-native grassland is largely located in the northeastern corner of the City, due to a historic presence of agricultural uses, as well as in small parcels throughout the City, often in areas that have been cleared for fire control.

Sycamore Alluvial Woodland

Southern alluvial woodland is located along braided channels of intermittent streams, consisting of open to moderately closed winter-deciduous trees and dominated by western sycamore (*Platanus racemosa*). Blue elderberry (*Sambucus nigra*) is also a characteristic species. Within the City, this habitat is composed largely of western sycamore, with

blue elderberry and coast live oak (*Quercus agrifolia*) interspersed throughout. A small patch of sycamore alluvial woodland is located in upper Tonner Canyon.

Southern Willow Scrub

Southern willow scrub is a deciduous, riparian community dominated by dense thickets of one or more willow tree species and various other scattered shrubs and larger emergent trees. Within City boundaries, this community consists mainly of arroyo willow (*Salix lasiolepis*). Much of this habitat within the City is between 6 and 15 feet in height and varies in density, from relatively open to impenetrable. Southern willow scrub is found along Brea Canyon Creek downstream of residential development, along Tonner Canyon Creek within the SOI, and along a tributary of Tonner Canyon Creek above Arnold Reservoir. Southern willow scrub is another vegetation community considered by the CDFW to be a Sensitive Natural Community.



Coast Live Oak Woodland

Coast live oak woodland is dominated solely by coast live oak trees, which can reach approximately 30 to 75 feet in height, and occur generally in shaded ravines on north-facing slopes. This community often has limited shrub cover with an understory of ripgut grass (*Bromus diandrus*). Within the City, the dominant plant species is coast live oak, with limited shrubs such as toyon (*Heteromeles arbutifolia*) and laurel sumac (*Malosma laurina*) and an understory of mixed grasses, predominately brome and oat. Although the coast live oak is the dominant tree species, coast live oak woodland, as defined, is limited to the northeastern region of the City and the SOI, generally on north-facing slopes.

California Walnut Woodland

California walnut woodland is similar to coast live oak woodland but is dominated by Southern California black walnut (*Juglans californica*); however, coast live oak is a common species of this habitat. Within the City, the dominance of coast live oak varies throughout this habitat but is largely present throughout. Other species present within this habitat include toyon, laurel sumac, blue elderberry, and an understory of non-native grasses such as brome and oat. California walnut woodland is dispersed throughout much of the City, generally occurring on north-facing slopes. The CDFW considers California walnut woodland to be a Sensitive Natural Community.

Mixed Plant Communities

In cases where two or more vegetation types are highly intermixed, they have been mapped as one mixed plant community. Within the study area these occur as: 1) California walnut woodland/coast live oak woodland, where California walnut trees and coast live oak trees grow in proximity with one another and often have overlapping canopies; and 2) California walnut woodland/coast live oak woodland/Venturan coastal sage scrub, where California walnuts and coast live oaks grow together in small coves with Venturan coastal sage scrub being found in between.

Other Land Cover Types

Non-Native Riparian

Non-native riparian consists of densely vegetated riparian thickets heavily dominated by invasive plant species. Within the City, this community consists largely of Mexican fan palm (*Washingtonia robusta*), Brazilian pepper tree (*Schinus terebinthifolius*), and eucalyptus (*Eucalyptus* sp.). Tree of heaven (*Ailanthus altissima*) and ornamental pines (*Pinus* sp.) also occur within this community. There is some presence of arroyo willow and coast live oak, but natives such as these make up less than 25 percent of the vegetation within this community. Non-native riparian habitat is located in a single patch that runs along the south side of SR-60 in the northern portion of the City.

Developed

Developed/urban areas have been physically altered to the point where they can no longer support native vegetation. The land cover type includes areas with permanent or semi-permanent structures, pavement or other hardscape, and landscaped areas that require irrigation. Developed land constitutes nearly two-thirds of the land within the City. It includes businesses, residences, schools, parks, highways and other roads, sidewalks, and irrigated landscapes. Within the areas called out as developed habitat, there may be some oak, walnut trees, or other small pockets of native habit.

Disturbed

Disturbed areas have been physically altered by previous

human activity and are no longer able to support a recognizable native or naturalized vegetation association. The soil is often highly compacted or frequently disturbed. Disturbed habitat within the City has shown evidence of discing or high compaction. Only two small portions within the northern region of City were mapped as disturbed; both areas are along roads and adjacent to businesses.

Non-Native Woodland

Non-native woodland typically consists of planted, non-native trees, often characterized by eucalyptus. Within the City, non-native woodland consists of Brazilian pepper trees, ornamental pines, eucalyptus, and acacia (*Acacia sp.*), among others. This habitat is located in the southern portion of the City and the SOI.

SPECIAL STATUS SPECIES AND HABITATS

Special-Status Plant Species

Special-status species are those plants and animals that, because of their acknowledged rarity or vulnerability to various causes of habitat loss or population decline, are recognized in some fashion by federal, State, or other agencies as deserving special consideration.

According to the California Natural Diversity Database (CNDDB), as of 2019, no special-status plant species have been recorded within the City.

Several sensitive plant species have been reported as recorded near the City, including within the SOI, as shown in Figure 5-3; however, the majority of these species are not expected to be present within City limits for one or both of the following reasons: suitable habitat to support the species is not present within the City; or the species occurrences are highly localized some distance from the City. These plant species are described in Table 5-1.

Table 5-1: Special Status Plant Species Occuring or Potentially Ocurring within the Planning Area

| Scientific Name | Common Name | CNPS Listing Status | Preferred Habitat | Records |
|----------------------------------------------------|------------------------------|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------|
| Angiosperms (Dicotyledons) | | | | |
| Asteraceae | Sunflower Family | | | |
| <i>Microseris douglasii</i> var. <i>platycarpa</i> | Small-flowered microseris | 4.2 | Cismontane woodland, coastal scrub, valley and foothill grassland/clay. | Recorded in study area south of Diamond Ranch High School. |
| <i>Senecio aphanactis</i> | Rayless ragwort | 2B.2 | Cismontane woodland, coastal scrub, drying alkaline flats. | Puddingstone Dam (1932); moderate potential where habitat occurs. |
| <i>Pseudognaphalium leucocephalum</i> | White rabbit-tobacco | 2B.2 | Sandy wash habitats | Not recorded from the Puente Hills; low potential in study area. |
| <i>Symphyotrichum defoliatum</i> | San Bernardino aster | 1B.2 | Low potential to occur in moist habitats. | Recorded from study area vicinity, but possibly extirpated. |
| Brassicaceae | Mustard Family | | | |
| <i>Lepidium virginicum</i> var. <i>robinsonii</i> | Robinson's pepper grass | 4.3 | Chaparral and coastal scrub. | Recorded in the Puente Hills and within the study area |
| Convolvulaceae | Morning-Glory Family | | | |
| <i>Convolvulus simulans</i> | small-flowered morning glory | 4.2 | Coastal scrub, valley and foothill grassland/clay, serpentine seeps. | Moderate potential where habitat occurs. |
| Crassulaceae | Stonecrop Family | | | |
| <i>Dudleya multicaulis</i> | Many-stemmed dudleya | 1B.2 | California plant communities including sage scrub, valley and foothill grassland; heavy clay soils or rock outcrops. | Bonelli Regional Co. Park (1987 and 1982); recorded on Way Hill (1987); Many CNDB records throughout the area; high potential to occur in study area. |
| Fabaceae | Legume Family | | | |
| <i>Astragalus brauntonii</i> | Braunton's milk-vetch | 1B.1 | Sage scrub, chaparral, valley and foothill grassland, closed cone coniferous forest; limestone endemic, carbonate soils, recent burns and disturbed areas. | Recorded in San Gabriel Mountain foothills to the north and the Santa Ana Mountain foothills to the south; moderate potential to occur in study area. |
| <i>Quercus engelmannii</i> | Engelmann oak | 4.2 | Chaparral, cismontane woodland, riparian woodland, valley and foothill grassland. | Recorded in the Chino and Puente Hills; moderate potential to occur in study area. |

Table 5-1: Special Status Plant Species Occuring or Potentially Ocurring within the Planning Area

| Scientific Name | Common Name | CNPS Listing Status | Preferred Habitat | Records |
|---------------------------------------------------|----------------------------------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Angiosperms (Dicotyledons) | | | | |
| Hydrophyllaceae | Waterleaf Family | | | |
| <i>Phacelia hubbyi</i> | Hubby's phacelia | 4.2 | Sage scrub and chaparral | Recorded in the Puente Hills and west Pomona hillsides; high potential to occur in the study area. |
| Juglandaceae | Walnut Family | | | |
| <i>Juglans californica</i> | Southern California black walnut | 4.2 | Sage scrub, chaparral, cismontane woodland; often in association with oaks/oak woodland; frequently found on steep hillsides with northern exposures; deep alluvial soils. | Occurs throughout much of the study area. |
| Liliaceae | Lily Family | | | |
| <i>Brodiaea filifolia</i> | Thread-leaved brodiaea | 1B.1 | Sage scrub, valley/foothill grassland, cismontane woodland; vernal pools (clay soils). | Recorded from the San Gabriel Mountains to the north and Santiago Hills to the southeast; low potential to occur in the study area. |
| <i>Calochortus catalinae</i> | Catalina mariposa lily | 4.2 | Openings in chaparral, valley and foothill grassland, cismontane woodland; heavy soils. | Recorded within the study area within openings in shrublands and scrub. |
| <i>Calochortus clavatus</i> var. <i>gracilis</i> | Slender mariposa lily | 1B.2 | Chaparral, especially in foothill canyons.; generally found in shade. | Low potential where habitat occurs. |
| <i>Calochortus plummerae</i> | Plummer's mariposa lily | 4.2 | Sage scrub, valley and foothill grassland, yellow pine forest; dry, rocky or sandy sites, granitic or alluvial soil; to 4,800 feet. | Potentially present in the study area. |
| <i>Calochortus weedii</i> var. <i>intermedius</i> | Intermediate mariposa lily | 1B.2 | Chaparral, coastal scrub, valley and foothill grasslands. | Recorded in study area and at Elephant Hill (1991) in Pomona. |
| Orchidaceae | Orchid Family | | | |
| <i>Piperia cooperi</i> | Cooper's rein-orchid | 4.2 | Scrub, chaparral and oak/walnut woodlands | Not recorded in the Puente Hills, but is recorded in the Santa Ana River Canyon to the south; low potential to occur in the study area. |