Infrastructure

4

Transportation and utility infrastructure is integral to maintaining and enhancing quality of life in Chino. Our roads and bridges connect neighbors and allow people to commute to work and access services. Reliable water, sewage, electricity, gas, and internet infrastructure underpins the community's daily activities and ensures that life and work can run smoothly. These essential systems are the backbone of a healthy and resilient community, helping people, businesses, and government not only maintain essential functions and bounce back from adversity but also to thrive. It is critical that we make wise investments in public facilities and safety to provide for our community's existing and future needs.

The Infrastructure Element establishes a framework to guide planning and decision-making for public infrastructure that supports a healthy, growing city. It satisfies the requirements for the Circulation Element of the General Plan by identifying the location of public utilities and by providing a circulation diagram that identifies the city's major thoroughfares and transportation routes and a policy framework to balance walking, biking, transit service, and driving within a multimodal network. This Element also discusses the maintenance and proactive planning of the municipal infrastructure and services that will serve current daily demands and projected future needs.

Regional Connectivity

Chino is at the crossroads of a dynamic region, located in the southwestern corner of San Bernardino County, near the border with Los Angeles, Orange, and Riverside Counties. This location offers excellent connectivity to the regional transportation network, provides considerable economic advantages, and underscores the need to collaborate with other agencies in the region. State Route 71 (SR-71) lies west of the city and State Route 60 (SR-60) runs through the northern portion of the city. These freeways are accessed by multiple on/off ramps throughout Chino and intersect to the northwest of the city just outside of City limit. State Route 83 (SR-83 or Euclid Avenue) forms the northeastern edge of the city, linking SR-71 and SR-60 the northeast of the city, outside of City limit. The Union Pacific Railroad provides freight rail access for Chino's major employment districts, traversing the northwestern part of the city, and the city is served by two airports: Chino Airport, a County-operated general aviation airport in the southeastern part of Chino, and Ontario International Airport, located approximately four miles to the northeast.

Transit service in Chino is limited and most residents commute to work by car, primarily to jobs in Los Angeles and Orange Counties. With continued robust growth projected for the region in the coming decades, subregional transportation priorities for Chino and the surrounding area include projects that will improve regional circulation and connectivity and address repetitive loss due to flooding.

TRANSPORTATION AGENCIES

The transportation agencies highlighted below influence local and regional transportation planning in and around Chino.

- **United States Department of Transportation (USDOT)**. The US DOT coordinates all federal transportation work. Under the USDOT, the Federal Highway Administration (FHWA) builds and maintains the National Highway System; the Federal Railroad Administration (FRA) invests in and enforces safety regulations along rail corridors throughout the United States; the Federal Transit Administration provides financial and technical assistance to local public transit systems and oversees transit safety; and the National Highway Traffic Safety Administration (NHTSA) works to improve safety on roadways.
- **California Department of Transportation (Caltrans)**. Caltrans has authority over the State highway system, including mainline facilities, interchanges, and arterial State routes. Caltrans approves the planning and design of improvements for all State-controlled transportation facilities. Caltrans facilities in or serving Chino include SR-60, SR-71, SR-142 (Chino Hills Parkway), and SR-83 (Euclid Avenue).
- **Southern California Association of Governments (SCAG)**. The regional transportation planning agency and Metropolitan Planning Organization (MPO) for the Southern California region is SCAG. SCAG develops long-range Regional Transportation Plans (RTPs) including the Sustainable Communities Strategy (SCS) and growth forecast components. SCAG also develops the Regional Transportation Improvement Programs (RTIP).

- **San Bernardino County Transportation Authority (SBCTA)**. SBCTA oversees regional transportation planning comprising all the cities in San Bernardino County. SBCTA oversees the countywide multimodal transportation system with delivering freeway construction projects, regional road improvements, transit and rail improvements, grade separations, call boxes and ride-sharing programs, congestion relief, as well as long-term planning efforts. SBCTA is responsible for administering the Measure I half-cent sales tax which San Bernardino County voters passed most recently in 2004 approved the extension through 2040.
- **Omnitrans**. Omnitrans is the public transit agency for the San Bernardino Valley, serving approximately 7 million passengers each year throughout a 480-square mile service area that covers 15 cities and portions of the unincorporated areas of San Bernardino County. Omnitrans operates local and express bus routes, sbX bus rapid transit service, and Access, a paratransit service for the disabled. Major destinations within the Omnitrans service area include transportation centers, medical centers, educational facilities, shopping malls, business parks, and community centers. Omintrans operates four bus routes that provide service in the northern part of Chino, with connections to regional destinations. Omnitrans route 88 provides connections to the Metrolink regional commuter rail station in Montclair, via the Chino Transit Center, located downtown. However, there are no routes servicing southern parts of Chino.

REGIONAL TRANSPORTATION PROJECTS

The projects listed below have broad regional significance and would address repetitive loss from flooding events in Chino and improve regional circulation and connectivity:

Pine Avenue Connector

The Pine Avenue Connector Project would extend Pine Avenue from State Route 71 (SR-71) eastward to El Prado Road as an urban four-lane arterial and widen Pine Avenue to a four-lane arterial from El Prado Road to Euclid Avenue (SR-83) in the Cities of Chino and Chino Hills. Planned for many years, the project is included in the SCAG 2020 RTP/SCS approved project list of Federal Transportation Improvement Program (FTIP) and would be undertaken in coordination with Caltrans and the City of Chino Hills. The proposed work will encroach upon sensitive environmental resources, requiring environmental review pursuant to CEQA to ensure that all practical measures are taken to minimize harm to the wetlands and floodplain.

The Preserve gateway at Pine Ave

Pine Avenue & SR-71 Bridge Improvement

The Pine Avenue & SR-71 Bridge Improvement Project will improve the bridge and ramp interchange to handle the Pine Avenue Connector within Caltrans right-of-way and the

City of Chino Hills. This project is required to ensure the Pine Avenue Connector is a successful project for both Chino and Chino Hills.

Euclid Avenue Relinquishment

With Assembly Bill 250, passed on October 8, 2023, the California Legislative authorized Caltrans and the City of Chino to pursue relinquishment of SR83 (Euclid Avenue). Relinquishment is tentatively scheduled to be completed by June 30, 2026. With relinquishment, the City of Chino will assume jurisdiction of SR83 (Euclid Avenue) from the SR71 interchange to Merrill Avenue. From Merrill Avenue to Riverside Drive, the City of Chino and Ontario share jurisdictional boundary of SR83 (Euclid Avenue).

Euclid Avenue Bridge Project

After relinquishment of Euclid Avenue is complete, the City plans to pursue the Euclid Avenue Bridge Project at a location within the Prado Basin where Euclid Avenue crosses Chino Creek between SR71 and Pine Avenue. The project site is located within the northern portion of the Prado Flood Control Basin, below the 566-foot elevation level of the Prado Dam spillway, and overlaps with areas designated for ecosystem and creek restoration. Key project objectives are to create an "all weather" facility that will not be subject to closures during storm events, and in so doing to improve safety for motorists and pedestrians by reducing the possibility of encountering flood waters, enhancing mobility and circulation during the heavy rain events; providing unhindered access for emergency vehicles; alleviating traffic congestion and removing roadway bottlenecks; and providing active transportation facilities for improved cyclist and pedestrian access through this portion of Euclid Avenue.

INF-1 **REGIONAL CONNECTIVITY. Strengthen connections to the regional transportation network.**

REGIONAL CONNECTIVITY

Policies

INF-1.1 Support regional transportation infrastructure investments for all modes to relieve congestion and support community health in Chino.

INF-1.2 Participate in regional transportation planning initiatives and cooperate with regional partners and neighboring jurisdictions to plan, design, and maintain a transportation system that provides for the safe and efficient movement of goods and people in the region.

INF-1.3 Pursue transportation infrastructure improvements and associated funding for projects such as safer street crossings and attractive streetscapes to encourage bicyclists, walkers, and users of mobility devices.

INF-1.4 Work with Omnitrans and other transit providers to improve the frequency and convenience of transit connections from Chino to major regional destinations, such as the Ontario International Airport, Metrolink rail stations, and large employment centers. Seek expanded fixed route services and collaborate on potential Bus Rapid

Transit routes to expand transit throughout Chino, primarily to, from, and within the southern part of the city.

INF-1.5 Support continued operation of the regional freight rail system where it offers safe, convenient, and economical transport of commodities, or potentially convert to trails if not utilized.

INF-1.6 Through its own regulations and collaboration with other responsible agencies, work to foster the compatibility of general and commercial aviation facilities with surrounding uses.

INF-1.7 Work with the San Bernardino County Airports to plan for a full range of aviation services and promote airline service that meets the present and future needs of residents and the business community.

Actions

INF-1.A Advocate for the completion of proposed and planned regional transportation projects as they will alleviate congestion on SR-60 and I-71 (including on/off-ramps) and improve regional access for Chino residents and businesses, including the Pine Avenue Bridge Connector, Pine Avenue & SR-71 Interchange Project, Euclid Avenue (SR83) Relinquishment, and the Euclid Avenue Bridge Project.

INF-1.B Pursue grant funding, including for major regional projects that strengthen connectivity to the regional network and enhance safety and accessibility in Chino.

INF-1.C Coordinate regularly with Caltrans to ensure efficient traffic flows between interchanges and local roadways including signal timing and operations.

INF-1.D Continue to coordinate with rail operators to minimize negative impacts and maximize benefits to Chino from rail service that runs through the city.

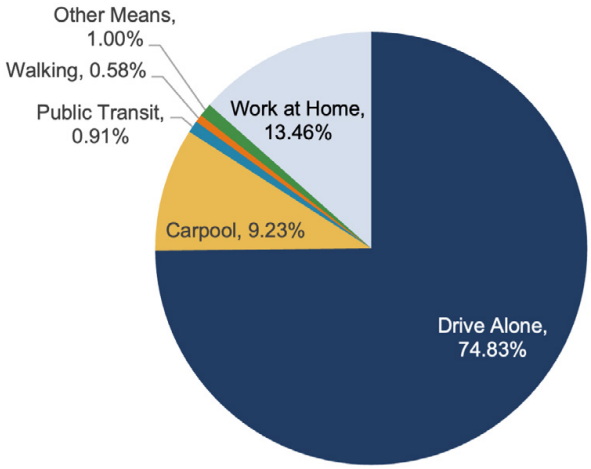
Euclid Avenue

Comprehensive, Layered Network

A comprehensive transportation network gives residents and visitors multiple options for getting around Chino and connecting to destinations beyond. By providing a variety of safe and attractive transportation options, the City can ensure that all residents have equitable access to transport, including youth, seniors, persons with disabilities, and low-income residents.

As in many communities throughout California, in Chino the automobile —especially the single-occupant vehicle—is the primary mode of travel. Nearly 80 percent of total commute travel in Chino is by car (see **Figure INF-1**) and both commute inflows and outflows on the regional network make up a large share of vehicle trips in Chino. Outflow refers to those who live in Chino but are employed outside of the city whereas inflow includes people who are employed in Chino but live outside of the city. Given that Chino has a concentration of jobs in the manufacturing, wholesale trade and distribution sectors and a relatively educated working population, a large share of people employed in Chino commute from surrounding communities, while almost 90 percent of working Chino residents commute to jobs in other communities.

Figure INF-1: Commuter Mode Split



Source: Table B08101, 2023 ACS 5-Year Estimates

Although Chino has relatively flat terrain and rectilinear grid patterns of streets that makes it generally well-suited for walking and biking, over time development patterns in much the city have resulted in a separation of residential, commercial, and employment uses that do not facilitate walking, and hot weather particularly in the summer months can make getting around by walking and biking less desirable. However, Chino's principal commercial corridors and centers are centrally located in the northern part of the city, easily accessible from adjacent multifamily developments and residential neighborhoods. Several of these centers and corridors have underutilized land and high vacancy rates, and the General Plan seeks to focus infill development within these areas to create a network of mixed use activity centers that act as major focal points in the community, offering an array of choices for living, working, shopping and enjoying free time. (*See Chapter 2, Land Use and Community Character, for additional discussion*). Over time, the mixed use activity centers will become dynamic destinations with amenities that draw residents from Chino and visitors from the wider region and the addition of multifamily housing in some centers will create more opportunities for those who work in Chino to live in the community. The comprehensive, layered transportation network described in this chapter supports Chino's continued growth and evolution, enhancing connectivity to and through these mixed use activity centers via all modes of transportation to support realization of the vision.

COMPLETE STREETS

In 2008, the State passed the California Complete Streets Act (Assembly Bill 1358), 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. This framework allows policymakers to shift the goals, priorities, and vision of local transportation planning efforts by emphasizing a diversity of modes and users. Many of Chino's roads were designed primarily for car travel when they were first built. Rethinking Chino's roads as Complete Streets will allow people to safely walk, bicycle, drive, and take transit, sharing the street with other users.

Safe System Approach

Communities across California are witnessing an increase in roadway fatalities and serious injuries. According to Caltrans, more than 3,600 people die in traffic crashes in California each year and more than 13,000 people are severely injured statewide. To help address this issue, the State legislature enacted AB932 in 2022, requiring that cities and counties incorporate a Safe System approach into the circulation element of their general plans that focuses on addressing multiple interconnected elements of a transportation system - including safe roads, safe speeds, safe vehicles, safe road users, and post-crash care. AB932 aligns with the broader global Vision Zero movement, which aims to eliminate traffic fatalities and severe injuries, recognizing these tragedies as preventable through a proactive, preventative approach. General Plan policy commits the City to a Safe System approach and to conducting a Safe Streets and Roads for All assessment to identify a network of designated corridor-level segments where the highest concentrations of collisions occur (High Injury Network) together with a suite of actions to eliminate collisions resulting in fatalities and serious injuries

COMPLETE STREETS

"Complete Streets" are streets that have been designed to safely and comfortably accommodate all users, regardless of age, ability, or mode of travel. Many street designs historically privileged private vehicle travel above other transport modes; Complete Streets aim to correct past imbalances and ensure that roadways are safe and friendly for pedestrians, bicyclists, and transit riders, too.

Roadway Classifications

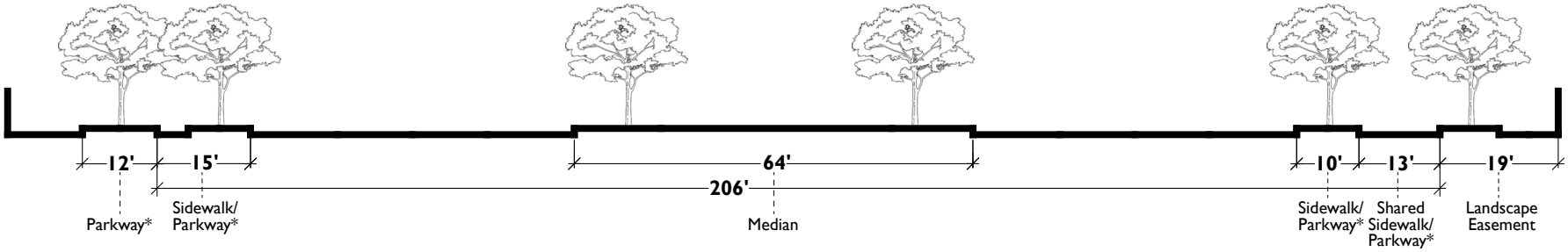
Roadways in Chino are classified according to the number of lanes and the type of service the roadway is intended to provide. It is important to note that these right-of-way widths do not include equestrian or bicycle trail requirements; additional right-of-way would be required for these facilities. Given that the majority of the city is developed—particularly in the north—this additional right-of-way would be accommodated through the reallocation of existing roadway space.

Typical street sections for these roadway classifications are provided below. Certain street segments within adopted Specific Plans or other planning documents may vary from the typical right-of-way standards presented below. In such cases, the standards specified in those documents supersede the typical right-of-way designations. Project applicants and reviewers should consult the City Engineer or City Traffic Engineer to confirm applicable right-of-way. A consolidated table of segment-specific right-of-way dimensions is maintained in the City Standard Drawings for reference.

Freeway

A freeway is an access controlled, divided highway, with two or more lanes in each direction. Freeways are designed for high-speed inter-city travel.

SR71. Image credit: AsphaltPlanet.ca



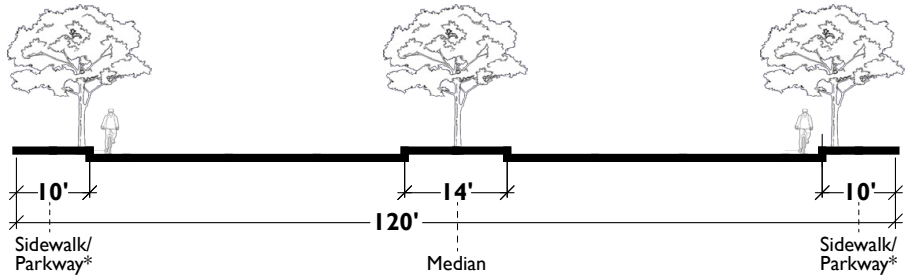
Expressway

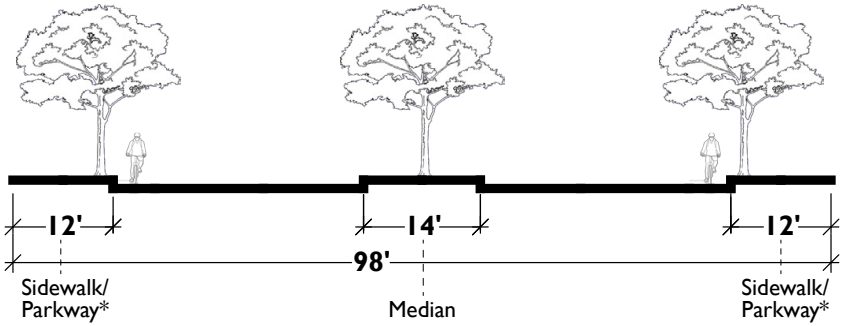
An expressway is a divided high flow arterial street with three or more lanes in each direction. Typical right-of-way width is approximately 200 feet, with additional easements for landscaping and possible trails. Expressways are separated by a raised landscape median and may have a bicycle lane/trail and/or an equestrian trail. SR-83/Euclid Avenue is the only Expressway in the City. Outside of the right-of-way, additional landscape easements may be required.

**Sidewalk/Parkway typically is 5' parkway and remainder sidewalk, but varies as conditions warrant. Bicycle lane where applicable.*

Major Arterial

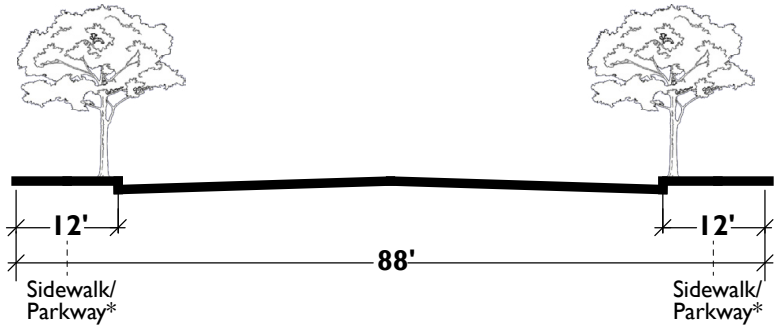
A major arterial is a divided roadway with six to eight through lanes. Major arterials serve major activity centers within the city, carry the majority of intra-city trips, and provide access to high volume corridors, such as freeways. Public transportation is usually more prominent along the major arterial system. No on-street parking permitted. Major arterials may be divided by a median and may have a bicycle lane/trail and/or an equestrian trail. Typical right-of-way width ranges between 120 feet and 134 feet, and curb-to-curb width ranges from 100 feet to 114 feet.





Primary Arterial

A primary arterial is a roadway with four or six through lanes and minimal access from driveways. Primary arterials may be separated by a median and may have a bicycle lane/trail and/or an equestrian trial. The typical right-of-way width is between 88 and 104 feet, and the curb-to-curb width between 64 and 92 feet. Parking is prohibited on primary arterial roadways.



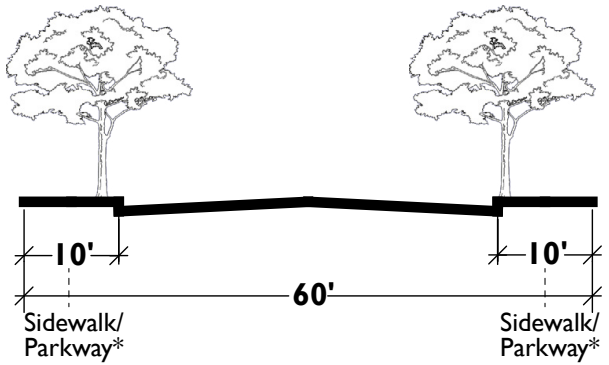
Secondary Arterial

A secondary arterial is an undivided roadway with four through lanes. Typical right-of-way width is approximately 88 feet, and curb-to-curb width is 64 feet. Secondary arterials may have a bicycle lane/trail and/or an equestrian trail. Parking can be allowed on secondary arterial roadways.

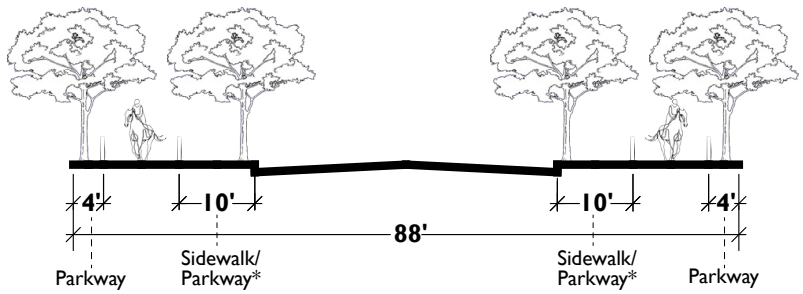
**Sidewalk/Parkway typically is 5' parkway and remainder sidewalk, but varies as conditions warrant. Bicycle lane where applicable.*

Collectors

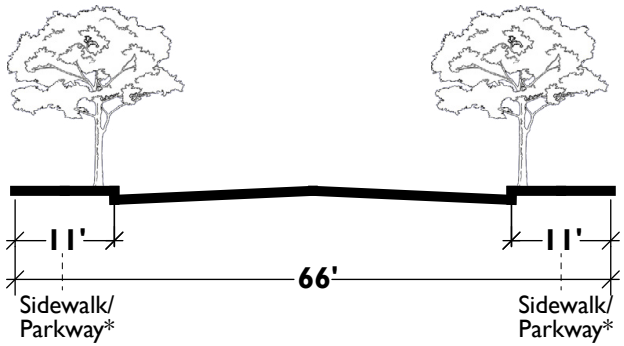
A collector street is a two-lane undivided roadway with the primary function of collecting and distributing local traffic. Typical right-of-way width ranges between 60 feet and 88 feet. Collector streets may be further broken down into three subcategories according to adjacent land use: urban residential collector (typical curb-to-curb dimension is 40 feet), rural collector (typical curb-to-curb dimension is 40 feet), and urban industrial collector (typical curb-to-curb dimension in 44 feet).



Urban Residential Collector

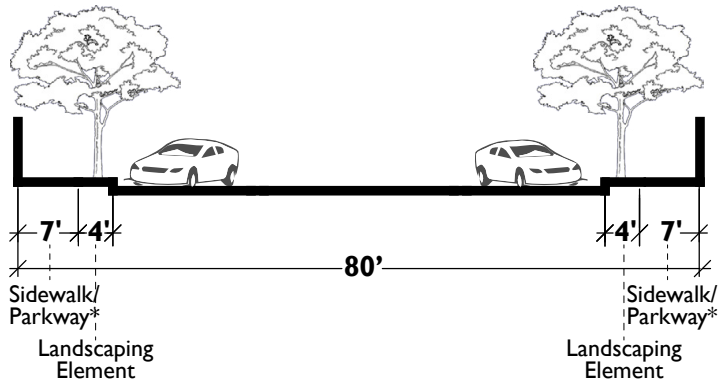


Rural Collector



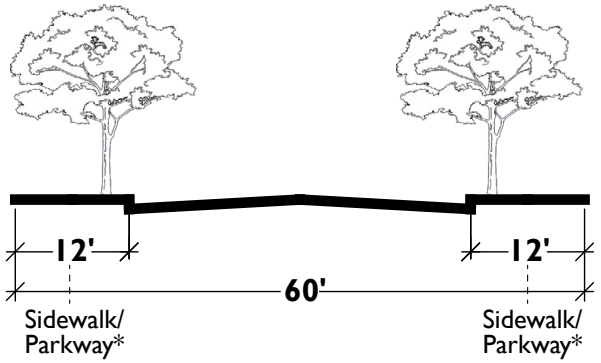
Urban Industrial Collector

**Sidewalk/Parkway typically is 5' parkway and remainder sidewalk, but varies as conditions warrant. Bicycle lane where applicable.*



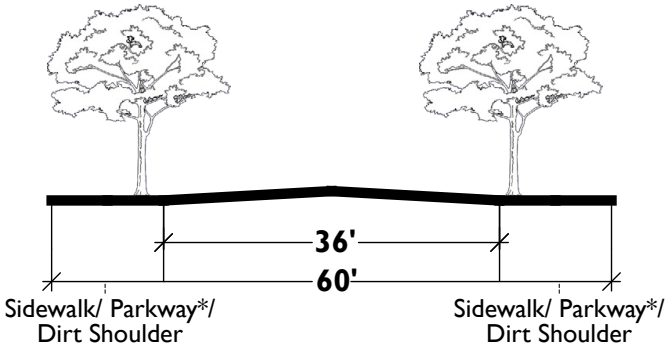
Downtown Street

A downtown street is a two-lane undivided roadway. Downtown streets are primarily used in high-density, and mixed-use areas that may have reduced speed limits. The downtown street prioritizes pedestrians with wider sidewalks and parkways with shade trees, and benches. On-street angled parking is provided with all-way traffic controls like stop signs located at all intersections. The right-of-way width for downtown streets may vary depending on the necessary neighborhood character that can vary from 80 to 92 feet.



Local Street

A local street is a two-lane undivided roadway. Local streets are primarily used to gain access to and from adjacent properties. The minimum right-of-way width for local streets is 60 feet.



Rural Roadway

A Rural Roadway is a two-lane undivided roadway intended to serve roads recently annexed from the county. These are designed to preserve the existing rural character while accommodating future maintenance or improvements. Rural Roadways may feature parkways, sidewalks, dirt shoulders, and rolled curbs depending on the adjacent land use and site-specific needs. The right-of-way width is 60 feet, and the roadway edge to roadway edge width is 36 feet.

**Sidewalk/Parkway typically is 5' parkway and remainder sidewalk, but varies as conditions warrant. Bicycle lane where applicable.*

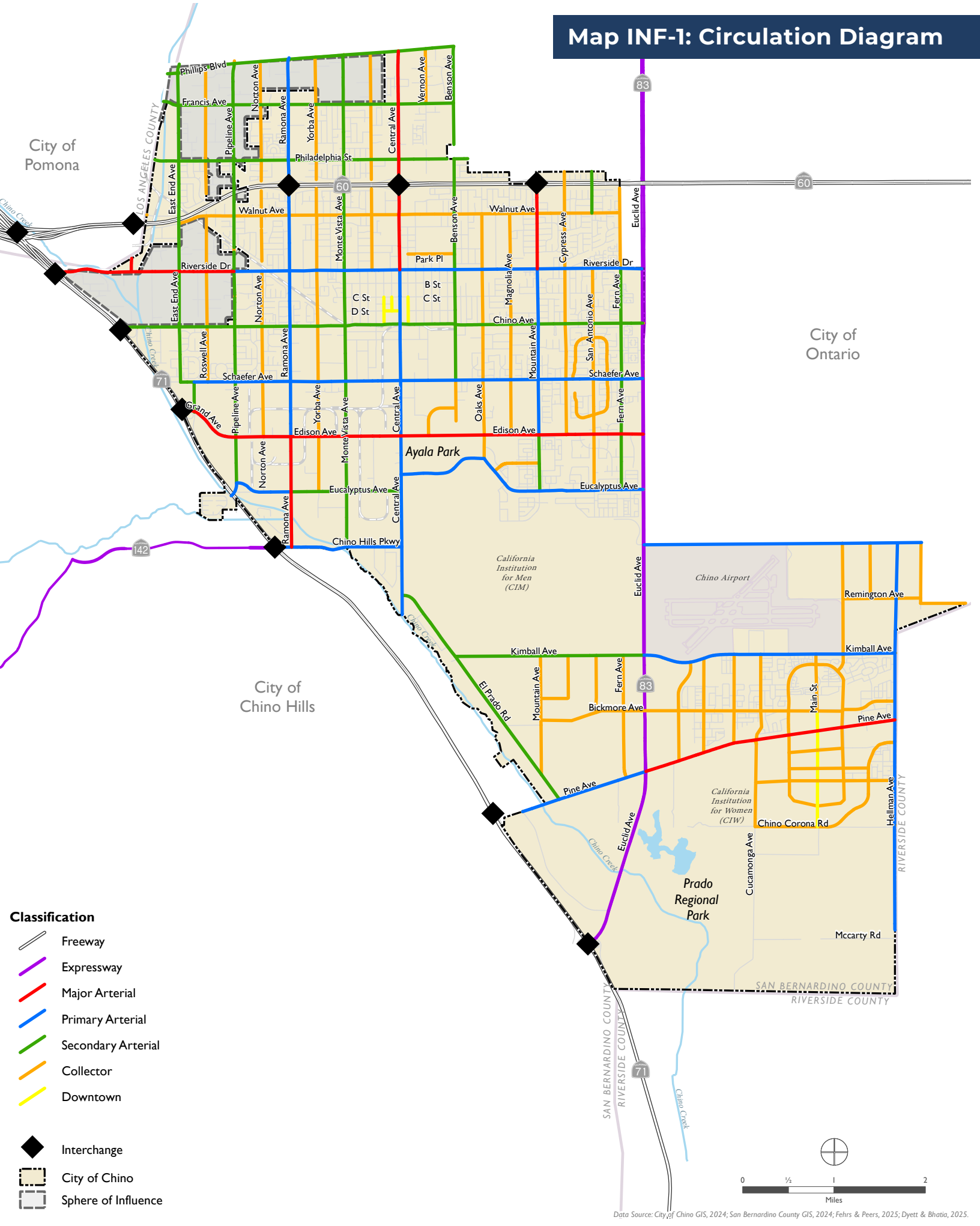
Circulation Diagram

The Circulation Diagram shown in **Map INF-1** depicts the proposed circulation system to support development under the Land Use Diagram (see Maps LCC-4a and 4b in Chapter 2, Land Use and Community Character). As Chino continues to experience residential, employment, and commercial growth, a connected, multi-modal street network will be essential to ensure efficient commutes for work and goods movement, safe active transportation, and easy access to retail and entertainment.

The General Plan proposes a "layered network" approach, where local traffic demands and system-wide needs of different modes can be used as inputs as streets are redesigned and configured to better meet the needs of bicyclists, pedestrians, and transit, and enable everyone to efficiently and safely navigate through the city. Considering system-wide needs means assessing whether the system is able to meet the needs of travelers. The layered network approach designates modal emphasis by street to create a comprehensive street network. The layered network approach recognizes the need to accommodate all forms of traffic, but with the understanding that certain streets will emphasize certain forms of transportation. Layered networks balance vehicular transportation with "active transportation," which is human-powered transportation that includes walking, cycling, using a wheelchair, in-line skating, or skateboarding. The layered network approach recognizes that not all modes can be accommodated acceptably on all streets within this city, but bicycle and pedestrian movement can be emphasized on specific streets. This will also help the City comply with the California Complete Streets Act passed in 2008.

Bicycle traffic lights

Map INF-1: Circulation Diagram



Classification

- Freeway
- Expressway
- Major Arterial
- Primary Arterial
- Secondary Arterial
- Collector
- Downtown

- Interchange
- City of Chino
- Sphere of Influence

Data Source: City of Chino GIS, 2024; San Bernardino County GIS, 2024; Fehrs & Peers, 2025; Dyett & Bhatia, 2025.

INF-2 **COMPREHENSIVE TRANSPORTATION SYSTEM. Plan, design, build, and maintain a local transportation network that provides safe and efficient access throughout Chino and optimizes travel by all modes.**

Policies

INF-2.1 Maintain a street classification system that considers the role of streets as corridors for movement but also reflects a context-sensitive complete streets approach that enables safe, convenient travel for all roadway users.

INF-2.2 Foster a cohesive circulation system through a "layered network" approach that promotes complete streets and mobility for all modes while emphasizing specific transportation modes for specific corridors and geographic areas. Integrate complete streets and a layered networks approach into all City streets, traffic standards, plans, and details.

INF-2.3 Design streets to accommodate various modes according to roadway classification and reduce conflicts and safety risks between modes per **Map INF-1**. Design arterials with sufficient capacity to accommodate anticipated traffic based on intensity of existing and planned land use, without providing excess capacity to encourage additional non-local cut-through traffic on City streets.

INF-2.4 Undertake road-widening projects only when they are feasible on a significant length of roadway, while still requiring necessary dedications on an on-going basis.

INF-2.5 Plan and invest to foster a transportation system that improves the health of Chino residents through actions that make active transportation, non-motorized modes, and high-occupancy vehicles viable, attractive alternatives to the private automobile.

INF-2.6 Ensure the design of new streets and the retrofit of existing streets minimizes traffic volumes and/or speed as appropriate within residential neighborhoods without compromising connectivity for emergency vehicles, bicycles, pedestrians, and users of mobility devices. This could be accomplished through:

- Management and implementation of complete street strategies, including retrofitting existing streets to foster biking and walking as appropriate;
- Short block lengths, reduced street widths, and/or traffic calming measures; and
- Providing pedestrians and bicyclists with options where motorized transportation is prohibited.

INF-2.7 Implement standards for pavement design and roadway and intersection striping so streets are accessible by all users and all modes, and safety is improved.

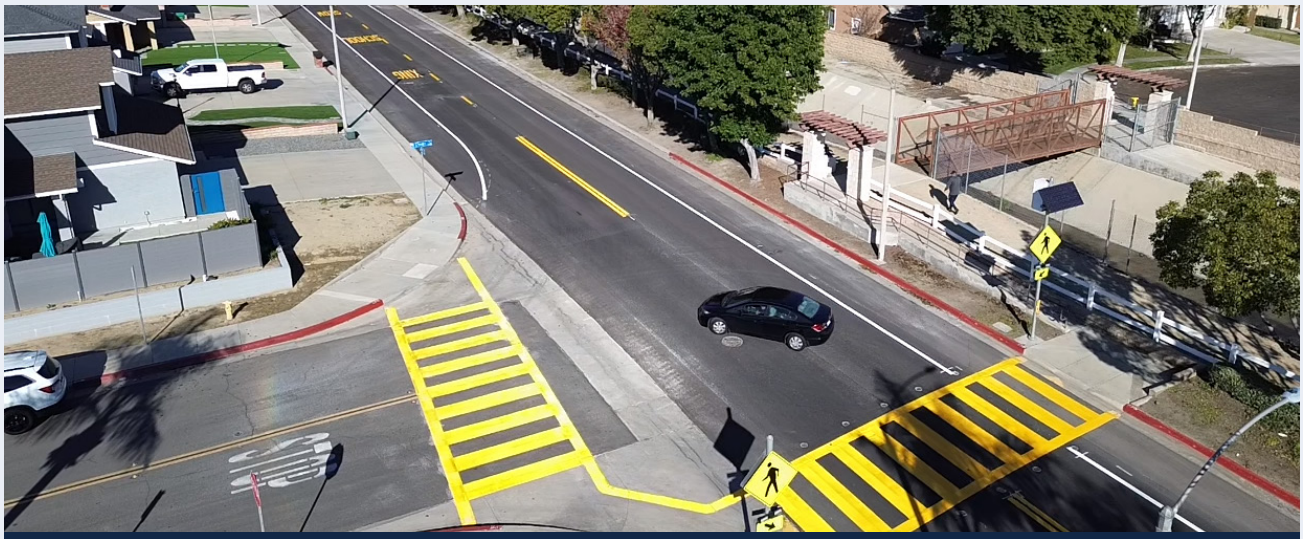
INF-2.8 Prioritize safe railway crossings along rail corridors in Chino.

INF-2.9 Through the development review process, limit the number of access points along all expressways and major arterials, continue to control access points through construction of median turn lanes and island curb cuts, and reduce and consolidate the current number of access points along expressways and major arterials.

INF-2.10 Consider innovative design and technology solutions to improve mobility, efficiency, connectivity, and safety such as traffic calming devices, roundabouts, traffic circles, curb extensions at intersections, separated bicycle infrastructure, high visibility pedestrian treatments and infrastructure, smart road technologies and traffic signal coordination.

INF-2.11 As part of street redesigns, plan for the needs of different modes – such as shade for pedestrians, lighting at pedestrian scale, mode-appropriate signage, bicycle facilities, and transit amenities. Coordinate with the future Urban Forest Management Plan (UFMP) to ensure the right tree, is placed in the right place, for the right reason.

INF-2.12 Add bike and pedestrian facilities on roads with excess capacity where such facilities do not exist, using supporting transportation plans as guidance. Excess capacity includes street rights-of-way or pavement widths beyond the standards, or excess capacity in roadways based on actual vehicular travel versus design capacity.



Intersection with high visibility crosswalks and pedestrian crossing signs

INF-2.13 Engage the community and neighborhoods in street design and redesign. Consult with the Infrastructure Subcommittee on major street design projects.

INF-2.14 Explore the use of green infrastructure in the design of new roadways and retrofit existing roadways where appropriate.

INF-2.15 Incorporate traffic calming design into local and collector streets to promote safe vehicle speeds.

INF-2.16 Continue to administer a funding system that will foster completion of the network before the projects that require them are occupied. Seek funding from grants and other external sources to meet this objective.

INF-2.17 Require new development to construct or pay a proportionate share of the cost of improvements based on mobility-related impacts of the new development.

Actions

INF-2.A Maintain design standards for each functional roadway classification shown on **Map INF-1**. These standards are for a typical mid-block application. Additional turn lanes may be needed at some intersection approaches. Different standards may govern in specific plan areas and variations are permitted given site conditions and right-of-way availability.

INF-2.B Review "paper streets" and unconnected alleyways in Chino and determine whether associated rights of way should be vacated or kept in order to streamline buildout of the circulation system.

INF-2.C Develop a maintenance plan for public alleyways and incorporate necessary improvements into the Capital Improvement Program.

INF-2.D Use the layered network approach to identify, schedule, and implement roadway improvements as development occurs in the future, and as a standard against which to evaluate future development and roadway improvement plans.

INF-2.E Review the layered network with neighboring jurisdictions and seek agreement on actions needing coordination.

INF-2.F Work with San Bernardino County to harmonize street development standards in areas that may ultimately be annexed in the City of Chino.

INF-2.G Periodically conduct cost/benefit analysis and assess the feasibility of using new materials and technologies, updating the Standard Specifications and Drawings as appropriate.

Efficient Circulation

Within the planning horizon of the General Plan, automobiles are expected to remain the dominant mode of transportation in Chino and the region. As such, ensuring smooth vehicular circulation on the roadway network will continue to be an important effort for the foreseeable future, as will managing the potential for conflicts between various modes of travel.

SYSTEM MONITORING METRICS

Level of Service (LOS)

Throughout California, communities use Level of Service (LOS) as a metric used for evaluating the operational efficiency and quality of service on roadways, intersections, or freeway segments. LOS is typically graded qualitatively on a scale from A to F, similar to a school report card as described in **Table INF-1**. As a metric for system performance, LOS is valuable because it provides a standardized, quantifiable measure of traffic flow and congestion. It helps planners and engineers identify problem areas, prioritize infrastructure improvements, and evaluate the impact of new development on roadway capacity. LOS also enables consistent comparisons across different intersections and corridors, supporting data-driven decision-making. By translating traffic conditions into easily understood letter grades, LOS facilitates clearer communication with the public, stakeholders, and policymakers. Given that automobiles will remain an important mode of travel in Chino into the future, the General Plan maintains as an important measure of mobility in community even as it seeks to balance LOS with other considerations and measures.

Table INF-1: 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.

Traffic

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:

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.

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.

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.

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.

Air Quality and Greenhouse Gas (GHG) Emissions: LOS thresholds influence travel speeds and may induce vehicular travel in the case where driving is made easier. Higher speeds and induced vehicle travel can both result in higher levels of air pollutant and GHG emissions.

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. While modifications to improve LOS can make vehicular mobility more convenient the physical changes and higher traffic speeds and volumes that result can make city streets less hospitable for cyclists and pedestrians. To realize the vision for the proposed mixed use activity centers in the General Plan, rather than widened to accommodate additional traffic flow, some roadway segments would need streetscape design modifications to better accommodate pedestrians and cyclists - such as the addition of dedicated bicycle lanes, wider sidewalks, shade trees, and landscaping to buffer people from traffic.

The policy tradeoffs listed above can be used to make decisions about LOS thresholds on specific roadways should the road conditions change during the implementation of this General Plan. When the tradeoffs for meeting the LOS standard conflict with competing goals, City intersections or roadway segments can be exempted from the LOS policy on a case-by-case basis, as determined by the City Traffic Engineer.

Vehicle Miles Travelled (VMT)

Vehicle Miles Travelled (VMT) is the State mandated performance metric for environmental analyses pursuant to the California Environmental Quality Act (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 shops and services, implementing Transportation Demand Management (TDM) strategies such as 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 in key areas can also reduce VMT in that residents may have better access to resources and opportunities such as entertainment, shopping, parks and recreation, and jobs, thus reducing the length of their trips.

Traffic

Technology and the Future of Transportation

Chino is preparing for emerging transportation technologies that are changing the mobility landscape in cities throughout the state, including the following innovations that can expand mobility options:

- **Transportation Network Companies (TNCs)**: also called a ride-hailing service, are companies like Uber and Lyft that provide on-demand rides for passengers with mobile apps or websites. TNCs tend to increase demand for curb space but can decrease the demand for parking.
- **Autonomous Vehicles (AVs)**: are vehicles that are capable of driving with limited or no human involvement. There are six levels of autonomy (0-5) that range from issuing warnings and momentary interventions with the human driver to a fully automated machine which requires no human involvement to operate.
- **Connected Vehicles (CVs)**: are vehicles that can interact with one another and/or with infrastructure. Some CVs can also be autonomous vehicles; however, CVs can be human operated.
- **Car sharing services**: are services that allow consumers access to a vehicle without owning a personal car. Car share services typically charge a monthly or yearly membership fee and an hourly rate for access to its shared vehicle fleet.
- **Micromobility**: is a combination of emerging trends including bike share, e-scooters, and e-bikes.
  - Bike Sharing Services: bike sharing services operate like car sharing services in that consumers can rent from a shared bicycle fleet.
  - Electric Scooters and Bikes: E-scooters and e-bikes are powered by an electric motor to propel riders along streets and up hills.
  - Microtransit: is defined as a privately-operated transit system, which in many cases mirrors the operations of public transit agencies along select routes. Microtransit operators can be highly flexible, tailoring their operations to match short-term or long-term changes in travel behavior.

INTELLIGENT TRANSPORTATION SYSTEMS (ITS)

Intelligent Transportation Systems (ITS) refers to a set of tools that facilitates a connected, integrated transportation system. Applications of ITS include 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

Illustration of ITS

online may include connected and autonomous vehicles and smart city integration.

The City of Chino currently has a central traffic control system that allows staff to monitor and manage traffic signals from a central location. The system allows for the transportation system to work more effectively and efficiently by providing the ability to adjust critical traffic signals remotely, helping to optimize traffic signal timing and coordination to improve traffic flow. These tools allow the City of Chino to effectively monitor and address congestion issues. In addition, the City makes use of fiber-optic communication media and end equipment, CCTV cameras, and video and radar traffic signal detection. Expanding the use of ITS and emerging technologies will help the City continue to manage circulation effectively in the future.

CURBSIDE MANAGEMENT

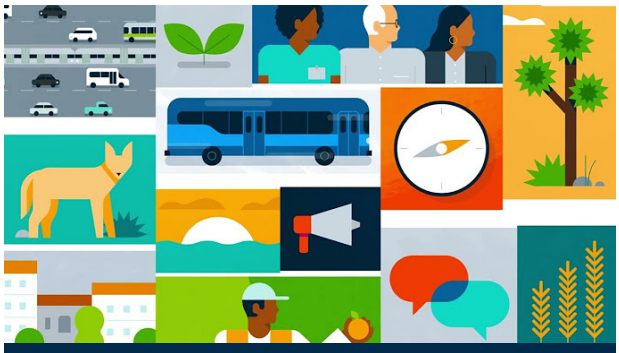
The curbside is the public space in a transportation network "where movement meets access." Curb space has traditionally been used to accommodate private vehicle storage or on-street parking; however, cities are increasingly recognizing the need to accommodate demand for curbside use generated by transit boarding, emergency vehicle access, Americans with Disabilities Act (ADA) access, bicycles, bicycle infrastructure, taxis, transportation network companies (TNCs), and delivery vehicles. The development of a set of curbside management guidelines could help Chino balance the needs of these different curbside users. Examples of curbside management best practices include the following:

- Collecting data to create a curb use data inventory;
- Ensuring that pick-up/drop-off areas are in appropriate 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 DEMAND MANAGEMENT (TDM)

Transportation Demand Management (TDM) refers to a comprehensive strategy to reduce driving and resulting VMT by promoting alternatives such as carpooling, bicycling, walking, telecommuting, and public transit. 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 agencies and entities in the region, 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.

Transit is a form of TDM



Connect SoCal

The Southern California Association of Governments (SCAG) has developed a long-range planning vision to balance future mobility and housing needs with economic, environmental, and public health goals. SCAG's Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), also called Connect SoCal, embraces a comprehensive approach that includes TDM to address regional changes and challenges. There are three primary goals of SCAG's TDM program:

- Reduce the number of single-occupant vehicle (SOV) trips and per capita VMT through ridesharing (which includes carpooling and vanpooling) and providing first/last mile services to and from transit;
- Redistribute or eliminate vehicle trips during peak demand periods by supporting telecommuting and alternative work schedules; and
- Reduce the number of SOV trips through use of other modes such as transit, rail, bicycling, and walking, or other micro-mobility modes.

PARKING MANAGEMENT

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/community character, and transportation demand management. More flexible parking standards for projects that provide VMT reduction and TDM measures such as shared parking, 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 (Chino Municipal Code Title 20, Zoning).

EMERGENCY ACCESS

Adequate emergency vehicle access is crucial in terms of protecting the safety and well-being of Chino'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 also the Hazards, Safety, and Noise Element regarding goals and policies related to emergency access.

INF-3

Emergency vehicles

EFFICIENT CIRCULATION. Manage the City's transportation system to maximize the efficiency of the network, minimize congestion and air pollution, and reduce vehicle miles traveled (VMT).

TRANSPORTATION SYSTEM MANAGEMENT

Policies

INF-3.1 Maintain street design and operations standards that effectively manage vehicle speeds and traffic volumes while enhancing safety, updating them as best practices evolve.

INF-3.2 Strive to maintain Level of Service (LOS) "D" or better at intersections and along roadway segments while also prioritizing pedestrian safety near schools, parks, mixed use areas, and other public destinations. LOS shall be demonstrated to the satisfaction of the City Traffic Engineer.

INF-3.3 Allow for a list of protected locations to be exempt from the LOS policy based on right-of-way constraints and goals and values of the community. The City Traffic Engineer shall update the protected roadway segments list periodically to be included with the traffic impact study guidelines and adopted by ordinance.

INF-3.4 Where new developments would increase traffic flows beyond the LOS D, require appropriate and feasible improvement measures as a condition of approval. Such measures may include extra right-of-way and improvements to accommodate dedicated left-turn and right-turn lanes at intersections, implementation of ITS technology, or other improvements.

INF-3.5 Require development projects to prepare traffic impact studies, including vehicle miles traveled analysis and level of service assessments as appropriate per the City's adopted Traffic Impact Analysis (TIA) Guidelines.

INF-3.6 Support regional efforts for the development of a Vehicle Miles Traveled (VMT) Mitigation Bank in coordination with SBCTA.

INF-3.7 Ensure that new development pays a fair share of costs to provide local and regional transportation improvements and to mitigate cumulative traffic deficiencies and impacts, including through payment of Development Impact Fees.

INF-3.8 Implement National Pollutant Discharge Elimination System Best Management Practices relating to construction of roadways to control runoff contamination from affecting water resources.

INF-3.9 Promote safe and efficient circulation at schools, partnering with the local school districts to optimize school drop-off/pick-ups and improve safe routes to schools.

INF-3.10 Use curb space management best practices and strategies for deliveries and drop offs in commercial and mixed use areas.

INF-3.11 Minimize emergency vehicle response time and improve emergency access.

INF-3.12 Plan for future innovations in vehicular transportation such as self-driving vehicles and vehicle-to-infrastructure technologies.

INF-3.13 Expand the use of data and analytics to monitor metrics such as speed, travel times, counts, and related key metrics to improve the mobility experience, enhance street safety, better manage the transportation system, and understand existing travel patterns.

Optimizing school bus drop off and pick up can reduce vehicle miles traveled

INF-3.A Monitor traffic service levels and strive to implement roadway improvements prior to deterioration in levels of service below the stated standard.

INF-3.B Update the Traffic Impact Analysis (TIA) Guidelines to establish the following VMT thresholds for Land Use Plans, including General Plan amendments and specific plans:

- Project threshold: A significant impact would occur if project would exceed the VMT/service population of the horizon year of the current adopted RTP/SCS.
- Cumulative threshold: A significant impact would occur if project would exceed the VMT/service population of the horizon year of the current adopted RTP/SCS.

INF-3.C Periodically review and update traffic impact study guidelines for vehicle miles traveled and level of service assessment.

INF-3.D Periodically collect traffic count data to support management of existing traffic operations and planning for future infrastructure. Investigate technological means of collecting and analyzing traffic data to support operations, planning, and maintenance activities.

INF-3.E Update the City's standard roadway cross-sections and standard plans to reflect state-of-the-practice in safe and efficient roadway design.

INF-3.F Develop and implement a comprehensive wayfinding program serving all modes of transportation to improve navigation and optimize travel time for residents, visitors, and employees.

INF-3.G Prepare an ITS Master Plan that outlines a strategy to deploy new technology and innovations and continue investment to expand ITS and the citywide camera system.

INF-3.H Evaluate opportunities to incorporate new materials, technologies, or design features that improve the transportation system, including materials that will have a longer life cycle, require less maintenance, and are climate friendly.

INF-3.I In mixed use activity centers and other appropriate locations, identify and designate passenger pick-up/drop-off locations within the public right-of-way for transit, autonomous vehicles, ridesharing services, and micro-transit to limit traffic disruptions, reduce congestion, and increase safety.

See also the Economic Development Element for policies related to unified branding strategies for Chino.

TRANSPORTATION DEMAND MANAGEMENT

Policies

INF-3.14 Promote the greater use of Transportation Demand Management (TDM) strategies by employers and large residential developments to reduce dependence on single-occupancy vehicles.

INF-3.15 Use public outreach to encourage alternative modes of travel and inform the community about the benefits of participation in new programs, approaches, and strategies.

INF-3.16 As a Transportation Demand Management (TDM) strategy, encourage large scale employers to provide onsite childcare services within employment districts to reduce or avoid vehicle trips associated with child pick-up and drop-off.

INF-3.17 Encourage collaboration between transit partners and event producers to promote awareness of additional and timely transit service before and after large events.

INF-3.18 Partner with Omnitrans to expand participation in programs that offer free or discounted transit passes for low-income residents, youth, and/or senior citizens.

Actions

INF-3.J Adopt and implement a Transportation Demand Management Program.

INF-3.K With the objective of reducing congestion, improving air quality, and enhancing the overall efficiency and sustainability of Chino's transportation network, assess the feasibility of requiring that large employers develop TDM plans to incentivize alternatives to single-occupancy vehicle commuting.

PARKING MANAGEMENT

Policies

INF-3.19 Balance on-street and off-street parking supply with objectives for reducing vehicle miles traveled (VMT), improving air quality, supporting economic vitality, and fostering a high quality of life throughout the city.

INF-3.20 Through the development review process, encourage applicants proposing projects in mixed use areas and activity centers to explore shared-use of existing parking spaces that can be available for dual uses before proposing to construct new parking facilities.

INF-3.21 Require traffic and parking management plans for major events that utilize travel demand management strategies encouraging transit and other alternatives to single occupant vehicles to limit the impact to City Streets.

INF-3.22 Lead by example by continuing to incentivize the use of electric vehicles and hybrids, by expanding the availability of EV charging infrastructure in City parking lots and structures and/or providing priority parking locations for electric and hybrid vehicles.

Actions

INF-3.L In the event of a Measure M vote to realize the community vision for Downtown Chino, develop and implement a comprehensive parking management strategy, which would include construction of a multi-level parking structure and provision of angled street parking in proximity to the commercial core; permit shared parking that facilitates the complementary uses of the same spaces at different times of day; and encourage people to park once and walk when visiting downtown.

INF-3.M Investigate new technologies that can facilitate the efficient management and turnover of parking supply at Ayala Park, including solutions that facilitate payments and provide real-time information on the location of available spaces.

See also Land Use and Community Character Element for policies related to parking management in residential neighborhoods.

LOCAL CONNECTIVITY

Convenient and safe connections between neighborhoods and destinations throughout the city are a priority for Chino, with strong support for promoting active, healthy lifestyles for residents of all ages. However, the overall share of trips on foot or by bicycle in Chino is below the national average. To help people choose to walk and bike, all legs of the journey should feel safe and pleasant. The City can enhance pedestrian and bike connections to important community destinations between parks, schools, activity centers, and neighborhoods, making sure that there are continuous routes and direct connections. New developments should provide direct connections between neighborhoods as well, with pathways and streets designed for walkers and bikers. These safe, pleasant, and universally accessible paths, routes, and lanes will all be part of an integrated multi-use system within Chino and connecting beyond.

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 Chino 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 the city'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 at one time or another. Walking with or without the use of a mobility device 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. Factors that affect walkability and the pedestrian experience in Chino are described below.

- **Direct, Highly-Connected 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 interconnected networks of pedestrian pathways that allow for direct access to destinations with multiple intersecting routes.
- **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 people with mobility disabilities 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 impede mobility, particularly for persons with disabilities, such as people using wheelchairs or walkers.
- **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 and/or canopies 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, public art and enhanced 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.

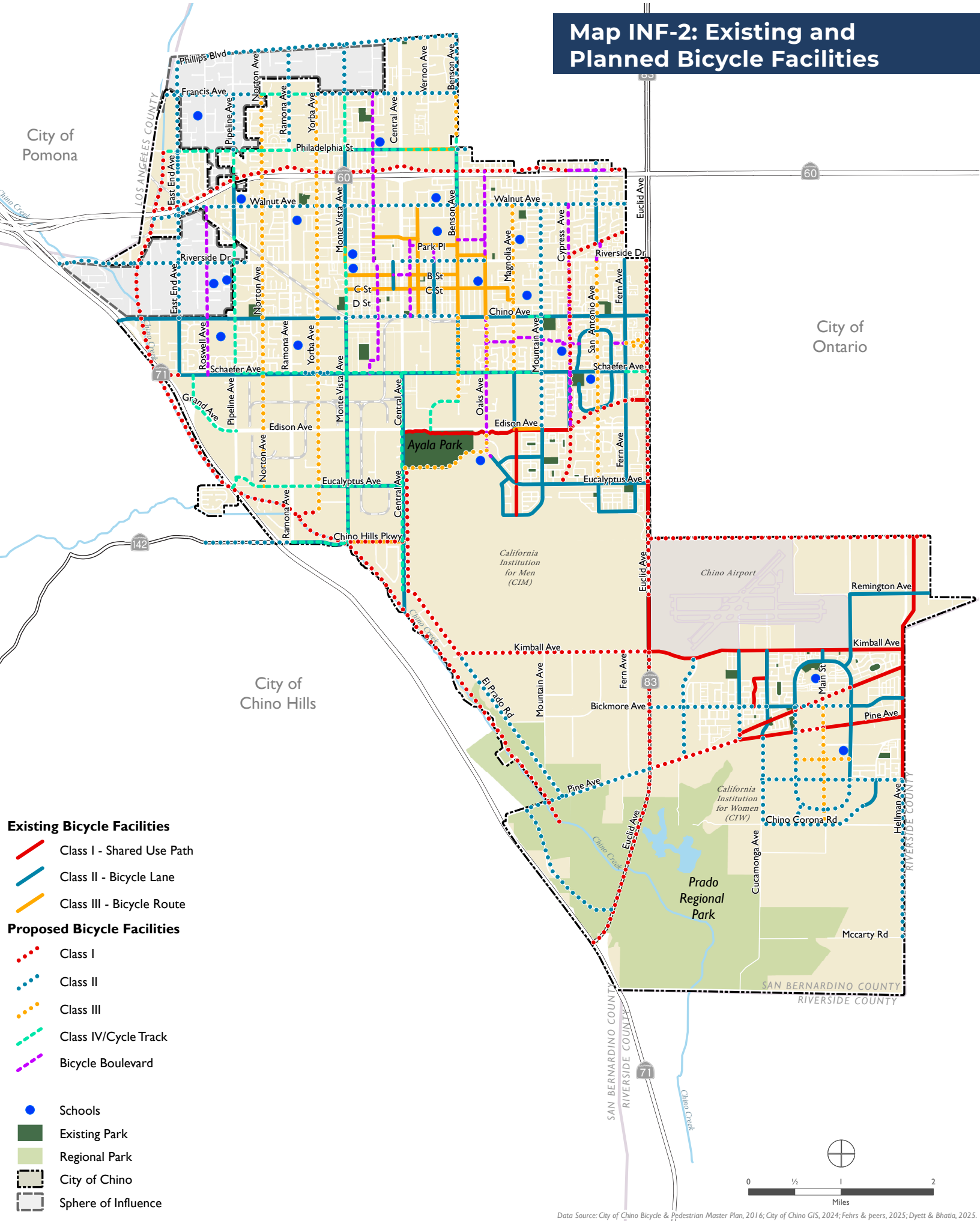
Wider sidewalks, buffering, and shade make for a more walkable street

BICYCLE FACILITIES

Chino has made a concerted effort to expand the ease of alternative transportation options for residents, recognizing both health and environmental benefits. This includes existing and proposed bicycle facilities, with the majority of existing facilities located downtown and in the newer, master planned neighborhoods of College Park and The Preserve. The existing and planned bicycle network is depicted in **Map INF-2**. The bicycle network overlaps with the recreational trail network in many places and is addressed in the Parks, Recreation and Community Services Element and in the Halth and Environmental Quality Element. With relatively flat terrain and a rectilinear street grid, the northern part of Chino is inherently bikeable. Adding and enhancing bicycle facilities can increase the likelihood and desirability of this active transportation mode for short distance trips, school trips, and recreational activities. The different types of bicycle facilities designated in Chino are described below.

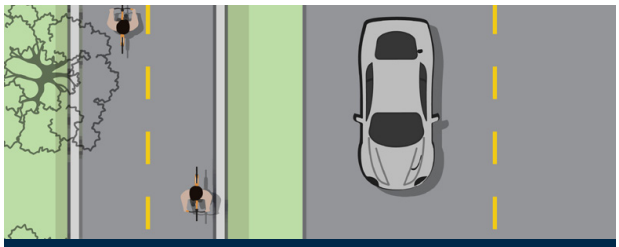

Class II bicycle lane

Map INF-2: Existing and Planned Bicycle Facilities

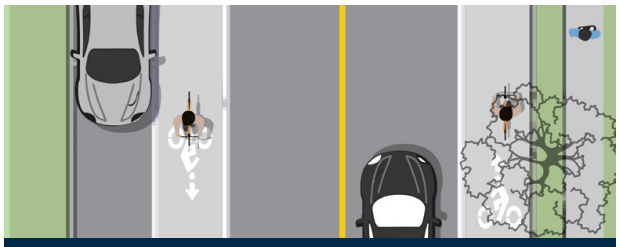


Data Source: City of Chino Bicycle & Pedestrian Master Plan, 2016; City of Chino GIS, 2024; Fehrs & peers, 2025; Dyett & Bhatia, 2025.

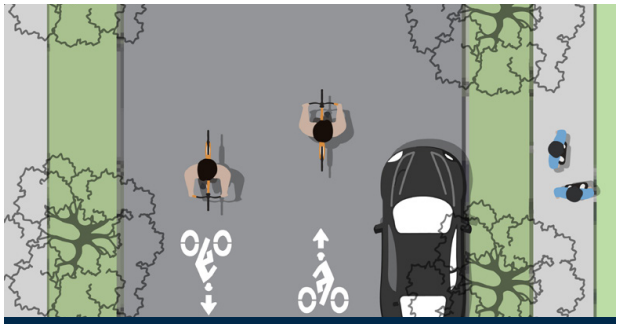
- **Class I: Multi-Use Paths**. Class I multi-use paths (frequently referred to as "bicycle paths") are physically separated from motor vehicle routes, with exclusive rights-of-way for non-motorized users like cyclists and pedestrians.
- **Class II: Bicycle Lanes**. Bicycle lanes are one-way facilities that carry bicycle traffic in the same direction as the adjacent motor vehicle traffic. They are typically located along the right side of the street, between the adjacent travel lane and curb, road edge or parking lane.
- **Class III: Bicycle Routes**. A bicycle route is marked by suggested signs designating a preferred route between destinations. Additionally, shared lane markings "sharrows" markings are commonly used where parking is allowed adjacent to the travel lane. They are recommended where traffic volumes and roadway speeds are fairly low (35 mph or less).
- **Class IV: Protected Bike Lanes/ Cycle Tracks**. A cycle track is an exclusive bike facility that combines the user experience of a separated path with the on-street infrastructure of a conventional bike lane. They can be either one-way or two-way depending on the street network, available right-of-way and adjacent land use. A cycle track is physically separated from motor traffic and distinct from the sidewalk. There are a variety of physical protection measures that range from reflective bollards to parked vehicles.
- **Bicycle Boulevards**. Bicycle Boulevards are convenient, low-stress cycling environments on low traffic volume streets, typically parallel to higher traffic volume streets as an alternative to them. These roads prioritize bicyclists and typically include speed and traffic volume management measures, such as intersection ROW control, to discourage motor vehicle traffic.



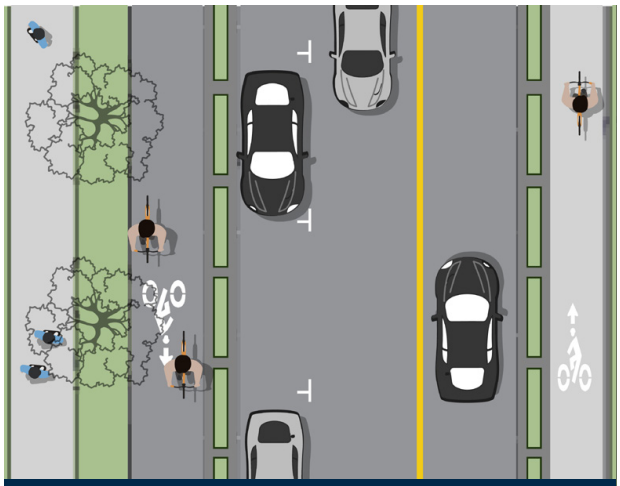
Example multi-use path



Example bicycle lane



Example bicycle route



Example cycle track

Example bicycle boulevard

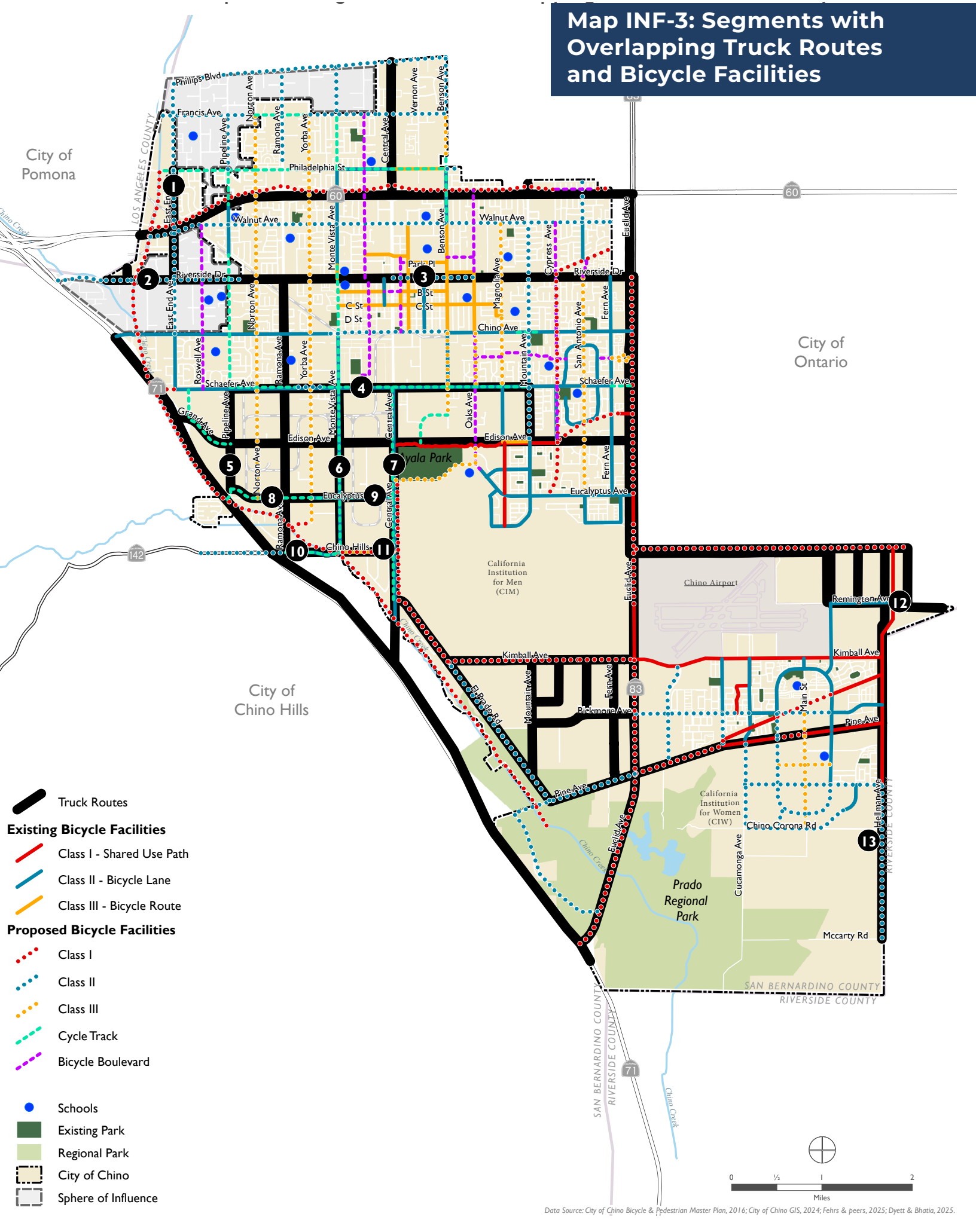
The City's Bicycle and Pedestrian Master Plan (BPMP) recommends bicycle programs to improve facilities that can make it safer and more attractive for users of all ages and abilities to ride a bicycle on city streets. One of the primary recommendations from the BPMP was to collaborate with the San Bernardino County Flood District to establish a series of multi-use paths that provide physical separation from traffic. A Safe Routes to School Framework was also applied to ensure that bike lane recommendations in school zones prioritized safety and low levels of traffic stress for facility users. Additionally, the plan recommends improving bike lanes with detector loops and buffers, upgrading multi-use paths with signage and striping, enhancing access to transit, and expanding secure, well-lit bicycle parking—especially near schools and new developments.

Strengthening connections and building connectivity is a priority for Chino, particularly between the northern and southern parts of the city. Many of the bicycle routes planned to strengthen these connections pass through the city's principal employment districts, where roadways carry a high volume of trucks. This presents the potential for conflicts between trucks and other modes of transportation and effectively managing these conflicts will be a key consideration if the city is to increase the share of trips made by bicycles and other active modes of transportation.

Although State law requires that designated truck routes prioritize the use of highways and major thoroughfares to avoid residential neighborhoods, schools, hospital, and parks to the extent feasible, the physical development pattern in Chino means that north-south connections will require concurrent bicycle and truck routes in some areas. **Table INF-2** outlines potential strategies to address potential points of conflict shown on **Map INF-3**. Special bike lane and intersection treatments can also help to manage conflicts and improve safety. The objective is to implement a balanced approach over time that prioritizes cyclist comfort, safety and convenience without compromising the function of truck routes.

Multi-use paths provide physical separation from traffic, making them an attractive route for riders of all ages and abilities.

Map INF-3: Segments with Overlapping Truck Routes and Bicycle Facilities



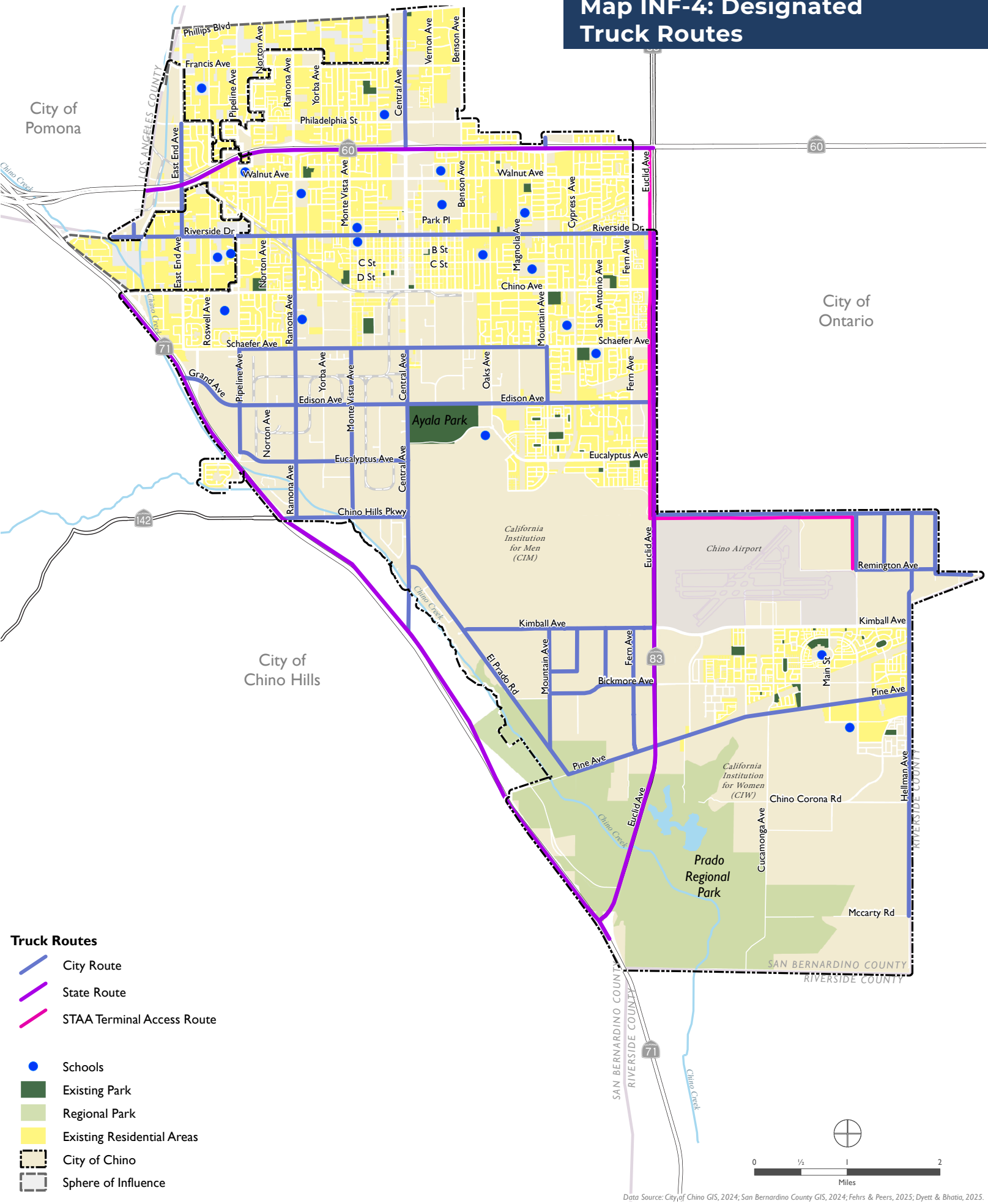
Data Source: City of Chino Bicycle & Pedestrian Master Plan, 2016; City of Chino GIS, 2024; Fehrs & peers, 2025; Dyett & Bhatia, 2025.

Table INF-2: Bicycle-Truck Points of Conflict

ID	Roadway Segment Extents	Recommendation
1	East End Avenue between Philadelphia Street and Riverside Drive	The existing variable right-of-way presents a barrier to implementing bicycle facilities without widening the roadway. Reroute cyclists to parallel roadway (i.e. Pipeline Avenue) near-term and long-term invest in the bicycle facilities along East End Avenue and its connection to Philadelphia Street and Riverside Drive.
2	Riverside Drive between Ficus Street and Norton Avenue	Consider expanding the proposed Class II bike lane to Central Avenue to support connectivity with the Riverside Drive Mixed Use Boulevard.
3	Riverside Drive between Central Avenue and Oaks Avenue	Continue to invest in bicycle facility improvements, pending feasibility and congruency with the Riverside Drive Mixed Use Boulevard.
4	Schaefer Avenue between Pipeline Avenue and Mountain Avenue	Enhance the existing Class II bike lane by adding buffers or converting to a Class IV cycle track with physical barriers such as bollards. Continue to improve with additional supportive treatments along the corridor and through intersections.
5	Pipeline Avenue between Schaefer Avenue and Eucalyptus Avenue	Constrained right-of-way limits opportunities for Class II bike lanes and/or separation. Consider rerouting cyclists onto parallel roadway (i.e. Norton Avenue), and invest further into upgrading that roadway to be a lower speed bike boulevard.
6	Monte Vista Avenue between Schaefer Avenue and Chino Hills Parkway	Constrained right-of-way limits opportunities for enhancing existing Class II bike lanes with buffer or separation. If the roadway cannot be expanded for separation, require intersection treatments including green conflict markings across driveways and intersections, leading bike intervals, and additional signage/lighting.
7	Central Avenue between Schaefer Avenue and El Prado Road	Convert the existing Class II bike buffered bike lane to a Class IV cycle track with physical barriers to support concurrent truck and bike traffic.
8	Eucalyptus Avenue between Pipeline Avenue and Yorba Avenue	Constrained right-of-way limits opportunities for enhancing existing Class II bike lanes with buffer or separation. If the roadway cannot be expanded for separation, require intersection treatments including green conflict markings across driveways and intersections, leading bike intervals, and additional signage/lighting.
9	Eucalyptus Avenue between Yorba Avenue and Central Avenue	Convert the existing Class II bike buffered bike lane to a Class IV cycle track with physical barriers to support concurrent truck and bike traffic – where feasible, if not retain Class II bike lanes. In addition, require intersection treatments including green conflict markings across driveways and intersections, leading bike intervals, and additional signage/lighting.
10	Chino Hills Parkway between Ramona Avenue and Monta Vista Avenue	Enhance the existing Class II bike lane (on the south side of the roadway) by adding buffers or convert to a Class IV cycle track with physical barriers. Install new Class II bike lanes, and if feasible, Class IV cycle tracks on the north side of the roadway. In addition, require intersection treatments including green conflict markings across driveways and intersections, leading bike intervals, and additional signage/lighting.
11	Chino Hills Parkway between Monta Vista Avenue and Central Avenue	Existing "Bike Lanes" are present on both sides of the roadway along the existing sidewalk. Consider investing in on-street bicycle facilities, pending a feasibility study of right-of-way. Alternatively, invest in a dedicated bi-directional Class I share use on one side of the roadway.
12	Remington Avenue between Flight Avenue and Carpenter Avenue	Convert the existing Class II bike buffered bike lane to a Class IV cycle track with physical barriers to support concurrent truck and bike traffic, pending further feasibility. If not feasible consider the implementation of Class I share use on one side of the roadway.
13	Hellman Avenue between River Road and Walters Street	Variable and constrained right-of-way limits opportunities for bike lanes and/or separation. Continue to invest in an off-street Class I shared use path on the west side of the roadway, which connects to an existing network of off-street facilities.

Source: Fehr & Peers, 2025

Map INF-4: Designated Truck Routes



Truck Routes

- City Route
- State Route
- STAA Terminal Access Route

- Schools
- Existing Park
- Regional Park
- Existing Residential Areas
- City of Chino
- Sphere of Influence

Data Source: City of Chino GIS, 2024; San Bernardino County GIS, 2024; Fehrs & Peers, 2025; Dyett & Bhatia, 2025.

INF-4 **CONNECTED CITY. Provide safe and convenient connections between neighborhoods and destinations within Chino for pedestrians, cyclists, and transit riders.**

ACTIVE TRANSPORTATION

Policies

INF-4.1 Strengthen active transportation circulation routes between residential neighborhoods, parks, schools and mixes use areas.

INF-4.2 As new development and redevelopment occurs, seek opportunities to create a finer-grained network of streets and walking and bicycling connections, especially within a 1/2-mile walk of mixed use areas.

INF-4.3 Adopt a "vision zero" approach to eliminate all traffic fatalities and severe injuries, while increasing safe, healthy, equitable mobility for all.

See also Parks, Recreation and Community Service Element policies related to planning, design and maintenance of recreational trails.

PEDESTRIAN CIRCULATION

Policies

INF-4.4 Design streets to promote walking by including design elements such as the following:

- Grid networks that provide high levels of connectivity;
- Closely spaced intersections;
- Frequent and low-stress crossings;
- Wide, unobstructed walkable sidewalks;
- Street trees that provide shading; and
- Minimize curb cuts to only required access areas.

INF-4.5 Provide for a safe, convenient pedestrian environment with strategies such as separate pedestrian-ways in parking lots, avoiding excessive driveway widths, and providing planting strips between sidewalks and streets where feasible. Plan for direct connections from the interiors of residential neighborhoods to nearby parks, schools, retail, and other services using sidewalks, trails, and paseos.

INF-4.6 Work to complete the network of tree-shaded sidewalks throughout the city, to the greatest extent feasible, through development project improvements and grant funding to build new sidewalks and crossings, especially near important destinations, such as schools, parks, and mixed use areas.

INF-4.7 Require pedestrian-friendly traffic signal accessories, such as Accessible Pedestrian Signals) APS) which include countown information in both a visual and auditory format, and similar technologies at all significant pedestrian crossings.

INF-4.8 Require that new subdivisions, new multifamily developments, and new developments along commercial corridors include well-lit, tree-shaded walkways that provide direct links to the public realm or adjacent public destinations such as transit stops, schools, parks, and shopping centers.

INF-4.9 Remove barriers to walking, where feasible, and work with utility companies to remove barriers to allow people of all abilities to move with comfort and convenience throughout the city, including through the following:

- Provision of curb ramps, crosswalks, and overpasses;
- Relocation of infrastructure or street furniture that impedes travel pathways;
- Reducing or consolidating driveways and curb cuts; and
- Creation of additional walking entrances to important destinations like schools, parks, and commercial areas.

INF-4.10 When designing projects, prioritize designs that encourage walking, improve pedestrian safety, and incorporate best practice designs and considerations for efficiencies in walking.

See also the Health and Environmental Quality Element for policies related to traffic calming, pedestrian safety, and safe routes to schools and parks as well as regional recreational trails.

Additionally, please see the Parks, Recreation and Community Services Element for policies related to recreational trails.

BICYCLE CIRCULATION

Policies

INF-4.11 Establish and maintain a comprehensive network of on- and off-roadway bike routes to encourage the use of bikes for both commuter and recreational trips. Coordinate the City's network with existing and planned facilities in neighboring jurisdictions and the region to support a comprehensive active transportation network.

INF-4.12 Plan and seek funding for a continuous, low-stress bikeway network consisting of bicycling-friendly facilities that connect neighborhoods with destinations and activity centers throughout the city.

INF-4.13 When designing projects, prioritize designs that strengthen the protection of cyclists, such as improvements that increase visibility of bicyclists, increase bikeway widths, raise bikeways, design safer intersection crossings and turns, and separate bikeways from driving traffic wherever feasible.

INF-4.14 Implement safety improvements in mid-block areas that allow for bicycles to safely cross heavily traveled roads. Improvements can include stop signs for cyclists, warning beacons, and illuminated signs initiated by pedestrians and cyclists.

TRANSIT ACCESS

Policies

INF-4.15 Encourage the routing of buses to the Chino Airport, Chaffey College, The Preserve, and other major destinations to facilitate transit access for workers, students, and airport passengers.

INF-4.16 Work with Omnitrans to expand bus service to additional areas of the city and improve north-south connections. Prioritize connections to/from job centers in Chino and between The Preserve and the northern part of the city.

Actions

INF-4.A Identify opportunities to implement enhancements to pedestrian crossings at key locations across minor arterials, boulevards, and collectors with a target of providing pedestrian crossings no further than 600 feet apart in appropriate areas and in accordance with State standards.

INF-4.B Work with neighboring cities and the County to seek grants for bicycle routes and facilities that span jurisdictions.

INF-4.C Using a safe system approach, conduct a Safe Streets and Roads for All (SS4A) assessment to identify a network of designated corridor-level segments where the highest concentrations of collisions occur (High Injury Network) and develop a suite of actions to eliminate collisions resulting in fatalities and serious injuries. The High Injury Network should be used to help prioritize resources for safety improvements on roads where collisions, particularly those resulting in fatal and serious injuries, are most prevalent.

INF-4.D Update the Bicycle and Pedestrian Master Plan and continue to use it as the primary resource for planning and implementing bikeway and pedestrian improvements. Integrate the High Injury Network and associated actions to reduce crashes and fatalities. Incorporate improvements to address roadway segments with overlapping truck routes and existing or proposed bicycle facilities, with appropriate prioritization. Consider the potential for repurposing equestrian trails as multiuse trails.

INF-4.E Periodically evaluate opportunities and collaborate with Omnitrans to support transit by incorporating features such as bus bulbs, traffic signal priority, queue jumps, and other solutions into priority corridors to improve transit speed, reliability, and operating efficiency while reducing passenger delay.

INF-4.F Review and update the City's ADA Transition plan to ensure compliance with the Americans with Disabilities Act.

INF-4.G Work with Omnitrans to implement bus shelter design that encourages transit use.

GOODS MOVEMENT

Chino benefits from ready access to the regional transportation network, with excellent rail, air, and freeway connections that make it a prime location for businesses active in goods movement. Goods movement is a fundamental part of the regional economy and an important component of the city's circulation system, serving industrial, commercial, and retail uses. A street system that accommodates trucks is essential to ensure the safe and efficient movement of goods between business centers and freeways. Policies in this section support the movement of goods and also seek to reduce the impacts of truck operations on city streets and adjacent land uses.

Goods movement in Chino occurs primarily on major highways that bisect and border the city, including SR-60, SR-71 and Euclid Avenue. Truck traffic on City streets is restricted to the specific designated truck routes shown on **Map INF-4** that are designated for thru traffic of trucks over five tons; the truck network system is identified in the City's Municipal Code. These truck routes help to facilitate the movement of goods throughout the city, while providing a connection between major highway facilities and loading and delivery destinations. Moreover, truck traffic is restricted to these designated roadways, unless otherwise authorized by the California Vehicle Code, in order to minimize wear and tear on City streets and promote safety on residential streets. State law also requires that logistics facility operators develop and implement truck routing plans approved by the City to efficiently direct truck traffic to the designated routes and avoid the use of residential streets. It is important that the City of Chino continue to designate roadways to support truck travel to facilitate the efficient transfer or loading/unloading of goods while also taking action to preserve and enhance quality of life and public health.

Technological innovation is presenting opportunities to improve the efficiency of goods movement in the future, especially with the recent increase in online shopping and delivery due to COVID-19. The future of freight will involve autonomous and electric vehicles, and will also include drones, sidewalk robots and more. These innovations will help ensure that goods movement becomes cleaner and greener over time.

Truck routes facilitate the movement of goods throughout the city, but must be balanced with quality of life and public health

INF-5 SAFE, EFFICIENT GOODS MOVEMENT. Provide for safe, efficient goods movement by road, air and rail.

Policies

INF-5.1 Integrate goods movement into the transportation system efficiently and safely. Work to continuously improve the efficiency and safety of rail freight through the city.

INF-5.2 Focus goods movement onto the designated truck routes shown on **Map INF-4**, consistent with the layered network approach, to foster efficient freight logistics and enhance public health and safety.

INF-5.3 Maintain a truck route map published online and continue to provide updated signage to direct truck traffic to designated routes.

INF-5.4 Design designated truck routes such that the pavement, roadway width, and curb return radii support anticipated heavy vehicle use.

INF-5.5 Support implementation of new technologies that result in logistics operations that are cleaner, greener, and more efficient, including electric truck charging stations, autonomous vehicle censors and communications.

INF-5.6 Require that logistics facility operators prepare and submit for City approval a truck routing plan demonstrating access to the State highway system consistent with the City's designated truck route map.

INF-5.7 Coordinate with public agencies in the region to catalyze the development and deployment of zero-emission medium- and heavy-duty vehicle fleets, buses, and lighter duty electric bicycles, and support development of shared charging hubs and resources, and prioritization of zero-emission vehicle (ZEV) technologies for goods movement in the city.

INF-5.8 Advocate for dedicated goods movement funding and collaborate with regional partners to designate freight corridor investment priorities, including dedication of separate freight and rail corridors where appropriate.

INF-5.9 Support improvements to regional goods movement facilities that facilitate local economic development and limit environmental impacts, including investments in technology, such as blockchain, that improve tracking and coordination at intermodal freight facilities.

INF-5.10 Prohibit freight trucks from parking or idling on local streets in residential neighborhoods and discourage trucks from traveling on local streets.

See also Land Use and Community Character Element for policies related to good neighbor standards for industrial and logistics uses.

Actions

INF-5.A Evaluate the use of innovative materials in roadway design, including updating City standard plans to implement stronger concrete roads that will have a longer life cycle and require less maintenance.

INF-5.B Establish restrictions on vehicle weight limit near sensitive land uses such as schools and residential areas to discourage cut-through truck traffic. Support and plan for electrification and autonomy of the truck fleet.

INF-5.C Create easily understood truck route maps, potentially including GIS and mobile online applications, to be distributed by the goods movement industry to drivers. Once created, share the maps with Caltrans – Traffic Operations Team

INF-5.D Periodically, conduct education programs for the goods movement industry on designated truck routes through the city.

INF-5.E Plan for increased demand for truck parking as logistics uses increase. Consider leasing land for short- and long-term parking as a form of revenue. Consider shared parking in off-peak areas to maximize space utilization.

Truck parking

Reliable Utility Service

Public utilities provide the largely invisible yet critically important infrastructure that supports quality of life and economic opportunity in the community. The City of Chino provides domestic water treatment and distribution, recycled water, wastewater collection, and stormwater systems. These systems are complemented by other regional agencies and organizations that provide additional groundwater treatment, sewage and stormwater collection and treatment, and stormwater detention and water quality systems as well as telecommunications and energy systems. Ensuring that this infrastructure operates in ways that minimize adverse impacts on the environment, protect public health, and optimize benefit to the community is essential for a healthy, growing city.

Policies in this section provide for proactive planning and maintenance of utility systems, with investments made strategically to ensure that built capacity matches need and that improvements to accommodate new development are balanced with the need to maintain quality services for existing residents and businesses. Policies are also intended to improve the sustainability, resilience, and energy efficiency of its facilities, infrastructure, and operations over time.

Utility infrastructure

SMART CITY APPLICATIONS

The City is making use of technology for efficient operations and maintenance. Smart City applications include an integrated manholes surveillance system that enables remote monitoring to eliminate sewer overflows, optimize collection system cleaning, minimize odorous gas, and accurately identify inflow and infiltration. This type of technology provides real-time data to enhance performance, reduce costs, and optimize resources.

6 Examples of Smart City Characteristics

Safer Streets

More Efficient Utilities

Healthier Environments

Improved Transportation

Prioritized Public Safety

Proactive Maintenance

WATER SUPPLY AND DISTRIBUTION

Chino has ample water supply to serve existing and future needs. Approximately 60 percent of supply comes from City-owned groundwater wells recharged by natural runoff from the Santa Ana River Watershed and infiltration of recycled water; the balance is made up by importing water from a Joint Powers Authority with the Chino Basin Desalter Authority and the Water Facilities Authority. During emergency events, the City has access to purchase water from neighboring water district and agencies. In spite of higher temperatures, increased evaporation rates, and greater use expected due to climate change, the City's Urban Water Management Plan indicate that changes in climate will have a limited adverse impact on water supply for the City because of the complex interconnection of dams, reservoirs, and groundwater replenishment basins within the Santa Ana River Watershed that are able to capture and store a larger portion of precipitation from normal and dry years.

Since the adoption of a water conservation ordinance in 2009, Chino has seen a 33 percent reduction in per capita use over the historical average. Further per capita reductions are anticipated with the broader use of more efficient plumbing and technology-based approaches, and the expansion of public education and outreach efforts. Nevertheless, overall water use is expected to increase as Chino's population and economy grow in the coming years. It is important to note that the Chino Basin is adjudicated and that there is no limit to the amount of groundwater which can be produced annually subject to replenishment requirements. New supply infrastructure, however, will be needed to satisfy needs beyond 2035 and allow for the flexibility to increase groundwater production from the Chino Basin in the event imported or purchased water is unavailable.

The water distribution system consists of water treatment facilities, groundwater production wells, water storage reservoirs, booster pump stations, and more than 340 miles of distribution system piping. The City's Water Management Plan identifies capital improvement program (CIP) projects to address existing and future water infrastructure performance concerns. The highest priority near-term projects address infrastructure age risks, reliability/redundancy, and operational efficiency. There are no current capacity-driven deficiencies in the existing distribution system. Projected demands within City's service area is anticipated to be sufficiently supplied with diversified water sources.

RECYCLED WATER SYSTEM

Promoting increased use of recycled water can offset potable water imports and groundwater pumping from the Chino Basin aquifer. A particular focus will be on increasing use of tertiary recycled water available from the Inland Empire Utility Agency for remaining agricultural irrigation, as well as for industrial, construction grading, and roadway landscaping and maintenance purposes. Chino has a robust recycled water system primarily south of Edison Avenue. The City plans to optimize all available entitlement use of recycled water with groundwater recharge purchases upon satisfying all direct use demands.

MUNICIPAL SEWER SYSTEM

A City-owned system of gravity pipelines, lift stations, and force mains conveys sewer flows generated within the city to the Inland Empire Utilities Agency (IEUA) interceptor sewer system and IEAU regional wastewater

treatment plants for treatment and disposal. The City's Sewer Master Plan identifies CIP projects to increase capacity, replace or rehabilitate deteriorating assets, and prevent environmental contamination, addressing existing, near-term, and long-term conditions. Areas within the SOI in the north of Chino currently rely on septic systems for their sewage disposal. The City is evaluating options to expand the sewer system to serve these areas in the future.

STORMWATER INFRASTRUCTURE

Due to its location on flat terrain surrounded by mountains, Chino is susceptible to ponding and flooding during storm events. Several flood control channels and creeks assist in the maintenance of drainage flows and flood prevention. These facilities, described below, are managed by the San Bernardino County Flood Control District (SBCFCD), the U.S. Army Corps of Engineers (USACE), and the City of Chino:

- **San Antonio Channel (SBCFCD)**: runs along the western City boundary and ultimately meets with Chino Creek;
- **Chino Creek (USACE)**: enters the City south of SR- 60, joins the San Antonio Channel, and follows the western boundary of the City southward;
- **West State Street Storm Drain (SBCFCD)**: serves as the northern-most portion of the 100-year flood system for the drainage area that includes the City and discharges into the San Antonio Channel;
- **Chino Storm Drain (SBCFCD)**: constructed alongside SR-60, joins the San Antonio Channel on the western boundary of the City;
- **Cypress Channel (SBCFCD)**: begins south of SR-60 and drains into the USACE Prado Flood Control Basin providing storm drainage to the eastern side of the City;
- **Magnolia Channel (City)**: extends from Edison Avenue through the southern portion of the City and ultimately joins with Chino Creek;
- **Cucamonga Creek (SBCFCD/USACE)**: (also known as Mill Creek) enters the City from the north and flows through the area to the south of The Preserve Specific Plan.

The Chino Public Works Department maintains and improves the City's storm drain systems. The City developed a Master Plan of Drainage (MPD) in 1993 for its northern areas, with later plans in 1998 and 2007 addressing drainage needs in the southern parts of the city. These plans identified infrastructure projects to support development and manage stormwater, particularly for 100-year storm events, most of which have been completed. Current priorities include upgrading aging systems, accommodating new development—especially in Subarea No. 2—and complying with stormwater regulations that require environmentally responsible runoff management. Trash capture devices are also planned to meet state mandates.

Stormwater infrastructure

INF-6 **RELIABLE UTILITY SERVICE. Provide for reliable, efficient water, sewer, stormwater, energy and telecommunications services to serve new and existing development.**

Policies

INF-6.1 Continue to provide reliable water, sewer, stormwater, energy and telecommunications services.

INF-6.2 Ensure that water and sewer systems are capable of meeting the daily and peak demands of Chino residents and businesses, including the provision of adequate fire flows.

INF-6.3 Ensure that public water, wastewater, and stormwater facilities and services are provided in a timely manner to adequately serve new and existing development.

INF-6.4 Plan comprehensively for adequate water supply to meet future demand, considering projected growth in the city and the impacts of climate change on sources of supply.

INF-6.5 Continue to coordinate with the Metropolitan Water District of Southern California, the Inland Empire Utilities Agency, and other partner agencies to ensure the provision of adequate water service to Chino residents and businesses.

INF-6.6 Improve the reliability of the City's water system to meet future demand, including through the construction of new infiltration basins, injection wells, and other facilities and the diversification of water supply sources.

INF-6.7 Increase delivery capacity and expand the recycled water system to additional parks, schools, and commercial landscaping areas not currently using recycled water in order to help reduce the need for imported water purchases.

INF-6.8 Support implementation of the Chino Basin Recharge Master Plan Update to enhance groundwater recharge and ensure long-term water sustainability in the Chino Basin.

INF-6.9 Maintain a surface water/groundwater conjunctive use program, which uses more surface water when it is available and more groundwater when surface water is limited.

INF-6.10 Operate, maintain and update the City-owned storm sewer system as needed to serve existing and future development.

INF-6.11 Expand the use of technology such as Smart Sensors, Internet of Things (IoT) Devices, and Supervisory Control and Data Acquisition (SCADA) systems that allow for real time monitoring and control, predictive

maintenance, and demand forecasting to optimize utility operations and service delivery.

INF-6.12 Pursue expanded broadband coverage throughout Chino so that all residents have multiple provider options and improved quality of service.

INF-6.13 Maintain a "dig once" policy to streamline the installation of infrastructure, minimize disruption from construction activities, and optimize coordination among responsible agencies and developers. Encourage the undergrounding of utilities for all new development.

INF-6.14 Endeavor to incorporate state-of-the-art telecommunication systems and services (e.g., internet) for public use in City-owned public buildings and improve gaps in infrastructure to support telecommunication systems.

See also Health and Environmental Quality Element for policies related to water conservation and Hazards, Safety and Noise Element policies related to flood control and stormwater management.

Utility infrastructure

Actions

INF-6.A Regularly prepare and implement an Urban Water Management Plan, updating it on a 5-year cycle, to ensure a reliable, long-term water supply and service under projected future conditions.

INF-6.B Periodically conduct rate and fee studies to ensure adequate funds are collected to maintain and expand utility systems as needed to support projected growth, implementing rate and fee increases as needed.

INF-6.C Continue to implement comprehensive solutions to the financing of public facilities that adequately distribute costs based on the level of benefit received and the timing of development. Tools may include benefit assessment districts, Mello-Roos Community Facilities Districts, tax increment financing, and other financing mechanisms in combination with programmed capital improvements to eliminate existing public service and facility gaps, and to provide necessary facilities in advance of the impacts created by development.

INF-6.D Evaluate opportunities for the development of joint-use water, stormwater quality, flood control and other utility facilities as appropriate in conjunction with schools, parks, bike paths, golf courses, and other suitable uses to achieve economy and efficiency in the provision of services and facilities.