Palmdale Transportation Center

Chapter 6

Circulation and Mobility

The Circulation and Mobility Element presents the approach to transportation, addressing access and mobility within the city. The chapter provides a roadway classification system, corresponding cross-sections, and recommended future networks for motor vehicles, walking, biking, riding transit, and the movement of freight. Goals, policies, and actions provide a framework for advancing health and safety, access to services and opportunities, sustainability, and economic vitality through transportation.

Statutory Requirements

Circulation and mobility are required General Plan topics per Government Code Section 65302(b) which requires:

"A circulation element consisting of the general location and extent of existing and proposed major thoroughfares, transportation routes… to plan for a balanced, multimodal transportation network that meets the needs of all users of streets, roads, and highways for safe and convenient travel in a manner that is suitable to the rural, suburban, or urban context of the general plan…"

In addition to the requirements above, this Circulation and Mobility Element also addresses the following statutory requirements which affect the goals and policies outlined in this Element.

Complete Streets Act

The California Complete Streets Act of 2008 (AB 1358) was signed into law on September 30, 2008. Beginning January 1, 2011, AB 1358 required circulation elements to address the transportation system from a multimodal perspective. The Complete Streets Act also requires circulation elements to consider the multiple users of the transportation system, including children, adults, seniors, and people with disabilities.

Global Warming Solutions Act

The Global Warming Solutions Act (AB 32) was signed into law on September 27, 2006. AB 32 established a comprehensive program to reduce greenhouse gas emissions to combat climate change. This bill required the California Air Resources Board (CARB) to develop regulations to reduce greenhouse gas emissions to 1990 levels by 2020. On January 1, 2012, the greenhouse gas rules and market mechanisms, adopted by CARB, took effect, and became legally enforceable.

Sustainable Communities and Climate Protection Act

The Sustainable Communities and Climate Protection Act, or Senate Bill (SB) 375, provides incentives for cities and developers to bring housing and jobs closer together and to improve public transit. The goal is to reduce the number and length of automobile commuting trips, which will help to meet the statewide targets for reducing greenhouse gas emissions set by AB 32. SB 375 requires each Metropolitan Planning Organization to add a broader vision for growth, called a Sustainable Communities Strategy (SCS), to its transportation plan. The SCS must lay out a plan to meet the region's transportation, housing, economic, and environmental needs in a way that enables the area to lower greenhouse gas emissions. The SCS should integrate transportation, land-use, and housing policies to plan for achieving the emissions target for their region. The Southern California Association of Governments (SCAG) Regional Transportation Plan (RTP) and SCS were adopted in 2016.

- The City of Palmdale will incorporate components to comply with SB 375 by incorporating components into the General Plan. Applicable components of the SCS include:
- Support transit-oriented development.
- Support infill housing development and redevelopment.
- Support mixed-use development that improves community walkability.
- Promote land use patterns that encourage the use of alternatives to single-occupant automobile use.
- Apply Transportation System Management (TSM) and complete streets practices to arterials to maximize efficiency.
- Improve modes through enhanced service, frequency, convenience, and choices.
- Expand and enhance Transportation Demand Management (TDM) practices to reduce barriers to alternative travel modes and attract commuters away from single occupant vehicle travel.

Senate Bill 743 – California Environmental Quality Act (CEQA) Changes

On September 27, 2013, SB 743 was signed into State law. A key element of this law is the potential elimination or deemphasizing of auto delay, level of service (LOS), and other similar measures of vehicular capacity or traffic congestion as a basis for determining significant impacts. According to the legislative intent contained in SB 743, these changes to current practice were necessary to, "More appropriately balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of greenhouse gas emissions."

SB 743 requires impacts to transportation network performance to be viewed through a filter that promotes the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and the diversification of land uses. Some alternative metrics were identified in the law, including vehicle miles traveled (VMT) or automobile trip generation rates. SB 743 does not prevent a city or county from continuing to analyze delay or LOS as part of other plans (i.e., the general plan), studies, or ongoing network monitoring, but these metrics may no longer constitute the sole basis for determining CEQA impacts once SB 743 is ratified into CEQA guidelines.

Assembly Bill 43 – Traffic Safety

On October 8, 2021, Assembly Bill (AB) 43 was signed into State law. The bill allows traffic engineers to consider people walking and biking when establishing speed limits. Previously, engineers were required to use the 85th-percentile speed to set speed limits. AB 43 removes this requirement for most roadways, although engineers can still use it as one criterion to consider. AB 43 also allows cities in California to lower speed limits in 5 mile per hour (mph) increments and reduces the need to conduct as many traffic surveys as previously required.

AVTA Bus

Relevant Plans & Documents

Active Transportation

The City of Palmdale was awarded grant funding in 2015 to initiate a citywide Active Transportation Plan covering specific recommendations for Complete Streets, Bicycle Transportation, and Safe Routes to School (SRTS). The opportunities identified for each of the topics in the plans which were finalized in 2018, but were not formerly adopted, are summarized below:

Complete Streets

- Focus on design to improve community health, safety, and economic vitality
- Provide safe and convenient access for a variety of mobility types
- Develop a circulation network that enables travel to and from destinations in a safe and efficient manner
- Provide mobility for multiple modes of transportation,
- Reduce vehicle emissions from increased use of alternative transportation modes

Bicycle Transportation

- Develop a comprehensive bikeway network, that services the full spectrum of bicycle rider types
- Plan bikeways that will complement the SRTS access for schools located within the City of Palmdale
- Facilitate the provision of quality bicycle support facilities at public and private sites/buildings throughout the community
- Apply new technologies and innovative treatments on appropriate roads and bikeways
- Provide secure bicycle storage facilities where bicyclists connect with other forms of transportation
- Develop and enhance multimodal opportunities for bicyclists to connect with other forms of transportation
- Encourage and support comprehensive bicycle safety and education awareness programs for bicyclists and motorists
- Ensure that ongoing maintenance keeps bicycle facilities in good repair

Safe Routes to School

- Make it easier and safer for students to walk and bicycle to school
- Increase the active mode share for student travel

Parking Policies

Off-street parking policies ensure that facilities are properly designed and maintained to facilitate safety and efficiency. The City's guidelines for off-street parking facilities identify the number of spaces required, applicable use of parking spaces, design and loading standards, sharing between uses, parking for bicycles, and exceptions based on City approval.

The City's existing parking policies are intended to achieve the following:

- Facilitate the intended use of properties
- Reduce traffic congestion and safety concerns
- Protect neighborhoods from the effects of vehicular noise and traffic
- Assure maneuverability of emergency vehicles
- Provide a positive visual experience

Street Maintenance

Street maintenance policies and procedures were written for the Public Works Maintenance Division to make sure that City rights-of-way are maintained properly and provide safe walking areas for the public.

The City's existing street maintenance policies are intended to achieve the following:

- Conduct a detailed inspection twice per year, in the spring and fall, to ensure proper maintenance of public improvements.
- Maintain an accurate record of inspections and document how the inspections took place
- Note any conditions needing correction and any citizen complaints
- Monitor any conditions that may be hazardous to pedestrians

Key Projects

California High Speed Rail

The California High-Speed Rail Authority (CHSRA) is responsible for planning, designing, building and operation of a high-speed rail system that will connect the mega-regions of the state. The CHSRA is also committed to completing the environmental review for all project segments (Merced/San Francisco—Los Angeles/Anaheim) by 2022. No schedule has been established for completing construction of the high-speed rail line sections between Bakersfield and Palmdale or between Palmdale and Los Angeles Union Station. Due to Palmdale's location along the corridor, linking the Central Valley and Los Angeles basin, accommodation of future high-speed rail is a consideration of this element. To accommodate the HSR station, the Palmdale Transportation Center would be relocated south of the existing location to between Avenue Q and Palmdale Boulevard.

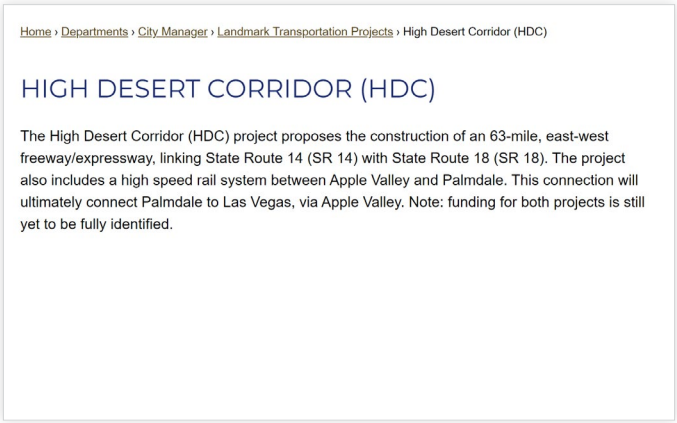
High Desert Corridor

The High Desert Corridor (HDC) is a proposed project to create a high-capacity connection between SR-14 in Palmdale and I-15 in Victorville, which would be implemented after the General Plan horizon year. The HDC project would also include bicycle facilities, extending 36 miles along the corridor from US 395 in Adelanto to 20th Street East, providing a bike route connection to the Palmdale Transportation Center. Some of the right-of-way required for the project may also accommodate an HOV lane in each direction, plus a high-speed passenger rail line.

Brightline West Connection to Las Vegas

The proposed high-speed rail feeder service would be modeled on the Brightline service currently operating in Florida between Fort Lauderdale and Miami. The high-speed rail feeder may be built within the HDC right-of-way, primarily within the highway median. The stop serving Brightline West would be at the Palmdale Multimodal Rail Station to be located south of the existing Palmdale Transportation Center between Avenue Q and Palmdale Boulevard. The initial Southern California station is proposed to be in Victorville and intends to add stations and provide connections to Metrolink and future California High-Speed Rail.

California High Speed Rail



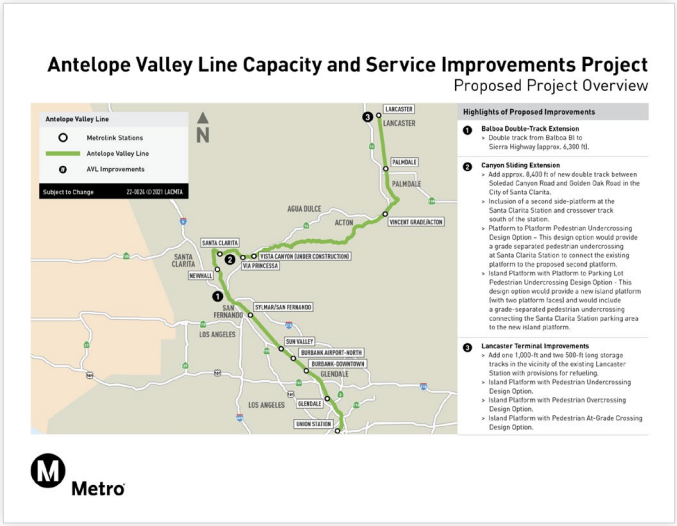
High Desert Corridor (HDC)

Brightline West

Antelope Valley Line Study

The Los Angeles County Metropolitan Transportation Authority (Metro) is a member agency of the Southern California Regional Rail Authority (SCRRA). Metro, in collaboration with SCRRA, is studying potential opportunities to add more rail service from Lancaster and Palmdale to Los Angeles. The Antelope Valley Line Study has two objectives: to look at increasing the frequency of the Metrolink service; and to develop a phased and prioritized approach for capital improvements based on benefits, costs and impacts in Los Angeles County. The average speed for this line is approximately 40 miles per hour, and passenger rail travel time between Palmdale and Los Angeles Union Station is approximately two hours. The Antelope Valley Line is currently Metrolink's third busiest line with approximately 7,000 passengers per weekday. The line is facing a variety of service challenges due to its aging infrastructure, which was constructed through mountainous terrain with single track in many areas.

The final report identifies rail infrastructure projects needed to deliver the track capacity necessary for increased service levels, including potential double-tracking of portions of the line that are currently single track, extension of passing sidings, additional platforms at stations, and improved signaling systems. Adding late night train service, more frequent service and bidirectional service are some of the recommendations likely to move forward toward implementation.



Antelop Valley Line Study

Context

Roadway Conditions

Palmdale relies heavily on arterial roadways to move travelers throughout the community. The network has primarily been developed around a suburban grid system in which arterials are spaced approximately every mile and secondary arterials are spaced every half-mile between major arterials. This arterial network separating neighborhood streets limits connectivity for intracity multimodal travel and contributes to a high vehicle speed environment. Many residential areas are designed as suburban subdivisions with cul-de-sacs, circuitous streets, and lack of porous access. This contributes to long, inefficient travel distances between residential neighborhoods to access collector and arterial streets, making it especially challenging and time consuming for people walking, biking, and taking transit to connect to destinations like school, stores, and work.

Palmdale Streetscape

Pedestrian Conditions

Existing pedestrian network conditions and environmental factors can make walking in the city uncomfortable. Much of the City's 106 square miles consist of vacant land, making it unfeasible to reach destinations by foot across most of the city outside of the central core. Sidewalk coverage is inconsistent across neighborhoods. Many sidewalks lack tree cover and shade, detracting from the comfort of walking in inclement weather. Signalized intersections along arterials are often spaced far apart, presenting pedestrians with limited opportunities for safe crossing.

Pedestrians Walking and Rolling in Palmdale

Bicycle Conditions

The City of Palmdale bicycle network is anchored by a 4.7-mile Class I bicycle path along Sierra Highway from Technology Drive, continuing north into Lancaster. While it provides a regional link, this facility is disconnected from communities outside of central Palmdale. Other facilities are largely absent across the city, though dedicated bicycle lanes are present along 5th Street East and along east-west arterials including but not exclusive to segments of East Avenue R, East Avenue Q, and East Avenue S. Arterials in Palmdale are a necessary component of a connected, citywide bicycle network, but because these roads are currently designed to support high speed vehicle traffic, bicycle facilities must be carefully designed to create a safer environment and distance people on bikes from fast moving vehicles.

Transit Conditions

Public transit within Palmdale is designed to serve intra-county and local travel needs. AVTA systemwide ridership is relatively low compared to other transit systems in the region.[3] The low ridership is partly attributed to infrequent service—headways for most routes operating within Palmdale are between 30 to 60 minutes, making transit unviable for most trips. The existing transit system also mostly caters to limited regional commute patterns rather than supporting travel within the city. Though key activity centers are served by bus transit, it is difficult to get to and from these locations, and to connect to other destinations in Palmdale.

The City is undergoing a station area planning process in partnership with the CHSRA around the high-speed rail multimodal station near downtown Palmdale. Targeted transit investments will still need to address local connectivity to expand access and provide a practical mode choice for more people. Much of the city's transit service is on 10th Street West, Palmdale Boulevard, Avenue R, and Avenue S, and investments in more frequent and convenient transit services on these existing corridors should be prioritized.

3. In 2018, AVTA saw 51,3000 boardings on weekdays and 8,240 boardings on weekends systemwide.

Commute Patterns

Most residents drive to work, and many have long commutes. A vast majority of Palmdale residents (91.4%) commute to work by motor vehicle, of which 76% drive alone. Approximately one third of commuters have a travel time to work of more than one hour, with many traveling several hours to the Los Angeles basin daily. Less than five percent of these long-distance commuters travel to work by public transit.

SR-14 through Palmdale

Multi-car Accident on Freeway[4]

Safety Trends

Considering historical crash trends throughout the city and the primary factors that contribute to collisions are critical for understanding behaviors on the current roadway network, and for guiding recommendations to promote safe facilities for all modes of travel. More than three-fourths of vehicle-involved collisions that occurred in Palmdale in recent years took place on the Local Roadway Network (LRN). The LRN is made up of principal and minor arterials, collectors, and local roads, as opposed to regional roads like SR-14 and SR-138. Unsafe speed and failure to yield properly are the most common crash factors in vehicle-involved collisions on both the local and regional roadway network. Active transportation-involved crashes involve a pedestrian or a person riding a bicycle. About two-thirds of active transportation-involved collisions in the city involve pedestrians walking or crossing a street. The primary casual factors of collisions involving pedestrians or people riding bicycles include a pedestrian outside of a marked crosswalk or sidewalk, or a vehicle operating on the wrong side of the road.

4. "Multi-Car Accident" by Steven Depolo, licensed under CC BY 2.0

Goods Movement

Goods within, and passing through, Palmdale move via truck and the Union Pacific Railroad. Designated truck routes prioritize automobile and heavy vehicle usage. Commercial vehicles with a manufacturer's gross vehicle weight rating of 10,000 or more must use designated truck routes within city limits, as designated in the Palmdale Municipal Code, unless they are making pickups or deliveries of goods, wares, or merchandise to or from a building, or for delivering materials to support construction.

Cargo Truck in Palmdale

Aviation

Palmdale Regional Airport

Palmdale Regional Airport (PMD) began civilian operations in 1971. During the 1990s, commercial airlines operated out of the airport, but in late 2008, passenger service was suspended at the facility due to low volume.

SR-14, about three miles west of the airport, provides regional access. As PMD has no scheduled commercial air service, there are no rental car facilities at the airport, and no private operators provide ground transportation services to the airport. The Palmdale Transportation Center (PTC), the proposed site of a future California High-Speed Rail station, is located approximately two miles southwest of the airport. The PTC provides connections with the local public transit provider, AVTA, but no AVTA routes currently serve the airport. Several transportation improvements near the airport are currently in the planning phase, study phase or are under construction.

The City owns approximately 600 acres of land north and west of the Plant 42 perimeter, a portion of which is proposed to be developed into an air terminal facility. The property extends between Sierra Highway to the west and 15th Street East to the east, and between East Avenue M (Columbia Way) to the north and Avenue M-12 to the south. If the City and the United States Air Force reach an agreement for access to the runways on Plant 42, the City has the opportunity to develop access routes from the new air terminal facility to the runways.

Aerial view of Plant 42

Context

Status quo roadway classification frameworks do not meet Palmdale's evolving needs for a more multimodal network. The following sections provide a new approach with street typologies and modal networks that are more responsive to local transportation needs and context.

Street Typologies

State of California General Plan Guidelines and federal funding eligibility both require the City to maintain functional street classification systems and are summarized below. However, these external classification systems are oriented toward vehicle operations and do not address local circulation and street design needs, so a local system is recommended to establish local multimodal network priorities.

Federal and State Functional Classification System

The Federal Highway Administration (FHWA) identifies functional classification as a key item in transportation data. Streets and highways are grouped into classes according to the service they provide. The California Road System (CRS) maps[5] display functional classification which is used in determining Federal funding to maintain the roads.

The federal classifications included in the CRS maps are:

- Interstate
- Other Freeway or Expressway
- Other Principal Arterial
- Minor Arterial
- Major Collector
- Minor Collector
- Local

Functional classification is required by the FHWA for projects receiving federal funds. This system is primarily auto centric and does not take into consideration local context, land use, or built form. This does not preclude cities from further defining their roadway classification systems for management purposes. However, it is recommended that a direct correlation be made to the CRS classification in a City's functional classification system.

Roadway Classifications

This section of the Mobility Element describes the classifications of Palmdale's roadways, including designated corridors that support active transportation. It also specifies truck routes and transit priority corridors.

The Palmdale Roadway Classification presents an enhancement to the functional FHWA and CRS classification that is more focused on the scale and connective role of each street within Palmdale's roadway network, organized into the following street types: Regional, Crosstown, Connector and Neighborhood streets. These street types are described in detail below and this approach to local roadway classifications will inform future roadway improvements by defining typical characteristics, design elements and multimodal network functions for each category. These should be applied to new and reconfigured streets to balance the needs of all travel modes more effectively. Definitions of street types consider surrounding land uses and anticipated traffic levels, and designate priority levels for different travel modes. In sum, they represent a hierarchical network linked to typical design standards.

Table 6.1 on the following page presents an overview of each street type category with additional details and example cross sections that illustrate the potential variety within each category. To ensure that Palmdale remains eligible for federal transportation funds, applicable FHWA terminology is included. Additional information about transit and active transportation priority corridors follows in the Priority Corridors section, and details about bicycle facilities and design considerations are presented in the Modal Networks section.

Table 6.2 presents a more detailed summary of specific Roadway Link Right-of-Way Dedication Requirements with corresponding mid-block street cross-sections.

5. https://caltrans.maps.arcgis.com/apps/webappviewer/index.html?id=026e830c914c495797c969a3e5668538

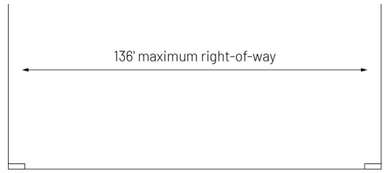
Table 6.1 Palmdale Roadway Classification Summary Table

	Palmdale Street Type			
	Regional	**Crosstown**	**Connector**	**Neighborhood**
CHARACTERISTICS	• Principal network for regional travel connecting Palmdale to other communities • Limited commercial frontages • May overlap with existing or planned designated truck routes	• Principal network for cross city travel by all modes • Provides direct access to commercial land uses and Village Centers	• Connects all modes of travel between residential neighborhoods and activity centers • Provides direct access to commercial/ industrial land uses and Village Centers	• Found mostly in residential neighborhoods • Provides access to residential land uses
DESIGN ELEMENTS	**Vehicles:** focus on through traffic and vehicle capacity, high volume/high speed traffic **Bikes and pedestrians:** physically separated lanes and paths, connections to complete multimodal network links **ROW configuration:** • Typical total ROW of 100-feet (minimum) to 136-feet (maximum) (may include sidewalks on one side) • Two or more through vehicle lanes in each direction, 11- to 12-feet through lane widths • Dedicated turn pockets • Separated Class I bike facilities, paths, and landscape buffers where possible; 6-foot minimum bike lane with 5-foot buffer and physical separation where on-street facilities are present • Sidewalks adjacent to developed land to minimize need for pedestrian crossings, 8-foot minimum sidewalk; sidewalks to be separated from curb with a landscape buffer if no parking is present • Marked and signalized crosswalks at intersections • Reduce excessively wide outside lane widths to reallocate space for buffers and off-street paths	**Vehicles:** focus on through traffic Bikes and pedestrians: enhancements for walking and bicycling including wide sidewalks, landscaped buffers, and dedicated bike lanes **Transit:** flexible transit priority lanes to support frequent transit service **ROW configuration:** • Typical ROW of 90-feet (minimum) to 114-feet (maximum) including sidewalks and medians where present • One or two through vehicle lanes in each direction, 11- to 12-feet through lane widths • Center-turn lane or raised median as applicable; one through lane in each direction may be acceptable if full center turn lane is provided • Separated bike lanes, sidewalks, and landscape buffers where possible, 6-foot minimum bike lane with buffer required • Wide sidewalks adjacent to commercial land use, 8-feet minimum sidewalk; additional width to accommodate furniture zone on commercial corridors • Reduce excessively wide outside lane widths to reallocate space for buffered bicycle facilities or flexible transit lanes	**Vehicles:** focus on intracity traffic **Bikes and pedestrians:** enhancements for walking and bicycling including wide sidewalks, landscaped or parking-protected buffers, and dedicated bike lanes **ROW configuration:** • Typical ROW of 66-feet (minimum) to 94-feet (maximum) including sidewalks (many existing streets have 80- to 100-foot right-of-way due to Los Angeles County Standards prior to City of Palmdale annexation) • One or two through vehicle lanes in each direction, 11- to 12-feet lane widths • Center turn lane or medians as applicable • Reduce excessively wide outside lane widths to support separated bike lanes, sidewalks, and landscape buffers where possible, 6-foot minimum bike lane, with a buffer as applicable • Wide sidewalks adjacent to commercial land use, 8- to 10-foot minimum sidewalk • Low density of connecting driveways • More signalized intersections than neighborhood streets • May support on-street vehicle parking	**Vehicles:** accommodates automobiles at lower speeds **Bikes and pedestrians:** traffic calming elements to support walking and bicycling **ROW configuration:** • Typical ROW of 30-feet (minimum) to 64-feet (maximum), including sidewalks where present • One through vehicle lane in each direction • Reduce lanes in excess of standard widths to support traffic calming measures such as chicanes, bulb-outs, and landscaping where possible, 6-foot minimum bulb outs at intersections, 8-foot on-street parking lanes where applicable
ACTIVE TRANSPORTATION NETWORKS	• Primarily serves vehicles • Includes Bicycle and/or Transit facilities on certain segments, which should be designed with separated facilities (see Design Elements information in this table)	• Primarily serves intracity travel • Includes segments of Transit Priority Corridors • Includes Bicycle and/or Transit facilities on certain segments, which should be designed with separated facilities (see Design Elements information in this table)	• Primarily services intracity travel • Includes segments of Bicycle and/or Transit facilities on certain segments, which should be designed with separated facilities	• Prioritizes pedestrian travel and slow automobile travel • Includes Bicycle facilities on certain segments, which may include shared travel lanes with the appropriate traffic calming measures
LOCAL STREET SEGMENT EXAMPLES	• Columbia Way/ Avenue M • 10th Street West • Sierra Highway • Pearblossom Highway	• Avenue Q • Palmdale Boulevard • Avenue R	• Avenue M-8 • Avenue R-8 • 5th Street West	• Lakewood Court • Tackstem Street • Evergem Avenue
APPLICABLE FHWA DESIGNATIONS	Expressway and Principal Arterial	Principal Arterial and Minor Arterial	Minor Collector and Major Collector	Local and Minor Collector

Figure 6.1 Typical Street Right-of-Way Dimensions

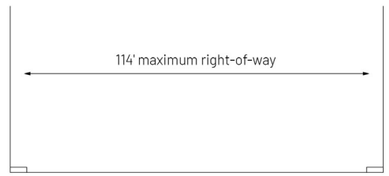
REGIONAL

Section A.



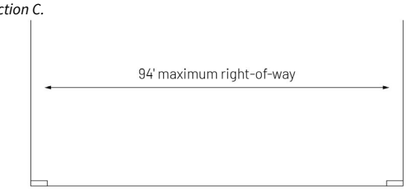
CROSSTOWN

Section B.



CONNECTOR

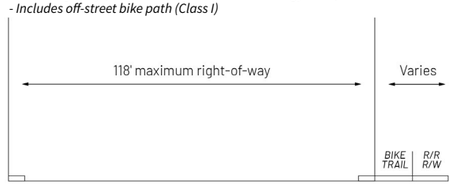
Section C.



REGIONAL - SPECIFIC

Section D.

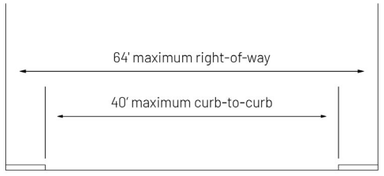
- Sierra Highway (between Avenue M and Technology Drive)
- Includes off-street bike path (Class I)



R/R – Railroad
R/W – Right-of-way

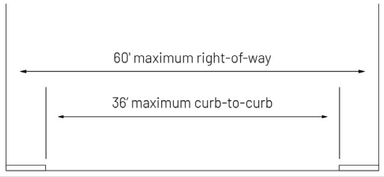
NEIGHBORHOOD

Section E.



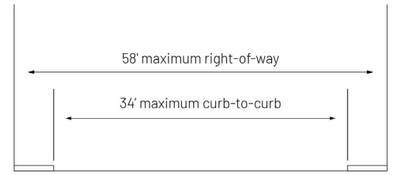
NEIGHBORHOOD INTERIOR

Section F.



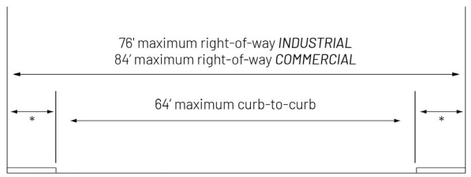
NEIGHBORHOOD (CUL-DE-SAC)

Section G.



CONNECTOR (COMMERCIAL/INDUSTRIAL)

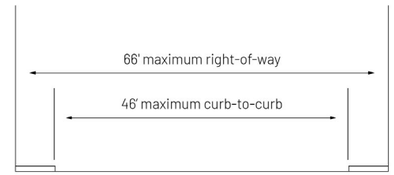
Section H.



** 6' industrial, 10' commercial*

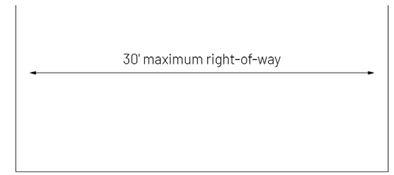
CONNECTOR INTERIOR (COMMERCIAL/INDUSTRIAL)

Section I.



NEIGHBORHOOD ALLEY

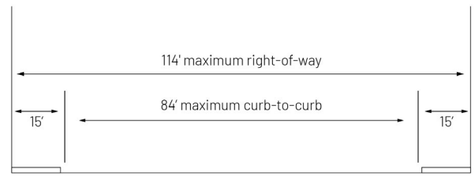
Section J



CROSSTOWN - SPECIFIC

Section K

- Avenue S between SR-14 and the Anaverde development
- Includes off-street bike path (Class I)



General Notes:

- This table only shows cross-sections at mid-block locations. Additional right-of-way may be required at intersections to accommodate turn lanes.
- Not to scale.
- Raised medians may be required as determined by the City Engineer/City Traffic Engineer.
- Installation of speed humps shall be in accordance with PMC 10.04.100 Chapter 15.107.
- Bike lanes, buffers, paths, etc. may be updated through a master plan of bike and trails.

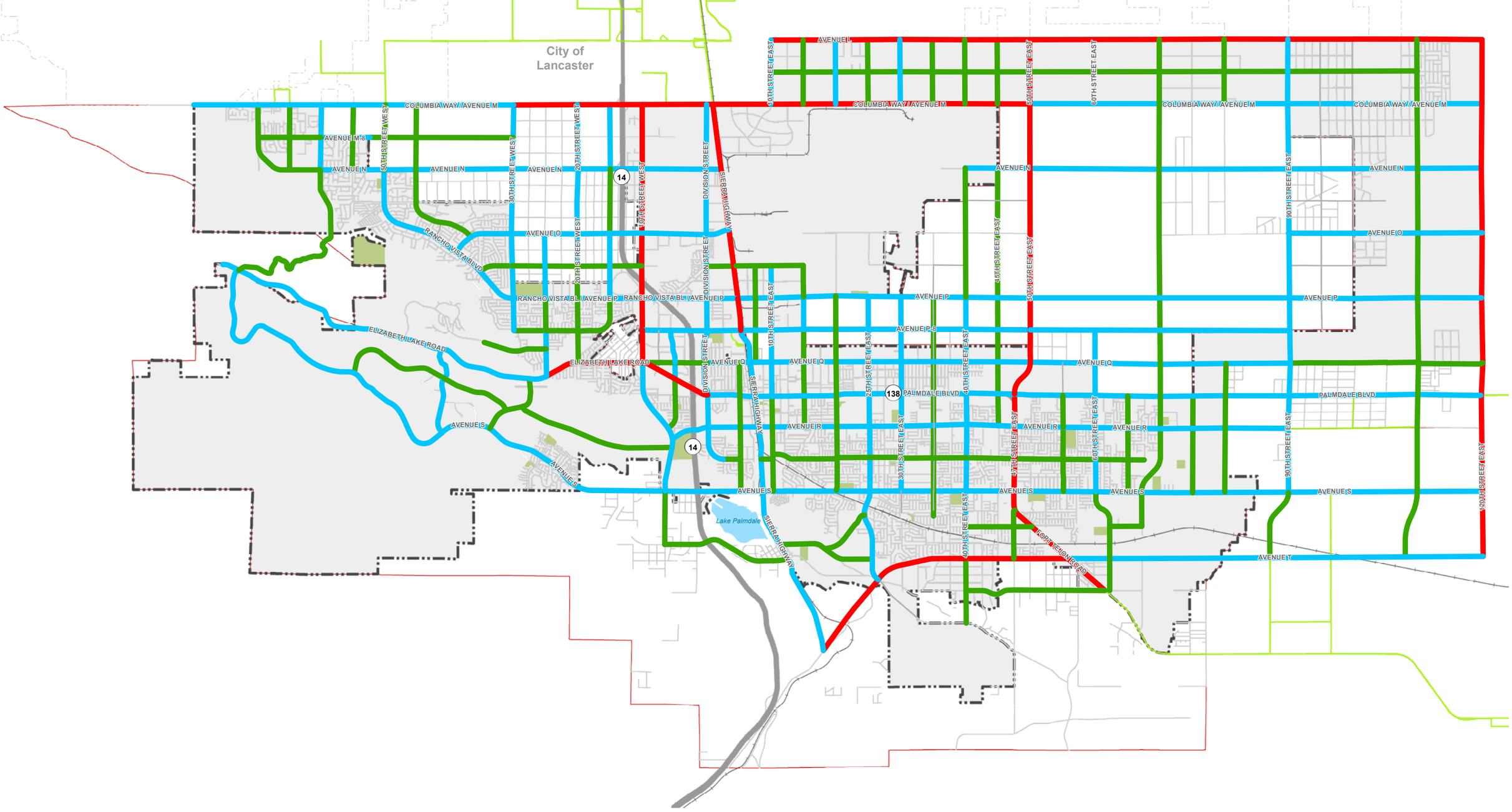


Figure 6.2

Palmdale Roadway Classification Map

- City Boundary
- Sphere of Influence
- Major Arterials
- Major Highway/Arterial
- Railroad
- Transit Center
- California Aqueduct
- Water Body
- Park
- Regional
- Crosstown
- Connector
- Neighborhood

0 0.75 1.5 2.25 3 Miles

0 3,000 6,000 Feet

Data Sources: City of Palmdale GIS data; World Terrain Base, 2015 ESRI, USGS, NOAA.

Produced by Nelson\Nygaard
March 2019

Table 6.2

Palmdale Roadway Classification Summary Table

Roadway Link	From/To	Cross-Section ID-See Figure 6.1
NORTH-SOUTH ROADWAYS		
70th St West	Columbia Way (Ave M)/R. Lee Ermey Ave (Ave N)	C
65th St West	Columbia Way (Ave M)/R. Lee Ermey Ave (Ave N)	C
60th St West	Columbia Way (Ave M)/R. Lee Ermey Ave (Ave N)	B
Godde Hill Road	R. Lee Ermey Ave (Ave N)/Elizabeth Lake Rd	C
55th St West	Columbia Way (Ave M)/R. Lee Ermey Ave (Ave N)	C
45th St West	Columbia Way (Ave M)/Ave N-8	C
Bolz Ranch Road	Ave N-8/Towncenter Drive	C
Ranch Center Dr	Elizabeth Lake Rd/Ritter Ranch Rd	B
30th St West	Columbia Way (Ave M)/Bulldog Ave (Ave P-8)	B
25th St West	Ave O/Rancho Vista Bl (Ave P)	B
Highland Street (25th St W)	Rancho Vista Bl (Ave P)/Ave P-8	C
	Ave P-8/Elizabeth Lake Rd	B
20th St West	Columbia Way (Ave M)/Ave O-8	B
	Ave O-8/Elizabeth Lake Rd	C
15th St West	Columbia Way (Ave M)/R. Lee Ermey Ave (Ave N)	B
	R. Lee Ermey Ave (Ave N)/Ave O	C
	Ave O/Rancho Vista Bl (Ave P)	B
Summerwind Drive	Rancho Vista Bl (Ave P)/Ave P-8	C
10th St West	Columbia Way (Ave M)/Palmdale Blvd	A
Tierra Subida Ave	Palmdale Blvd/Ave S	B
	Ave S/Barrel Springs Rd	C
5th St West	Technology Drive/Palmdale Blvd	B
	Palmdale Blvd/Tierra Subida Ave	C
Division St	Columbia Way (Ave M)/Ave R-8	B
5th St East	Ave Q/Palmdale Blvd	C
	Palmdale Blvd/Ave S	C
Sierra Hwy	Columbia Way (Ave M)/Technology Drive	D
	Technology Drive/Pearblossom Hwy	B
Lockheed Way (8th St East)	Blackbird Dr/Rancho Vista Bl (Ave P)	C
8th St East	Rancho Vista Bl (Ave P)/Ave Q	C
Challenger Way	Ave L/Columbia Way (Ave M)	B
10th St East	Blackbird Dr/Palmdale Blvd	B
	Palmdale Blvd/Ave S	C

Roadway Link	From/To	Cross-Section ID-See Figure 6.1
15th St East	Ave L/Columbia Way (Ave M)	C
	Blackbird Dr/Rancho Vista Bl (Ave P)	C
	Rancho Vista Bl (Ave P)/Ave P-8	B
	Ave P-8/Ave R	C
20th St East	Ave L/Columbia Way (Ave M)	B
	Ave P/Ave S	C
25th St East	Ave L/Columbia Way (Ave M)	C
	Ave P/Pearblossom Hwy	B
30th St East	Ave L/Columbia Way (Ave M)	B
	Ave P/Ave S	B
35th St East	Ave L/Columbia Way (Ave M)	C
	Ave P/1600' S of Ave S	C
40th St East	Ave L/Columbia Way (Ave M)	C
	R. Lee Ermey Ave (Ave N)/Ave P	C
	Ave P/Pearblossom Hwy	B
	Pearblossom Hwy/Barrel Springs Rd	C
45th St East	Ave L/Columbia Way (Ave M)	C
	R. Lee Ermey Ave (Ave N)/Ave R	C
47th St East (State Route 138)	Palmdale Blvd/Ave S	A
47th St East	Fort Tejon Rd (State Route 138)/Pearblossom Hwy	C
Fort Tejon Rd (State Route 138)	Pearblossom Hwy/Mt Emma Rd	A
50th St East	Ave L/Palmdale Blvd	A
55th St East	Palmdale Blvd/Ave S	C
60th St East	Ave P-8/Ave S	B
62nd St East	Ave S/Pearblossom Hwy (State Route 138)	C
65th St East	Palmdale Blvd/Ave S	C
70th St East	Ave L/Ave S-8	C
75th St East	Palmdale Blvd/Ave S	C
80th St East	Ave L/R. Lee Ermey Ave (Ave N)	C
	Ave Q/Ave S	C
90th St East	Ave L/Ave S	B
	Ave S/Ave T	C
110th St East	Ave L/Ave T	C
120th St East	Ave L/Pearblossom Hwy (State Route 138)	A
State Route 14 (SR-14)	Ave L/Crown Valley Rd	Caltrans
EAST-WEST ROADWAYS		
Avenue L	Challenger Way/120th St E	A
Avenue L-8	Challenger Way/110th St E	C

Roadway Link	From/To	Cross-Section ID-See Figure 6.1
Columbia Way (Avenue M)	90th St W/30th St W	B
	30th St W/50th St E	A
	50th St E/120th St E	B
Avenue M-8	70th St W/60th St W	C
	60th St W/53rd St W	B
	53rd St W/30th St W	C
Avenue N	70th St W/60th St W	C
	60th St W/Sierra Hwy	B
	40th St E/120th St E	B
Towncenter Drive	Rancho Vista Bl/30th St W	B
Avenue O	30th St W/Sierra Hwy	B
	90th St E/120th St E	B
Avenue O-8	Rancho Vista Blvd/10th St W	C
	Division St/Sierra Hwy	C
Blackbird Drive	Sierra Hwy/15th St E	C
Rancho Vista Blvd	50th St W/30th St W	B
Rancho Vista Bl (Avenue P)	30th St W/15th St E	B
Avenue P	15th St E/120th St E	B
Bulldog Way (Avenue P-8)	30th St W/Highland St (25th St W)	C
Avenue P-8	Highland St (25th St W)/Summerwind Dr (15th St W)	C
	Sierra Hwy/90th St E	B
Technology Drive	10th St W/Sierra Hwy	B
Avenue Q	Palmdale Blvd/Division St	C
	Division St/90th St E	B
	90th St E/120th St E	C
Avenue P-12	CA Aqueduct/Highland St (25th St W)	C
Elizabeth Lake Rd	Godde Hill Rd/Highland St (25th St W)	B
	Highland St (25th St W)/10th St W	A
Palmdale Blvd	10th St W/Division St	A
	Division St/120th St E	B
City Ranch Rd	Ritter Ranch Rd/Bridge Rd	C
	Bridge Rd/Tierra Subida Ave	C
Rayburn Road	Tierra Subida Ave/Division St	B
Avenue R	Division St/90th St E	B
Avenue R-8	Division St/5th St E	C
	Sierra Hwy/67th St E	C
Ritter Ranch Rd	Elizabeth Lake Rd/Bridge Rd	B

Roadway Link	From/To	Cross-Section ID-See Figure 6.1
Avenue S	Bridge Rd/State Route 14 (SR-14)	K
	State Route 14 (SR-14)/120th St E	B
Avenue S-8	40th St E/Fort Tejon Rd (State Route 138)	C
	62nd St E/70th St E	C
Pearblossom Hwy	Sierra Hwy/Fort Tejon Rd (State Route 138)	A
Avenue T	Fort Tejon Rd (State Route 138)/120th St E	B
Avenue T-8	40th St E/Pearblossom Hwy (State Route 138)	C
Barrel Springs Rd	Tierra Subida Ave/25th St E	C
	Pearblossom Hwy/Cheseboro Rd	C
Old Harold Rd	Barrel Springs Rd/25th St E	C
Pearblossom Hwy (State Route 138)	Ave T/120th St E	A

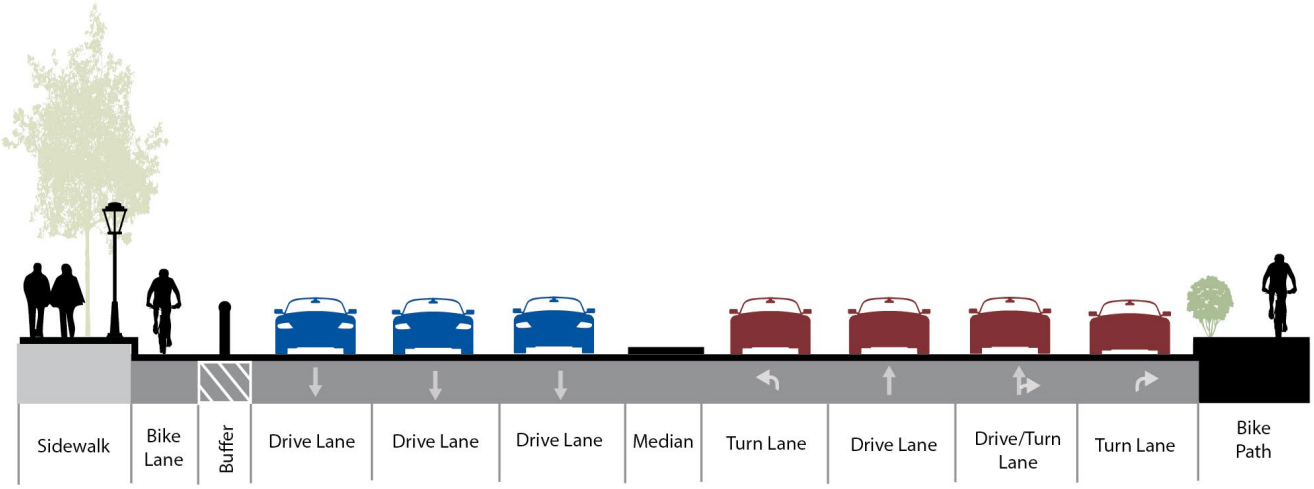
**Where applicable, size, type and location of medians may be determined at the time of development based upon existing and approved development, access control, and circulation needs.*

Regional

Regional streets provide the principal network for regional travel connecting Palmdale to other communities. They have limited commercial frontages and may overlap with existing or planned designated truck routes. These include portions of Sierra Highway, 10th Street West and Pearblossom Highway.

A typical Regional street is 100-136 feet wide, with 95-120 feet curb to curb, which may include a median or center lane as applicable. Some may have sidewalks on one side of the street where there is commercial or industrial frontage, and vacant land on the other. Most existing Regional streets have several wide vehicle lanes in each direction, and several also currently support bicycle facilities, such as Sierra Highway and 10th Street West Bikeways on Regional streets should be designed with maximum separation from vehicles, whether by a physical buffer or grade separation. Intersections with separate or multiple right turn lanes should incorporate dedicated bike phasing, as opposed to reverting to a floating bike lane in between vehicular travel lanes. Wide outside travel lanes can be reconfigured to provide dedicated space for protected bicycle facilities (Class IV) and adjacent vacant land can be used to build Class I bicycle paths to add further separation between people who bike and high-speed, high-volume vehicular and truck traffic. An example cross section for a Regional street is illustrated in Figure 6.3.

Figure 6.3 Typical Cross Section of Regional Street with Bicycle Treatments



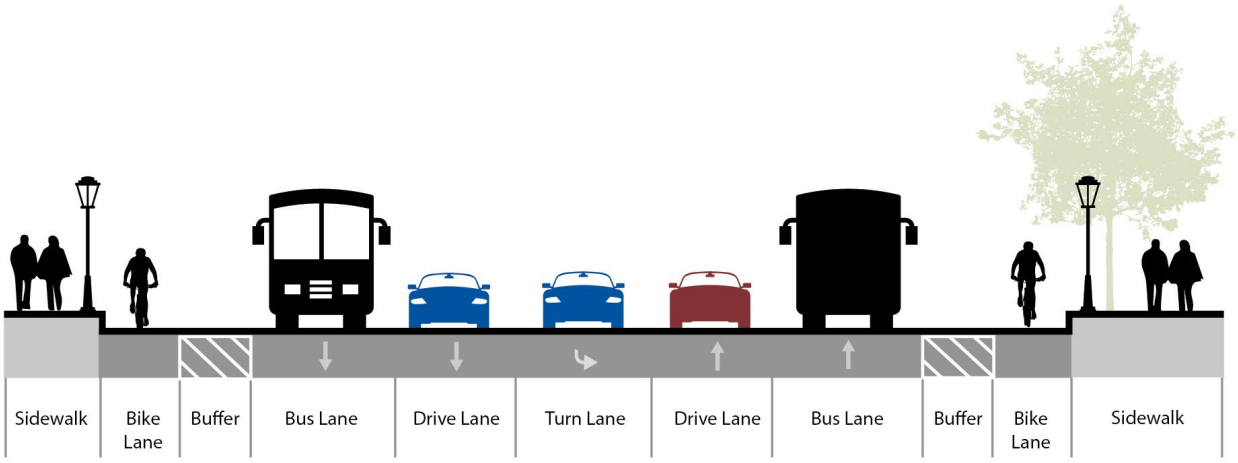
Crosstown

Crosstown streets provide the principal network for citywide travel by all modes, including walking, bicycling, transit, and automobiles. Most commercial land uses in Palmdale are accessed directly via Crosstown streets. Crosstown streets should have a minimum of 8-foot sidewalks to accommodate pedestrian travel and other activities. Additional width is necessary to accommodate the sidewalk furniture zone on commercial corridors to support vibrant commercial use with minimal setback on commercial lots. Bicycle facilities on Crosstown streets should be dedicated bicycle lanes with a buffer. Crosstown streets also make up most of the transit priority corridor network.

A typical Crosstown street is 90 to 114 feet wide, with 88 to 98 feet curb to curb, which may include a median or center lane as applicable and a minimum of 8-foot sidewalks on both sides.

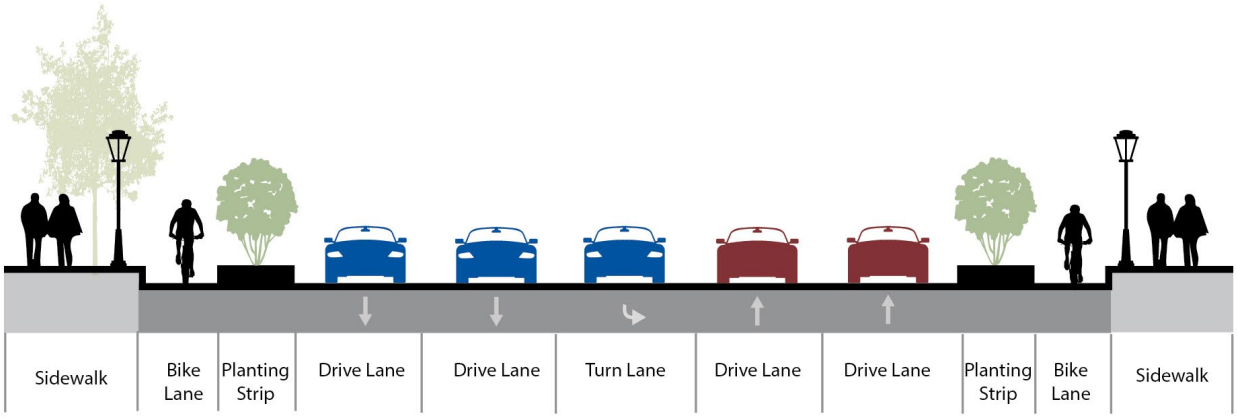
Most existing Crosstown streets have several wide vehicle lanes in each direction and sidewalks on both sides of the street. For Crosstown streets that carry high frequency transit lines and are part of the bicycle network, the existing vehicle lanes should be reallocated to provide dedicated space for other modes. Travel lanes adjacent to bicycle facilities may serve as flexible transit priority lanes, which can accommodate mixed traffic in the near-term, and include treatments like a dedicated transit lane, queue jumps, or updated signal timing to accommodate higher frequency transit and reduce travel time for buses in the future. Bus bulbs with boarding islands can be installed between the bike lane and transit priority/mixed traffic lane on corridors with bicycle facilities. An example cross section for a Crosstown street is illustrated in Figure 6.4.

Figure 6.4 Typical Cross Section of Crosstown Street with Flexible Transit Priority Treatments



Some Crosstown streets, such as 40th Street East, do not carry high-frequency transit and have a different existing lane configuration. For these streets that are part of the bicycle network and do not require dedicated transit lanes, the existing right-of-way should be reallocated to include protected bicycle lanes, wider sidewalks, and landscaped buffers to improve the pedestrian environment. An example cross section for a Crosstown street without transit is illustrated Figure 6.5.

Figure 6.5 Typical Cross Section of Crosstown Street without Transit with Bicycle Treatments



Palmdale Boulevard is a unique Crosstown street because it functions as the primary commercial corridor through Palmdale and carries all modes and is currently part of Caltrans right-of-way. Its curb-to-curb dimensions are similar to other Crosstown streets with transit service as illustrated in Figure 6.4, and the same multimodal facilities and street geometry should be part of the Palmdale Boulevard cross section. Compared to other Crosstown streets, Palmdale Boulevard already features wider sidewalks, which are essential to the pedestrian activity and spatial needs on a vibrant commercial corridor, and foster walkability and comfortable transit access. Pedestrian and bicycle modes should be accommodated along with additional pedestrian improvements at intersections and flexible transit lanes to promote a vibrant main street environment while continuing to accommodate vehicle traffic operations within Palmdale's commercial core. The width of Palmdale Boulevard varies, and design details will need to be customized at specific locations.

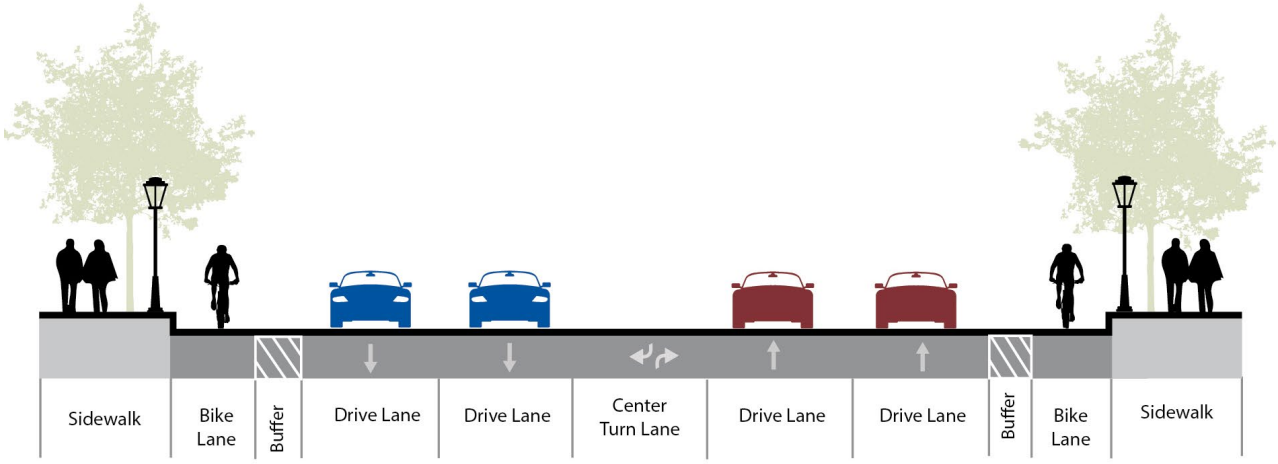
The recommended cross sections and widths illustrated above appropriately address multimodal needs on Crosstown streets and can be adjusted to fit within the range of total right-of-way on the existing built out roadway network. Future Crosstown streets that are built with previously identified maximum right-of-way widths should allocate the additional space to sidewalks, landscaped buffers, and protected bicycle facilities.

Connector

Connector streets provide connections for all modes of travel between neighborhoods and activity centers and provide direct access to land uses while linking Crosstown and Neighborhood streets. Connector streets tend to have fewer driveways, higher speed limits, and more signalized intersections than Neighborhood streets. Connector streets are also an essential component of the citywide bicycle network.

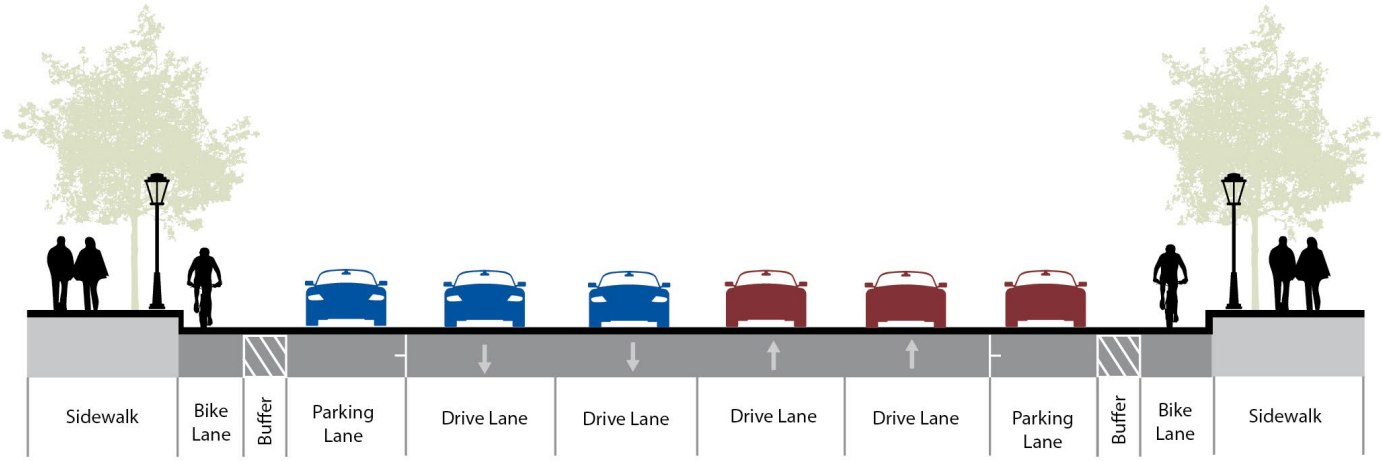
A typical Connector street in Palmdale is 66 to 94 feet, with 46 to 76 feet curb to curb, median or center lane as applicable and sidewalks on both sides of the street. All Connector streets should include buffered bike lanes on both sides of the street, and the existing outside vehicle lanes should be reallocated to provide dedicated bicycle lanes. An example recommended cross section for a Connector street is illustrated in Figure 6.6.

Figure 6.6 Typical Cross Section of Connector Street with Bicycle Treatments



The recommended cross sections and widths illustrated above appropriately address multimodal needs on Connector streets and can be adjusted to fit within the range of total right-of-way on the existing built out roadway network. Future Connector streets that are built with previously identified maximum right-of-way widths should keep the total width of vehicle travel lanes consistent with the illustration above and allocate the additional space to sidewalks, landscaped buffers, and protected bicycle facilities. These maximum width streets may accommodate on-street parking and parking-buffered bicycle lanes on both sides of the street. An example maximum width cross section with these elements is illustrated in Figure 6.7.

Figure 6.7 Typical Maximum Width Cross Section of Connector Street with Parking-Buffered Bicycle Lanes

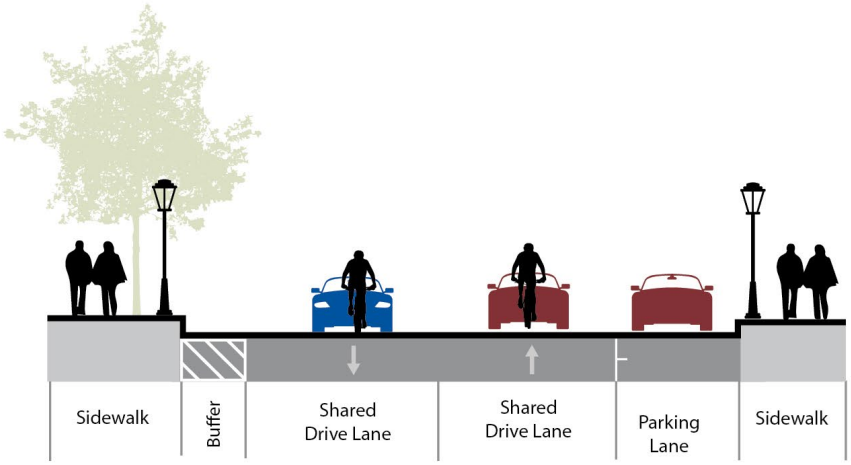


Neighborhood

Neighborhood streets are found mostly in residential neighborhoods and provide access to adjacent land uses, typically housing. Neighborhood streets should be designed to accommodate automobiles traveling at lower speeds. Traffic calming elements such as bulb outs, alternating chicanes, landscaping, and on-street residential parking should be incorporated. These streets prioritize pedestrians traveling on sidewalks. Bicycle facilities on neighborhood streets may include shared travel lanes, which are described in more detail in the Modal Networks section below.

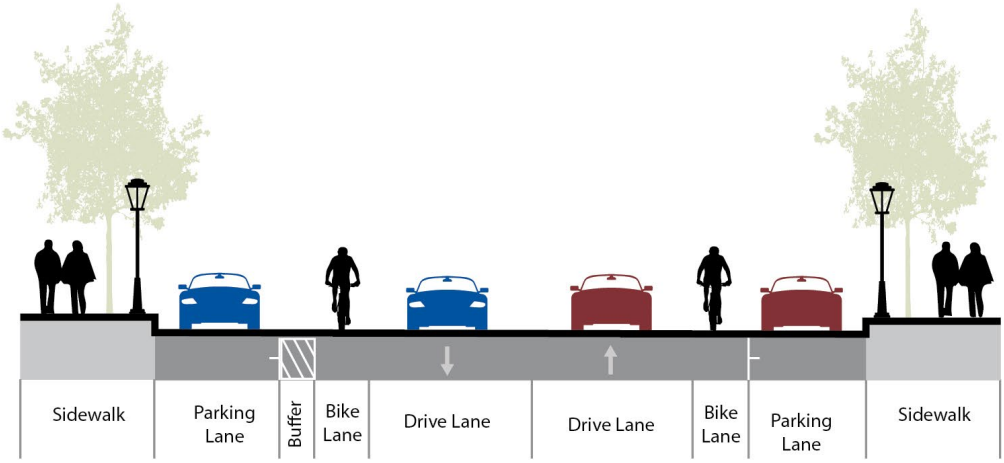
A typical Neighborhood street is 30 to 64 feet wide, with 30 to 40 feet curb to curb and a 12 foot strip that includes a sidewalk and landscaping on both sides, with the exception of alleys. Most Neighborhood streets have two wide vehicle lanes that can accommodate informal on-street parking lanes. Existing Neighborhood streets present an opportunity to expand the citywide bicycle network with bicycle boulevards that include traffic calming elements, such as a chicane on one side and on-street parking on the other side. An example cross section for a short residential Neighborhood street is illustrated in Figure 6.8. This configuration accommodates residential parking, and traffic calming elements to mitigate high speed cut through traffic.

Figure 6.8 Typical Cross Section of Neighborhood Street with Traffic Calming Elements



The recommended cross sections and widths illustrated above appropriately address multimodal needs on Neighborhood streets and can be adjusted to fit within the range of total right-of-way on the existing built out roadway network. Future Neighborhood streets that are built with previously identified maximum right-of-way widths should keep the total width of vehicle travel lanes consistent with the illustrations above and allocate the additional space to wider sidewalks, landscaping, and buffered bicycle facilities to support active modes. These maximum street widths may accommodate on-street parking and dedicated bicycle lanes on both sides of the street. An example maximum width cross section with these elements is illustrated in Figure 6.9.

Figure 6.9 Maximum Width Cross Section of Typical Neighborhood Street with On-Street Parking and Dedicated Bicycle Lanes



Modal Networks

Pedestrian Facilities

A well-connected and comfortable pedestrian network enhances access for all travelers. When designed to accommodate all ages and abilities, it can help to increase walking as a means of transportation. Though no spatial data is available to provide a comprehensive assessment of pedestrian facilities, spatial imagery of existing conditions shows sidewalk coverage varies between neighborhoods. Complete sidewalk networks are more commonly found in residential neighborhoods south of the city's central core and northeast of the California Aqueduct compared to residential areas north of Palmdale Boulevard. These variations were likely the result of independent guidelines applied by housing developers. Along major thoroughfares, gaps in the sidewalk network are primarily adjacent to undeveloped land, suggesting the need to prioritize infill development.

Expansion of the sidewalk network will coincide with future development and changes in land use. In addition to closing gaps, adding more signalized intersections and midblock crossings along major thoroughfares can help to create more crossing opportunities, reduce the distance between crossings, and improve pedestrian circulation. Planting street trees to calm traffic and provide shade and protection from the Antelope Valley's hot weather also creates a more comfortable experience for the most vulnerable pedestrians, namely seniors, youth, and people with disabilities.

Bicycle Facilities

A comprehensive, safe, and well-connected bicycle network can help to encourage more local trips by bike and reduce the mode share of vehicle trips. When well designed, it can also encourage people to use active modes to get to where they need to go, contribute to healthier ways of living, reduce traffic, and reduce the need for more costly roadway improvement projects. The sections below describe the different classifications of bicycle facilities that make up a complete bicycle network, each of which provide a different level of separation and protection from vehicle traffic. Figure 6.10 describes and illustrates the four facility classifications, presented in order from most protected and separated from vehicles to least protected.


Pedestrian-Friendly Sidewalk with Street Trees

Figure 6.10 Bicycle Facility Classifications

California Highway Design Manual 2015
Source: Nelson\Nygaard

Additional detail about each facility classification is presented below and on the following pages, and the existing and planned network for Palmdale is illustrated in Figure 6.11.

Multi-Use Paths (Class I)

Class I bikeways are multi-use bicycle paths or paved trails that provide separate, exclusive right-of-way for bicycling, walking, and other non-motorized uses. Class I separated paths should be placed along routes that have few driveways and intersections and be properly separated from the roadway with few vehicle crossing points. Multi-use paths are the lowest stress facilities as they are physically separated from motor vehicle traffic. One example of an existing Class I bicycle facility in Palmdale is on Sierra Highway between Columbia Way/Avenue M and Technology Drive.


Class I Bike Lane in Palmdale

Bicycle Lane (Class II)

Class II bicycle lanes are striped, preferential on-street bicycle lanes for one-way bicycle travel. Some bicycle lanes include striped buffers that add a few feet of separation between the bicycle lane and traffic lane or parking aisle. These facilities are important for the overall bikeway network because they provide a designated space for riders along the roadway. One example of an existing Class II bicycle facility in Palmdale is on 5th Street East between Avenue R and Avenue S.

Rendering of Class II Bike Lane

Bicycle Route/Sharrow (Class III)

Class III bicycle routes, often marked with sharrows, are signed routes where people riding bicycles share a travel lane with people driving. Because they are mixed-flow facilities, Class III bicycle routes are only appropriate on low-volume streets with slow travel speeds. Class III facilities may be configured with just shared-lane markings to reinforce the legitimacy of bicycle traffic on the street or as "bicycle boulevards" where roads are augmented with traffic calming measures such as bulb outs and chicanes to slow traffic.

Example of Class III Sharrow Being Installed[5]

Separated Bikeway (Class IV)

Class IV separated bikeways, also known as cycle tracks, are on-street facilities that are physically separated from motor vehicle traffic with vertical barriers, such as bollards, landscaping, raised medians, or parking aisles. Separated bikeways provide extra separation between people riding bicycles and moving vehicles. Separated bikeways are recommended on high-volume, high-speed roadways. Palmdale currently does not have Class IV bicycle routes.

Example of Class IV Bike Lane in San Diego[7]

People Riding Bikes

6. "Bike Lanes" by Bike East Bay, licensed under CC BY 2.0
7. "Bike Lane on 4th Ave" by RL0919 licensed under CC BY-SA 4.0

Proposed Bicycle Network

Most proposed bicycle facilities are recommended on Crosstown streets, like Avenue R and Avenue S, to provide people on bicycles with easy connectivity to community destinations. Crosstown streets see some of the highest speed limits within Palmdale, so it will be necessary for bicycle facilities to be designed beyond the minimum standard for Class II bicycle lanes. Like Regional streets, Crosstown streets are also adjacent to residential and commercial land uses, and where many severe and fatal bicycle- and pedestrian-involved collisions have occurred in the past. Improvements may include updated signal timing to prioritize people biking, striped lanes, buffers, and vertically separated facilities are critical to support a safe and inviting environment for bicyclists.

Bicycle facilities on Regional Streets, which in some cases overlap with designated truck routes as seen on Sierra Highway and 47th Street East, must be designed with maximum separation from vehicles as these are higher-volume, high-speed streets, and Class I or Class IV facilities are most appropriate on these streets. This can be achieved with physical buffers or grade separation. In some cases, dirt paths abutting vacant land along streets like 10th Street West can be upgraded to support Class I paths.

Bicycle facilities are also recommended on all Connector streets, such as 25th Street East and Avenue R-8, to connect residential neighborhoods with local activity centers found on Crosstown and Regional streets. Where existing right-of-way allows, facilities on Connector streets should be buffered bicycle lanes or standard Class II bicycle lanes. Sharrows should be reserved only for low-volume, low-speed roadways and are most appropriate on Neighborhood streets with traffic calming treatments.

Example of Class IV Bike Lane in New Orleans[8]

Class I Bike Lane in Palmdale

8. "Protected Bike Lane" by Bart Everson, licensed under CC BY 2.0

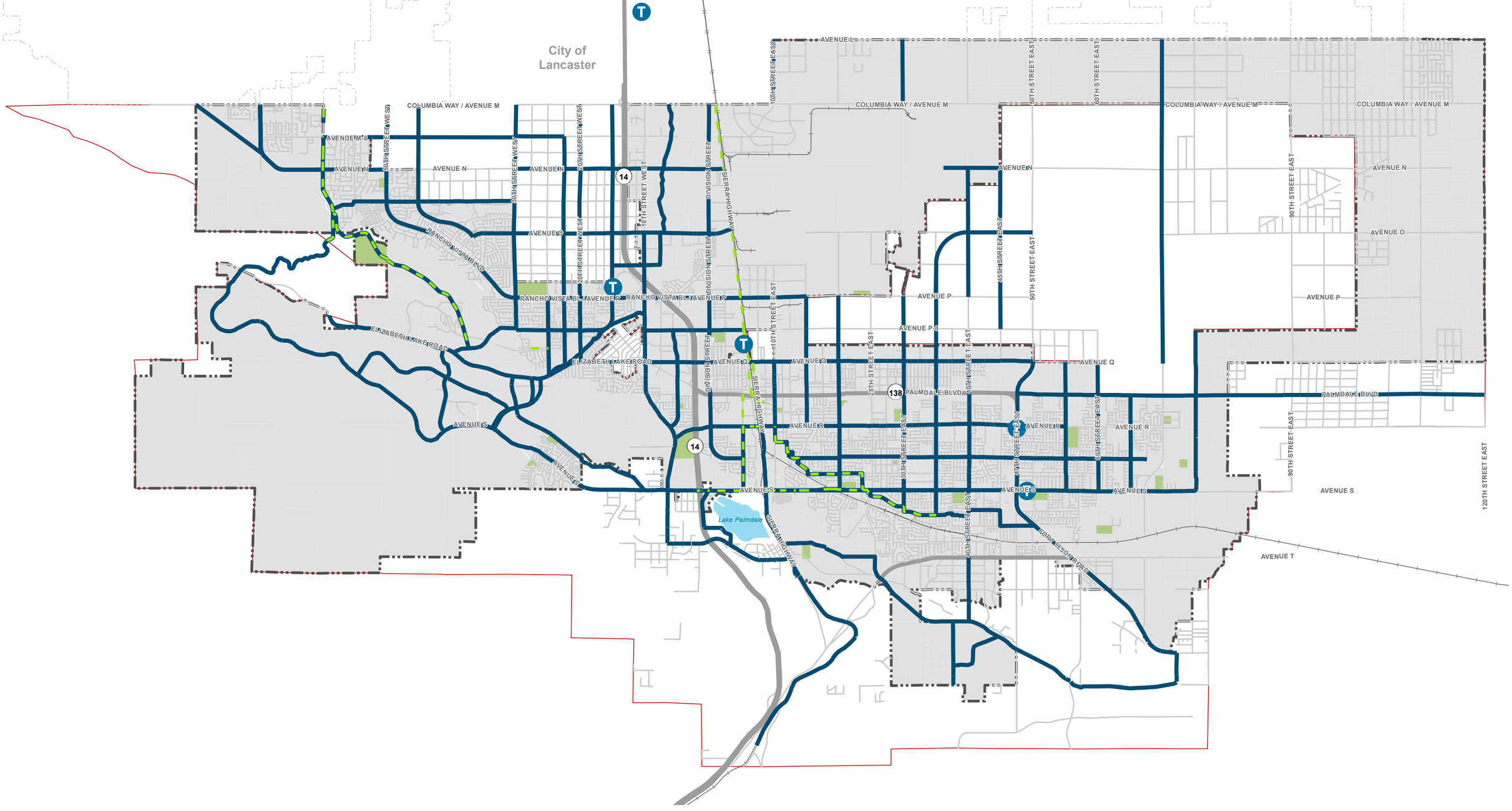


Figure 6.11

Existing and Planned Bicycle Network Map

- City Boundary
- Sphere of Influence
- Major Arterials
- Major Highway/Arterial
- Railroad
- Transit Center
- California Aqueduct
- Water Body
- Park
- Existing Bikeways
- Proposed Bikeways

0 0.75 1.5 2.25 3 Miles

0 3,000 6,000 Feet

Data Sources: City of Palmdale GIS data; World Terrain Base, 2015 ESRI, USGS, NOAA.

Produced by Nelson\Nygaard
March 2019

City of Lancaster

COLUMBIA WAY / AVENUE M

AVENUE M-8

AVENUE N

AVENUE O

AVENUE P

AVENUE P-8

AVENUE Q

AVENUE R

AVENUE S

AVENUE T

RANCHO VISTA BLVD

RANCHO VISTA BL / AVENUE P

ELIZABETH LAKE ROAD

PALMDALE BLVD

FORT TEJON ROAD

Lake Palmdale

60TH STREET WEST

50TH STREET WEST

40TH STREET WEST

30TH STREET WEST

20TH STREET WEST

10TH STREET WEST

10TH STREET EAST

20TH STREET EAST

30TH STREET EAST

40TH STREET EAST

45TH STREET EAST

47TH STREET EAST

50TH STREET EAST

60TH STREET EAST

90TH STREET EAST

120TH STREET EAST

DIVISION STREET

SIERRA HIGHWAY

14

138

Figure 6.12

Existing and Planned Transit Network Map

- City Boundary
- Sphere of Influence
- Major Arterials
- Major Highway/Arterial
- Railroad
- Transit Center
- California Aqueduct
- Water Body
- Park
- Proposed High Frequency Transit Corridors
- Existing Lower Frequency AVTA Routes (>30 min)
- Existing AVTA Microtransit Ride Service Area

0 0.75 1.5 2.25 3 Miles

0 3,000 6,000 Feet

Data Sources: City of Palmdale GIS data; World Terrain Base, 2015 ESRI, USGS, NOAA.

Produced by Nelson\Nygaard
March 2019

Transit Service

Public transit plays an increasingly important role in the transportation network in Palmdale. Future improvements to the transit network build from existing higher-frequency transit routes. Proposed improvements also align with expected changes in land use and increased investment in local transit centers, rail stations, transit-oriented development (TOD) priority areas, and regional high-capacity transit.

Palmdale Transportation Center

Existing AVTA transit routes and the planned priority transit network are illustrated on Figure 6.12. These include lower frequency transit routes and proposed high frequency transit corridors, which are primarily located on Crosstown streets and currently support higher frequency transit service (30-minute headways or less). Proposed high frequency transit corridors are concentrated in the city's core to emphasize the need for targeted investments for local-serving transit. It includes streets abutting future commercial and residential developments where demand for high frequency transit service is expected—these include streets like Avenue Q west of 10th Street East, Avenue R, Avenue S and 40th Street East.

AVTA Bus

Improvements should increase the frequency of existing service and extend frequent service where feasible. Improvements may include the installation of transit priority lanes, transit signal priority and queue jumps, enhanced transit stop amenities and station area improvements, or other transit speed and reliability treatments. Some segments are not currently served by AVTA but are extensions of corridors with transit service. The City should work with AVTA to adjust and increase service on these corridors to align with future development.

Transit agencies are leveraging the technology of ride-hailing platforms to provide on-demand transit services known as microtransit. Microtransit has the potential to fill gaps in existing transit networks by creating dynamic and flexible on-demand service to accommodate passengers taking short trips. Transit agencies often integrate microtransit services within the existing fixed-route network where rail or traditional fixed-route service may not be efficient to allow passengers to seamlessly transfer between various mobility services. Riders can use a mobile app or website to schedule and pay for trips.

Passenger Boarding AVTA Micro Transit Service

Launched in September 2020, AVTA's On-Request Microtransit Ride Service Pilot Program offers an on-request ride service that connects passengers to and from the rural communities of Lake Los Angeles, Pearblossom, Littlerock, and Sun Village with the rest of AVTA's local transit system. Fares for this service are the same as AVTA's local transit system. Microtransit ridership gradually increased between September 2020 to June 2021 during the pilot. Where feasible, supplementary on-demand transit services may be considered to better connect neighborhoods on the eastern and western fringes of the city to the larger AVTA system.

Truck

The Mobility Element identifies designated truck routes to accommodate the regional circulation needs of large trucks, while discouraging truck travel through residential areas, and avoiding cut through traffic by trucks passing Palmdale. The designated truck route network is illustrated in Figure 6.13. Restrictions on truck access would not apply to small delivery vehicles. Should the City need to adjust, add, or remove a designated truck route to accommodate future land use changes, the California Vehicle Code provides a legal framework to establish, enforce, and revise truck routes within local jurisdictions. It also grants authority to cities to prohibit trucks on other streets through ordinance or within a General Plan update. Where feasible, local commercial deliveries should be encouraged to take the shortest route possible from a designated truck route and utilize off-peak travel hours.

Vehicles that weigh more than the 10,000-pound threshold must use the following truck routes:

- 10th Street West from Rancho Vista Blvd / Avenue P to Columbia Way (Avenue M)
- Sierra Highway from SR-14 to Columbia Way (Avenue M)
- 50th Street East from Palmdale Boulevard to Avenue L
- Columbia Way (Avenue M) from 70th St West to 90th Street East
- Rancho Vista Blvd / Avenue P from 10th Street West to 90th Street East
- City Ranch Road, Rayburn Road, and Avenue R from the Palmdale Landfill to Sierra Highway
- Avenue S from Tierra Subida Avenue to Sierra Highway
- Pearblossom Highway from Sierra Highway to Fort Tejon Road (State Route 138)
- Avenue T from Fort Tejon Road (State Route 138) to 90th Street East
- Palmdale Boulevard from SR-14 to 90th Street East
- SR-14 through city limits
- Tierra Subida Avenue from Avenue S to Rayburn Road
- Fort Tejon Road (State Route 138) from 75th Street East to 47th Street East
- 47th Street East (State Route 138) from Fort Tejon Road to Palmdale Blvd
- 90th Street East from Avenue T to Avenue L

Commercial vehicles can still use local streets when making deliveries or picking up goods from local businesses. Restrictions on truck access do not apply to small delivery vehicles.

Example Cargo Truck in Empty Lot

Performance Standards

Since adoption of the previous General Plan, Senate Bill 743 (SB 743), has shifted focus of transportation analysis under the California Environmental Quality Act (CEQA) statewide from level of service (LOS), as measured by roadway capacity and vehicle delay, to vehicle miles traveled (VMT). VMT provides an estimate of the amount and distance driven by vehicle to reach a destination.

SB 743 calls for the City of Palmdale to establish VMT-based thresholds of significance for CEQA analysis, which may be defined in transportation analysis guidelines. SB 743 does not preclude using LOS for local traffic operations analysis, but LOS may no longer be used as a metric for evaluating a project's potential transportation impacts under CEQA. Local transportation analysis guidelines can define development review requirements and transportation analysis to support planned growth and address traffic operations needs while prioritizing safety and comfort for people walking, biking, and taking transit. These guidelines may identify different expectations for intersection delays and corridor travel times within areas that include mixed-use and commercial development, and on corridors that are part of the LA County Congestion Management Program (CMP) network.

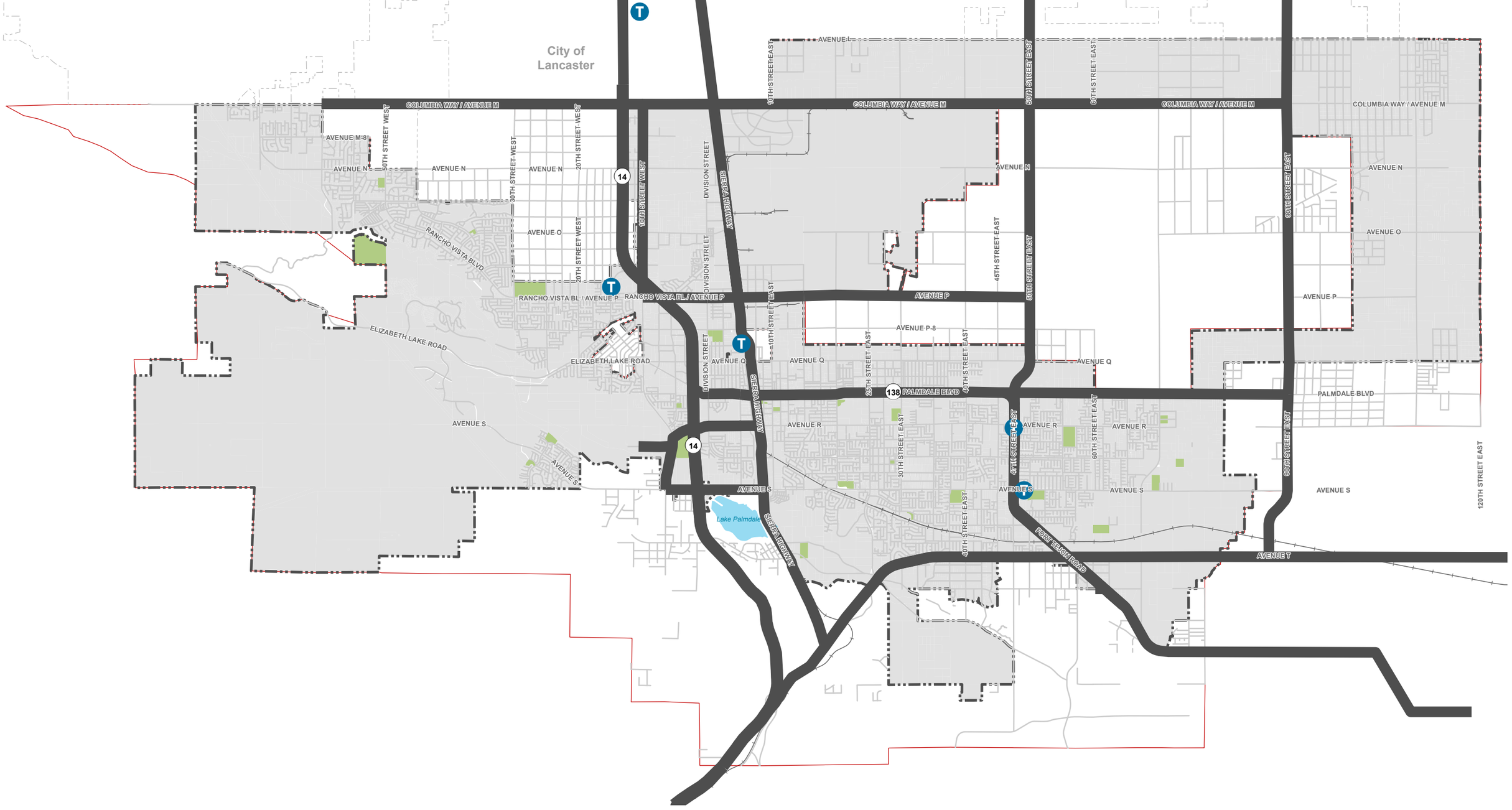


Figure 6.13

Designated Truck Route Network

- City Boundary
- Sphere of Influence
- Major Arterials
- Major Highway/Arterial
- Railroad
- Transit Center
- California Aqueduct
- Water Body
- Park
- Truck Routes

0 0.75 1.5 2.25 3 Miles

0 3,100 6,200 Feet

Data Sources: City of Palmdale GIS data; World Terrain Base, 2015 ESRI, USGS, NOAA.

Produced by Nelson\Nygaard
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Desired Outcomes, Indicators, and Targets

The following desired outcomes and metrics were identified to help the City of Palmdale track progress toward creating a safer and more accessible transportation system. This process follows the City of Palmdale's General Plan Vision and Guiding Principles document which was informed by the General Plan Advisory Committee (GPAC), the Planning Commission and City Council.

Top Key Outcomes

OUTCOME: Reduce severe injuries and fatal collisions on the City's roadway network

KPI's:
- Annual severe injuries and fatalities for people walking, riding bikes, and in vehicles using Statewide Integrated Traffic Records System (SWITRS)
- Number of intersections and number of miles of the future high injury network that are redesigned to improve safety

TARGET:
- **Downward trend of severe injuries and fatal collisions**

OUTCOME: Reduce vehicle miles traveled (VMT) per capita and per employee

KPI's:
- Percentage decrease in VMT per capita

TARGETS:

- **Decrease average distance or frequency of home-based drive-alone trips**

KPI:
- Percentage decrease in VMT per employee

TARGET:
- **Decrease average distance or frequency of commute and work-based drive-alone trips**

OUTCOME: More equitable and reliable access to public amenities, services, and opportunities

KPI:
- Percentage of residents within a 20-minute walk/or bike ride of a park, recreation center, or multi-use trail

TARGET:
- **Upward trend of residents with access to parks and recreation without a vehicle**

KPI's:
- Percentage of residents within a 15-minute transit ride of a grocery store
- Percentage of residents within a 15-minute transit ride of essential social services

TARGET:
- **Upward trend of residents with access to neighborhood commercial areas without a vehicle**

KPI:
- Percentage of K-12 and College students who walk, ride, or roll to school

TARGET:
- **Upward trend of students with active transportation access to school**

OUTCOME: Increase share of trips in the city made by walking, biking, transit, and shared rides

KPI's:
- Average daily transit boardings

TARGETS:

- **Upward trend in average daily transit ridership**

KPI:
- Percentage of people who walk, ride, or roll to school or work

TARGET:
- **Upward trend in active transportation trips**

KPI:
- Percentage of commuters who drive alone

TARGET:
- **Downward trend in drive-alone commute mode share**

OUTCOME: Increase quality of life and economic competitiveness

KPI's:
- Average commute time

TARGET:

- **Downward trend in average commute time**

KPI:
- Percent reduction in GHG emissions

TARGET:
- **Upward trend in local Air Quality Index**

Goals and Policies

The following section includes goals and policies for the Circulation and Mobility Element. Goals and policies are followed by implementation actions. Policies related to circulation and mobility are woven throughout the General Plan, including in the Land Use and Community Design Element, Equitable and Healthy Communities Element, and Public Facilities, Services, and Infrastructure Element, among others.

CIRCULATION AND MOBILITY

Goal CM-1

Build and maintain a transportation system that is safe and comfortable for travelers of all modes regardless of age or ability.

CM-1.1 Roadway design. Design and maintain the public right-of-way through a complete streets approach that facilitates safe, comfortable, and efficient travel for all roadway users.

CM-1.2 Modal conflicts. Use a systemic safety approach to proactively identify opportunities to improve safety where conflicts between users exist.

CM-1.3 Network gaps. Identify and program mitigation measures for gaps and deficiencies in the transportation system to accommodate each major transportation mode.

CM-1.4 Speed management. Include speed reducing elements along local and connector roadways and within all new private development projects.

CM-1.5 Railroad crossings. Implement grade separation at railroad crossings where feasible.

Goal CM-2
Build and maintain a transportation system that accommodates future growth and maintains transportation networks for all modes.

CM-2.1 Roadway classification. Classify streets based on their modal purpose and land use context.

CM-2.2 Multimodal travel. Prioritize safety, operations, and comfort for active and transit modes on streets that have been identified as part of the multimodal network.

CM-2.3 Intersection Design. Prioritize safety and mobility for non-motorized modes in all intersection designs.

CM-2.4 Network connectivity. Prioritize multimodal infrastructure that connects existing development with future infill development areas (i.e., gap closure projects).

CM-2.5 Multimodal comfort. Prioritize quality of multimodal facilities with respect to a user's experience of stress, connectivity, and safety for streets with a non-automobile priority, and ensure the appropriate balance with vehicular operations.

CM-2.6 Managing truck travel. Review the truck route network periodically and update as necessary to minimize impacts on residential neighborhoods while accommodating needs of commercial/industrial uses.

CM-2.7 Travel demand forecasting. Develop and maintain a traffic demand model based upon the designated network, using existing and projected levels to inform land use decisions.

CM-2.8 Growth management. Ensure that the cumulative and regional impacts of new development on the circulation system are mitigated to the extent feasible, concurrent with development. Concurrent shall mean that required facilities are installed as needed during various stages of development.

Goal CM-3

Build and maintain a transportation system that provides affordable, equitable, and efficient access to employment centers and essential services.

CM-3.1 Transit reliability. Make public transit a convenient and reliable option for daily trip making on a local and regional basis.

CM-3.2 Transit access. Encourage investments and Capital Projects that reduce first/last-mile barriers to transit stops.

CM-3.3 Access to employment. Encourage investments and Capital Projects that improve the safety and multimodal options for access to high quality jobs.

CM-3.4 Transit coordination. Work with AVTA to enhance the deployment of fixed-route and flex-route transit services, including increased frequency and service spans.

CM-3.5 Regional rail. Work with Metrolink to increase the frequency of on-peak services and later service hours.

CM-3.6 Transit information. Work with transit providers to improve the delivery of transit service availability and real-time information in an easy, dependable, and accessible means.

CM-3.7 Commute trip reduction. Work with large employers to implement programs that expand access to non-drive alone commute options for all commuters, including hourly staff and contract workers.

CM-3.8 Multimodal Station. Maximize access to downtown via transit and other modes through the Palmdale Transportation Center and future relocation to accommodate a station for high-speed rail.

Goal CM-4

Build and maintain a transportation system that enhances quality of life and public health.

CM-4.1 Access to essential services. Prioritize investments that improve access to healthcare and social services.

CM-4.2 Access to healthy foods. Improve mobility in neighborhoods with limited access to healthy food sources.

CM-4.3 Access to parks and open space. Prioritize investments that expand access to Palmdale's parks and trails and support physical activity.

CM-4.4 Neighborhood streets. Create neighborhood streets that unify neighborhoods, reduce vehicle speeds, reduce barriers for people walking, biking, and riding transit, and provide connectivity to connector and regional routes.

CM-4.5 Active friendly design. Design multimodal facilities to a standard that will increase physical activity.

CM-4.6 Lighting. Provide human scale lighting along pedestrian thoroughfares, in commercial districts, on trails, and at transit stops.

Goal CM-5

Build and maintain a transportation system that fosters a more active and vibrant downtown.

CM-5.1 Public space. Encourage wider sidewalks and plazas on downtown streets to enhance placemaking, improve public safety, and support local businesses.

CM-5.2 Parking supply. Promote and support creative and flexible approaches to parking, including maximizing use of existing public supply and sharing between uses to create a "park once environment."

CM-5.3 Walkability. Enhance the safety and comfort of existing pedestrian street crossings and reduce the distance between crossings.

CM-5.4 Streetscaping. Implement streetscape design that improves the pedestrian environment and appearance of downtown corridors.

CM-5.5 Secure bicycle parking. Install secure short- and long-term bicycle parking near key destinations, civic buildings, and transit facilities.

CM-5.6 Reduced parking minimums. Study reducing minimum on-site parking requirements for new development in districts of the City that can support shared parking between land uses and achieve parking demand reductions through transit and multimodal improvements.

CM-5.7 Compact development. Encourage the development of a healthy mix of land uses within proximity to promote internal capture, shared-parking, and de-emphasize the need for single-occupant vehicular travel.

CM-5.8 Context sensitive development. Balance development intensity and roadway capacity.

Goal CM-6

Build and maintain a transportation system that leverages the City's natural setting and reduces impacts to the environment.

CM-6.1 Vehicle miles traveled. Prioritize transportation investments and strategies that create opportunities for residents to reduce Vehicle Miles Traveled.

CM-6.2 Multimodal development. Encourage the development of dense, mixed-use, pedestrian-oriented land uses that link affordable housing options to daily needs.

CM-6.3 Transportation demand management. Promote trip reduction strategies, including telecommuting, through land-use decisions and TDM programming strategies.

CM-6.4 Commute trip reduction. Require TDM Plans for major employers, as defined by the Air Quality Management District.

CM-6.5 Landscaping. Incorporate appropriate landscaping elements as part of roadway projects.

Goal CM-7

Proactively prepare for the future, ensuring that implementation of transportation innovations and regional projects align with the City's vision.

CM-7.1 Emerging mobility. Support new and emerging mobility innovations that are focused on improving equitable distribution of mobility services.

CM-7.2 New roadway standards. Develop roadway standards that allow for emerging technologies and practices in the transportation industry to be incorporated in the future with minimal conflict.

CM-7.3 Interagency coordination. Coordinate with regional and State agencies to best leverage future roadway, rail, and aviation projects and funding opportunities for the benefit of Palmdale residents and businesses.

CM-7.4 Mobility partnerships. Seek strategic partnerships to pilot shared and emerging mobility options that meet the needs of Palmdale residents, workers, and visitors.

CM-7.5 Curb management. Identify the highest and best use of curb space and repurpose as appropriate (i.e., on-street parking, pick-up, drop-off zones, outdoor dining, etc.).

CM-7.6 Futureproofing. Consider how new projects will accommodate emerging technologies like autonomous and connected vehicles.

CM-7.7 High-speed rail. Consider the location of a future California High Speed Rail station and right-of-way in long term planning efforts and investment prioritization.

CM-7.8 Local coordination. Coordinate with neighboring jurisdictions to enhance integration of mobility networks.

Goal CM-8

Maintain the purpose and need of the essential functions of the City's transportation system.

CM-8.1 Capital improvements. Improve the existing street network based upon Figure 6.2, through implementation of the Capital Improvement Program and through requirements placed upon new development approvals.

CM-8.2 Preservation. Implement mobility network illustrated in Figure 6.2 to protect existing neighborhoods and/or significant environmental resources, wherever feasible.

CM-8.3 Right-of-way. Ensure that right-of-way is reserved wherever possible to implement the mobility network illustrated inFigure 6.2.

CM-8.4 Private streets. Adopt standards for use of private streets and require assurance of long-term maintenance for all private streets constructed within the city.

CM-8.5 Residential development. Require residential developments to contribute toward City programs to reduce vehicle trips.

Implementation Actions

The table below identifies programs, policy updates, planning efforts, coordination efforts, and other actions that will help implement the General Plan's vision and policies. Programs are consistent with this chapter's goals and policies.

The table provides a description of each Implementation Action and lists the correlating policies. Each action also identifies a timeframe for implementation with Short-term representing a 1–3-year timeframe, Medium-term is 4-7 years, Long-term is 8+ years and Ongoing represents an action that the City should continue. Additionally, the table includes the City department that should function as the lead for implementing the actions.

Correlating Goals	Description	Timeframe	Responsible Department
CM-1, CM-2, CM- 4	**Complete Streets Plan.** Revise the Draft Complete Streets Plan to be consistent with General Plan direction for adoption.	\	Economic and Community Development and Public Works
CM-1	**Bicycle Plan.** Revise the Draft Palmdale Bicycle Transportation Plan to be consistent with General Plan direction for adoption.	\	Economic and Community Development and Public Works
CM-1, CM-2, CM-4, CM-6, CM-7	**Complete Street Design Guidelines.** Develop street design guidelines to ensure that appropriate street types and design elements are implemented.	\	Economic and Community Development and Public Works
CM-1, CM-2, CM-4	**Safe Routes Plan.** Revise the Safe Routes to School Plan to be consistent with General Plan direction and provide additional strategies for safe and comfortable access of vulnerable travelers including consideration of Seniors in collaboration with relevant advocacy and expert groups.	\\	Economic and Community Development and Public Works
CM-1, CM-2, CM-5	**Vision Zero Policy.** Develop and adopt a Vision Zero policy and action plan that seeks to eliminate traffic fatalities and severe injuries across the transportation network.	\\	Economic and Community Development and Public Works
CM-1, CM-2, CM- 5	**Local Road Safety Plan.** Complete and regularly update a Local Road Safety Plan (LRSP) that identifies a High Injury Network (HIN) and location-specific improvements.	\\\\	Economic and Community Development and Public Works

Correlating Goals	Description	Timeframe	Responsible Department
CM-1	**Safe Rail Crossings.** Work with Union Pacific Railroad to increase surface street access across the railroad tracks while minimizing impacts on rail service.		Public Works and Union Pacific Railroad
CM-2, CM-6,	**TDM Program.** Establish a Travel Demand Management Program to identify programmatic and infrastructure solutions for traffic operations to balance vehicle delay and efficient travel via other modes.		Public Works
CM-2, CM-5, CM- 8	**Local transportation analysis guidelines for development.** Establish development review guidelines that define transportation analysis and site design requirements to address multimodal access needs, connections to the surrounding street and mobility network, and right-sizes the roadway to the context of the development and its surroundings. Local transportation analysis guidelines can address traffic operations and multimodal access questions outside of the environmental review process.		Economic and Community Development and Public Works
CM-2, CM-3, CM-6, CM-8	**Transportation management for large developments.** Establish transportation analysis guidelines, access management guidelines, and a local mobility impact mitigation program for large developments to construct or fund multimodal improvements, implement congestion management strategies, or contribute to ITS projects in correlation with traffic impact analysis. Transportation management guidelines and programs may be defined within the local transportation guidelines.		Economic and Community Development and Public Works
CM-2, CM-6, CM-8	**VMT-based transportation analysis policy and mitigations for environmental review.** Establish and adopt local thresholds of significance for transportation analysis within environmental review and develop a mitigation program to support an overall decrease in VMT. The VMT-based thresholds of significance and mitigations may be defined within the local transportation guidelines.		Economic and Community Development and Public Works
CM-1, CM-4, CM-5	**Neighborhood speed management.** Create and implement a neighborhood speed management program that deploys traffic calming measures that allow for human activation of residential streets		Economic and Community Development and Public Works

Correlating Goals	Description	Timeframe	Responsible Department
CM-5	**Al Fresco program.** Create a permanent program that reallocates excess public right-of-way and off-street parking for the use of local restaurants and cultural programming, building off the City's temporary Al Fresco program.		Economic and Community Development
CM-6, CM-7, CM-8	**Frontage improvement program.** Create a program that allows for development to phase frontage improvements for the current context and use while also being flexible to accommodate future growth without an additional cost to the City.		Public Works
CM-7	**Emerging mobility guideline.** Develop an emerging mobility guideline that explicitly addresses equitable access to resources and services and is not exclusive to specific service providers, as well as establishes a framework through which new technologies can be assessed and compared fairly.		Economic and Community Development and Public Works
CM-7	**Emerging mobility provider standards.** Develop comprehensive regulations and standards for shared and micromobility services that require distribution of data to the City upon request.		Economic and Community Development and Public Works
CM-7	**Passenger air service.** Engage with partners and key employers to bring scheduled passenger air service to Palmdale Regional Airport.		Economic and Community Development and LAWA, U.S. Airforce
CM-3, CM-7	**Regional expressways.** Engage with partners on the feasibility and future construction of the High Desert Corridor (HDC).		Economic and Community Development, Caltrans, Metro and Public Works
CM-8	**Private street standards.** Develop standards for use of private streets, where appropriate; private streets, other than driveways and alleyways typically associated with multi-family development, should be constructed to City standards for public rights-of-way, and should be used only for gated communities.		Public Works