



CITY OF **PALMDALE**

Avenue Q Feasibility Study Existing Conditions and Site Analysis Report



April 2015



CITY OF
PALMDALE

Avenue Q Feasibility Study
Existing Conditions and Site Analysis Report



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I Introduction



This report provides a baseline of existing conditions, trends, and opportunities in the City of Palmdale's Avenue Q Study Area. It explores a range of issues that affect the city's long-range planning, including land use, circulation, community character and infrastructure.

I.1 Project Goals and Objectives

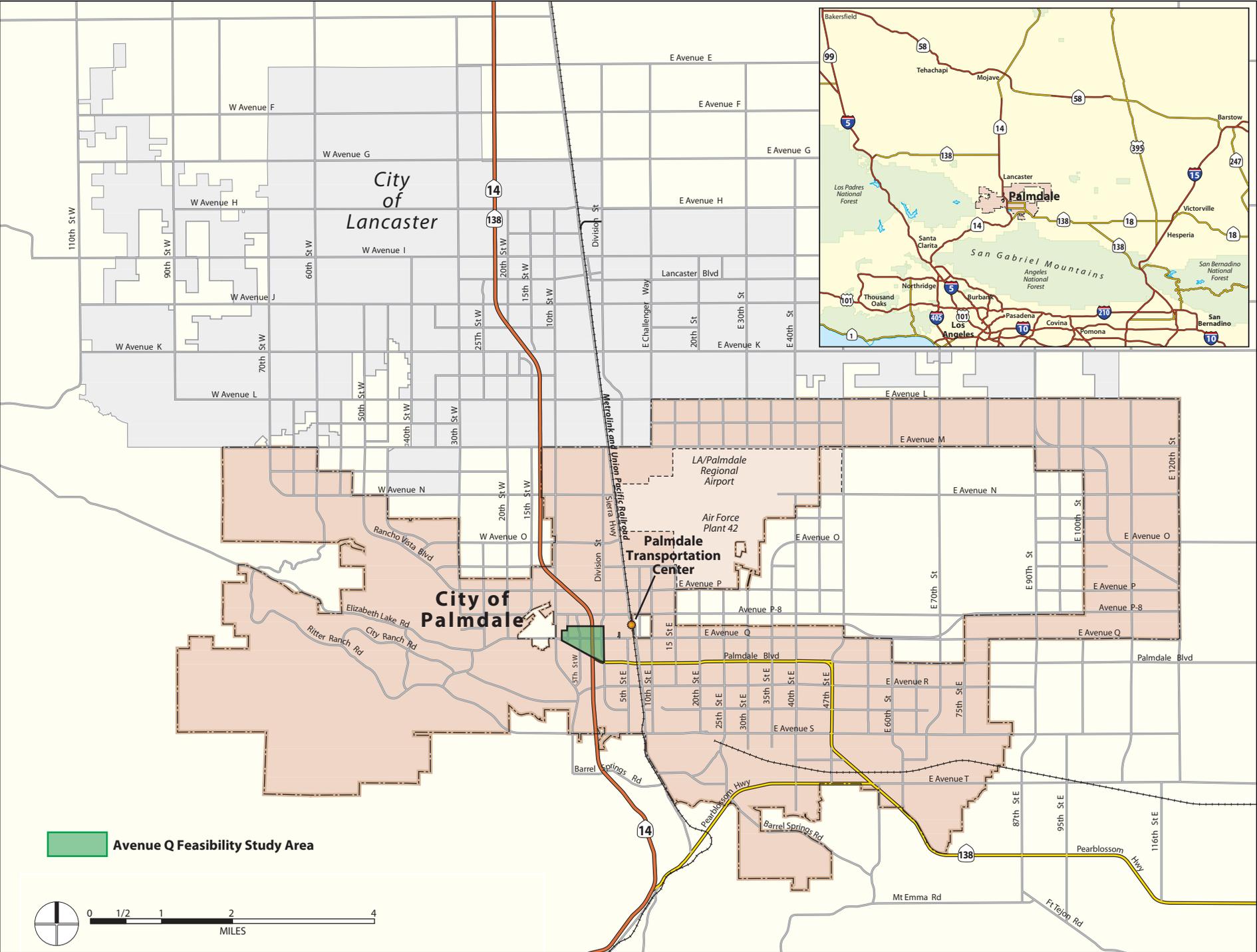
The Avenue Q Feasibility Study will determine the feasibility of developing the Avenue Q Corridor as a Transit Oriented Development (TOD), mixed use corridor. The corridor could serve as an extension of the vital new neighborhood envisioned around the Palmdale Transportation Center (PTC). As Avenue Q provides a direct route to the PTC, providing for mixed use development opportunities and multi-use trails along the Avenue Q Corridor could allow for the development of a variety of land uses that could be beneficial to both the City and its residents. The project is undertaken in the context of major planned or proposed transportation investments which could place this district in a position of regional significance.

I.2 Study Area

The City of Palmdale is situated in northern Los Angeles County in the heart of the Antelope Valley. Separated from Los Angeles by the San Gabriel Mountains to the south, the City's hot and dry summers and cool and windy winters are typical of the High Desert. Palmdale is located directly south of the City of Lancaster, and the two serve as the principal cities in the Antelope Valley and the High Desert. The Study Area's regional context is shown in Figure 1-1.

Within Palmdale, the Study Area focuses on the corridor surrounding West Avenue Q. It is generally located between Auto Center Drive and Palmdale Boulevard and between the westerly terminus of Avenue Q and Division Street. The eastern boundary of the Study Area is located about a quarter mile from the PTC while the western boundary is approximately 1.5 miles from the PTC. The Study Area is largely composed of vacant land, with some pockets of commercial and light industrial uses. It overlaps with two existing specific plans, the Antelope Valley Auto Center Specific Plan and the Palmdale Trade and Commerce Center Specific Plan. Additionally, the Study Area is located adjacent to the Palmdale Transit Village Specific Plan (PTVSP) which encompasses the area immediately surrounding the PTC. All three specific plans are discussed in greater detail in Chapter 2. A map of the Study Area is shown in Figure 1-2.

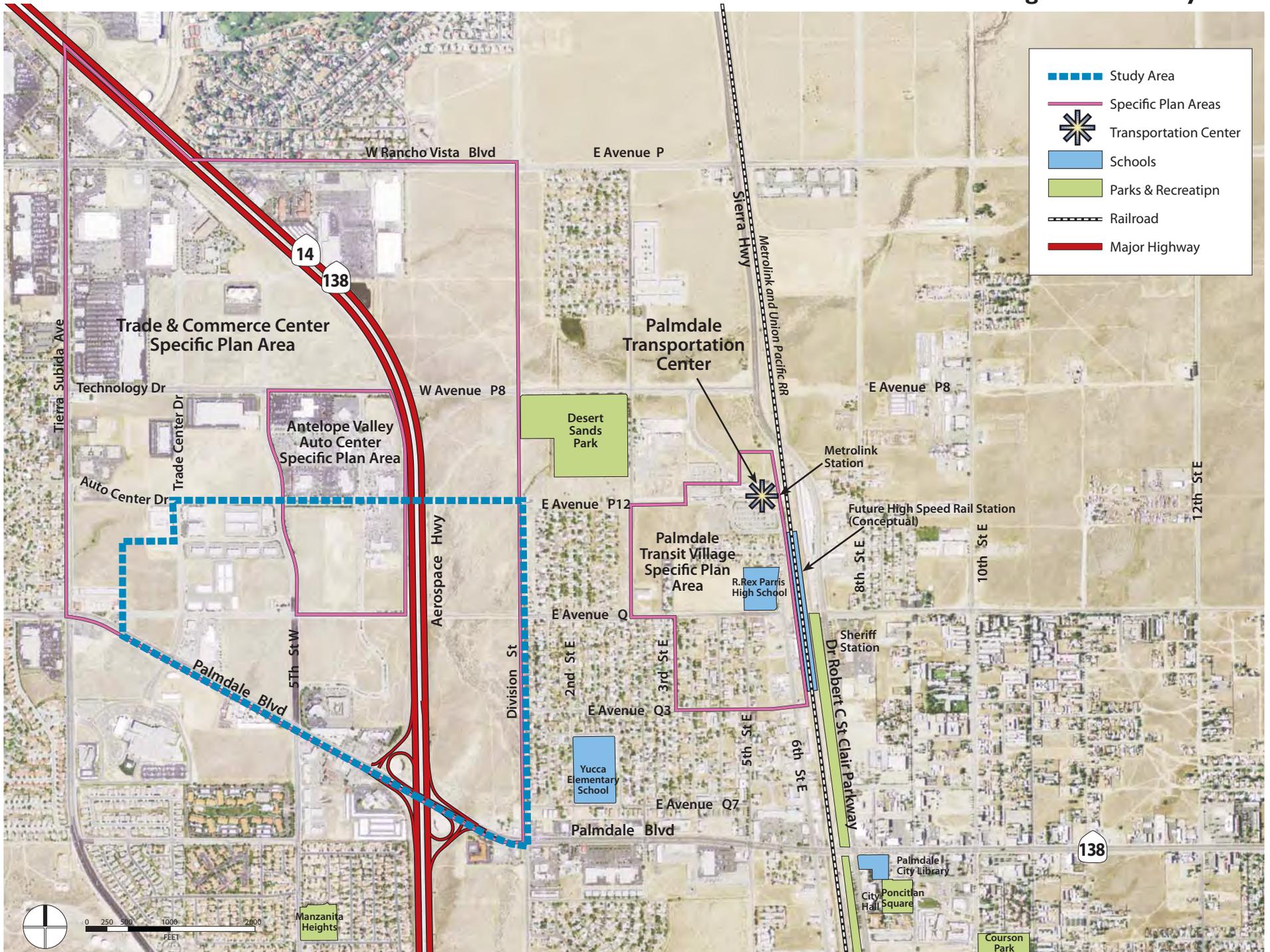
Figure I-1: Regional Context



Avenue Q Feasibility Study Area



Figure I-2: Study Area



I.3 Background

RELATED TRANSPORTATION PROJECTS

The following planned and proposed projects reflect the region's investment in improving mobility and development opportunities in Palmdale and the North Los Angeles County (NLACO) subregion. Each is supportive of TOD development standards and multi-modal connectivity.

California High Speed Rail

California High Speed Rail is a planned high speed rail system that will connect Los Angeles with San Francisco, with potential future extensions to San Diego and Sacramento. The proposed alignment includes a station in Palmdale near the PTC.

High Desert Corridor (E220)

The High Desert Corridor is proposed to improve east-west traffic through the High Desert. The highway would connect the PTC and SR-14 with US-395, I-15, Bear Valley Road and SR-18. A high speed rail connection, bikeway and green energy element are also being considered as part of the project.

XpressWest High Speed Rail (XpressWest)

Formerly known as DesertXpress, this private venture proposes a high speed passenger train connecting Victorville, California with Las Vegas, Nevada. An additional extension from Victorville to Palmdale is proposed in order to link XpressWest to Metrolink and California High Speed Rail service.

North County Multimodal Integrated Transportation Study (NCMITS)

An update to the 2004 North County Combined Highway Corridors Study, the NCMITS is a multimodal transportation plan for the northern portion of Los Angeles County that will serve as a blueprint for the County and the cities of Palmdale, Lancaster, and Santa Clarita. This update will take into account the passage of Measure R, a 30-year, one-half cent sales tax for transportation improvements, and new transportation developments, such as those mentioned above and Palmdale's recent acquisition of the Palmdale Regional Airport from Los Angeles World Airports.

North County Mobility Matrix

The North County Mobility Matrix will identify and apply screening criteria to corridors in the subregion to develop a framework for potential transportation improvements. The matrix will consider short (5 years), mid (10 years), and long-term (20+ years) subregional improvements.

TOD OVERLAY ZONE

The City of Palmdale is also undertaking an effort to bring about Transit Oriented Development (TOD) around the PTC by addressing regulatory constraints and updating the General Plan,

Zoning Ordinance and the PTVSP. The TOD Overlay project will move forward in parallel with the Avenue Q study, with both projects sharing relevant background research and analysis and resulting in coordinated recommendations.

DEMOGRAPHIC OVERVIEW

Over the past 25 years, Palmdale has consistently been one of the fastest growing cities in the state. According to estimates from the California Department of Finance and figures from the U.S. Census Bureau, Palmdale’s population dramatically increased between 1990 and 2000, jumping from 68,946 to 116,670. This represents an increase of nearly 70 percent during this time frame. While the growth rate slowed in the 2000s, the city’s population continued to blossom, growing to 152,750 by 2010, 30 percent above the 2000 figure.

The 2008-2012 ACS estimates that the median age of Palmdale residents is 28.7, considerably younger than the County or the State as a whole, which reflects the large number of families residing in the city. Palmdale’s population is approximately 55 percent Hispanic or Latino, 25 percent non-Hispanic White, 13 percent non-Hispanic Black and less than 5 percent of each of the other Census-identified categories. Median household income is \$54,277. Table 1-1 compares population and demographic data for Palmdale with the County at large.

Table 1-1: Demographics

	<i>Palmdale</i>	<i>Los Angeles County</i>
Population	151,841	9,840,024
Hispanic or Latino	54.9%	47.7%
White (non-Hispanic)	24.6%	27.8%
Black (non-Hispanic)	13.4%	8.2%
American Indian and Alaskan Native (non-Hispanic)	0.2%	0.2%
Asian (non-Hispanic)	4.3%	13.7%
Native Hawaiian and Other Pacific Islander (non-Hispanic)	0.2%	0.2%
Other (non-Hispanic)	0.3%	0.3%
Two or more races (non-Hispanic)	2.2%	2.0%
Households	40,702	3,218,511
Median Age	28.7	34.8
Median Household Income	\$54,277	\$56,241

Source: U.S. Census Bureau, 2008-2012 American Community Survey

The California Employment Development Department estimates that as of June 2014, Palmdale has an unemployment rate of 10.2 percent, which is higher than the County’s overall rate of 8.2 percent. This indicates that Palmdale is still in the process of recovering from the 2008 recession, and residents are in need of accessible employment opportunities. Additionally, the 2008-2012 ACS reports that the average commute time for Palmdale workers is just over 40 minutes, which

is 38 percent higher than the County average of 29 minutes. This suggests that most commute outside of the city for work. Nearly three quarters of commuters get to work by driving alone.

1.4 Planning Process

This report is the first step in the Avenue Q Feasibility Study planning process, which includes initial analysis of existing conditions, opportunities and constraints. In total, the planning process is anticipated to take approximately 15 months, resulting in an adopted Final Avenue Q Feasibility Study that includes recommendations for revisions and/or new sections of the General Plan, Zoning Ordinance and Specific Plans. The process will include numerous opportunities for community involvement, including community workshops and public meetings.

1.5 Report Organization

Chapters in the Existing Conditions Report are organized by topic, as follows:

Chapter 1: Introduction describes project objectives, the Study Area, background and demographics, the planning process, and an overview of the report's organization.

Chapter 2: Land Use and Development summarizes existing land uses, relevant plans and zoning regulations, current development projects, opportunity sites and development capacity.

Chapter 3: Access and Circulation describes existing roadway, transit, pedestrian and bicycle networks, and addresses planned improvements, travel patterns, traffic conditions and circulation opportunities.

Chapter 4: Community Character illustrates the existing urban form, building types and scale, street and sidewalk character, street trees and overall landscape.

Chapter 5: Infrastructure examines the existing conditions of the area's infrastructure, demand, and capacity for water, wastewater and stormwater.

The research and analysis on each topic is communicated through text, tables, and maps.

1.6 Summary of Key Points

While the following chapters provide a thorough analysis of the Study Area's existing conditions, the key points of this report are summarized below:

LAND USE AND DEVELOPMENT

- Approximately 80 percent of land in the Study Area is currently vacant. Commercial uses, including a regional serving auto mall, make up 18 percent of existing land use while industrial uses account for roughly 2 percent.
- State Route 14 runs through the Study Area, which could pose development constraints in its immediate vicinity due to noise and air quality concerns.
- There are two Specific Plans located within the Study Area: The Palmdale Trade and Commerce Center Specific Plan and the Antelope Valley Auto Center Specific Plan.

ACCESS AND CIRCULATION

- The Study Area's primary arterials include Avenue Q, SR 14, Division Street and Palmdale Boulevard.
- The largest planned roadway project in the Study Area is the High Desert Corridor, which could include a new expressway or freeway link between SR 14 in Palmdale and SR 18 in San Bernardino County.
- Existing transit service in the Study Area is minimal, comprised of a single local bus line. Additional local and commuter bus lines and commuter rail service are accessible from the PTC.
- Transit improvement/expansion plans include increased bus service within the Study Area and nearby high speed rail service to points throughout California and possibly to Las Vegas.
- Wide thoroughfares create long crossing distances for pedestrians on many major streets.
- There are no existing bike facilities in the Study Area, though bike lanes and routes are planned for 5th Street West and Avenue Q.

COMMUNITY CHARACTER AND LIVABILITY

- The Study Area primarily consists of low-intensity development and vacant land. Most development is non-contiguous and single story.
- SR 14 serves as a distinct boundary that divides the Study Area and limits east-west movement.
- The majority of blocks in the Study Area are large, ranging in shape and size from 750 feet square to 1200 feet by 2400 feet.
- While some portions of the Study Area have streetscape treatments such as landscaped medians or street trees, others lack these treatments entirely.

INFRASTRUCTURE

- Upgrades to existing water and sewer infrastructure may be required to accommodate future development.
- Current infrastructure does not provide recycled water service in the Study Area, though there is potential for this in the future.
- Portions of the Study Area are located within 100- and 500-year floodplains.
- The City requires developers to construct drainage facilities in accordance with the City of Palmdale Master Drainage Plan and/or pay drainage fees that will be used to construct drainage facilities.
- Southern California Edison (SCE) has improvement plans to meet increased demand in Palmdale, including upgrading substations and conductors, extending power lines and replacing poles.
- The Southern California Gas Company (SCGC) provides natural gas to the City of Palmdale. New development in the Study Area may require the concurrent laying of additional gas lines.

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2 Land Use and Development



This chapter documents the existing land use and regulatory context of the Study Area in order to provide an understanding of development opportunities and constraints from the perspectives of local land use compatibility. It reviews the existing land use pattern, the General Plan and relevant Specific Plans, the Zoning Ordinance and opportunity sites. It also estimates potential development capacity in the Study Area, while considering constraints to development.

2.2 Existing Land Use

The existing pattern of land uses within the Study Area is shown in Figure 2-1. Table 2-1 describes land use in terms of total acreage. The Study Area is largely vacant land with a few pockets of commercial and industrial uses. A regional serving auto mall is located on the west side of Highway 14 just north of Avenue Q. The commercial nature of Palmdale Boulevard is reflected by two shopping centers and three hotels, but there are also large vacant parcels.

Table 2-1: Existing Land Use¹

<i>Land Use Type</i>	<i>Acres</i>	<i>Percent of Total</i>
General Commercial	28	11.7%
Office Commercial	13	5.4%
Service Commercial	2	0.8%
Industrial	5	2.1%
Vacant	191	79.9%
Total	239	100.0%

Note:

1. Values may not sum due to rounding.

Source: Dyett & Bhatia, 2014; City of Palmdale, 2014

COMMERCIAL, INDUSTRIAL, AND PUBLIC USES

The Study Area contains over half a million square feet of commercial space, which includes an auto mall, an office park, shopping centers and lodging. Additionally, it encompasses over 80,000 square feet of industrial space, which is largely light industrial in nature. There are no existing public facilities or parks within the Study Area. Table 2-2 shows square footage by land use type for commercial, industrial and public uses.

Table 2-2: Commercial, Industrial, and Public Uses

<i>Land Use Type</i>	<i>Square Feet</i>
Commercial	566,092
General Commercial	366,072
Office Commercial	138,560
Service Commercial	61,460
Industrial	81,280
Public Facilities	0
Total	647,372

Source: Dyett & Bhatia, 2014; City of Palmdale, 2014

2.3 General Plan and Specific Plans

PALMDALE GENERAL PLAN

Adopted in 1993, the Palmdale General Plan provides goals, policies, and objectives for future growth and development in the City. The General Plan includes all seven state-required elements (the issues of conservation and open space have been combined into the Environmental Resources Element) as well as a Public Services Element, a Community Design Element, and a Parks, Recreation and Trails Element.

The General Plan was drafted at a time when Palmdale was experiencing rapid growth. The physical expanse of land within the City and the associated potential for growth underlie the following goals established during the planning process:

- Provide adequate land in various use designations and develop policies to promote a stable and diversified economic base
- Buffer incompatible land uses
- Revitalize the historic downtown
- Protect sensitive ecological areas
- Develop a community identity
- Maintain a high quality of development
- Provide adequate infrastructure to support new development
- Preserve viewsheds and open space

General Plan land use designations within the Study Area are shown in Figure 2-2. All land in the Study Area is designated as part of the Palmdale Trade and Commerce Center Specific Plan and/or the Antelope Valley Auto Center Specific Plan.

PALMDALE TRADE AND COMMERCE CENTER SPECIFIC PLAN

The Palmdale Trade and Commerce Center Specific Plan Area is generally located between Rancho Vista Boulevard (Avenue P) and Palmdale Boulevard (SR-138) and between 10th Street West and Division Street, encompassing all of the Study Area and extending to the north and west. The plan intends to create a diversified employment center in central Palmdale, reducing the need for residents to commute outside of the City for work and enhancing the local economy. It was originally drafted in response to the City's population surge in the late 1980's during which growth in the residential sector was significantly greater than growth in the commercial and industrial sectors.

The goals of the Palmdale Trade and Commerce Center Specific Plan include:

- Provide a viable mix of commercial, industrial and public uses consistent with the capabilities of the City and special districts to provide services
- Establish a mixed use activity center to complement residential development

- Design and coordinate development to complement central Palmdale, creating an attractive activity center and enhancing the image and quality of life in the City
- Ensure that the road network provides for the functional access needs of the area
- Encourage the use of intermodal transportation
- Provide for attractive, safe and well-functioning public services and facilities
- Ensure that future development minimizes environmental impacts to the extent feasible
- Ensure that development is subject to public review and adequate mitigation in regards to hazards

Land Use Plan

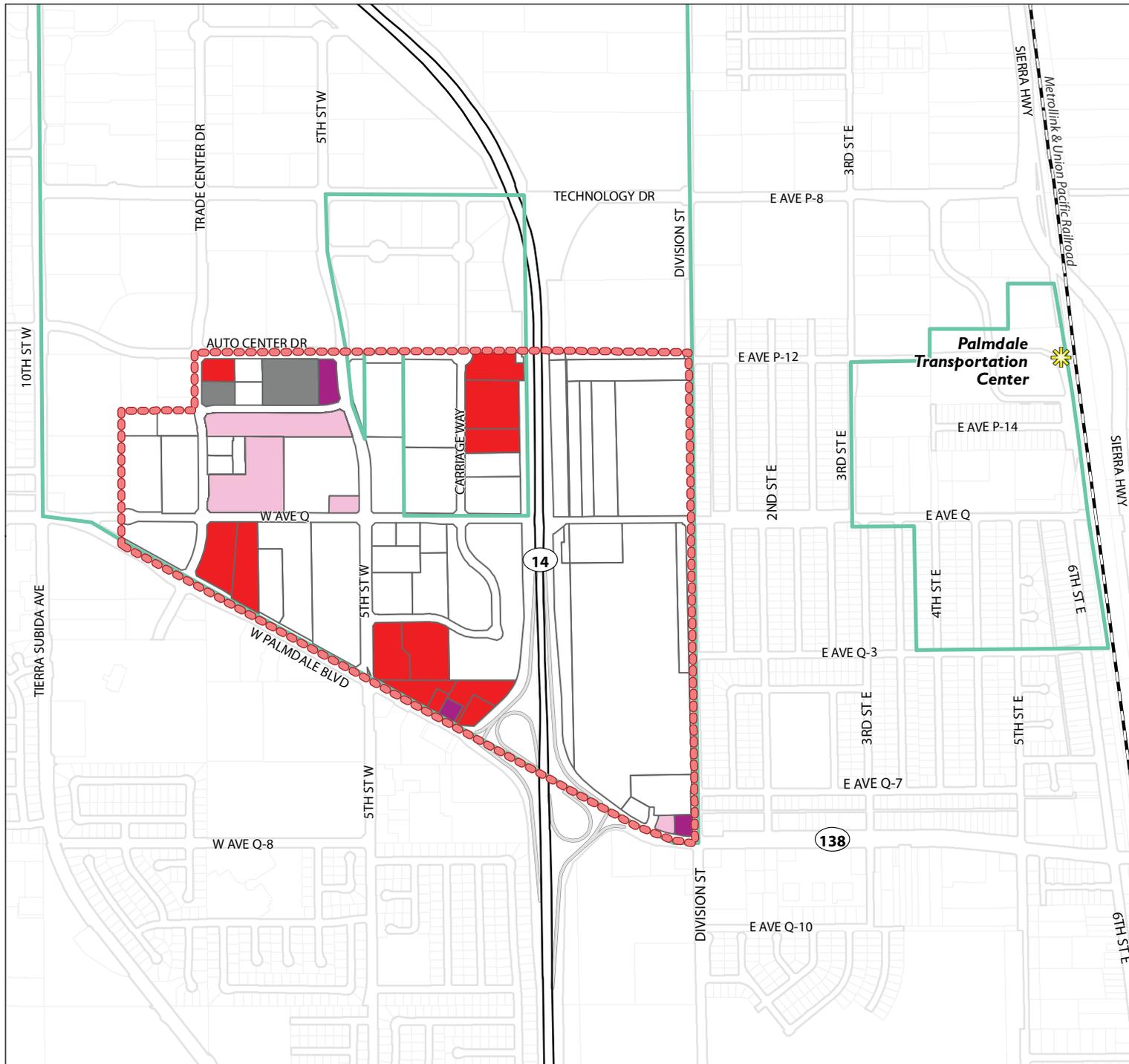
The Specific Plan establishes four land use categories: Planned Development, Mixed Use, Mixed Use-AICUZ Restricted, and Public Facility. The Planned Development land use category covers land between Avenue Q and Palmdale Boulevard in the south part of the Study Area, and land between Avenue P-8 and Rancho Vista Boulevard in the north, as well as the western edge along 10th Street West. This zone is established for the development of such uses as retail outlets, hotels and motels, entertainment facilities, and offices.

The Mixed Use category covers the portion of the Study Area between Avenue Q and Avenue P-8 that is not part of the Antelope Valley Auto Center Specific Plan. This zone is established for the development of a combination of business park, light industrial, and regional and community commercial uses.

The Mixed Use-AICUZ Restricted zone and the Public Facilities zone are not in the Avenue Q Study Area. Development regulations are summarized in Table 2-3. The land use map for the Palmdale Trade and Commerce Center Specific Plan area is shown in Figure 2-3.

**Figure 2-1:
Existing Land Use**

- General Commercial
- Office Commercial
- Service Commercial
- Industrial
- Vacant
- Study Area
- Specific Plans



Source: Dyett and Bhatia, 2014

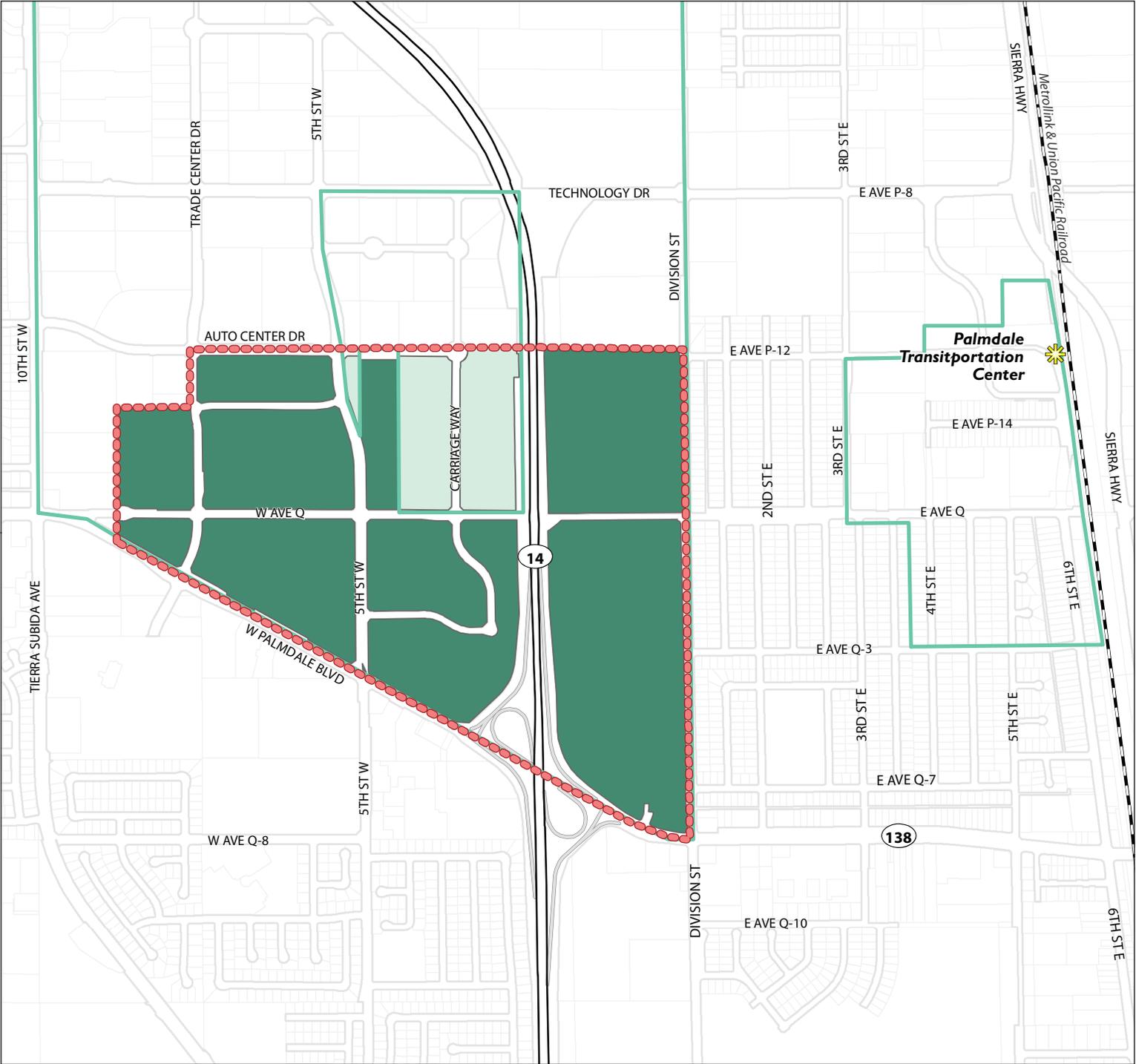
0 350 700 1,400



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**Figure 2-2:
Existing General Plan**



- Antelope Valley Auto Center Specific Plan
- Palmdale Trade and Commerce Center Specific Plan
- Study Area
- Specific Plans

Source: City of Palmdale, 2014

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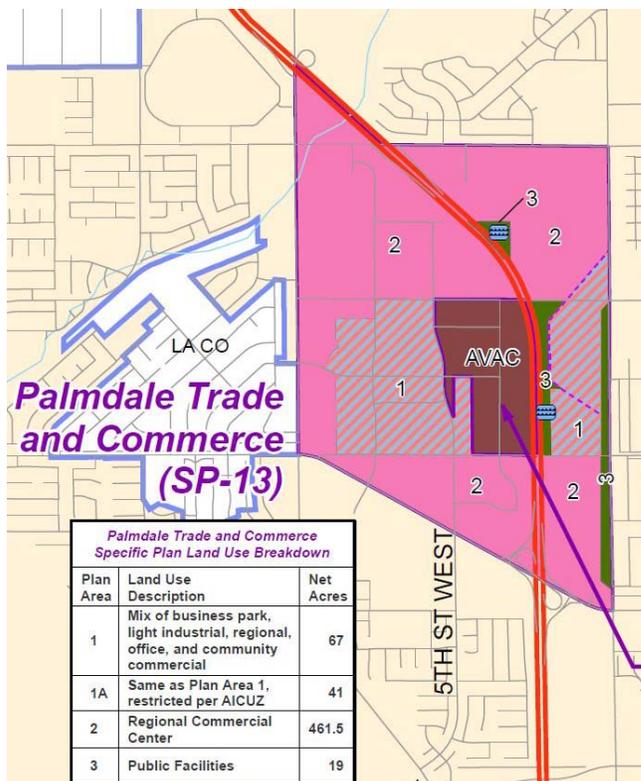


Table 2-3: Palmdale Trade and Commerce Center Specific Plan Development Standards

Land Use Category	Minimum Developable Area	Maximum Height	Maximum Site Coverage	Minimum Building and Parking Setback	Minimum Landscaping and Depth of Landscaping along street frontages
Planned Development (PD)	½ gross acre	45 ft., except with a CUP	90%, including parking	Building: 30 ft. Parking: 20 ft.	10% 20 ft.
Mixed Use (MU)	1 gross acre	45 ft., except with a CUP	90%, including parking	Building: 30 ft. Parking: 20 ft.	10% 10 ft.

Source: Palmdale Trade and Commerce Center Specific Plan, 1990; Dyett & Bhatia, 2014.

Figure 2-3: Palmdale Trade and Commerce Center Specific Plan



Source: City of Palmdale.

ANTELOPE VALLEY AUTO CENTER SPECIFIC PLAN

The Antelope Valley Auto Center Specific Plan Area is generally located between Technology Drive and Avenue Q and between 5th Street West and Highway 14. As shown in Figure 2-2, the southern half of the Specific Plan Area is located within the Avenue Q Study Area. The Specific Plan supported the construction of the Antelope Valley Auto Center, a retail automotive sales and leasing center that can accommodate several auto dealerships. The additional tax revenues generated from the auto dealerships are intended to help finance infrastructure and public services for the City.

The basic objectives of the Antelope Valley Auto Center Specific Plan are to:

- Establish a regional commercial automobile shopping center with ancillary and coordinated commercial sales, services, and uses
- Establish cooperation and coordination between the City and the Auto Center participants
- Establish a long term and on-going source of economic strength to the community in terms of employment and government revenue
- Protect and enhance the natural, social, and physical attributes of the development area so as not to detrimentally affect adjacent existing developments
- Establish innovative and quality site planning and architectural design maintaining a prosperous and marketable specialized commercial complex unique and individual in itself

The AVACSP specifies a circulation system and roadway and streetscape improvement specifications, identifies needed public facilities, and establishes landscape design and signage standards. In terms of land use, auto sales are specified as the primary use, with provisions for other compatible uses through a Conditional Use Permit, with findings based on compatibility.

PALMDALE TRANSIT VILLAGE SPECIFIC PLAN

As shown in Figure 2-2, the Palmdale Transit Village Specific Plan (PTVSP) is located in close proximity to the Study Area, east of Division Street. The PTVSP intends to create a transit village with a mix of uses that takes a TOD approach to improving connectivity and creating a pleasant pedestrian-oriented experience. The goals of the Palmdale Transit Village Specific Plan include:

- Encourage investment and development in the vicinity of the PTC
- Provide investors with a level of certainty regarding the future of the area and the quality of development that is expected
- Allow for a mix of uses that result in a vital neighborhood that complements the existing character of Palmdale
- Provide for the residential, commercial, and employment needs of the community that are complementary with the development of the PTC and follow TOD principles
- Provide a level of flexibility that will allow incremental development of the Plan to address the changing demands and needs of the real estate market

Further, the Plan establishes development standards and design guidelines that aim to maximize the efficiency of land surrounding the PTC. The standards and guidelines promote new development, open spaces and attractive and vibrant streets that are safe for all users. For a more detailed summary on the PTVSP, see the Existing Conditions and Site Analysis Report completed for the Palmdale TOD Overlay Zone Study.

2.4 Zoning

PALMDALE ZONING ORDINANCE

The Zoning Ordinance is a regulatory tool used to implement the goals, objectives and policies of the General Plan as they pertain to development. It establishes regulations to ensure that an appropriate mix of land uses is developed that enhance established neighborhoods and districts while providing opportunities for infill, expansion and economic development. The Ordinance consists of a zoning map, which defines the locations of zoning districts, and a zoning code that details the requirements for each district.

Figure 2-4 shows zoning in the Study Area and its larger context. The Study Area contains portions of the Antelope Valley Auto Center and Palmdale Trade and Commerce Specific Plan areas. Both are zoned as specific plan districts, which are allowed to include commercial and industrial uses. The southern edge of the Study Area is part of the commercially-zoned Palmdale Boulevard corridor. Surrounding the Study Area there are largely single-family residential zoning districts to the south and west, extensions of the Trade and Commerce and Antelope Valley Auto Center specific plans to the north, and a mix of residential, commercial and industrial zones to the west. All of the Study Area is within Specific Plan areas, which serve as zoning.

2.5 Current Development and Opportunity Sites

CURRENT DEVELOPMENT PROJECTS

As show in Figure 2-5, there is currently one approved development project in the Study Area for a medical office and retail development on 2.3 acres. There has also been recent development activity in the Study Area's immediate vicinity. A 350,000-square foot industrial project was completed on a 19-acre parcel north of Auto Center Drive between Trade Center and 5th Street West, directly north of the Study Area. Just south of the Study Area, the existing retail center at the southeast corner of Palmdale Boulevard and 5th Street West was expanded. A gas station is proposed for the southeast corner of 10th Street West and Technology Drive. In addition, a multiple tenant medical office, restaurant and retail building totaling 30,000 square feet has been approved on the west side of Trade Center Drive at Commerce Avenue, within the Palmdale Trade and Commerce Center Specific Plan Area.

VACANT AND UNDERUTILIZED LAND

Opportunity sites are identified as those sites that may have potential for land use or intensity change over the long-term. There are 46 vacant parcels in the Study Area, many of them large, covering a total of 192 acres.

Underutilized land is defined here as sites for which the assessed land value is greater than the assessed value of existing permanent improvements on the land. By this definition, the Study Area contains three underutilized sites, covering just over three acres. All three underutilized sites have commercial land uses. Table 2-4 shows vacant and underutilized land by zoning designation.

Table 2-4: Vacant and Underutilized Land by Zoning Designation¹

<i>Zoning Designation</i>	<i>Vacant (acres)</i>	<i>Underutilized (acres)</i>	Total (acres)
Palmdale Trade and Commerce Center Specific Plan	173.1	2.8	175.9
Antelope Valley Auto Center Specific Plan ²	19.1	0.0	19.1
Total	192.3	2.8	195.0

Notes:

1. Values may not sum due to rounding.
2. Land in the Antelope Valley Auto Center Specific Plan is only counted in that category, though it is also in the Palmdale Trade and Commerce Center Specific Plan.

Source: Dyett & Bhatia, 2014

2.6 Development Capacity and Constraints

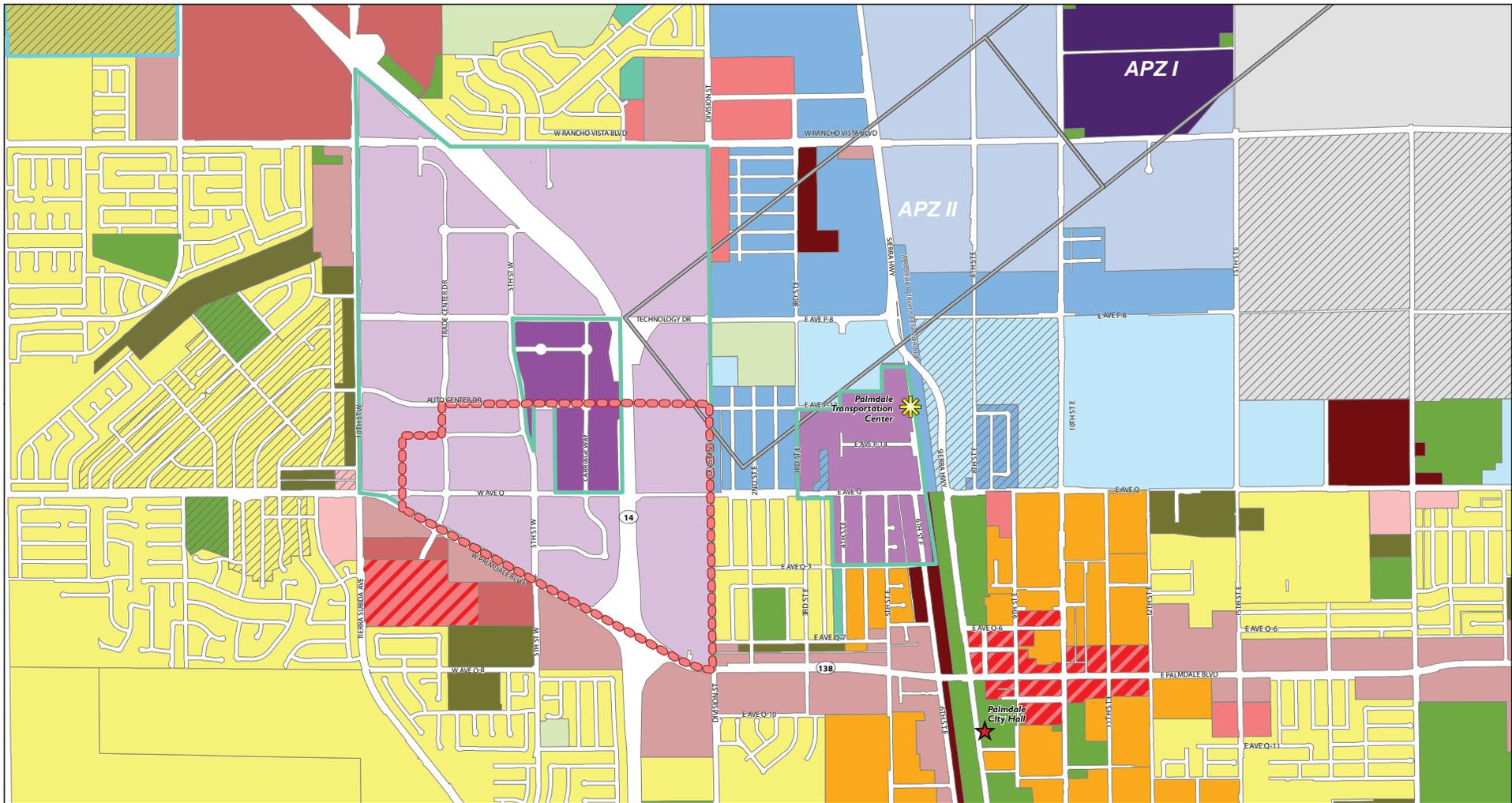
DEVELOPMENT POTENTIAL

The opportunity sites analysis identified roughly 192 acres of vacant land in the Study Area, as well as 2.8 acres of underutilized land. Overall, there is the largest potential for development in land that is zoned for light industrial uses and in the Palmdale Transit Village Specific Plan Area.

DEVELOPMENT CONSTRAINTS

Some important factors may limit the development potential of several of the Study Area's vacant and underutilized sites:

- **Proximity to State Route 14:** State Route 14 runs through the Study Area. This hinders the area's ability to optimize Transit Oriented Development strategies, as the elevated highway acts as a barrier that limits east-west mobility. Additionally, the highway is also a source of noise and poor air quality, which could limit residential development potential as well as other sensitive uses like parks and schools in the immediate vicinity.
- **Poor Visibility and Access:** While the Study Area is centrally located with direct access to State Route 14 via Palmdale Boulevard, development of commercial and employment uses along Avenue Q may have been hampered by poor access routes and a lack of visibility from the freeway.



**Figure 2-4:
Existing Zoning in the Study Area and Surroundings**

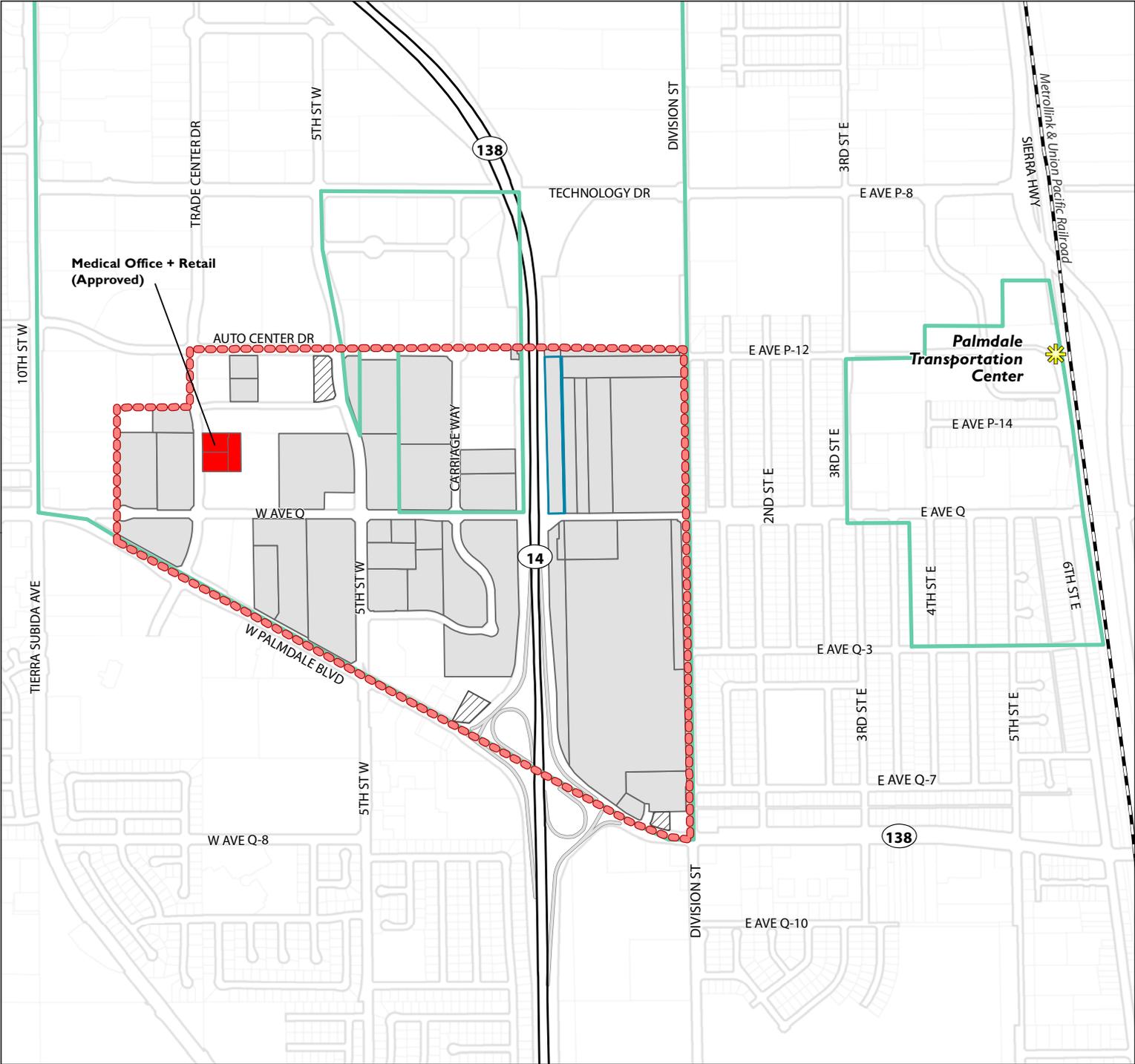
- | | | | |
|---------------------------|---------------------------------------|---------------------------|--|
| Light Agriculture | Office Commercial | General Industrial | Palmdale Trade and Commerce Center Specific Plan |
| Single Family Residential | Office Commercial Mixed Use Overlay | Planned Industrial | Palmdale Transit Village Specific Plan |
| Medium Residential | Service Commercial | Airport | Antelope Valley Auto Center Specific Plan |
| Multiple Residential | Downtown Commercial Mixed Use Overlay | Public Facility | Antelope Valley Business Park Specific Plan |
| High Density Residential | Commercial Center | Open Space and Recreation | Lockheed Specific Plan |
| Light Commercial | Light Industrial | County Land | |
| General Commercial | | | |

- Study Area
 - Specific Plans
 - Air Installations Compatible Use Zones
- * APZ = Accident Potential Zone

Source: City of Palmdale, 2014
 0 650 1,300 2,600

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**Figure 2-5:
Current Development
Project and Vacant and
Underutilized Sites**



-  Publicly Owned Land
-  Current Development
-  Underutilized Land
-  Vacant Land
-  Study Area
-  Specific Plans

Source: City of Palmdale, 2014

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3 Access and Circulation



This section presents an analysis of current transportation conditions in the Study Area, including an analysis of the current and planned roadway network and street standards, transit service (rail and bus), non-motorized facilities (pedestrian and bicycle), and traffic and travel patterns. Observed issues and potential opportunities associated with the transportation system are also discussed, by mode, at the end of this section.

3.1 Roadway Network and Street Standards

As shown in Figure 3-1, the Study Area's primary arterials include Avenue Q, State Route 14 (SR 14), Division Street and Palmdale Boulevard (SR 138). The planned approximate alignment for the future High Desert Corridor, and the planned future alignment of Division Street, are also shown.

EXISTING ROADWAYS

The following paragraphs describe roadways as they currently exist.

Avenue Q is a two- to four-lane arterial that bisects the Study Area, connecting it to residential districts and the Palmdale Transportation Center to the east, and, via Trade Center Drive, to West Palmdale Boulevard to the west. To the west of SR 14, Avenue Q generally provides two travel lanes in each direction with a center turn lane. East of SR 14, Avenue Q generally provides one travel lane in each direction with a center turn lane.

State Route 14 (SR 14) is a six-lane controlled access highway that connects Palmdale with Interstate 5 and the San Fernando Valley to the south, and United States Route 395 (US 395) to the north.

Division Street is a two-lane north-south roadway, designated as a major arterial, that extends from just north of East Avenue P-12 to East Avenue R-8 in the south, where it continues as East Avenue R-8. Division Street is worth noting because Avenues and Streets to the west of Division Street are generally designated with the prefix or suffix "West" (e.g., West Palmdale Boulevard, 5th Street West), while those to the east of division are designated with the prefix or suffix "East" (e.g., East Palmdale Boulevard, 5th Street East).

Palmdale Boulevard is a four- to six-lane arterial and a major east-west connector, linking the Study Area with neighborhoods to the east and west, as well as Elizabeth Lake Road. Between SR 14 and 47th Street East in East Palmdale, Palmdale Boulevard also serves as State Route (SR) 138. The roadway contains two travel lanes in each direction, expanding to three between SR 14 and Sierra Highway, with a raised median and/or center turn lanes.

STREET CLASSIFICATIONS

The General Plan includes various street classifications applicable to all streets within City limits. General Plan street classifications, and Study Area and nearby streets that belong in each class, are listed below.

- **Regional Arterials** are eight lane arterials connecting to regional destinations inside and outside of the City. These include:
 - Palmdale Boulevard, west of Division Street
 - 10th Street West, north of Palmdale Boulevard
- **Major Arterials** are six lane arterials connecting major destinations, and include:
 - Palmdale Boulevard, east of Division Street

- West Avenue Q, between Palmdale Boulevard and 5th Street West and east of SR 14
 - Technology Drive/Avenue P-8
 - Rancho Vista Boulevard/Avenue P
 - 5th Street West, between Technology Drive and Palmdale Boulevard
 - Division Street
 - Sierra Highway
 - 10th Street East
- **Secondary Arterials** are four lane arterials (with or without median), and include:
 - Trade Center Drive, between Technology Drive and Palmdale Boulevard
 - Avenue Q, between 5th Street West and SR 14
 - 5th Street East
 - 8th Street East's

Other street classifications include:

- Residential Entrance Streets: streets connecting arterials to schools and multiple family residential areas
- Local Interior Streets
- Industrial and Commercial Streets
- Alleys
- Local Commercial/Industrial Streets

Figure 3-1 maps the existing roadway network, by classification, in and near the Study Area.

STREET DESIGN STANDARDS

Figure 3-2 shows current design standards for each street classification contained in the City of Palmdale General Plan. These Standard Street Sections include recommended right-of-way widths, curb-to-curb widths, and median widths. These existing standards represent maximum requirements.

The Palmdale Trade and Commerce Center Specific Plan, last amended in 2006, depicts slight modifications to these existing General Plan standards for the Specific Plan area. These modifications include:

- Secondary arterials and collectors (general): 84' right-of-way maintained with adjustments for wider sidewalks from 8' to 10' and narrower roadway from 68' to 64'
- 5th Street West (from Avenue P-8 to Palmdale Boulevard): 100' right-of-way, expanded from the 84' right-of-way shown in the General Plan
- Division Street (new): 104' right-of-way, as shown in Section B1 in Figure 3-2
- Division Street (proposed existing): 64' right-of-way, as shown in Section E in Figure 3-2

PROPOSED ROADWAYS

The largest planned roadway project in close proximity to the Study Area is the High Desert Corridor, which could include a new expressway or freeway link between SR 14 in Palmdale and SR 18 in San Bernardino County. Current proposals under study include options for a controlled access freeway and rail link. The conceptual alignment is shown in Figure 3-1.

In addition, a new alignment for Division Street is planned. This new alignment would be a major arterial and would run just west of the existing Division Street, as shown in Figure 3-1. The existing two-lane Division Street would remain in place, as a frontage road to the new arterial, and would continue to provide access to the residences along it.

3.2 Transit

Existing transit service in the Study Area is minimal, comprised of a single line on a local bus network. Additional local and commuter bus lines and commuter rail service are accessible from the PTC. Transit improvement/expansion plans in the surrounding area include new high speed rail service to points throughout California and to Las Vegas. Service specifics of both existing and planned transit lines are detailed in the following sections.

LOCAL TRANSIT NETWORK

The Antelope Valley Transit Authority (AVTA) is the main bus transit service provider in Palmdale. One line, Route 2, services the Study Area, as shown in Figure 3-3. Route 2 provides east-west service within Palmdale, connecting the Antelope Valley Mall to 47th Street East & Avenue S (Walmart). The route serves Palmdale Boulevard and the Palmdale Regional Medical Center. Route 2 has the third-highest ridership of all AVTA routes. Additional routes serve the area surrounding the Study Area, including the PTC.

Figure 3-3 shows the AVTA routes serving the Study Area and its vicinity. Table 3-1 shows route frequency, service hours, and ridership information for these routes.

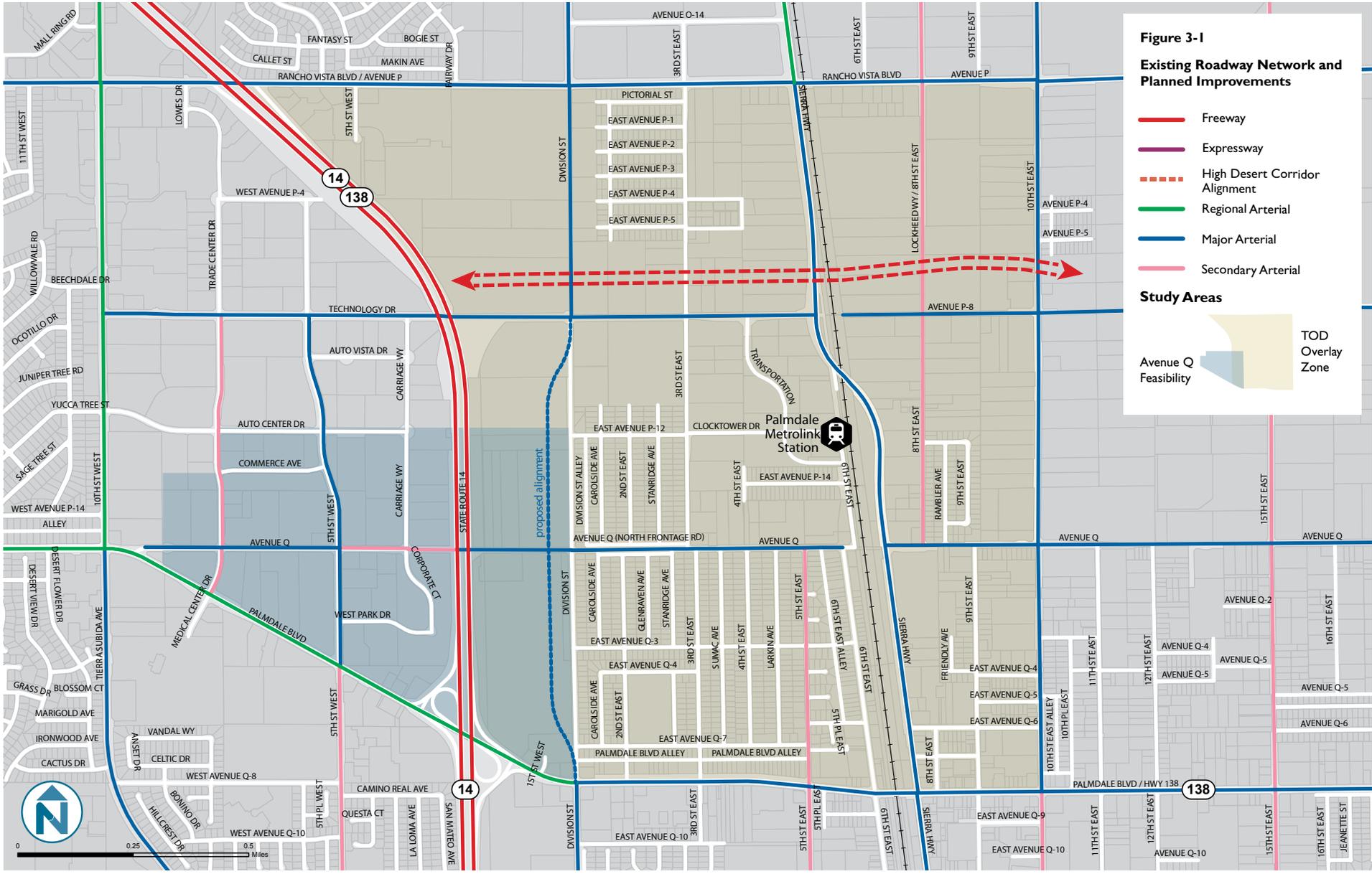


Figure 3-2: General Plan Standard Street Sections

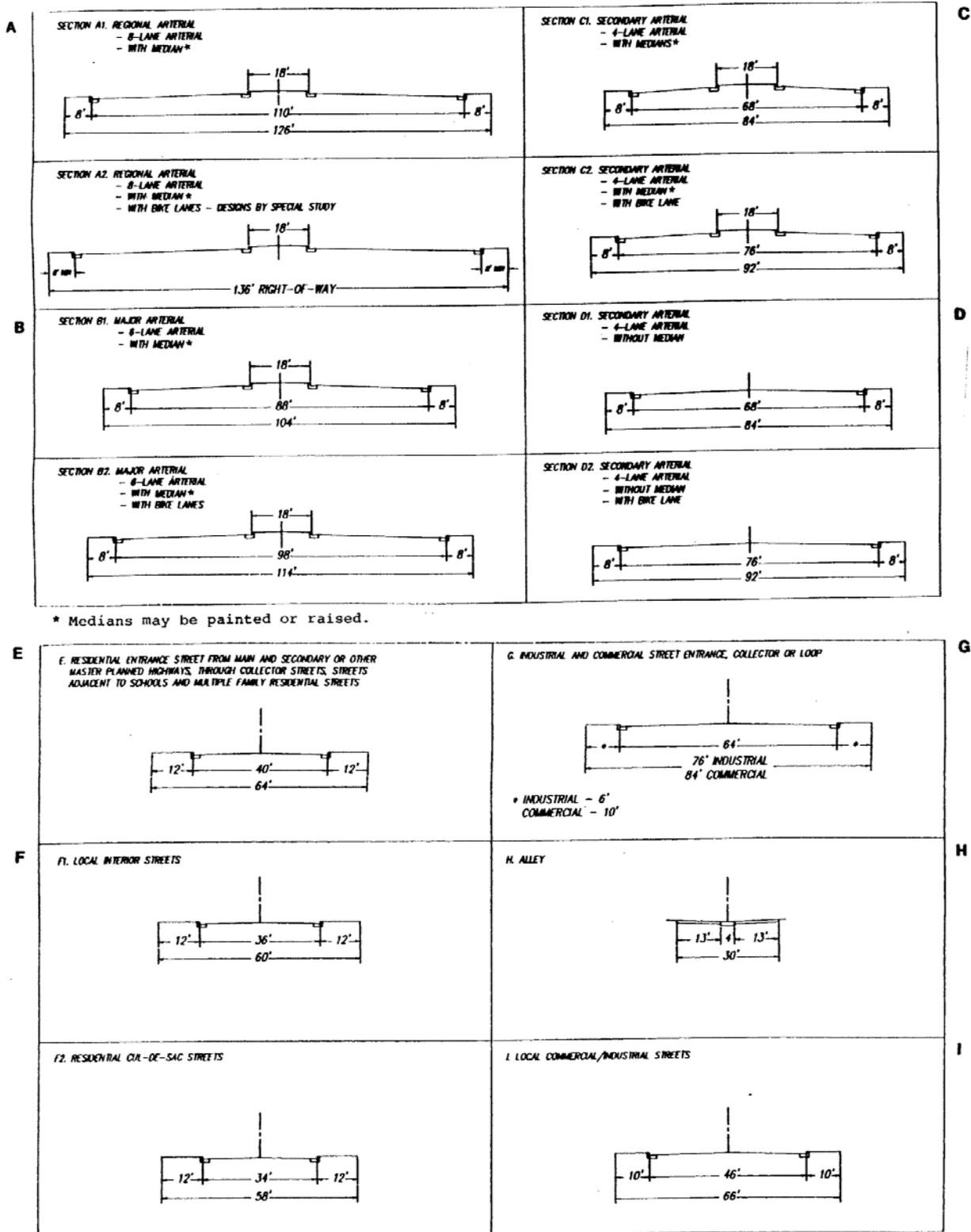


Table 3-1: AVTA Route Frequency and Service Hours

AVTA Route	Peak Headway (min)	Weekday Service Hours	Weekend Service Hours	Weekday Boardings	Boardings per Service Hour
2	30	6:15 AM – 11:55 PM	7:45 AM – 7:15 PM	1,731	33.0
1	30	5:40 AM - 11:45 PM	6:45 AM - 8:05 PM	2,839	40.6
3	30	6:05 AM – 11:05 PM	7:25 AM – 7:35 PM	1,097	21.9
7	75	5:55 AM - 8:50 PM	7:05 AM - 7:35 PM	652	21.5
10	60	6:50 AM - 7:26 PM (full line)	7:30 PM - 10:23 PM (shuttle)	174	10.1
Lake LA Express	60	6:30 AM – 7:20 PM	8:30 AM – 7:40 PM	176	16.5

Source: AVTA, 2014.

The PTC is further serviced by:

- AVTA express commuter services (Routes 785, 786, and 787) connecting the Palmdale Transportation Center to Downtown Los Angeles, Century City, and the West San Fernando Valley
- North County TRANSporter (operated by AVTA) serving the Palmdale Transportation Center and the Newhall Metrolink station in Santa Clarita, with stops at Vincent Grade/Acton Station northbound by request only. This service operates several trips midday when Metrolink service to the Antelope Valley does not run
- Amtrak ThruWay Bus Route 12 (Bakersfield – Victorville) with twice daily northbound and southbound service from the PTC
- Greyhound bus service

REGIONAL AND HIGH-SPEED RAIL

Rail transit to Palmdale is provided by Metrolink, the commuter rail system servicing the greater Los Angeles metropolitan area. The Palmdale Metrolink station is located on Clock Tower Plaza Drive, about a quarter mile from the eastern edge of the Avenue Q Study Area. The Metrolink station is part of the Palmdale Transportation Center, which is also served by AVTA buses.

Palmdale Metrolink Station

Palmdale is the second-to-last station along the Antelope Valley line, with service from L.A. Union Station to Lancaster. Some weekday express service is offered on the line, including four inbound AM express runs and five outbound PM express runs. As shown in Table 3-2, there are 28 weekday daily trains (14 inbound and 14 outbound) serving Palmdale, departing as early as 3:58 AM and arriving as late as 11:25 PM. Weekend service includes 12 daily trains (six inbound

and six outbound) at varying hours. Special event service is also provided periodically, including service to baseball games and large concerts in downtown Los Angeles. On average, trains complete the Palmdale to L.A. Union Station journey in just less than two hours (local), with express service making the trip in an hour and 35 minutes. Some runs are completed by Metrolink bus in lieu of Metrolink trains.

Table 3-2: Metrolink Route Frequency and Service Hours

<i>Route</i>	<i>Service Day</i>	<i>Daily Runs Servicing Lancaster</i>	<i>Service Hours</i>
Antelope Valley Line	Weekday	14 inbound, 14 outbound	3:58 AM - 11:25 PM
	Weekend	6 inbound, 6 outbound	6:25 AM - 11:00 PM

Source: Metrolink, 2014.

Daily Metrolink boardings at the Palmdale station averaged about 456 on weekdays in 2012, and 405 on weekdays in 2013. Ridership fluctuates depending on month of the year, though it has steadily decreased over the past two years, as shown in Table 3-3.

Table 3-3: Metrolink Average Daily Weekday Boardings at PTC

	<i>2012</i>	<i>2013</i>	<i>2014</i>
January	438	402	347
February	443	443	373
March	465	457	384
April	500	422	372
May	470	422	384
June	466	426	365
July	456	420	372
August	427	391	361
September	437	386	359
October	459	360	356
November	465	373	389
December	450	357	320
Average	456	405	368

Source: Metrolink, 2014 and 2015 (<http://www.metrolinktrains.com/agency/page/title/facts>)

Currently, no high-speed rail service exists in California, but two separate proposed high-speed rail systems include a stop at the Palmdale station, as outlined in the following section.

PLANNED TRANSIT IMPROVEMENTS

Planned transit improvements in the vicinity of the Study Area include the following:

- **AVTA:** The recently-completed draft AVTA Comprehensive Operation Analysis and Ten-Year Plan includes changes to various AVTA routes in and around the Study Area, including consolidation of Route 1 and Route 10, with increased service on a modified Route 1 alignment. The proposed Route 1 alignment would travel on Palmdale Boulevard instead of Avenue S in Palmdale, serving the Palmdale Transportation Center via 6th Street East. As a long term recommendation for further study, AVTA is considering Bus Rapid Transit (BRT) service along all or part of the proposed Route 1 alignment. The plan also recommends moving Route 3 to Avenue S, with Route 2 operating on Avenue R to 6th Street East, serving the Palmdale Regional Medical Center, and terminating at the Walmart/Sam's Club near the Antelope Valley Mall.
- **Metrolink:** The Antelope Valley Line Infrastructure Improvement Strategic Plan includes various projects and strategies to speed trips between Palmdale and L.A. Union Station with new tracks, grade-separated crossings and new signaling systems proposed, which when implemented will allow Metrolink trains to reach speeds up to 110 miles per hour.
- **California High Speed Rail:** The California High Speed Rail system will connect Northern California with Southern California via true high speed rail capable of reaching speeds up to 220 miles per hour. While exact alignments have yet to be determined, in the Antelope Valley high speed rail will likely follow the Metrolink tracks and include a stop at or near the existing Palmdale Transportation Center. A proposal exists to move existing platforms south towards Palmdale Boulevard, though an exact station location has yet to be determined. Current plans include the Palmdale station in the system's Initial Operating Section, slated to open in 2022 with service between Merced and the San Fernando Valley. The full San Francisco to Los Angeles line is planned to be in service by 2029, with eventual extensions planned to Sacramento and San Diego.
- **Xpress West High Speed Rail:** The proposed Xpress West High Speed Rail system would run from Las Vegas to Victorville with trains capable of traveling up to 150 miles per hour. As a part of the High Desert Corridor project, environmental work has begun to analyze a rail connection between Victorville and Palmdale to connect Xpress West to the statewide California High Speed Rail system. Xpress West would likely terminate at the Palmdale Transportation Center, where transfers from the California statewide system to Xpress West would occur, but could also potentially continue onwards, using the California High Speed Rail system's tracks, to additional California destinations.

Figure 3-3 maps existing and proposed transit services in the Study Area.

3.3 Pedestrian Accessibility

Pedestrian facilities in the Study Area include sidewalks on one or both sides of all existing streets. However, on many major streets, wide thoroughfares create long crossing distances for pedestrians. Combined with high vehicle speeds, high traffic levels, and long distances between signalized crossings, this makes for a relatively hostile pedestrian environment. At this time, there are no additional pedestrian facilities planned for the Study Area.

3.4 Bike Network

Bicycle facilities are typically classified as Class I, Class II, or Class III facilities, as follows:

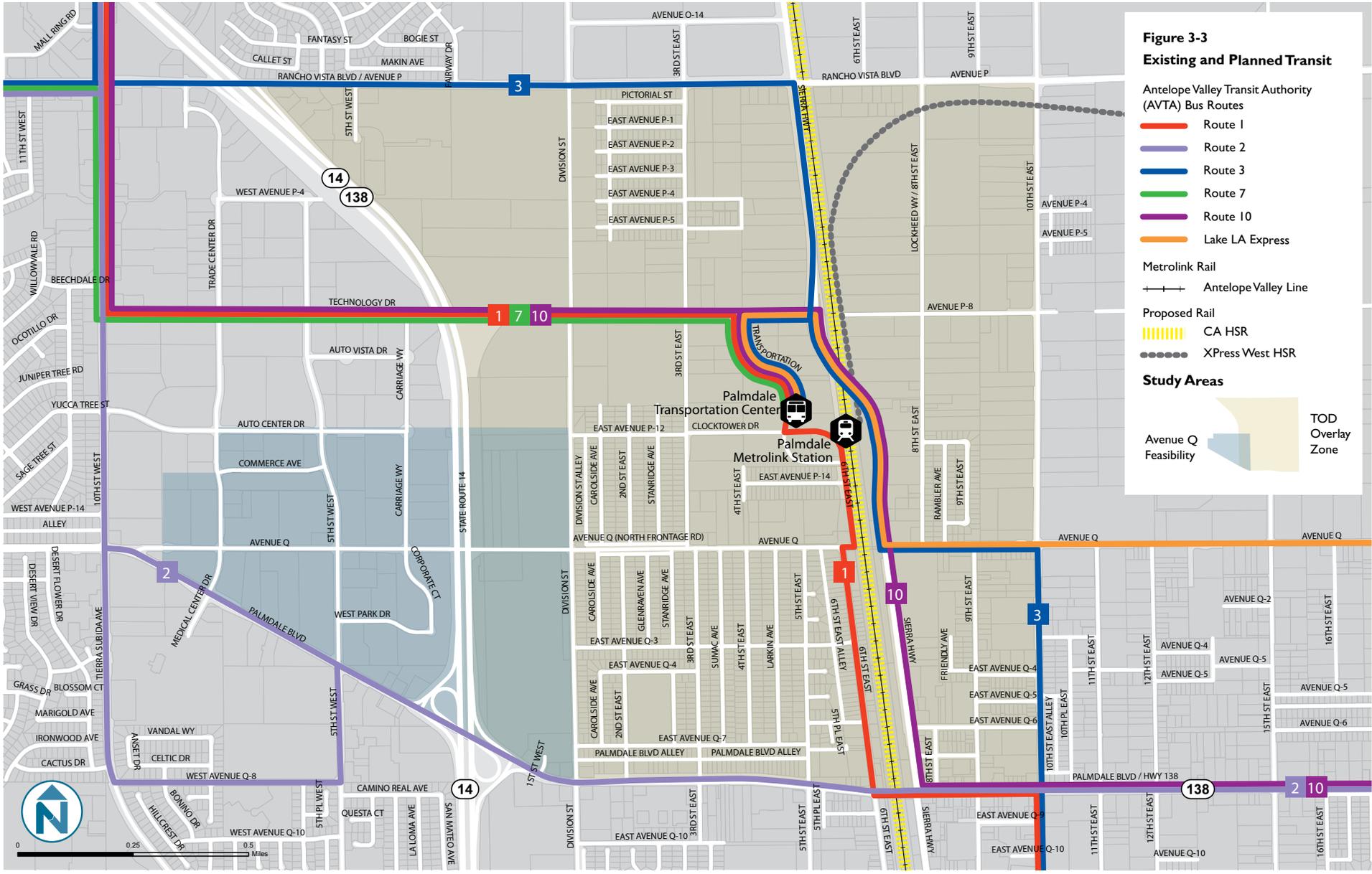
- Class I Bikeway – Bike paths within exclusive right-of-way, sometimes shared with pedestrians
- Class II Bikeway – Bike lanes for bicycle use only that are striped within the paved area of roadways
- Class III Bikeway – Bike routes are shared with motor vehicles on the street; Class III bikeways may also be defined by a wide curb lane and/or use of a shared use arrow stencil marking on the pavement, known as a “sharrow”

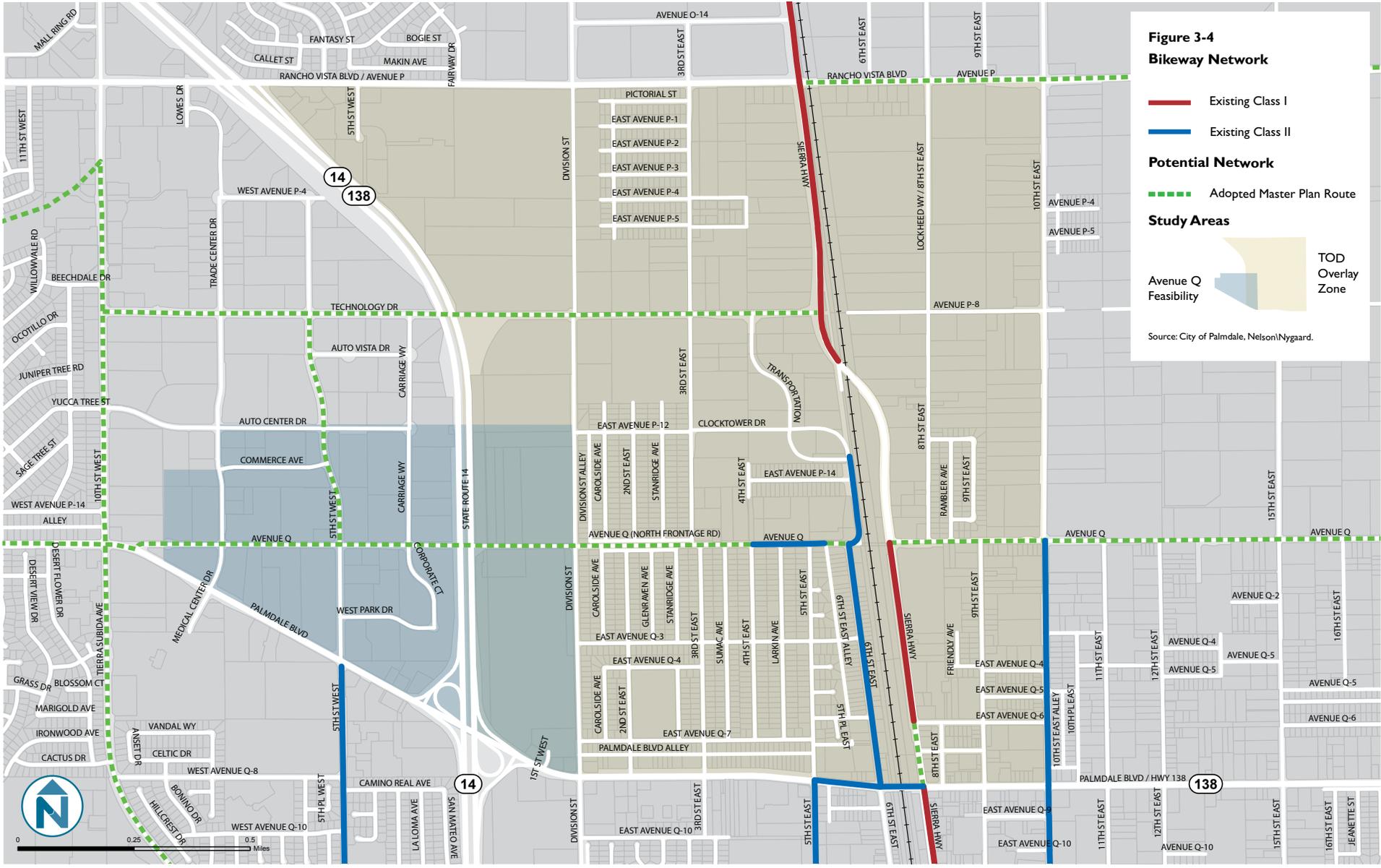
As shown in Figure 3-4, there are several existing bicycle facilities within and immediately surrounding the Study Area. These include the following:

- The Sierra Highway Bike Path (pictured below): A Class I path along Sierra Highway beginning north of the Palmdale Transportation Center and connecting the area to Lancaster and other points to the north
- A Class I path adjacent to Sierra Highway between Avenue Q and 300 feet south of Avenue Q-12
- Class II lanes along portions of 5th Street West, 5th Street East, 6th Street East, 10th Street East, Avenue Q, and Palmdale Boulevard

Planned facilities, as outlined in the City of Palmdale Bikeway and Multi-Purpose Trail Plan, include the following:

- Class II lanes along 5th Street West, East Palmdale Boulevard and Technology Drive (Avenue P8)
- Class III routes along Avenue Q
- Additional potential new or expanded routes on 10th Street West, 5th Street West, Rancho Vista Boulevard, Sierra Highway, Technology Drive, and Avenue Q





Planned improvements would connect the Study Area to the existing bicycle network, facilitating trips to/from the Palmdale Transportation Center and between various other activity centers such as Desert Sands Park, employment centers west of SR 14 and retail/employment centers along Palmdale Boulevard. Figure 3-4 maps both existing and planned bicycle facilities in the Study Area and its vicinity.

Most bicyclists feel safer bicycling along Class I pathways that are completely separated from the roadway, on protected bicycle lanes (a.k.a cycletracks), or along bicycle lanes and routes provided on low traffic, low speed streets. This is particularly true for novice riders, as well as vulnerable populations such as children and the elderly. The planned Class III bicycle route along Avenue Q will provide this type of bicycle experience.

Currently, the City of Palmdale Zoning Code requires the provision of bicycle parking within any new non-residential development containing 20 or more automobile parking spaces at a rate of two bicycle rack spaces for the first 50 car parking spaces, and one additional bicycle space for each additional 50 parking spaces. The 2013 California Green Building Standards Code establishes short-term (non-residential) bicycle parking requirements as 5 percent of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack.¹

3.5 Travel Patterns and Traffic Conditions

EXISTING TRAFFIC CONDITIONS

The most recent automobile traffic counts in the Study Area were conducted in 2014, 2012, and 2006, and include average daily traffic (ADT) volumes for the roadway system, level-of-service analysis for key intersections, and future forecasts of traffic conditions on the network. Level-of-service (LOS) analysis provides a letter-based grading system of intersection performance at the AM and PM peak hours of congestion, with LOS A signifying minimal delay for motor vehicle drivers and LOS F signifying considerable delay. Note that the LOS grading system only reflects traffic performance from the point of view of motor vehicle delay—in other words, an intersection with very few vehicles passing through can perform at LOS A (minimal automobile delays), but this does not mean the intersection necessarily supports the safety and mobility of all of its users or its surrounding land uses.

¹ California Building Standards Commission. *2013 California Green Building Standards Code (CALGreen)* Section 5.106.4.1.1. Sacramento, 2013.

Table 3-4: Summary of Existing Intersection Vehicle Level-of-Service Analysis

#	Intersection	AM Peak Hour	PM Peak Hour
1	Sierra Hwy/Palmdale Blvd (SR-138)	C ³	C ³
2	SR-14 SB Off-Ramp/Palmdale Blvd (SR-138)	A ³	A ³
3	SR-14 NB Off-Ramp/Palmdale Blvd (SR-138)	A ³	A ³
4	Division St/Avenue Q	B ⁴	B ⁴
5	Division St/Palmdale Blvd (SR-138)	C ³	B ³
6	5 th St West/Palmdale Blvd (SR-138)	B ⁴	B ⁴
7	5 th St East/Palmdale Blvd (SR-138)	B ³	B ³
8	6 th St East/Palmdale Blvd (SR-138)	B ³	B ³
9	9 th St East/Palmdale Blvd (SR-138)	A ³	B ³
10	10 th St East/ Palmdale Blvd (SR-138)	B ³	B ³
11	11 th St East/ Palmdale Blvd (SR-138)	D ^{1,3}	F ^{1,3}
12	12 th St East/ Palmdale Blvd (SR-138)	C ³	E ^{1,3}
13	15 th St East/ Palmdale Blvd (SR-138)	C ³	E ^{1,3}

Note:

1. **(Bold)** Intersection LOS score is performing below standards set by the City of Palmdale's Circulation Element or another governing body
2. As of 2014
3. As of 2012
4. As of 2006

Source: Palmdale Housing Element Project Traffic Analysis, 2012; Palmdale Transit Village Final EIR, 2007

While not necessarily an immediate concern, intersections that are deficient according to policies set forth by the City's Circulation Element or another governing body would require mitigation. In 2012, the Study Area contained no deficient intersections, though there were three such intersections beyond Study Area boundaries.

Average daily traffic volumes were measured in 2012 and available for select roadway segments in the Study Area. ADT counts are depicted in Figure 3-5 and Table 3-5.

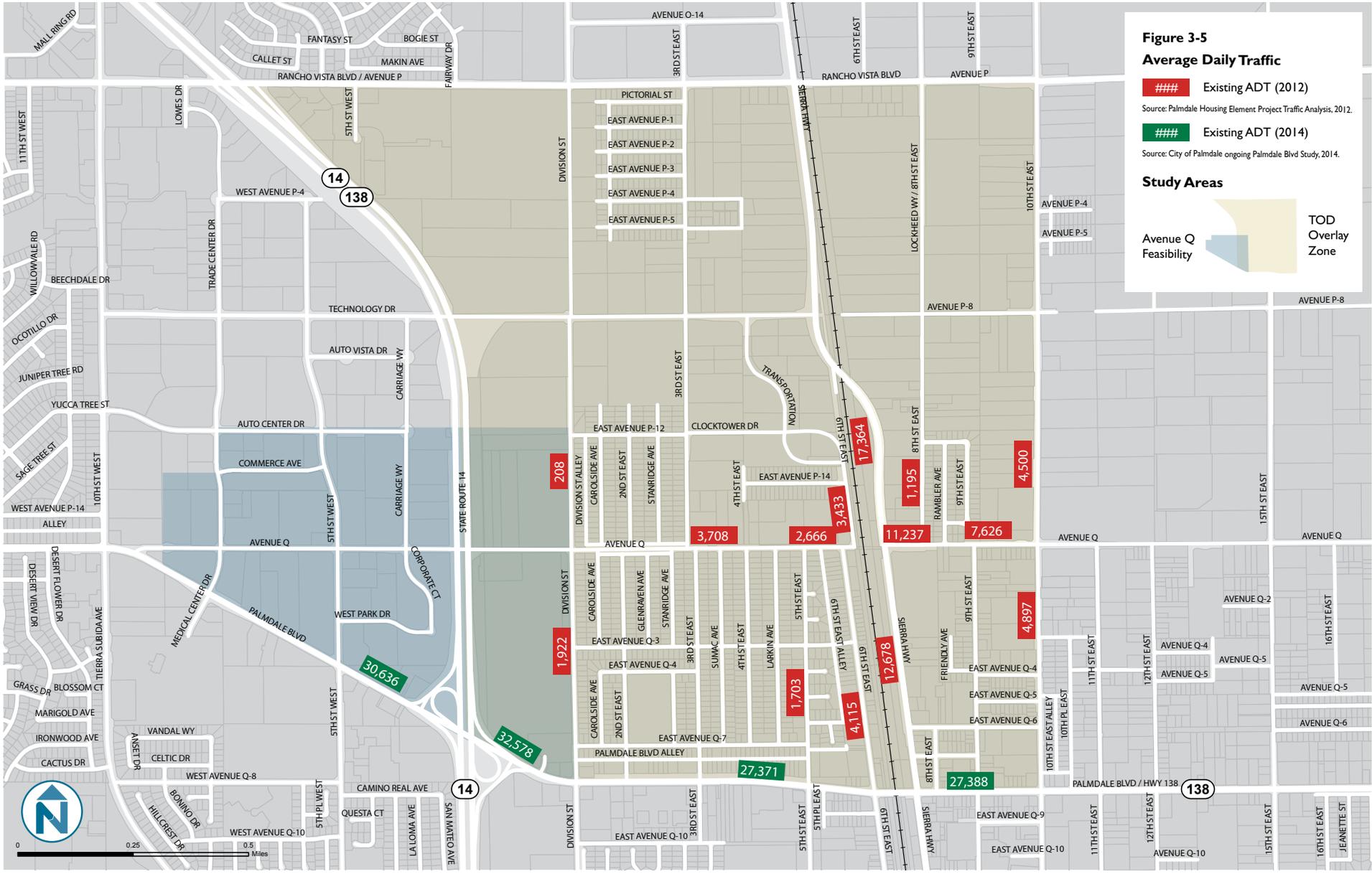


Table 3-5: Summary of 24-Hour Vehicle Traffic Volume and Roadway Segment LOS

#	Roadway Segment	LOS E Capacity	ADT	LOS
1	Division St n/o Ave Q	18,000	208	A
2	Division St btwn Ave Q and Palmdale Blvd	18,000	1,922	A
3	Division St btwn Palmdale Blvd and Ave R	18,000	8,198	A
4	5th St East btwn Ave Q and Palmdale Blvd	18,000	1,703	A
5	5th St East btwn Palmdale Blvd and Ave R	18,000	6,258	A
6	5th St East btwn Ave R and Ave R-8	18,000	5,190	A
7	6th St East n/o of Ave Q	18,000	3,433	A
8	6th St East btwn Ave Q and Palmdale Blvd	18,000	4,115	A
9	6th St East btwn Palmdale Blvd and Ave R	18,000	3,578	A
10	Sierra Hwy n/o Ave Q	36,000	17,364	A
11	Sierra Hwy btwn Ave Q and Palmdale Blvd	36,000	12,678	A
12	Sierra Hwy btwn Palmdale Blvd and Ave R	36,000	11,852	A
13	Sierra Hwy btwn Ave R and Ave R-8	36,000	7,947	A
14	8th St East n/o Ave Q	18,000	1,195	A
15	10th St East n/o Ave Q	18,000	4,500	A
16	10th St East btwn Ave Q and Palmdale Blvd	18,000	4,897	A
17	10th St East btwn Palmdale Blvd and Ave R	18,000	6,112	A
18	10th St East btwn Ave R and Ave R-8	18,000	5,779	A
19	15th St East n/o Ave R	18,000	2,802	A
20	15th St East btwn Ave Q and Palmdale Blvd	18,000	1,683	A
21	15th St East btwn Palmdale Blvd and Ave R	18,000	1,549	A
22	Ave Q btwn Division St and 5th St East	18,000	3,708	A
23	Ave Q btwn 5th St East and 6th St East	18,000	2,666	A
24	Ave Q btwn Sierra Hwy and 8th St East	18,000	11,237	B
25	Ave Q btwn 8th St East and 10th St East	18,000	7,626	A
26	Ave Q btwn 10th St East and 15th St East	18,000	8,619	A
27	Palmdale Blvd btwn Division St and 5th St East	54,000	33,064	B
28	Palmdale Blvd btwn 5th St East and 6th St East	54,000	27,389	A
29	Palmdale Blvd btwn 6th St East and 10th St East	36,000	25,257	B
30	Palmdale Blvd btwn 10th St East and 15th St East	36,000	26,264	C
31	Ave R btwn Division St and 5th St East	18,000	8,374	A
32	Ave R btwn 5th St East and 6th St East	18,000	12,867	C
33	Ave R btwn Sierra Hwy and 10th St East	36,000	17,455	A
34	Ave R btwn 10th St East and 15th St East	36,000	18,350	A

Source: Palmdale Housing Element Project Traffic Analysis, 2012

3.6 Circulation Opportunities and Constraints

There are several opportunities and constraints related to circulation in the Study Area. The opportunities include:

- **Proximity to existing rail service to the region’s core, as well as planned high speed rail service to destinations within and outside of California.** Commuter rail service to downtown Los Angeles is a valuable asset; during peak times, the 95 minute express trip to the region’s core is time-competitive with driving, given levels of traffic congestion. Furthermore, current high speed rail plans would create a major high speed rail hub at or near the Palmdale Transportation Center, affording easy rail access to major employment and activity centers in Southern California, Northern California, the Central Valley, and (if the Xpress West High Speed Rail system were completed) to Nevada. The California High Speed Rail project would also notably improve rail travel times between Palmdale and downtown Los Angeles.
- **The Study Area is located near a major transfer point in the AVTA system, offering good connectivity to various bus routes serving the Antelope Valley.** While frequencies are relatively low, many existing routes converge near the Study Area at the PTC, allowing for robust transfer activity.
- **Additional development proposed in and around the Study Area may warrant the study of increased bus service,** including increased headways, reroutings, and potentially the addition of new routes.
- **The Avenue Q Feasibility Study planning process will ultimately propose or result in the construction of new streets and changes to the configuration of some existing streets.** This presents a good opportunity to design streets for all modes of travel, including bicycles, and connect a future network of bikeways to existing and proposed facilities in the vicinity of the Study Area. Particular importance should be placed on connections to and from the Palmdale Transportation Center and existing Class I paths, as Class I pathways, along with protected bicycle lanes (a.k.a. cycletracks), have been shown to be the bikeways that are most likely to encourage individuals to bicycle.
- **The proximity to important current and planned arterials,** such as Palmdale Boulevard, SR 14 and the planned High Desert Corridor indicate future development in the Study Area will enjoy easy vehicular access.
- **Planned bicycle improvements would close various gaps in the existing bicycle network,** facilitating trips to/from the Palmdale Transportation Center and between various other activity centers such as Desert Sands Park, employment centers west of Aerospace Highway and retail/employment centers along Palmdale Boulevard.

The constraints include:

- **Bus service frequency is relatively low** considering the area's proximity to activity centers and the general connectivity to other transit service.
- **Very wide intersections**, particularly at major streets such as Palmdale Boulevard, present long pedestrian crossing distances and allow vehicles to dominate the streetscape, posing barriers to a pedestrian-friendly, mixed use environment.
- **Long blocks that lack frequent, comfortable pedestrian crossings**, particularly along West Palmdale Boulevard and Avenue Q.
- **A lack of bicycle and pedestrian wayfinding**, particularly between the Study Area and the PTC, as well as connecting bus service.
- **A general lack of bicycle facilities and amenities**, especially east-west connections through the Study Area and to the PTC, and bicycle parking facilities at the Metrolink station. The current network of bikeways includes large gaps, and the railway right of way heightens the need for east-west bicycle facilities. Most existing bicycle facilities exist on relatively wide, high-trafficked, high-speed arterials, which many cyclists (particularly the young and the elderly) will find uncomfortable for cycling.
- **Lengthy commute times that are the highest in the Los Angeles area and among the highest in the country**, exacerbated by relatively higher fuel and insurance costs. This is impacted by the limited range of high quality multimodal transportation options currently available to the city's growing population. Palmdale commuters spend an average of 40.4 minutes traveling to work, more than 12 minutes longer than the Los Angeles regional average.²

Please note that the forthcoming traffic impact analysis for the study will provide updated traffic and circulation information.

² "Southern California's Worst Commutes: More Gas, Higher Insurance and Wasted Time," Nerdwallet Home / Vehicle Insurance, last modified September 30, 2014, accessed March 24, 2015, <http://www.nerdwallet.com/blog/insurance/2014/09/30/worst-commutes-los-angeles-insurance-gas-time/>.

4 Community Character



This section presents an analysis of the community character of the Study Area. Topics addressed include urban form, building type and scale, street and sidewalk character, and street trees and landscape. The chapter also summarizes input received during interviews with community stakeholders.

4.1 Urban Form

The Study Area primarily consists of low-density development and vacant land. Figure 4-1 shows a community character diagram that illustrates the activity nodes, edges and gateways in the Study Area. Figure 4-2 illustrates the physical setting of the area, highlighting the breakdown of developed and undeveloped land.

NODES

The Study Area and its vicinity boast several activity nodes that serve as anchors for the community. These are major transportation, retail and employment centers that function as key destinations for both Palmdale residents and regional visitors.

The Palmdale Transportation Center (PTC), located a quarter mile east of the Study Area, is a transportation hub for local, commuter and regional bus and rail service. With the planned development of California High Speed Rail, this node will become of increasing import to the region. The Study Area is additionally bolstered by the Palmdale Regional Medical Center, located just south of Palmdale Boulevard. This hospital and medical center serves the Antelope Valley and provides approximately 800 jobs for the region, making it a key employment center in the city. A major retail center located about a mile northwest of the Study Area acts as a third activity node. Anchored by the Antelope Valley Mall and several big box retail chains, this retail center draws visitors from across the region.

Edges and Barriers

The elevated highway of SR-14 bisects the eastern portion of the Study Area. There are two places within the Study Area where traffic can cross under the highway at Avenue Q and Palmdale Boulevard. At present, the highway acts as a visual and psychological barrier that breaks up the continuity of the Avenue Q corridor.

Gateways

Crossings of SR-14 and the locations of highway on and off ramps are major entrances to the community from other parts of the city and further destinations. The SR-14 underpass and off-ramp at Palmdale Boulevard is an entrance to the retail corridor, and a key entry point into the area for those traveling to the Palmdale Regional Medical Center.

Block and Lot Pattern

Most of the blocks and parcels in the Study Area are large. Blocks vary in size and shape, ranging from 750 feet square to 1200 feet by 2400 feet. While much of the grid is orthogonal, the diagonal edge formed by Palmdale Boulevard creates some trapezoidal blocks and parcels. As discussed in Chapter 2, while there are currently some commercial and industrial uses on these blocks, many are partially or fully vacant. Figure 4-3 highlights the block and lot pattern of the Study Area.

Figure 4-I: Avenue Q Community Character

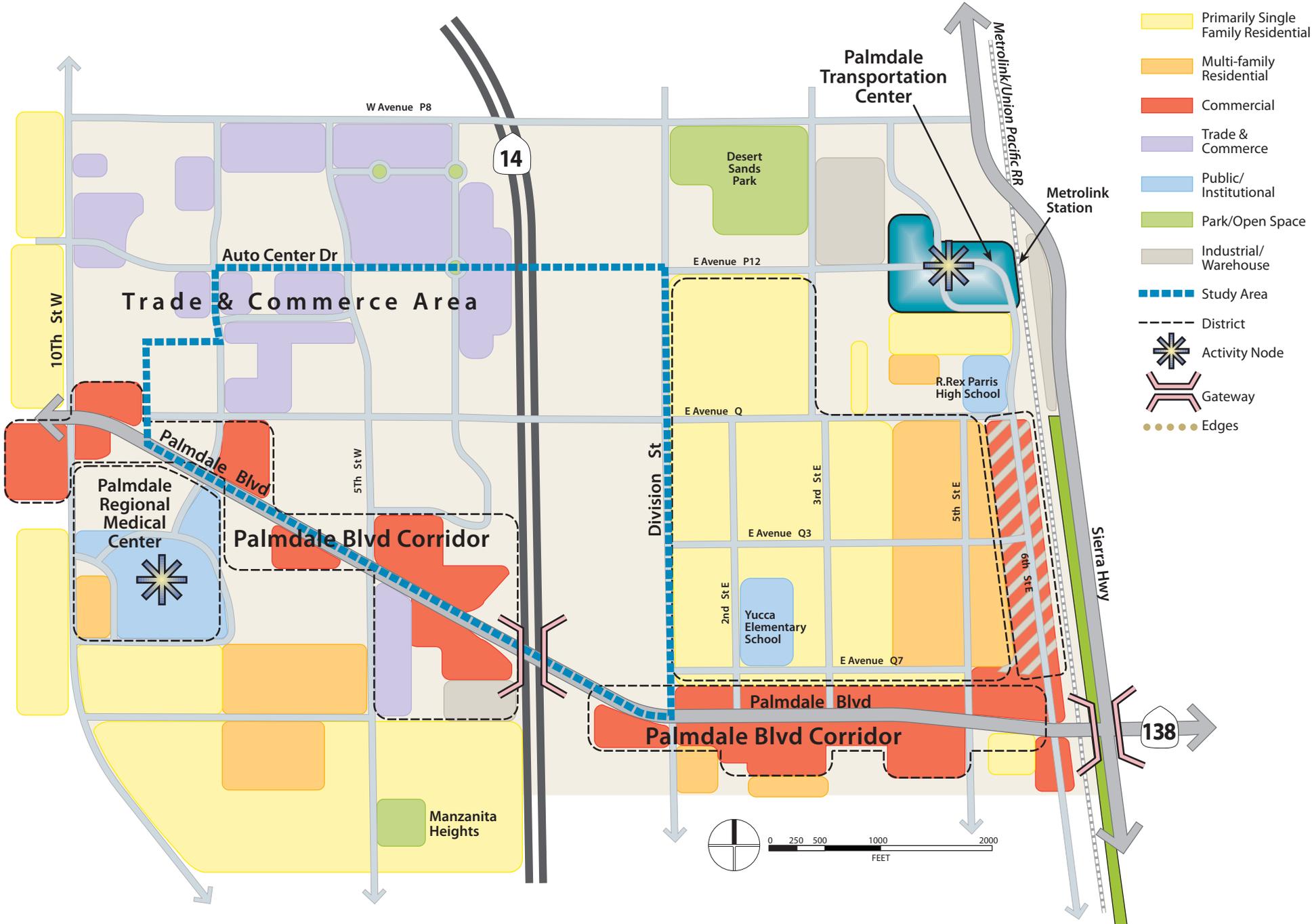
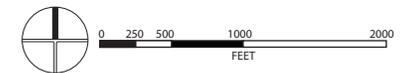
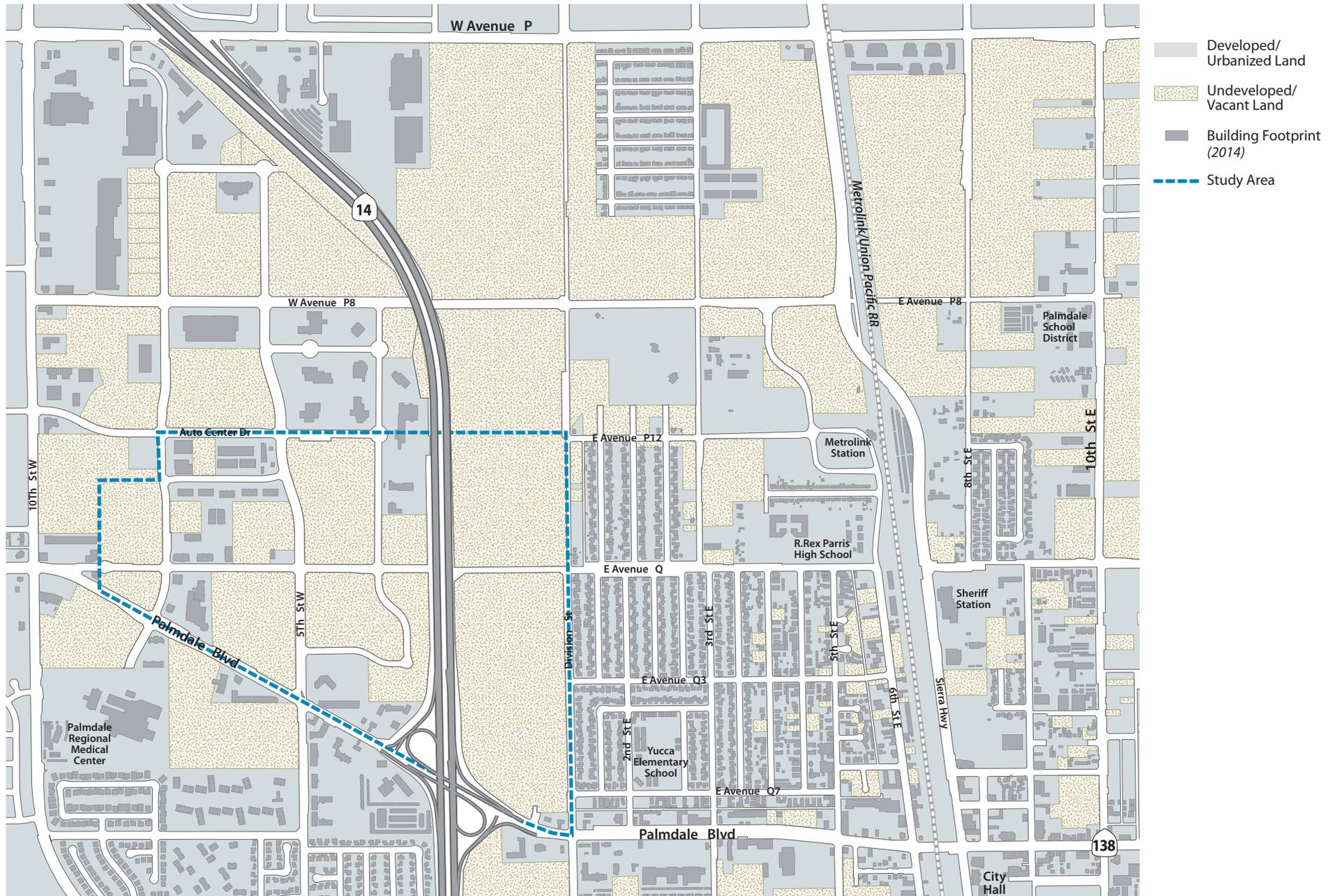
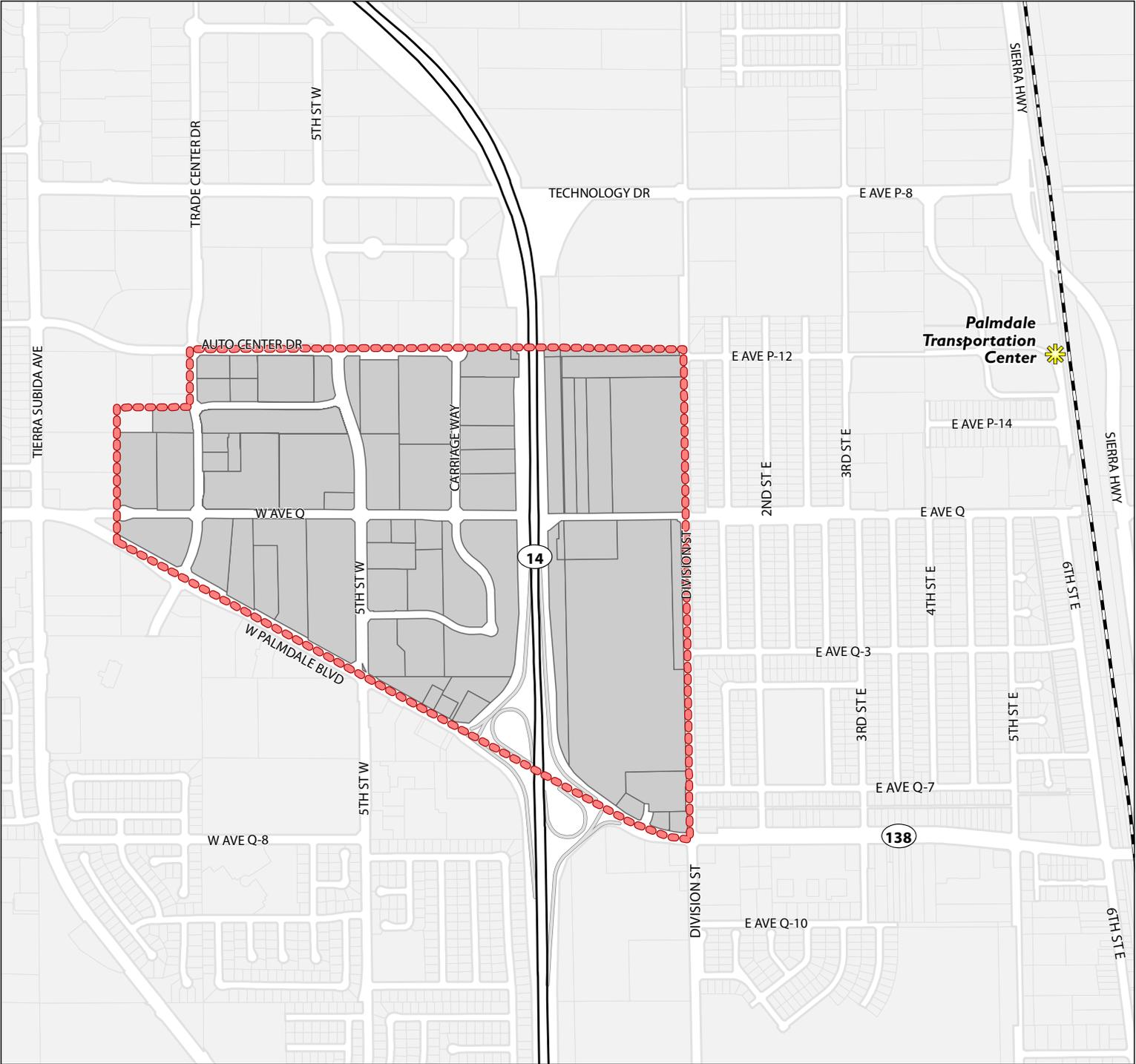


Figure 4-2: Physical Setting



**Figure 4-3:
Block and Lot Pattern**

 Study Area



Source: City of Palmdale, 2014

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FEET



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4.2 Building Type and Scale

Most development in the Study Area is non-contiguous and predominantly single story, creating a low, spread-out character that is typical of communities in the High Desert. Vacant and underutilized parcels along key corridors create gaps in development that detract from the public realm. Representative building types in the Study Area are shown below.

The Study Area contains a mix of commercial and industrial buildings that are generally newer construction. Buildings are set back from the street with landscaping or surface parking along the street frontage. While single story development is prevalent in this area, some two story office buildings and three story hotels add a bit of height diversity.



Auto Center



Office Commercial



Hotel



Manufacturing

4.3 Street and Sidewalk Character

STREET TYPES

Streets in the Study Area are broad and open with wide lanes and shoulders. Each of the four perimeter streets has slightly different qualities. Auto Center Drive, the northern boundary, is a four-lane street with a center passing/turning lane and sidewalks and basic street lights on both sides. The section of the street that provides direct access to the Auto Center is well-maintained with landscaped medians and parkways, sidewalk planter boxes, and a roundabout with enhanced paving. The chosen plant material requires water and maintenance, as turf is “ornamental” in the Palmdale ecology. While Auto Center Drive’s palms are more aligned with the local habitat and natural conditions, they offer little shade and have been chosen primarily for their function as a landmark marking the auto sales area.



Auto Center Drive

Palmdale Boulevard, the southern boundary, is a commercial corridor with pockets of development and vacant land. Buildings are set back from the street behind parking lots, creating the perception that the street is wider than it is. Medians are largely paved with river rock and low shrub material. There are no trees in the medians or parkways.



Palmdale Boulevard

Division Street, the eastern Study Area boundary, separates small residential parcels to the east from large lots of undeveloped, vacant land to the west. It is smaller in scale than the other perimeter streets. While the west side of Division has no power poles or street lights, it does have an undeveloped service lane parallel to the street. On the east side of the street, there is no continuous sidewalk along the residential parcels, and it appears that individual homeowners treat their frontage they wish. The northernmost block has pads for future residential development with curbs and power poles already in place.



Division Street

SR-14 bisects the site with one exit at Palmdale Boulevard and underpasses at Avenue Q and Auto Center Drive. The connector from the Auto Center district south via Carriage Way and Corporate Court to 5th Street West is broad with curbs, sidewalks, street lights and planted medians.



SR 14 (left) and Carriage Way (right)

STREET TREES/LANDSCAPE

Commercial development related to the Auto Center, Holiday Inn and Palmdale Boulevard commercial corridor has brought medians and streetscape enhancements that are well-maintained. Other parts of the Study Area lack medians, street trees or other elements that provide shade or mediate the environment.

While the medians improve street conditions in parts of the Study Area, the selection of plant material does not acknowledge local environmental conditions or take advantage of native plants adapted to a desert landscape.



Medians at Auto Center Drive (left) and Carriage Drive (right)

Apart from the medians at the Auto Center and Corporate Court, median landscaping is in large part hardscape (paving and river rock) with low plant material. This design strategy is out of scale with existing development and out of sync with local conditions. Appropriate large trees would help to create sense of pedestrian scale, and would provide shade and heat mitigation, and would provide secondary benefits of street trees, such as air filtering, oxygen transfer, and wildlife habitat.



Palmdale Boulevard

4.4 Stakeholder Interviews

As part of the community outreach effort for the Avenue Q Feasibility Study, the planning team interviewed 19 stakeholders on October 6, 2014. The interviews were done in groups of one to five. One hour was allotted for each interview session. Stakeholders included local business owners; property owners; real estate brokers; representatives of community organizations and advocacy groups; representatives from City agencies; and political representatives.

The interviewers had a set of questions to spur conversation, including:

- What do you think are the greatest challenges facing Palmdale today? What do you feel will be the key challenges the City will face in the next 10 to 20 years?
- What aspects of Palmdale do you like most? What do you like about living, working, or otherwise being involved here? What are the community assets that should be built on?
- What, if anything, would you like to see change about development patterns in Palmdale?
- The plans will also look to create a circulation system that supports travel by car as well as by bike, bus, and on foot. What do you think are the big-picture circulation issues in Palmdale?
- Are there any other issues or concerns I should have asked about?

KEY THEMES

Several themes emerged that help to guide the planning efforts. Stakeholders supported the City's goals of bringing about new, higher-intensity and mixed-use development associated with a future High Speed Rail station, and they felt the larger community would also be supportive if the City reached out to inform and inspire. People spoke of the potential for upscale multifamily housing, entertainment uses, and neighborhood gathering places to find a foothold in Palmdale, and make the city a better place to live. The Avenue Q Feasibility Study Area was seen as a blank slate, with poor visibility and access, but with potential as a transit link and TOD area. Following is a list of major themes heard during the stakeholder interviews. A comprehensive list of the comments received, organized by topic, follows.

1. Transit-oriented development could make Palmdale attractive to young, well-employed residents, and stimulate economic development while improving quality of life in the community.
2. The Avenue Q Corridor could have potential for multifamily housing and entertainment uses, and these would not necessarily be incompatible with the adjoining Auto Center and employment uses.
3. Palmdale lacks a connected bicycle network; improving this network will benefit existing residents and will be important in attracting the type of residents who would live in a "TOD" area.

4. Future transit infrastructure and surrounding public spaces and facilities need to be designed in a way that provides safety, comfort, and 21st Century convenience.
5. Avenue Q is currently an undeveloped street with poor connections, but could become a good transit link between High Speed Rail and other activity centers in Palmdale.
6. Palmdale residents want to feel a stronger connection to their community. Including residents in the process and presenting a positive vision of the future are important.
7. Realization of the potential that major transportation investments bring to Palmdale will require good planning, good timing, and patience.

The Avenue Q Feasibility Study will result in recommendations for regulatory changes related to land use, circulation, and streetscape and urban design. Input received from stakeholders covered a wide variety of topics and issues, all related to planning and livability, but not all related specifically to the charge of this project. All of the comments are included in this report because they are valuable and reflect stakeholders concerns; they are important for the City to consider for other efforts. However, it is important to note that not all of the issues identified by stakeholders are directly related to the limited scope of the Avenue Q Feasibility Study which is to provide recommendations for revised land use regulations and circulation and streetscape improvements in support of TOD.

5 Infrastructure

This section presents an analysis of the existing utility infrastructure throughout the Study Area, providing context for examining development opportunities and constraints. The primary focus is on the water, wastewater, and stormwater facilities that serve the Study Area. Information regarding floodplains is also included.

5.1 Water

POTABLE WATER INFRASTRUCTURE

Palmdale Water District (PWD) provides water supply to the Study Area. According to PWD's 2010 *Urban Water Management Plan* (UWMP), sources of water supply are primarily from groundwater extraction and imported water from the State Water Project (SWP). Data on existing water conveyance facilities within the Study Area are not available.

RECYCLED WATER INFRASTRUCTURE

PWD and the City of Palmdale jointly created the Palmdale Recycled Water Authority (PRWA) in September 2012. PRWA acts as a separate agency from PWD and the City and it manages local recycled water resources. Recycled water supplies are available from the Palmdale Water Reclamation Plant (PWRP), which is located in the City of Palmdale and is owned and operated by Sanitation Districts of Los Angeles County (LACSD). Currently, the PWRP has a treatment capacity of 12 million gallons per day (MGD). Recycled water supplies are expected to grow over time with gradually increasing influent sewerage flows. Prior to the creation of PRWA, PWD prepared its own *Recycled Water Facilities Plan* in February 2010 detailing the existing and potential infrastructure to develop, convey, and store recycled water in the area.

Current infrastructure does not provide recycled water service in the Study Area. However, the potential for use within the Study Area exists based upon recommendations within the *Recycled Water Facilities Plan*. The *Recycled Water Facilities Plan* recommends the future installation of a smaller diameter (less than 12-inch) recycled water pipeline in Sierra Highway from north of Avenue R to Avenue P-8, and west along Avenue P-8 to Desert Sands Park. Given the recommended pipeline's proximity to the Study Area, the potential exists for future installation of a service connection to serve a portion of water demands.

5.2 Wastewater

WASTEWATER INFRASTRUCTURE

The Study Area is located within County Sanitation District No. 20 of Los Angeles County (LACSD-20), where all wastewater is directed to PWRP for wastewater treatment via LACSD trunk sewers. GIS data and shapefiles of existing wastewater system pipeline alignments, sizes, and the location of manholes within the Study Area were provided by the City of Palmdale. Figure 5-1 shows the sewer pipelines network within the Study Area.

The sewerage network consists of sewer gravity mains with diameters from 8-inch to 15-inch in the Study Area. The smaller sewer lines (8" and 10") are owned and maintained by the City of Palmdale. The larger sewer lines (12" and 15"), the LACSD trunks, collect wastewater from the city-owned sewers. Depending on the existing sewage flows and pipeline depth to diameter (d/D) ratios, upgrades to existing infrastructure may be required to accommodate development. This includes, but is not limited to, the construction of new City sewer mains and laterals, construction of new connections to the LACSD trunk sewers, and upsizing of portions of the LACSD and/or City sewers.

5.3 Stormwater

WATERSHED

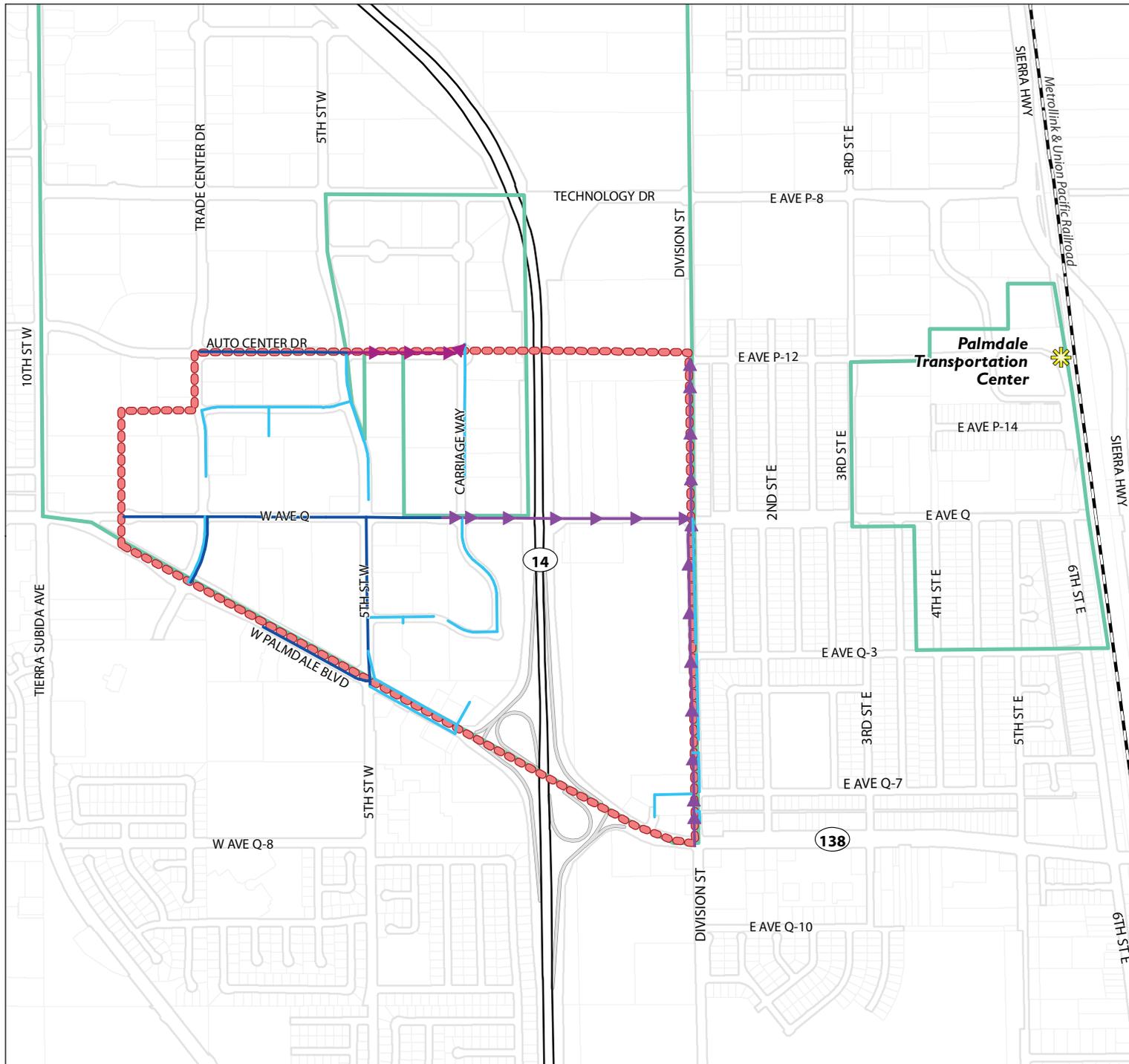
Due to its flat land scape and the lack of extensive flood control infrastructure, the City of Palmdale is exposed to flood hazards in some areas. Overall, flooding in the City is caused by uncontrolled runoff from the southern San Gabriel and Sierra Pelona mountains to the northern Rosamond Dry Lake. As shown in Figure 5-2, the Study Area is located exclusively in the Anaverde Creek watershed. GIS data identifying the watershed areas was obtained from the United States Geological Survey (USGS) National Hydrography Dataset.

STORMWATER INFRASTRUCTURE

A number of local and regional flood control facilities can be found in and near the Study Area, including storm drains, catch basins, and two natural tributaries, Amargosa Creek and Anaverde Creek, as shown on Figure 5-2. GIS data and shapefiles of the existing storm drain system and catch basins locations within the Study Area were provided by the City of Palmdale.

Within the Study Area, two main storm drain lines are located on West Avenue Q and Auto Center Drive, where catch basins distributed unevenly along the lines. Shorter storm drain lines and catch basins can also be found along West Palmdale Boulevard. Attributes such as pipe diameter and capacity of these local lines could not be verified.

**Figure 5-1:
Wastewater System**



- 8" (Palmdale)
- 10" (Palmdale)
- ▶ 12" (LACSD)
- ▶ 15" (LACSD)

- Study Area
- Specific Plans

Source: City of Palmdale, 2014;
Dyett and Bhatia, 2014

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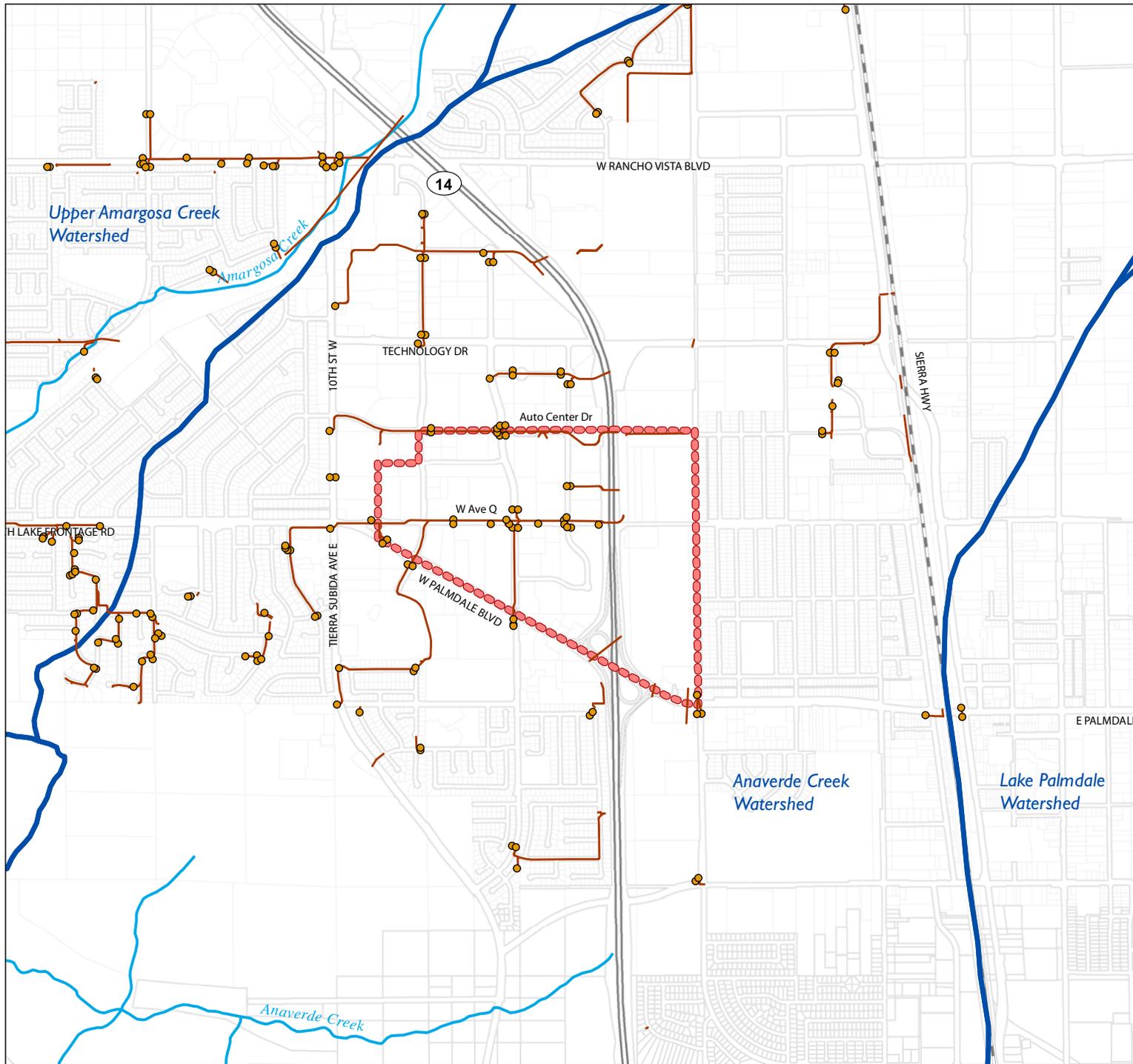


FEET

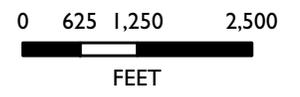


**Figure 5-2:
Stormwater System**

-  Existing Catch Basin
-  Existing Storm Drain
-  Study Area
-  Watershed Boundary



Source: City of Palmdale, 2014;
Dyett and Bhatia, 2014



The City of Palmdale Municipal Code states that regional and local drainage facilities are required in order to mitigate the flooding problems caused by current development and to prevent future development from creating additional flooding problems. The City requires every person who develops land to mitigate the impacts of that development on the City's drainage facilities. The City will therefore require developers to construct drainage facilities in accordance with the City of Palmdale Master Drainage Plan and/or pay drainage fees that will be used to construct drainage facilities pursuant to the Master Drainage Plan. The amount of the drainage fees collected is limited to the cost of drainage facilities attributable to new development.

FEMA FLOODPLAIN

As a participant of the National Flood Insurance Program (NFIP), the city of Palmdale agrees to adopt and enforce ordinances which meet or exceeds the FEMA requirements to reduce its risk of flooding. Figure 5-3 shows the FEMA floodplain in the study area and its surroundings.

The 100-Year Flood Zone has a 1 percent annual chance of shallow flooding with an average depth between 1 and 3 feet. Floodplain management standards and additional restrictive requirements may apply. The 500-Year Flood Zone is the area outside of the 100-Year Flood Zone. It is categorized as Moderate Flood Hazard Area under Special Flood Hazard Area (SFHA).

Any development within a defined FEMA flood zone requires a Conditional Letter of Map Revision (CLOMR) prior to preparing a Letter of Map Revision (LOMR). A CLOMR is FEMA's comment on a proposed project that would, upon construction, affect the hydrologic or hydraulic characteristics of a flooding source and result in the modification of the existing floodway, the effective Base Flood Elevations (BFEs), or the Special Flood Hazard Area (SFHA). The letter does not revise an effective NFIP map; it indicates whether the project, if built as proposed, would be recognized by FEMA. Once a project has been completed, the community must request a revision to the FIRM to reflect the project.

5.4 Electricity and Gas

Southern California Edison (SCE) maintains the electrical distribution lines and supplies power in the region that includes Palmdale. The electricity distributed by SCE is generated both by SCE-owned power facilities as well as through contracts with other energy suppliers in the region. Palmdale is served by SCE from its Vincent Substation, mainly across above-ground utility poles. SCE's improvement plans to meet increased demand in Palmdale include upgrading substations and conductors, extending power lines, and replacing poles. A new substation was built at Ritter Ranch on the west side of Palmdale in 2008-09.

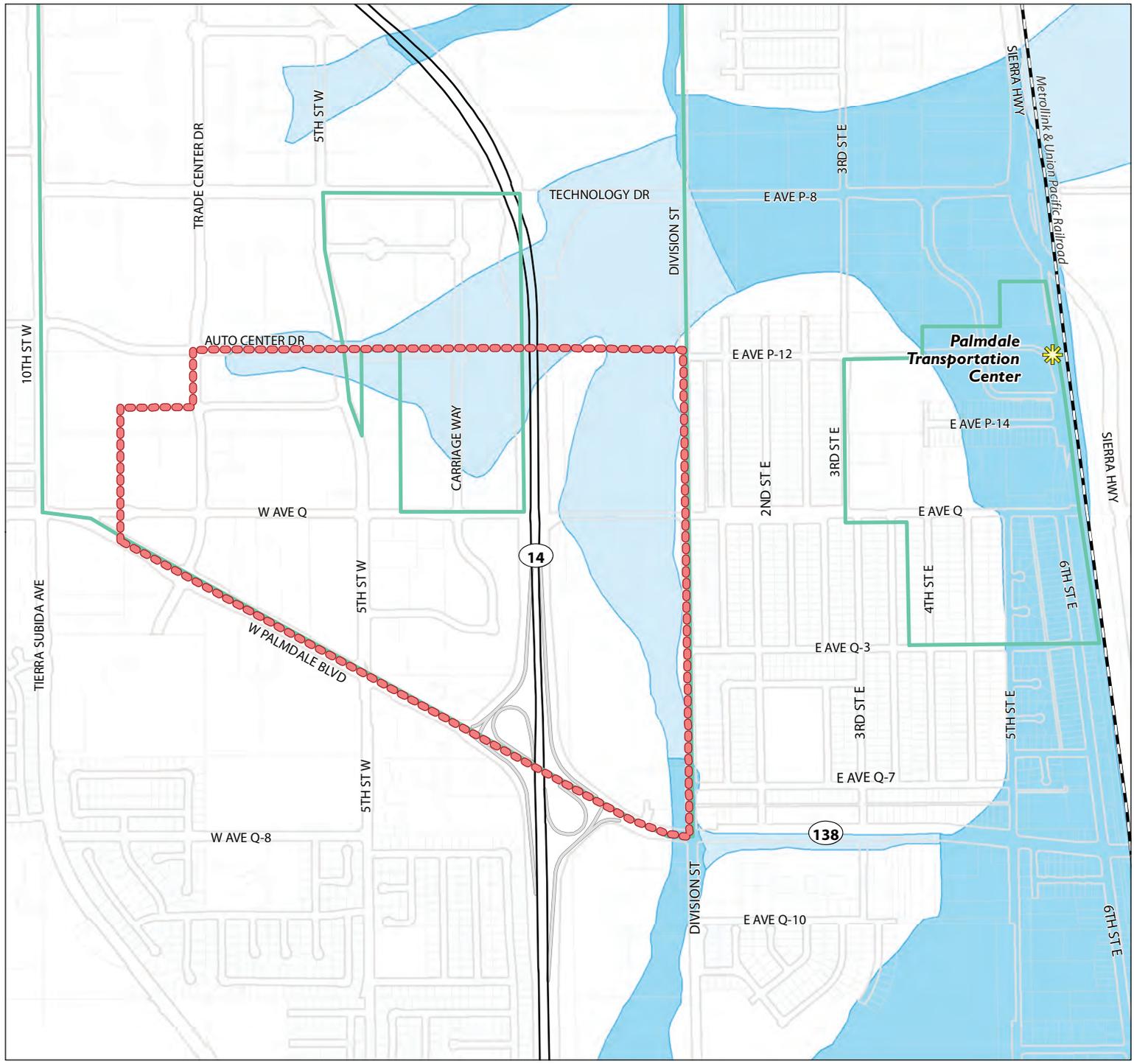
The Southern California Gas Company (SCGC) provides natural gas to most of the region, including the Antelope Valley. The City of Palmdale is within the boundaries of the Foothill distribution division and the North Basin Transmission division. Gas is delivered through lines laid in City streets, including in the Study Area. Natural gas is used to provide heating, air conditioning, and a power source for cooking appliances. New development in the Study Area may require the concurrent laying of additional gas lines.

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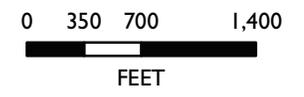
**Figure 5-3:
Floodplain**

- 100 Year Flood Zone
- 500 Year Flood Zone

- Study Area
- Specific Plans



Source: City of Palmdale, 2014;
Dyett and Bhatia, 2014



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