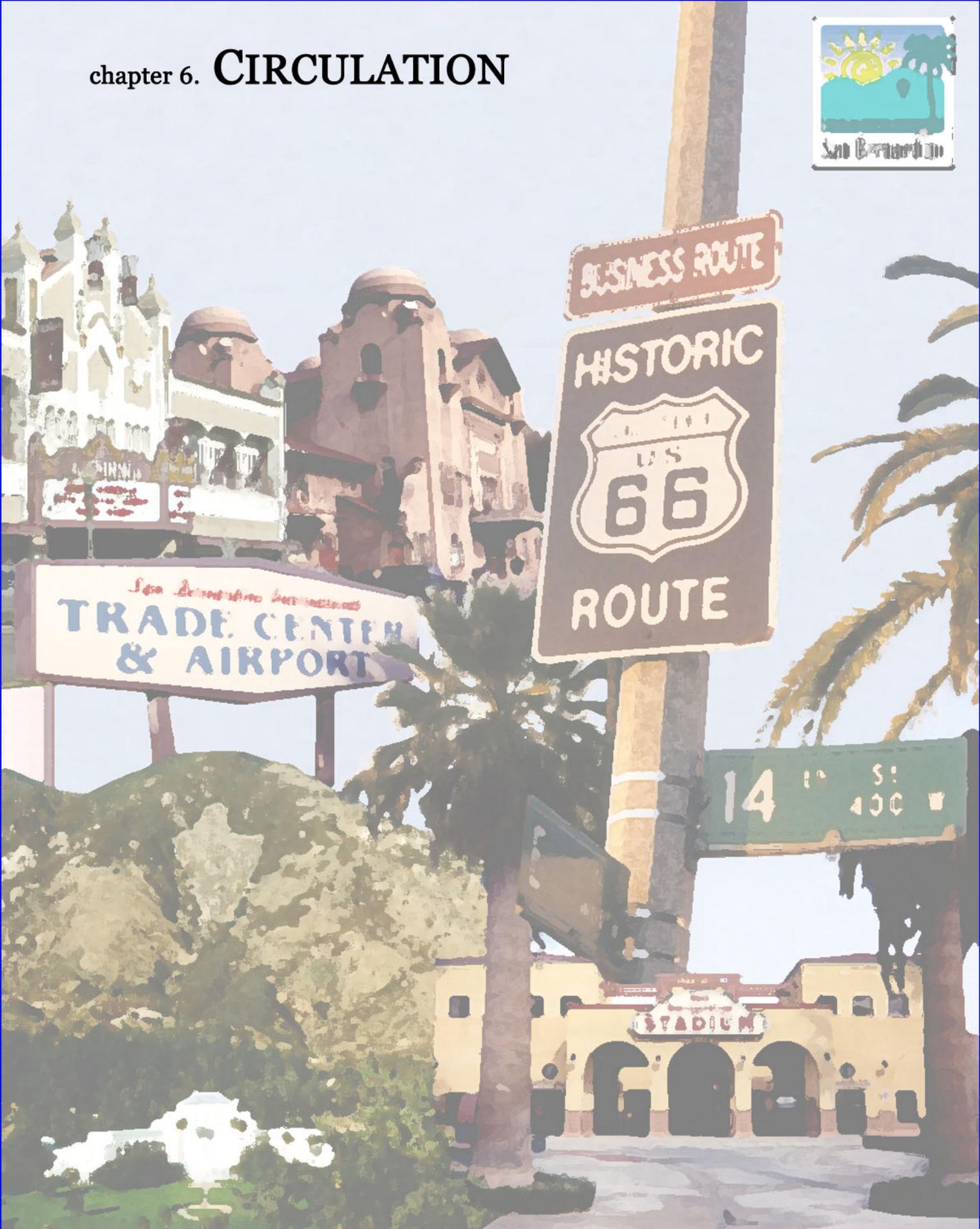


chapter 6. **CIRCULATION**



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# Chapter 6. Circulation

## INTRODUCTION

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An efficient and safe circulation system is a critical concern for our residents and visitors. Our ability to maneuver affects our quality of life in a myriad of ways: from driving on the freeway, to parking, to shipping goods, to emergency access, to riding a bike and walking across a street. We are blessed with an amazing array of mobility options upon which we can capitalize and enhance our community.

As the County's largest city and given its location, San Bernardino's transportation system has a broad and significant impact. Not only does it serve the mobility of over 186,000 residents, San Bernardino's roadways affect and are affected by regional influences. We are positioned as a gateway into the Southern California from the Cajon Pass and Interstate 215, to the Inland Empire via Interstate 10, and to the San Bernardino Mountains from State Routes 18, 30, and 330. A grid system of streets, developed early in the City's history, directly connects to a valley-wide street system linking a string of foothill and valley communities as far west as Pomona (approximately 30 miles). Some of these east-to-west arterials retain the same name through much of the valley (e.g., Baseline Street, Foothill Boulevard, and Highland Avenue).

But we have so much more than streets that we can rely upon to enrich our mobility options. We are the location of major freight and passenger rail operations and are blessed with one-of-a-kind resources in the San Bernardino International Airport and Trade Center and the Santa Ana River Trail, which passes through a portion of our community.



## Purpose

Our transportation system affects almost every aspect of the City's quality of life: land use patterns, air quality, open-space, habitat planning, noise, energy use, and community appearance.

The major purpose of this Element is to design and improve a circulation system to meet the current and future needs of all its residents. Such a system should have the following three components: equity, efficiency and foresight. It should be accessible to all economic segments of the City to make their lives more convenient and practical. It should make use of existing infrastructure wherever practical. Finally, it should preserve important transportation routes for future planning needs.

## Relationship to Other Elements

State planning law not only requires a Circulation Element, it mandates that it be directly correlated to the Land Use Element. This means that it must assess the adequacy of the circulation system to handle traffic generated by planned land use changes. But circulation directly or indirectly affects almost all elements of the General Plan, including the required Housing, Natural Resources and Conservation, Noise, and Safety Elements. In addition, it is directly related to the Economic Development Element due to the movement of employees, products, materials and ideas throughout the City, and to the Community Design Element for a roadway's direct effect on the City's image and character.

The Parks, Recreation, and Trails Element contains the discussion and policies related to our bicycle facilities and trails.

## ACHIEVING THE VISION

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The Land Use Element is responsive to our Vision because it represents our desires to:

- ◆ Improve our community's appearance and identity by revitalizing our corridors and roadways;
- ◆ Reinforce our strategic location within Southern California's transportation system by providing a system of streets that accommodate projected traffic levels and allow the convenient movement of people and goods;
- ◆ Capitalize upon our freight and passenger rail operations to stimulate economic growth;
- ◆ Minimize the impacts of truck traffic, particularly in residential areas;
- ◆ Fulfill the potential of the San Bernardino International Airport and Trade Center to become a vibrant center for commerce and travel and stimulate surrounding businesses;
- ◆ Realize the improvement of our historic Santa Fe Depot so that it will be an example of our community and a destination in itself;
- ◆ Improve our entire system of mobility by providing a range of transportation alternatives including light rail, bus, bicycle, and pedestrian paths and trails; and
- ◆ Expand the safety of our streets and neighborhoods.



### Measure I

Adopted by San Bernardino County voters in 1989, Measure I is a major source of revenue for transportation improvements in the City of San Bernardino. Importantly, local officials make decisions about the allocation of these funds.

This 20-year half-cent sales tax has provided \$17 million for our streets during the first ten years. Additional Measure I funds, about \$406 million, have been pooled by all the cities and the unincorporated areas of the valley region. These pooled funds support freeway improvements, Metrolink trains, Omnitrans subsidies for elderly and disabled riders, major streets that serve as transportation arteries, ridesharing programs, landscaping, and traffic management.

## ABOUT OUR CIRCULATION SYSTEM

Our circulation system is composed of a wide range of transportation facilities and options that serve our mobility needs. It consists of roadways, railways, public transit, bikeways, trails, and pedestrian facilities, and aviation.

We want to ensure that the buildout of our City does not overload our street system. Accordingly, an in-depth analysis of future vehicular traffic conditions has been prepared to ensure our planned roadway system and land use plan are in-synch.

### Roadways

Our vehicular circulation network consists of a hierarchy of roadways that have primarily developed as a grid system. Due to barriers, such as rivers, mountains, canyons, freeways, railroads, and San Bernardino International Airport and Trade Center, many of the streets do not extend across the City and the grid becomes discontinuous.

#### 1. Classification of Streets

For the purposes of analysis and evaluation of roadway needs, a roadway functional classification system has been established for the City of San Bernardino. The roadway classifications are briefly described in the following paragraphs and the typical cross-sections associated with each classification are shown later in this Section (Item f.).

##### a. Freeways/Highway

Freeways/Highways are controlled-access, separated roadways that provide for high volumes of vehicular traffic at high speeds. There are four freeways within the City of San Bernardino and one highway:

- ◆ The San Bernardino Freeway (I-10) is the major east-west freeway providing access west to Los Angeles and east to the desert communities and beyond.
- ◆ Interstate 215 provides north-south freeway access to Riverside and San Diego counties to the south and the high desert communities to the north.

- ◆ Interstate 210 provides local east-west service between I-215 and State Route 330. As of 2005, this freeway was under construction and was also known as State Route 30 and will become the future I-210 when completed.
- ◆ State Route 18 provides a connection from I-210 to the mountain resorts/communities of Lake Gregory.

#### b. Major Arterials

These roadways can accommodate six or eight travel lanes and may have raised medians. These facilities carry high traffic volumes and are the primary thoroughfares linking San Bernardino with adjacent cities and the regional highway system. Driveway access to these roadways is typically limited to provide efficient high volume traffic flow. Examples of Major Arterials include:

- ◆ Waterman Avenue
- ◆ Mount Vernon Avenue
- ◆ Highland Avenue
- ◆ Baseline Street

#### c. Secondary Arterials

These roadways are typically four-lane streets, providing two lanes in each direction. These highways carry traffic along the perimeters of major developments, provide support to the major arterials, and are also through streets enabling traffic to travel uninterrupted for longer distances through the City. Examples of Secondary Arterials Include:

- ◆ Little Mountain Drive
- ◆ 9<sup>th</sup> Street
- ◆ Arrowhead Avenue (North of 5<sup>th</sup> Street)
- ◆ Sierra Way

#### d. Collector Streets

These roadways are typically two-lane streets that connect the local streets with the secondary arterials allowing local traffic to access the regional transportation facilities. Examples of Collector Streets include:



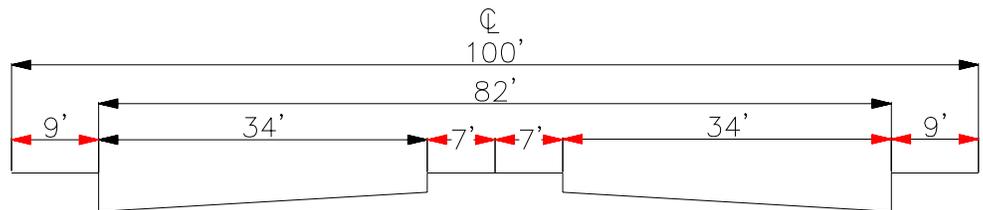
- ◆ California Street
- ◆ 6<sup>th</sup> Street
- ◆ Meridian Avenue

**e. Local Streets**

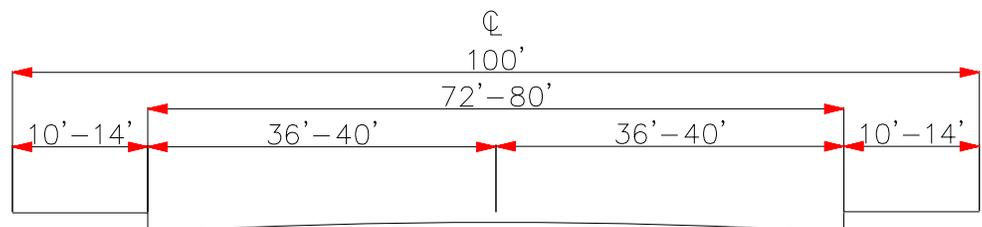
These roadways are typically two-lane streets that are designed to serve neighborhoods within residential areas. There are several variations on local streets depending on location, length of the street, and type of land use.

**f. Standard Roadway Cross Sections**

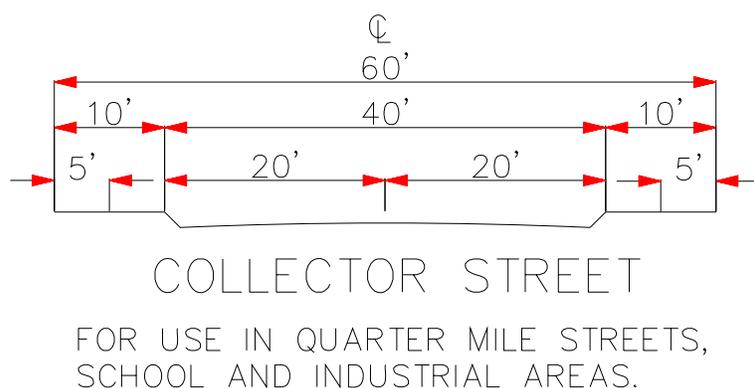
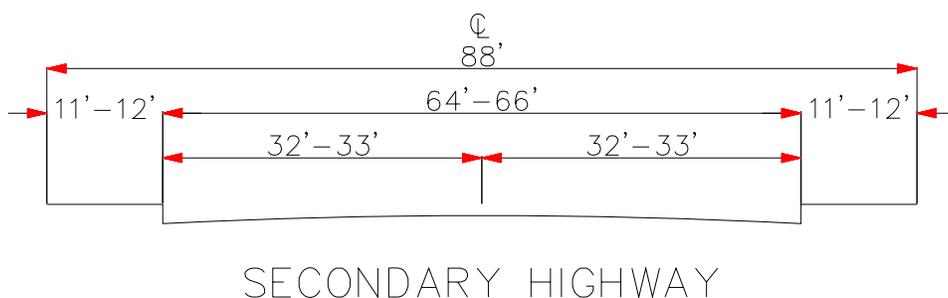
The following are the typical cross sections for each roadway classification. In order to maintain acceptable levels of service, additional right-of-way dedication beyond the typical cross section may be required in order to accommodate additional turn lanes or other design features. Unique street cross-sections, median designs, and street widths may be considered for each development in order to create distinction and identity as long as function, capacity, and safety are maintained to the City's satisfaction.



MAJOR DIVIDED HIGHWAYS



MAJOR HIGHWAY



## 2. Scenic Highways and Routes

Scenic highways and routes are a unique component of the circulation system as they traverse areas of unusual scenic or aesthetic value. As shown on Figure C-1, Scenic Highways/Routes, two roadways within the City have been nominated for official Scenic Highway status. The portions of State Route 30, south of the 330, and State Route 330 that pass through the City are designated as Eligible Scenic Highways.

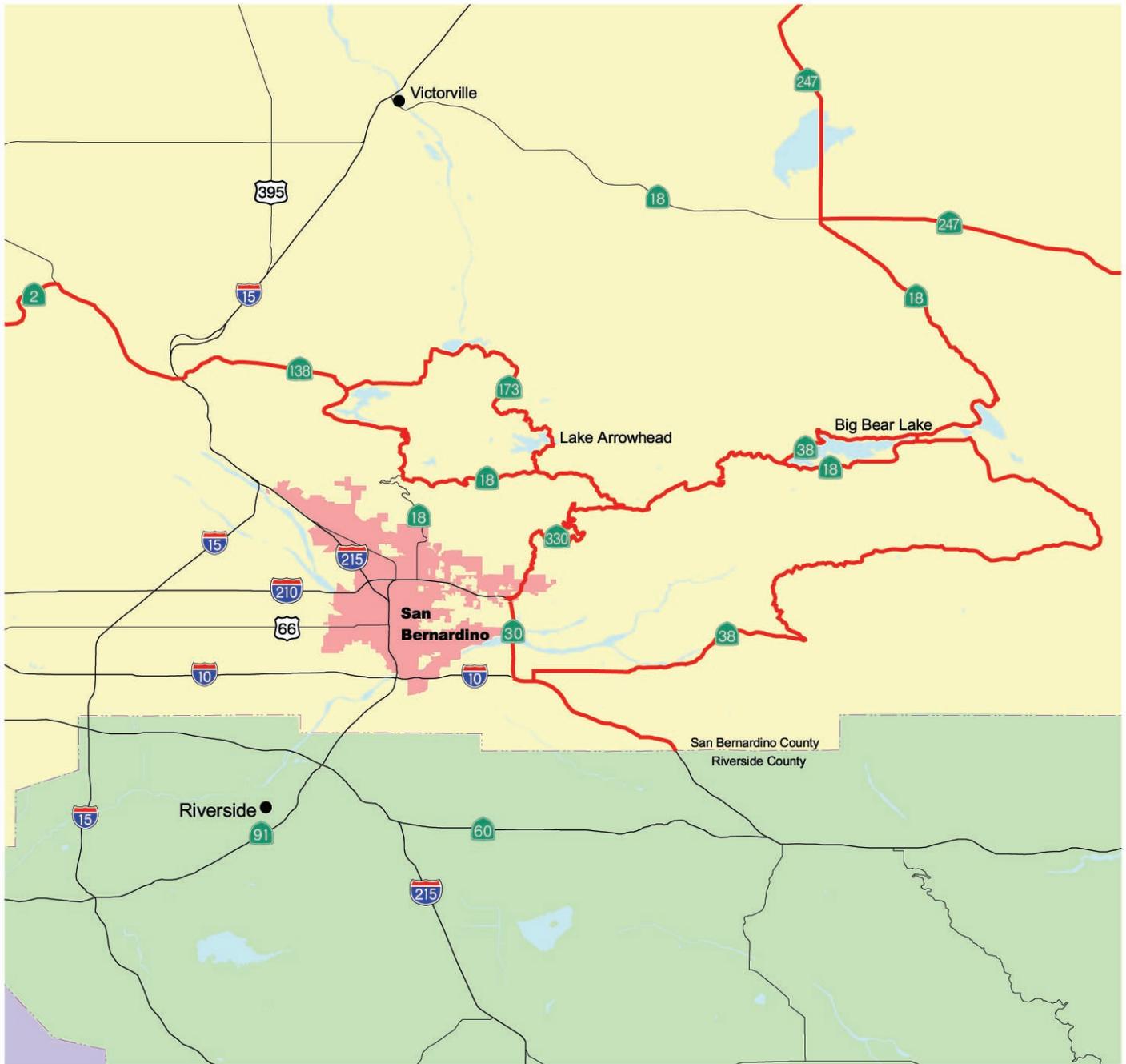
Due to the designation as Eligible Scenic Highways, the provisions of the California Scenic Highways program apply to these sections of the roadways in the City. The purpose of the California Scenic Highways program, which was established in 1963, is to “Preserve and protect scenic highway corridors from change which would diminish the aesthetic value of lands adjacent to highways.” This program provides guidance for signage, aesthetics, grading, and screening to help maintain the scenic value of the roadway.

We support the designation of these roadways and further desire that they be officially designated in the future. Accordingly, we support the provisions of the Scenic Highways program and will enhance these two corridors so that the scenic designation is earned.



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# Scenic Highways/Routes



 Scenic Highways/Routes





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## Railways

San Bernardino includes both major (main line) and minor (spurs) railroads that accommodate both freight and passenger rail services. This is both a blessing and a curse: a blessing because we are home to extensive rail freight facilities, which help strengthen our economy, attract business, and provide mobility options; and a curse because of impacts associated with railroads, such as noise and temporary restriction of emergency access.

### 1. Freight Rail

Extensive freight rail service is provided within the City by Burlington Northern Santa Fe (BNSF) and Union Pacific (UP) railroads; in fact, freight operators are the largest users of San Bernardino's rail facilities.

Rail service provided by UP on its main line through San Bernardino is expected to grow significantly in the future due to the increased international trade at the Ports of Long Beach and Los Angeles, the San Bernardino International Airport, as well as population growth in southern California. Currently there are 24 trains per day on a peak day passing through San Bernardino on the UP main line. By 2025, this is forecast to increase to 132 trains per day.

BNSF operates intermodal, carload freight, and bulk unit trains through the City. The BNSF main line runs through Riverside County and crosses the UP line in Colton. It will carry the major growth in rail traffic associated with the Ports.

Growth in train traffic on the other rail lines and spurs in San Bernardino will be limited to the needs of the local industrial users which need rail service. The land use plan concentrates industrial use in locations already served by rail spur lines.

### 2. Passenger Rail Service

Both Amtrak and Metrolink provide long-distance passenger train service from the Historic Depot in San Bernardino.

Amtrak has provided local, interstate, and transcontinental service at San Bernardino since Amtrak's inception in 1971. At the present time, Amtrak trains operate west to Los Angeles; southeast to Palm Springs and on to Arizona, New Mexico, Texas, Louisiana, Alabama, Georgia, and Florida; and northeast to Needles, Arizona, New Mexico, Colorado, Kansas,



### **Metrolink**

In June 1990, the California Legislature enacted Senate Bill 1402, Chapter four of Division 12 of the Public Utilities Code. The bill required the transportation commissions of the counties of Los Angeles, Orange, Riverside, and San Bernardino to develop jointly a plan for regional transit services within the multi-county region. In August 1991, the Southern California Regional Rail Authority (SCRRA), a Joint Powers Agency (JPA), was formed. The purpose of the newly formed SCRRA was to plan, design, construct, and administer the operation of regional passenger rail lines serving the counties of Los Angeles, Orange, Riverside, San Bernardino and Ventura. The SCRRA named the regional commuter rail system "Metrolink."

Missouri, Indiana, and Illinois. Amtrak motor coaches connect San Bernardino to Amtrak trains in the Central Valley for places like Fresno, Sacramento, and the Bay Area. From these trains it is possible to transfer to other Amtrak trains, making the entire country accessible from San Bernardino.

Commuter Rail service is provided by the Southern California Regional Rail Authority (SCRRA), which operates the Metrolink train service. Metrolink serves over 35,000 passengers daily. There are seven lines in the Metrolink train network: the Ventura County Line, Antelope Valley Line, San Bernardino Line, Riverside Line, Orange County Line, Inland Empire-Orange County Line and 91 Line (Riverside-Fullerton-Downtown LA). All but the Inland Empire-Orange County Line intersect at Union Station in Downtown Los Angeles.

The City of San Bernardino is served by the San Bernardino Line, which is Metrolink's busiest line, with a station located at the historic Santa Fe Depot. The San Bernardino Line connects rapidly growing San Bernardino County with the communities of the San Gabriel Valley and downtown Los Angeles.

The San Bernardino Line is currently the only line with service seven days a week. On weekdays, there are 15 round trips per day on the San Bernardino Line with about half of them during commute hours, but with close to hourly service in the mid-day. Travel time between San Bernardino and LA Union Station is about one hour and 30 minutes. On weekends, there are eight round trips on Saturday and four on Sunday. The SCRRA has plans to nearly double the amount of service on its lines over the next 20 years.

## **Public Transit**

Complementing our passenger rail services, we enjoy a rich public transportation system that provides our citizens with every opportunity to use almost every form of transportation available.

### **1. Bus Service**

Public transportation in the San Bernardino area is provided by Omnitrans, the regional Public Transit operator for San Bernardino County. Omnitrans functions as a joint powers agency supported by the County of San Bernardino and all the cities in the east and west San Bernardino Valley. The City of San Bernardino is represented on the Omnitrans Board. Omnitrans is financed through the State Transit Development Act

and Urban Mass Transit Funds. Omnitrans operates 21 local-fixed routes, 14 of which serve the San Bernardino Planning Area. General service hours are between 6:00 a.m. and 8:00 p.m., Monday through Saturday.

The Southern California Rapid Transit District provides express bus service between San Bernardino-Riverside and Los Angeles (Line 496) under contract with Omnitrans and the Riverside Transit Agency. Service is provided Sunday through Saturday.

Intercity bus service is provided to downtown San Bernardino by Greyhound and Continental Trailways that recently merged. The Greyhound bus depot is at 6th and G Streets.

#### a. Short Range Transit Plan

Omnitrans periodically updates its service plan through the preparation of a Short Range Transit Plan (SRTP), which evaluates service for a five-year period. A SRTP for the years 2004-2009 has recently been adopted and includes some changes in routes within San Bernardino. A current route, schedule, and rate map can be obtained from Omnitrans.

#### 2. Demand/Response System

Omnitrans provides San Bernardino residents that qualify for service under the Americans with Disabilities Act with a demand/response transportation system known as "Access." A resident may call and request a pick-up and delivery to a requested destination on a space-available basis with a reservation made 24 hours in advance.

#### 3. Taxi Services

Two companies provide taxi service in the San Bernardino Planning Area: the Yellow Cab Co. and the Checker Cab Co. Both services are controlled by the same owner, who estimates that over the last five years, ridership has remained constant at approximately 400 fares per day.

## Bikeways, Trails, and Pedestrian Facilities

An extensive, safe, and interconnected system of pedestrian and bicycle facilities is critical for the success of our City and our transportation systems. Bikeways, trails, and pedestrian facilities are addressed in the Parks, Recreation, and Trails Element.

### E-Street Transit Corridor

As of the writing of this General Plan, Omnitrans had initiated Phase 1 of the E-Street Transit Corridor project. Due to its significance in ridership and points of interest served, E-Street was chosen as the first segment of a planned system of high-quality transit corridors in San Bernardino. Phase 1 consists of studying alternatives for providing enhanced state-of-the-art transit service and corridor improvements.



### **Airport Related Policies in our General Plan**

The San Bernardino International Airport (SBIA) influences many aspects of our community: from land use and economics, to circulation, noise, and safety. Accordingly, see related discussions/policies in the Land Use (Chapter 2) and Noise (Chapter 14) Chapters.

## **Aviation**

The San Bernardino International Airport and Trade Center (SBIA) is located in the southeastern edge of the City and represents one of our greatest opportunities. The SBIA includes two distinct components: 1) the airport portions (and related facilities) of the former Norton Air Force Base, and 2) the Trade Center, which encompasses the non-airport related portions of the former base.

The SBIA has the capacity to provide regional air traffic for domestic and international service, both commercial and cargo along with the necessary support facilities for major and smaller airlines.

In addition, there are four airports in the general vicinity of San Bernardino. Air carrier and air cargo operations are provided at Ontario Airport which is located southwest of the City. There are two general aviation airports in the area, one to the west in Rialto, the second to the southeast in Redlands, and Riverside Municipal Airport, 12 miles to the south in Riverside. The Rialto Airport is also used as the base for the County Sheriff's helicopters, which are used on occasion by the City.

According to the California Division of Aeronautics, there are five helipads in our planning area. The helipads are private-use facilities and are situated at the National Orange Show, Red Dog Properties, San Bernardino Community Hospital, SCE Eastern Division, and the Tri-City area.

## **Existing Traffic Conditions**

This section summarizes the existing circulation conditions in the City of San Bernardino. The analysis is based on existing amount of traffic volume on various street corridors and the capacity of the streets and intersections to carry traffic. The capacity measures the ability of the street system to meet and serve the demands from traffic. It is the most practical measure of determining the City's capability to provide mobility to its residents. The capacity of a roadway is affected by a number of factors, e.g., the street width, the number of travel lanes, the number of crossing streets, the type of traffic control devices, the presence of on-street parking, the number of access driveways, and the streets horizontal and vertical alignments to name a few.

## 1. About Traffic Projections

### a. Level of Service (LOS) and V/C Analysis

An important “standard” referred to throughout this Element relates to the ability of a roadway and/or intersection to accommodate traffic. This level of service standard may be used to describe both existing and future traffic conditions. Level of service (LOS) is a qualitative ranking that characterizes traffic congestion on a scale of A to F with LOS A being a free-flow condition and LOS F representing extreme congestion.

In addition to the LOS definition, a volume to capacity ratio or V/C ratio is used to provide a more quantified description of traffic conditions at intersections. The V/C ratio is the ratio of existing or projected traffic volumes to an intersection’s design capacity. A V/C ratio of 0.90 for an intersection means that the traffic volumes at the intersection represent 90 percent of its design capacity. The V/C ratio can also be related to the LOS definitions. For example, an intersection with a V/C ratio exceeding 0.95 is handling traffic volumes that approach design capacity. The V/C ratio of 0.95 corresponds to LOS E, which indicates unacceptable level of service. The following six levels of service definitions relate traffic conditions to traffic volumes and the design capacity of roadways and/or intersections.

- ◆ LOS A (V/C ratio 0.0 - 0.60). There are no cycles that are fully loaded, and few are even close to loaded. No approach phase is fully utilized by traffic and no vehicle waits longer than one red indication. Typically, the approach appears quite open, turning movements are easily made, and nearly all drivers find freedom of operation.
- ◆ LOS B (V/C ratio 0.61 - 0.70). Represents stable operation. An occasional approach phase is fully utilized and a substantial number are approaching full use. Many drivers begin to feel somewhat restricted within platoons of vehicles.
- ◆ LOS C (V/C ratio 0.71 - 0.80). Stable operation continues. Full signal cycle loading is still intermittent, but more frequent. Occasionally drivers may have to wait through more than one red signal indication, and backups may develop behind turning vehicles.
- ◆ LOS D (V/C ratio 0.81 - 0.90). Encompasses a zone of increasing restriction approaching instability. Delays to approaching vehicles may be substantial during short peaks with the peak period, but



enough cycles with lower demand occur to permit periodic clearance of developing queues, thus preventing excessive backups.

- ◆ LOS E (V/C ratio 0.91 - 1.00). Represents the most vehicles that any particular intersection approach can accommodate. At capacity (V/C = 1.00), there may be long queues of vehicles waiting upstream of the intersection and delays may be great (up to several signal cycles).
- ◆ LOS F (V/C ratio > 1.00). Represents jammed conditions. Backups from locations downstream or on the cross street may restrict or prevent movement of vehicles out of the approach under consideration; hence, volumes carried are not predictable. V/C values are highly variable, because full utilization of the approach may be prevented by outside conditions.

#### b. Existing LOS and V/C Ratios

Existing traffic counts were conducted at various roadway segments and major intersections in 2003 to determine existing V/C and LOS at these facilities. The LOS of roadway segments is based on average daily traffic (ADT) volumes and their traffic handling capacities on a daily basis. The LOS of intersections is based on traffic volumes at the intersections during the AM and PM peak hours and the traffic handling capacity of the intersection's critical lane. The results are shown in Appendix 14, Traffic Analysis Summary (Table 1 for intersections, and Table 2 for roadway segments).

In the City of San Bernardino, the minimum acceptable level of service is established as LOS C for roadways and LOS D for intersections. Mitigation measures are required for roadway corridors/locations where traffic conditions show an LOS worse than the minimum acceptable LOS. As shown in Table 1 of Appendix 14, the following intersections are currently operating at an unacceptable LOS (the LOS at these intersections is worse than LOS D):

- ◆ Hunts Lane @ E Street
- ◆ Meridian Avenue @ Rialto Avenue
- ◆ Mountain View Avenue @ San Bernardino Street
- ◆ Rancho Avenue @ 5th St/Foothill Boulevard

- ◆ SR-30 WB Off Ramp @ 30th Street
- ◆ Tippecanoe Avenue @ Rialto Avenue
- ◆ Waterman Avenue @ 36th Street
- ◆ Waterman Avenue @ Fifth Street
- ◆ Waterman Avenue @ SR-30 EB Ramp

Table 2 of Appendix 14 shows that the following roadway segments are operating an unacceptable LOS (i.e., LOS is worse than LOS C) based on capacity analysis of 24-hour volumes:

- ◆ Tippecanoe Avenue South of Hospitality Lane

Mitigation measures are required to improve the conditions at the above locations to an acceptable LOS.

## Future Traffic Conditions

This section analyzes potential traffic conditions in the City of San Bernardino at a theoretical build-out of the plan. The LOS definitions, calculation procedures, mitigation requirements, etc. used in the existing conditions analysis also applies to this section.

1. **Background Model Input**
  - a. **Recommended Roadway Improvements**

The City has identified a number of roadway improvements, reclassification and addition/deletion of certain roadway segments in order to improve its circulation conditions to handle existing as well as future traffic volumes (See Appendix 9, Circulation Plan Changes). For the future traffic conditions analysis of the General Plan at buildout, these improvements were assumed to be in place.

- b. **Focused Travel Demand Model**

As part of the analysis of the capabilities of the circulation system at the theoretical buildout of the land use plan, a focused travel demand model was developed. The model and the methodology used to create the model are described in Appendix 14, Traffic Analysis Summary.



## 2. Build-out Traffic Forecasts and Operating Conditions

Based on the traffic volume data obtained from future conditions model, the future traffic conditions at buildout of the General Plan were analyzed. The results of this analysis are contained in Appendix 14, Traffic Analysis Summary (Table 4 for intersections and Table 5 for roadway segments). The following illustrate the key observations from the analysis of projected traffic conditions for the build-out of the General Plan:

- ◆ Table 4 of Appendix 14 shows that the following intersections are expected to perform at an unacceptable level of service and require mitigation:
  - Northpark Boulevard @ University Parkway
  - Hunts Lane @ E Street
  - Waterman Avenue @ 30th Street
  - Waterman Avenue @ SR-30 EB Ramps
  - SR-30 WB Off-ramp @ 30th Street
  - Harrison Street @ 40th Street
  - Waterman Avenue @ 36th Street
  - Waterman Avenue @ 34th Street
  - Valencia Avenue @ 40th Street
  - Tippecanoe Avenue @ Rialto Avenue
  - Rancho Avenue @ 5th Street/Foothill Boulevard
  - Mountain View Avenue @ San Bernardino Road
- ◆ Table 5 of Appendix 14 shows that the following roadway segments are projected to show unacceptable LOS:
  - Base Line Street between Palm Avenue and Valencia Avenue
  - E Street between 9th Street and Kendall Drive
  - Sierra Way between I-10 Freeway and Foothill Boulevard
  - Sierra Way between Waterman Avenue and 40th Street

Mitigation and improvement measures are required for the intersections and roadway segments that show unacceptable LOS. Typically, improvements at intersections result in improvement in traffic conditions on its approaches and thereby mitigate impacts on roadway segments.

Therefore, a number of mitigation measures have been identified for a total of 13 intersections where traffic analysis indicated circulation deficiencies. These mitigation/improvement measures would improve intersection performance to an acceptable LOS during peak hours. Appendix 9, Circulation Plan Changes, contains a list of these improvements.

## **Future Circulation System**

Based on the analysis at the theoretical buildout of the General Plan and the deficiencies and mitigation identified, our Future Circulation System has been developed to meet our future needs. The proposed Circulation Plan is shown on Figure C-2, Circulation Plan.

Our objective is to achieve this circulation system if merited by the conditions on the ground. It is important to remember, the traffic analysis performed for this General Plan was a projection of future conditions and, as we all know, actual conditions may vary in the future. For instance, some streets may experience less traffic than were projected at this time and future roadway reconfigurations may not actually be necessary. We will use this plan as our guide and make sure changes are actually required before making them.



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# Circulation Plan

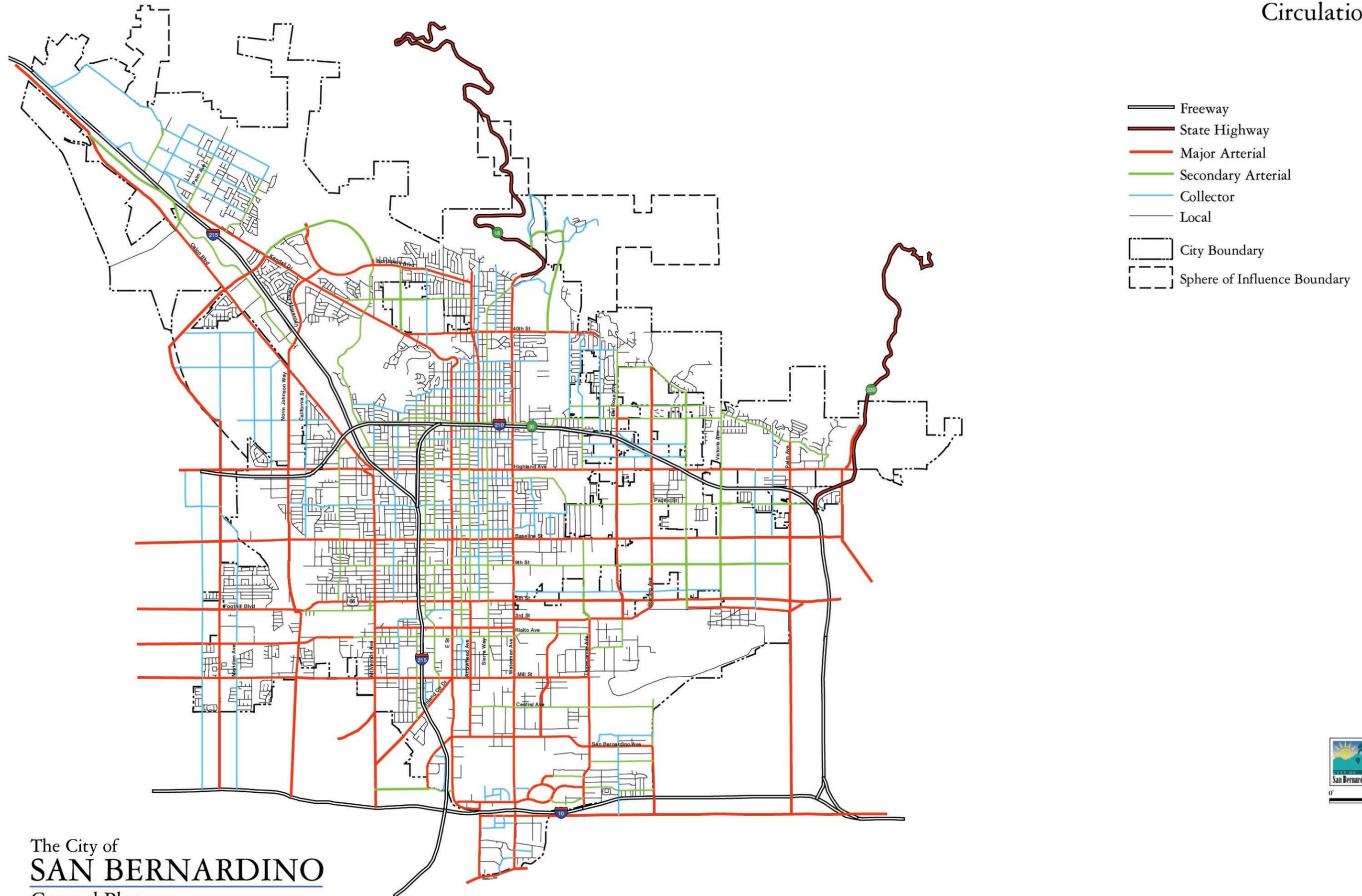


Figure C-2



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## GOALS AND POLICIES

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The following presents the goals and policies for mobility and circulation in the City of San Bernardino.

### Street System

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We expect a lot from our street system. We want a street system that provides convenient access, is safe, is not too congested, looks good, is multi-functional, and is not designed only for cars.

The City's street system should provide access to our homes and businesses and allow convenient intra-city travel and access to regional transportation facilities. In addition, the street system should be designed to provide the necessary capacity to accommodate the traffic generated from the future buildout of the General Plan as well as regional traffic, not a potential maximum level but within acceptable levels of service. Our street system needs to be safe, not only for vehicular travel, but for pedestrians and bicyclists too.

Our street system needs to accommodate more than cars. Pedestrians, bicyclists, as well as landscaping, signs, gateways, and infrastructure all need to coexist within our street right-of-ways in a manner that is safe and aesthetically pleasing. Advanced technologies in traffic control and operations should be employed to maximize the capacity and efficiency of the arterial system.

Our circulation plan is designed to accomplish these vary goals. The ultimate goal for our circulation system is shown on Figure C-2, Circulation Plan. Taken with the typical cross sections (Shown in the Roadway Section of this Chapter) and the policies in the Community Design Element, a clear picture of the roadway system is provided.

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#### Goal 6.1 Provide a well-maintained street system.

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##### ***Policies:***

- 6.1.1 Maintain and rehabilitate all components of the circulation system, including roadways, sidewalks, bicycle facilities and pedestrian facilities. (A-2)
- 6.1.2 Develop list of priorities for maintenance and reconstruction projects. (A-2)



6.1.3 Coordinate maintenance or enhancement of transportation facilities with related infrastructure improvements. (A-2)

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**Goal 6.2 Maintain efficient traffic operations on City streets.**

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**Policies:**

- 6.2.1 Maintain a peak hour level of service D or better at street intersections.
- 6.2.2 Design each roadway with sufficient capacity to accommodate anticipated traffic based on intensity of projected and planned land use in the City and the region while maintaining a peak hour level of service (LOS) “C” or better.
- 6.2.3 Keep traffic in balance with roadway capacity by requiring traffic studies to identify local roadway and intersection improvements necessary to mitigate the traffic impacts of new developments and land use changes. (LU-1)
- 6.2.4 Review the functioning of the street system as part of the Capital Improvement Program to identify problems and address them in a timely manner. (A-2)
- 6.2.5 Design roadways, monitor traffic flow, and employ traffic control measures (e.g. signalization, access control, exclusive right and left turn-turn lanes, lane striping, and signage) to ensure City streets and roads continue to function safely within our Level of Service standards.
- 6.2.6 Improve intersection operations by modifying signal timing at intersections and coordinating with other signals, as appropriate.
- 6.2.7 Install new signals as warranted.

---

**Goal 6.3 Provide a safe circulation system.**

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**Policies:**

- 6.3.1 Promote the principle that streets have multiple uses and users, and protect the safety of all users.

- 6.3.2 Discourage high speeds and through traffic on local streets through traffic control device such as signage, speed bumps, etc.. as acceptable by the local neighborhood. (C-2 and C-3)
- 6.3.3 Require that all City streets be constructed in accordance with the Circulation Plan (Figure C-2) and the standards established by the Development Services Director.
- 6.3.4 Require appropriate right-of-way dedications of all new developments to facilitate construction of roadways shown on the Circulation Plan. (LU-1)
- 6.3.5 Limit direct access from adjacent private properties to arterials to maintain an efficient and desirable quality of traffic flow. (LU-1)
- 6.3.6 Locate new development and their access points in such a way that traffic is not encouraged to utilize local residential streets and alleys. (LU-1)
- 6.3.7 Require that adequate access be provided to all developments in the City including secondary access to facilitate emergency access and egress (LU-1).

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**Goal 6.4** Minimize the impact of roadways on adjacent land uses and ensure compatibility between land uses and highway facilities to the extent possible.

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**Policies:**

- 6.4.1 Work with Caltrans to ensure that construction of new facilities includes appropriate sound walls or other mitigating noise barriers to reduce noise impacts on adjacent land uses. (C-1)
- 6.4.2 Require, wherever possible, a buffer zone between residential land uses and highway facilities. (LU-1)
- 6.4.3 Continue to participate in forums involving the various governmental agencies such as Caltrans, SANBAG, SCAG, and the County that are intended to evaluate and propose solutions to regional transportation problems.



- 6.4.4 Design developments within designated and eligible scenic highway corridors to balance the objectives of maintaining scenic resources with accommodating compatible land uses. (LU-1)
- 6.4.5 Encourage joint efforts among federal, state, county, and City agencies and citizen groups to ensure compatible development within scenic corridors.
- 6.4.6 Impose conditions on development within scenic highway corridors requiring dedication of scenic easements consistent with the Scenic Highways Plan, when it is necessary to preserve unique or special visual features. (LU-1)
- 6.4.7 Utilize contour grading and slope rounding to gradually transition graded road slopes into a natural configuration consistent with the topography of the areas within scenic highway corridors. (LU-1)
- 6.4.8 Develop appropriate protection measures along routes frequently used by trucks to minimize noise impacts to sensitive land uses including but not limited to residences, hospitals, schools, parks, daycare facilities, libraries, and similar uses. (LU-1)

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## Trucks

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Truck traffic is a significant component of our overall transportation system. Many of the City's vital industries rely heavily on regional and local truck transportation. Large volumes of heavy-duty trucks on the City's transportation system and regional access facilities result in additional congestion and accelerated deterioration of the infrastructure.

Many residential neighborhoods are impacted by the parking of trucks, especially in those areas near the foothills of the San Bernardino Mountains. The City prohibits the parking of trucks over 10,000 pounds from parking in residentially designated areas. Truck parking issues are addressed on a case-by-case basis in concert with impacted residents and businesses. In this manner, the most appropriate method of control, such as an outright ban, restricted hours, parking permits, or signage, can be employed.

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**Goal 6.5**      **Develop a transportation system that reduces conflicts between commercial trucking, private/public transportation, and land uses.**

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**Policies:**

- 6.5.1            Provide designated truck routes for use by commercial/industrial trucking that minimize impacts on local traffic and neighborhoods.
- 6.5.2            Continue to regulate on-street parking of trucks to prevent truck parking on residential streets or in other locations where they are incompatible with adjacent land uses. The use of signs, restricted parking, limited parking times, and the posting of “no overnight” parking signs are mechanisms that can be employed depending upon the specific needs of the affected area.
- 6.5.3            Prepare neighborhood protection plans for areas of the City where heavy vehicle traffic or parking becomes a significant enforcement problem. (C-2)
- 6.5.4            Require that on-site loading areas minimize interference of truck loading activities with efficient traffic circulation on adjacent roadways. (LU-1)

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## **Public Transit**

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As the population grows, the level of congestion on streets will also rise. As a result, it will become increasingly important to provide alternate means of transportation.

Public transportation plays an important role in providing a well-balanced transportation system for the City. A well planned and efficient public transportation system provides an essential primary mode of transportation to those without access to automobiles and an alternative mode of travel to the motorists to help reduce the demand and congestion on the City’s street network. The various modes of public transportation including bus, commuter rail, demand responsive transportation, etc. should provide efficient connectivity and integration via coordinated park-and-ride facilities and multi-modal terminals.



### **Intelligent Transportation Systems**

Or ITS, encompass a broad range of wireless and wireline communications-based information, control and electronics technologies. When integrated into the transportation system infrastructure, and in vehicles themselves, these technologies help monitor and manage traffic flow, reduce congestion, provide alternate routes to travelers, enhance productivity, and save lives, time and money.

The City plays a vital role in the use of transit through sound land planning efforts and ensuring that developments are designed in a manner that facilitates the provision of transit services.

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**Goal 6.6**      **Promote a network of multi-modal transportation facilities that are safe, efficient, and connected to various points of the City and the region.**

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### **Policies:**

- 6.6.1            Support the efforts of regional, state, and federal agencies to provide additional local and express bus service in the City.
- 6.6.2            Create a partnership with Omnitrans to identify public transportation infrastructure needs that improve mobility.
- 6.6.3            In cooperation with Omnitrans, require new development to provide transit facilities, such as bus shelters and turnouts, as necessary and warranted by the scale of the development. (LU-1)
- 6.6.4            Ensure accessibility to public transportation for seniors and persons with disabilities.
- 6.6.5            In cooperation with Omnitrans, explore methods to improve the use, speed, and efficiency for transit services. These methods might include dedicated or priority lanes/signals, reduced parking standards for selected core areas, and incorporating Intelligent Transportation System architecture.
- 6.6.6            Support and encourage the provision of a range of paratransit opportunities to complement bus and rail service for specialized transit needs.
- 6.6.7            Encourage measures that will reduce the number of vehicle-miles traveled during peak periods, including the following examples of these types of measures:
- Incentives for car-pooling and vanpooling.
  - Preferential parking for car-pools and vanpools.
  - An adequate, safe, and interconnected system of pedestrian and bicycle paths.

- Conveniently located bus stops with shelters that are connected to pedestrian/bicycle paths. (A-1)
- 6.6.8 Promote the use of car-pools and vanpools by providing safe, convenient park-and-ride facilities.
- 6.6.9 Work with Omnitrans to create transit corridors, such as the one currently being explored on E Street linking CSUSB to Hospitality Lane, to increase transit ridership, reduce traffic congestion, and improve air quality.
- 6.6.10 Consider the provision of incentives, such as reduced parking standards and density/intensity bonuses, to those projects near transit stops that include transit-friendly uses such as child care, convenience retail, and housing.

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## Rail Service

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Freight and passenger rail system have been an integral part of the City of San Bernardino's transportation network for decades. We intended to keep them here for our immediate future. However, we need to be vigilant to help reduce impacts, especially as rail traffic increases in the future. We also need to create ways to separate train traffic from our other modes of travel to reduce conflicts and improve emergency access.

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**Goal 6.7** Work with the railroads and other public agencies to develop and maintain railway facilities that minimize the impacts on adjacent land uses.

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### Policies:

- 6.7.1 Accommodate railroad services that allow for the movement of people and goods while minimizing their impact on adjacent land uses.
- 6.7.2 Coordinate with SANBAG, SCAG, the County and other regional, state or federal agencies and the railroads regarding plans for the provision of passenger, commuter, and high-speed rail service.
- 6.7.3 Encourage the provision of a buffer between residential land uses and railway facilities and encourage the construction of sound walls or other mitigating noise barriers between railway facilities and adjacent land uses.



- 6.7.4 Identify existing and future high volume at-grade railroad crossings and pursue available sources of funding (e.g., California Public Utilities Commission) to implement grade separations where appropriate. (A-3)

## Aviation

The San Bernardino International Airport and Trade Center (SBIA) is a regional influence and a benefit to our City. There is an opportunity for the properties surrounding the SBIA to develop with uses that are related to or can benefit from the proximity of an airport. We must also be careful to ensure that our quality of life is not degraded by the airport and airport related traffic. We desire to see this airport and our heliports develop into successful, safe, and considerate neighbors within our community.

**Goal 6.8 Support the safe operation of aviation and heliport facilities within and in proximity to the City.**

### **Policies:**

- 6.8.1 Work with the San Bernardino International Airport Authority (SBIAA) in the preparation of the Airport Master Plan and Comprehensive Land Use Plan to ensure the City's interests are foremost in the improvement of the airport.
- 6.8.2 Coordinate with surrounding cities, the IVDA, and regional agencies to ensure that access to the San Bernardino International Airport is provided and maintained in a manner that minimizes traffic impacts to the City of San Bernardino.
- 6.8.3 Work with the Federal Aviation Administration to ensure that the existing or new Heliports within San Bernardino operate in a safe manner and minimize impacts on adjacent properties.

## Parking

An adequate supply of parking is necessary to accommodate the demands of developments in the City. Typically, on-street parking is permitted on major, secondary, and collector roadways and off-street parking requirements for designated zones are addressed in the Development Code.

The City has established a residential permit-parking program in response to parking intrusion into neighborhoods from adjacent developments, such as the Valley College. The City has numerous neighborhood permit parking districts in this program. Within these districts, on-street parking is regulated to ensure that spillover-parking demands from adjacent developments do not prevent local residents from parking on the street. The hours of enforcement vary between programs, as do the eligibility requirements, but generally all residents of the neighborhood are entitled to a parking permit.

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**Goal 6.9**      **Achieve a balance between parking supply and demand.**

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**Policies:**

- 6.9.1      Ensure that developments provide an adequate supply of parking to meet its needs either on-site or within close proximity. (LU-1)
- 6.9.2      Study the parking standards in the Development Code to determine if adequate flexibility is available to accommodate desirable situations, such as shared parking, Corridor Improvement actions, or transit oriented developments. (A-1)
- 6.9.3      Continue to expand the supply of public parking in off-street parking facilities in downtown San Bernardino.
- 6.9.4      Continue to provide an in-lieu parking fee option for developments in the Downtown area to satisfy all or part of their parking requirement through the payment of an in-lieu fee which will be utilized to provide parking in consolidated public parking facilities.
- 6.9.5      Require that new developments submit a parking demand analysis to the City Engineer for review and approval whenever a proposal is made to provide less than the full code requirement of parking. (LU-1)
- 6.9.6      Develop parking and traffic control plans for those neighborhoods adversely impacted by spillover parking and traffic. (C-3)



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