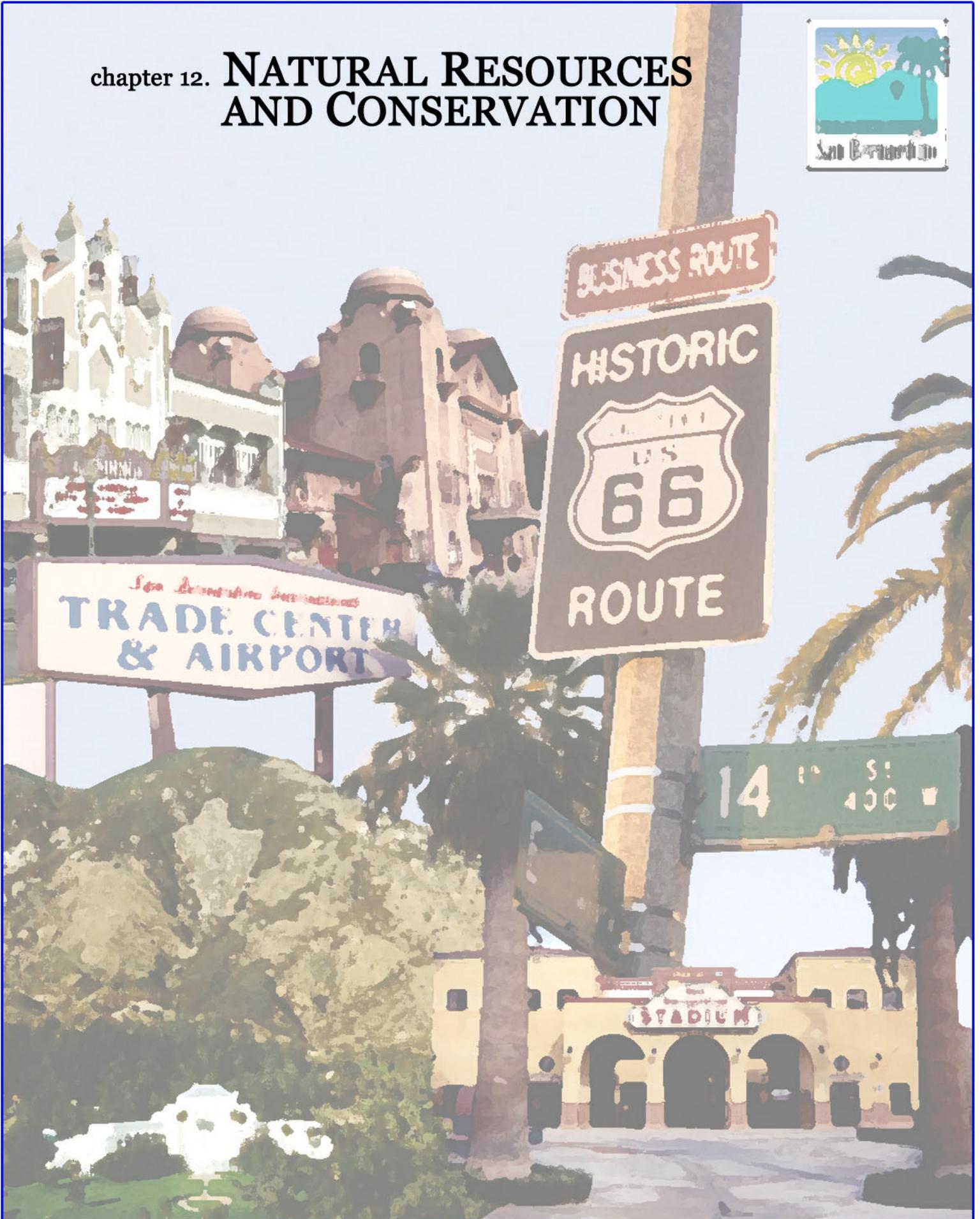


chapter 12. **NATURAL RESOURCES
AND CONSERVATION**



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Chapter 12. Natural Resources and Conservation

INTRODUCTION

San Bernardino values the preservation of natural resources, wildlife habitat, and air quality. Our scenic resources and wildlife habitat areas provide recreational and ecological benefits, as well as a source of aesthetic enjoyment. San Bernardino strives to ensure that demands on natural resources made today do not compromise the needs of tomorrow. These resources are important to us, and through the strategies and policies outlined in this Element, we will work to preserve and protect our existing resources and to capture new resources as they become available. With assistance from interested organizations, creative solutions will be discovered and implemented to preserve sensitive habitat areas.

Purpose

The Goals and Policies in this element are intended to maintain, improve, or preserve the quality and supply of the City's natural resources. This Element addresses the following topics:

- ◆ Biological Resources,
- ◆ Natural Features,
- ◆ Mineral Resources, and
- ◆ Air Quality.



Relationship to Other Elements

The Natural Resources and Conservation Element is linked to two other General Plan Elements: Circulation and Land Use. Air quality can be significantly impacted by the emissions of automobiles. The Circulation Element strives to outline effective and efficient circulation routes and alternative transportation opportunities that can help reduce the impacts vehicles create on San Bernardino's air quality. The Land Use Element designates land uses within the City, and will explore the compatibility of proposed land uses with the mineral extraction uses and biological resources identified in this chapter.

ACHIEVING THE VISION

The City's vision recognizes that the distinctive nature of San Bernardino is created not only by its people and developments, but also by the breadth of its natural features. As San Bernardino continues to develop, pressure to convert or encroach into natural resources will increase. It will be vital for us to remember that the preservation of these natural resources will enhance the social, physical, environmental, and economic quality of life for residents, thus reinforcing the City's vision to "Celebrate the past, value the present, and create opportunities for the future."

The natural resources element is responsive to the vision because it strives to:

- ◆ Minimize impacts to biological resources and natural features from new development;
- ◆ Utilize mineral resources efficiently; and
- ◆ Enhance quality of life by reducing harmful emissions and maintaining air quality.

GOALS AND POLICIES

Following are the goals and policies related to the natural resources of San Bernardino:

Biological Resources

A great variety of sensitive biological elements are known to exist or potentially occur within our City. Many of these sensitive elements are closely associated with the aquatic and woodland communities of the San Bernardino Mountains and the Santa Ana River and its tributaries. However, it should be noted that sensitive elements might occur in virtually any of the remaining non-urban habitats within the City. Since there are areas of the City that contain significant plant and wildlife species, the City will need to balance the preservation of sensitive habitats with the need for new development.

Much of the valley and upland areas has undergone extensive disturbance by agricultural and urban land uses, and therefore, supports a decreased diversity of plant and animal life. Upland areas which remain undisturbed or which have not been disturbed for some time support inland coastal sagebrush scrub vegetation and a variety of wildlife. This diversity is somewhat lessened in areas that are small and fragmented; however, adjacent “urban woodlands” and windrows tend to augment this diversity.

Alluvial fans and floodplains of the valley floor support distinctive scrub vegetation containing an assortment of shrubs characteristic of both coastal sagebrush and chaparral communities. Such areas are high quality habitat for a variety of wildlife and support the only known occurrences of two plant species that have recently been declared federally endangered: the Santa Ana River Woolly Star and the Slender-horned spine flower.

Above the valley floor and uplands are deep canyons that support riparian and oak woodland habitats. Woodlands provide a high quality habitat for a diverse assemblage of wildlife species. Large mammals such as coyote, bobcat, deer, and occasionally mountain lion and bear descend from the mountains along these canyon corridors.

The canyons and mountain slopes along the northern edge of our City support mainly chaparral and woodland vegetation whose relatively undisturbed nature, together with their contiguity with similar large areas of the San Bernardino National Forest, enhances the viability of these mountain areas as wildlife habitat.



Goal 12.1 Conserve and enhance San Bernardino’s biological resources.

Policies:

- 12.1.1 Acquire and maintain current information regarding the status and location of sensitive biological elements (species and natural communities) within the planning area, as shown on Figure NRC-1. (NR-3)
- 12.1.2 Site and develop land uses in a manner that is sensitive to the unique characteristics of and that minimizes the impacts upon sensitive biological resources. (LU-1)
- 12.1.3 Require that all proposed land uses in the “Biological Resource Management Area” (BRM), Figure NRC-2, be subject to review by the Environmental Review Committee (ERC).
- 12.1.4 Require that development in the BRM:
- a. Submit a report prepared by a qualified professional(s) that addresses the proposed project’s impact on sensitive species and habitat, especially those that are identified in State and Federal conservation programs;
 - b. Identify mitigation measures necessary to eliminate significant adverse impacts to sensitive biological resources;
 - c. Define a program for monitoring, evaluating the effectiveness of, and ensuring the adequacy of the specified mitigation measures; and
 - d. Discuss restoration of significant habitats.

Goal 12.2 Protect riparian corridors to provide habitat for fish and wildlife.

Policies:

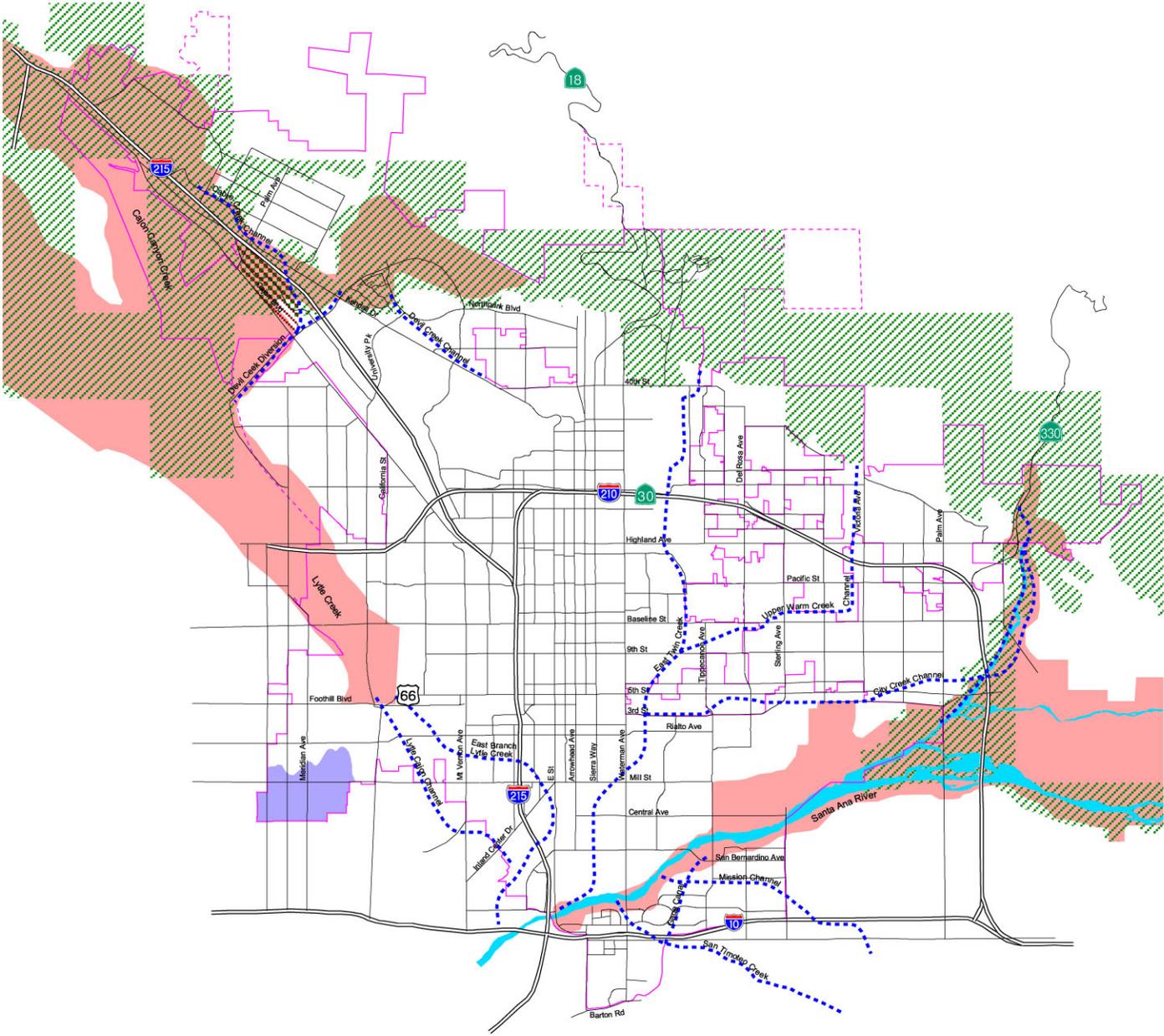
- 12.2.1 Prohibit development and grading within fifty (50) feet of riparian corridors, as identified by a qualified biologist, unless no feasible alternative exists. (LU-1)

- 12.2.2 Generally permit the following uses within riparian corridors:
- a. Education and research, excluding buildings and other structures;
 - b. Passive (non mechanized) recreation;
 - c. Trails and scenic overlooks on public land(s);
 - d. Fish and wildlife management activities;
 - e. Necessary water supply projects;
 - f. Resource consumptive uses as provided for in the Fish and Game Code and Title 14 of the California Administrative Code;
 - g. Flood control projects where no other methods are available to protect the public safety;
 - h. Bridges and pipelines when supports are not in significant conflict with corridor resources. (LU-1)
- 12.2.3 Pursue voluntary open space or conservation easements to protect sensitive species or their habitats. (NR-1)
- 12.2.4 Development adjacent to riparian corridors shall:
- a. Minimize removal of vegetation;
 - b. Minimize erosion, sedimentation, and runoff by appropriate protection or vegetation and landscape;
 - c. Provide for sufficient passage of native and anadromous fish as specified by the California Department of Fish and Game;
 - d. Minimize wastewater discharges and entrapment;
 - e. Prevent groundwater depletion or substantial interference with surface and subsurface flows; and provide for natural vegetation buffers.
- 12.2.5 Permit modification of the boundaries of the designated riparian corridors based on field research and aerial interpretation data as part of biological surveys.



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Potential Habitat for Sensitive Wildlife



- San Bernardino Kangaroo Rat Critical Habitat
- Coastal California Gnatcatcher Critical Habitat
- Cajon Conservation Bank (Cal Mat)
- Delhi Sands Flower-loving Fly Colton Recovery Unit
- Creeks and Channels
- City Boundary
- Sphere of Influence Boundary

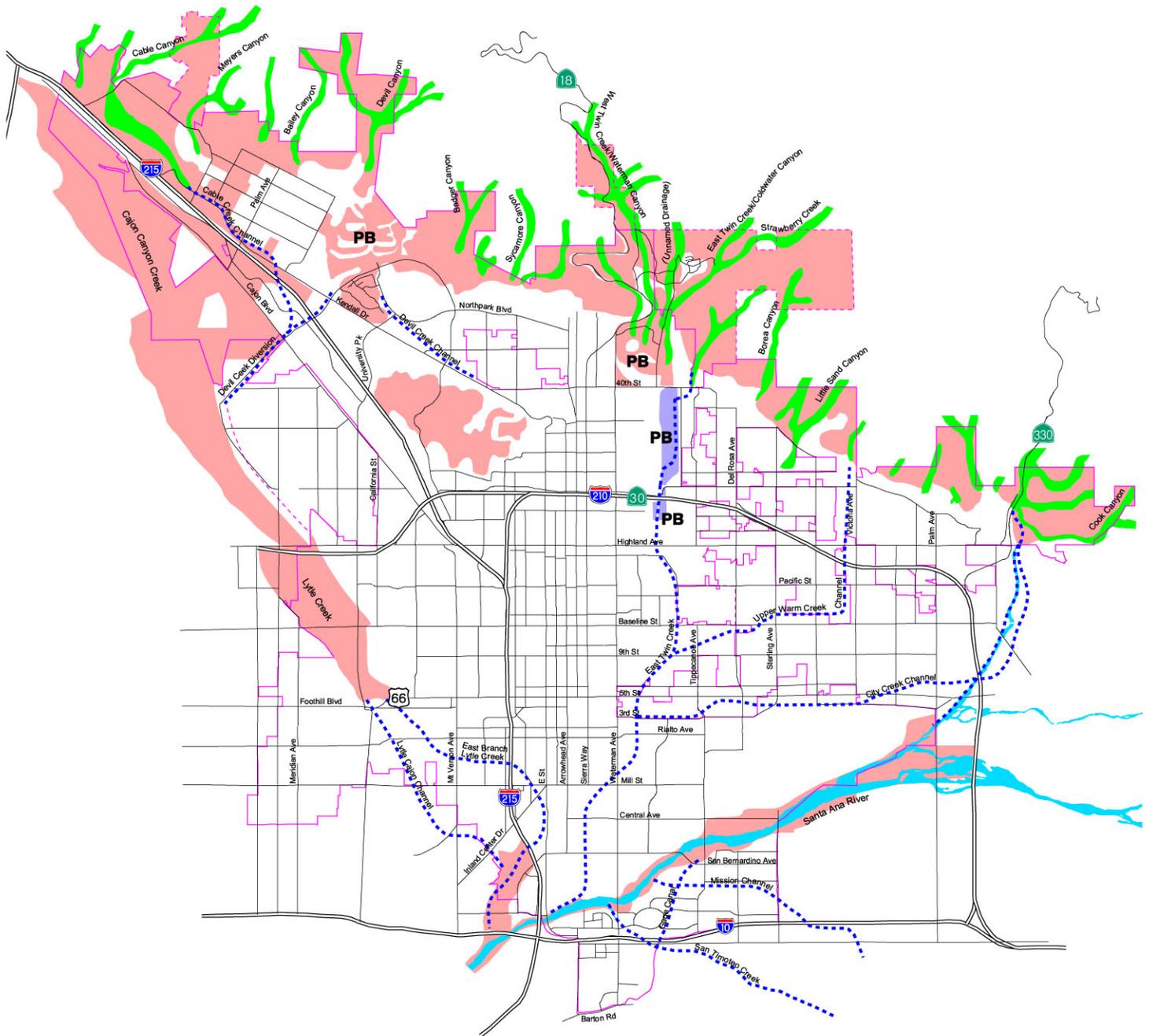


Figure NRC-1



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Biological Resource Areas



- Biological Resource Areas
- Riparian Corridor
- PB Percolation Basins
- Creeks and Channels
- City Boundary
- Sphere of Influence Boundary





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Goal 12.3 **Establish open space corridors between and to protected wildlands.**

Policies:

- 12.3.1 Identify areas and formulate recommendations for the acquisition of property, including funding, to establish a permanent corridor contiguous to the National Forest via Cable Creek and/or Devil Canyon. The City shall consult with various federal, state and local agencies and City departments prior to the adoption of any open space corridor plan.
- 12.3.2 Seek to acquire real property rights of open space corridor parcels identified as being suitable for acquisition. (NR-1)
- 12.3.3 Establish the following habitat types as high-priority for acquisition as funds are available:
- a. Habitat of endangered species;
 - b. Alluvial scrub vegetation;
 - c. Riparian vegetation dominated by willow, alder, sycamore, or native oaks; and
 - d. Native walnut woodlands.
- 12.3.4 Preserve and enhance the natural characteristics of the Santa Ana River, City Creek, and Cajon Creek as habitat areas.
- 12.3.5 Prevent further loss of existing stands of Santa Ana River Woolly-star (*Eriastrum densifolium sanctorum*) and Slender-horned Centrostegia (*Centrostegia leptoceras*).



Mineral Extraction

The California legislature has declared "*the extraction of minerals is essential to the economic well being of the state and to the needs of society...*" The reenacted law mandated counties to incorporate appropriate mineral resource management policies into their general plans within one year upon receipt of data from the State Geologist.

State geological survey geologists are often called to testify by counties in permit hearings for aggregate mining. Most decisions where state geologists give testimony have been decided in favor of aggregate resource protection. The resource classification program allows decisions to be made based on long term local resource needs rather than emotionally based short-term thinking.

Mineral Resources

As California's population continues to expand, the demand for minerals – especially building construction such as aggregate – will similarly grow. In the San Bernardino City area, the bulk of the construction aggregate is found in the natural sand and gravel deposits of Cajon Wash, Lytle Creek, Warm Creek, City Creek, and the Santa Ana River.

Policies in this section seek to conserve areas identified as containing significant mineral deposits for potential future use, while promoting the reasonable, safe, and orderly operation of mining and extraction activities where environmental, aesthetic, and adjacent land use compatibility impacts can be adequately mitigated.

Mineral deposits are important to many industries, including construction, transportation, and chemical processing. The value of mineral deposits is enhanced by their close proximity to urban areas. However, these mineral deposits are endangered by the same urbanization that enhances their value. The non-renewable characteristic of mineral deposits necessitates careful and efficient development to prevent the unnecessary waste of these deposits due to careless exploitation and uncontrolled urbanization. Management of these mineral resources will protect not only future development of mineral deposit areas, but will also guide the exploitation of mineral deposits so that adverse impacts caused by mineral extraction will be reduced or eliminated.

Mineral extraction is an important component of San Bernardino's economy. In 1975, the State legislature adopted the Surface Mining and Reclamation Act (SMARA). This designated Mineral Resources Zones that were of State-wide or regional importance. Classification of land within California takes place according to a priority list established by the State Mining and Geology Board (SMGB). The classifications used by the state to define MRZs are as follows:

- ◆ **MRZ-1:** Areas where the available geologic information indicates no significant mineral deposits or a minimal likelihood of significant mineral deposits.
- ◆ **MRZ-2:** Areas where the available geologic information indicates that there are significant mineral deposits or that there is a likelihood of significant mineral deposits.

- ◆ **MRZ-3a:** Areas where the available geologic information indicates that mineral deposits are likely to exist, however, the significance of the deposit is undetermined.
- ◆ **MRZ-4:** Areas where there is not enough information available to determine the presence or absence of mineral deposits.

Several areas within the San Bernardino region have been classified as Mineral Resource Zone 2 (MRZ-2). MRZ-2 areas indicate the existence of a construction aggregate deposit that meets certain State criteria for value and marketability based solely on geologic factors. By statute, the Board does not utilize “existing land uses” as criteria in its classification of Mineral Resource Zones. This may often result in the classification of MRZs that are already developed in a variety of uses and intensities, rendering these areas unsuitable for mineral production. These Mineral Resource areas are mapped in Figure NRC-3.

The MRZs are recognized within the Industrial Extractive (IE) land use designation, which is a refinement of and more limited in area than those depicted on Figure NRC-3.

Goal 12.4 Properly manage designated areas for mineral extraction to meet the needs of the area.

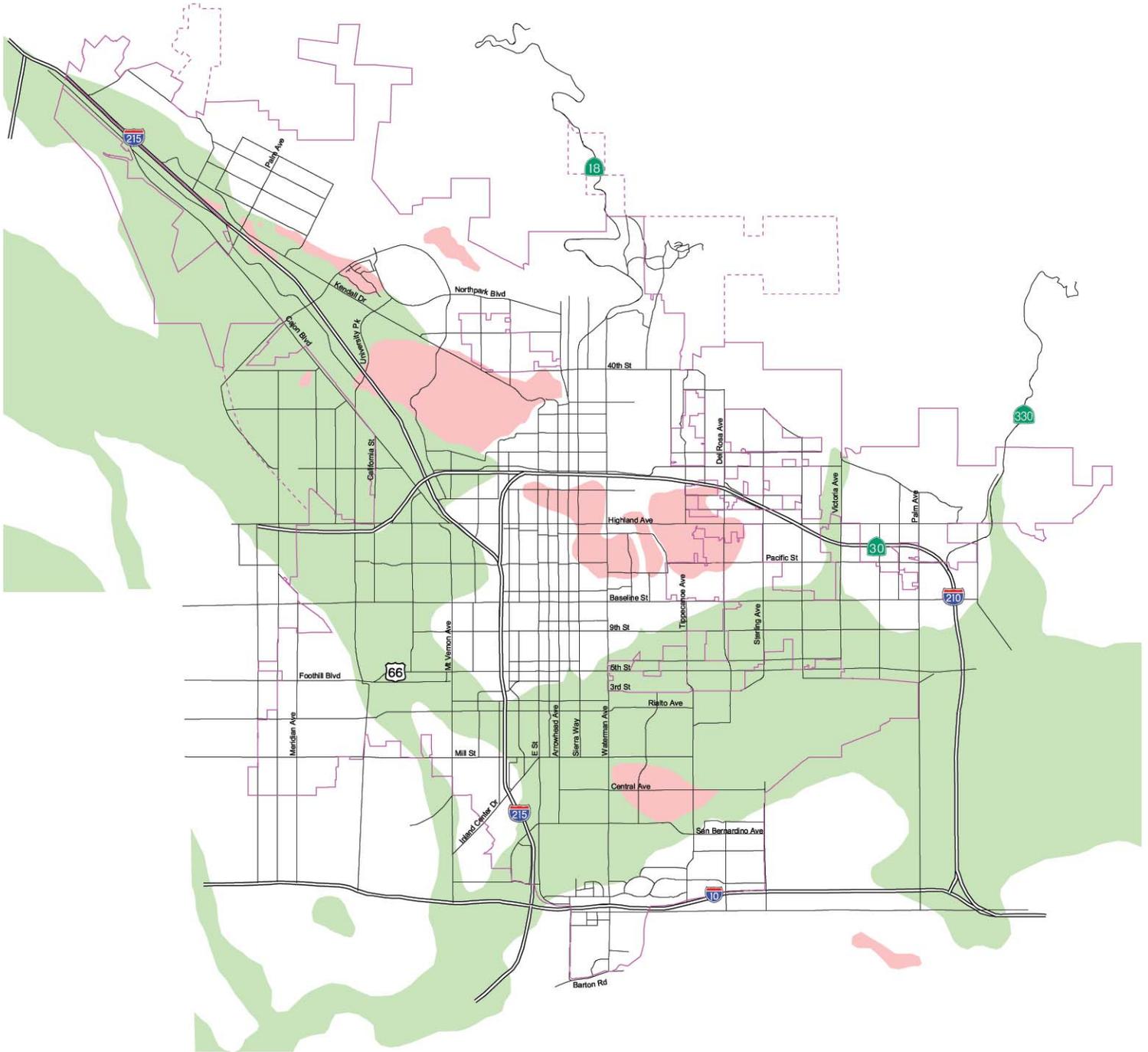
Policies:

- 12.4.1 Continue to document current extraction sites, including sand and gravel quarries, including the status and duration of existing permits and approvals.
- 12.4.2 Impose conditions and enforce mitigation measures on mining operations to reduce dust, noise, and safety hazards associated with removal of construction aggregate and minimize impacts on adjacent properties and environmental resources.
- 12.4.3 Determine and designate approved access routes to and from mineral resource sectors to minimize the impacts to vehicular circulation on City streets.
- 12.4.4 Require that any applications to permit uses other than mineral extraction or the interim uses defined in areas designated IE, Industrial Extractive, include findings to be prepared by the project proponent outlining the reasons why mining is not a feasible use and how the deletion of the area as a potential mineral resource supply impacts the regional supply of aggregate resources.



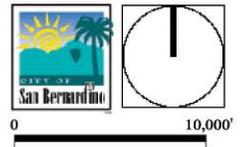
- 12.4.5 Require that the operation and reclamation of surface mines be consistent with the State Surface Mining and Reclamation Act (SMARA) and the Development Code.
- 12.4.6 Designate post aggregate extraction reclamation procedures to mitigate potential environmental impacts and safety hazards. Long-term monitoring of the effectiveness of the reclamation procedures should be considered as an integral part of the program.
- 12.4.7 Restrict incompatible land uses within the impact area of existing or potential surface mining areas.
- 12.4.8 Require that new, non-mining land uses adjacent to existing mining operations be designed to provide a buffer between the new development and the mining operations. The buffer distance shall be based on an evaluation of noise, aesthetics, drainage, operating conditions, biological resources, topography, lighting, traffic, operating hours, and air quality. (LU-1)

Mineral Resource Zones



-  MRZ-1
-  MRZ-2
-  City Boundary
-  Sphere Boundary

Note: MRZs reflected and refined in the Industrial Extractive (IE) designation.





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Air Quality

The quality of air that we breathe directly affects our health, environment, and quality of life. Air pollutants can cause mild to severe health effects and respiratory illnesses. Just as people are affected by air pollution, so too are plants and animals. For instance, plants and trees may absorb air pollutants that can stunt or kill them. Pollutants may also lower visibility and cause property damage, discolor painted surfaces, eat away at stones used in buildings, and dissolve mortar that holds brick structures together.

Our air quality is largely dependent upon climatic conditions. The distinctive climate of the basin is determined by its terrain, latitude, and coastal location. The general region lies in the semi-permanent high-pressure zone of the eastern Pacific, resulting in a mild climate tempered by cool sea breezes. This mild climatic pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds.

The airshed is a scarce, non-renewable resource that has become so polluted in southern California that its conservation is of critical concern. Though the City of San Bernardino is a small part of the total South Coast Air Basin and cannot mitigate the regional problem alone, it can take actions to incrementally reduce its share of emissions and protect its residents.

Pollutant Sources and Types

Pollutants are emitted into the air from stationary and mobile sources.

1. Stationary Sources

Stationary sources can be divided into two major subcategories: point sources and area sources. Point sources consist of one or more emission sources at a facility with an identified location and are usually associated with manufacturing and industrial processing plants. Area sources produce many small emissions (e.g., residential water heaters, architectural coatings), which are distributed across the region.

2. Mobile Sources

Mobile sources are divided into two subcategories: on-road and off-road sources. On-road sources are a combination of emissions from automobiles, trucks, and indirect sources. Indirect sources are uses that indirectly cause the generation of air pollutants by attracting vehicle trips



or consuming energy (e.g. office complex or commercial center), or are actions proposed by local governments, such as redevelopment districts and private projects involving the development of either large buildings or tracts. Off-road sources include aircraft, ships, trains, and self-propelled construction equipment.

3. Pollutant Types

Federal and State law regulates the air pollutants emitted into the ambient air by stationary and mobile sources. These regulated air pollutants are known as “criteria air pollutants.” Primary criteria air pollutants are those that are emitted directly from sources. Carbon monoxide (CO); reactive organic gases (ROG); nitrogen oxides (NO_x); sulfur dioxide (SO₂); and most fine particulate matter (PM₁₀, PM_{2.5}), including lead (Pb) and fugitive dust; are primary criteria air pollutants. Secondary criteria air pollutants are those pollutants formed by chemical and photochemical reactions in the atmosphere. Ozone (O₃) and nitrogen dioxide (NO₂) are the principal secondary pollutants. Primary pollutants’ concentrations decrease as they dissipate, but secondary pollutants reach maximum concentrations at a distance downwind from the original source.

California Clean Air Act Requirements

A series of governing bodies monitor air quality as well as enforce and develop policies and standards for the improvement of air quality. The Clean Air Act of 1990 is a federal law that is enforced by the Environmental Protection Agency (EPA). Though the EPA is a part of the federal government, much of the permitting and enforcement for emissions is done at the state and regional level.

In California, regional boards called Air Quality Management Districts have Air Quality Management Plans (AQMPs) that are updated every three years. The City of San Bernardino falls within the South Coast Air Basin (SCAB or Basin), which includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties. Air quality conditions in the SCAB are under the jurisdiction of the South Coast Air Quality Management District (SCAQMD).

In general, the net input of pollutants into the South Coast Air Basin atmosphere from mobile and stationary sources is much the same every day of the year, however, air quality levels in this area are below State and Federal air quality standards. New development is contributing to existing air pollution levels while localized concentrations of pollutants (i.e.,

carbon monoxide) affect sensitive air quality receptors such as schools, hospitals, and residential areas.

In 1990, the California Legislature enacted the California Clean Air Act (CCAA). The CCAA requires regional emissions to be reduced by 5% per year, averaged over a 3-year period, until attainment can be demonstrated. Each region that did not meet a national or state air quality standard was required to prepare a plan that demonstrated how the 5% reductions were to be achieved. In response, the SCAQMD revised their air quality plans to meet CCAA requirements.

The 1997 AQMP was designed to meet both federal and state air quality planning guidelines. Strategies for controlling air pollutant emissions in the AQMP are grouped into three “tiers,” based on their anticipated timing for implementation. Tier 1 consists of the implementation of best available current technology and management practices that can be adopted within five years. Tier II is based on anticipated advancement in current technology and vigorous regulatory action, while Tier III controls consist of implementation measures which first require the development of new technologies.

The SCAQMD Governing Board adopted the 2003 AQMP in August, 2003. The 2003 AQMP updates the attainment demonstration for the federal standards for ozone and particulate matter (PM₁₀); replaces the 1997 attainment demonstration for the federal carbon monoxide (CO) standard and provides a basis for a maintenance plan for CO for the future; and updates the maintenance plan for the federal nitrogen dioxide (NO₂) standard that the South Coast Air Basin (Basin) has met since 1992.

This revision to the AQMP also addresses several state and federal planning requirements and incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes and new air quality modeling tools. The 2003 AQMP is consistent with and builds upon the approaches taken in the 1997 AQMP and the 1999 Amendments to the Ozone SIP for the South Coast Air Basin for the attainment of the federal ozone air quality standard. However, this revision points to the urgent need for additional emission reductions (beyond those incorporated in the 1997/99 Plan) from all sources, specifically those under the jurisdiction of the California Air Resources Board and the U.S. Environmental Protection Agency which account for approximately 80 percent of the ozone precursor emissions in the Basin.

It should be noted that air pollutants are not limited to jurisdictional boundaries. Local land use patterns, emission sources, and airflow



patterns throughout Southern California contribute to the air quality of San Bernardino. While the City can enact policies that limit emissions within its boundaries, it is necessary to support efforts to decrease region-wide pollution emissions as surrounding jurisdictions significantly impact the County's air quality. The following policies are designed to establish a regional basis for improving air quality.

Goal 12.5 Promote air quality that is compatible with the health, well being, and enjoyment of life.

Policies:

- 12.5.1 Reduce the emission of pollutants including carbon monoxide, oxides of nitrogen, photochemical smog, and sulfate in accordance with South Coast Air Quality Management District (SCAQMD) standards.
- 12.5.2 Prohibit the development of land uses (e.g. heavy manufacturing) that will contribute significantly to air quality degradation, unless sufficient mitigation measures are undertaken according SCAQMD standards.
- 12.5.3 Require dust abatement measures during grading and construction operations. (LU-1)
- 12.5.4 Evaluate the air emissions of industrial land uses to ensure that they will not impact adjacent uses.
- 12.5.5 Purchase City vehicles that use energy efficient fuel and minimize air pollution. (NR-2)

Goal 12.6 Reduce the amount of vehicular emissions in San Bernardino.

Policies:

- 12.6.1 Promote a pattern of land uses which locates residential uses in close proximity to employment and commercial services and provides, to the fullest extent possible, local job opportunities and commercial service to minimize vehicular travel and associated air emissions.
- 12.6.2 Disperse urban service centers (libraries, post offices, social services, etc.) throughout the City to minimize

vehicle miles traveled and the concomitant dispersion of air pollutants.

- 12.6.3 Install streetscape improvements and other amenities to encourage pedestrian activity in key City areas and reduce vehicular travel and associated air emissions.
- 12.6.4 Facilitate the development of centralized parking lots and structures in commercial districts to promote walking between individual businesses in lieu of the use of automobiles. (LU-1)
- 12.6.5 Require qualifying development to implement or participate in transportation demand management programs, which provide incentives for car pooling, van pools, and the use of public transit and employ other trip reduction techniques (consistent with the Circulation Element and South Coast Air Quality Management Plan).
- 12.6.6 Continue to cooperate with Omnitrans and the Rapid Transit District to expand as necessary the comprehensive mass transit system for the City to reduce vehicular travel.
- 12.6.7 Promote the use of public transit and alternative travel modes to reduce air emissions.

Goal 12.7 Participate in regional initiatives and programs to improve the South Coast Basin's air quality.

- 12.7.1 Cooperate with the South Coast Air Quality Management District and incorporate pertinent local implementation provisions of the Air Quality Management Plan.
- 12.7.2 Work with the South Coast Air Quality Management District to establish controls and monitor uses in the City that could add to the air basin's degradation (e.g. auto repair, manufacturers).
- 12.7.3 Coordinate with SCAQMD to ensure that all elements of air quality plans regarding reduction of air pollutant emissions are being enforced.
- 12.7.4 Work with the other cities in the South Coast Air Basin to implement regional mechanisms to reduce air emissions and improve air quality.



Examples of the hillsides that characterize much of San Bernardino. Notice the interface of urban and natural in each picture.

- 12.7.5 Support legislation that promotes cleaner industry, clean fuel vehicles, and more efficient burning engines and fuels.
- 12.7.6 Encourage, publicly recognize, and reward innovative approaches to improve air quality.
- 12.7.7 Involve environmental groups, the business community, special interests, and the general public in the formulation and implementation of programs that actively reduce airborne pollutants.

Natural Features

Visual resources, such as the hills that establish the dramatic visual backdrop to the City, should be thoughtfully integrated into the ever-developing urban fabric, with particular focus on preserving significant ridgelines and other unique formations to ensure that future generations may enjoy the City’s distinctive vistas. Areas that could benefit from sensitive treatment of the land include: Kendall Hills, San Bernardino Mountains, the hillsides adjacent to Arrowhead Springs, Lytle Creek Wash, East Twin Creeks Wash, the Santa Ana River, Badger Canyon, Bailey Canyon, and Waterman Canyon.

Goal 12.8 Preserve natural features that are characteristic of San Bernardino’s image.

- 12.8.1 Carefully review new projects on properties that:
 - a. Contain sloping topography,
 - b. Provide limited abilities to provide infrastructure to new development based upon severely sloping terrain;
 - c. Provide natural vistas and views enjoyed by the community; or
 - d. Serve as landmark features within the City. (LU-1)
- 12.8.2 Condition and modify plans to preserve the City’s natural features to the greatest extent possible. (LU-1)
- 12.8.3 Review grading, access, and site plans for new projects to ensure that they are sensitively designed to minimize impacts to the City’s natural features. (LU-1)

- 12.8.4 Explore the designation of open space easements to preserve valuable natural features in the City.



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