

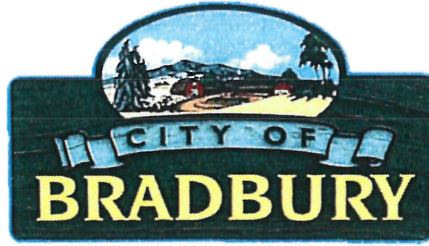


City of Bradbury

# GENERAL PLAN 2012-2030

February 2014





City of Bradbury, CA

# **General Plan 2012-2030 Update**

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# General Plan 2012-2030 Update

## Introduction

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# General Plan 2012 -2030 Update

## INTRODUCTION

### PURPOSE OF THE GENERAL PLAN

The Bradbury General Plan is a long-range policy document designed to guide future conservation, enhancement, and development in the City. It defines the framework by which the City's environmental and economic resources are managed. It represents the basic policy direction created by the community regarding values, ideals, and aspirations. The General Plan addresses all aspects of development including land use, circulation/transportation, housing, community recourses, health and safety and climate action plan.

This General Plan is a public document that guides day-to-day decisions of the City Council, its commissions, and staff. The General Plan provides a framework for the City Council to compare and evaluate specific development projects. Using the General Plan, the City Council will be able to prioritize resources; and to help determine that City policies and programs respond to residents' needs. As the "Constitution" for development in the City of Bradbury, all other policy documents and regulations should be consistent with the provisions of the General Plan.

### ROLE OF THE GENERAL PLAN

California State Law (GC Section 65300) requires that each city and county adopt a comprehensive, internally consistent, long-term general plan to guide its future. The plan must be periodically reviewed and it must guide the physical development of the city and its sphere of influence. The plan must address issues related to land use; circulation; housing; open space; conservation; noise; and community health and safety. The General Plan is required to address certain issues specified by state law. However, local jurisdictions may organize the General Plan in a way that best suits the City. The document must be clearly written, accessible to all those concerned with the community's development, and easy to administer.

Recently, the State legislature added requirements that each jurisdiction adopt goals designed to reduce greenhouse gas emissions. Goals and targets for the reduction of greenhouse gases for passenger vehicles and light trucks are included in the Climate Action Plan.

The City of Bradbury's General Plan addresses the future physical development of the community and the provision of municipal services. It is the foundation document that will serve as a guide for the development and preservation of the community as it is envisioned by the residents. The City has adopted this General Plan to maintain and enhance valued residential characteristics. This General Plan strives to promote a way of life that is sustainable and in balance with the natural environment.



This General Plan is the tool that will be used to evaluate the appropriateness of future development proposals. It will assist decision makers in the allocation of community resources. Decision makers may rely on the General Plan goals and policies in order to set the course toward realizing the community's vision.

Government Code Section 65352 requires that the general plan or any significant amendment be referred to a variety of potentially interested jurisdictions or agencies for review and comment before adoption by the City Council.

## OVERVIEW OF THE CITY OF BRADBURY

**Regional Setting:** Bradbury is a small 1.9-square mile, exclusive residential community located in the Los Angeles County San Gabriel Valley, 22-miles northeast of downtown Los Angeles. The City is located at the base of the south facing foothills of the San Gabriel Mountains. The City is easily reached by the Interstate I-210 freeway which traverses east-west along the base of the San Gabriel Mountains. This freeway conveniently connects San Bernardino County in the east to the City of Pasadena in the west.





The City of Bradbury is located northwest of the intersection of the I-210 and I-605 freeways. The north-south I-605 freeway connects the City of Bradbury to the City and port of Long Beach.

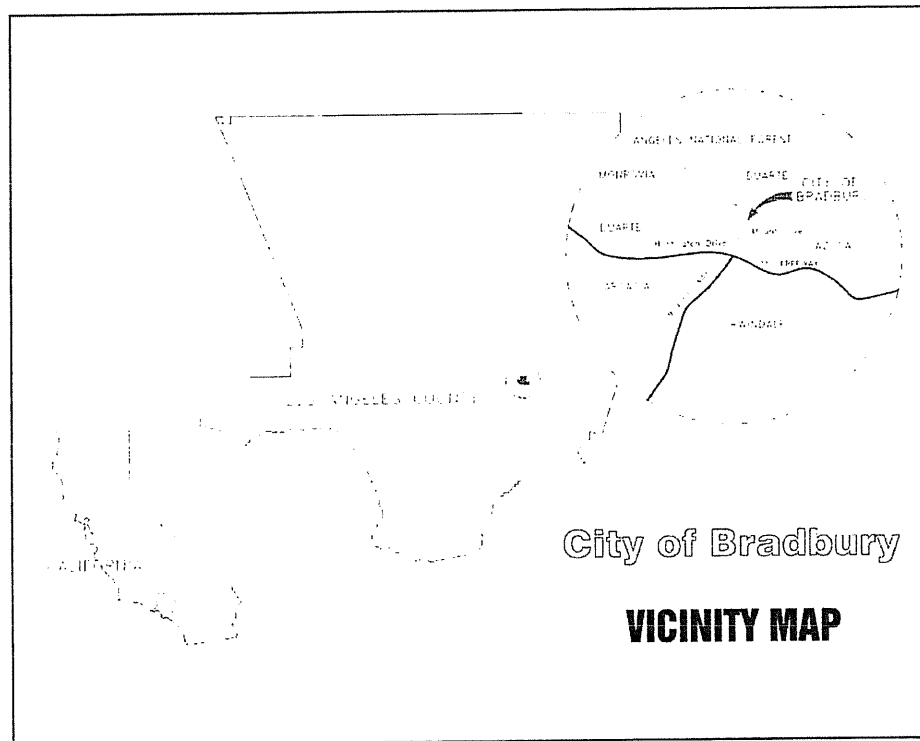


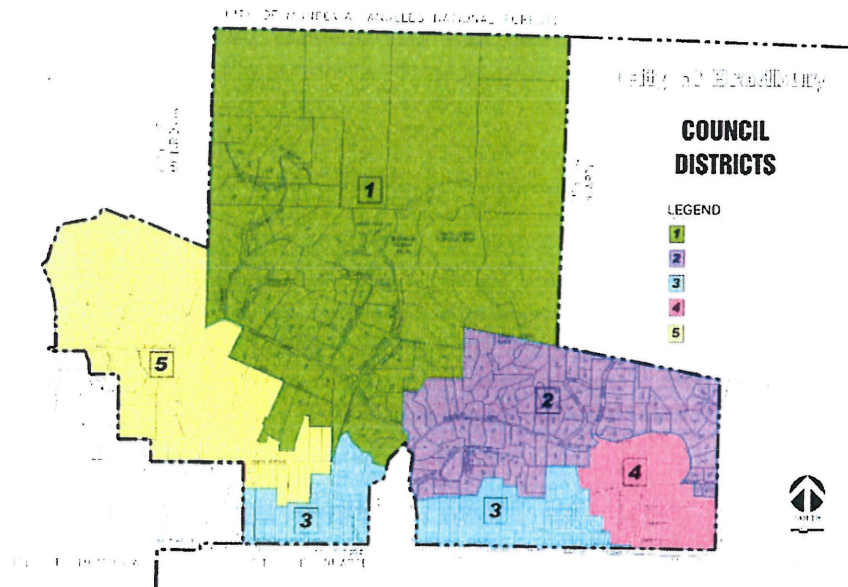
Exhibit No. 2

### City of Bradbury Vicinity Map

**Local Setting:** Bradbury is developed exclusively with single-family detached residential dwelling units. It is a quiet hillside community composed of orchards and equestrian facilities, many of the streets are privately owned and maintained. Large estate lots are located within gate guarded neighborhoods accessed by meandering narrow roads bordered by lush landscaping. Agricultural endeavors are encouraged. Among the orchards the rearing and training of horses is a lifestyle historically enjoyed by many residents. Exclusive private residential estates are intermingled with the hillside ranches and farms. Situated against the foothills of the San Gabriel Mountains, Bradbury's northern boundary is shared with the cities of Monrovia and Duarte; and the Angeles National Forest. The mountain peaks range from 1,200 feet to 10,064 feet above sea level. The northern slopes of Bradbury are covered with dense chaparral that changes to pine and fir tree covered hillsides in the higher elevations. Since much of the development in Bradbury is situated on hillsides overlooking the San Gabriel Valley, the homes offer incredible panoramic views to the east, south and west.

Residents enjoy peaceful secluded neighborhoods with an abundance of open-space, and a serene lifestyle within close proximity to a variety of urban amenities.

**City Governance:** The City of Bradbury is governed by five elected Council members and managed by a City Manager. The City is divided into five council districts. One representative from each district is elected to the City Council. Annually the City Council elects a mayor and mayor pro tem from its membership. A Planning Commission is appointed by the City Council. One member from each council district is appointed to serve a two-year term on the Commission.



**Exhibit No. 3**  
**City of Bradbury Council Districts**

**Municipal Services:** The City has three permanent employees. The City contracts with various public and private agencies and firms to provide municipal services. Police services are provided by the Los Angeles County Sheriff's Department. Fire protection services are provided by the Los Angeles County Fire Department. Public Works improvements and maintenance are provided by the County of Los Angeles. Landscaping and maintenance services are provided via contract with a privately owned firm. Building, Planning and Engineering services are provided under contracts with privately owned companies. Solid waste removal and disposal services are provided by a privately owned company.

## **HISTORY**

Native American Indians known as the San Gabriel Valley Hahamongna resided in this area once called "the land of flowing waters and fruitful valley". The Tongva or Gabriellino Native Americans settled on the bluffs of the San Gabriel Mountains overlooking the Los Angeles River. The Spaniards who settled in the valley called the seasonal running river Arroyo Seco or "dry riverbed".



In 1841, Bradbury was settled by Andres Duarte, a Mexican Army corporal, who was awarded a 6,596-acre land grant by Mexican Governor Juan B. Alvarado. The ranch was originally developed with orchards. As the years passed the 6,596-acre ranch was eventually subdivided into large ranch type parcels. In 1886 gold was discovered in a canyon on the ranch. Mines were actively worked for at least two years. However, after the gold mining subsided, the property was sold and the new land owners, Alexander Weil and William Wolfskill, further divided the property into 42-acre parcels which were offered for sale.

Early residents discovered the unique characteristics of the soil, water, subtropical type climate, and protection from the elements provided by the San Gabriel Mountains. This locale was an ideal setting for farming and growing productive orchards. The San Gabriel River provided an abundance of excellent quality water. Transporting the water from the river to the fields and orchards was inexpensive and made agricultural endeavors profitable. The residents took advantage of the ideal conditions and planted avocados and citrus groves that became some of the best known and coveted crops worldwide.

Louis Leonard Bradbury, a wealthy financier, who made his fortune in gold and silver mining, purchased land from Alexander Weil and constructed a home north of Oak Street and Royal Oaks Lane. Louis Bradbury lived in this home for many years. His daughter, Rosario, continued to live on the estate until the late 1930's. The City of Bradbury was named after this wealthy early resident. The once stately Bradbury manor was converted and expanded into the retirement and assisted living community known as "Be Royal Oaks" formerly known as the Royal Oaks Manor. This 17-acre facility is located on the north side of Royal Oaks Drive North just east of Braewood Drive. This County unincorporated area is surrounded on the east, north and west by the City of Bradbury.

**Memorable Places:** Wooline Estate, built by T. S. McKee in 1889 is located at the northwest corner of Winston Avenue and Royal Oaks Drive North. The third owner, bank president William Wooline, named the estate Royal Oaks commemorating the numerous Coast Live Oak trees located on the property and possibly also in reference to the Spanish Cork Oak trees planted by Louis Bradbury along the north side of Royal Oaks Drive.

Places having local historic significance include:

- 1775 Royal Oaks Drive North. This property contains an old stone milk house, and cistern.
- 5 Bradbury Hills Road. This property contains a single-story prairie style home that was designed by the Frank Lloyd Wright studio.
- 555 Deodar Lane. This site contains an old building referred to as the stone carriage house.
- 2001 Gardi Street. This site is the location of an 1890's two-story Queen Ann Farm House.

## BRADBURY TODAY AND TOMORROW

The City of Bradbury is one of the ten smallest cities in Los Angeles County with 1.9 square miles and 1,048 residents (U.S. Census 2010). The City has grown from 855 persons in 2000 to the 1,048 residents in 2010. Over the past ten years, the median age has decreased from

49.1 years to 42 years old. The population under the age of 18 has decreased from 24.7% to 16.5% (Census 2010). The senior population has increased from 15% to almost 20%.

The City has some of the highest income levels in Los Angeles County. The annual per capita median income is \$100,454 whereas the annual per capita median income for the County of Los Angeles is \$57,717. The 2010 Census reported that there is no one living in the City at or below the poverty level.

The community's overwhelming response was that they loved the City as it exists today. Preservation of open-space, natural physical resources, rural agricultural atmosphere and financial independence were issues of public concern.

**Mission Statement:** The City's Mission Statement, "**Preserving Rural Tranquility**", is a policy as relevant now as it was decades ago when it was initially adopted. The Mission Statement provides guidance to local decision makers in the implementation of the community's land use policies.

**Tomorrow's Vision Statement:** The City of Bradbury recognizes its unique single-family residential character and by maintaining fiscally responsible governance and development policies shall strive to provide a stable and sustainable rural community balancing preservation of natural open space with the needs of its residents for a quiet and safe place to live and raise their families.

**Goals:** The objectives and policies expressed throughout this General Plan shall be based on achieving and implementing the following goals:

1. Financial sustainability.
2. Independent local government.
3. Local responsive and responsible governance.
4. Quiet and peaceful living environment.
5. Safe community.
6. Compatibility between rural agriculture and residential estate development.
7. Balance the City's rural character, including agricultural opportunities, preservation of open-space and natural topography, with residential necessities such as traditional municipal services and utilities.
8. Living/housing opportunities for all ages and economic levels.
9. Services for residents that encompass and are sensitive to an aging population and cultural diversity.

The General Plan 2012-2030 Update essentially follows the land use patterns and goals of the General Plan that has been in place since 1993. While the text of the policies may have been expanded upon and some names changed, the core values remain the same and the 2012-2030 General Plan Update is not meant to and does not change any development potential from what was previously approved and adopted.

## PUBLIC PARTICIPATION

The City Council appointed a General Plan Steering Committee to take responsibility for soliciting input from the community regarding its vision for the future. Numerous public

hearings, meetings and workshops were held. Information and requests for input and participation were posted on the City's website and published in the community newsletter. Committee members were encouraged to visit with their neighbors and solicit comments concerning the City's vision for the future.

The General Plan process began with collecting data regarding existing conditions of the City. Information such as current demographics; availability of public facilities; municipal services; housing; quality of environmental resources (air, noise, habitat); and existing land uses was collected and analyzed. These analyses are compiled into a report entitled City of Bradbury General Plan 2012 – 2030 Update Background Report. This background milestone report should be used to augment and support the information contained in this General Plan document. The report was made available for public review on the City's website. It set the stage for the preparation of the community's vision, goals, and action plans.

One of the key components in the preparation of a community's General Plan is public participation. The City Council initially conducted a General Plan visioning workshop on May 30, 2012. Then the City Council enlisted the assistance of members of the community to become members of a General Plan Steering Committee. Many Steering Committee meetings were held so the committee could develop a preliminary draft of the General Plan Update that included the community's vision, goals, objectives, policies and implementation action plans. In addition, a community-wide workshop was held on September 10, 2012.

The information contained in the Background Report was used to develop the overview of past accomplishments. The Background Report is intended to be used as an environmental reference document and it can be referred to for more detailed information. Goals, objectives and policies recommended by community residents at the public workshops were developed and inserted in the General Plan Update document.

**Referral, Coordination and Consultation.** During the general plan updating process drafts of the plan were referred to the agencies specified by the State Planning Law Government Code Section 65351 through Section 65352.5. All appropriate agencies were consulted and their comments were coordinated with the local planning aspirations.

When the preliminary draft of the General Plan Update was completed, the public was encouraged to provide comments by contacting staff, participating in public hearings before the Planning Commission and the City Council or providing input through the City's interactive website. The Steering Committee's preliminary draft General Plan was sent to the California State Department of Housing and Community Development (HCD) for review and comment. Comments provided by HCD were responded to and the revised draft General Plan was presented to the Planning Commission at two public hearings. The draft General Plan Update approved by the Planning Commission was then forwarded to the City Council with a recommendation for adoption. The final draft of the General Plan was presented to the City Council at a public hearing on November 19, 2013. Based on input received at the public hearing the City Council decided to refer the draft document back to the Planning Commission for response to the questions and concerns raised by the owners of the 302-acres of undeveloped hillside property. The Planning Commission, at a properly noticed public hearing, reviewed clarifying language added to the initial draft document. The Planning Commission was satisfied that the basic land use patterns and development potential, densities and intensity set forth in the City's 1993 and 2007 General Plans were carried forward and implemented in the



General Plan 2012-2030 Update. Furthermore, the Planning Commission sought assurance that the goals, objectives, policies and action programs recommended by the General Plan Steering Committee were appropriately clarified. The Planning Commission at its meeting of February 26, 2014 adopted a resolution recommending that the City Council adopt the City of Bradbury General Plan 2012-2030 Update. The City Council, at a public hearing in April 2014 considered the recommendation of the Planning Commission regarding the adoption of the General Plan 2012-2030 Update. Input from the general public was solicited and considered before the City Council adopted the General Plan 2012-2030 Update.

As required by State law, an appropriate level of environmental review was prepared and circulated as prescribed by the California Environmental Quality Act (CEQA). The City Council considered all input regarding the potential environmental impacts that may result from the implementation of the goals, objectives and policies set forth in the General Plan 2012-2030 Update. Environmental determinations were made by the City Council prior to the adoption of the General Plan 2012-2030 Update.

## GENERAL PLAN CONTENT

California State Law mandates that each General Plan contain seven elements that must address: 1) Land Use; 2) Circulation; 3) Housing; 4) Open Space; 5) Conservation; 6) Noise; and 7) Safety. Recently, the State legislature expressed concern regarding climate change and greenhouse gas emissions. Assembly Bill AB 32, (The California Global Warming Solutions Act of 2006) set the stage for addressing activities that impact the global climate. Senate Bills, SB 375 and SB 575 identify greenhouse gas emission reduction targets for passenger vehicles and light trucks. This General Plan Update 2012 – 2030 contains an element (Climate Action Plan) which outlines the City's goals, policies and action plans that are focused on the reduction of greenhouse gases within the community.

The General Plan 2012–2030 Update contains the seven basic mandated elements plus a Climate Action Plan. Some of the mandated elements have been combined as permitted and encourage by State law. The following elements are located in the Bradbury General Plan 2012-2030 Update:

1. **Land Use Element;**
2. **Circulation – Transportation Element;**
3. **Housing Element** (*Because the update and revision schedule for the Housing Element differs from that of the remaining general plan elements the Housing Element is an independent document*);
4. **Community Resources Element** (*Combines the mandated Open-Space and Conservation Elements*);
5. **Health and Safety Element** (*Combines the mandated Noise and Safety Elements*);
6. **Climate Action Plan.**

Each element contains the community's goals and implementation measures related to that specific General Plan element.

## GENERAL PLAN AMENDMENT PROCESS

California Government Code Section 65400 requires the City to annually review the General Plan and the corresponding Implementation Plan. An annual report should be prepared for review and approval by the City Planning Commission and the City Council and forwarded to the State Office of Planning and Research and the State Housing and Community Development office on or before October 1 of each year. Information and suggestions for preparing the annual review report can be found in the State of California General Plan Guidelines.

The annual review report is intended to provide information on how the General Plan is being implemented; any necessary course adjustments or modifications to the General Plan needed to improve implementation; the correlation between land use decisions made and existing objectives, policies, and tools; the progress made in meeting the City's share of regional housing needs pursuant to California Government Code Section 65584; and the City's efforts to remove constraints to the maintenance, improvement, and development of housing.

As a living document, the General Plan is reviewed and periodically amended to reflect changes in the housing market, the economy, etc. Should individual elements require amendment; the proposed changes can be proposed up to four times per year after adequate posting of public hearing notice as per State law (See Section 65358 Amendments of the California Government Code).

## IMPLEMENTING THE PLAN

The Implementation Programs and actions described in the various General Plan Elements should be regularly reviewed because they outline the actions and methods need to be taken by the City to carry out the General Plan goals and policies.

The Implementation Programs allow decision makers to understand the importance of different programs and the relative priority in advancing the long-term goals of the community. They inform City decision makers about other related planning efforts, such as Capital Improvement Plans and even the annual budgeting process. When used correctly, the General Plan can be the single most powerful tool for effecting long-term change within the community.





# General Plan 2012-2030 Update

## Land Use Element

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# General Plan 2012 – 2030 Update Land Use Element

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## **Purpose:**

The purpose of the General Plan Land Use Element is to plan for and shape the future physical development of Bradbury. State Planning Law requires that General Plans establish land use designations for various areas in the plan, as well as standards for population density and building intensity. The Land Use Element serves as a guide for future development. The Element's relationship to other General Plan components is central for many aspects. Land use decisions influence: 1) capacity and service levels for transportation and utility systems; 2) housing availability; 3) preservation of resources; and 4) long-term effects related to economic prosperity.

## **History:**

The City of Bradbury incorporated July 26, 1957. The boundaries lie within the northern part of the Rancho Azusa de Duarte, originally a 6,596-acre Mexican Land Grant given in 1841 to Andres Duarte. The original rancho included all of Bradbury and portions of the surrounding cities. It was developed and subdivided into 40+ acre parcels in the 1870's. Around 1883 Lewis Leonard Bradbury acquired 2,750 acres of the rancho which comprises the present day cities of Bradbury and Duarte.

The population of Bradbury has grown from 518 in 1957 to 1,048 in 2010. The City is divided into five council districts representing the various distinctive areas of this unique community. The boundaries of the council districts are adjusted every ten years based on the most current census population data.

## **Relationship to other General Plan Elements**

The Land Use Element responds to detailed State statutory requirements and it has a broad scope. Land Use issues overlap those of all of the other general plan elements. This element is internally consistent with the goals, objectives and policies contained in all of the remaining general plan elements.

## **Planning Boundary & Sphere of Influence:**

As required by State Law, this Land Use Element contains text and maps that designate the future use and reuse of land and standards for residential density within the City and its Sphere of Influence. The General Plan Land Use Map, contained in this Element, graphically represents the City's vision for future development, enhancement and conservation. The planning

boundaries of the City are identified in Exhibit LU No.1 and they include the existing jurisdictional boundary and the City's Sphere of Influence Area.

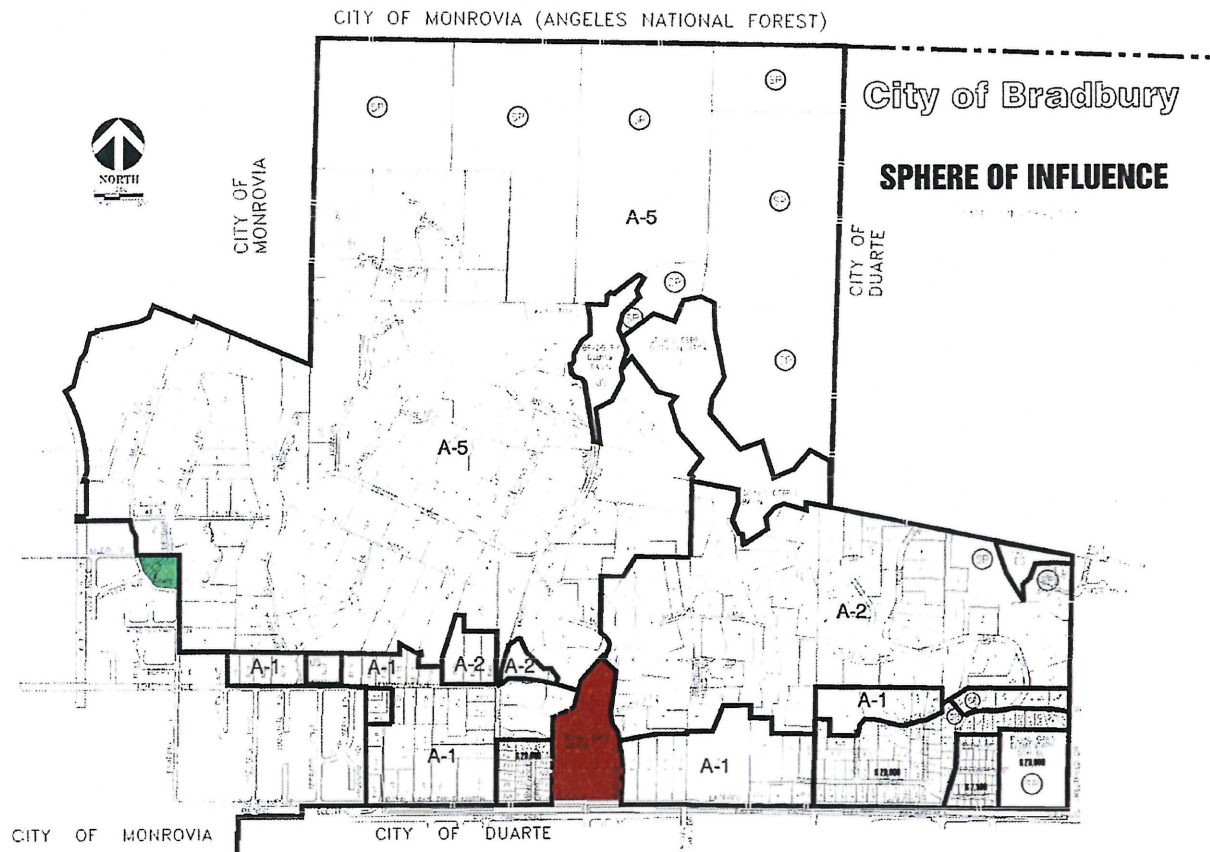
The Sphere of Influence includes four (4) parcels of land that are currently located in the City of Monrovia but within the legal authority of the Bradbury Estates Community Service District (CSD). These four parcels include portions of two developed residential estate sites that are located in the Bradbury Estates. Additionally, the main entrance to the Bradbury Estates, including the guard house, is located in the City of Monrovia. It is the City of Bradbury's position that these four tax assessor parcels should logically be part of the City of Bradbury and should be subject to the development policies of this jurisdiction rather than the policies of the City of Monrovia. The physical extension of the City of Bradbury to the right-of-way of Wild Rose Avenue should be pursued with the Local Agency Formation Commission (LAFCO) and the City of Monrovia in the future.

Cities are required to enact and develop policies designed to promote logical and orderly development. Pursuant to Senate Bill SB 244 (adopted in 2011 and enrolled as Chapter 513), prior to the next housing element due date (February 2014 for Bradbury), cities and counties are required to update of their land use element to identify county islands adjacent to their city within their planning boundaries when, in doing so, it promotes logical development. To comply with SB 244, the planning boundaries for the City should include the 17-acre County Island, "Be Royal Oaks" retirement/skilled nursing facility. Since the property is a multi-family residential skilled nursing facility and the site is developed and urban services are provided by the same agencies utilized by the City of Bradbury no unexpected impacts to the City of Bradbury are anticipated.

The City of Bradbury has not and does not include multi-family residential zones, development concepts or policies. The annexation of the Be Royal Oaks retirement/skilled nursing facility has been previously considered by Planning Commissions and City Councils. The concept of annexing this County Island into the City of Bradbury has been considered, reviewed and discarded as a potential expansion of the City of Bradbury. However, if future City Councils determine that annexation of this multi-family residentially developed property is appropriate then detailed studies and analysis of the potential impacts would prepared for consideration before any action is undertaken.

The Bradbury General Plan Existing Land Use Map (Exhibit LU No. 2) identifies the existing uses of land as of the date of adoption of this General Plan 2012-2030 Update. The General Plan Land Use Map (Exhibit LU No. 3) designates the desired land use pattern, development density and intensity envisioned for this planning period. The desired development of land uses is implemented by the application of the various zone districts set forth in the City's Development Code. Development density and intensity is established by the regulations and standards contained in each of the City's zone districts.





**Exhibit LU No. 1**  
**SPHERE OF INFLUENCE**

**Local Setting:**

The City of Bradbury is a single-family residential community comprised of 1,216-acres of land (1.9 square miles). The community is almost fully developed with a variety of single-family detached residential dwelling units and accessory buildings and structures. Other land uses consisting of non-developable open-space and miscellaneous public uses include: the 1.06-acre Civic Center; the 13-acre Royal Oaks Public Elementary School; 49.67-acres devoted to flood control debris basins owned and operated by the Los Angeles County Flood Control District; the 4.06-acres of privately owned land dedicated as open space; and 3.36-acres owned by California Water Company and used for water reservoirs.

The south/southeastern half of the City is divided in parcels ranging in size from 7,500 square feet to two (2) acres. The north/northwestern half of the City consists of large estate size parcels

of land. The estate zoned parcels range in size from two (2) acres to seventy (70) acres. Many of the parcels are located within areas of steep hillsides.

There are eight (8) large parcels of land comprising approximately 302-acres which are located in the northern portion of the City adjacent to the City of Monrovia/Angeles National Forest that appear to have average slopes that range from 24% to 56.66% based on a cursory review of internet maps and the existing topographical maps on file with the City. The City recognizes that the eight (8) parcels of land, as they currently exist, have the opportunity to be developed with one (1) main dwelling unit and one (1) accessory dwelling per parcel in accordance with the A-5 SP development standards as set forth in the City's Development Code. This General Plan Update therefore uses development of 16 additional dwelling units as a realistic development number for planning purposes for this area. For the purposes of this General Plan Update and pending future detailed development and environmental feasibility studies these 302-acres of undeveloped land are recognized as privately owned Open-Space subject to the City's Hillside Development Standards as set forth in the Development Code.

Limited access to this 302-acre area, lack of urban utilities and the potential existence of sensitive ecological areas and species may render these parcels very difficult or potentially economically infeasible for residential estate development. It should be noted that residential development of this area is not limited to the 16 units; development density may be increased through the utilization of land division and development concepts, such as clustered development, that can be developed through a specific plan. The subject property owners may at their volition file development applications with the City in accordance with the provisions of applicable ordinances and policies for such development. Any development of these 302-acres requires the preparation, review and approval of a Specific Plan. Due to the severe site constraints it is anticipated that special development design considerations will have to be examined in order to provide adequate access to future building sites.

### **Existing Land Uses:**

An analysis of the City's existing land uses identified seven categories: 1) Single-Family Residential; 2) Public Facilities; 3) Education; 4) Open Space, Privately Owned-Undeveloped; 5) Vacant; 6) Water Reservoir; and 7) Open-Space-Dedicated. Table LU No. 1 contains the area tabulations for the various existing land uses. Exhibit LU No. 2 depicts the location of the various existing land uses.

### **Land Use Designations:**

The City's zoning, which will not be changed by the General Plan Update, implements the community's long-standing desire to retain its rural, low-density single-family residential character. The entire City of Bradbury is zoned for single-family detached residential development with only one exception for Open-Space areas that are used for public facilities, flood control debris and disposal areas water reservoirs, and privately owned and dedicated open-space areas.

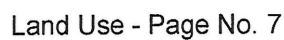
The following General Plan land Use designations are reflected in Figure LU-3:

- **Agriculture/Estate Residential – Five Acres:** This category refers to agricultural uses of land and large estate residential development on parcels at least five-acres in size.
- **Agriculture/Estate Residential – Two Acres:** This category refers to agricultural uses of land and smaller estate residential development on parcels at least two-acres in size.
- **Agriculture/Estate Residential – One Acre:** This category refers to agricultural uses of land and estate residential development on parcels at least one-acre in size.
- **Single-Family – 20,000 square feet:** This category refers to single-family residential uses on lots containing a minimum area of 20,000 square feet.
- **Single-Family – 7,500 square feet:** This category refers to single-family residential development on lots containing a minimum of 7,500 square feet.
- **Retirement Home** – Unincorporated Area located within the City's Sphere of Influence containing an existing multi-family residential retirement skilled nursing community of approximately 130 dwelling units.
- **Public Facilities**– Areas used for public purposes including schools, water reservoirs and the City's Civic Center.
- **Open Space, Flood Control** – Areas owned and operated by the Los Angeles County Flood Control District for flood control purposes.
- **Open Space, Privately Owned – Dedicated** – Privately owned property that is dedicated as open space in perpetuity.
- **Open Space, Privately Owned Undeveloped** – Undeveloped privately owned land that may be developed but is considered as difficult and possibly economically infeasible for residential development at the density of one dwelling unit per five acres.

TABLE LU No. 1 LAND USE DESIGNATIONS AND ZONING			
Permitted Land Use	Zoning	Acres	Land Use Designation
Single-Family Residential	R-7,500 Single-family Residential	8.00	R-7,500
	R-20,000 Single-family Residential	43.84	R-20,000
	A-1 Agriculture Residential Estate	104.00	A-1
	A-2-Agriculture Residential Estate	195.94	A-2
	A-5-Agriculture Residential Estate	490.78	A-5
	A-5 (SP) Agriculture Residential Estate-Specific Plan	302.19	Open Space Privately Owned Undeveloped
Public Facilities - Education	R-20,000 Single-Family Residential	13.10	Public Facilities
Public Facilities -Civic Center	A-1 Agriculture Residential Estate	1.06	Public Facilities
Public Facilities – Water Reservoir	O-S (Open Space)	3.36	Public Facilities
Public Facilities – Spinks Debris Disposal Area	O-S (Open Space)	36.47	Open Space Flood Control
Public Facilities – Bradbury Debris Basin	O-S (Open Space)	13.20	Open Space Flood Control
Open-Space Privately Owned-Dedicated	O-S-SP (Open Space-Specific Plan)	4.06	Open Space Dedicated
<b>Total Area</b>		<b>1,216</b>	









## Development:

### Existing Development:

Almost the entire City is developed with single-family detached residential dwelling units. Publically owned property consists of the Civic Center; Royal Oaks Public Elementary School; Los Angeles County Flood Control District owned Flood Control Debris Basins and Channels; and privately owned Water Reservoirs. The 2010 Census reported that the City of Bradbury had 400 dwelling units and a population of 1,048. It was reported that forty-six (46) dwelling units were vacant. The reported average household size was 3.1 persons per dwelling unit.

There are three unique and distinct neighborhoods in the City known as the Bradbury Estates, the Woodlyn Lane Improvement Association and the Bradbury Hills Road and Lane Association. The remaining residential areas are traditional single-family detached residential neighborhoods that are accessed from public streets.

**The Bradbury Estates** is a gated community consisting of large residential parcels ranging in size from two to seventy-acres in size. A unique feature of this community is that it is under the jurisdiction of a Community Services District (CSD) which was formed on December 28, 1995. The CSD has the stated responsibility to:

- Equip and maintain additional security services above and beyond that provided by the Los Angeles County Sheriff to protect and safeguard life and property; and
- The construction, opening, widening, extending, straightening, surfacing, and maintaining in whole or part of any street in the district; and
- The construction and improvement of bridges, culverts, curbs, gutters, drains and works incidental thereto.

**The Woodlyn Lane Improvement Association** is a gated community consisting of large residential parcels usually having a minimum of two-acres of land area.

**The Bradbury Hills Road and Lane Association** is a gated community consisting of large residential parcels usually having a minimum of two-acres. There are seventeen (17) residential parcels that have access to the private streets, Bradbury Hills Road and Bradbury Hills Lane.

**Public Facilities:** Royal Oaks Public Elementary School is located within the City's corporate boundary and it occupies 13-acres located at the extreme southeast corner of the City. This school is operated by the Duarte Unified School District.

The Civic Center is located at 600 Winston Avenue in the south central portion of the City and the entire 1.06-acre site is dedicated for public use. The Civic Center contains a recently constructed 2,400 square foot facility that includes offices and a multi-purpose room that has been designed for meetings and civic functions.

### Future Development Potential:

The undeveloped parcels within the City fall within three categories. Category 1 consists of eight (8) parcels of land comprising approximately 302-acres. These parcels are located in the

northern most portion of the City and are subject to the City's Hillside Development Standards as set forth in the Development Code which severely restricts grading of slopes which are in excess of 10%. Category 2 consists of 67.82 acres comprising 24 parcels which are vacant and more easily developable for single-family detached residential dwellings. Category 3 consists of 5 underutilized parcels which could support additional development.

**Category 1** is comprised of a 302-acre area consisting of eight (8) parcels located in the City's northern boundary adjacent to the City of Monrovia and the Angeles National Forest (see Exhibit LU No. 4). The General Plan Land Use Map identifies this area as Open Space, Privately Owned Undeveloped (see Exhibit LU No. 3), having a maximum density of one dwelling unit per five acres. The area has been zoned A-5 SP (Agriculture/Residential 5-acre minimum, Specific Plan). Each parcel may be developed with one main dwelling and one accessory dwelling unit and would provide for a projected increase of 16 units and 50 persons.

Any development or further subdivision of the 302-acres would be subject to review and approval of a specific plan. Associated environmental studies will address the impacts and mitigation measures associated with any such future development and proposed increase in residential density or population over that set forth herein. The area has been reported to contain hillside slopes that range from 24% to over 50%; numerous prominent ridgelines; Blue-line streams; earthquake induced landslide zones; lack of existing public or private vehicular access; lack of existing public utilities, and habitat that could include sensitive or endangered flora and fauna. These development constraints lead one to consider that development of the area is physically and economically difficult. This area is further restricted by being located in an area designated as a Very High Fire Hazard Severity Zone in compliance with California State Law. If so desired a Specific Plan could be submitted to the City for consideration of the area's maximum development density potential. Use of this steep hillside potentially environmentally sensitive area could include the creation of a conservation conservancy/easement; the use of development right transfer strategies, and cluster development concepts, at the owner's option.

Any development in this area would be subject to the hillside development standards that are applicable to any site that consists of two-acres of land area having an average slope exceeding 10%. The intent of the hillside development standards is to preserve the pristine hillside mountainous topography. Grading of the hillside property is restricted and controlled. The nature and extent of the grading and development restrictions are based on the average slope of the parcel under consideration.



<b>TABLE LU No. 2</b> <b>CATEGORY 1</b> <b>OPEN SPACE PRIVATELY OWNED UNDEVELOPED HILLSIDE PARCELS</b>								
	Parcel No.	Area.	Zone	Land Use	Potential DU's	Potential 2 <sup>nd</sup> DU's	Total DU's	Average Slope
1.	8527-001-001	41.40	A-5 (SP)	Estate 5-Ac	1	1	2	37.45%
2.	8527-001-008	70.00	A-5 (SP)	Estate 5-Ac	1	1	2	34.00%
3.	8527-001-009	20.54	A-5 (SP)	Estate 5-Ac	1	1	2	56.66%
4.	8527-001-010	59.19	A-5 (SP)	Estate 5-Ac	1	1	2	44.23%
5.	8527-001-012	59.30	A-5 (SP)	Estate 5-Ac	1	1	2	32.74%
6.	8527-005-001	8.37	A-5 (SP)	Estate 5-Ac	1	1	2	28.65%
7.	8527-005-002	1.03	A-5 (SP)	Estate 5-Ac	1	1	2	42.01%
8.	8527-005-004	42.36	A-5 (SP)	Estate 5-Ac	1	1	2	24.03%
<b>Total</b>		<b>302.19</b>			<b>8</b>	<b>8</b>	<b>16</b>	<b>-</b>

**Category 2** is comprised of twenty-four (24) vacant undeveloped residentially designated and zoned parcels. All of these sites are considered as appropriate for development for single-family detached residential dwelling units. (See Exhibit LU No. 4.) The identified vacant developable residential parcels on the 67.82 acres could theoretically yield 27 main dwelling units and 26 second dwelling units for a total of 53 additional dwelling units for a projected population of 165 persons for this category.

<b>TABLE LU No. 3</b> <b>CATEGORY 2</b> <b>- VACANT UNDEVELOPED RESIDENTIAL PARCELS -</b>							
	Parcel No.	Parcel Size	Zone	Land Use	Potential No. of Main Dwellings	Potential No. of 2 <sup>nd</sup> Dwellings	Potential Total No. of Dwellings
1.	8527-002-023	5.58	A-5	Estate 5-Ac	1	1	2
2.	8527-004-020	2.12	A-5	Estate 5-Ac	1	1	2
3.	8527-006-019	4.96	A-2	Estate 2-Ac	1	1	2
4.	8527-007-023	0.39	A-2	Estate 2-Ac	1	1	2
5.	8527-007-024	1.96	A-2	Estate 2-Ac	1	1	2
6.	8527-007-025	2.14	A-2	Estate 2-Ac	1	1	2
7.	8527-007-026	2.32	A-2	Estate 2-Ac	1	1	2
8.	8527-007-027	2.87	A-2	Estate 2-Ac	1	1	2

9.	8527-016-009	8.01	A-2	Estate 2-Ac	3	3	6
10.	8527-016-019	2.03	A-2	Estate 2-Ac	1	1	2
11.	8527-016-035	1.35	A-2	Estate 2-Ac	1	1	2
12.	8527-016-036	2.18	A-2	Estate 2-Ac	1	1	2
13.	8527-016-037	1.18	A-2 (SP)	Estate 2-Ac	1	0	1
14.	8527-016-039	1.29	A-2 (SP)	Estate 2-Ac	1	0	1
15.	8527-021-011	1.54	A-2	Estate 2-Ac	1	1	2
16.	8527-021-044	1.13	A-1	Estate 1-Ac	1	1	2
17.	8527-024-032	5.3	A-5	Estate 5-Ac	1	1	2
18.	8527-025-035	2.05	A-5	Estate 5-Ac	1	1	2
19.	8527-026-006	2.90	A-5	Estate 5-Ac	1	2	3
20.	8527-026-033	2.40	A-5	Estate 5-Ac	1	1	2
21.	8527-026-034 & 8527-026-036	2.29	A-5	Estate 5-Ac	1	1	2
22.	8527-029-001	2.54	A-5	Estate 5-Ac	1	1	2
23.	8527-029-017	7.16	A-5	Estate 5-Ac	1	1	2
24.	8527-023-012	2.13	A-1	Estate 1-Ac	2	2	4
<b>Total</b>		<b>67.82</b>			<b>27</b>	<b>26</b>	<b>53</b>

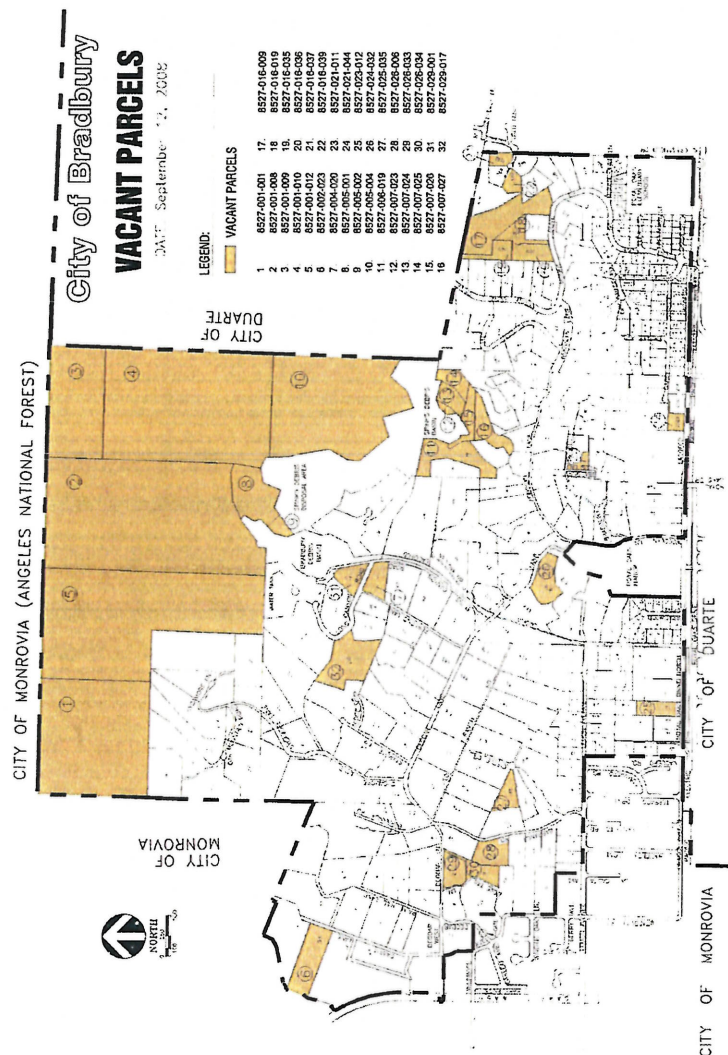
**Category 3** is comprised of 5 underutilized parcels which also have potential for development of single-family detached residential dwellings. The identified underutilized parcels could theoretically yield 12 main dwelling units and 16 second dwelling units for a total of 28 additional dwelling units for a projected population of 87 persons over the 33.83 acres making up this category. (See Exhibit LU No. 5.)

<b>TABLE LU No. 4</b> <b>CATEGORY 3</b> <b>- UNDERUTILIZED PARCELS -</b>							
	Parcel No.	Parcel Size	Zone	Land Use	Potential No. of Units	Potential No. of 2nd DU's	Total No. Potential DU's
1.	8527-021-041	12.40-ac	A-1	Estate – 1 unit per acre	6	7	13
2.	8527-023-020	2.75 ac	A-1	Estate – 1 unit per acre	1	2	3
3.	8527-023-021	3.80-ac	A-1	Estate – 1 unit per acre	2	3	5
4.	8527-002-014	12.8-ac	A-5	Estate – 0.2unit per-acre	1	2	3
5.	8527-003-035	2.08 ac	A-1	Estate – 1 unit per acre	2	2	4
<b>Total</b>		<b>33.83 ac</b>			<b>12</b>	<b>16</b>	<b>28</b>



## Total Build-Out:

The follow exhibits (LU No. 4 and LU No. 5) locate the vacant undeveloped parcels of land and the underutilized parcels capable of supporting additional dwelling units. The total projected dwelling unit buildout capacity for the City of Bradbury is ninety-seven (97) additional dwelling units. The existing dwelling unit count is 400, but according to the 2010 census, only 354 units were occupied, providing for an 11.5% vacancy rate. Under current conditions the projected maximum dwelling unit count would be 497 which would include main and accessory dwellings. The 2010 federal Census indicates that the average household size in the City of Bradbury is 3.1 persons. The projected maximum population of the City would then be 497 dwellings multiplied by the average household size of 3.1 for a total buildout population of 1,541 persons.



**Exhibit LU No. 4**  
**VACANT UNDEVELOPED PARCELS**



1. **Single Room Occupancy Units (SRO's)** defined as living accommodations that may be provided to house personnel involved in the care and maintenance of the primary



dwelling or the associated on-site farming activity. SRO's are also known as servant or domestic quarters, groom's quarters or pool houses.

2. **Second Dwelling Units** defined as attached or detached dwelling units inclusive of complete kitchen facilities. The maximum size of the permitted dwelling units is determined by the zone in which the unit is to be located and range from 1,200 square feet in the R-7,500 zone to 2,500 square feet in the A-5 zone.
3. **Guesthouse** is defined as living accommodations that do not include complete kitchen facilities.
4. **Bunk Houses** designed to house individuals associated with the on-site farming activities. Such facilities shall not include complete kitchen facilities.
5. **Groom's Quarters** designed to house individuals associated with the on-site care of animals. Such facilities shall not include complete kitchen facilities.
6. **Servant or Domestic Quarters** defined as an attached single-room occupancy (SRO) dwelling that does not include kitchen facilities.
7. **Pool Houses** defined as an attached or detached single-room occupancy (SRO) dwelling that does not include kitchen facilities.
8. **Granny House** to be defined as an attached or detached dwelling unit designed for occupancy by one or two adult individuals over the age of 62 provided that such dwelling does not contain complete kitchen facilities. (*Government Code Section 65852.1*)

Second dwelling units are permitted within all residential zones. The City is committed to providing living accommodations for all economic segments of the population.

Currently there are 79 accessory dwelling units located throughout the City. Construction of accessory living quarters is encouraged at every opportunity.

## Key Land Use Goals, Objectives, Policies and Action Programs

**Mission Statement:** Preserving Rural Tranquility is a policy as relevant now as it was decades ago when it was initially adopted. The mission statement provides guidance to local decision makers in the implementation of the community's land use policies.

**Vision Statement:** The City of Bradbury recognizes its unique single-family residential character and by maintaining fiscally responsible governance and development policies shall strive to provide a stable and sustainable rural community balancing preservation of natural open space with the needs of its residents for a quiet and safe place to live and raise their families.

### Land Use Goals

**Land Use Goal 1:** The Land Use Element maintains the existing rural residential character of the City. The element designates the general location, distribution, and extent of existing and permitted development.

**Land Use Goal 2:** Preserve the identity, image and environmental quality of the hillside and open space areas in perpetuity by enforcing the Hillside Development Standards

**Land Use Objectives**

- Land Use Objective 1:** To maintain the existing character of the community and to preserve those environmental resources and amenities that make the City of Bradbury a desirable place to live.

**Land Use Policies**

- Land Use Policy 1:** The residential character of the community and environmental resources important to the City will be maintained.

**Land Use Action Programs:**

The City of Bradbury intends to complete the following items which address the objectives and policies of the Land Use Element of the General Plan:

- Land Use Action 1:** Encourage as much hillside preservation as possible through the use of conservation easements, acquisition efforts by conservation organizations or preservation as natural preserves that promote the protection of natural hillsides as open-space in perpetuity.
- Land Use Action 2:** Work with the City of Monrovia to adjust the common municipal boundaries to expand the City of Bradbury to the edge of the Wild Rose Avenue right-of-way to be consistent with the legal boundaries of the Bradbury Estates Community Services District.
- Land Use Action 3:** Revise the City's Design Guidelines to promote sustainable building and development design alternatives.
- Land Use Action 4:** Encourage the homeowner associations to consider the update or adoption of design guidelines for their respective jurisdictions.
- Land Use Action 5:** Engage the community and the homeowner associations to explore the need to control development intensity including but not limited to re-examination of lot coverage definitions, relationship of setbacks and building height and the ratio of main dwelling unit footprints to the total parcel size.
- Land Use Action 6:** Perform a biennial review of the Hillside Development Standards and update if necessary to carry out the goals of the General Plan.

# General Plan 2012-2030 Update

## Circulation-Transportation Element

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# General Plan 2012-2030 Update

## Circulation-Transportation Element

### Purpose

State statute requires that the General Plan Circulation-Transportation Element correlate directly with the Land Use Element. The Circulation-Transportation Element also has direct relationships with the mandated Housing, Open-Space, Noise and Safety Elements. The Circulation-Transportation Element must address the following issues:

- Major thoroughfares
- Transportation routes
- Terminals
- Local public utilities and facilities

The purpose of the General Plan Circulation-Transportation Element is to plan adequate circulation systems for the community's residents. Circulation includes all facilities that direct and accommodate motorized vehicles, bicycles and pedestrian movement. Transportation includes accommodations for public and privately owned and operated buses, trains and aircraft. Not all methods of transportation may be offered or available within the community. However, the Circulation-Transportation Element will address or identify the systems that are available to the community residents. Emphasis will be made to provide access to all public transportation systems by the disabled. The Circulation-Transportation Element should also establish parameters for new development to insure that minimum standards are met.

In 2008 the Legislature adopted Assembly Bill 1358 (Chapter 657) entitled "The California Complete Streets Act." This law requires that as part of their next substantive update to the Circulation Element after January 1, 2011, local jurisdictions must plan for the development of multi-modal transportation networks. Consistency between regional and local circulation and transportation systems is essential. The coordinated regional and local circulation and transportation systems will create the desired "Complete Streets Network" envisioned by AB 1358.

Providing a "Complete Streets Network" has a multitude of benefits that include streets designed for safe travel including: bicycle and pedestrian facilities that promote and encourage users to engage in healthy transportation alternatives. Availability of facilities that provide alternatives to the use of motorized transportation can reduce miles traveled per day which correlates with air quality improvements and the reduction of Greenhouse Gas Emissions.

The State of Californian legislature also enacted Assembly Bill 32 (AB-32) entitled "The Global Warming Solutions Act of 2006". The stated goal is to reduce Greenhouse Gas Emissions (GHG) to 1990 levels no later than the year 2020. Companion bill, Senate Bill 375 (SB-375), adopted in 2008, targets automobiles and light trucks for immediate Greenhouse Gas Emission reduction.

The City of Bradbury recognizes the benefits of reducing our dependency on automobiles to meet our transportation needs. Residents are encouraged to use alternative modes of transportation.

This Circulation-Transportation Element is meant to be the foundation for the City's commitment to reducing "Vehicles Miles Traveled". Future development should promote the ideals and principles that would reduce the community's reliance on the automobile.

## Relationship to Other General Plan Elements

Future traffic volumes will not significantly increase over the next twenty years. Based on the 2009 National Household Travel Survey prepared by the U.S. Department of Transportation, the average vehicle trips per day per household is 9.84. The accepted industry standard for computing the number of vehicle trips per day per household is 10 trips.

The Land Use Element estimates the total potential increase in the number of dwelling units within the City will be ninety seven (97). The maximum potential number of dwelling units at "Build-Out" condition will be 497. The projected additional vehicle trips per day based on the "Build-Out" condition would be nine hundred and seventy (970). The projected total number of vehicle trips per day would then be 4,970 or approximately a 24% increase in the number of daily vehicle trips.

## Regional Setting

The City of Bradbury is nestled against the San Gabriel Mountains northwest of the intersection of the San Gabriel River Freeway (I-605) and the Foothill Freeway (I-210). Access ramps at Mount Olive Drive, Buena Vista Street and Irwindale Avenue provide direct ingress and egress to the freeway system.

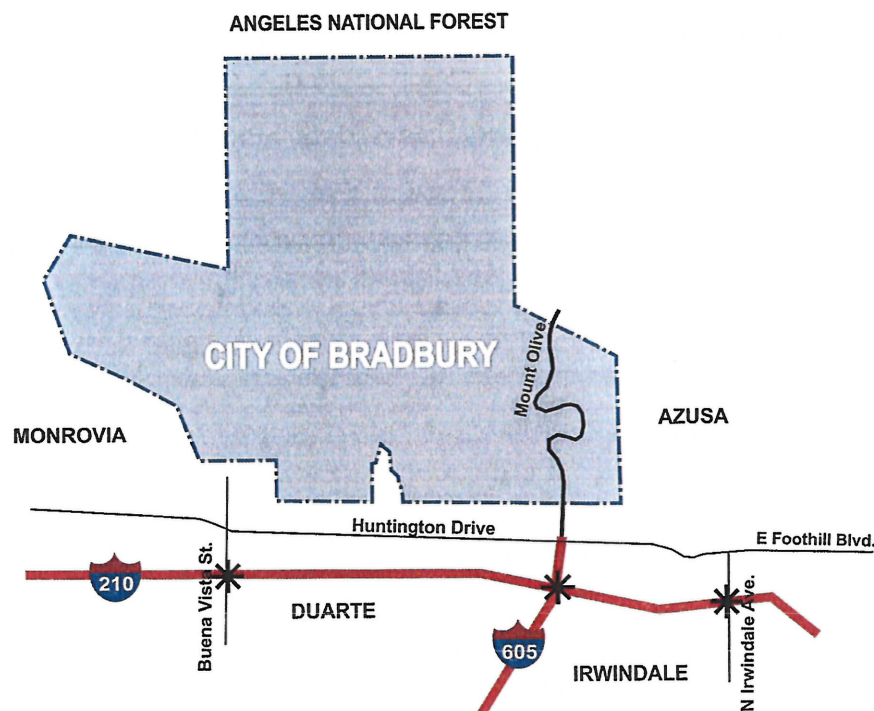


Exhibit C-T No. 1

## REGIONAL LOCATION MAP

**Traffic Impacts:** The primary traffic impact to Bradbury residents will occur as nearby communities experience growth in commercial and industrial development. As nearby communities grow, traffic will increase and the Level-of-Service (LOS) at surrounding arterial highway intersections will decrease.

Level of Service (LOS) is a qualitative indicator that is used to describe the operative conditions of a roadway. Level of Service is computed using methods documented in the Transportation Research Board Publication Highway Capacity Manual. For signalized intersections and all-way-stop-controlled intersections (AWSC), delays in movement and LOS are reported as average values for the entire intersection. For two-way-stop-controlled intersection (TWSC), the average delays and LOS are reported for the “worst-case” movement. The definitions for the various Levels-of-Service are described below:

1. LOS-“A” (Stable Flow) means free-flow conditions with negligible to minimal delays. Excellent progression with most vehicles arriving during the green phase and not having to stop at all. Nearly all drivers find freedom of operation.
2. LOS-“B” (Stable Flow) means good progression with slight delays. Short cycle-lengths typical. Relatively more vehicles stop than under LOS-“A”. Vehicle platoons are formed. Drivers begin to feel somewhat restricted within groups of vehicles.
3. LOS-“C” (Stable Flow) means relatively higher delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear. The number of vehicles stopping is significant, although many still pass through without stopping. Most drivers feel somewhat restricted.
4. LOS-“D” (Approaching Unstable Flow) means somewhat congested conditions. Longer but tolerable delays may result from unfavorable progression, long cycle lengths, and/or high volume-to-capacity ratios. Many vehicles are stopped. Individual cycle failures may be noticeable. Drivers feel restricted during short periods due to temporary back-ups.
5. LOS-“E” (Unstable Flow) means Congested conditions. Significant delays result from poor progression, long cycle lengths, and high volume-to-capacity ratios. Individual cycle failures occur frequently. There are typically long queues of vehicles waiting upstream of the intersection. Driver maneuverability is very restricted.
6. LOS-“F” (Forced Flow) means jammed or grid-lock type operating conditions. Generally considered to be unacceptable for most drivers. Zero or very poor progression, with over-saturation or high volume-to-capacity ratios. Several individual cycle failures occur. Queue spillovers from other locations restrict or prevent movement.

A LOS of “A” refers to a roadway with little or no congestion, LOS “B” refers to very good operation with some traffic congestion. LOS “C” refers to good operating roadways with light congestions and minor delays. LOS “D” refers to a fair operating condition, with congestion and delay at intersection approaches. LOS “E” refers to poor operating conditions with severe congestion and delay and LOS “F” refers to a roadway that has jammed or severe stop-and-go traffic conditions.

The principal east-west arterial roadway serving Bradbury is Huntington Drive. Huntington Drive is an improved four-lane arterial highway with raised, landscaped medians and separate left-turn lanes. The City of Duarte, Circulation Element (November 2007) listed the Huntington Drive roadway as being constructed to a capacity of 32,000 average daily trips (ADT). In November 2005, Huntington Drive was operating at a capacity of between 23,000 and 28,000 ADT’s. The roadway was operating at a LOS “C” (from Buena Vista east to Highland) and LOS “D/E” along the remaining portions of the highway within the City of Duarte. Due to projected growth, the City of Duarte has estimated that the conditions for Huntington Drive will continue to worsen. It is anticipated that the

Level of Service will be reduced to a LOS “D” from Buena Vista to Highland and a LOS “E/F” for the remaining portions of the roadway.

Royal Oaks Drive, located in the City of Duarte, borders the City’s southern boundary and provides east-west access for community residents as well as those just passing through the City of Duarte. Royal Oaks Drive is a two lane local street with parking on both sides of the street in many residential areas. It connects with Mount Olive Drive on the east and Mountain Avenue on the west. The City of Duarte has determined that it has a capacity of 16,000 ADTs. The roadway operates at a LOS of “A/B” with ADT volumes ranging from 7,610 to 10,650.

Mount Olive Drive provides north-south access to the City of Bradbury. Mount Olive Drive north of Royal Oaks Drive is a long cul-de-sac street that provides the single point of access for many Bradbury residents and residents living in the Duarte Mesa. Mount Olive Drive terminates at the 200 unit Duarte Mesa neighborhood.

**Railroad Transportation Systems:** Several railroad lines operate within the San Gabriel Valley, ranging from light rail to freight rail.

**The Metrolink** commuter rail system is jointly operated by several regional transit agencies across four counties and services both the northern and southern valley regions through two lines that connect in downtown Los Angeles to the west and the Inland Empire to the east. Amtrak operates interregional trains throughout Southern California, with a single station in the southern valley located in the City of Pomona. For the City of Bradbury, the connecting link to this system is the Metro Gold Line.

**Metro Gold Line:** Los Angeles Metropolitan Transit Authority (Metro) operates the Gold Line light rail train connecting the northwestern San Gabriel Valley to Downtown Los Angeles. In the vicinity of Bradbury the track runs in the median of the I-210 freeway. The eastern terminus of the line is in the City of Pasadena at Madre Street and the I-210. There is a large parking structure there for commuters from the foothill communities, like Bradbury to use to ride the train into Downtown Los Angeles. The nearest station is currently the Sierra Madre Villa Station in Pasadena, but Metro is currently constructing an extension to the line into the City of Azusa, with the ultimate goal of extending it even further to the eastern edge of the San Gabriel Valley. The light rail is a vital transit link to the region and for the residents of Bradbury, providing access to downtown Los Angeles and to other forms of transportation.

**Air Transportation:** There are no international or domestic airline service airports in the San Gabriel Valley, although there are several general-aviation airports, including Brackett Field in La Verne (east) and El Monte Airport in El Monte (south). There are however, several major airports near the San Gabriel Valley which are easily accessible to Bradbury residents. Los Angeles International Airport is located 39 miles southwest of the City and is accessible via-freeway and transit. Ontario International Airport is located 28 miles east of the City and is easily accessible by the I-210 and I-10 freeways. Burbank (Bob Hope) Airport is located 25 miles west of the City and is easily accessible via the I-210 and I-5 freeways.

**Mass Transit Bus Systems:** There are no operating transit routes within the City of Bradbury. The closest lines are located in the City of Duarte along Huntington Drive and include Foothill Transit line 187 and Metro.



**Foothill Transit** operates the following routes through the City of Duarte:

Route No. 494 - Is a commuter route, traveling west to the El Monte Station where passengers transfer to an express bus serving downtown Los Angeles via the I-10 freeway. To the east, the route terminates at the San Dimas Park & Ride. This route operates on weekdays only.

Route No. 187 - This is a local bus route operating seven days a week. The schedule changes on the weekend. This route will take you west to Pasadena and east to the Montclair Transportation Center. The frequency of scheduled times during peak times is at intervals of 15 minutes.

Route No. 272 - This is a local bus route operating seven days a week. The schedule changes on the weekends. This route originates in Duarte and travels southeast to The Plaza at West Covina via the Baldwin Park Metrolink.

Schedules and information for these routes can be obtained from [www.FoothillTransit.org](http://www.FoothillTransit.org).

Metro operates one route in Duarte. It originates at the City of Hope in Duarte. Information for this route can be obtained by calling the Metro at 1-800-266-6883 or by visiting their website at [www.metro.net](http://www.metro.net)

Route No. 264 - This is a local route traveling west to Altadena via Santa Anita Fashion Park, and the Sierra Madre Gold Line station. This route operates seven days a week. Schedule changes on weekends.

The City also has access to the City of Duarte's fixed route system [http://www.accessduarte.com/images/stories/City\\_departments/Administrative\\_services/transit/transitmap2004.pdf](http://www.accessduarte.com/images/stories/City_departments/Administrative_services/transit/transitmap2004.pdf)

**Para-Transit:** Monrovia Transit (Dial-a-Ride). The City contracts with the City of Monrovia to provide a full demand-responsive transportation service. Dial-a-Ride provides curb-to-curb transit service to the general public within the service area. The service area includes: City of Monrovia, City of Bradbury, L.A. County unincorporated areas located south of Monrovia, Target (transfer point to Duarte Transit) and Walmart in Duarte, Medical locations within a three (3) mile radius of Monrovia's City limits, Methodist Hospital in Arcadia; medical offices on Duarte Road in Arcadia; medical offices located in Duarte; and the City of Hope in the City of Duarte.

## **Local Setting**

The City of Bradbury is comprised entirely of single-family residential detached dwelling units. There are no retail commercial, industrial or multi-family uses of land within the City.

The community is comprised of lots that range in size from the traditional 7,500 square foot rectilinear track configuration to large estate uniquely shaped parcels of land containing two to seventy acres. The smaller lots including some 2-acre parcels have direct access to the public street system. The 5-acre estate parcels and numerous 2-acre sized parcels are located within gate guarded neighborhoods. These gate guarded neighborhoods have privately owned and maintained streets.

There are no signalized intersections within the City. There are no arterial highways within the City. All of the public and private streets are designated as local or local-collector streets. Lemon

Avenue, Royal Oaks Drive North and Mount Olive Drive collect all of the local traffic and direct it to the arterial highways located in adjacent cities.

Bradbury is nearly “Built Out” therefore; a substantial increase in traffic generated within the community is not expected. In 2010, the average vehicle miles traveled (VMT) was 4,191 miles per year per service population. In comparison with similar sized cities such as La Canada Flintridge, South Pasadena, Claremont, Glendora, and El Monte, Bradbury ranked fifth.

The 2010 Census concluded that the City of Bradbury contained 400 dwelling units. Using an industry accepted planning standard of ten (10) vehicle trips per day per household the City’s consulting traffic engineer estimated that 4,000 daily vehicle trips are generated for the entire community. The traffic generating capacity of the City is easily and adequately handled by the local public and private streets. The impact created by the City of Bradbury to the surrounding arterial highway system is negligible. It is, however, noted that during the morning and evening peak traffic hours the signalized intersections along Huntington Drive operate at a somewhat uncomfortable level. Traffic accidents on the I-210 Freeway often result in the diversion of traffic to Huntington Drive which further impacts the smooth flow of traffic along this and other major highways.

Recently the Bradbury City Council responded to residents’ concerns regarding speeding on the steep Mount Olive Drive public street. Traffic calming improvements have been made to discourage speeding. A pedestrian/equestrian trail was constructed on the west side of the street to separate pedestrians from vehicular traffic. The capacity of the roadway has not been reduced and it adequately accommodates the existing and projected traffic volume.

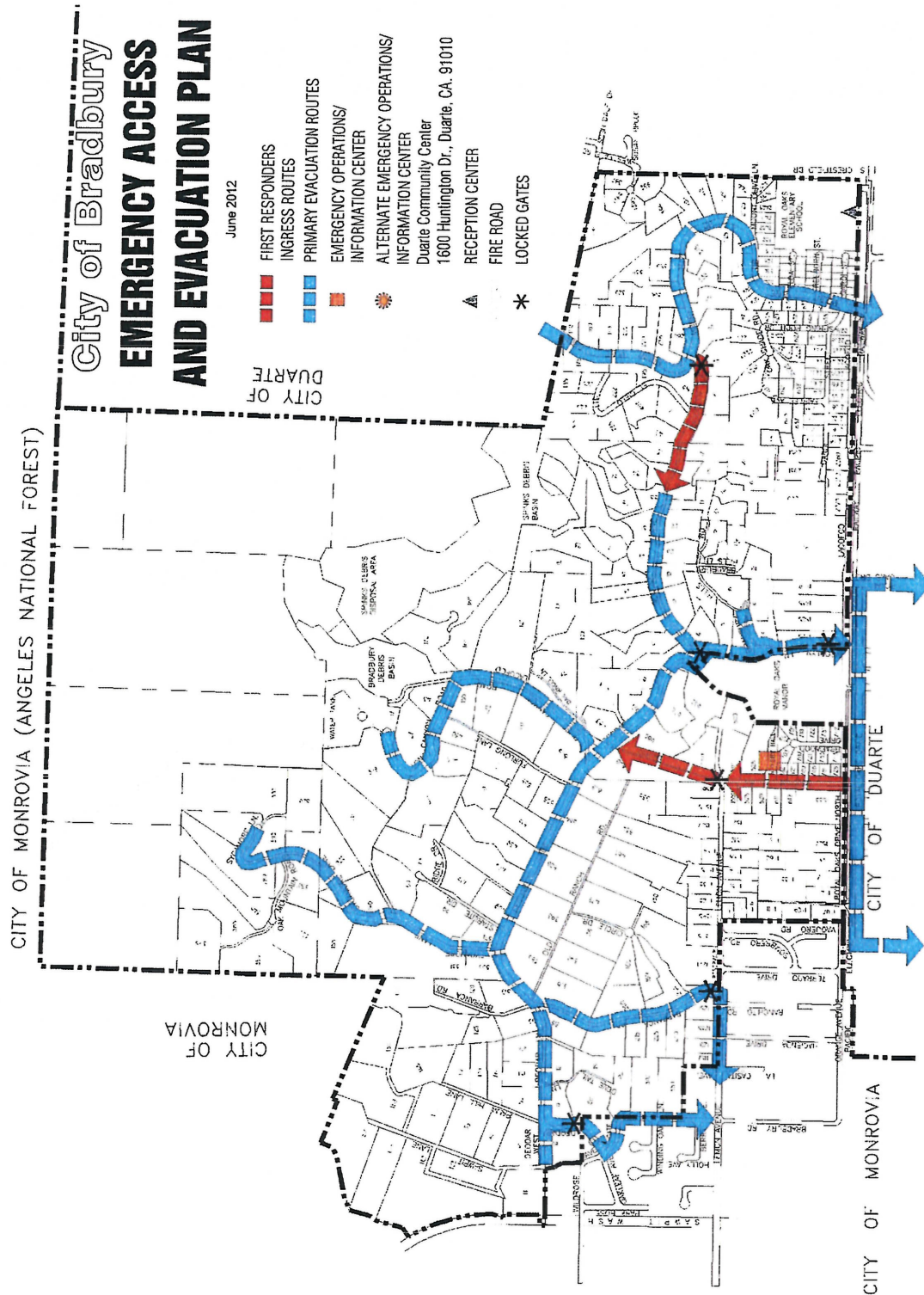


Circulation-Transportation - Page No. 7

**Emergency Access and Evacuation Plan.** In accordance with the Disaster Mitigation Act of 2002, which requires each city to prepare a Natural Disaster Plan, the City of Bradbury adopted a Natural Hazard Mitigation Plan on October 19, 2004. The Hazard Mitigation Plan addresses such hazards as earthquakes, earth movements, flooding, wildfires and windstorms and multi-hazards, (a combination of more than one hazard occurring at the same time). The plan is evaluated annually to determine the effectiveness of its programs and to reflect changes in land development or programs.

An important element of the Hazard Mitigation Plan is the Evacuation Plan. In the event of a catastrophic event it is extremely important to evacuate the residents, their belongings and their animals. Equally important is providing access to the hillside neighbors for emergency "First Responders". Police, Fire and Medical personnel and their equipment must have access to minimally accessible hillside areas of the community. The following Emergency Access Plan has been reviewed and approved by emergency personnel. Residents are advised of the plan and they are encouraged to participate in making the roadways passable during an emergency.



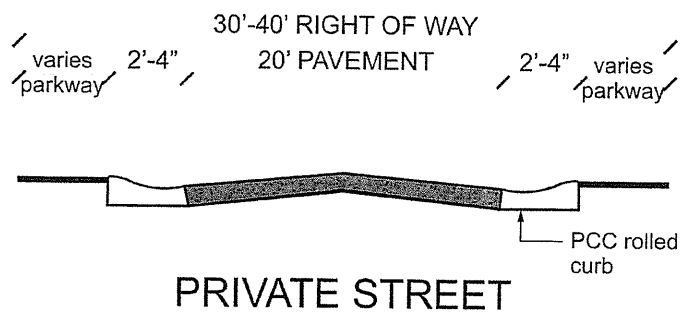
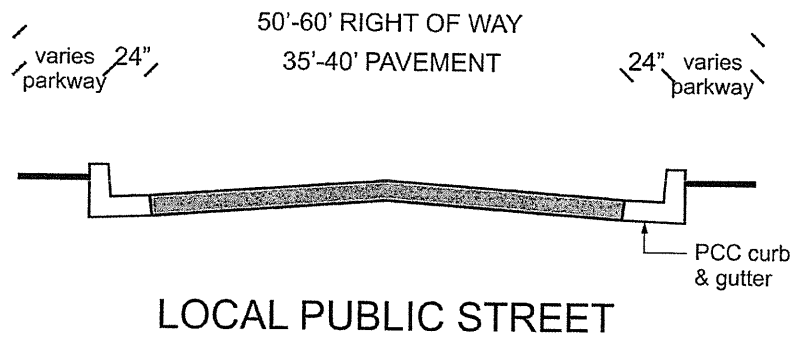
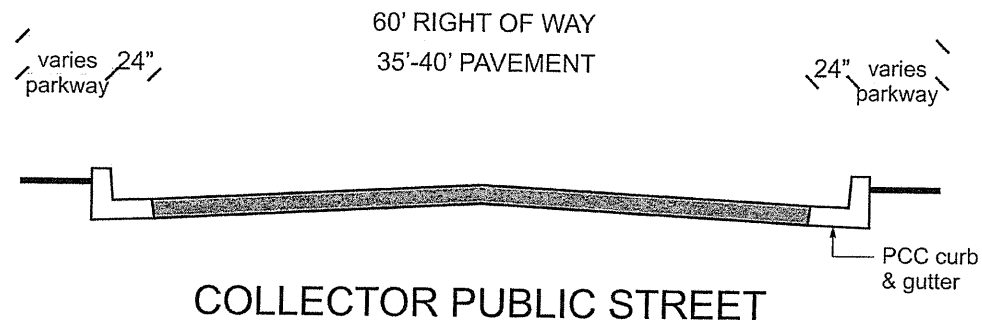


**Exhibit C-T No. 3**  
**EMERGENCY ACCESS AND EVACUATION PLAN:**

**Roadway Standards.** The roadway classification system describes the standards for the design of each classified roadway. All streets within the City are to be designed and constructed to meet the adopted specifications. The only exception is unimproved fire lanes and utility roads. The City does not regulate the design and construction of these types of roads.

The Bradbury Estates Community Services District (CSD) is responsible for the design, approval and maintenance of the private streets located within its jurisdictional boundary. The City may provide review and suggestions regarding the construction of new private streets within the Estates upon request.

1. **Collector Streets:** A collector street is intended to facilitate traffic moving between arterial and local streets, generally providing direct access to properties. Collector Streets have a typical pavement width of 35 to 40 feet and contain two travel lanes (one in each direction) On-street parking is often permitted depending on the width of the roadway. Roadways classified as collector streets include: Mount Olive Drive, Royal Oaks Drive North, and Lemon Avenue.
2. **Local Streets (Public):** Local public streets provide direct access to individual properties and they are designed to discourage through-traffic. Local Streets have a typical pavement width of 35 to 40 feet and contain two travel lanes. On-street parking is generally permitted. Roadways classified as local streets include: Mount Olive Lane, Elda Street, Freeborn Street, Oak Shade Road, Spring Point Drive, Gardi Street, Fairlee Avenue, Woodlyn Lane (the eastern portion only), Braewood Drive and Winston Avenue.
3. **Local Streets (Private):** Local streets (private) provide direct access to individual properties located within gate guarded neighborhoods. They are most often cul-de-sac streets and lanes. These private roadways are maintained either by a homeowners association or a community services district. The width of these roadways varies from 15 to 26 feet. On-street parking is generally prohibited. Streets included in this category are: Woodlyn Lane, Bradbury Hills Road, Bradbury Hills Lane, El Cielo Lane, Deodar Lane, Deodar Lane West, Sawpit Lane, Palm Hill Lane, Dove Tail Lane, Barranca Road, Sycamore Lane Oak Mountain Road, Starlite Drive, Ridge Drive, Circle Drive, Old Ranch Road, Bliss Canyon Road Oak Knoll Lane and Long Canyon Road
4. **Fire Roads and Utility Lanes:** Fire Roads and Utility Lanes are unimproved, non-paved roadways that vary in width. Public access is discouraged. Roadways included in this category include the Spanish Canyon Fire Road and the Flood Control Access Lane between the Bradbury Debris Basin and the Spinks Canyon Debris Basin.



**Exhibit C-T No. 4**  
**ROADWAY CONCEPT PLANS**

**Street Lights:** The City of Bradbury has a “Dark Sky” policy. Street lights are not required on private streets and roads. The City maintains street lights only on the public streets. The public street system was designed and constructed without sidewalks. Certain recent improvements have been made along the local collector streets in order to separate pedestrians from the lanes devoted to motorized vehicles.

**Public Utilities:** Typical urban/suburban energy sources such as natural gas and electricity are produced or generated well beyond the City limits of Bradbury.

- **Southern California Edison Company** generates electricity in facilities located more than twenty-five miles from the City. Electricity is transmitted to the City and distributed to the single-family dwellings using a network of overhead utility poles and wires. Electricity use in Bradbury has been reported to be 17,652 kWh per residence per year. The Air Quality Control Management District (AQMD) estimates that the average household in Southern California uses 7,300 kWh per year (20 kWh a day per household).
- **Southern California Gas Company;** provides natural gas to the community. Natural gas is imported and distributed via underground pipes.
- **Verizon Telephone Company;** provides landline telephonic communications to the community. The telephone communication system is a network of overhead poles and wires.
- **Time Warner Communications;** provides a landline system that offers direct hard-wire connection for television services. Residents have the option of contracting with companies who provide wireless satellite television service.
- **California American Water Company;** provides domestic potable water service to the community. The network of underground water mainlines also services the fire hydrants located throughout the community. A system of reclaimed water is being expanded each year as part of the water company’s public works program. The water company is aware of the importance of improving the availability of adequate fire flow. A collaborative effort between the City and the water company has resulted in various upgrades of the water system.
- **Los Angeles County Sewer Maintenance District;** is responsible for maintaining the public sewer system within the City. Many of the dwelling units utilize private septic systems. However, as development proposals are submitted to the City the possibility of expanding the public sewer system is explored. The intent is to connect as many dwelling units as possible to the public sewer system.
- **Los Angeles County Flood Control District;** is responsible for maintaining the public storm drain system. Concrete lined channels and large underground storm-drain pipes provide the backbone flood control network. Large agriculture parcels are required to retain surface run-off on-site. The existing storm drain system collects run-off from streets and small parcels of land.

## Overview

As indicated in the Land Use Element, the City of Bradbury is almost entirely residential with the exception of the City Civic Center and Royal Oaks Elementary school. Traffic movement throughout the community flows easily and it is directed to arterial highways and freeways located in adjacent communities.



The single source of traffic congestion occurs at the Royal Oaks Elementary School during peak hours and the congestion is exacerbated during periods of inclement weather. A variety of pedestrian/equestrian trails are located through the community.

A well used pedestrian trail is located in the City of Duarte adjacent to Bradbury's southern boundary. Residents have easy access to this trail through a trail system in Bradbury.

The Bradbury City Council has demonstrated a commitment to providing improved roadway and trail facilities that are accessible to all residents.

## **Key Goals, Objectives, Policies and Action Programs**

The Circulation-Transportation Element indicates the general location and extent of the existing roadways and establishes standards for these roadways. The City has established the following goals and policies for circulation and transportation in the City of Bradbury. The implementation measures are contained at the end of the Chapter.

### **Circulation-Transportation Goals**

- |   |   |
|---|---|
| <b>Circulation-Transportation Goal 1:</b> | The Circulation-Transportation Element seeks to maintain safe and efficient circulation systems that do not impact the rural residential character of the City. |
| <b>Circulation-Transportation Goal 2:</b> | Maintain transit programs that do not exceed the City's annual transit funding allocation or budget.  |
| <b>Circulation-Transportation Goal 3:</b> | Inform residents of all available transit programs.   |
| <b>Circulation-Transportation Goal 4:</b> | Support regional rail services such as the METRO Gold Line light rail system.   |
| <b>Circulation-Transportation Goal 5:</b> | Promote traffic safety throughout the community   |
| <b>Circulation-Transportation Goal 6:</b> | Promote a "Dark Sky" development concept for all circulation systems that is consistent with the City's rural character.  |

### **Circulation-Transportation Objectives**

- |  |   |
|--|---|
| <b>Circulation-Transportation Objective 1:</b> | To accommodate existing traffic patterns and plan for future demand.  |
| <b>Circulation-Transportation Objective 2:</b> | Strive for the creation of new transportation facilities for motorists, equestrians, pedestrians, and bicyclists. Emphasize design standards that result in the construction of circulation and transportation systems that are safe and efficient; |

and sensitive to the needs of the disabled and City's unique rural residential character.

### **Circulation-Transportation Policies**

- Circulation-Transportation Policy 1:** All public roadways and roadway improvements will be constructed to the City of Bradbury local street standards so as to preserve the rural residential character of the City.
- Circulation-Transportation Policy 2:** Continue inter-jurisdictional relationships with neighboring cities to coordinate the design and implementation of transportation systems.
- Circulation-Transportation Policy 3:** Explore all available funding sources and opportunities for improving transportation programs and facilities.
- Circulation-Transportation Policy 4:** Develop a public information/marketing campaign to advertise the availability of transit services to City residents.
- Circulation-Transportation Policy 5:** Continue to support and work with regional agencies to support the expansion of the Gold Line and other transportation programs and services for the San Gabriel Valley.
- Circulation-Transportation Policy 6:** Promote enforcement of speed laws and continue to monitor the use of City streets.

### **Circulation-Transportation Implementation Action Programs**

The City of Bradbury intends to complete the following items, which address the objectives and policies of the Circulation-Transportation Element of the General Plan.

- Circulation-Transportation Action 1:** **Safety:** Continue to evaluate traffic calming measures such as speed bumps, bulb-outs, stop signs and other improvements that effectively reduce speed.
- Circulation-Transportation Action 2:** **Light-Rail:** Promote improvements that expand access to the Gold Line light-rail and other regional transportation systems for community residents. Examine the feasibility of creating a park-and-ride lot at the Civic Center for use by City residents.
- Circulation-Transportation Action 3:** **Public Information:** Develop a marketing program to provide information to residents on the various available transportation services including Dial-A-Ride, Foothill Transit, and the Gold Line. Post this information on the City website.

- 
- Circulation-Transportation Action 4:**      **Para-Transit System:** Maintain a Dial-a-Ride program that does not exceed the City's annual transit funding allocation of budget.
- Circulation-Transportation Action 5:**      **Roadway Coordination -** Support roadway improvements to intersections of all streets with the surrounding arterial highway network. Coordinate street improvements with the adjacent cities that may result in the improvement of Level-of-Service (LOS) at all street intersections.
- Circulation-Transportation Action 6:**      **Roadway Improvements** – Continue to work with the City of Duarte and the Duarte Unified School District to identify improvements that will reduce traffic congestion and improve pedestrian access to Royal Oaks Elementary School during hours of operation.
- Circulation-Transportation Action 7:**      **Complete Streets Network** – Continue to examine the existing circulation system in order to identify improvements that will lead to improved compliance with the "Complete Streets Network" as envisioned by AB 1358.

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# General Plan 2012-2030 Update

## Housing Element

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The City of Bradbury prepared a General Plan Housing Element 2008 and the City Council adopted the Element October 20, 2009 (Resolution No. 09-35.CC). The State of California Department of Housing and Community Development (HCD) certified the Housing Element as meeting the provisions of the State Planning Law.

Because the cycle for preparation and updating the Housing Element differs from the cycle associated with the review and modification of the remaining mandated elements of the City's General Plan, the Housing Element has been prepared as a separate document and it is not part of this General Plan 2012–2030 Update.

In order to obtain a copy of the City of Bradbury Housing Element please contact the City at 600 Winston Avenue, Bradbury, CA 91008, (626) 358-3218.



# General Plan 2012-2030 Update

## Community Resources Element

(Open-Space and Conservation Elements)

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# **General Plan 2012-2030 Update**

## **Community Resources Element**

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The City of Bradbury Community Resources Element consists of the combination of the State required Open Space Element and Conservation Element. The required General Plan Elements have been combined because they are closely related and for clarity and to eliminate redundancy.

### **Open Space Chapter**

#### **Purpose**

The Open Space Chapter of the Community Resources Element fulfills the requirements of Section 65560 to 65570 of the California Government Code regarding the preparation of a general plan open space element for the City.

Open space, for purposes of this Chapter, is defined by Section 65560(b) of the Government Code and it refers to land or water which is essentially unimproved and devoted to the preservation of natural resources for outdoor enjoyment and recreation; it is recognized that the land designated as "Open Space, Privately Owned Undeveloped" has potential for development and this Chapter is in no way meant to be interpreted as a prohibition against development in accordance with the existing zoning regulations for such property. The 4.06-acre privately owned parcel located near Sharon Hill Lane has been dedicated as permanent open-space however it is not accessible or available for public use. This 4.06-acre permanent natural open space is maintained and enjoyed by the four dwelling units which were part of the land division.

As further described by Section 65560 of the Government Code open space includes habitat for wildlife; streams and other bodies of water; land used for agricultural purposes; groundwater recharge areas; areas with mineral deposits; hiking and equestrian trails; public and privately owned parks and outdoor recreation areas; utility easements; and scenic highway corridors. Open space lands may also include areas requiring the regulation of hazardous conditions such as earthquake fault zones, unstable soils, flood plains, and watersheds

The Bradbury General Plan Open Space Element establishes long-range goals and objectives for the preservation and maintenance of open space areas.

#### **Open Space Element Objective**

The preservation of open space is essential to the community. The low density agricultural/residential character of the City does not provide the economic resources needed to acquire and maintain an elaborate system of public parks and recreation areas. The City does not contain any commercial or industrially zoned or developed property that would generate





revenue to acquire and maintain such public facilities. The exclusive single-family residential zoning only permits detached dwelling units, many of which are located on large agriculturally zoned parcels of land.

The hillside topography limits development opportunities. The City's zoning regulates lot coverage based on the average slope of the parcel under consideration. The steeper the slope the more area must remain in its natural condition. Allowable grading and lot coverage is significantly reduced on the steeper hillside lots. Open Space is considered a premium asset in the community. City development standards and regulations are based on the objective of creating the maximum feasible amount of natural open space. Community residents have often expressed their desire to retain the rural character of the community and to maximize the existing open space resources.

## Relationship to other General Plan Elements

The Open Space Element responds to detailed State statutory requirements and it has a broad scope. Open Space issues overlap those of several general plan elements. This element is commonly combined with other elements such as the Land Use Element, the Conservation Element and the Safety Element. Goals, objectives and policies contained in the Open Space Chapter of the Community Resources Element are consistent with those set forth in the aforementioned elements of this General Plan.

## Overview of Open Space Issues

**Open Space for the Preservation of Natural Resources.** The City of Bradbury is located in the foothills of the San Gabriel Mountains. This 1.9 square mile (1,216-aces) community is developed exclusively with single-family detached residential dwellings. The majority of this hillside community is zoned and subdivided into 1, 2 and 5-acre parcels. These large parcels are zoned for agricultural/residential purposes. In the 1950's and 60's the City contained numerous ranches and commercial citrus orchards. Old farms and orchards have been sold and the new owners have constructed large personal estate type dwellings. Commercial farming and ranching has declined, although many residents use the large agriculturally zone parcels to house their personal livestock which consists primarily of horses.

**Agricultural Areas.** The early residents of Bradbury discovered that the unique characteristics of the soil, water, subtropical climate, and protection provided by the San Gabriel Mountains created an ideal setting for agriculture. The San Gabriel River provided excellent quality and inexpensive water for crop production. These residents planted citrus and avocados that rapidly gave claim to some of the best crops worldwide. Important varieties included Meyer lemon, Fuertes and Bacon avocados, and Improved Washington Navel oranges, as well as ornamental plant production of hibiscus, cycads (*Cycadaceae*) and deodar (*Cedrus deodara*).

Over the past few decades the development trend in the City has included the removal of citrus and avocado orchards. Large estate type dwellings and accessory structures have replaced the once quaint ranch houses. A few small farms and ranches remain. The water purveyor has made recent changes to abandon the agricultural water irrigation system that once served the community. The cost of water once used to irrigate orchards has rapidly increased and has put many of the existing farm operations in jeopardy. The success of agriculture is dependent on large lots served by affordable irrigation water. During times of drought when water is scarce,



limitations are frequently placed on agricultural irrigation, which leads to the decay and removal of groves and a severe reduction of production.

The City Council acknowledged the benefit, of protecting the existing groves and orchards as well as significant heritage trees. Chapter 9.06.090 of the Bradbury Development Code "Tree Preservation and Protection" provides regulations governing the removal, replacement, and maintenance of trees. Permits are required to remove prominent, native, and orchard trees.

Estate dwelling units cover between 10 and 20 percent of their individual lot area which range in size from one to ten acres. The resulting natural and ornamental open-space can range between 60,000 and 200,000 square feet depending upon the size of the individual parcel of land. The privately owned open-spaces are developed with personal recreational facilities.

**Sensitive Hillside Areas.** Of special note are the 302-acres of undeveloped property located in the northern portion of the City adjacent to the City of Monrovia and the Angeles National Forest. The 302-acre site is subdivided into eight (8) privately owned undeveloped parcels of land. The area contains steep hillsides, prominent ridgelines, and three seasonal Blueline streams (Bliss Canyon, Bradbury Canyon and Spinks Canyon). Abundant wildlife either reside in this area or transverse the area in search of food and shelter. The City's zoning and development standards recognize the importance of maintaining as much of this area in its natural state as possible. Environmental constraints may be so severe that development of some of this area may not be realistic, but that is a determination to be made based on future study and analysis of an actual development proposal. Because of the steep average slope of the existing hillsides, this area is subject to the Hillside Development Standards set forth in the City's Development Code. The property in question has a general plan land use designation of Open Space, Privately Owned Undeveloped and has been zoned A-5 SP (Agricultural/Residential 5-acre minimum, Specific Plan). Therefore, development of the property is subject to the approval of a specific plan prepared in accordance with State law and local regulations. Moving from south to north the City's topography becomes steeper and the required minimum size of new subdivided parcels becomes larger. The average slope of each parcel governs the amount of natural open-space that must be maintained. As the average slope increases the amount of the parcel that can be graded decreases. The community's desire to maintain open space is served by these hillside development standards.

Many of the developed agricultural/residential parcels are feeding grounds for local deer and black bears. Residents have often observed bears frolicking in their yards, trees and swimming pools. The migratory patterns of these large animals are uninhibited by the type and extent of development that is permitted in the City.

Open-space areas include those areas that are apparently difficult for development due in part to environmental factors that include steep slopes or unstable ground conditions. Other open-space areas remain undeveloped in order to comply with existing land use controls. These include public pedestrian/equestrian trails, building setback areas, utility easements, water reservoirs, drainage debris basins and the school's open-space field.

**Historic Preservation.** Cultural resource management and historic preservation require the cooperation of many government agencies. Bradbury alone, however, has the ability to preserve and enhance many of the City's cultural resources. Furthermore, it is the City's desire to establish facilities and programs which will inspire appreciation for the City's past and that will

encourage participation in a wide range of educational and social activities. Protection of cultural resources is afforded through the California Environmental Quality Act, which requires that a project be considered "significant" in terms of impact if it will disrupt or adversely affect a site of archaeological or historical significance. Protection of these resources during construction activities generally involves the salvage of materials discovered at the site. Future development within the planning area and surrounding region may result in the discovery of new sites. Any proposed project that involves a significant amount of grading should have an archaeological survey conducted prior to construction. In addition, archaeological resources may be discovered in the course of construction and appropriate measures must be taken to ensure that artifacts are recorded and salvaged. The City of Bradbury will seek to avoid damaging archaeological resources whenever feasible.

***Historically Significant Buildings and Structures.*** Places having local historic significance include the following sites: (see *Exhibit CR Open-Space No. 1*)

- 1775 Royal Oaks Drive, North. This property contains an old stone milk house, and cistern.
- 5 Bradbury Hills Road. This property contains a single-story prairie style home that was designed by the Frank Lloyd Wright studio.
- 555 Deodar Lane. This site contains an old building referred to as the stone carriage house.
- 2001 Gardi Street. This site is the location of an 1890's two-story Queen Ann Farm House.





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## SITES OF LOCAL HISTORICAL SIGNIFICANCE

## Existing Recreational Resources

Bradbury residents enjoy personally owned private recreational facilities. There is little demand or expressed desire to create public parks or gathering facilities other than pedestrian/equestrian trails. Recent reconstruction of the Bradbury Civic Center created a small 1,200 square foot community center that is available for public and private gatherings. Public pedestrian/equestrian and bicycle trails have recently been constructed to encourage alternative mobility and movement within the City. The Royal Oaks Elementary School offers an open play field for active recreation and organized ball games. The need for public recreation facilities is minimal since there are so many private facilities within Bradbury and an abundance of public active and passive recreation facilities within close proximity to Bradbury.

Additional, public facilities for active recreation such as organized sports (baseball, football, soccer, competitive swimming, golf etc.) are readily available within adjacent communities. Listed below are public parks within the surrounding area:

- Recreation Park, 620 S. Shamrock Avenue, Monrovia
- Duarte Sports Park and Pool, 1401 Central Avenue, Duarte, CA
- Third Street Park, 1634 Third Street, Duarte
- Rancho Duarte Golf Course, 1000 Las Lomas Road Duarte,
- Norm S. Johnson Pool, 405 S. Santa Anita Avenue, Arcadia
- El Monte Aquatic Center, 11001 Mildred Street, El Monte
- Arcadia High School Public Pool, 180 Compass Drive, Arcadia,

The City and County of Los Angeles have numerous parks, theaters, and concert halls within reasonable commuting distance to Bradbury. Passive Recreation, such as hiking, bird watching, rural camping, is available within the Angeles National Forest.

***Pedestrian/Equestrian and Bicycle Trails.*** The Royal Oaks Trail, located along the old Pacific Electric Railroad right-of-way provides a connection for bicyclists, hikers, and equestrians to the San Gabriel River Trail. City residents can enjoy the regional San Gabriel River Trail that extends approximately 38 miles from the Ranger Station at the base of the San Gabriel Mountains to the Pacific Ocean at the City of Seal Beach.

The Royal Oaks Drive North/Lemon Avenue trail provides pedestrian and equestrian safe access to the Royal Oaks Drive Trails. The Mount Olive Drive pedestrian/equestrian and bicycle trail also connects with the Royal Oaks Trail. The private gate guarded neighborhood, Bradbury Estates has a street system design to accommodate pedestrian and equestrian use. Access to trails and County maintained fire roads afford the residents the ability to travel into the Angeles National Forest.

***Open Space for Managed Protection of Resources.*** The City of Bradbury is located at the foot of the San Gabriel Mountain range most of which is managed by the Angeles National Forest Service. The Angeles National Forest was established by Executive Order in December 1892. It covers over 650,000 acres. The Angeles National Forest manages the watersheds within its boundaries to provide valuable water to southern California and to protect surrounding

communities from catastrophic floods. The Angeles National Park offers hiking, biking, and rural backpacking and camping facilities.

Bradbury's northern boundary is shared with the City of Monrovia, the City of Duarte and the Angeles National Forest. Mountain peaks range from 1,200 feet to 10,064 feet. To the north of Bradbury, Bliss Mountain rises 5,500 feet. Much of the national forest is covered with dense chaparral however, it changes to pine and fir tree covered slopes at the higher elevations.

The San Gabriel Wilderness Area covers over 36,118-acres that have been set aside to preserve the wilderness character of extremely rugged and scenic terrain. Additional open space is located within the Bradbury Debris Basin and the Spinks Debris Basin. The County of Los Angeles prepared a 1604 Streambed Alteration Agreement for the maintenance of debris basins. The County conducted a comprehensive evaluation of the presence or absence of special status or sensitive species and critical habitat. The value of open space land is based on three primary elements: quality, quantity, and connectivity. Open space adjacent to or within National Forests or other protected areas ranked higher than open-space currently used as parkland or golf courses or otherwise hindered in their long-term value for plants and wildlife. Each basin was assessed based on the following three elements: 1) having very high quality (including the type of vegetation and the type of vegetative community); 2) quantity of vegetation; and 3) area size, and connectivity to other open space areas. Areas rated as the most desirable received a high ranking of 3.0 and the least desirable at a ranking of 0.0. Overall, Bradbury Debris Basin was rated at a 2.20 and Spinks Debris Disposal Area at a 2.18.

## **Open Space Plan**

Because the City of Bradbury is virtually built-out the opportunity to acquire and develop public park space is not achievable. Community residents have not expressed interest in the development of public park space. However, the community is supportive of the development and maintenance of pedestrian/equestrian and bicycle trails. The City Council has been committed to researching funding opportunities that can be used to acquire, design and build an improved trail system that will meet community expectations and needs.

Public transit systems are supported and made available to transport residents to parks and recreational facilities located in the surrounding region.





**OPEN SPACE AREAS**

## Key Open-Space Goals, Objectives, Policies and Action Programs

### Open-Space Goals:

- |                               |   |
|-------------------------------|---|
| <b>Open-Space Goal No. 1:</b> | Protect and enhance Bradbury's Open-Space.  |
| <b>Open-Space Goal No. 2:</b> | To develop sufficient open-space and park-trail acreage to meet the needs of the community residents. |
| <b>Open-Space Goal No. 3:</b> | To provide open-space and recreational opportunities to the greatest extent possible.                 |

### Open-Space Objectives:

- |                                    |  |
|------------------------------------|--|
| <b>Open-Space Objective No. 1.</b> | Make open-space resources available to existing and future residents.                  |
| <b>Open-Space Objective No. 2.</b> | Make open-space resources accessible without the need to use motorized transportation. |

### Open-Space Policies:

- |                                 |   |
|---------------------------------|---|
| <b>Open-Space Policy No. 1.</b> | Protect and preserve oak woodlands and mandate replacement planting of native oaks where oak woodlands are proposed for alteration. |
| <b>Open-Space Policy No. 2.</b> | Protect water quality.  |
| <b>Open-Space Policy No. 3.</b> | Mandatory replacement planting of native trees and oaks.  |
| <b>Open-Space Policy No. 4.</b> | Protect existing Blueline Streams.  |
| <b>Open-Space Policy No. 5.</b> | Prevention of soil erosion.   |
| <b>Open-Space Policy No. 6.</b> | Preservation of historically or culturally significant sites.   |
| <b>Open-Space Policy No. 7.</b> | Protect wildlife and their habitats, including rare and endangered species.   |
| <b>Open-Space Policy No. 8.</b> | Protection of rare and endangered plants.   |
| <b>Open-Space Policy No. 9.</b> | Promote development and management of public and private parks, trails and recreational areas.                                      |
| <b>Open-Space Policy No. 10</b> | Protect areas of outstanding scenic beauty.   |

**Open Space Action Programs:**

- |                                 |  |
|---------------------------------|--|
| <b>Open-Space Action No. 1.</b> | Protect water quality.   |
| <b>Open-Space Action No. 2.</b> | Avoid drainage run-off where possible.   |
| <b>Open-Space Action No. 3.</b> | Promote landscaping efforts that comply with State water efficient standards, fire department standards, and protection of plant and wildlife communities. |
| <b>Open-Space Action No. 4.</b> | Prevent soil erosion.  |
| <b>Open-Space Action No. 5.</b> | Promote agricultural uses by the use of large-lot zones and overlay zones for hazard areas.  |
| <b>Open-Space Action No. 6.</b> | Promote public acquisition of open-space land by non-profit land trusts or conservation organizations.   |
| <b>Open-Space Action No. 7.</b> | Use Specific Plans to set aside open-space areas as part of development proposals .  |
| <b>Open-Space Action No. 8.</b> | Explore the use of transferring development rights to create and preserve open-space.  |
| <b>Open-Space Action No. 9.</b> | Explore grant financing opportunities to acquire and development pedestrian and equestrian trails.   |



# **Conservation Chapter**

## **Purpose**

The Conservation Chapter of the Community Resources Element emphasizes the conservation, development and utilization of natural resources located within the City of Bradbury. The Conservation Element is designed to protect and maintain the City's natural and cultural resources, and to prevent their exploitation and destruction. Issues regarding natural resources must be addressed in the City's conservation element, as mandated in Government Code Section 65302(d). The General Plan shall include a conservation element for the conservation, development, and utilization of natural resources, including water and its hydraulic force, forests, soils, rivers and other waters, harbors, fisheries, wildlife, minerals, and other natural resources.

## **Conservation Element Objective**

The conservation element provides direction regarding the conservation, development and utilization of natural resources. The major goal of the Conservation Element is the maintenance and protection of the quality of the physical environment, through the conservation of natural resources to include: water courses, soils, and native plant and animal life. Conservation of natural resources should be a significant element in determining development types and density, as well as the preservation of open-space.

## **Relationship to Other General Plan Elements**

California law requires that all elements of the general plan to be internally consistent. While all of the general plan elements are independent, they are also interrelated, some more so than others. The Conservation Chapter overlaps and supports policies found in the City's Land Use, Health and Safety, and Circulation Elements and the Open Space Chapter of this Element. Buildings and structures of local historical significance shall be identified and considered as part of the City's development review process.

## **Overview of Conservation Issues**

The natural resources in the City of Bradbury include soils, water; biotic resources; cultural resources; and energy.

**Soil Resources.** The City of Bradbury terrain is underlain by three soil types:

- (1) The Vista-Amargosa Association, located in the northern-third of the City;
- (2) The Ramona-Placentia Association, located in the central-third of the City; and
- (3) The Hanford Association, located in the southern-third of the City.

**Vista-Amargosa Association.** The Vista-Amargosa Association soils consist of three categories (Vista, Vista Amargosa and Amargosa) and they occur in steep mountainous areas at elevations ranging from 1,300 to 3,900 feet above mean sea level (amsl).

***Vista soils*** occur in the northern one-third of the City in steep mountainous areas. They are 28 to 38 inches deep, are well drained, and have moderately rapid subsoil permeability. They have a brown, slightly acid, coarse sandy loam surface layer about 16 inches thick. The subsoil is brown, neutral, sandy loam about 12 inches thick and contains 2 or 3 percent more clay than the surface layer. Below is yellowish-brown slightly acid gravelly sandy loam layer, containing gravel about 20 percent by volume, and resting on hard granitic rock of about 14 to 20 inches. Erosion has been moderate on these soils, removing from 25 to 40 percent of the original surface soil. Rocky outcrops cover from two to ten percent of the surface and many areas are cut by shallow gullies. Available water-holding capacity is 1.0 to 1.5 inches for 14 to 20 inches of soil depth. Inherent fertility is very low. These soils are used for range, wildlife and watershed.

***Vista-Amargosa soils*** also occur in the northern one-third portion of the City, in steep mountainous areas at elevations ranging from 1,300 to 3,900 feet amsl. Natural vegetation consists of mainly annual grasses and forbs and some California Juniper and Manzanita. The soil is 28 to 38 inches deep, well-drained, and has moderately rapid subsoil permeability. They have a brown, slightly acidic, coarse sandy loam surface layer about 16-inches thick. The subsoil is a brown, neutral, sandy loam about 12-inches thick containing two or three percent more clay than the surface layer. Below is a yellowish-brown, neutral, coarse sandy loam on hard granite rock. Available water-holding capacity is 2.5 to 3.5 inches for 28 to 38 inches of soil depth. Inherent fertility is low. These soils are used for range, wildlife and watershed.

***Amargosa soils*** also occur in the northern one-third portion of the City and are 14 to 20 inches deep, excessively drained, and have moderate to rapid subsoil permeability. They have a brown and yellowish-brown, slightly acidic coarse sandy loam surface layer that is about 13-inches thick. Below is a yellowish-brown slightly acidic gravelly sandy loam layer containing about 20 percent by volume gravel, and resting on hard, granite rock of about 14 to 20 inches. Erosion has been moderate on these soils, removing from 25 to 40 percent of the original surface soil. Rocky outcrops cover from two to ten percent of the surface and many areas are cut by shallow gullies. Available water-holding capacity is 1.0 to 1.5 inches for 14 to 20 inches of soil depth. Inherent fertility is very low. These soils are used for range, wildlife, and watershed.

**Ramona-Placentia Association** occurs in the central one-third of the City and on sloping and rolling terraces between elevations of near sea level to 3,900 feet above mean sea level. Natural vegetation consists mainly of annual grasses and forbs with occasional junipers. Ramona and Placentia soils of this association occur on steeper slopes and are eroded. Gullies are common and about 50 percent of the original surface soil has been removed by erosion. The available water-holding capacity of Ramona soils is about 7.0 to 9.0 percent for 60 inches of rooting depth. Inherent fertility is low. The available water-hold capacity of Placentia soils is about 1.0 to 1.5 for 9 inches of soil. These soils are used for residential purposes and for irrigated orchards.

**Hanford Association** soils are located in the lower one-third portion of the City and are on gently alluvial fans between elevations of near sea level to 3,500 feet above mean sea level. Natural vegetation consists of mainly annual grasses and forbs and occasionally junipers. Hanford soils are over 60 inches deep, well-drained, and have moderately rapid subsoil permeability. They have a pale-brown coarse sandy loam surface layer about eight-inches thick underlain by light yellowish-brown coarse sandy loam and gravelly loamy coarse sand substratum. Typically, they are slightly acidic to mildly alkaline throughout, but occasionally are calcareous in the lower part. Thin layers of coarser material may occur below 40-inches. Available water-holding capacity is 5.0 to 7.5 inches for 60 inches of soil depth. Inherent fertility is moderate. Hanford soils make up about 85 percent of the Association, and 10 percent Yolo soils and 5 percent Hesperia soils. In the Los Angeles basin, these soils are used almost exclusively for residential and industrial purposes. These soils will also support irrigated crops such as alfalfa, small sugar beets, potatoes, and fruit and nut trees.

## Wildlife and Biological Resources.

The City of Bradbury is located at the foot of the San Gabriel Mountains, which are vegetated with natural trees and shrubs. The native vegetation and wildlife are typical of steep, hilly chaparral and sage-scrub. The majority of the vegetation in the northern portion of the City is undisturbed. The southern portion of the community has been disturbed by previous farming and residential development activities. There are no commercial forests located within the City. The types of natural vegetation that can be expected in the area include coastal scrub and, chaparral. Mature oak trees are located throughout the City on developed agricultural/residential parcels.

**Coastal Scrub.** Characteristic plants of the coastal scrub community include California Wormwood or Sagebrush, White Sage, Black Sage, Encelia, Yerba Santa, Eriophyllum, California buckwheat, Lemonade berry, Prickly Pears, and Our Lord's Candle.

**Chaparral.** Chaparral's dense cover of evergreen shrubs includes a diversity of shrubs fifteen feet in height including Chemise, Scrub Oak, Foothill Ash, Hard Tack, wild lilacs, Holly-leaf Cherry, Bear Brush, Manzanita's, Tryon and Sugar bush.

**Oak Woodland.** Southern Oak or Foothill Woodlands contain trees 15-75 feet high with scattered shrubs and grassland. Characteristic plants of this community include Big-cone Spruce, Digger Pine Juniper, Black Walnut, Coast Life Oak, Engelmann Oak, and Interior Life Oak. Shrubs associated with this community include Gooseberry, Sugar Bush, Wild Oats, and Wild Mountain Sunflower.

**Riparian Woodland.** The riparian plant community includes plant material such as Spruce, White Alder, Big leaf Maple, Western Sycamore, Black Cottonwood and willows. Various ruderal or weedy plant species are found in disturbed areas. While this vegetation is of little aesthetic value and not considered to be biologically unique, it serves as a food source for seed-eating birds and mammals.

**Wildlife.** Animal species known to occur in the locale include a variety of mammals, birds, reptiles and invertebrates. Most prevalent among the mammals are deer, bear, coyote, bobcats, raccoon, skunk, rabbits, mice, rats, opossums and squirrels. Typical birds include

varieties of Scrub Jay, Hummingbird, Warbler, Wren and Sparrow. Typical reptiles found in hillside areas include lizards, rattlesnakes and garter snakes.

**Sensitive Biological Resources.** Sensitive biological resources are defined as species under study for classification as threatened, endangered, or rare, or having low population densities or a highly restricted range. Sensitive species known to occur along the southern face of the San Gabriel Mountains include Brauton's milk vetch (*Astragalus brauntonii*), San Gabriel bedstraw (*Galium grande*) and lily (*Brodiaea filifolia*). As of this date no sensitive biological resources have been identified within the City. However, an extensive analysis of the 302-acres of privately owned steep hillside undeveloped property has not been conducted.

For planning purposes, three sensitivity categories have been developed to identify the planning area's sensitivity for the presence of special plants and animals. The sensitivity rating is described as follows:

**Low Sensitivity:** Areas with no significant natural habitats are included in this classification. Past development in the urbanized areas is likely to have destroyed or significantly altered native plant communities and animal habitats. This designation is not intended to undervalue the importance of introduced or existing vegetation in the developed areas.

**Moderate Sensitivity:** A number of areas in the City have been developed at densities sufficiently low so that remnants of environmentally significant habitats remain. In addition, some development is located adjacent to ecologically significant zones, which could be adversely impacted by any increase in density or intensity of development.

**High Sensitivity:** The steep hillside areas are considered ecologically significant due to their vacant state and the presence of native vegetation. These areas have a high sensitivity for the presence of important biological resources. Measures should be observed to prevent disturbance or destruction of existing habitats. Development proposals within areas with a high sensitivity rating as shown on Exhibit CR Conservation No. 1 "Resource Management Areas" will be reviewed to determine the extent of significant ecological resources on the property and the potential impacts new development will have on these resources. The following guidelines shall be followed:

Field, surveys to identify potential resources must be undertaken prior to any development or significant alteration of these areas.

- Any fuel modification landscaping related to fire prevention, must be evaluated by knowledgeable professionals to ensure appropriate mitigation is followed.
- All new development in these areas must undergo appropriate environmental review pursuant to the California Environmental Quality Act (CEQA)
- Trustee agencies including the California Department of Fish and Wildlife and local environmental organizations such as the Audubon Society must be notified of large scale development proposals as part of the environmental review process.
- When threatened or endangered species are encountered, the directives of the Department of Interior and the State of California Department of Fish and Wildlife will be considered. In order to protect native plant and animal species in the area, the City shall require that a survey of on-site vegetation be conducted for all projects subject to development review procedures. The survey shall identify existing mature and specimen



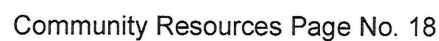
trees and other significant vegetation. Where such landscape is identified, City staff will work with the developer to determine the means by which such landscape may be integrated with the proposed project and preserved. A variance from the site development standards may be considered to preserve the vegetation, if any adverse impacts of such a variance can be mitigated. Projects that would affect sensitive habitats and animal species or wetland areas shall be made to comply with the regulations of the State Department of Fish and Wildlife and the U.S Army Corps of Engineers. Cultural and natural resources in the City shall be preserved to the maximum feasible extent possible. The City will establish and maintain a register of any significant historical, architectural, and cultural resources that are discovered. As part of the City's planning process, guidelines will be implemented for the protection and preservation of any archaeological resources. For new developments, an archaeological survey may be required either prior to or during any earth moving activities, as dictated by the specific project site conditions.

**Rivers, Creeks, Streams and Reservoirs.** The significant natural waterway resources include the nearby San Gabriel River and the following intermittent seasonal streams within canyons located in the steep hillside areas: Sawpit Canyon, Bliss Canyon, Bradbury Canyon and Spinks Canyon. The steep terrain and the City's Hillside Development Standards regulate development in these identified Resource Management Areas. (see Exhibit CR Conservation No. 1).

## Resource Management Areas

The City of Bradbury recognizes several areas within the community as potential sensitive habitat. The 302-acres of privately owned undeveloped open space located in the northern portion of the City adjacent to the Angeles National Forest and the City of Monrovia is reported to have average slopes that range from 24% to over 50%. This area also contains many significant or prominent ridgelines and three Blueline seasonal streams. Development of this area may be physically and economically difficult due to site constraints, density yield and compliance with the City's environmental and Hillside Development regulations as set forth in the Development Code. However, the determination of feasibility will be made, in part by the private property owner(s), based on his, her or their future design and environmental plans and studies.

Adjacent to this area are the Spinks and Bradbury Drainage Debris Basins which comprise approximately 50-acres. Both of these facilities are owned, managed and maintained by the Los Angeles County Flood Control District. Additionally, a 4.06-acre parcel of privately owned dedicated open-space parcel was created as part of the development project at Sharon Hill Lane. Development rights for this open-space parcel have been dedicated in perpetuity. The City of Bradbury contains 1,216-acres of land area. Approximately 356-acres or 29% of the City's land area either restricts development or development is considered to be very difficult. Exhibit CR Conservation No. 1 locates the land Resource Management Areas. Exhibit CR Conservation No. 2 locates the identified environmental resources which include significant prominent ridgelines, Blueline streams, as shown on the USGS Azusa Quadrangle Map, and flood control debris basins. Exhibit CR Conservation No. 2-A is a photograph of a portion of the northern part of the City of Bradbury which includes the Resource Management Areas.



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## RESOURCE MANAGEMENT AREAS





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## ENVIRONMENTAL RESOURCES MAP



**Exhibit CR Conservation No. 2-A**

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## ENVIRONMENTAL RESOURCES AREA PHOTOGRAPH



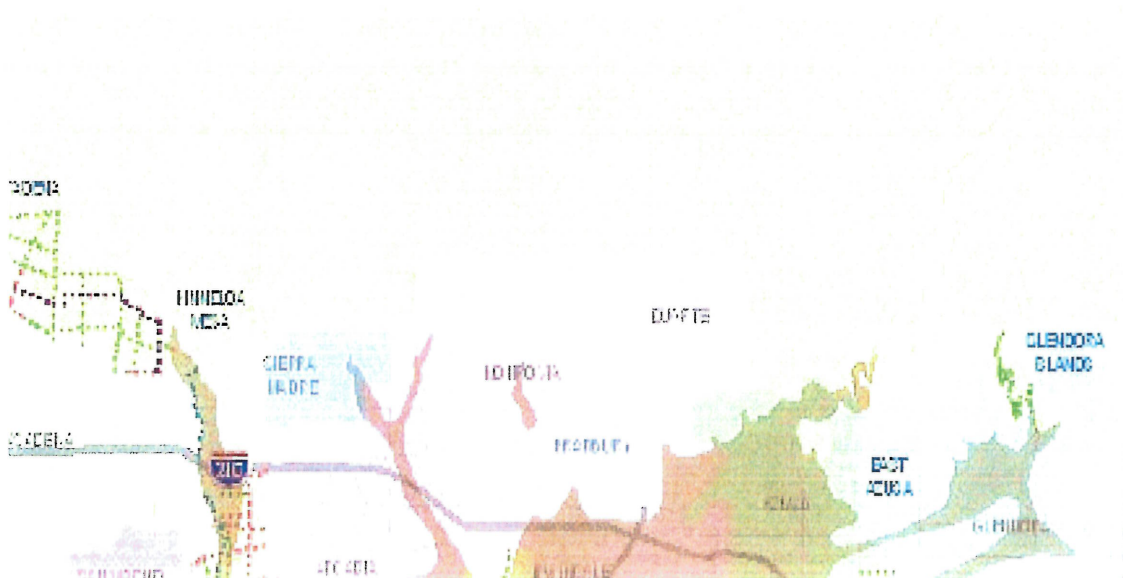
## Mineral Resources

The Surface Mining and Reclamation Act of 1975 (SMARA) provides for the regulation of surface mining operations to assure that adverse environmental impacts are minimized and mined lands are reclaimed to a usable condition. The SMARA also encourages the production, conservation, and protection of the State's mineral resources. The SMARA also mandates the classification of lands with valuable mineral resources so that land use decisions that may affect mineral-bearing lands will be made with the knowledge of these resources.

The State Mining and Geology Board, (SMGB) has classified land in California based on the availability of mineral resources. Four mineral resource zone (MRZ) designations have been established for the classification of sand, gravel, and crushed rock resources:

- MRZ-1: Adequate information indicates that no significant mineral deposits are present or likely to be present.
- MRZ-2: Adequate information indicates that significant mineral deposits are present or there is a high likelihood for their presence, and development should be controlled.
- MRZ-3: The significance of mineral deposits cannot be determined from the available data.
- MRZ-4: There is insufficient data to assign any other MRZ designation.

There are no MRZ zones in the City of Bradbury. MRZ zones are noted in brown on the map below, Exhibit CR Conservation No. 3.



Source: County of Los Angeles, Dept. of Public Works, Bike Master Plan

### Exhibit CR Conservation No. 3 MINERAL RESOURCE ZONES



## Air Quality.

The City of Bradbury is located within the South Coast Air Basin of California, a 6,745 square-mile area encompassing Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. The basin is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east.

The U.S. Environmental Protection Agency (USEPA) is responsible for establishing the national ambient air quality standards and enforcing the Federal Clean Air Act. The California Air Resource Board (CARB) became part of the California Environmental Protection Agency (Cal EPA) in 1991. This agency is responsible for ensuring implementation of the California Clean Air Act, meeting state requirements of the Federal Clean Air Act, and establishing state ambient air quality standards.

Because Southern California has one of the worst air quality problems in the nation, the Air Quality Management District (AQMD) was created by the 1977 Lewis Air Quality Management Act. Four county air pollution control agencies were merged into one regional district to better address the issue of improving air quality in Southern California.

Under the act, revised and renamed the Lewis-Presley Air Quality Management Act in 1988, the South Coast Air Quality Management District (SCAQMD) was created and it is the agency principally responsible for comprehensive air pollution control in the South Coast basin. Specifically, the SCAQMD is responsible for monitoring air quality and planning, implementing, and enforcing programs designed to attain and maintain state and federal ambient air quality standards in the district. The SCAQMD enforces air quality rules and regulations through a variety of means, including inspections, educational and training programs.

**Setting.** The South Coast basin is surrounded by mountain, which tend to restrict air flow and concentrate pollutants in the valleys or “basins”. The South Coast basin is almost entirely urban, and its pollution is typically related to dense population and associated area sources, such as mobile sources that include high volumes of vehicular traffic and stationary sources that are related to commercial and industrial activity. A high-pressure cell over the Pacific Ocean primarily controls the climate of the South Coast basin. The counties in the South Coast Air Basin continue to receive an “F” grade for ozone and dust particulate (PM) levels. The climate within the South Coast air basin is one of moderate winters, warm summers, infrequent rainfall, daytime onshore breezes and moderate humidity.

Along with this Mediterranean style climate the coastal winds affect the air quality. During the day the onshore winds reach inland across the Los Angeles Coastal Plain while at nighttime, surface radiation cools the air surrounding the mountains and the hills. The air then flows into the valleys and meanders toward the coast, producing a gentle land breeze. Bradbury’s proximity to the mountains creates cooler periods due to cool mountain air flowing down the slopes to the lower elevations.

The predominant daytime wind patterns are from the west and southwest. At night, the direction of the local offshore flow is generally out of the northeast and east. The predominant patterns for Bradbury are occasionally impacted by winter storms and Santa Ana winds. The Santa Ana winds are strong north and northeasterly breezes originating in the desert of the Great Basin.

The Santa Ana winds occur from September through March. Usually warm, always very dry, and often full of dust, these winds are particularly strong in mountain passes and canyons. On average, Santa Ana winds occur five to ten times a year, each lasting up to a few days.

**Emissions of Concern.** Air pollutants regulated by the Federal Clean Air Act and the California Clean Air Act or other laws are placed in three categories:

- Criteria air pollutants,
- Toxic air contaminants (TAC),
- Global warming and ozone-depleting gases.

Pollutants in each of these categories are monitored and regulated differently. Criteria air pollutants are measured by sampling concentrations in the ambient air. Toxic air contaminants are measured at the source and in the general atmosphere; and, global warming and ozone-depleting gases are not monitored but are subject to federal and regional policies that call for their reduction and eventual elimination.

The United States Environmental Protection Agency (USEPA) established ambient air quality standards for the following air pollutants:

- Ozone (O3)
- Nitrogen dioxide (NO2)
- Carbon monoxide (CO)
- Sulfur dioxide (SO2)
- Lead (Pb)
- Particulate matter (PM10 and PM2.5)

The California Air Resources Board (CARB) has also established ambient air quality standards for the six pollutants regulated by the USEPA. Some of the California ambient air quality standards are more stringent than the National Ambient Air Quality Standards (NAAQS). In addition, California has established ambient air quality standards for the following pollutants or air quality conditions:

- Hydrogen sulfide
- Sulfates
- Vinyl chloride
- Visibility

State and Federal law requires that this area meet existing clean air standards by the year 2015 for annual PM 2.5 and by 2023 for the 8-hour average ozone standard. However, tougher federal air quality standards for particulates and ozone issued in 2006 and 2008 will require reductions above and beyond those already planned. AQMD estimates it will take until at least 2020 to meet the new 24-hour average particulate standard and until 2030 to meet the new ozone standard.

The South Coast Air Quality Management District (SCAQMD) conducts 40 monitoring stations throughout the basin. There are three monitoring stations that provide information on air quality for Bradbury. These monitoring stations are located in the City of Pasadena northwest quadrant

of the intersection of Interstate I-210 and State Route SR-39 in the City of Azusa; and in the City of Glendora. (Exhibit CR Conservation No. 4)

According to the lung association, key pollution sources contributing to regional pollution are:

- Mobile sources including on- and off-road diesel fueled vehicles, cars, trucks, buses, and locomotives.
- Ports and goods movements,
- Stationary sources including oil refineries and power plants,
- Area sources including residential wood burning.

Although air quality in the Los Angeles basin has significantly improved over the past three decades, the area still has a long way to go to meet State and Federal standards. The area's average number of high ozone days dropped from 189.5 days per year for the years 1996-1998 to 141.8 per year for the years 2006-2008.

Continued high levels of ozone and particulate matter (PMs) in the Los Angeles basin continues to impact Bradbury. Due to its location against the foothills and the meteorological conditions, the Bradbury area incurs high levels of ozone concentrations that exceed State and Federal levels.

## SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT



21865 Copley Drive, Diamond Bar, CA 91765-4182  
Information: 1-800-CUT-SMOG (1-800-288-7664)  
Internet: <http://www.aqmd.gov>

### Air Quality Reporting

Since 1971, the South Coast Air Quality Management District has served as the local government agency responsible for monitoring, reporting and taking steps to improve air quality.

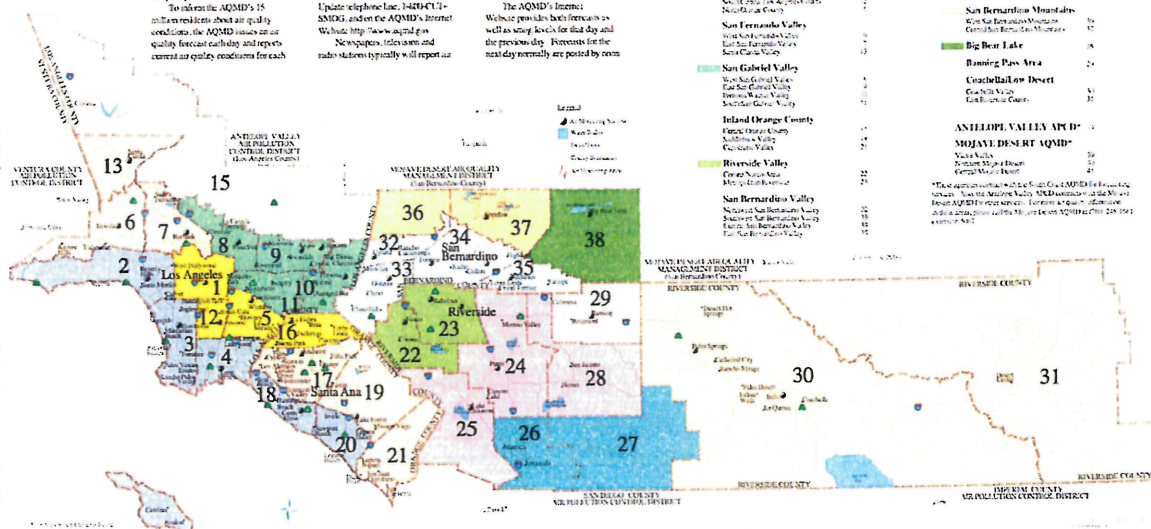
To inform the AQMD's 15 million residents about air quality conditions, the AQMD issues an air quality forecast card and reports current air quality conditions for each

numbered Monitoring Area and General Forecast Area depicted here. This air quality information is transmitted to the public through newspapers, television, radio and pager services, through faxes to schools, through recorded messages on the AQMD's toll-free 1-800-288-7664, and on the AQMD's Internet Website <http://www.aqmd.gov>. Newspapers, television and radio stations typically will report air

quality information using the General Forecast Areas, shown in color below, which are larger groupings of the more specific Air Monitoring Areas. The 1-800-CUT-SMOG (1-800-288-7664) line also provides rating forecast and current view level information by ZIP code. The AQMD's Internet Website provides both forecasts as well as view levels for that day and the previous day. Forecasts for the next day normally are posted by noon.

### General Forecast Areas & Air Monitoring Areas

<b>Coastal</b>	1
San Diego Air Quality Council	1
San Diego Air Quality Council	1
San Diego Air Quality Council	1
San Diego Air Quality Council	1
San Diego Air Quality Council	1
<b>Metropolitan</b>	2
Central Los Angeles County	2
San Bernardino County	2
San Bernardino County	2
San Bernardino County	2
San Bernardino County	2
<b>San Fernando Valley</b>	3
San Fernando Valley	3
San Fernando Valley	3
San Fernando Valley	3
San Fernando Valley	3
<b>San Gabriel Valley</b>	4
San Gabriel Valley	4
San Gabriel Valley	4
San Gabriel Valley	4
San Gabriel Valley	4
<b>Inland Orange County</b>	5
Orange County	5
Orange County	5
Orange County	5
Orange County	5
<b>Riverside Valley</b>	6
Riverside Valley	6
Riverside Valley	6
Riverside Valley	6
Riverside Valley	6
<b>San Bernardino Valley</b>	7
San Bernardino Valley	7
San Bernardino Valley	7
San Bernardino Valley	7
San Bernardino Valley	7
<b>High Desert</b>	8
High Desert	8
High Desert	8
High Desert	8
High Desert	8
<b>Antelope Valley</b>	9
Antelope Valley	9
Antelope Valley	9
Antelope Valley	9
Antelope Valley	9
<b>Mojave Desert</b>	10
Mojave Desert	10
Mojave Desert	10
Mojave Desert	10
Mojave Desert	10



### Exhibit CR Conservation No. 4

## AIR QUALITY MANAGEMENT DISTRICTS

## **Regional Air Quality Management Plan.**

The AQMD has the authority to reduce emissions from stationary sources and certain indirect sources. The AQMD is the lead agency charged with the responsibility for the development of the Air Quality Management Plan (AQMP). Input into the creation of the AQMP is provided by the Southern California Association of Governments (SCAG) and the California Air Resources Board (CARB). The AQMP is a comprehensive plan that includes control strategies for stationary and areas sources, as well as for mobile sources. SCAG provides growth projections and the creation of transportation control measures. CARB in coordination with Federal agencies provides the control element for mobile sources.

## **Visual Resources.**

Bradbury is a low density, single-family residential community. There are no commercial, industrial, or multi-family development existing or planned. Approximately one-third of the streets are privately owned and maintained. Two estate type neighborhoods have controlled access for residents. These private neighborhoods contain narrow winding tree-lined streets with beautifully landscaped front yards that include native and ornamental plants and trees.

The hillside terrain provides opportunities to capitalize on the majestic views of the San Gabriel Valley and metropolitan Los Angeles. Many home sites have spectacular panoramic views of the surrounding valley. The City's Design Guidelines protect the views from existing or future dwellings. The Design Guidelines also contain standards for grading, architectural design, and hillside protection to maintain the natural beauty.

The majority of the City is developed. There are twenty-four (24) vacant parcels that could be developed for residential purposes. Five (5) underutilized parcels have the potential for constructing additional dwelling units. Three hundred and two (302) acres have development potential for sixteen (16) units and may have additional potential for residential development at a density greater than the existing parcels permit through a subdivision process. Development of this high sensitivity area, designated as a Resource Management Area, would require a specific plan review and further studies.

The configuration and character of the City has been established and the residents have expressed their desire to maintain the community as it was initially conceived and subsequently developed. The community exists in harmony with the terrain and the native wildlife. The rural character of the community has been expressed as a desirable asset.

## **Energy Resources.**

While there is no known energy producing resource located in the City, existing land uses and residents consume energy in a variety of ways. Energy consumption includes the use of natural resources for transportation, space heating and cooling, water heating, and lighting. Less obvious, but equally important, is the natural energy resources needed to process foods and materials consumed by City residents. All traditional energy resources consumed by land uses



of the City are imported from facilities located in surrounding communities. There are no wells producing oil or natural gas, coal deposits, generating stations, refineries or processing facilities within the City of Bradbury. Natural gas is imported by the Southern California Gas Company ("Gas Company"), from its interstate system. Electrical energy is accessed by transmission and distribution lines from substations owned and operated by the Southern California Edison Company (SCE).

It should be noted that the City of Bradbury is committed to the search for and the use of renewable energy resources.

## **Cultural and Historical Natural Resources.**

Cultural resources can be regarded as symbols of a people and their civilization, and can represent human activity in pre-history, as well as the present. Cultural resources can provide a sense of place, history, and pride of residents for a region. The Los Angeles Basin has a rich cultural history that dates back to the early settlement by American Indians. The Gabrielino Indians, also known as the Tongva, occupied an extensive region stretching from the San Gabriel Mountains to the Pacific Ocean.

Water was the natural resources that attracted the first settlers and succeeding generations to the Arroyo Seco. The Arroyo Seco, meaning "dry stream" in Spanish, is a 25-mile long seasonal river and canyon located in Los Angeles County. The Arroyo Seco has been called the most celebrated canyon in Southern California. While the Spaniards dubbed the watershed Arroyo Seco or "dry riverbed," the Gabrielino/Tongva Native American Indians referred to the region between the Los Angeles and San Gabriel Rivers as Hahamongna, "the land of flowing waters, and fruitful valley." They settled on bluffs overlooking the stream that linked the San Gabriel Mountains to the Los Angeles River. Gabrielino/Tongva villages extended as far east as the City of San Bernardino.

The City of Bradbury lies within the northern part of the historic Rancho Azusa de Duarte, which extended from the San Gabriel River on the east, to Monrovia on the west. The Rancho Azusa de Duarte was a 6,596-acre Mexican land grant given in 1841 by Governor Juan Alvarado to Andres Duarte, a former Mexican army corporal. The rancho was developed and subdivided in the late 1800's by various notable large land owners ranging from Alexander Wiell to William Wolfskill. These individuals planted the first commercial citrus and avocado groves in California. Other land owners included: the Bradbury, Meyers, John Scott, Fowler, Spinks, and Fitzgerald families to name a few of the prominent early residents. It is known that they all shared a love of the area's beauty and that they planned to maintain it as a rural community of ranches and large homesteads, free from the usual small-lot developments that lined many of the hillsides in the Los Angeles Metropolitan Area. Cities established on the land of the original Rancho include Arcadia, Bradbury, Duarte, and portions of Monrovia, Irwindale, Azusa, and Baldwin Park.

Louis Leonard Bradbury, a wealthy financier, purchased land from the Weil family estate. Mr. Bradbury constructed a home north of Oak and Royal Oaks Drive. The Bradbury home was later removed and replaced with an assisted living facility for senior citizens known as Be Royal Oaks. This facility is located in an unincorporated County island adjacent to the City of Bradbury. At the corner of Winston Avenue and Royal Oaks Drive North was the Wooline family estate, built in 1889. Subsequently the property was subdivided into several two to three acre parcels and the large house was split into two single-family dwellings.

The City of Bradbury was incorporated July 26, 1957. The first Bradbury City Council members included: Rollin Eckis, who was Executive Vice President of Richfield Oil Company, Jack Martin Roth, Arthur W. Beaucaire, Cliff Poindexter, and E. M. Mazzei. Mr. Eckis became the City's first Mayor. Mayor Eckis published the most comprehensive analyses of the area's geology and groundwater. This technical document remains today as the most definitive reference for this region.

## Water Resources

The importance of water as a resource must be approached in terms of its quality and quantity, sources of supply, uses and demands, and the potential for its depletion or contamination, as well as its sustainability. Local groundwater resources in the City are not utilized for domestic consumption. The California-American Water Company provides potable (drinking) water to the City of Bradbury through groundwater wells located in the City of Duarte. Pipe sizes and types vary widely from 4-inch to 12-inch and include asphalt concrete (AC), PVC, and Steel. The reservoirs that serve the City are indicated in Table CR Conservation No. 1.

In 2012, there were 416 water customers which include public private and agricultural users in the City of Bradbury. Average day demand is approximately 1,530 gallons per account per day, which equates to 1.73 acre-feet per customer per year. Maximum daily demand is estimated to be 3,121 gallons per customer. This is equal to the average maximum daily demand of 2,433 gallons per customer. The peak hour factor is assumed to be 1.75.

**Table CR Conservation No. 1  
California-American Water Reservoirs**

Name	Capacity (gallons)	Elevation (msl)
Bliss Canyon	300,000	1040
Fair Oaks	450,000	873.5
Lemon potable	1,500,000	590
Lemon Irrigation	4,000,000	590
High Mesa	280,000	1200

Source: California-American Water

The Federal Safe Drinking Water Act of 1974 and its amendments are intended to ensure the quality of our water supplies. The Federal Government, through the U.S. Environmental Protection Agency (EPA), set standards and monitoring requirements for water utilities. The California Department of Public Health (CDPH) has the primary responsibility of overseeing the implementation and enforcement of the EPA's drinking water regulations.

CDPH has the option of either adopting the EPA's federal standards or setting more stringent ones. These standards are set after considerable research and data gathering, as well as analysis by health experts. California's Health and Safety Code requires CDPH to review its

Maximum Contaminant Levels (MCLs) once every five years. In this review, CDPH's MCLs cannot be less stringent than federal MCLs, and must be as close as is technically and economically feasible to the public health goals (PHGs) established by the Office of Environmental Health Hazard Assessment (OEHHA). Consistent with those criteria, CDPH is to amend any standard if any of the following occur: (1) Changes in technology or treatment techniques that permit a materially greater protection of public health or attainment of the PHG, or (2) New scientific evidence indicates that the substance may present a materially different risk to public health than was previously determined. Each year, by March 1, CDPH is to identify each MCL it intends to review that year. There are currently over >100 primary MCLs in California for constituents of concern that may be found in drinking water and more are expected to be drafted over the next several years.

Testing of the domestic water supply is performed by the California-American Water for various regulated constituents. Analyses for Synthetic Organic Chemicals, Inorganic Chemicals, Volatile Organic Chemicals, Radionuclide, bacteria, disinfection by-products, and all other regulated contaminants are monitored at the frequencies prescribed by federal and state regulations. The results of this testing are reported to CDPH on a monthly, quarterly, and annual basis, in accordance with the regulations. By July 1<sup>st</sup> of each calendar year, California American Water provides a complete annual summary of the analytical results of the testing to every customer in the form of a report known as the Consumer Confidence Report (CCR). A review of the past annual CCRs indicate that water quality consistently meets all state and federal drinking water standards.

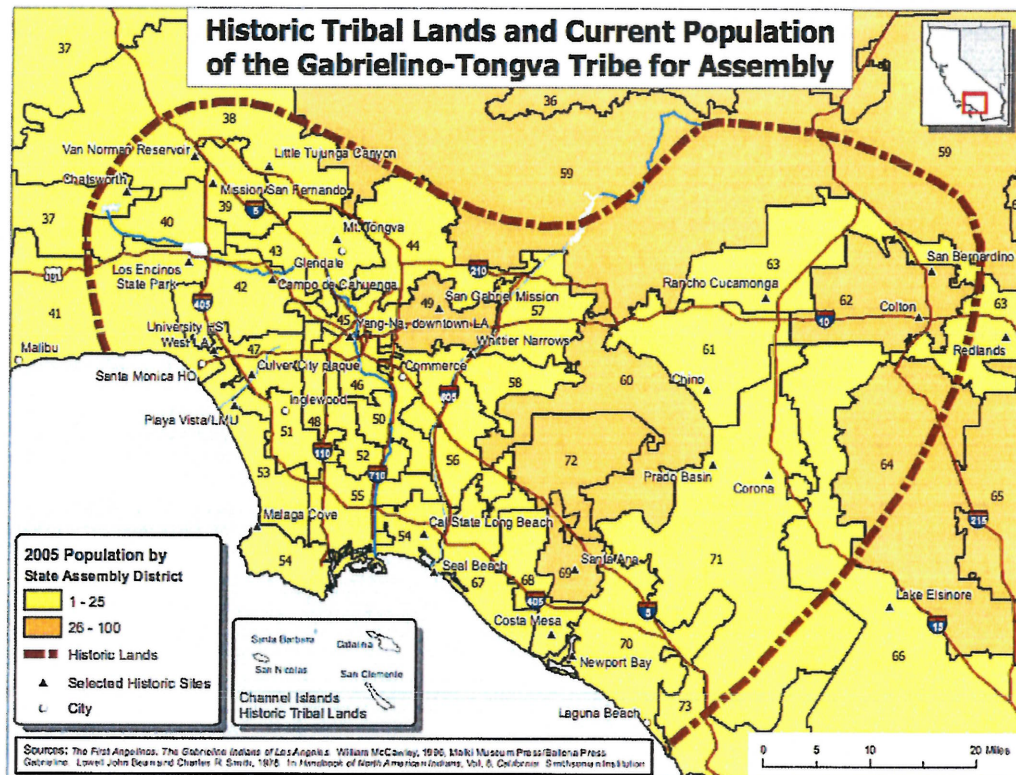
California Water Code Section 10644(a) requires urban water suppliers to file with the Department of Water Resources, the California State Library, and any city or county within which the supplier provides water supplies, a copy of its Urban Water Management Plan (UWMP), no later than 30 days after adoption. California American Water's UWMP will serve as a long-range planning document for water supply, a source of data for development of a regional water plan and a source document for cities and counties as they prepare their general plans.

California Government Code Section 65352 and Section 65958 requires that planning agencies adopting or amending a General Plan shall refer the proposed action, not only to agencies previously designated, but also to public water systems with 3,000 or more service connections. It also provides a standardized process for determining the adequacy of existing and planned future water supplies to meet existing and planned future demands so that projects resulting in increased demands on water supplies can be accommodated.

## **Native American Indians**

California Government Code § 65352.3 requires that prior to adoption of any General Plan, the local jurisdiction shall consult with the California Native American tribes that are on the contact list maintained by the Native American Heritage Commission for the purpose of preserving or mitigating impacts to places, features, and objects of historical significance as described in Sections 5097.9 and 5097.993 of the Public Resources Code. No significant archeological or historic resources have been found in the City. Yet, due to the documentation of early settlers in the region, the activity associated with new development may lead to the discovery of cultural resources. Investigation of site-specific developments for possible cultural resources would occur prior to clearing or grading.

The California Environmental Quality Act (CEQA) requires that investigation be conducted if there is a possibility of uncovering archaeological, paleontological, or historical resources. Protection of these resources during construction activities typically involves some method of salvaging materials discovered on site.



## Exhibit CR Conservation No. 5 HISTORIC TRIBAL LANDS

### Waste Management.

The City requires all properties to have trash collection services. The City has an exclusive franchise agreement with Burrtec Waste Industries, Inc. to provide collections and recycling services. No other haulers are authorized with the exception of construction projects that elect to file a Waste Management Plan with the City. Working with the waste hauler the City provides the following collection services to residents:

- Trash
- Commingled recyclables
- Green and organic yard waste
- Manure recycling
- E-waste



- Household Sharps
- Used Oil
- Construction and Demolition

Residents pay rates based on the size and number of barrels or bins and the number of times serviced per week. Also included in the contract are two community wide clean-up days and three bulky item pick-ups per year with no additional charge. Burrtec does its own billing and provides customer service relations. City staff serves as a liaison between the service provider and residents.

The majority of Bradbury's refuse is transported to Puente Hills Landfill facility. Curbside Recyclables are delivered to the Allan Company; whereas Green Waste is delivered to the Burrtec West Valley Material Recovery Facility (MRF) located in Fontana. Farm animal manure is delivered to local nurseries. The Puente Hills Landfill is the nation's largest landfill and it is nearing its maximum capacity. The current operating permit expired on November 1, 2013 and the Los Angeles County Sanitation District is actively seeking alternatives for the disposal of this waste stream. It is expected that urban waste disposal cost will rise significantly in the coming years.

## **Recycling – (AB 939 and AB 1016).**

The California Integrated Waste Management Act of 1989 (AB 939) requires each jurisdiction to divert 50 percent of its solid waste from being disposed in landfills. On January 1, 2009 a new per capita disposal measurement system (SB 1016, Wiggins, Chapter 343, Statutes of 2008) became effective. This legislation builds on AB 939 compliance requirements by implementing a simplified measure of local jurisdictions' performance. SB 1016 accomplishes this by changing to a disposal-based indicator where the per capita disposal rate, which uses only two factors: a jurisdiction's population and its disposal weight as reported by disposal facilities. It creates a clearer picture of where the City ranks in its waste reduction efforts, but most importantly, SB 1016 makes it easier to see where improvements are needed, and it frees up resources to address those areas. The City of Bradbury has included these requirements into its contract with the contract urban waste removal purveyor.

The City is also a member of the Los Angeles Regional Agency (LARA) along with seventeen other Southern California cities, including the City of Los Angeles. This agency provides the forum for its members to work cooperatively to increase diversion rates to the maximum extent possible. Public recycling containers are made available at the Civic Center. City staff provides recycling information and outreach through various communication tools such as handouts, brochures, City newsletter and information located on the City's website. City of Bradbury waste diversion rates are currently in compliance with current requirements.

## **Household Hazardous Waste.**

Bradbury residents are provided with opportunities to safely dispose of common household items that are not allowed to be disposed of in the traditional waste stream. Items such as light bulbs, batteries, used oil and electronic waste and certain solvents and cleaners are considered to be hazardous waste that are prohibited from being deposited in the landfills. Special periodic collection events are scheduled to collect household hazardous waste for proper disposal. The City works closely with the County of Los Angeles to create and maintain programs to collect

and safely dispose of such waste. At least once-a-year the City co-hosts a County of Los Angeles sponsored Household Hazardous Waste Round-Up. The City partners with its franchise trash hauler to provide approved containers for the proper disposal of sharp items such as needles, syringes, lancets, etc. Information is made available regarding the location of facilities that will accept these hazardous items for disposal.

## **National Pollutant Discharge Elimination System (NPDES)**

In 1948, the Federal Water Pollution Control Act was passed and then in 1972 it was significantly expanded. In 1977 it became known as the Federal Clean Water Act. It was then that municipalities were required to obtain a National Pollutant Discharge Elimination System (NPDES) permit if any discharges into the storm drain system were directly related to surface run-off waters.

In 1969, the State of California enacted the Porter-Cologne Water Quality Control Act establishing the State Water Quality Board (State Board) and through its Regional Boards, it is responsible for enforcing the requirements of the Federal Clean Water Act. At the local level, the Flood Control District and municipalities must obtain National Pollutant Discharge Elimination System (NPDES) stormwater discharge permit coverage from the State Water Quality Regional Board. Under the respective NPDES permits, municipalities are responsible for cleaning up polluted (impaired) waters within their jurisdictions.

In 1972, the Clean Water Act first established the NPDES permit program and most efforts at improving water quality were focused on regulating pollutant discharges from known end-of-pipe “point sources,” such as factories and sanitary sewer treatment plants. However, the 1987 amendments to the Clean Water Act extended the NPDES program to also encompass the complex and difficult to control “non-point source” pollution found in stormwater and urban runoff. Since their establishment in 1990 by the Federal EPA, stormwater regulations under the NPDES, permit programs have been significantly revised and expanded.

The City is now accountable for complying with regulations that are contained in the most recent NPDES permit which was adopted November 8, 2012. The City is now responsible for eliminating identified pollutants within its jurisdiction that may reach both the San Gabriel River and the Los Angeles River.

The Federal Clean Water Act requires that each State identify pollutants and the acceptable maximum amount that can be tolerated by each watershed or body of water and retain its required daily acceptable level of water quality. The “Total Maximum Daily Load” (TMDL) must be established for each identified pollutant (e.g. trash, bacteria, metal, etc.). The goal is to reduce pollutants deposited in impaired bodies of water to a level that is in compliance with the established water quality standards. TMDLs are developed for pollutants from all sources, including non-point sources. If the testing of a body of water determines that it is not achieving required water quality standards, the body of water is labeled as “Impaired”.

The City is currently regulated by 12 TMDLs – they include the Los Angeles River Trash TMDL, the Los Angeles River Bacteria TMDL, the Los Angeles River Metals TMDL, the Los Angeles River Estuary Bacteria TMDL, the Los Angeles River Harbor’s Toxic TMDL, the Peck Park Road Lake Trash TMDL, the Peck Park Road Lake Chlordane TMDL, the Peck Park Road Lake DDT

TMDL, the Peck Park Road Lake Dieldrum TMDL, the Peck Park Road Lake PCBs, the Peck Park Road Lake Nutrients TMDL and the San Gabriel River Metals TMDLs.

The City works collaboratively with surrounding watershed cities in order to meet the requirements of the TMDL's. Additional TMDLs may be assigned to the watershed or sub-watershed in the future. The City may be required to perform additional monitoring, additional reporting, install small and large equipment, conduct scientific studies, create implementation plans and other such activities that could prove to be very difficult to implement because of funding limitations.

Educational Programs required under the National Pollutant Discharge Elimination System (NPDES) permit include making the general public aware of the importance of reducing or eliminating the discharge of pollutants into the public waterways. The City of Bradbury typically meets information compliance requirements by participating with other communities in joint advertising campaigns.

## **Impact of Development on Natural Resources**

**Sewer System.** The City of Bradbury contains 400 single-family dwelling units. The majority of the dwelling units provide privately owned and maintained septic systems to process effluent generated on-site. A relatively small portion of the City has access to public sewer services. The public mainline sewer system is maintained by the Los Angeles County Sewer Maintenance District. The City of Bradbury is nearing a built-out condition. There are thirty-two vacant lots and five underutilized parcels of land. If development were to occur the City could expect to add ninety-one (91) additional dwellings (primary and second dwelling units). Although many of the new dwelling units will not have access to a public sewer system, the existing public sewer system has the capacity to accommodate the projected additional number of dwelling units. The City will utilize its resources to extend the existing public sewer system in order to provide service to as many residents as possible.

**Water Supply.** Domestic and fire flow water is provided by a private water purveyor, California American Water Company. The water company at one time provided affordable irrigation water to the larger agriculturally zoned and working farms and ranches. The water company has abandoned the irrigation water supply system for a variety of economic reasons. The domestic and fire flow system have been improved and it is maintained in adequate condition to meet existing and future demand.

**Regulation of Development near Stream Channels.** The existing seasonal Blueline streams are located in a steep hillside area that is recognized as a resource management area that is privately owned undeveloped open space. The City's Hillside Development regulations and environmental standards seek to maintain the prominent ridgelines and the Blueline streams substantially in their natural state to the greatest extent feasible. Existing regulations strive to protect the stream channels from being unnecessarily impacted by development activities.

**Flood Management.** The City of Bradbury is not located in a Flood Hazard Zone. The foothill location is sufficiently higher than the San Gabriel and Los Angeles Rivers and their tributaries. A system of improved drainage channels maintained by the Los Angeles County Flood Control District surround the City and they accept and direct surface runoff to the major rivers that eventually discharge their contents into the Pacific Ocean. The City is protected from damage

from upstream water shed by a system of flood control and check dams maintained by the County Flood Control District. Current grading regulations require development to retain all surface runoff on-site. The existing flood management system has been successfully operated for the past 55 years since the City incorporated in 1957.

**Urban and Built-Up Land.** The City of Bradbury is exclusively zoned and developed with single-family detached residential dwelling units. The City has 32 vacant developable parcels of land. No viable development proposals or applications have been filed with the City in the past 56 years concerning the 32 vacant undeveloped parcels of land. The existing 400 dwellings units and a population of 1,048 are expected to remain relatively stable for the foreseeable future. However over 100 years ago it was thought highly unlikely that man would walk on the moon and that data retrieving robots would be landed on Mars. Thus, the City has considered a maximum dwelling unit buildout of 497 and a potential population of 1,541. Primary development activity is more likely anticipated to be reinvestment in already developed parcels. Ninety percent (90%) or 1,096-acres of the City are zoned for agricultural purposes. Residents have continually voiced their opinion that the character of the community should not change. The City Council has expressed its position that the will of the residents is a driving factor in the creation and implementation of the design and development regulations for the City of Bradbury. It is anticipated that the future Bradbury will be very similar in appearance to the City as it exists today.

## Energy Conservation

Energy conservation is important in preserving non-renewable energy resources to ensure that these resources are available to future generations. There are a number of benefits associated with energy conservation, such as improved air quality, reduction of energy costs, waste stream reduction, and water conservation. Non-renewable sources of energy are extremely limited. Sprawling urban development, which necessitates extensive automobile use, consumes vast quantities of oil and gasoline. Structures with large areas of exposed glass require elaborate air conditioning in the summer and heating in the winter.

The Southern California Gas Company annually implements conservation programs that address the needs of this residential community. Residential rebate programs have been offered to property owners for the purchase of energy efficient appliances, and for the installation of insulation, weather-stripping, and duct insulation.

The Southern California Edison Company also offers residential conservation programs. The residential rebate program is for dwelling units heated by electricity only. Incentive programs provide rebates for the purchase of energy efficient refrigerators and clothes washers. Rebates are also available for the replacement of existing electric heating/cooling units with more efficient models and for pre-approved, specific heat pumps, air conditioners, and water heaters. The City will provide information regarding the conservation programs offered by the Gas Company and the Southern California Edison Company.

The City will cooperate with Southern California Edison Company and the Gas Company to initiate and facilitate programs for energy audits of existing structures. The audits will define the current levels of use, compare these to current standards for similar types of structures, and prescribe corrective methods to improve energy conservation.



The City will incorporate, at a minimum, the adoption of the State Building Codes and Green Building Codes which include requirements and techniques to conserve energy consumption and reduce the use of nonrenewable energy resources.

## **Key Conservation Goals, Objectives, Policies and Action Programs**

The City has established the following goals, objectives and policies for the conservation of local natural resources to the greatest extent feasible.

### **Conservation Goals:**

- |                              |  |
|------------------------------|--|
| <b>Conservation Goal 1.</b>  | Maintain a healthy and clean city.   |
| <b>Conservation Goal 2.</b>  | Ensure adequate and cost effective trash collection for Bradbury residents.  |
| <b>Conservation Goal 3.</b>  | Protect the valuable watershed and natural habitat areas.  |
| <b>Conservation Goal 4.</b>  | Protect and maintain the local water supply to ensure that the City's growing demand for water is properly accommodated.     |
| <b>Conservation Goal 5.</b>  | Protect Bradbury's environment through the use of renewable energy resources.  |
| <b>Conservation Goal 6.</b>  | Prolong the life and safety of landfills and find an environmentally safe alternative means for the disposal of solid waste. |
| <b>Conservation Goal 7.</b>  | Regulate future surface streets to minimize impacting natural open-space areas.  |
| <b>Conservation Goal 8.</b>  | Ensure that development in the steep foothill area is sensitive to the local environment.                                    |
| <b>Conservation Goal 9.</b>  | Maintain Land Use policies that have minimal impact on existing air quality.   |
| <b>Conservation Goal 10.</b> | Maximize efforts to reduce air pollution from mobile sources.  |
| <b>Conservation Goal 11.</b> | Strive to achieve ambient levels of particulate matter to meet State and Federal clean air standards.                        |

### **Conservation Objectives:**

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|----------------------------------|--|
| <b>Conservation Objective 1.</b> | Continue to improve the waste diversion and recycling programs already in place. |
|----------------------------------|--|

- |                                  |   |
|----------------------------------|---|
| <b>Conservation Objective 2.</b> | Provide adequate waste disposal systems and increase the use of compatible renewable energy resources.                    |
| <b>Conservation Objective 3</b>  | When markets for new types of recyclables open up, the City should begin implementing new programs with the trash hauler. |
| <b>Conservation Objective 4.</b> | Require that toxic and hazardous waste be disposed of properly.   |
| <b>Conservation Objective 5.</b> | Continue to develop a comprehensive NPDES plan that meets State standards.  |

**Conservation Policies:**

- |                                |  |
|--------------------------------|--|
| <b>Conservation Policy 1.</b>  | Protect water bodies, watersheds and courses from development impacts.                         |
| <b>Conservation Policy 2.</b>  | Assist residents in developing compatible renewable resources and identifying funding sources. |
| <b>Conservation Policy 3.</b>  | Protect surface water resources from contamination.  |
| <b>Conservation Policy 4.</b>  | Support water purveyor in efforts to provide domestic and agricultural water.                  |
| <b>Conservation Policy 5.</b>  | Conserve water supplies (ground and surface).  |
| <b>Conservation Policy 6.</b>  | Conserve riparian vegetation.  |
| <b>Conservation Policy 7.</b>  | Conserve wildlife habitat and assist residents in living with wildlife.                        |
| <b>Conservation Policy 8.</b>  | Conserve oak woodlands.  |
| <b>Conservation Policy 9.</b>  | Minimize conflict between agricultural and urban land uses.                                    |
| <b>Conservation Policy 10.</b> | Control and prevent erosion.   |
| <b>Conservation Policy 11.</b> | Enforce preservation landscape design programs.  |
| <b>Conservation Policy 12.</b> | Protect sensitive plant species and their habitats.  |
| <b>Conservation Policy 13.</b> | Protect rare, threatened, or endangered species.   |
| <b>Conservation Policy 14.</b> | Explore the use of Habitat Conservation Plans and Natural Communities Conservation Programs.   |
| <b>Conservation Policy 15.</b> | Eliminate identified water pollution sources.  |

- |                                |   |
|--------------------------------|---|
| <b>Conservation Policy 16.</b> | Improve major sewer, water, and storm drainage systems.   |
| <b>Conservation Policy 17.</b> | Control hazardous materials in areas where water pollution is possible.                                   |
| <b>Conservation Policy 18.</b> | Implement and maintain flood management facilities.   |
| <b>Conservation Policy 19.</b> | Protect natural resources.  |
| <b>Conservation Policy 20.</b> | Protect and improve air quality through coordinated efforts with other public agencies and jurisdictions. |
| <b>Conservation Policy 21.</b> | Protect archaeological, historical and paleontological resources  |

**Conservation Action Programs:**

The Conservation Action Plan for Bradbury establishes standards to ensure the protection of natural and cultural resources. These include water conservation measures, biological resource protection, cultural resource preservation, and energy conservation practices.

- |                               |   |
|-------------------------------|---|
| <b>Conservation Action 1.</b> | Maintain a contract with a waste hauler to provide services to residences for trash and recycling collection.   |
| <b>Conservation Action 2.</b> | Continue to provide opportunities for the disposal of large household items.  |
| <b>Conservation Action 3.</b> | Require the waste collection purveyor to provide recycling containers to all customers.   |
| <b>Conservation Action 4.</b> | Continue to implement the Collection, Disposal and Recycling program.   |
| <b>Conservation Action 5.</b> | Purchase and use post-consumer and recycled products as much as possible.   |
| <b>Conservation Action 6.</b> | Promote green waste and recycling programs such as “green and clean” which increases the usage of green waste for compost and reduces the amount of green waste exported. |
| <b>Conservation Action 7.</b> | Continue to partner with the County of Los Angeles on hazardous waste pick-up at least once a year.   |
| <b>Conservation Action 8.</b> | Continue to provide information to community members regarding various options for safe hazardous waste disposal.   |

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<b>Conservation Action 9.</b>	Continue with regular street sweeping.
<b>Conservation Action 10.</b>	Create and maintain renewable energy guidelines for residents
<b>Conservation Action 11.</b>	Plan and schedule implementation for additional TMDL's.
<b>Conservation Action 12.</b>	Plan for measures to control pollutants in surface run off.
<b>Conservation Action 13.</b>	Develop public education and outreach programs with regard to surface runoff, catch basin and storm drainage system maintenance.
<b>Conservation Action 14.</b>	Implement procedures to detect and eliminate illegal discharges and illicit disposal practices.
<b>Conservation Action 15.</b>	Promote, publicize and facilitate public reporting of illegal dumping activities.
<b>Conservation Action 16.</b>	Continue city-wide catch basin stenciling program.
<b>Conservation Action 17.</b>	Provide community residents with information as to how to peacefully coexist with the natural wildlife inhabiting the area.
<b>Conservation Action 18</b>	Adopt ordinances that require new development to utilize techniques and equipment that reduce consumption of non-renewable resources.



# General Plan 2012-2030 Update

## Health and Safety Element

(Noise and Safety Elements Combined)

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# Health and Safety Element

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The City of Bradbury Health and Safety General Plan Element consists of the combination of the State required Noise Element and Safety Element. The required General Plan Elements have been combined for clarity and to eliminate redundancy.

## **Noise Chapter**

### **Purpose**

The Noise Chapter of the Bradbury General Plan Health and Safety Element establishes guidelines for controlling noise in the City. The Noise Chapter examines the characteristics and effects of noise. It describes State and Federal guidelines relating to noise control. An evaluation of the existing noise environment is included. This portion of the Health and Safety Element contains a discussion of the anticipated future noise environment. The Chapter identifies sensitive land uses and potential noise sources that may cause impacts.

As mandated by the California Government Code Section 65302(f), the Noise Chapter follows the guidelines established by the State Office of Planning and Research. Local governments must “analyze and quantify” noise levels and the extent of noise exposure through actual measurement or the use of noise modeling. Technical data relating to mobile and point sources must be collected and synthesized into a set of noise control policies and programs that “minimizes the exposure of community residents to excessive noise”. Noise level contours must be mapped and the conclusions of the element used as a basis for land use decisions.

The Noise Chapter must include implementation measures and possible solutions to existing and foreseeable noise problems. Furthermore, the policies and standards must be sufficient to serve as a guideline for compliance with sound transmission control requirements. The Noise Chapter directly correlates to the Land Use, Circulation, Housing and Community Resources Elements. Pursuant to State requirements, the Noise Chapter must indicate noise levels from traffic along major roads and highways. Noise contours are used to illustrate noise levels in areas adjacent to major roadways. The noise contour map identifies existing noise levels in the City and noise levels anticipated from projected traffic volumes.

This Chapter provides a framework within which future planning and noise-related decisions will be made and implemented. Development and traffic have a direct bearing on noise in the local environment. The community survey conducted as part of General Plan Update found that most residents view the relatively quiet and noise free environment of the City as an important amenity that must be preserved.

The Noise Chapter of the Health and Safety Element includes goals, policies and objectives that will aid in the creation and maintenance of an acceptable noise environment for the City's residents. The single-family nature of the community is the use of land that creates the least noise impacts. Although single-family dwellings create minimal noise generators it is important

to review the surrounding uses of land that may cause concern to the community. In residential areas such as Bradbury major contributors to noise are transportation, construction, garden equipment, as well as human and animal services. Additionally, sensitive noise receptors have been identified and goals and policies have been created to protect these uses from excessive noise impacts.

## **Noise Chapter Objective**

The objective of the Noise Chapter is to maintain and preserve the existing quiet and relative noise free environment in the City. The effects of noise can be eliminated or reduced through regulatory noise controls and responsible land use planning. Noise and land use guidelines have been developed by State and Federal agencies including the Federal Highway Administration, the Environmental Protection Agency, the Department of Housing and Urban Development, the American National Standards Institute, and the State of California.

## **Relationship to Other General Plan Elements**

California Planning Law requires that all elements of the General Plan be consistent. While each of the General Plan elements could be characterized as independent documents, they are also interrelated in the common goal of providing a long-range integrated plan for the ongoing development of the City. The Noise Chapter of the Health and Safety Element is most directly related to the Land Use, Circulation, Housing and Community Resources Elements. Goals, objectives and policies set forth in all of the General Plan elements have been reviewed and assessed for internal consistency.

## **Overview of Noise Element Issues**

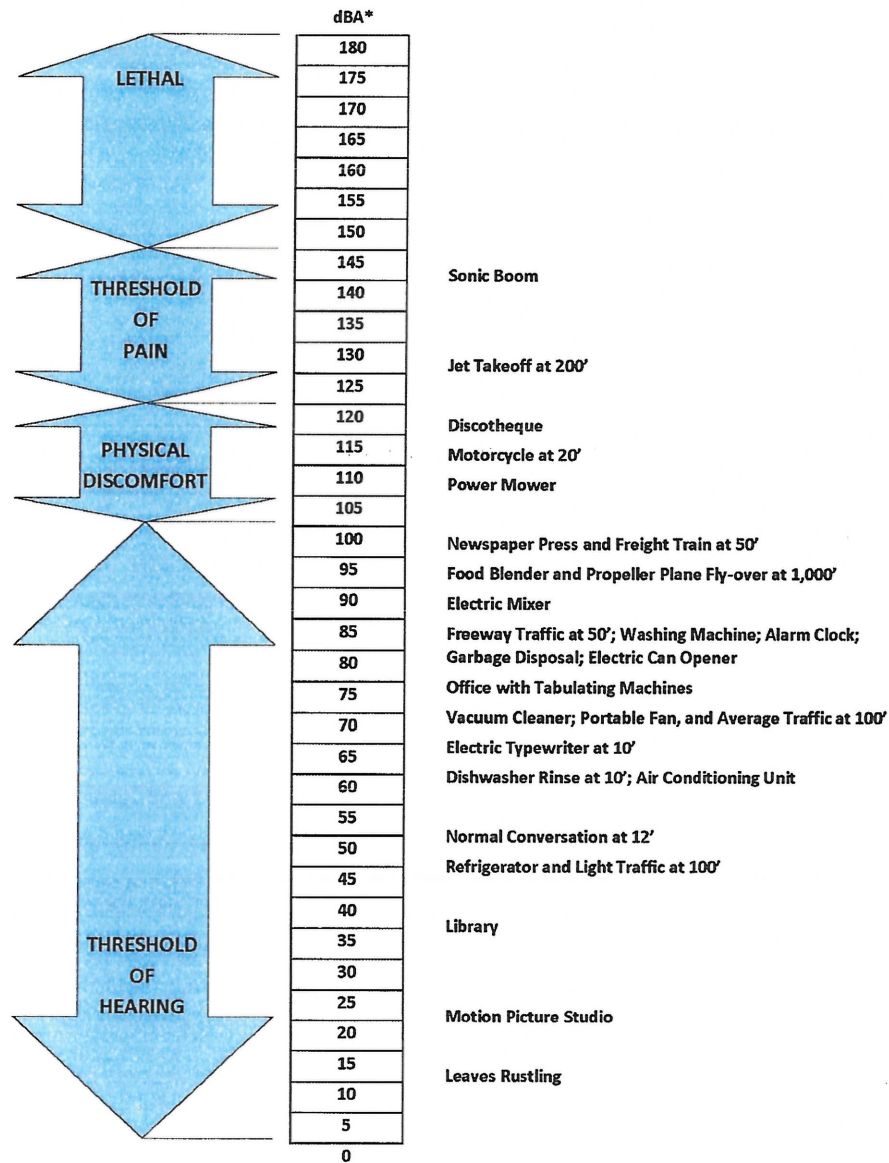
Noise is defined as any unwanted sound. Sound is defined in terms of loudness (amplitude) and frequency (pitch). The standard unit of measurement for loudness is the decibel (dB). Since the human ear is not equally sensitive to sound at all frequencies, a frequency-dependent rating scale rates the level of noise to the sensitivity of the human ear. The A-weighted decibel scale (dBA) discriminates against frequencies in a manner approximating to the sensitivity of the human ear. Decibels are based on the logarithmic scale, in terms of human response to noise. Everyday sounds normally range from 20 dB (very quiet) to 100 dB (very loud).

The Single Event Noise Exposure Level (SENEL) is the most appropriate noise level-duration rating scale for a single noise event. The SENEL is given in decibels. The noise exposure level of a single event measured over the time interval between the initial sounds to the final sound for which it exceeds the threshold of acceptable noise level. A single event is a solitary occurrence such as a train passing by or an aircraft flying overhead (overflight). Examples of various sound levels due to varying activities are shown in Exhibit H-S Noise No. 1.









\*The unit of sound is the decibel (dB). The loudness of sound is typically measured using a sound meter, the A-Scale of which corresponds closely to the way the human ear perceives sound. Thus the sound level for noise evaluations is frequently expressed in dBA.

## Exhibit H-S Noise No. 1 Acoustical Scale

Cumulative noise measurements have been developed to assess community response to noise. These scales attempt to include the loudness of each event, the duration of these events, the total number of events, and the time of day that these events occur, into one single number rating scale. The cumulative noise measurement includes the Equivalent Noise Level (Leq) and the Community Noise Equivalent Level (CNEL). The Leq represents the average sound level energy for a one-hour period and employs an A-weighted decibel correction, which corresponds to the optimal frequency response of the human ear. CNEL is a 24-hour, time-weighted annual noise level and is a measure of the overall noise exposure for a 24-hour period. So that, noise levels during the evening (7 p.m. to 10 p.m.) are penalized by 5 dB and noise levels at night (10 p.m. to 7 a.m.) are penalized by 10 dB.

Environmental factors that impact noise levels include: wind direction and speed; temperature and humidity; characteristics of the ground surface; and the presence of turf, shrubbery, and trees. This is particularly true where the view of the target roadway is interrupted by isolated buildings, bushes, scattered trees, or if the intervening ground is soft or covered with vegetation. Another important factor is the location of the source or the receiver. If either the source or the receiver is located more than three meters above the ground, the level of the intruding noise will be affected. In an area which is relatively flat and free of barriers or impediments, the sound resulting from a single source spreads in a spherical manner away from the source (similar to the way waves are formed after a rock is thrown into a pond). The sound level decreases by six decibels for each doubling of distance or 20-decibels for each factor of ten in distance. This applies to fixed noise sources and mobile noise sources which are temporarily stationary, such as an idling truck or other heavy equipment operating within a confined area (such as industrial processes).

## Characteristics of Traffic Noise

Generally, it can be shown that a 26 percent increase in traffic volume will cause a 1.0- dBA increase in CNEL. Doubling the number of vehicles on a given route increases the adjacent noise levels by 3.0-dBA, but changing the vehicle speed has an even more dramatic effect. Increasing the vehicle speed from 35 to 45 mph raises the adjacent noise levels approximately 3.2- dBA. Reducing vehicle speeds from 35 to 30 mph decreases adjacent noise levels by 1.5-dBA on major roadways. A speed decrease from 40 mph to 35 mph also reduces adjacent noise levels by 1.6- dBA. Consequently, lowering motor vehicle speeds can have a significant positive impact in terms of reducing adjacent noise levels.

## Existing Noise Environment

Bradbury is exclusively zoned and developed with single-family residential detached dwelling units. Outdoor noises generated from single-family residences are associated with yard and agricultural grove maintenance, barking dogs, children playing, and other typical sounds emanating from low density residential communities. Indoor noise includes appliances, music, television as well as people and animals. Noise levels acceptable for commercial and industrial uses in other communities are not acceptable for this residential community. The large parcels have significant setbacks and they generally contain dense landscaping. The result is that noises emanating from adjacent uses of land are adequately buffered for the most part. The Irwindale Raceway located south of the City of Bradbury has been identified as a noise source that has on occasion caused distress to some residents. The City of Irwindale and the Raceway officials are aware of the noise impacts created by activities at the Raceway. Efforts have been

made to reduce the offending noise. Dwelling units constructed within the past several decades are well insulated and they use double and triple pane windows. These construction techniques substantially reduce the level of sound within the interior of a dwelling unit.

The highest noise levels within the community can be found adjacent to major arterial roadways located beyond the City's boundary. Local collector streets such as Lemon Avenue, Royal Oaks Drive North, Lemon Avenue and Mount Olive Drive are used by City and area residents during the morning and evening peak traffic periods. Huntington Drive, a major arterial street, and the I-210 and I-605 freeways are the significant sources of noise that have an impact on the community. Both freeways are located to the south and beyond the City's boundary. Since noise travels upwards, the impact may be greater on those properties located close to the major arterial roads and freeways and to dwellings located on the south-facing slopes.

Two types of noise sources have been considered: 1) stationary sources; and 2) mobile sources. Stationary noise is attributed to air conditioning units, pool equipment, audio or television usage. Non-Stationary or mobile noises are usually of short duration such as motor vehicles, aircraft, railroads, lawnmowers and power tools. Air conditioning and pool equipment noises can be reduced through design measures (placement and screening). The most prevalent mobile noise source is vehicular traffic. The major sources of noise within the City are associated with transportation-related activities: such as motor vehicles, aircraft, and railroads. All of these significant mobile noise generators are located beyond the Bradbury City limits. These sources include the Interstate I-210 and I-605 freeways and a railroad that is located south of and parallel to the I-210 freeway. Aircraft arriving and departing the City of Los Angeles Airport (LAX) are generally high enough and short enough duration so as to not create a noise impact for the residents.

The major traffic noise includes vehicles operating on major arterials that serve the City including Royal Oaks Drive (bordering the City) and Huntington Drive, Buena Vista Street, Highland Avenue, and Duarte Road. Interstate I-210 freeway generates significant noise levels since it is a constant and consistent noise especially during peak traffic periods. The railroads generate higher levels of noise but only for a short duration of time.

There are no industrial uses in close proximity to the residents of Bradbury. Noise measurements taken along Mount Olive Drive and Royal Oaks Drive (City of Duarte General Plan 2007) indicated that there was no noise level greater than 65 CNEL.

Controlled gate-guarded neighborhoods within the City restrict undesirable traffic and thus reduce or eliminate significant traffic-related noise. Traffic related noise is minimal within the community of Bradbury due to the lack of major arterial roadways. The Bradbury public street system is comprised of local and collector streets only. Most dwellings located near the internal collector streets and the exterior arterial highways are buffered from intruding noise through the use of walls.

The average residential lot in the City of Bradbury is substantially larger than single-family residential lots in adjacent communities. The larger parcels allow for landscape buffering and significant separation between dwelling units and setbacks from local streets. The highest ambient noise level in the community (64- dBA) is generated by traffic using Royal Oaks Drive (located in the City of Duarte). Noise in this area is attributed to traffic south of the old Pacific Electric Railroad right-of-way, which is also outside the Bradbury City limits.

To assess the existing noise environment, field measurements were taken at six locations in the City (refer to Exhibit H-S Noise No.2). Two readings were taken at each location, one 10-minute reading and one 1-minute reading. The results of the noise survey are summarized below in Table HS Noise No.1. The highest noise levels are expected in the southern area of the City. This is due to the higher density of development and the presence of through traffic in that area. Development in these areas should be subject to detailed noise analysis when there is a potential to exceed acceptable noise levels identified in the January 2014 analysis.

## Future Noise Environment

The Land Use Plan for the City of Bradbury shows that the City will remain exclusively single-family residential. This land use is not expected to result in any significant increases in local traffic. Thus, future development under the provisions of the Land Use Plan is not likely to result in any significant changes in the ambient noise levels of the community.

Residential development is a noise-sensitive use. Any development along major roadways in the City shall be subject to noise evaluation to determine the need for specific noise control measures, in order to achieve an acceptable noise environment. Land uses and activities which may generate excessive noise shall also be regulated to prevent any adverse effect on the City's future noise environment.

**TABLE H-S Noise No.-1  
Existing Noise Measurements**

EXISTING NOISE MEASUREMENTS						
Site	Location	L <sub>max</sub>	L <sub>10</sub>	L <sub>33</sub>	L <sub>50</sub>	L <sub>90</sub>
1	Lemon Ave. west of Winston Ave	55	50	50	50	54
2	Deodar Ln. near Sycamore Ln.	52	50	50	50	54
3	Sycamore Ln. near Oak Mtn. Rd.	55	52	50	50	45
4	Royal Oaks Dr. west of Winston Ave.	64	54	50	45	40
5	Mount Olive Dr. @ north City boundary	61	58	50	50	50
6	Mount Olive Dr. at Gardi St.	62	60	55	50	50

L<sub>max</sub> = The Maximum sound level recorded during the noise measurement period.  
 L<sub>10</sub> = The sound level exceeded 10 percent of the noise measurement period.  
 L<sub>33</sub> = The sound level exceeded 33 percent of the noise measurement period.  
 L<sub>50</sub> = The sound level exceeded 50 percent of the noise measurement period.  
 L<sub>90</sub> = The sound level exceeded 90 percent of the noise measurement period, (also considered as the Background Noise Level).

The main source of noise in the City is traffic on roadways. Traffic noise affects noise-sensitive land uses that may be located along and near these routes. Because of the primarily low density residential nature of the City and the presence of many private roads, future development in Bradbury is not expected to result in major increases in traffic volumes and noise along City streets. Increases in traffic volumes on major roadways are expected to be generated by development located outside the City. This will result in increased noise levels along selected roadways. Table H-S Noise No.-2 presents the results of a noise modeling analysis based on

future traffic volumes. It indicates the distance from the roadway centerline to the 65, 60 and 55 CNEL noise contours.

**TABLE H-S Noise No. 2**

<b>EXISTING AND FUTURE ROADWAY NOISE LEVELS (CNEL)</b>					
<b>Roadway Segment</b>	<b>Distance (in feet) from Roadway Centerline to CNEL (Db)</b>				
	<b>65 CNEL</b>	<b>60 CNEL</b>	<b>55 CNEL</b>	<b>CNEL @ 50 feet</b>	<b>Change in CNEL <sup>(1)</sup></b>
Mount Olive Dr. North of Royal Oaks Ln.	0	40	90	55	0
Royal Oaks Dr. west of Woodlyn Ln.	20	45	80	54	0
Deodar Ln. north of Woodlyn Ln.	0	0	40	48	0
Note: 1 Changes in CNEL compared noise levels from existing traffic to projected traffic 50 feet from the roadway centerline.					

## Noise Sensitive Land Uses

Land uses in Bradbury and the immediate area considered noise sensitive by the State of California include: schools, hospitals, rest homes, and long-term care and mental care facilities. There are no hospitals rest-homes or long-term medical or mental care facilities within the City of Bradbury. The Royal Oaks Elementary School is located in the southeastern corner of the City. The Be Royal Oaks (formally Royal Oaks Manor) retirement/assisted living care facility is located on Royal Oaks Drive North, east of Braewood Drive. This facility is located adjacent to the City of Bradbury in an unincorporated portion of Los Angeles County.

## Noise Mitigation Plan

Transportation noise is the prevalent noise issued faced by Bradbury residents. Traffic using arterial highways and freeways located beyond the City's jurisdiction poses the most significant noise generator that can impact the City's tranquil and peaceful environment. Peak a.m. and p.m. traffic periods generate the most noise. Local governments have little direct control of transportation noise at the source. State and Federal agencies have the responsibility to control vehicle noise emission levels. The most effective methods cities have to mitigate transportation noise on their communities are by use of effective site planning and the construction of noise barriers.

Noise impacts can be mitigated in three basic ways: 1) reduce the sound level of the noise generator; 2) increase the distance between the source and the receiver; and 3) insulate the receiver. People must be protected from excessive noise from non-transportation sources. These impacts are most effectively controlled through the application of the City's Noise Ordinance and the City's development design guidelines.



**Existing Noise Regulations.** The primary objective of the City of Bradbury Noise Element is to maintain and preserve the existing noise free environment. As indicated previously, the effects of noise can be eliminated or reduced through regulatory noise controls and responsible land use planning. Noise and land use guidelines have been developed by State and Federal agencies including the Federal Highway Administration, the Environmental Protection Agency, the Department of Housing and Urban Development, the American National Standards Institute, and the State of California.

**Noise Control Act** In 1972, the Noise Control Act authorized the US Environmental Protection Agency (EPA) to publish descriptive data on the effects of noise and establish levels of sound "requisite to protect the public welfare with an adequate margin of safety." These levels are separated into health (hearing loss levels) and welfare (annoyance levels) with an adequate margin of safety. In March 1974, the EPA published information on Levels of Environmental Noise Required to Protect Public Health and Welfare with an Adequate Margin of Safety (EPA 550/9-74.004). According to this publication, 55- dBA Ldn is described as the required maximum noise level to provide an adequate margin of safety for areas with outdoor uses including residences and recreational areas. The EPA report does not establish standards, specifications or regulations, but identifies safe levels of environmental noise exposure without consideration for the costs to achieve these levels.

**Federal Highway Administration (FHWA)** The FHWA adopted and published noise abatement criteria for Federally-funded highway construction projects. The FHWA noise abatement criteria, basically, establishes an exterior noise goal of 67- dBA Leq for residential land uses and an interior goal of 52- dBA Leq for dwellings.

**Department of Housing and Urban Development (HUD)** The Department of Housing and Urban Development (HUD) has adopted environmental criteria and standards for determining project acceptability and necessary mitigation measures to ensure that projects assisted by HUD provide a suitable living environment. The standards include noise limits of 65- dBA Ldn for residential areas.

**California Streets and Highways Code** Division 1, Chapter 1, Article 6 of this Code requires State funded noise abatement programs for freeway construction or use which will result in noise levels exceeding 55- dBA Leq or 52- dBA Leq at existing classrooms, libraries, multi-purpose rooms, and pupil personnel services of public and private elementary and secondary schools. The noise abatement program may include acoustical treatment, elimination of windows, air conditioning, sound buffer structures and other mitigation measures.

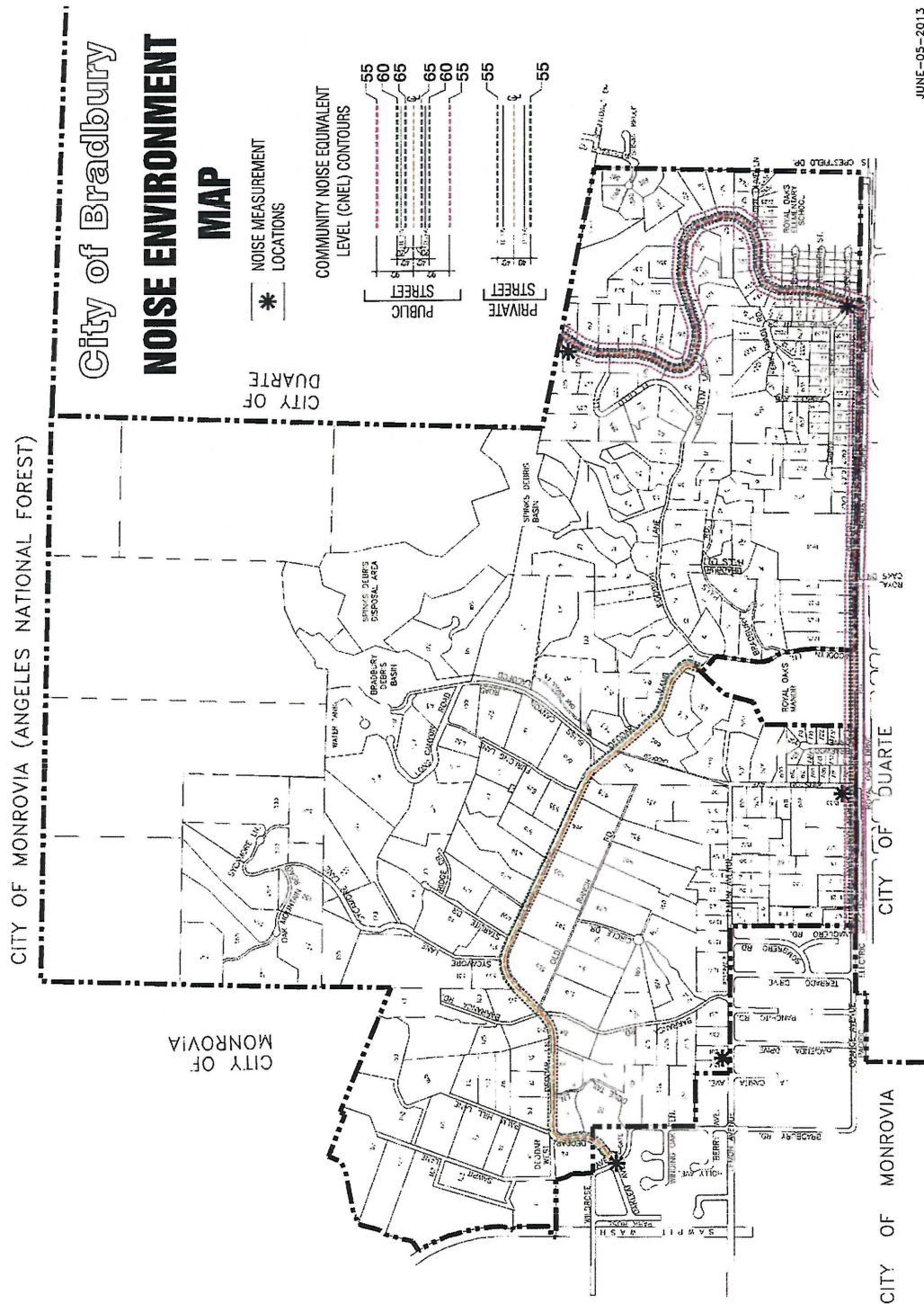
**Sound Transmission Control Standards** in the California Code of Regulations, Title 24, Part 2 commonly referred to as the California Building Code and the California Green Building Standards Code (California Code of Regulations Title 24, Part 11) establish the minimum standards for construction to include remodeling for a variety of dwelling occupancies to include single-family detached residential buildings.

**California Motor Vehicle Code** The State of California has adopted noise standards for areas not regulated by the federal government. State standards regulate noise levels of motor vehicles and motor boats, establish noise impact boundaries around airports, regulate freeway noise affecting classrooms, sound transmission control, occupational noise control, and identify noise

insulation standards. The California Motor Vehicle Code sets operational noise limits according to the type of vehicle and date of manufacture.

**City Noise Ordinance** The City of Bradbury adopted a Noise Ordinance to establish acceptable noise levels generated on private property in residential neighborhoods. It is designed to control unnecessary, excessive and annoying sounds generated from stationary sources that may impact adjacent property. It differentiates between environmental and nuisance noise. Environmental noise is measured under a time average period while nuisance noise cannot exceed the established Noise Ordinance levels at any time. Chapter 9.06.110 of the Bradbury Development Code establishes controls regarding unnecessary, excessive and annoying noise. No person shall create or allow the creation of noise on any residential property which causes the noise level to exceed the actual measured median ambient noise level, or the following presumed ambient noise level, whichever is greater.

Time	Allowable Noise Level - dBA
7:00 a.m. to 10:00 p.m.	55
10:00 p.m. to 7:00 a.m.	50



JUNE-05-2013

**Exhibit H-S Noise No. 2**  
**NOISE CONTOUR MAP**

## Key Noise Goals, Objectives, Policies and Action Programs

The City's Noise Control Ordinance provides a means to enforce the existing quiet, noise free environment. The City will continue to:

- Incorporate measures into future residential projects which attenuate exterior noise levels in outdoor activity areas to a maximum of 65 CNEL and interior noise levels to a maximum CNEL of 45 dB.
- Establish through the design review process that schools are located and designed so that they comply with the acoustical criteria promulgated by the California Collaborative for High Performance Schools (CHPS).
- Enforce State vehicle noise regulations (Section 23130, 23130.5, 27150, 27151 and 38275 of the California Vehicle Code) to curtail the use of vehicles equipped with illegal or faulty exhaust systems and "hot rods" exhibiting tire squeal or excessive exhaust noise.
- Enforce the California Noise Insulation Standards (Title 24 California Building Code) for dwellings to ensure an acceptable maximum interior noise level of 45 CNEL in habitable rooms, and maintain adequate noise insulation.
- Strictly enforce acoustical privacy, consistent with the California Noise Insulation Standards and all existing and future requirements outlined in the State Housing Code, for residential construction.
- Prohibit roosters and peacocks in the City.

### Noise Goals:

- |                      |   |
|----------------------|---|
| <b>Noise Goal 1.</b> | Reduce noise impacts from transportation sources.   |
| <b>Noise Goal 2.</b> | Develop measures to address non-transportation noise impacts such as those that are generated from surrounding commercial and recreational activities (racetracks, etc.). |
| <b>Noise Goal 3.</b> | Establish land uses which are compatible with existing noise levels within the community.   |
| <b>Noise Goal 4.</b> | Prevent and mitigate the adverse impacts of noise on City residents.  |

### Noise Objectives:

- |                           |  |
|---------------------------|--|
| <b>Noise Objective 1.</b> | Maintain and reduce where feasible background noise levels emanating from citywide transportation sources. |
|---------------------------|--|

- Noise Objective 2.** Identify and mitigate construction activity and other sources of noise that may impact the community.
- Noise Objective 3.** Careful consideration of noise impacts should be a part of all land use decisions.
- Noise Objective 4.** Maintain the quiet residential character of the City free from excessive noise from mobile and fixed source generators both Citywide and region-wide.

**Noise Policies:**

- Noise Policy 1.** Ensure noise mitigation measures are included in the design of new developments.
- Noise Policy 2.** Encourage the State Department of Transportation (Caltrans) to continue programs that lead to the reduction of noise levels on the Interstate I-210 and I-605 freeways.
- Noise Policy 3.** Continue the City's street improvement program to help reduce noise levels.
- Noise Policy 4.** Encourage the use of acoustical materials in all new residential developments.
- Noise Policy 5.** Limit delivery, and truck traffic to designated routes.
- Noise Policy 6.** Ensure residential developments are designed and mitigated to achieve a maximum exterior CNEL of 65 dB and a maximum interior CNEL of 45 dB.
- Noise Policy 7.** Encourage, support, and enforce all State and Federal legislation designed to abate and control noise pollution.
- Noise Policy 8.** Encourage the use of rubberized asphalt for resurfacing streets.
- Noise Policy 9.** Continuously review the Noise Ordinance to ensure noise-generating uses are adequately addressed.
- Noise Policy 10.** Strive to resolve existing and potential conflicts between noise-generating uses and human activities.
- Noise Policy 11.** Prohibit significant long-term noise-generating activities on land located near sensitive noise receptors.
- Noise Policy 12.** Evaluate the noise impacts generated by existing and future projects located in surrounding communities that impact or may impact the Bradbury ambient noise level.



**Noise Policy 13.** Enforce limits set by the State to control noise levels, particularly those governing motor vehicles.

**Noise Policy 14.** Ensure that to the greatest extent possible construction noise does not cause an adverse impact to the residents of the City.

**Noise Implementation Action Programs:**

The City of Bradbury intends to complete the following items which address the objectives and policies of the Noise Element of the General Plan:

**Noise Action 1:** Review current policies regarding the use of gas-powered maintenance equipment and consider restricting the type of equipment used and duration of operation.

**Noise Action 2:** The City will continue to enforce the noise ordinance to protect residents from undue disturbance.

## **Safety Chapter**

### **Purpose**

The Bradbury General Plan Health and Safety Element is comprised of two State mandated general plan elements (Noise and Safety). The Safety Chapter of the Health and Safety Element focuses on those elements of risk to the residents that should be considered in current and future development planning.

The purpose of the Safety Chapter is to protect the community from any unreasonable risks associate with the effects of seismically induced surface rupture, ground shaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mudslides and landslides; subsidence, liquefaction, and other seismic hazards identified pursuant to Chapter 7.8 (commencing with Section 2690) of Division 2 of the Public Resources Code, and other hazards known to the legislative body; including flooding; and wildland and urban fires.

The Safety Chapter of the Health and Safety Element includes mapping of known seismic and other geologic hazards. It also address evacuation routes, peakload water supply requirements, and minimum road widths and clearances around structures, as those items relate to identified fire and geologic hazards.

This Safety Chapter is the primary vehicle for relating local safety planning with the City's land use decisions. The City has established land use policies, standards, and designations based on among other things the criteria set forth in this Safety Chapter. Additionally, local decisions related to zoning, subdivisions, and entitlement permits, for example, will be tied to the Safety Chapter's identification of hazards and hazard abatement provisions. The City of Bradbury Safety Chapter examines those issues related to protecting the community from any unreasonable risks associated with earthquakes, slope instability, flooding, and fire. The Chapter also indicates design standards, such as peakload water supply requirements; minimum road widths; and clearances around structures. Finally, the Safety Chapter indentifies evacuation routes and emergency reception centers.

### **Safety Chapter Objective**

Hazards affecting the City of Bradbury can be divided into two major categories: 1) naturally occurring hazards; and 2) manmade hazards. Naturally occurring hazards include earthquakes, wildland fires, floods, and slope failure. Chemical contamination, structural fires, transportation accidents and air and water pollution are examples of manmade hazards.

The objective of the Safety Chapter is to enable the City to be sensitive to those natural and manmade hazards in future decision making and to be able to respond in a timely manner in the event of an emergency. As a result, the following principle serves as the framework for the City of Bradbury Safety Chapter: Public safety is the focus of the emergency preparedness plan which emphasizes the risks associated with earthquakes, wildfire, flooding, and other manmade and natural hazards. In response to the principle, the Safety Chapter provides the foundation for a detailed inventory of those risks that need to be considered. This Chapter also establishes standards related to public safety.

## Relationship to Other General Plan Elements

California Planning Law requires that all elements of the General Plan be consistent. While all of the General Plan Elements are independent, they are also interrelated. Certain goals and policies of one element may also address items that are issues of other elements. This integration of issues throughout the General Plan creates a strong basis for the implementation of plans, programs and achievement of community goals. The Safety Chapter is most directly related to Land Use and Circulation Elements and the Conservation and Open Space Chapters.

## Related Agencies, Laws and Plans

The following State mandates impact planning and development:

***Colbey-Alquist Floodplain Management Act.*** The Colbey-Alquist Floodplain Management Act encourages local governments to plan, adopt and enforce land use regulations for floodplain management, in order to protect people and property from flooding hazards. This Act also identifies requirements which jurisdictions must meet in order to receive State financial assistance for flood control.

***Alquist-Priolo Earthquake Fault Zoning Act.*** The Alquist-Priolo Earthquake Fault Zoning Act requires the state Geologist to identify earthquake fault zones along traces of both recently and potentially active major faults. Cities and counties that contain such zones must inform the public regarding zone location.

***Seismic Hazards Mapping Act.*** Pursuant to the Seismic Hazards Mapping Act, the state Geologist compiles maps identifying seismic hazard zones. Development in seismic hazard areas is subject to policies and criteria established by the State Mining and Geology Board. Additionally, approval of development on a site within a seismic hazard area mandates the preparation of a geotechnical report and local agency consideration of compliance with applicable state requirements.

***Landslide Hazard Identification Program.*** The Landslide Hazard Identification Program requires the state Geologist to prepare maps of potential landslide zones within urbanizing areas.

***Fire Hazards.*** The threat of wildfires in foothill areas in Southern California has been of concern for many years. Recognizing that this concern throughout the State, in 2012 the Legislature adopted SB 1241 which requires communities to protect themselves against wildland and urban fires by addressing the fire risk in areas of State responsibility and areas designated very high fire hazard severity zones.

## Overview of Safety Chapter Issues

The City of Bradbury has attempted to identify and analyze natural and manmade hazards and the associated risks that residents may be subjected to.

***Fire Hazards.*** The threat of wildfires in foothill areas in Southern California has been of concern for many years. Very high risk for wildfire is evident in areas having steep slopes that

are covered with chaparral vegetation and where there is limited access for fire control equipment. Low risk areas are developed urban areas where fire access is readily available and the terrain is relatively flat. Industrial areas, hazardous material users, structures with substandard electrical wiring, overhead high voltage power lines, and high pressure gas lines are examples of urban fire hazards.

In order to facilitate immediate firefighting response, the City should have the following standards for areas that are located in high or very high fire hazard severity zones:

- There should be sufficient access routes and roads for emergency vehicles and for the evacuation of residents from all areas.
- Adequate access should be provided for all developed areas. All roadways to hazard areas should be of sufficient width to accommodate fire-fighting equipment. Streets should be marked and addresses should be posted in plain view. Adequate water supply should be available and adequate for fire suppression activity.

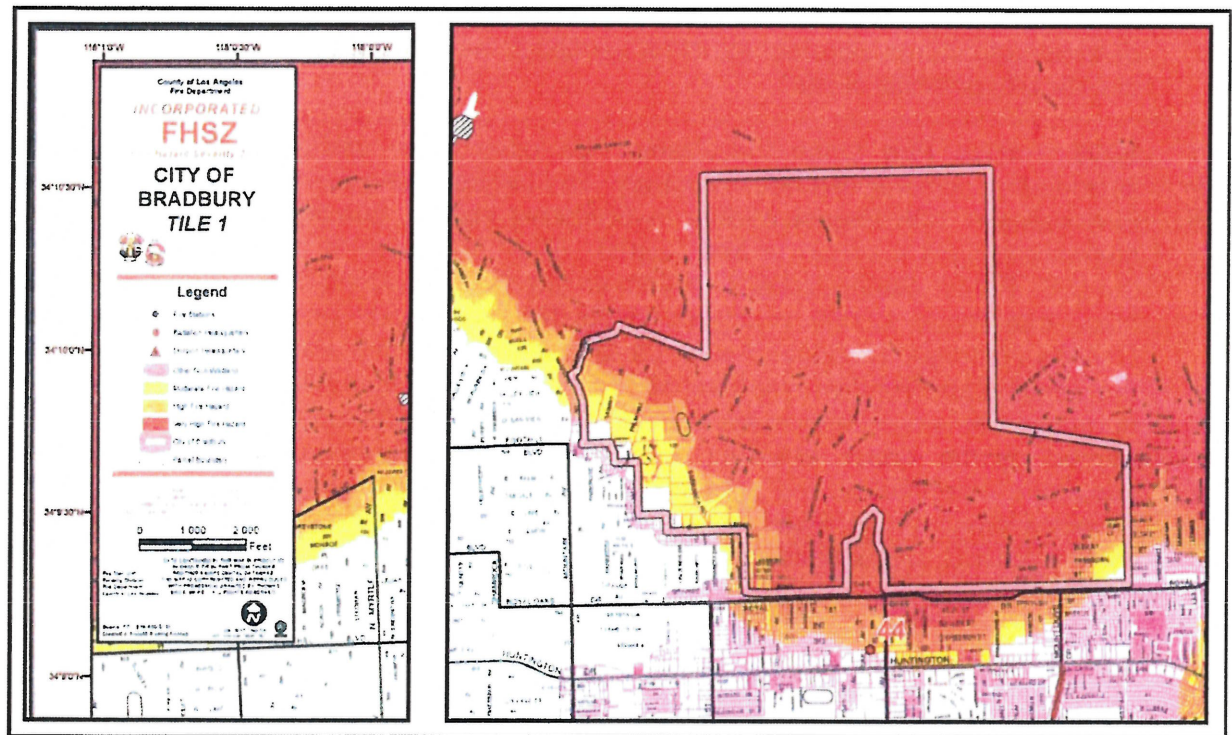
The County of Los Angeles Fire Department has identified virtually all of the City of Bradbury as a Very High Fire Hazard Severity Zone. All development within this zone should comply with the standards set forth in the Fire Department's Fuel Modification Plan. The three primary components needed to reduce fire losses are:

1. Implementing building construction methods that reduce building fire hazards,
2. Providing adequate defensible space around structures to reduce fuel; and
3. Identifying areas where there is a significant risk and a history of significant losses.

Good defensible space around structures allows adequate area for firefighters to fight a fire and avoid injury to personnel and equipment. Terrain, climate conditions, and vegetation interact to affect fire behavior.

Government Code Sections 51175 through 51189 direct the California Department of Forestry and Fire Protection (CDF) to map areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors. These zones, referred to as Fire Hazard Severity Zones (FHSZ), define strategies to reduce the risk associated with wildland fires. As part of this mapping effort, areas designated for management by CDF are identified as State Responsibility Areas (SRA). Areas managed by local fire departments are identified as Local Responsibility Areas (LRA).

The majority of the City of Bradbury is located within a Very High Fire Hazard Severity Zone established by the County of Los Angeles Fire Department and reflected on Exhibit H-S Safety No. 1. The entire City lies within a Local Responsibility Area (LRA). Public Resource Code (PRC) section 4291 requires that homeowners provide fuel modification to 100 feet around their buildings to create a defensible space for firefighters and to protect their homes from wildfires. Residents must reduce dry fuel around the perimeter of any structure and comply with the adopted codes that provide standards for mitigating fire hazards.



**Exhibit H-S Safety No. 1**  
**FIRE HAZARD SEVERITY ZONES**

Bradbury's location at the base of the San Gabriel Mountains creates an urban/wildland interface that makes Bradbury more susceptible to wildfires than cities that do not border the foothills. During community workshops many residents expressed their concern that safety and preparedness were the highest priority for the community.

### **Historic Wildfires in the City of Bradbury**

**1953 Duarte Fire** This fire originated between Spinks Canyon and Maddock Canyon in wildland area. A total of 561 acres burned in this fire.

**1958 Norum Fire** This fire burned in the foothills north of Monrovia, Duarte, Bradbury and Azusa. A total of 6,440 acres burned in the Norum Fire.

**1980 Stable Fire** On November, 16, 1980 a fire storm that had been fanned by Santa Ana Wind conditions swept down from the foothills and destroyed 35 homes in the City of Duarte and 14 homes in the City of Bradbury. Reports indicated that the fire had moved from the City of Azusa, east of the San Gabriel River to the Duarte and Bradbury homes in 8 to 10 minutes, due to a strong shift in winds. Immediately after the fire, city and county personnel began taking measures



to deal with the devastation. A Disaster Assistance Center was established at Duarte City Hall and Federal and State agencies were contacted for help. The Los Angeles County Fire District set up a mobile command center and the City of Duarte set up an emergency shelter. In the weeks that followed the fire, the City established several programs to deal with possible floods and mudslides that could occur due to the bare slopes where all vegetation had been burned off. Mud diversion structures were constructed, sandbags were distributed, and parking was restricted on streets with potential slides.

**2009 Station Fire** Since the Stable Fire other large wildland fires have occurred in the surrounding communities near Bradbury. The largest being the Station Fire of 2009. The Station Fire was the 10th largest wildfire in California history, burning 160,577 acres and killing two firefighters since it began in late August. The fire started in the Angeles National Forest near the U.S. Forest Service ranger station on the Angeles Crest Highway (State Highway 2). The blaze threatened 12,000 structures in the National Forest and the nearby communities of La Cañada Flintridge, Glendale, Acton, La Crescenta, Littlerock, Pasadena and Altadena, as well as the Sunland and Tujunga neighborhoods of the City of Los Angeles. The fire was predicted to burn for months and travel miles to the City of Azusa behind the City of Bradbury. The Station Fire burned on the slopes of Mount Wilson, threatening numerous television, radio and cellular telephone antennas on the summit, as well as the Mount Wilson Observatory, which includes several historically significant telescopes and multi-million-dollar astronomical facilities operated by UCLA, USC, UC Berkeley and Georgia State University. In October 2009, the fire went out due to a fall rainstorm.

**Flood Hazards** The potential for flooding is generally described in terms of a statistically projected frequency. For example, a 100-year flood has a 1.0 percent chance of occurring in a given year, while a 500-year flood is one which has a 0.2 percent chance of happening in any given year. A 500-year flood would be slightly deeper and cover a greater area than a 100-year flood. The San Gabriel River lies east of the City of Bradbury, and it is designed to contain a 100-year flood. The river is fully operational and is maintained by the U.S. Army Corps of Engineers and the Los Angeles County Flood Control District. The construction of San Gabriel River improvements in 1947 reduced the local area's risk of flooding. Los Angeles County Drainage Area studies performed by the Army Corps of Engineers have shown no deficiencies along the San Gabriel River. The elevated nature of the City removes Bradbury from flood danger from the San Gabriel River.

The San Gabriel River is the central backbone of the San Gabriel River Watershed. The watershed for the San Gabriel River is one of several coastal watersheds in Southern California that drain hundreds of square miles of mountainous and urban lands to the Pacific Ocean. The character of the river changes dramatically along its 58-mile journey from Cogswell Dam (near the headwaters in San Gabriel Mountains) to its mouth at the Pacific Ocean. On its run to the sea, the San Gabriel River passes through 19 different cities. A network of dams and flood control measures controls the San Gabriel River. The natural water cycle and flow are significantly altered to protect adjacent communities from flood damage and to better use local water resources for urban and agricultural water supplies.

Serious flooding has not been a problem in Bradbury because the low density residential development has permitted the retention of natural ground cover which retards serious floods. In addition to the natural ground cover, the Bradbury Debris Basin and the Spinks Debris Basin and check dams, maintained by the Los Angeles County Flood Control District, also provide the

City with protection from large scale floods. A series of concrete lined channels and underground storm drains exist within and around the perimeter of the City. These backbone storm drain facilities are maintained by the Los Angeles County Flood Control District. The City's large agriculturally zoned and developed parcels either retain surface run-off on-site or it is directed to the public facilities by a system of privately owned and maintained drainage swales. Minor occurrences concerning water runoff occurred in the past during extremely wet years, however privately owned improvements have been made to rectify the local flooding issues. These minor flooding problems tend to be localized and primarily relate to very small mudslides and small erosion problems in areas where the natural topography had been altered.

Much of the soil in Bradbury Canyon is of an alluvium base material and it is susceptible to runoff problems if the natural ground cover has been removed and not replaced with landscaping or other mitigating measures. The City maintains a policy of investigating any localized runoff or mudslide problems through the assistance of the City Engineer and the Los Angeles County Department of Public Works.

Since the City of Bradbury has not been studied by the National Flood Insurance Program (NFIP) to ascertain flood hazards, it is difficult to estimate if there is an area that might be at risk of flooding. The City's history does not contain any reports of catastrophic flooding that would endanger resident's health or safety. The National Flood Insurance Program (NFIP) designated Bradbury as "Zone D" which means that no analysis of flood hazards has been conducted. Mandatory flood insurance purchase requirements do not apply, but coverage is available.

***Geologic Hazards*** The City of Bradbury is situated along the foothills of the San Gabriel Mountains, west of the San Gabriel River as reflected on Exhibit H-S Safety No. 2. Geographically, the San Gabriel Mountain Range is made up of two roughly parallel ranges. The northern, inland range extends from Mt. Gleason eastward past the 9,000-ft. summit of Mt. Waterman and Baden-Powell and terminates near the only summit over 10,000-ft. (Mt. San Antonio or Old Mt. Baldy). The range's major watershed is the San Gabriel River who's three main forks and countless tributaries drain approximately 20 percent of the precipitation in the mountains.

There are geologic conditions within and around the City of Bradbury that could cause problems if proper precautions are not taken. The northern mountainous areas of the City are generally too steep and bedrock is too unstable for typical construction. Erosion, landslides and ground shaking from earthquakes can be severe hazards within these areas. Exhibit H-S Safety No. 3 identifies the portions of the City of Bradbury that are susceptible to landslide and liquefaction.

***Landslides*** Geologic hazards in the City of Bradbury include the potential for landslides, erosion, and debris flow and liquefaction in areas with loose soils and high water tables. Landslide hazards may involve relatively intact, dense bedrock materials or highly fractured and broken, jumbled bedrock. Landslides often occur along pre-existing zones of weakness within the bedrock. Local folding of the bedrock adds to the potential for slope failure. However, many landslides do not seem to be controlled by the position of the bedding rock relative to the topography but by other factors such as rock type and its attendant characteristics (density of jointing and fracturing). Landslides have been known to occur in the northern steep sections of the City. Other areas of the City may experience landslides should conditions change that adversely affect slope stability.

**Erosion Hazard** Erosion is the natural process by which earth materials are loosened, worn away, decomposed, or dissolved, and transported to another site. Precipitation, runoff, running water, and wind are common agents of erosion. The potential for erosion is generally low in exposed natural slopes but it greatly increases when slopes have been denuded of all ground cover and vegetation. Barren slopes are more susceptible to erosion and subject to riling or raveling.

The potential for debris flow depends primarily on the presence of Colluvium deposits upstream and the increase in soil moisture due to heavy rainfall. A debris flow is a fast moving, liquefied landslide of unconsolidated, saturated debris that looks like flowing concrete. It is differentiated from a mudflow in terms of the viscosity and textural properties of the flow. Flows can carry material ranging in size from small stones to large boulders. Often debris flows contain large amounts of woody debris such as logs and tree stumps. The soil known as Colluvium is loose bodies of sediment that have been deposited or built up at the bottom of a low-grade slope or against a barrier. The deposits that collect at the foot of a steep slope or cliff are also known by the same name. The Bradbury and Spinks Canyon Debris Basins control debris flows.

**Seismic Hazards** The U.S. Geologic Survey (USGS) is responsible for providing scientific information regarding natural hazards and disasters within the United States in order to protect and save lives. Geologic events and seismic activity in particular, are the primary natural hazards of the community. Earthquakes are caused by violent and abrupt releases of strain built up along faults. When a fault ruptures, energy is released in all directions from the source, or epicenter, in the form of seismic waves. Earthquakes generate two types of hazards. Primary hazards are ground shaking and surface rupture along faults. Secondary hazards result from the interaction of ground shaking with existing ground instabilities and include: liquefaction, settlement, and landslides.

The City of Bradbury is located in a seismically active region and in an area of potential fault rupture, strong ground shaking, and slope instability. These geologic and seismic hazards can affect the integrity of structures and utilities, and in turn can cause severe property damage and potential loss of life. In California, faults are common, ranging from small breaks of an inch or less, to the significant breaks experienced along the San Andreas Fault which extends for hundreds of miles. In addition to size, the age of a fault has a direct bearing on the likelihood of generating an earthquake. Many large faults have not moved for millions of years and are considered “dead” or inactive.

The two principal seismic considerations for most cities in Southern California are damage to structures due to seismically induced ground shaking and surface rupture along active fault traces. Strong ground motions could have a major impact on the City of Bradbury due to the proximity and earthquake potential of nearby active faults. The local geologic and topographic conditions of Bradbury’s location at the base of the San Gabriel Mountains could either amplify or attenuate the seismic waves. Surface ruptures could also have a major impact on the City of Bradbury. Surface ruptures occur during an earthquake when movement along an active fault breaks the ground surface.

The City of Bradbury contains two earthquake faults (Exhibit H-S Safety No. 3). The Sierra Madre Fault extends through the major portion of the Bradbury along the base of the San

Gabriel Mountains. The Duarte Fault extends across the southern portion of Bradbury and bisects an unincorporated County island. The Duarte fault is actually a “segment” of the Sierra Madre Fault. Movement along these frontal faults has resulted in the uplift of the San Gabriel Mountains. Seismic activity is expected to be a maximum of 7.2 magnitude.

The Sierra Madre-Cucamonga Fault Zone includes several fault segments extending for over 86 miles along the southern margin of the San Gabriel Mountains. The two main portions of the Sierra Madre-Cucamonga Fault Zone include the Sierra Madre fault to the west and the Cucamonga fault to the east. The fault zone is inclined to the north, dipping below the San Gabriel Mountains and uplifting them above the Los Angeles Basin. The fault zone was responsible for the 1971 6.6 magnitude San Fernando earthquake on its westernmost segment near the City of Sylmar. The Sierra Madre fault passes through the northern portions of Pasadena, Arcadia, Monrovia, Bradbury, Duarte, Azusa, and portions of San Dimas. The locations of the regional faults are shown in Exhibit H-S Safety No. 2.

The Sierra Madre fault zone is divided into five main segments, labeled with the letters A through E, to more easily characterize this fairly complex system. It was not the fault responsible for the 1991 Sierra Madre earthquake.



Source: California Institute of Technology, SCEC, 02/07/2012

### Exhibit H-S Safety No. 2 REGIONAL FAULT SEGMENTS

The most recent surface ruptures are seen on the B and D segments. The least active segment,



is the A segment, also known as the Vasquez Creek fault, which runs between the San Gabriel fault and the intersection of the B and C segments of the Sierra Madre fault zone. At the junction of the C and D segments, the Clamshell - Sawpit Canyon fault splays off from the fault zone, toward the northeast (shown in sea green on the map above). It was this fault, not the Sierra Madre fault zone itself, that ruptured to produce the Sierra Madre earthquake of 1991.

One of the strands that make up segment D is known as the Duarte fault, because of its location near that community. Segment E represents the easternmost part of this fault zone, and at its eastern end, it meets up with several other faults in a complex zone northwest of the City of Upland, near the epicenter of the 1990 Upland earthquake. The general trend of the Sierra Madre fault zone continues eastward from this point along the base of the San Gabriel Mountains, but this eastern continuation is known as the Cucamonga fault zone. The Cucamonga fault zone seems to be more active, (has a higher slip rate) than the Sierra Madre fault zone.

Faults are continuously being found by geologists/seismologists within the region. These scientists have identified almost 100 faults in the Los Angeles area that are suspected of being capable of generating earthquakes with a magnitude of 6.0 or greater. Included within the newly discovered faults are faults classified as “blind thrusts”. These faults do not reach the ground surface but do connect many of the known surficial faults at depth and under virtually the entire Los Angeles, San Fernando and San Gabriel Basins. When a fault ruptures energy spreads in the form of seismic waves. Energy waves travel through the earth’s crust and eventually reach the ground interface creating surface waves which cause the ground to vibrate up and down and side to side. The City of Bradbury may experience some or all of the hazards associated with seismic waves including ground rupture, ground shaking, landslides, flooding, and liquefaction.

**Ground Rupture** represents the primary hazard associated with earthquake since it is the initial result of seismic events. Surface rupture poses a difficult seismic problem from an engineering standpoint, because it is far more expensive and complicated to design a foundation and structure to withstand the displacement of even fractions of a foot than to build without consideration of ground rupture. Such ground fractures can cause parallel displacement in the foundation, causing buildings to crack and split. Development should be avoided in areas of high fault potential.

**Ground Shaking** The most significant earthquake action in terms of structural damage and loss of life is ground shaking. Ground shaking is the movement of the earth’s surface in response to a seismic event. The intensity of the ground shaking and the resultant damages are determined by the magnitude of the earthquake, distance from the epicenter and characteristics of surface geology. This hazard is the primary cause of the collapse of buildings and other structures. Increased hazards from earthquakes occur when the seismic activity occurs in a highly urbanized area. The significance of an earthquake’s ground shaking action is directly related to the density and type of buildings and the number of people exposed to its effect.

**Liquefaction** is a phenomenon involving the loss of shear strength of soil. Liquefaction involves a sudden loss in strength of saturated, cohesion soil (mostly sand) which is caused by shock or strain, such as generated by an earthquake and results in temporary transformation of the soil to fluid mass. If the liquefying layer is near the surface the effects are much like that of



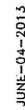
quicksand on any structure located on it. If the layer is in the subsurface, it may provide a sliding surface for the material above it.

Liquefaction typically occurs in areas where the groundwater surface is less than 30 feet below the ground surface and where the soils are composed of soft fine sand. There are several liquefaction zones located in the northern and eastern portions of the City of Bradbury. During and after a severe rain event, liquefaction could occur should a moderate severe earthquake take place.

Although, Bradbury has not experienced measurable ground failure due to an earthquake in recent years, the potential for damage due to ground failure is still present. Past seismic events indicate that the City of Bradbury has been free of major damaging earthquakes for at least 130 years. However, a number of historic earthquakes have affected the City in varying degrees from nonstructural damage (toppling of building contents) to minor structural damage (cracks in swimming pools).

A major earthquake occurring in or near Bradbury may cause injuries and even death, extensive property damage, fire, hazardous spills and other hazardous effects that could be aggravated by aftershocks and by the secondary effects of fire, hazardous materials/chemicals accidents and possible failure of waterways and dams.

**Seiches**, or periodic oscillations ("sloshing") of bodies of water such as ponds, lakes, and bays, usually occur in moderate to great earthquakes. Seiches may raise and lower a water surface from a few inches to several feet, and may occur several thousand miles away from the earthquake epicenter.



**Exhibit H-S Safety No. 3**

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## BRADBURY SEISMIC HAZARD ZONE MAP

## Safety and Emergency Preparedness Plan

The two existing emergency response plans, the Los Angeles County Disaster Relief Manual and Basic Emergency Operations Plan, provide the tools to coordinate the disaster recovery operations of County fire control and law enforcement agencies with local agencies and governments. The City currently has a number of ordinances, programs and requirements in existence pertaining to seismic and fire hazards. Primary among these are the subdivision and building permit approval requirements for seismic strengthening and adequate access. The State Office of Emergency Services has established three levels of emergency response to peacetime emergencies, which are based on the severity of the situation and the availability of local resources in responding to that emergency. The three levels of emergency response include:

- Level 1: A minor-to-moderate incident wherein local resources are adequate in dealing with the current emergency;
- Level 2: A moderate-to-severe emergency where local resources are not adequate in dealing with the emergency and mutual aid assistance would be required on a regional or statewide basis.
- Level 3: A major disaster where local resources are overwhelmed by the magnitude of the disaster and State and federal assistance are required.

Each potential hazard to the public safety has been assessed according to the following levels of risk:

- Low Risk: The level of risk below which no specific action is deemed necessary. The occurrence of a specific event is unlikely.
- Medium Risk: The level of risk above which specific action is required to protect life and property, though the probability of the event taking place is low to moderate.
- High Risk: Risk levels are significant and occurrence of a particular emergency situation is highly probable or inevitable.

The scope of risk refers to the geographic area that could be potentially affected with the occurrence of one of the hazards. The scope of risk includes three levels:

- Local: The affected geographic area that is directly affected is localized or site specific;
- Citywide: The affected area includes a significant portion or all of the City;
- Regional: The affected area includes the entire City as well as the surrounding region.

The low-density character of Bradbury has been mentioned as a positive factor in terms of general safety. Any incremental intensification of existing residential uses may, to some degree, increase susceptibility to fire and/or seismic events. The expansion of urban uses is preceded by, or accomplished in conjunction with, the expansion of infrastructure, and the provisions of a wide range of vital services and facilities. Future development plans and proposals for all property located within the City to include the 302-acres of privately owned undeveloped hillside

open space will be scrutinized for compliance with the City's Safety and Emergency Preparedness Plans.

**Police Services.** Police protection is provided by the Los Angeles County Sheriff Department. The City maintains a contract with the Sheriff's Department law enforcement services. Although the City contracts for a minimum level of service, in times of emergency the Sheriff dedicates all available personnel and equipment to address the community's needs.

The Duarte Satellite Sub-Station is the launching center for 30 police officers. These officers are responsible for providing police services to the City of Duarte, the City of Bradbury and surrounding unincorporated areas. The Satellite Sub-Station does not have dispatch or booking facilities. The Temple City Sherriff Station is the base of operations location for the region. Dispatch and booking facilities are located there.

**Fire Services.** Fire protection / Emergency Medical Services are provided to the City by the Los Angeles County Consolidated Fire Protection District. The closest Fire Station, No. 44 is located at 1105 Highland Avenue in the City of Duarte. The station is staffed with at least seven firefighters 24 hours a day. The equipment includes two fire trucks, one patrol vehicle and one water tender. Backup paramedic assistance is provided by Station 29 which is located in the City of Baldwin Park and Station 32 which is located in the City of Azusa. The City of Monrovia Fire Department offers additional mutual-aid when necessary and requested by the County. Los Angeles County Fire also provides Hazardous Material services. The U. S. Forest Service in San Dimas provides wildfire service in the Angeles National Forest.

**Medical Services.** Emergency medical services are available throughout the Los Angeles County. Acute care facilities near Bradbury include the Methodist Hospital in Arcadia, Huntington Hospital in Pasadena, City of Hope National Medical Center in Duarte, Kaiser-Permanente Foundation Hospital in Baldwin Park and Foothill Presbyterian Hospital in Glendora.

## Peakload Water Supply

Peakload water supply is defined as the supply of water available to meet both domestic water and fire fighting needs during the particular season and time of day when domestic water demand on a water system is at its peak. California American Water provides potable water to the City of Bradbury. Potable water is provided from eight wells located in and around Bradbury.

Storage of potable water in the Bradbury service area (which includes portions of the City of Duarte) is provided by seven (7) reservoirs of which four (4) are located within the City. The total storage capacity is 11.2 million gallons which is the equivalent of about 175% of an average day's demand. All of the reservoirs are covered to reduce evaporation.

California American Water is seeking entitlements to drill a new water well at its facility located on Lemon Avenue. It is anticipated that the new well will be on line by the end of 2014.

Peakload water supply on August 11, 2005 was 19.5 million gallons. Peakload water demand is always highest during the hot summer months. Design capacity is based on the peak demand periods.



## Natural Hazard Mitigation Plan

The City of Bradbury adopted the updated Natural Hazard Mitigation Plan on July 7, 2007 by City Council Resolution No. 07-17. The updated plan fulfills the City's obligation pursuant to the Federal Disaster Mitigation Act of 2000. The plan adoption and update process involved the participation of all City departments and interested City residents.

The plan includes the following mitigation goals:

### ***Protect Life and Property***

- Implement activities that assist in protecting lives by making homes, infrastructure, critical facilities, and property more resistant to natural hazards.
- Reduce losses and repetitive damages for chronic hazard events while promoting insurance coverage for catastrophic hazards.
- Improve hazard assessment information and encourage preventative measures for existing development located in areas vulnerable to natural hazards.

### ***Public Awareness***

- Develop and implement education and outreach programs to increase public awareness of the risks associated with natural hazards.
- Provide information on tools, partnership opportunities, and funding resources to assist in implementing mitigation activities.

### ***Natural Systems***

- Balance watershed planning, natural resource management, and land use planning with natural hazard mitigation to protect life, property, and the environment.
- Preserve, rehabilitate, and enhance natural systems to serve natural hazard mitigation functions.

### ***Partnerships and Implementation***

- Strengthen communication and coordinate participation among and within public agencies, citizens, and local organizations to gain a vested interest in implementation.
- Encourage leadership within public and private sector organizations to prioritize and implement local, county, and regional hazard mitigation activities.

### ***Emergency Services***

- Establish policy to ensure mitigation projects for critical facilities, services, and infrastructure.
- Strengthen emergency operations by increasing collaboration and coordination among public agencies and local organizations.
- Coordinate and integrate natural hazard mitigation activities, where appropriate, with emergency operations plans and procedures.

Hazard mitigation is the responsibility of the City; however the following agencies provide support and assistance with preparedness, response, recovery, and administration of funding efforts.

- Governor's Office of Emergency Services (OES) – responsible for disaster mitigation, preparedness, response, recovery, and the administration of federal funds after a major disaster declaration.
- Southern California Earthquake Center (SCEC) – gathers information on earthquakes and releases information to the public to increase earthquake awareness, reduce economic losses, and save lives.
- California Department of Forestry and Fire Protection (CDF or CAL FIRE) – responsible for all aspects of wildland fire protection on private and state owned land. CDF or CAL FIRE administers forest preservation regulations, including landslide mitigation, on non-federally owned land.
- California Division of Mines and Geology (DMG) – responsible for geologic hazard characterization, public education, and reduction of risk of tsunami inundation.
- California Division of Water Resources (DWR) – plans, designs, constructs, operates, and maintains the State Water Project, regulates dams, provides flood protection, and assists in emergency management.

**Hazardous Waste and Materials Management Program** The Los Angeles County Fire Department Health Hazard Materials Division administers the Unified Hazardous Waste and Hazardous Materials Management Regulatory Program for the City of Bradbury. The Unified Program consolidates, coordinates, and makes consistent the following hazardous materials and hazardous waste programs (Program Elements):

- Hazardous Waste Generation (including on-site treatment under Tiered Permitting).
- Above ground Petroleum Storage Tanks (only the Spill Prevention Control and Countermeasure Plan of "SPCC").
- Underground Storage Tanks (UST's).
- Hazardous Material Release Response Plans and Inventories.
- California Accidental Release Prevention Program (Cal ARP)' and Uniform Fire Code Hazardous Material Management Plans and Inventories.

## Emergency Preparedness

Bradbury's position in Southern California and the San Gabriel Valley makes it susceptible to a number of natural disasters and other emergencies.

As such, the City Council appointed an Emergency Response Committee, a five-member advisory body to the Bradbury City Council, to help prepare the community. Commissioners serve as a communication link between the community, City Council and staff regarding issues pertaining to Emergency Preparedness. Members of the Committee are hands-on volunteers who assist in the emergency operation and in the emergency related programs and services offered to the community.

The specific and primary purpose of the Commission is to:

- A. Assess and define emergency needs;
- B. Locate and publicize available resources;

- C. Conduct exercises, manage responses and oversee simulated, actual or impending emergencies when called upon to do so by the Mayor, Mayor Pro-Tem or City Manager.

Commissioners serve for a term of four years, beginning July 1<sup>st</sup> and ending June 30<sup>th</sup> and are eligible upon request to serve one additional consecutive term, for a total of eight years.

Most members of the Committee are CERT (Community Emergency Response Team) trained. These volunteers are educated about disaster preparedness for hazards that may impact the area and in basic disaster response skills, such as fire safety, light search and rescue, team organization, and disaster medical operations. CERT members can assist others in their neighborhood or workplace following an event when professional responders are not immediately available to help.

Additionally, the City of Bradbury has implemented the Connect-CTY service to provide the City the ability to communicate with residents regarding time-sensitive matters, such as unforeseen events or emergencies.

With the Connect-CTY system, the City can quickly contact residents by telephone, cell phone, text message or e-mail regarding urgent and important information. For example, in the event of an emergency, the City can quickly let residents know what to do or where to go for services. Only authorized City officials are allowed to send messages. Other non-emergency messages can be sent by e-mail regarding upcoming meetings, events or workshops.

**Disaster Area Management.** During World War II, the National Civic Defense Program was activated. The Los Angeles County and the local military authorities quickly recognized that the size and complexity of the County would require a unique management structure to effectively coordinate war-related activities amongst the County, cities, private sector and other agencies. Civil Defense Areas were formed and each area was supervised by an Area Coordinator. After the war, Civil Defense transformed into Disaster Management with an emphasis on planning, training, exercising and public education for earthquakes, fires, floods, severe weather events and epidemics. The City of Bradbury resides in the “Area D” area of responsibility. Other cities in “Area D” include Arcadia, Azusa, Baldwin Park, City of Industry, Claremont, Covina, Diamond Bar, Duarte, El Monte, Glendora, Irwindale, La Puente, La Verne, Monrovia, Pomona, Rosemead, West Covina, Temple City, Walnut, South El Monte, Sierra Madre, and San Dimas. There are eight Disaster Management Areas; each has a coordinator to work with cities and partner agencies to assist their emergency management activities and to act as a liaison between local government and county, state and federal agencies.

City Staff meets with cities within this area of responsibility once a month to discuss topics such as federal reporting and reimbursement after a disaster, incident command, working with minorities, the disabled and the underserved community, public relations and emergency evacuation. The City also participates in a monthly county-wide radio check with “Area D” Coordinators.

**Alert LA County.** Alert LA County is an emergency mass notification system established by Los Angeles County to contact County residents and businesses via recorded phone messages, text messages or e-mail messages in case of emergencies. The system will be used by the County’s Emergency Operations Center to notify residents and businesses of emergencies or

critical situations and provide information regarding necessary actions, such as evacuations. The system uses the telephone companies' 911 database and is able to contact land-line telephone numbers, whether listed or unlisted. If the call is picked up by an answering machine, the system will leave a recorded message. If the number called is busy or does not answer, the system will redial the number in an attempt to deliver the message. The system is also TTY/TDD compatible.

Alert LA County uses 911 databases; therefore, only land-line numbers are automatically included in the system. To be notified at a cellular phone or receive an e-mail notification, a person must register the cellular phone number and/or e-mail address. Each cellular number and/or e-mail address can only be associated with one street address in the system. The registered telephone number and e-mail address will be contacted only when the street address it is associated with is impacted by a disaster or emergency.

***Specific Needs Disaster Voluntary Registry (SNAP).*** The purpose of Specific Needs Disaster Voluntary Registry (SNAP) is to facilitate the planning and implementation of disaster response by first-responder agencies to Specific Needs persons living in the County of Los Angeles. The registry is a project of the Los Angeles County Office of Emergency Management in cooperation with other cities and agencies in the Los Angeles County disaster response operational area.

If a person living in Los Angeles County has any of the following conditions which might impede their abilities to evacuate a building, travel to or stay safely in an emergency evacuation center, or to securely shelter in place without assistance, they should enroll in the program:

- Physical disabilities
- Cardiac and/or respiratory circumstances
- Developmental disabilities
- Emotional or psychiatric disabilities
- Deafness or hearing loss
- Blindness or severe vision loss
- Speech impairments
- Short-term disabilities
- Reliance on technologies that use electricity
- Using medications
- Participation in a home delivery program
- Need specialized paratransit vehicles
- Experience seizures
- Immune system deficiencies
- Communicable diseases

Should a disaster strike in the area, this registry will be used to enhance the efficiency of those agencies called upon to respond, including the Los Angeles County Sheriff's and Los Angeles County Fire Departments.

## Evacuation Routes and Reception Centers

Emergency preparedness includes the designation of evacuation routes and emergency facilities. The following facilities are delineated in Exhibit H-S Safety No. 4 and the following rules apply:

**Primary Evacuation Routes.** The roads are to be kept open at all times. In the event of temporary closure due to maintenance and/or construction, the Fire Department is to be notified.

**Reception Centers.** The Bradbury Civic Center (600 Winston Avenue, Bradbury, CA 91008) and the City of Duarte Community Center (1600 Huntington Drive, Duarte, CA 91010) will serve as Reception Centers for disseminating information, collection points, distribution centers, etc.

**Local Emergency Operations Center (EOC).** The Bradbury Civic Center will serve as the local EOC, the alternate site is City of Duarte Community Center until such time the County of Los Angeles designates another local facility.

**Critical Facilities.** Certain public facilities require special consideration because of the number of persons located in the facility at any one-time. Only one critical facility is located within the City (Royal Oaks Elementary School). The Be Royal Oaks (a senior assisted living facility) is located adjacent to the City in the County unincorporated area.

The evacuation routes in the City and those facilities that will serve as collection/information centers are located on Exhibit H-S Safety No. 4. The Emergency Evacuation Plan does not apply to normal day-to-day emergencies and the well-established and routine procedures used in coping with such emergencies. In the event of a serious hazard which would require the evacuation of Bradbury residents, the following streets would be used as primary evacuation routes:

- Mount Olive Drive.
- Woodlyn Lane (gates will be opened to permit exiting at Royal Oaks Drive, North). The access gate located near Mount Olive Drive will be used by "First Responders" to gain access to the Woodlyn Lane neighborhood.
- Deodar Lane (gates at Wild Rose, Barranca, and Woodlyn Lane will be opened to permit exiting from the Bradbury Estates neighborhood.
- Winston Avenue and the Lemon Avenue access to the Flood Control Channel will be used as access points for "First Responders".

Evacuation will be handled by Los Angeles County safety personnel under contract to the City (i.e., Fire, Sheriff, etc.). In a major disaster, mutual aid sources in adjacent jurisdictions are likely to be fully committed to their own needs, and there may be substantial delays in the request and transport of assistance from more distant locations. Ingress to and egress from the City is likely to be inhibited by damage caused by the disaster and related congestion. Effective disaster preparedness will require the concerted efforts of City personnel, contracted first responders and residents. Not only must effective plans and procedures be in effect, but those plans should be tested and improved through disaster preparedness exercises.



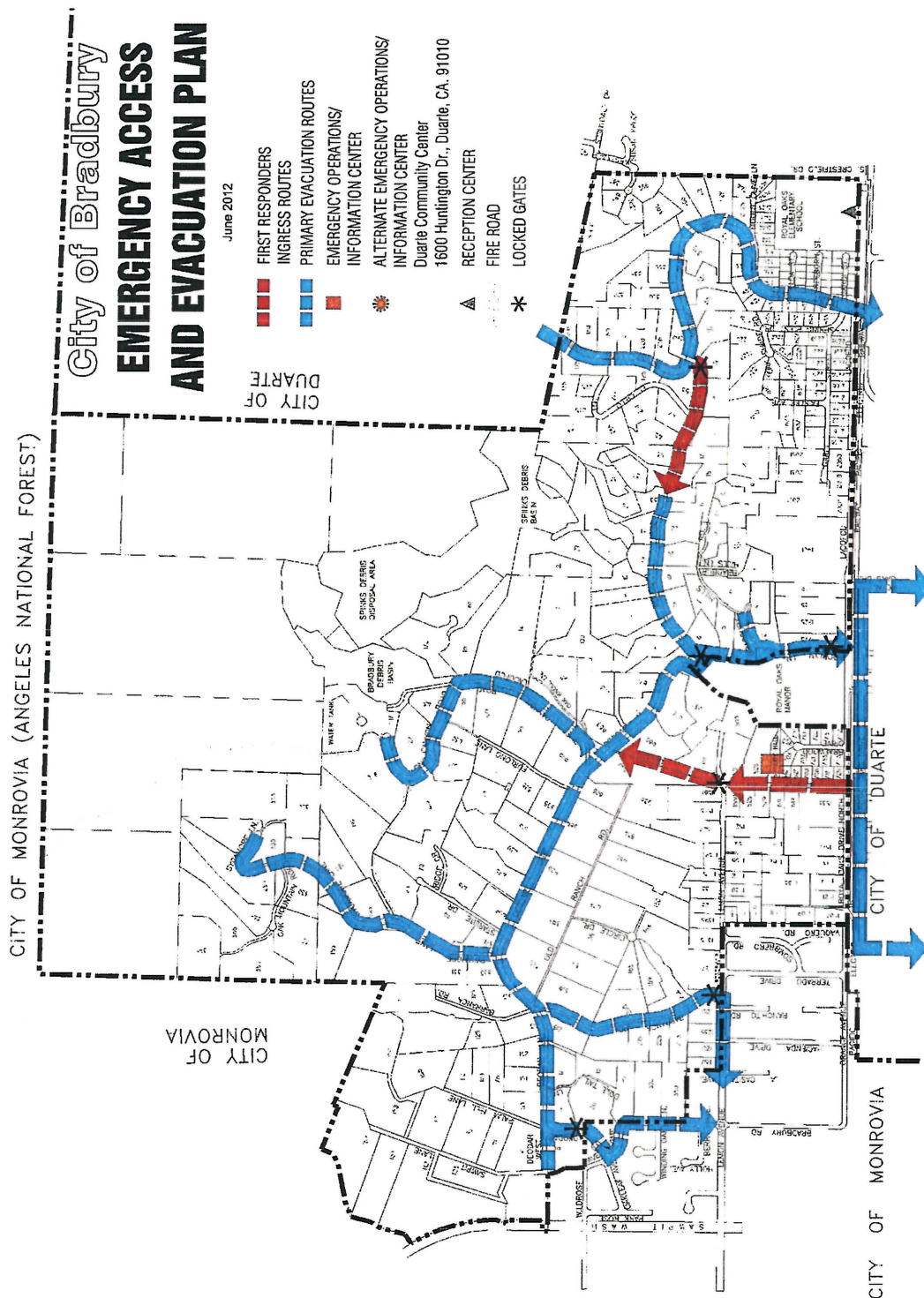


Exhibit H-S Safety No. 4

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## EMERGENCY ACCESS AND EVACUATION PLAN

## Key Safety Goals, Objectives, Policies and Action Programs

### Safety Goals:

- |                       |  |
|-----------------------|--|
| <b>Safety Goal 1.</b> | To protect the citizens, their property and public facilities from natural and man-made hazards.   |
| <b>Safety Goal 2.</b> | To establish, maintain, and develop awareness on the part of all residents of Bradbury as to how to react and protect themselves and each other, in the event of a natural or man-made hazard or disaster. |
| <b>Safety Goal 3.</b> | To achieve a greater sense of citizen satisfaction with the safety services within the community, through constantly monitoring the effective and efficient staffing of safety service personnel.          |
| <b>Safety Goal 4.</b> | To minimize the risk to persons and property due to seismic activity.  |
| <b>Safety Goal 5.</b> | To minimize the risk to lives and property due to fire hazards.  |
| <b>Safety Goal 6.</b> | To minimize the risk to persons and property due to the use and storage of hazardous materials.  |
| <b>Safety Goal 7</b>  | Protect the community from floods and landslides.  |
| <b>Safety Goal 8</b>  | Assure that existing and new development addresses fire protection in a proactive and preventative way.  |

### Safety Objectives:

- |                            |  |
|----------------------------|--|
| <b>Safety Objective 1.</b> | Prepare the community for expected or unexpected disasters resulting from natural or manmade causes.   |
| <b>Safety Objective 2.</b> | Prepare the residents of Bradbury to be aware of potential hazards and disasters and to be prepared to be self reliant for at least seven-days in the event of a disaster. |
| <b>Safety Objective 3.</b> | Communicate with Bradbury residents through all available media that safety personnel are properly trained to provide assistance in the event of a disaster.               |
| <b>Safety Objective 4.</b> | Implement the City's Hazard's Mitigation Plan in a timely manner.  |

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|----------------------------|--|
| <b>Safety Objective 5.</b> | Reduce the possibility of hazardous materials becoming a health and safety issue within the community. |
| <b>Safety Objective 6.</b> | Assure that potential flooding and landslide hazards are reviewed during new development.              |
| <b>Safety Objective 7.</b> | Ensure that adequate service levels of fire protection are maintained in the City.                     |

**Safety Policies:**

- |                          |  |
|--------------------------|--|
| <b>Safety Policy 1.</b>  | Support community programs that train volunteers to assist “First Responders” in the implementation of the Hazard Mitigation Plan programs.  |
| <b>Safety Policy 2.</b>  | Implement precautionary measures in high risk areas to reduce injury and loss of property caused by natural or manmade hazards.  |
| <b>Safety Policy 3.</b>  | Review all development proposals for compliance with established hazard avoidance criteria.  |
| <b>Safety Policy 4.</b>  | Provide adequate levels of service to ensure that the residents are protected to the best of the City’s ability from natural and manmade disasters.                                |
| <b>Safety Policy 5.</b>  | Cooperate with Federal, State and County agencies responsible for the enforcement of all health and safety laws and regulations.   |
| <b>Safety Policy 6.</b>  | Establish and maintain a variety of media sources to enable interactive safety awareness and preparedness educational opportunities for the residents.                             |
| <b>Safety Policy 7.</b>  | Obtain materials and support the dissemination of written information to all Bradbury households regarding minimizing or avoiding hazards within the home.                         |
| <b>Safety Policy 8.</b>  | Provide opportunities to continually advise and update community residents regarding actions and activities they should engage in after a significant natural or manmade disaster. |
| <b>Safety Policy 9.</b>  | Support continuing review and updating of the City’s Disaster Preparedness Program manual.   |
| <b>Safety Policy 10.</b> | Work closely with adjacent cities, County, State and Federal agencies to inform, monitor and communicate the presence of wild animals.   |

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|--------------------------|--|
| <b>Safety Policy 11.</b> | Maintain and evaluate the level of safety services available to the community.   |
| <b>Safety Policy 12.</b> | Regulate development in accordance with State statutes in areas prone to seismic hazards.  |
| <b>Safety Policy 13.</b> | Continue to support “mutual assistance” agreements between local and State fire fighting agencies.   |
| <b>Safety Policy 14.</b> | Continue to support programs to reduce fire hazards within the community.  |
| <b>Safety Policy 15.</b> | Provide appropriate fire-fighting equipment, personnel and peakload water supply.  |
| <b>Safety Policy 16.</b> | Provide access to potable water for emergency purposes.  |
| <b>Safety Policy 17.</b> | Regulate and monitor, to the extent possible, the delivery, use and storage of hazardous materials within the City.  |
| <b>Safety Policy 18.</b> | Require all existing and new development to install and maintain adequate smoke detection systems.   |
| <b>Safety Policy 19.</b> | All new development to install fire sprinkler systems.   |
| <b>Safety Policy 20.</b> | Require that all new development incorporate sufficient measures to mitigate flood and landslide hazards including but not limited to on-site drainage systems and grading of site to minimize storm-water runoff. |

**Safety Implementation Action Programs:**

The City of Bradbury intends to complete the following items which address the objectives and policies of the Safety Element of the General Plan:

- |                         |  |
|-------------------------|--|
| <b>Safety Action 1.</b> | Assure that the land use element recognizes and addresses seismic threats.               |
| <b>Safety Action 2.</b> | Promote public education about fire safety at home.                                      |
| <b>Safety Action 3.</b> | Promote public education about disaster preparedness.                                    |
| <b>Safety Action 4.</b> | Update the hillside development standards which include fire prevention design measures. |
| <b>Safety Action 5.</b> | Continue to make emergency and disaster preparedness a community priority.               |



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|--------------------------|---|
| <b>Safety Action 6.</b>  | Update and review the Emergency Operation Plan annually.  |
| <b>Safety Action 7.</b>  | City staff to continue to work with the LACFD on brush removal and weed abatement from April to June. |
| <b>Safety Action 8.</b>  | Conduct public outreach on wildfire prevention awareness.   |
| <b>Safety Action 9</b>   | Promote voluntary efforts of tree trimming and brush and weed abatement.                              |
| <b>Safety Action 10.</b> | Maintain and update the multi-hazard emergency plan for the City.                                     |
| <b>Safety Action 11.</b> | Continue support and participation with the Emergency Response Committee.                             |

# General Plan 2012-2030 Update

## Climate Action Plan

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# General Plan 2012-2030 Update

## Climate Action Plan Element

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### Purpose

The City of Bradbury understands the importance of becoming energy efficient and that climate change has the potential to significantly affect Bradbury's residents, as well as other communities in the region. The City also recognizes that local governments play a significant role in reducing greenhouse gas emissions and mitigating the potential impacts of climate change. Comprehensive effort should be expended to protect the limited energy and natural resources. Strategies in this Element provide a path toward optimizing energy use in the City while increasing the quality and comfort in homes and reducing utility costs.

The purpose of this Climate Action Plan is to compile potential strategies (i.e., actions, projects, and programs) that the City's government operations and the community can use to address their impact on the environment. The Plan provides a brief background of what climate change is and its potential impacts. It also focuses on the efforts Bradbury can take to reduce its greenhouse gas emissions and mitigate, to the extent feasible, potential impacts.

Through actions outlined in this plan, such as increasing energy efficiency in buildings, encouraging less dependence on the automobile, and using clean, renewable energy sources, the community can experience lower energy bills, improved air quality, reduced emissions, and an enhanced quality of life. The City's preparation of a 2010 Greenhouse Gas Emissions Inventory and this Climate Action Plan are the beginning of an ongoing planning process that includes assessing, planning, mitigating and adapting to climate change.

Specifically, this Plan does the following:

- Summarizes the various regulations at the federal, state, and regional levels.
- Incorporates the City's 2010 Greenhouse Gas Emission Inventory, which identified sources of greenhouse gas emissions generated by both the community and the City's government operations.
- Estimates how these emissions may change over time and establishes a target to reduce greenhouse gas emissions to 15% below 2008 levels by 2020.
- Provides national system, energy use, transportation, land use, green purchasing, waste and water use strategies necessary to minimize Bradbury's impacts on climate change and meet the established greenhouse gas emission reduction target.
- Creates a long-term vision for energy efficiency.
- Establishes reduction targets for energy efficiency.
- Identifies goals, policies, and actions to achieve energy reductions.
- Provides a framework implementing the identified goals, policies and actions.

## Relationship to Other General Plan Elements

In this General Plan 2012-2030, the City adopted a number of sustainable building and community development policies to reduce resource consumption and improve energy efficiency. Though the General Plan including this Climate Action Plan Element are intended as long-range plans, the Climate Action Plan Element may be updated on a more regular basis to add and amend strategies as new information, policy guidance, and regulations regarding the reduction of greenhouse gases and the City's dependence on nonrenewable energy resources are developed. The goals, objectives and policies set forth in the other General Plan Elements are consistent with the City's commitment to reduce greenhouse gases and its reliance on nonrenewable energy resources.

## Climate Change Background

A balance of naturally occurring gases dispersed in the atmosphere determines the Earth's climate by trapping infrared radiation (heat), a phenomenon known as the greenhouse effect. Significant evidence suggests that human activities are increasing the concentration of these gases (known as "greenhouse gases" or GHG) in the atmosphere, causing a rise in global average surface temperature and consequent global climate change. The greenhouse gases include carbon dioxide, methane, nitrous oxide, halocarbons, ozone, and water vapor. Each one has a different degree of impact on climate change. To facilitate comparison across different emission sources with mixed and varied compositions of several GHG, the term "carbon dioxide equivalent" or CO<sub>2</sub>e is used. One metric ton of CO<sub>2</sub>e may consist of any combination of GHG, and has the equivalent Global Warming Potential (GWP) as one metric ton of carbon dioxide (CO<sub>2</sub>). According to EPA's April 2009, "Inventory of U.S. Greenhouse Gas Emissions," the majority of GHG emissions comes from fossil fuel combustion, which in turn is used for electricity, transportation, industry, and heating, etc.

Collectively, these gases intensify the natural greenhouse effect, causing global average surface temperatures to rise, which affects local and global climate patterns. These changes in climate are forecasted to manifest themselves in a number of ways that might impact Bradbury as well as other changes to local and regional weather patterns and species migration.

According to a 2006 Summary Report from the California Climate Change Center, global warming could significantly impact California water and forest resources. The Center's 2006 Summary Report noted the following findings and potential risks to California:

- Precipitation is the most important hydrologic variable and most difficult to forecast.
- Warming raises the elevation of snow levels with reduced spring snowmelt and more winter runoff.
- Less snowmelt runoff means lower early summer storage at major foothill reservoirs with less hydroelectric power production.
- Higher temperatures and reduced snowmelt compounds the problem of providing suitable cold-water habitat for salmon species.

- Rising sea levels would adversely affect many coastal marshes and wildlife reserves.
- Higher temperatures increase the demand for water by plants.
- Climate change in California will result in a higher frequency of large damaging fires.
- Regional climates that are hotter and drier will result in increased pest and insect epidemics within California's forests.

## **City Profile**

The City of Bradbury is a small, residential/equestrian-oriented community of approximately 1.9 square miles (1,216-acres) containing a population 1,048 persons nestled at the base of the San Gabriel Mountains below Angeles National Forest in Los Angeles County. The City has a small full-time staff and contracts for many of the essential municipal services. The community encompasses 1.9 square miles, and includes 3.2 miles of public streets and privately owned and maintained roads. Most of the City is zoned for agriculture/residential uses of land on parcels that range in size from 1 to 5 acres. A significant portion of the City (302-acres) is identified as Open Space, Privately Owned Undeveloped that is subject to development constraints and is presumed to be developed with 16 units on the 8 existing parcels. Other areas of the City are zoned for single-family detached residential development on parcels ranging in size between 7,500 and 20,000 square feet. The City prohibits development other than single-family detached residential dwelling units. The City's location at the base of the foothills provides incredible views of the San Gabriel Valley and downtown City of Los Angeles. Planning and development challenges are created because of the steep slopes, potentially sensitive ecological areas, and natural hazard threats such as wildfire, landslides, and earthquakes.

The City is virtually built out. Thirty-two (32) vacant developable parcels remain and are suitable for the construction of single-family detached residential dwellings and accessory units. The current 400 dwelling units may be increased to a total of 497 dwelling units including primary and accessory dwellings. According to the 2010 United States Census, Bradbury's population was 1,048, and there were 400 Dwelling units and approximately 354 active households.

The General Plan integrates plans and policies that promote sustainability principles, particularly to comply with state-mandated requirements such as the Global Warming Solutions Act of 2006 (Assembly Bill 32), the Sustainable Communities and Climate Protection Act of 2008 (Senate Bill 375, and the Complete Streets Act of 2008 (AB-1358). To address recent sustainability and livability legislation, the 2012 General Plan contains this Climate Action Plan Element.

## **Greenhouse Gas Emissions Inventory**

The first step toward reducing greenhouse gas emissions (GHG) is to identify sources of emissions and establish baseline levels. This information can then be used for the selection of a reduction target and the identification of possible reduction measures to be included in the climate action plan. In 2012, the City received an Energy Action Plan prepared by the consulting firm PMC for the San Gabriel Valley Council of Governments (SGVCOG). Among



other things the report contains information regarding an inventory of greenhouse gas emissions emitted from the Bradbury community and, as a subset of that analysis, emissions attributed to local government operations. The report provides a detailed understanding of where the most emissions are generated, and where the greatest opportunities for emissions reductions lie. The inventory also establishes a baseline emission inventory against which to measure future progress.

The Inventory includes the major sources of GHG's caused by activities in the City. These sources are based on a regionally consistent approach using statewide best practices and the California Air Resources Board (CARB) recommendations. The Inventory analyzes GHG emissions from community and municipal sources.

## 2010 Community Emissions Summary

The City of Bradbury emitted approximately 9,520 MTCO<sub>2</sub>e (Metric Tons) in the baseline year 2008. As shown in Table CAP No. 1 the on-road transportation sector was the largest contributor to emissions producing approximately 4,010 MTCO<sub>2</sub>e or forty-two percent (42%) of the total in 2008. Residential energy followed closely behind contributing 3,750 MTCO<sub>2</sub>e or forty percent (40%). Community-generated waste produced 780 MTCO<sub>2</sub>e or eight percent (8%) followed closely by street-lighting and water pumping which made up seven percent (7%) of the total emissions with 700 MTCO<sub>2</sub>e. Wastewater, water, and off-road equipment made up the remaining three percent (3%) of the total emissions.

The inventory analyzes seven primary sectors: 1) residential energy; 2) street lighting and water pumping electricity; 3) on-road transportation; 4) community-generated waste; 5) water; 6) wastewater; and 7) off-road equipment.

- **Residential Energy** refers to electricity and natural gas consumed by the residents of Bradbury.
- **Street Lighting** and water pumping is the electricity used by streetlights and water pumps located within the City, but not owned by the City.
- **On-Road Transportation** is the vehicle miles traveled in, to, and from the City.
- **Waste** refers to the methane emissions from waste (municipal solid waste) and green waste (alternative daily cover) sent to landfills and regional incinerators (also known as transformation facilities) from the City.
- **Water and Wastewater** facilities require energy to extract, filter, deliver, and treat the potable water resource and the treatment and disposal of wastewater. Also, the direct emissions from residential septic systems are accounted for.
- **Off-Road Equipment** refers to emissions from construction as well as lawn and garden equipment operated within the city.



**Table CAP No. 1**  
**2010 Community-Wide Greenhouse Gas Emissions**

Sector	MTCO <sub>2</sub> e	% of Total
Residential Energy	3,750	40%
Street lighting and Water Pumping Electricity	700	7%
On-Road Transportation	4,010	42%
Community Generated Waste	780	8%
Water	60	1%
Wastewater	120	1%
Off-Road Equipment	100	1%
<b>Total*</b>	<b>9,520</b>	<b>100%</b>

Emissions generated by government operations are categorized according to four primary sectors: 1) buildings, electricity and natural gas consumed by City buildings; 2) street lighting, electricity paid for by the City for Southern California Edison (SCE) owned streetlights within the City limits; 3) employee business travel; and 4) employee commutes to and from work.

### 2010 Municipal Emissions Summary

The inventory includes GHG emissions from the operations and activities conducted by the City of Bradbury. Due to the smaller scale of municipal operations and activities in Bradbury, GHG emissions were calculated in kilograms of CO<sub>2</sub>e (kgCO<sub>2</sub>e) which are one thousand times smaller than the community's measure of MTCO<sub>2</sub>e. To see municipal emissions in the same unit as community emissions, the kgCO<sub>2</sub>e number was divided by 1,000.

Operations and activities by the City of Bradbury in 2008 resulted in approximately 14,840 kgCO<sub>2</sub>e or 14.8 MTCO<sub>2</sub>e. As in CAP Table No. 2, Southern California Edison Owned Streetlights was the largest emitter (42%) in 2010. Emissions from the Employee Commute sector produced the second highest quantity of emissions, resulting in 30% of total kgCO<sub>2</sub>e; and City Hall produced 23% of total emissions. The remainder of emissions came from Employee Business Travel at 5% of total emissions. Emissions from government operations and activities produced less than 1% of total community GHG emissions.

**Table CAP No. 2**  
**2010 Municipal Greenhouse Gas Emissions**

Sector	kgCO <sub>2</sub> e	% of Total
Civic Center	3,460	23%
SCE owned Streetlights	6,240	42%
Employee Commute	4,440	30%
Employee Business Travel	700	5%
<b>Total*</b>	<b>14,840</b>	<b>100%</b>



## Greenhouse Gas Reduction Targets

Assembly Bill 32 recommends that local governments adopt a GHG reduction target of 15% below baseline levels by 2020. The state has not adopted GHG reduction targets beyond 2020; however, in 2005, then Governor Schwarzenegger signed Executive Order S-3-05, which created a goal to reduce GHG emissions to 1990 levels by 2020 and to 80% below 1990 baseline levels by 2050.

**Greenhouse Gas Reduction Goal.** As shown in Table CAP No. 3 the City would need to facilitate a reduction in emissions of 1,890 MTCO<sub>2</sub>e to meet the State-recommended AB-32 Scoping Plan goal of 15% below baseline levels by 2020.

**Table CAP No. 3**  
**BAU Forecast and Reduction Target, 2008 - 2020**

	<b>2020</b>
State-Recommended Reduction Targets (percent below baseline)	15%
State-Recommended Emissions Goal (MTCO <sub>2</sub> e)	8,090
BAU Forecast with State Reductions (MTCO <sub>2</sub> e)	9,980
Local Reduction Needed from Adjusted BAU (MTCO <sub>2</sub> e)	1,890

**Existing Residential Energy Use Goal.** By the year 2020 the City has targeted reducing the amount of electricity consumed by the community by 1,420,610 kWh which is a 20% reduction of the 2008 baseline level.

**New Residential Electricity Energy Use Goal.** By the year 2020 the City has targeted a reduction in the amount of electricity used by new buildings 20% below business as usual (BAU) levels which would amount to 243,270 kWh.

**Municipal Electricity Energy Consumption Goal.** By the year 2020 the City would like to achieve a 10% reduction in the amount of electricity consumed by municipal operations which would amount to a savings of 1,030kWh.

This Climate Action Plan utilizes an emissions reduction target of 15% below the identified baseline 2008 levels by 2020, which is consistent with the State of California's direction to local government, as set forth in the AB 32 Scoping Plan. CAP Table No. 4 provides a comparison of the business-as-usual (BAU) Community-Wide forecast for 2020 to the 2008 baseline year and the 15% reduction target level.

To illustrate the potential emissions growth based on projected trends in energy use, driving habits, and population growth from the baseline year going forward, this plan includes emissions forecast for the year 2020. Under a business-as-usual (BAU) scenario, Bradbury's emissions will grow by approximately 19% by the year 2020, from 9,520 to 11,320 metric tons of CO<sub>2</sub>e.

**Table CAP No. 4**  
**Comparison of Community-wide BAU Forecasts by Sector**  
**2008 – 2020 (MTCO<sub>2</sub>e)**

<b>Sector</b>	<b>2008 MTCO<sub>2</sub>e</b>	<b>2010 MTCO<sub>2</sub>e</b>	<b>2020 MTCO<sub>2</sub>e</b>
Residential Energy	3,750	3,840	5,000
Street lighting and Water Pumping Electricity	700	800	920
On-Road Transportation	4,010	3,970	4,090
Community Generated Waste	780	540	910
Water	60	60	130
Wastewater	120	120	160
Off-Road Equipment	100	100	110
<b>Total*</b>	<b>9,520</b>	<b>9,430</b>	<b>11,320</b>

CAP Table No. 5 provides a comparison of the business-as-usual (BAU) Municipal forecast for 2020 to the 2008 baseline year and the 15% reduction target level.

As no significant expansion of government services is expected over the next ten years, government operations and activities emissions are projected to remain consistent with 2008 levels under a business as usual scenario.

**Table CAP No. 5**  
**Comparison of Municipal BAU Forecasts by Sector**  
**2008 – 2020 (kgCO<sub>2</sub>e)**

<b>Sector</b>	<b>2008 kgCO<sub>2</sub>e</b>	<b>2010 kgCO<sub>2</sub>e</b>	<b>2020 kgCO<sub>2</sub>e</b>
Civic Center	3,460	3,460	3,710
SCE owned Streetlights	6,240	6,240	6,240
Employee Commute & Travel	5,140	5,140	5,140
<b>Total*</b>	<b>14,840</b>	<b>14,840</b>	<b>15,090</b>

## Mitigation Activities

The City of Bradbury has established its commitment to reducing its contribution to climate change and preparing for potential impacts from climate change through pursuit of strategic partnerships and early action. Most notably, the City has completed a Greenhouse Gas Inventory of 2010 emissions, and set a target to reduce greenhouse gas emissions by 15% below 2008 levels by 2020.

In recent years, the City has conducted energy efficiency campaigns and though the distribution of user-friendly information on the City's website about energy conservation, suggestions to improve energy efficiency, and appliance rebate programs. In addition to energy-specific



programs, the City of Bradbury proactively maintains the lush natural scenery and rural atmosphere through native vegetation regulations. Through partnerships with the City's water and waste providers, there are also efforts within the community to focus on water conservation and waste reduction, such as the declaration of "Fix a Leak Week" and the equestrian manure recycling pickup offered by the City's waste hauler.

The Bradbury General Plan 2012-2030 Update integrates plans and policies that promote sustainability principles, particularly to comply with state-mandated requirements such as the Global Warming Solutions Act of 2006 (AB 32), the Sustainable Communities and Climate Protection Act of 2008, and the Complete Streets Act of 2008.

On the municipal side, Bradbury's City Hall renovation was completed in April 2011. The new facility uses a similar amount of energy as the old building, but it is twice the size in terms of square feet and it is now able to accommodate a larger variety of community and civic events and meetings. The City participated in Southern California Edition's Savings by Design program to exceed Building Code Title 24 standards for energy-efficient buildings by designing the facility to achieve energy savings through efficient structural design, orientation, and equipment, such as plug-load monitors that shut off equipment when not in use.

## **Regulation of Climate Change – Federal, State and Regional Levels**

### Federal Climate Policy

Currently, there is no federal mandate for greenhouse gas emission reporting or reduction in the United States. Efforts are underway in Congress to develop and enact comprehensive climate and energy legislation. Senator Boxer, Chair of the Environment and Public Works Committee, has stated that AB 32 goals and strategies may be a viable starting point for federal legislation.

### State Climate Policy

California produces roughly 1.4 percent of the world's and 6.2 percent of the total U.S. greenhouse gases (GHG). The State of California has taken the lead in setting specific targets for reducing greenhouse gas emissions from the burning of fossil fuels in both power plants and vehicles through the following legislation:

*California Solar Initiative Program, 2006.* Comprehensive \$2.8 billion program that provides incentives toward residential and commercial solar development over 11 years.

*Senate Bill 1078 Sher, 2002.* Established Renewable Portfolio Standards requiring electricity providers to increase purchases of renewable energy resources by 1% per year until they have attained a portfolio of 20% renewable resources.

*Executive Order S-21-09.* In September 2009, California Governor Arnold Schwarzenegger signed an executive order directing the State's Air Resources Board to adopt regulations increasing California's Renewable Portfolio Standard (RPS) to 33 percent by 2020. The RPS will apply to investor-owned utilities, publicly-owned utilities, direct access providers, and community choice aggregators.

*Assembly Bill 1493 Pavley, 2002.* Required the California Air Resources Board (CARB) to develop and adopt regulations that achieve the maximum feasible reduction of greenhouse gasses from vehicles primarily used for non-commercial transportation by January 2005. In 2009, CARB adopted final regulations that are expected to reduce GHG emissions from California passenger vehicles by about 22 percent in 2012 and about 30 percent in 2016.

*Senate Bill 1771 Sher, 2000.* Requires the California Energy Commission (CEC) to prepare an inventory of the State's greenhouse gas emissions, to study data on global climate change, and to provide government agencies and businesses with information on the costs and methods for reducing greenhouse gases. It also establishes the California Climate Action Registry to serve as a certifying agency for companies and local governments to quantify and register their greenhouse gas emissions for possible future trading systems.

*Assembly Bill 32 Nuñez & Pavley, 2006.* Also known as The Global Warming Solutions Act of 2006 institutes a mandatory limit on greenhouse gas pollution and requires a reduction in emissions in California to 1990 levels by the year 2020. The bill also directs the California Air Resources Board (CARB) to establish a mandatory reporting system to track and monitor emission levels and requires CARB to develop various compliance options and enforcement mechanisms.

*Senate Bill 375 Steinberg, 2008.* Will assign a greenhouse gas reduction target for car and light truck emissions for each region in the State represented by a metropolitan planning organization (MPO) that is to be addressed with a Sustainable Communities Strategy (SCS). It also touches on planning for transportation, housing and the environment and requires Alternative Planning Strategy documents where a SCS will not achieve the GHG reduction targets. The most significant of these initiatives are AB 32 and SB 375; the first requires California to reduce its GHG to 1990 levels by 2020, and the second begins to tie GHG reductions to land use. In 2007, the California Air Resources Board (CARB) conducted an emissions inventory for the state to identify emissions levels in 1990 that figure 427 million metric tons of carbon dioxide equivalents. The inventory revealed that transportation was the largest single sector (35% of the state's total 1990 emissions), followed by industrial emissions (24%), imported electricity (14%), in-state electricity generation (11%), residential use (7%), agriculture (5%), and commercial use (3%).

Preliminary estimates indicate that California's 2020 emission projections could be 600 million tons of CO<sub>2</sub>e if no actions are taken to reduce GHG. This means that California must prevent 173 million tons of CO<sub>2</sub>e from being emitted by 2020 in order to meet the 1990 levels as required by AB 32. CARB is responsible for monitoring and reducing GHG emissions set forth in AB 32, and is, therefore, coordinating statewide efforts. In December 2008, CARB adopted a Scoping Plan that outlines the actions required for California to reach its 2020 emission target. The actions include a broad set of clean energy, clean transportation, and efficiency standards.

In 2009, CARB identified and implemented nine discrete early action measures including regulations affecting landfills, motor vehicle fuels, refrigerants in cars, tire pressure, port operations and consumer products. Additional reduction measures to meet the 2020 target will be adopted.

Key strategies identified in the Scoping Plan that are best developed and supported by local governments in achieving the climate protection and emission reduction goals include:

- Transportation and community design
- Local and regional emission targets
- Recycling and waste reduction
- Clean energy
- Green buildings
- Water

The CARB Climate Change Scoping Plan “encourages local governments to adopt a reduction goal for municipal operations emissions and move toward establishing similar goals for community emissions that parallel the State commitment to reduce greenhouse gas emissions by approximately 15 percent from current levels by 2020.” However, CARB does not yet require cities to adopt climate action plans as part of AB-32 implementation efforts.

## **Coordinated Multi-Jurisdictional Approach**

As part of the California Long-term Energy Efficiency Strategic Plan, the San Gabriel Valley Council of Governments, Southern California Edison, and local municipalities set out in July 2011 to target and reduce greenhouse gas emission levels, consistent with the standards set by AB 32.

One of the first projects was to work with PMC – a privately owned environmental planning company – to develop greenhouse gas emissions inventories for the partner jurisdictions. With Southern California Edison grant funding, PMC also worked on programs related to reducing energy use in municipal buildings, establishing a green purchasing collaborative, reducing energy use in residential and commercial buildings, reducing emissions from private and municipal vehicles, and reducing energy use and emissions from waste.

## **2020 Emissions Forecast**

As a small residential community with its own census study, Bradbury offered a unique opportunity to take a detailed approach to forecasting community GHG emissions. Results from the City’s census were combined and contrasted with the City’s 2007 General Plan estimates of build-out both in terms of dwelling unit and population projections. The 2007 General Plan estimated that the City of Bradbury would reach a buildout condition with 501 dwelling units and a total population of 1,500. The 2012-2030 General Plan Update suggests that the City’s buildout dwelling unit count will be 497 and the projected population will 1,540.

Average household utility bills were combined with the potential number of units to be added to the City under the build-out scenario in 2035 to estimate the increase in energy use, water use, waste disposal, and wastewater disposal. A simple escalating factor was used to calculate the assumed higher energy use profiles of the larger homes and estates in Bradbury. This analysis includes an assumption, that larger homes, like those in the A-5 zone designation, will use more energy, water, and other resources than a home within the R-7,500 zone designation. It is expected in the future that the community will continue to see an increase in energy use and resource consumption as homes are renovated or demolished and replaced or new homes are constructed.

## Key Climate Action Plan Goals, Objectives, Policies and Implementation Programs

The City of Bradbury intends to reduce its reliance on and consumption of non-renewable energy resources. To that end the following goals, objectives and policies provide the City's "strategy" to achieve the energy efficiency targets established in this plan.

### Climate Action Goals:

- |                        |  |
|------------------------|--|
| <b>Climate Goal 1.</b> | Preserve the energy efficiency of existing housing units within the community.   |
| <b>Climate Goal 2.</b> | Move toward net zero energy development to minimize additional energy demand within the community.   |
| <b>Climate Goal 3.</b> | Integrate innovative and cost effective water conservation efforts into new and existing development to conserve energy used to pump, treat, and convey water. |
| <b>Climate Goal 4.</b> | Optimize shading and cooling to reduce community-wide energy demand.   |
| <b>Climate Goal 5.</b> | Conserve energy and limited fiscal resources through energy efficiency and conservation improvements at the Civic Center.                                      |

### Climate Action Objectives:

- |                             |   |
|-----------------------------|---|
| <b>Climate Objective 1.</b> | Reduce dependence on nonrenewable energy resources.               |
| <b>Climate Objective 2.</b> | Reduce energy consumption by City owned facilities and equipment. |
| <b>Climate Objective 3.</b> | Reduce energy consumption by all residential dwellings.           |

### Climate Action Policies:

- |                          |  |
|--------------------------|--|
| <b>Climate Policy 1.</b> | Annually monitor and report the City's progress toward achieving the reduction target.                         |
| <b>Climate Policy 2.</b> | Regularly review and update the City's Green House Gas (GHG) inventory, energy profile and Energy Action Plan. |
| <b>Climate Policy 3.</b> | Continue to develop collaborative partnerships that support implementation of the Energy Action Plan.          |

- |                          |   |
|--------------------------|---|
| <b>Climate Policy 4.</b> | Support regional funding efforts to implement the Energy Action Plan.   |
| <b>Climate Policy 5.</b> | Promote the reduction of dependency on motor vehicles by encouraging the use of alternate transportation modes. |

**Climate Action Implementation Action Programs:**

The City of Bradbury is committed to achieve the energy consumption reduction targets identified in the City's Energy Action Plan (EAP). The City has integrated the goals and policies of the EAP into this General Plan. Additional integration targets include the City's Zone Code, design guidelines, specific plans and future housing elements.

The City will work with the San Gabriel Valley Council of Governments (SGVCOG), the San Gabriel Valley Energy Wise Partnership (SGVEWP) and other partners as appropriate. The City's progress toward achieving its target goals will be monitored annually and reports will be presented to the City Council. Action items may provide interim steps or supporting strategies and the range of opportunities to increase the energy reduction potential of the City.

- |                          |   |
|--------------------------|---|
| <b>Climate Action 1.</b> | Recognize homeowners that have implemented cost-effective energy efficiency improvements.   |
| <b>Climate Action 2.</b> | Encourage homeowner associations to support community energy efficiency efforts such as an annual neighborhood energy conservation competition. |
| <b>Climate Action 3.</b> | Provide a residential energy efficiency checklist that prioritizes actions by return on investment to interested homeowners.                    |
| <b>Climate Action 4</b>  | Provide incentives to encourage various homeowners to participate in an energy audit that can be used as a case study for others.               |
| <b>Climate Action 5.</b> | Encourage homeowners to participate in utility funded energy efficiency programs and retrofits such as Energy Upgrade California.               |
| <b>Climate Action 6.</b> | Provide new construction owners with educational materials and resources that assist with energy efficiency improvements.                       |
| <b>Climate Action 7.</b> | Create and enforce outdoor lighting efficiency standards.   |
| <b>Climate Action 8.</b> | Explore group purchase programs to reduce the cost of purchasing energy-efficient appliances, lighting, or pool equipment.                      |



- 
- |                           |  |
|---------------------------|--|
| <b>Climate Action 9.</b>  | Encourage the use of smart grid-integrated appliances to allow for programming to operate appliances remotely or when energy costs are at their lowest.  |
| <b>Climate Action 10.</b> | Encourage the use of variable speed drive pumps for pools and spas.  |
| <b>Climate Action 11.</b> | Work with adjacent and regional governmental entities to pursue funding for residential audits and retrofits.  |
| <b>Climate Action 12.</b> | Pursue grants or other financial sources to fund showcase home energy retrofits.   |
| <b>Climate Action 13.</b> | Consider including the policies of the model energy efficiency code and checklist, prepared by the San Gabriel Valley Council of Governments, into the City's zone code and design guidelines where feasible.  |
| <b>Climate Action 14.</b> | Utilize improvements to City facilities such as landscaping to demonstrate the effective use of appropriate water-efficient vegetation.  |
| <b>Climate Action 15.</b> | Encourage the water purveyor to provide water efficiency kits or other resources to City residents.  |
| <b>Climate Action 16.</b> | Encourage the use of recirculating water systems for decorative water features.  |
| <b>Climate Action 17.</b> | Promote the retention of natural vegetation and the rural character of the community.  |
| <b>Climate Action 18.</b> | Promote the use of cool roofs, light-colored paved surfaces, and permeable pavement in new and existing residential projects.  |
| <b>Climate Action 19.</b> | Conduct an audit of City facilities every five years to assure peak energy performance and identify new technologies or appliances to be installed as they become cost-effective.  |
| <b>Climate Action 20.</b> | Participate in the San Gabriel Valley Council of Government's utility manager program, the Enterprise Energy Management Information System, to regularly track energy use and identify cost-saving opportunities through sub-metering and energy management. |

# ***City of Bradbury General Plan 2012-2030 Update Environmental Impact Report Addendum No. 1***

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This document is an addendum to the 1994 City of Bradbury General Plan Environmental Impact Report to satisfy California Environmental Quality Act (CEQA) compliance for the 2012-2030 City of Bradbury General Plan Update.

**February 2014**

**City of Bradbury  
600 Winston  
Bradbury, CA 91008**

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# **1. FINDINGS AND CONCLUSIONS**

CEQA Guidelines Section 15164 allows a Lead Agency to prepare an Addendum to an Environmental Impact Report for a previously approved project if only minor technical changes or additions are necessary or if none of the conditions described in Section 15162 (a) and (b) have occurred. Although the addendum need not be circulated for public review, decision-makers must consider the addendum with the previously adopted environmental document prior to making a decision on the project. A brief summary explaining the Lead Agency decision to prepare an addendum is required.

Based on the information presented in Sections 3 and 4 of this document, the City of Bradbury, as Lead Agency, finds that the project, the 2012-2030 General Plan Update, does not propose substantial changes that would necessitate additional environmental review under Section 15162 of the CEQA Guidelines. As none of the conditions exist which would necessitate the use of a Subsequent or Supplemental EIR, an Addendum has been prepared.

In addition, the evaluation of impacts, as described in CEQA Guidelines Appendix G, has changed. However, based on the analysis in Section 4, the City concludes that the 1994 General Plan contained enough information about the community that with the exercise of reasonable diligence, information about these issues was readily available and would demonstrate that the impacts were less than significant. Consequently, the City finds that any potential impacts not previously analyzed in the 1994 General Plan EIR will be less than significant

## **1.1 CEQA Guidelines Section 15162 (a)(1) Substantial Project Changes**

Substantial changes in the project are those that would require major revision of the previous environmental document due to the involvement of new significant environmental effects, or if a substantial increase in the severity of previously identified significant effects has occurred. When substantial changes are made to the project, a new EIR or MND must be prepared.

The effects resulting from future development in Bradbury were analyzed in the 1994 City of Bradbury General Plan EIR. While the current general plan update includes policy and program amendments applicable citywide, it does not propose any substantive changes in the existing land use or development pattern. A comparison between the old and the new plans is included in Appendix E – City of Bradbury General Plan Matrices. These matrices, City of Bradbury General Plan Comparison Matrix and City of Bradbury General Plan Goals and Objectives Comparison Matrix, demonstrate that the more recent documents provide an updated and expanded description of goals, objectives and policies. This is not considered a substantial change to the project.

## 1.2 CEQA Guidelines Section 15162 (a) (2) Substantial Changes in Circumstances

When substantial changes in the circumstances under which a project is undertaken occur, a new EIR or MND must be prepared. Substantial changes are defined as changes that would require major revisions of the previous environmental document in order to describe and analyze new significant environmental effects, or any changes that would cause a substantial increase in the severity of the previously identified significant effects.

The City of Bradbury is almost built-out. Few changes in the City, none of them substantial, have occurred since the adoption of the 1994 General Plan or its re-adoption in 2007. The 2012-2030 General Plan Update does not change the configuration of the City or existing land uses and will not result in new growth over what has previously been anticipated.

## 1.3 CEQA Guidelines Section 15162 (a) (3) (A) through (B) New Significant Effect

A Lead Agency cannot prepare an Addendum if information of substantial importance, which was not known and could have not been known, with the exercise of reasonable diligence at the time the previous environmental document was certified or adopted, shows:

- A. The project will have one or more significant effects not discussed in the previous environmental document;
- B. The significant effects previously examined will be substantially more severe than identified in the previous environmental document.

The previously certified EIR found that there were no significant effects that could not be mitigated to below a level of significance. In Section 4 of this Addendum each of the issues addressed in the previous environmental document, as well as each of the issues contained in the 2013 checklist are analyzed. Based on this analysis and the information contained herein, there is no evidence that the proposed project would have one or more significant new effects not analyzed in the previously prepared EIR. The analysis also demonstrates that there will be no substantial increase in the severity of impacts identified in the previously prepared environmental documents.

## 1.4 CEQA Guidelines Section 15162 (a) (3) (C) through (D) Changes in Mitigation Measures or Alternatives

A Lead Agency cannot prepare an Addendum if new information of substantial importance, which was not known and could have not been known, with the exercise of reasonable diligence at the time the previous environmental document was certified or adopted, shows:

- A. Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponent declines to adopt the mitigation measures or alternatives; or





- B. Mitigation measures or alternatives that are considerably different from those analyzed in the previous environmental document would substantially reduce one or more significant effects on the environment, but the project proponent declines to adopt the mitigation measures or alternatives.

In Section 4 of this Addendum each of the issues addressed in the previous environmental document, as well as each of the issues contained in the 2013 checklist are analyzed. Since all impacts were reduced to below a level of significance, it is assumed that no new mitigation measures would substantially reduce significant effects on the environment.



## 2. INTRODUCTION

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### 2.1 PURPOSE AND SCOPE

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This document, City of Bradbury 2012-2030 General Plan Update Environmental Impact Report Addendum No. 1, is an addendum to the previously adopted general plan EIR which analyzed the potential environmental impacts resulting from the 1994 City of Bradbury General Plan adoption and implementation. The 1994 General Plan was readopted in 2007 without change. This addendum analyzes the potential impacts associated with adoption and implementation of the City of Bradbury General Plan 2012-2030 Update.

### 2.2 PREVIOUS ENVIRONMENTAL DOCUMENTATION

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The Environmental Impact Report for the 1994 Bradbury General Plan addressed environmental impacts associated with future development as permitted under the Land Use Element. The EIR identified as less than significant impacts to land use, population and housing, earth and geology, water, air quality, traffic and circulation, plant and animal life, energy and mineral resources, risk of upset/human health, noise public services, utilities aesthetics, cultural resources and recreation. Impacts to aesthetics, air quality, biological resources, cultural resources, hydrology and water quality and utilities were able to be mitigated to a level of less than significant through recommended mitigation measures. Although currently required by the 2013 CEQA Statute and Guidelines, the regulations in effect when the EIR was certified did not require impacts to forestry resources or impacts resulting from greenhouse gas emissions to be analyzed. Therefore, they were not analyzed in the previously prepared environmental document. Recent revisions to the CEQA checklist also modified the analysis, although traffic was analyzed in the 1994 General Plan EIR, it was not consistent with the current checklist. The traffic analysis was updated to ensure that the evaluation of environmental impacts was consistent with the most recent version of the checklist.

### 2.3 LIMITED FOCUS OF ADDENDUM

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In preparing an addendum, the Lead Agency's environmental review of the proposed project is limited to examining the environmental effects associated with the changes between the previously adopted EIR and the potential impacts which may result from implementation of the proposed project. This Addendum will consider the potential impacts resulting from adoption and implementation of the City of Bradbury General Plan 2012-2030 Update.

The 1994 General Plan and the 2007 General Plan projected a population of 1,500 and 501 dwelling units at full build-out. Similarly, the 2012-2030 General Plan Update estimates a population of 1,540 and 497 dwelling units at build-out. There are eight large parcels of land comprising approximately 302 acres which are located in the northern portion of the City. Since 1994 existing zoning and 2007 general plan designations would permit these privately owned parcels to be developed with one main dwelling unit and one accessory dwelling unit per parcel.



These same land use regulations would allow additional development of the area through the adoption of a specific plan.

A traffic study was conducted as part of the 2012-2030 General Plan Update to determine if the local and regional circulation and transportation systems were adequate to handle existing and projected demand and traffic volumes. The systems were deemed adequate. Based on recent traffic analysis, air quality, greenhouse gas emissions and noise were analyzed. No new significant impacts were identified. In addition, the biological survey was updated. Similarly, the biological survey found no new significant impacts with the 2012-2030 General Plan Update. The City of Bradbury prepared comparison matrices which identify differences and similarities between the 1994 and 2007 General Plans and the 2012-2030 General Plan Update. The matrices are included in Appendix E.

## 2.4 DOCUMENTS INCORPORATED BY REFERENCE

Section 15150 of the State CEQA Guidelines permits an environmental document to incorporate by reference other documents that provide relevant data. The documents outlined in this section are hereby incorporated by reference, and the pertinent material is summarized throughout this Addendum, where that information is relevant to the analysis of impacts of the project. Any document incorporated by reference is available for review at City of Bradbury Planning Division offices, located at 600 Winston Ave., Bradbury, CA 91008.

- ***Final Environmental Impact Report for City of Bradbury General Plan***, 1994. This document examines the potential environmental impacts resulting from adoption and implementation of the 1994 General Plan.
- ***City of Bradbury General Plan***, 1994. This document guides future conservation, enhancement and development in the City. It provides a framework for managing the City's environmental and economic resources.
- ***City of Bradbury General Plan***, 2007. In 2007, the City reviewed the 1994 general plan and readopted it without change.
- ***City of Bradbury General Plan Update Traffic Evaluation***, January 2014. The objectives of this study included evaluating key roadways that provide access into the City. The following conditions were analyzed: Existing Traffic and Future Conditions. A revised noise contour map was also prepared based on recent traffic volumes.
- ***City of Bradbury General Plan Update Air Quality and Greenhouse Gas Evaluations***, January 2014. The purpose of this evaluation was to determine the air quality and greenhouse gas impacts associated with the implementation of the City of Bradbury's General Plan update.
- ***City of Bradbury Noise Contours***, January 2014. The purpose of this evaluation was to evaluate noise impacts associated with the implementation of the City of Bradbury's General Plan update.
- ***City of Bradbury California Natural Diversity Data Base (CNDDB) Survey***, January 2014. The purpose of this evaluation was to provide information on biological resources in the City of Bradbury's general plan study area.

## 2.5 CONTACT PERSON

The Lead Agency for the Addendum for the proposed project is the City of Bradbury. Any questions about the preparation of this Addendum, its assumptions, or its conclusions should be referred to:

Michelle Keith, City Manager and/or  
Anne Browning McIntosh, AICP, City Planner  
City of Bradbury  
600 Winston Avenue, Bradbury, CA 91008

### **3. CEQA ENVIRONMENTAL CHECKLIST**

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# 2013 CEQA Environmental Checklist

## PROJECT DESCRIPTION AND BACKGROUND

1. **Project Title:** City of Bradbury General Plan Update 2012-2030
2. **Lead agency name and address:**  
City of Bradbury, 600 Winston Avenue, Bradbury, CA 91008
3. **Contact person and phone number:**
4. Michelle Keith, City Manager, (626) 358-3218  
Ann Browning McIntosh, AICP, City Planner; (626) 358-3218
5. **Project Location:**  
City of Bradbury, County of Los Angeles, 34 degrees 8'58"N 117 degrees 58'28"W
6. **Project Sponsor's Name and Address:**  
City of Bradbury, 600 Winston Avenue, Bradbury, CA 91008
7. **General Plan Designation:**  
The land use designations in the City of Bradbury General Plan will remain substantively unchanged as part of this project. However, eight (8) parcels comprising 302 acres in the northern hillside area is renamed from "Estate Five Acres/Hillside Overlay" to "Open Space, Privately Owned Undeveloped."
8. **Zoning:**  
The zoning designations as set forth on the City of Bradbury Zoning Map will remain unchanged as part of this project.
9. **Description of Project:**  
The project involves adopting an updated General Plan that includes the following elements: Land Use, Circulation-Transportation, Community Resources (combines the mandated Open Space and Conservation Elements), Health and Safety (combines the mandated Noise and Safety Elements), and Climate Action Plan. While policy and program amendments apply to the City as a whole, they do not contemplate substantive changes in the pattern of land uses established in the existing General Plan including land use designations, development envelopes, street infrastructure, or increased traffic. No development projects are contemplated at this time. Full copies of the amended General Plan Update 2012-2030 are available at the City Clerk's office located at 600 Winston Avenue, Bradbury, CA 91008. The Housing Element will be adopted separately and is not a part of this project.



General Plan Update 2012-2030 reflects input by the General Plan Steering Committee at numerous meetings and by the community workshops.<sup>1</sup> The Mission Statement, Vision Statement, goals, policies, and the action program included in this General Plan Update are a direct result from the Steering Committee meetings and the community workshops. To the greatest extent possible the committee recommendations that best reflect the community desires were used to form the revised goals, policies and action items. The community agreed the following goals and policies from the 1994 and 2007 General Plans should be retained:

1. Provide a comprehensive policy for future planning in the City.
2. Promote growth management and the preservation and maintenance of important resources.
3. Meet the needs and reflect the goals of its citizens; and
4. Improve the living environment.

The community offered the following additional goals:

1. Financial sustainability.
2. Independent local government.
3. Local responsive and responsible governance.
4. Safe living environment for existing and future residents.
5. Compatibility between rural agriculture and residential estate development.
6. Peaceful community.
7. Balance the City's rural character, including agricultural opportunities, preservation of open-space and natural topography, with residential necessities such as traditional municipal services and utilities.
8. Living/housing opportunities for all ages and economic levels.
9. Services for residents that encompass and are sensitive to an aging population and cultural diversity.

The committee used these overarching goals to develop goals, objectives, and policies for each element. As part of the 2012-2030 General Plan Update, the City prepared a matrix comparing the goals, policies and objectives of the 1994 and 2007 General Plans with those included in the General Plan Update. This matrix is included in Appendix E – City of Bradbury General Plan Comparison Matrices.

### **Land Use Goals**

- Goal 1: The Land Use Element maintains the existing rural residential character of the City. The element designates the general location, distribution, and extent of existing and permitted development.
- Goal 2: Preserve the identity, image and environmental quality of the hillside and open space areas in perpetuity by enforcing the Hillside Development Standards

<sup>1</sup> 2012-2030 City of Bradbury General Plan Update, Introduction, p. 6-7.



### **Circulation-Transportation Goals**

- Goal 1: The Circulation-Transportation Element seeks to maintain safe and efficient circulation systems that do not impact the rural residential character of the City.
- Goal 2: Maintain transit programs that do not exceed the City's annual transit funding allocation or budget.
- Goal 3: Inform residents of all available transit programs.
- Goal 4: Support regional rail services such as the METRO Gold Line light rail system.
- Goal 5: Promote traffic safety throughout the community.
- Goal 6: Promote a "Dark Sky" development concept for all circulation systems that is consistent with the City's rural character.

### **Open-Space Goals**

- Goal 1: Protect and enhance Bradbury's Open-Space.
- Goal 2: To develop sufficient open-space and recreational-trail access to meet the needs of the community residents.
- Goal.3: To provide open-space and recreational opportunities to the greatest extent possible.

### **Conservation Goals**

- Goal 1: Maintain a healthy and clean city.
- Goal 2: Ensure adequate and cost effective trash collection for Bradbury residents.
- Goal 3: Protect the valuable watershed and natural habitat areas.
- Goal 4: Protect and maintain the local water supply to ensure that the City's growing demand for water is properly accommodated.
- Goal 5: Protect Bradbury's environment through the use of renewable energy resources.
- Goal 6: Prolong the life and safety of landfills and find an environmentally safe alternative means for the disposal of solid waste.
- Goal 7: Restrict future surface streets from impacting natural open-space areas.

- Goal 8: Ensure that development in the steep foothill area is sensitive to the local environment.
- Goal 9: Maintain Land Use policies that have minimal impact on existing air quality.
- Goal 10: Maximize efforts to reduce air pollution from mobile sources.
- Goal 11: Strive to achieve ambient levels of particulate matter to meet State and Federal clean air standards.

#### **Noise Goals**

- Goal 1: Reduce noise impacts from transportation sources.
- Goal 2: Develop measures to address non-transportation noise impacts such as those that are generated from surrounding commercial and recreational activities (racetracks, etc.).
- Goal 3: Establish land uses which are compatible with existing noise levels within the community.
- Goal 4: Prevent and mitigate the adverse impacts of noise on City residents.

#### **Safety Goals**

- Goal 1: To protect the citizens, their property and public facilities from natural and man-made hazards.
- Goal 2: To establish, maintain, and develop awareness on the part of all residents of Bradbury as to how to react and protect themselves and each other, in the event of a natural or man-made hazard or disaster.
- Goal 3: To achieve a greater sense of citizen satisfaction with the safety services within the community, through constantly monitoring the effective and efficient staffing of safety service personnel.
- Goal 4: To minimize the risk to persons and property due to seismic activity.
- Goal 5: To minimize the risk to lives and property due to fire hazards.
- Goal 6: To minimize the risk to persons and property due to the use and storage of hazardous materials.
- Goal 7: Protect the community from floods and landslides.
- Goal 8: Assure that existing and new development addresses fire protection in a proactive and preventative way.

## Climate Action Goals

- Goal 1: Preserve the energy efficiency of existing housing units within the community.
- Goal 2: Move toward net zero energy development to minimize additional energy demand within the community.
- Goal 3: Integrate innovative and cost effective water conservation efforts into new and existing development to conserve energy used to pump, treat, and convey water.
- Goal 4: Optimize shading and cooling to reduce community-wide energy demand.
- Goal 5: Conserve energy and limited fiscal resources through energy efficiency and conservation improvements at the Civic Center.

**10. Location, Plan Area, and Regional Access. Briefly describe the project's surroundings:**

The City of Bradbury is a small residential city located 22 miles northeast of downtown Los Angeles, in the San Gabriel Valley region of Los Angeles County. Bradbury encompasses an area of 1.9 square miles along the south facing foothills of the San Gabriel Mountains below the Angeles National Forest. The population has increased from 855 residents in 2000 to 1,074 residents in 2013<sup>2</sup>.

**Location:** The City of Bradbury is bordered by the Angeles National Forest to the north, the City of Monrovia to the north, west and south, and the City of Duarte to the east and south. The City is located approximately one mile north of the I-210 freeway and less than a mile north of the terminus of the I-605 freeway.

**Plan Area:** The City of Bradbury was incorporated on July 26, 1957. The boundaries lie within the northern part of the Rancho Azusa de Duarte, originally a 6,596-acre Mexican Land Grant given in 1841 to Andres Duarte. The original rancho encompassed all of Bradbury and portions of the cities surrounding Bradbury. It was developed and subdivided into 40-acre parcels in the 1870's. Lewis Leonard Bradbury acquired 2,750 acres of the rancho around 1883, which comprises the present day cities of Bradbury and Duarte. The City adopted its first General Plan in 1972.

**Regional Access:** The City is served by I-210 freeway traversing east-west along the base of the San Gabriel Mountains connecting to Pasadena and

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<sup>2</sup> California Department of Finance website accessed on July 24, 2013, <http://www.dof.ca.gov/research/demographic/>.



US-101 to Ventura and Santa Barbara and I-605 freeway connecting to Long Beach and the Los Angeles freeway system.

The principal east-west roadway serving Bradbury is Huntington Drive, located in the City of Duarte, one-quarter mile to the south. Huntington Drive is an improved four-lane arterial with raised, landscaped median and separate left-turn lanes.

**Environmental Setting:** The City is predominantly a single-family residential community with no multi-family units and no commercial or industrial development. The lower two-thirds of the City has been subdivided while the remaining one-third of the City to the north consists of hillsides. The areas of the City designated as residential have minimum lot sizes ranging in size from 7,500 sf to five acres. Approximately one-third of the streets are private with gated and controlled access. The old Bradbury homestead was developed as the Royal Oaks Manor (now called Be Royal Oaks), an elegant retirement community and skilled nursing facility on a 17-acre parcel of County land in the City's Sphere of Influence.<sup>3</sup>

**Topography:** The City of Bradbury is characterized by steep hillsides. Much of the City's northern boundary is shared with the Angeles National Forest. The mountain peaks range from 1,200 feet to 10,064 feet. To the north of Bradbury, Bliss Mountain rises 5,500 feet. Much of the forest is covered with dense chaparral that changes to pine and fir-covered slopes in the higher elevations.

**Biological Resources:** The City is located along the south facing slopes of the San Gabriel Mountains. Along the upper slopes grassland, coastal sage scrub, woodland, and forest communities are prevalent. As the foothills progress closer to the more dense development, the native vegetation becomes less dense. The southern portion of the city consists of previously disturbed and developed areas with ornamental vegetation, orchards, and equestrian facilities. Animal species known to occur within the City boundaries include a variety of mammals, birds, reptiles and invertebrates. Most prevalent among the mammals are deer, coyote, raccoon, skunk, rabbits mice rats, opossums and squirrels. Typical birds include varieties of scrub jay, Hummingbird, warbler, Wren and Sparrow. Typical reptiles found in hillside areas include lizards, rattlesnakes and garter snakes.<sup>4</sup> The City may serve as a habitat for rare or endangered plant and animal species. Future development in the hillside areas will require the preservation of wildlife corridors and sensitive habitats.<sup>5</sup>

A California Natural Diversity Data Base (CNDDB) Survey was completed for the City of Bradbury in January 2014. The survey found one CNDDB-sensitive community, southern coast live oak riparian forest, documented in Bradbury and Bliss Canyons. No US Fish and Wildlife Service designated critical habit occurs in Bradbury. However, the survey found that 31 designated plant species and 32 wildlife species could potentially occur in the Bradbury General Plan Area.<sup>6</sup>

<sup>3</sup> City of Bradbury 1994 General Plan Initial Study, p. 2-1, October 7, 1993.

<sup>4</sup> City of Bradbury 1994 General Plan Final Environmental Impact Report, p. 3-41, November 19, 1993.

<sup>5</sup> City of Bradbury 1994 General Plan Initial Study, p. 3-9, October 7, 1993.

<sup>6</sup> CNDDB search for the City of Bradbury General Plan Update, p. 2 January 17, 2014.

**Faults:** As with the entire Southern California region, the City of Bradbury is located in seismically active region and commonly experience seismic ground shaking along active faults. Active faults are defined as faults that have experienced movement in the last 11,000 years<sup>7</sup>. Potentially active faults are those that have experienced movement in the Quaternary period (last 1,600,000 years) during the Holocene period. Faults that have not experienced movement in the last two million years are generally considered inactive.

The City of Bradbury has two earthquake faults within the City limits.<sup>8</sup> The Sierra Madre Fault, which extends through the major portion of Bradbury along the base of the San Gabriel Mountains and the Duarte Fault which extends across the southern portion of Bradbury. Other major faults within the vicinity of the City include the San Gabriel fault, approximately 12 miles north of the City, the Verdugo fault, approximately 12 miles to the west and the San Andreas fault, 24 miles to the northeast of the City.<sup>9</sup>

**Water Resources:** The California-American Water Company provides potable water to the City of Bradbury through groundwater sources from the main San Gabriel Basin.<sup>10</sup> Chlorine addition is the only drinking water treatment used in the water system. Chlorine ensures disinfection and maintains the bacteriological water quality in the water system.

The University of Southern California estimates that the average household in Southern California uses 436 gallons of water per day or 110,000 gallons per year.

**Land Use:** The City of Bradbury is a single-family residential community comprised of 1,216 acres of land.<sup>11</sup> The City is nearly fully developed with a variety of single-family detached residential dwelling units and accessory buildings and structures. To implement the community's desire to retain its rural, low-density single-family residential character, the entire City of Bradbury is zoned for single-family detached residential development and Open-Space. Areas designated as Open-Space include flood control areas, public facilities and privately owned open-space areas that have either been dedicated as permanent open space or are currently underdeveloped and provide for limited development opportunities.

**Traffic:** Primary access to Bradbury is from two nearby freeways: the San Gabriel River Freeway (I-605) and the Foothill Freeway (I-210) with an on-ramp at Mount Olive and Huntington Drive to the I-605/I-210 freeways. An additional nearby freeway access is available at Buena Vista Street and Mountain Avenue off-ramps to the I-210 freeway.

Bradbury is almost entirely built out and a substantial increase of traffic generated from within the community would not be expected. In 2010, the

<sup>7</sup> Website accessed on July 25, 2013. <http://www.conservation.ca.gov/cgs/rghm/ap/Pages/main.aspx>.

<sup>8</sup> 2012-2030 City of Bradbury General Plan Update, Health and Safety Element, p. 20-21.

<sup>9</sup> City of Bradbury 1994 General Plan Initial Study, p. 3-3, October 7, 1993.

<sup>10</sup> City of Bradbury 1994 General Plan Final Environmental Impact Report, p. 3-24, November 19, 1993.

<sup>11</sup> 2012-2030 City of Bradbury General Plan Update, Land Use Element, p. 3.



average vehicle mile traveled (VMT) was 4,191 miles per year per service population.

**11. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement.)**

*Approving Agency:* Bradbury City Council

The City of Bradbury is the approving agency and is responsible for all permits and approvals. No other agency approvals are required.

*Reviewing Agencies:* During the general plan updating process, drafts of the plan were referred to the agencies specified by the State Planning Law Government Code Section 65351 through Section 65352.5. All appropriate agencies were consulted and their comments were coordinated with the local planning aspirations.

The following agencies will be sent a copy of this document as a courtesy: Air Resources Board, California Highway Patrol, Caltrans District 7, Department of Conservation, Department of Education, Energy Commission, Department of Fish and Game, Region 5, Integrated Waste Management Board, Native American Heritage Commission, Office of Emergency Service, Office of Historic Preservation, Department of Parks and Recreation, Public utilities Commission, Regional Water Quality Control Board, Region 4, Santa Monica Mountains Conservancy, State Regional Water Resources Control Board, Department of Toxic Substance, Department of Water Resources, District 7, Cal Fire.

## SUMMARY OF EVALUATION OF ENVIRONMENTAL IMPACTS:

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporat ed	Less Than Significant Impact	No Impact
<b>I. AESTHETICS: Would the project:</b>				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>

**II. AGRICULTURE AND FOREST RESOURCES:** In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
--	--------------------------	--------------------------	--------------------------	---

- |  |                          |                          |                          |                          |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X                        |
| c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X                        |
| d) Result in the loss of forest land or conversion of forest land to non-forest use?   | <input type="checkbox"/> | <input type="checkbox"/> | X                        | <input type="checkbox"/> |
| e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?  | <input type="checkbox"/> | <input type="checkbox"/> | X                        | <input type="checkbox"/> |

**III. AIR QUALITY:** Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

- |  |                          |                          |                          |                          |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| a) Conflict with or obstruct implementation of the applicable air quality plan?  | <input type="checkbox"/> | <input type="checkbox"/> | X                        | <input type="checkbox"/> |
| b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?   | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X                        |
| c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? | <input type="checkbox"/> | <input type="checkbox"/> | X                        | <input type="checkbox"/> |



d) Expose sensitive receptors to substantial pollutant concentrations? ☐ ☐ ☐ X

e) Create objectionable odors affecting a substantial number of people? ☐ ☐ X ☐

#### IV. BIOLOGICAL RESOURCES: Would the project:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? ☐ ☐ X ☐

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service? ☐ ☐ X ☐

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? ☐ ☐ X ☐

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? ☐ ☐ X ☐

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? ☐ ☐ ☐ X

f) Conflict with the provisions of an adopted Habitat Conservation plan, Natural Community Conservation plan, or other approved local, regional, or state habitat Conservation plan? ☐ ☐ ☐ X

**V. CULTURAL RESOURCES: Would the project:**

- |   |                          |                          |   |                          |
|---|--------------------------|--------------------------|---|--------------------------|
| a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?    | <input type="checkbox"/> | <input type="checkbox"/> | X | <input type="checkbox"/> |
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? | <input type="checkbox"/> | <input type="checkbox"/> | X | <input type="checkbox"/> |
| c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?       | <input type="checkbox"/> | <input type="checkbox"/> | X | <input type="checkbox"/> |
| d) Disturb any human remains, including those interred outside of formal cemeteries?                          | <input type="checkbox"/> | <input type="checkbox"/> | X | <input type="checkbox"/> |

**VI. GEOLOGY AND SOILS: Would the project:**

- |  |                          |                          |   |                          |
|--|--------------------------|--------------------------|---|--------------------------|
| a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:   | <input type="checkbox"/> | <input type="checkbox"/> | X | <input type="checkbox"/> |
| i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42? |                          |                          |   |                          |
| ii) Strong seismic ground shaking?   | <input type="checkbox"/> | <input type="checkbox"/> | X | <input type="checkbox"/> |
| iii) Seismic-related ground failure, including liquefaction?   | <input type="checkbox"/> | <input type="checkbox"/> | X | <input type="checkbox"/> |
| iv) Landslides?  | <input type="checkbox"/> | <input type="checkbox"/> | X | <input type="checkbox"/> |
| b) Result in substantial soil erosion or the loss of topsoil?  | <input type="checkbox"/> | <input type="checkbox"/> | X | <input type="checkbox"/> |
| c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?   | <input type="checkbox"/> | <input type="checkbox"/> | X | <input type="checkbox"/> |



d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property? ☐ ☐ X ☐

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water? ☐ ☐ X ☐

**VII. GREENHOUSE GAS EMISSIONS: Would the project:**

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? ☐ ☐ X ☐

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? ☐ ☐ X ☐

**VIII. HAZARDS AND HAZARDOUS MATERIALS: Would the project:**

a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? ☐ ☐ X ☐

b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? ☐ ☐ X ☐

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? ☐ ☐ X ☐

d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? ☐ ☐ ☐ X

- |  |                          |                          |                          |                          |
|--|--------------------------|--------------------------|--------------------------|--------------------------|
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X                        |
| f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X                        |
| g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?  | <input type="checkbox"/> | <input type="checkbox"/> | X                        | <input type="checkbox"/> |
| h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?   | <input type="checkbox"/> | <input type="checkbox"/> | X                        | <input type="checkbox"/> |

**IX. HYDROLOGY AND WATER QUALITY: Would the project:**

- |   |                          |                          |   |                          |
|---|--------------------------|--------------------------|---|--------------------------|
| a) Violate any water quality standards or waste discharge requirements?   | <input type="checkbox"/> | <input type="checkbox"/> | X | <input type="checkbox"/> |
| b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)? | <input type="checkbox"/> | <input type="checkbox"/> | X | <input type="checkbox"/> |
| c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on- or off-site?   | <input type="checkbox"/> | <input type="checkbox"/> | X | <input type="checkbox"/> |

- |   |                          |                          |   |                          |
|---|--------------------------|--------------------------|---|--------------------------|
| d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site? | <input type="checkbox"/> | <input type="checkbox"/> | X | <input type="checkbox"/> |
| e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?   | <input type="checkbox"/> | <input type="checkbox"/> | X | <input type="checkbox"/> |
| f) Otherwise substantially degrade water quality?   | <input type="checkbox"/> | <input type="checkbox"/> | X | <input type="checkbox"/> |
| g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?  | <input type="checkbox"/> | <input type="checkbox"/> | X | <input type="checkbox"/> |
| h) Place within a 100-year flood hazard area structures, which would impede or redirect flood flows?  | <input type="checkbox"/> | <input type="checkbox"/> | X | <input type="checkbox"/> |
| i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?  | <input type="checkbox"/> | <input type="checkbox"/> | X | <input type="checkbox"/> |
| j) Inundation by seiche, tsunami, or mudflow?   | <input type="checkbox"/> | <input type="checkbox"/> | X | <input type="checkbox"/> |

**X. LAND USE AND PLANNING: Would the project:**

- |   |                          |                          |                          |   |
|---|--------------------------|--------------------------|--------------------------|---|
| a) Physically divide an established community?  | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X |
| b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | X |



c) Conflict with any applicable habitat Conservation plan or natural community Conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
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**XI. MINERAL RESOURCES: Would the project:**

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
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b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
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**XII. NOISE: Would the project result in:**

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>
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b) Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>
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c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>
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d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>
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e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
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f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
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**XIII. POPULATION AND HOUSING: Would the project:**

a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X

**XIV. PUBLIC SERVICES:**

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X

**XV. RECREATION:**



a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? ☐ ☐ ☐ X

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment? ☐ ☐ ☐ X

**XVI. TRANSPORTATION/TRAFFIC: Would the project:**

a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit? ☐ ☐ ☐ X

b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways? ☐ ☐ ☐ X

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? ☐ ☐ ☐ X

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? ☐ ☐ ☐ X

e) Result in inadequate emergency access? ☐ ☐ ☐ X

f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
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**XVII. UTILITIES AND SERVICE SYSTEMS:**  
Would the project:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	X
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	X	<input type="checkbox"/>

**XVIII. MANDATORY FINDINGS OF SIGNIFICANCE**

- a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? ☐ ☐ X ☐
- b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)? ☐ ☐ X ☐
- c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly? ☐ ☐ X ☐

## **4. ENVIRONMENTAL IMPACTS EXPLAINED**

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# ENVIRONMENTAL IMPACTS EXPLAINED

## I. AESTHETICS: Would the project:

### (a) Have a substantial adverse effect on a scenic vista?

Views of the San Gabriel Mountains, as well as views along tree-lined streets provide scenic vistas in the City of Bradbury.<sup>1</sup> After analyzing potential impacts on scenic resources, the 1994 General Plan EIR found that with implementation of the General Plan land use and open space policies, there would be no significant adverse impacts.<sup>2</sup>

The 2012-2030 City of Bradbury General Plan Update proposes no substantive changes to existing land use classifications or development envelopes. Views of the foothills and the City and the street-lined residential streets continue to create scenic vistas, frame scenic resources and define the visual character of the community. The following goals, objectives and policies protecting environmental resources and community character ensure there will be ***no impacts on scenic vistas***.

Land Use Goal 1 – The Land Use Element maintains the existing rural residential character of the City. The element designates the general location, distribution, and extent of existing and permitted development.

Land Use Goal 2 – Preserve the identity, image and environmental quality of the hillside and open space areas in perpetuity by enforcing the Hillside Development Standards.

Land Use Objective 1- To maintain the existing character of the community and to preserve those environmental resources and amenities that make the City of Bradbury a desirable place to live.

Land Use Policy 1- The residential character of the community and environmental resources important to the City will be maintained.

Open Space Goal 1 – Protect and enhance Bradbury's open space.

Open Space Policy 1 – Protect and preserve oak woodlands and mandate replacement planting of native oaks where oak woodlands are proposed for alteration.

Open Space Policy 3 – Mandatory replacement planting of native trees and oaks.

Open Space Policy 6 – Preservation of historically or culturally significant sites.

Open Space Policy 10 – Protect areas of outstanding scenic beauty.

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<sup>1</sup> City of Bradbury 1994 General Plan Initial Study, p. 3-14.

<sup>2</sup> City of Bradbury 1994 General Plan Environmental Impact Report, p. 3-60.



Conservation Goal 8 – Ensure that development in the steep foothill area is sensitive to the local environment.

Conservation Policy 19 – Protect natural resources.

**(b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?**

Refer to response to I(a). There will be ***no impacts on scenic resources***.

**(c) Substantially degrade the existing visual character or quality of the site and its surroundings?**

Refer to response to I(a). There will be ***no impacts on visual character***.

**(d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?**

The 1994 General Plan EIR stated that light and glare were site specific issues and did not require citywide programs. However, with the implementation of policies and programs stated in the General Plan, the desirable aesthetic environment would be promoted. Impacts associated with light and glare would be eliminated through administration of zoning and building codes. The 1994 General Plan EIR identified no significant adverse impacts with the incorporation of these policies and programs.<sup>3</sup>

The 2012-2030 City of Bradbury General Plan Update proposes no changes to existing land use classifications or development envelopes that would create additional light or glare. Most of the City is built-out, with low density residential uses. Sources of light and glare include street lights, security lights, automobile headlights, sport court lights, pool lights, and equestrian facilities. The City Municipal Code requires shielding of all lights and light must be contained within the property boundaries. The following goals, objectives and policies will ensure that impacts resulting from light and glare ***will be less than significant***.

Land Use Goal 1 – The Land Use Element maintains the existing rural residential character of the City. The element designates the general location, distribution, and extent of existing and permitted development.

Land Use Objective 1 – To maintain the existing character of the community and to preserve those environmental resources and amenities that make the City of Bradbury a desirable place to live.

Land Use Policy 1 – The residential character of the community and environmental resources important to the City will be maintained.

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<sup>3</sup> City of Bradbury 1994 General Plan Environmental Impact Report, p. 3-61.

Open Space Policy 10 – Protect areas of outstanding scenic beauty.

Circulation-Transportation Goal 6 – Promote a “Dark Sky” development concept for all circulation systems that is consistent with the City’s rural character.

**II. AGRICULTURE AND FOREST SERVICES:** In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state’s inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:

**(a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?**

Over the past few decades the development trend in the City has included the removal of citrus and avocado orchards. Large estate type dwellings and accessory structures have replaced the once quaint ranch houses. A few small farms and ranches remain. The water purveyor has made recent changes to abandon the agricultural water irrigation system that once served the community. The cost of water once used to irrigate orchards has rapidly increased and has put many of the existing farm operations in jeopardy. The success of agriculture is dependent on large lots served by affordable irrigation water. During times of drought when water is scarce, limitations are frequently placed on agricultural irrigation, which leads to the decay and removal of groves and a severe reduction of production<sup>4</sup>

They City Council adopted Chapter 9.06.090 of the Bradbury Development Code to protect existing groves and orchards, as well as heritage trees. Chapter 9.06.090, “Tree Preservation and Protection,” provides regulations governing the removal, replacement and maintenance of trees. Permits are required to remove prominent, native and orchard trees.<sup>5</sup>

The Initial Study prepared for the 1994 General Plan EIR stated that the undeveloped portions of the City consist of steep slopes and canyons and are not presently involved in agricultural production. However, some of the large single-family residential uses include orchards and would be maintained under the General Plan. The 1994 General Plan Initial Study found no potential impacts on agricultural resources or farmlands.<sup>6</sup>

<sup>4</sup> 2012-2030 City of Bradbury General Plan Update, Community Resources Element, p. 2-3.

<sup>5</sup> 2012-2030 City of Bradbury General Plan Update, Community Resources Element, p. 3.

<sup>6</sup> City of Bradbury 1994 General Plan Initial Study, p. 3-1.



The 2012-2030 General Plan Update proposes no substantive changes to existing land use classifications that would affect agricultural uses. In reviewing the 2010 Los Angeles County Important Farmland Map, the City of Bradbury is located outside of the survey boundary.<sup>7</sup> Existing agricultural uses can continue and new agricultural uses consistent with the General Plan could be added. The implementation of the following goals, objectives and policies will further ensure that impacts there are ***no impacts resulting from the conversion of farmlands to non-agricultural use.***

Land Use Goal 1 – The Land Use Element maintains the existing rural residential character of the city. The element designates the general location, distribution, and extent of existing and permitted development.

Land Use Objective 1 – To maintain the existing character of the community and to preserve those environmental resources and amenities that make the City of Bradbury a desirable place to live.

Conservation Policy 9 – Minimize conflict between agricultural and urban land uses.

**(b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?**

Refer to response to II(a). There are ***no impacts*** resulting from conflicts with zoning and agricultural uses or Williamson Act contracts.

**(c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?**

The Angeles National Forest and the City of Monrovia border the northern boundary of the City. Although there is no forest land or timberland in the City of Bradbury, the City's existing regulations pertaining to development on the steep slopes adjacent to the forest ensure protection of this area. The 1994 General Plan EIR did not specifically address impacts related to forest and timberlands, but did analyze impacts on biological resources, including impacts to natural communities (e.g., oak forest). The Initial Study prepared for the 1994 General Plan indicated that impacts in regard to biological resources could be "Possibly Significant Unless Mitigated."<sup>8</sup> The 1994 General Plan proposed policies and programs to protect biological resources which included forest land areas. It was determined that adverse impacts related to natural resources in the City could be reduced through implementation of the policies and programs in the General Plan's Conservation Element.<sup>9</sup> Moreover, the City of Bradbury's Development Code includes Hillside Development Standards which severely restrict development and grading in the northern portion of the City. The Hillside Development Standards provide additional protection for the forest areas outside of the City.

<sup>7</sup> Website accessed on July 25, 2013: <ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2010/los10.pdf>.

<sup>8</sup> City of Bradbury 1994 General Plan Initial Study, p. A-v.

<sup>9</sup> City of Bradbury 1994 General Plan Environmental Impact Report, p. 3-44.

Although the 1994 General Plan EIR did not address this subject, the General Plan EIR contained enough information about existing land use, vegetation types and zoning that with the exercise of reasonable diligence, information about forest and forest land zoning was readily available to the public. Therefore, impacts to forests and forest land zoning are not a new impact.

The 2012-2030 General Plan Update proposes no substantive changes to existing land use classifications that would affect forest land. Implementation of the following objectives and policies will further ensure there are **no impacts** resulting from conflicts between forestlands and zoning.

Open Space Objective 1 – Make Open-Space resources available to existing and future residents.

Open Space Policy 1 – Protect and preserve oak woodlands and mandate replacement planting of native oaks where oak woodlands are proposed for alteration.

Open Space Policy 3 – Mandatory replacement planting of native trees and oaks.

Open Space Policy 5 – Prevention of soil erosion.

Conservation Policy 14 – Explore the use of Habitat Conservation Plans and Natural Communities Conservation Programs.

Conservation Policy 19 – Protect natural resources.

**(d) Result in the loss of forest land or conversion of forest land to non-forest use?**

Refer to response to II(c). Impacts resulting from resulting from the loss or conversion of forest land are **less than significant**.

**(e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?**

Refer to responses to II(a), II(b), II(c) and II(d). Impacts resulting from other changes in the environment which would result in the loss or conversion of forest or agricultural lands are **less than significant**.



**III. AIR QUALITY: Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:**

**(a) Conflict with or obstruct implementation of the applicable air quality plan?**

The California Air Resources Board (CARB) is the state regulatory agency responsible for ensuring implementation of the Clean Air Act and regulating emissions from motor vehicles and consumer products.<sup>10</sup>

The City of Bradbury is located within the South Coast Air Basin (SCAB), which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). The SCAQMD is responsible for preparing the Air Quality Management Plan (AQMP), which incorporates both state and federal air quality standards. In general, the SCAB has relatively poor air quality.<sup>11</sup> Most areas of the SCAB have exceeded state and federal air quality standards. To combat the Basin's poor air quality, the SCAQMD adopted the 2012 AQMP.

A new technical report was prepared to analyze the air quality impacts associated with the 2012-2030 General Plan Update (See Chapter 6). Using the approved land use, population and housing projections from the General Plan adopted in 1994 and readopted in 2007, SCAQMD prepared the 2012 AQMP. Because the 2012-2030 General Plan Update does not alter those projections, the technical report found the 2012-2030 General Plan Update complied with the SCAQMD's 2012 AQMP.<sup>12</sup> Therefore, this impact is considered ***less than significant***.

**(b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?**

The Initial Study for the 1994 General Plan stated that no development is anticipated that would result in a substantial increase in vehicle trips and off-site power and natural gas generation. As a result, the Initial Study found that no long term impacts would violate any air quality standard or contribute to an existing or projected air quality violation.

Construction impacts were analyzed in the 1994 General Plan EIR. The EIR found that, with compliance of SCAQMD Rules 402, 403 and pertinent regulations of Title 24 of the California Code of Regulations (establishing energy standards for new construction), there were no significant adverse impacts to air quality.

The technical report evaluating air quality found the 2012-2030 General Plan Update does not have the potential to violate federal or state ambient air quality standards.<sup>13</sup> The report analyzed the following criteria pollutants: VOC, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>10</sub> and PM<sub>2.5</sub>. Emissions levels in the air quality technical report were calculated based on total build-out of the General Plan Area. These calculations demonstrated that operational impacts, associated with building energy use,

<sup>10</sup> Air Quality and Greenhouse Gas Evaluation, 2012-2030 City of Bradbury General Plan Update, p. 15.

<sup>11</sup> Air Quality and Greenhouse Gas Evaluation, 2012-2030 City of Bradbury General Plan Update, p. 16-17.

<sup>12</sup> Air Quality and Greenhouse Gas Evaluation, 2012-2030 City of Bradbury General Plan Update, p. 4.

<sup>13</sup> Air Quality and Greenhouse Gas Evaluation, 2012-2030 City of Bradbury General Plan Update, p. 24.



vehicles, and area sources, would not exceed SCAQMD thresholds. Therefore, **no impacts** regarding this issue area will occur.

**(c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?**

The SCAB is in nonattainment for the following criteria pollutants: ozone, particulate matter, carbon monoxide, nitrogen dioxide, sulfur dioxide, and lead.<sup>14</sup> The 2012-2030 General Plan Update does not include changes in land use or development which would increase pollutant emissions beyond what was contemplated in the existing General Plan or the AQMP. The 2012-2030 General Plan Update will permit development and activities which could generate pollution. Impacts to air quality include construction-related emissions from grading activities and the use of construction equipment, vehicle trips, and emissions related to the use of natural gas and power.

**Construction Emissions.** Construction activities associated with individual projects may result in emissions of CO, VOCs, NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>. However, because details associated with construction of individual projects are unknown at this time, any project which may exceed construction emissions thresholds will be required to prepare project-specific studies.

**Operational Emissions.** Operational activities associated with the 2012-2030 General Plan Update will result in some emissions of ROG, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>.<sup>15</sup> These emissions have three primary sources: area sources (i.e., lawn mowers, architectural coatings and consumer products), building energy use and mobile sources (i.e., vehicles). However, all operational emissions associated with the 2012-2030 General Plan Update fall far below significance thresholds. To illustrate, the 2012-2030 General Plan Update is expected to emit 55.04 pounds per day of CO during the summer, and the current SCAQMD threshold for CO is 550 pounds per day.<sup>16</sup> The Air Quality Analysis found that operational emissions will not exceed pollutant thresholds.<sup>17</sup>

The Air Quality Analysis found the 2012-2030 General Plan Update's contribution to cumulative impacts is not cumulatively considerable.<sup>18</sup> Additionally, the City has adopted measures to reduce construction and operational emissions for all future development. The following goals, objectives and policies will reduce air quality impacts to a level that is **less than significant**.

Conservation Goal 9 – Maintain Land Use policies that have minimal impact on existing air quality.

Conservation Goal 10 – Maximize efforts to reduce air pollution from mobile sources.

<sup>14</sup> Air Quality and Greenhouse Gas Evaluation, 2012-2030 City of Bradbury General Plan Update, p. 11.

<sup>15</sup> Air Quality and Greenhouse Gas Evaluation, 2012-2030 City of Bradbury General Plan Update, p. 22.

<sup>16</sup> Air Quality and Greenhouse Gas Evaluation, 2012-2030 City of Bradbury General Plan Update, p. 24.

<sup>17</sup> Air Quality and Greenhouse Gas Evaluation, 2012-2030 City of Bradbury General Plan Update, p. 23.

<sup>18</sup> Air Quality and Greenhouse Gas Evaluation, 2012-2030 City of Bradbury General Plan Update, p. 4.

Conservation Goal 11 – Strive to achieve ambient levels of particulate matter to meet State and Federal clean air standards.

Conservation Policy 20 – Protect and improve air quality through coordinated efforts with other public agencies and jurisdictions.

**(d) Expose sensitive receptors to substantial pollutant concentrations?**

The SCAQMD updates the AQMP every three years to include control measures to reduce major sources of pollutants. These planning efforts have substantially decreased the population's exposure to unhealthful levels of pollutants, even while substantial population growth has occurred within the Los Angeles basin. The total number of days on which the basin exceeded the federal 8-hour standard has decreased dramatically over the last two decades from about 150 days to less than 90 days.

The Initial Study for the 1994 General Plan recognized that the City was predominantly built-out and did not anticipate long term impacts on sensitive receptors. Short term construction impacts were analyzed in the EIR and found to be less than significant.

The Air Quality Analysis found the 2012-2030 General Plan Update does not have the potential to expose sensitive receptors to substantial pollutant concentrations.<sup>19</sup> The General Plan Update would not place new or modified sources of toxic air contaminants (TACs) near sensitive receptors.<sup>20</sup> Moreover, the General Plan Update would not place new sensitive receptors near any existing sources of TACs. Therefore, **no impacts** regarding this issue area will occur.

**(e) Create objectionable odors affecting a substantial number of people?**

Recognizing that future development would be residential in nature, the 1994 General Plan Initial Study did not anticipate impacts related to odor. Similarly, the 2012-2030 General Plan Update does not include changes in land use that would generate objectionable odors. Major sources of odors include uses such as large-scale farming, wastewater treatment plants, industry, and landfills.<sup>21</sup> The 2012-2030 General Plan Update will not introduce any of these uses, or any similar uses, to the City.

Minor sources of odors include uses associated with construction.<sup>22</sup> Of these minor sources, the use of diesel engines is the predominate source of odors. Diesel-fueled trucks and equipment traveling along rail lines and roadways would produce diesel exhaust fumes, which may be considered offensive to individuals. However, any diesel fumes would be temporary and would disperse rapidly with distance. Receptors would not be exposed to frequent or long-term diesel fumes.

The 2012-2030 General Plan Update will not generate odors which would affect a substantial number of people, therefore, impacts related to odors are **less than significant**.<sup>23</sup>

<sup>19</sup> Air Quality and Greenhouse Gas Evaluation, 2012-2030 City of Bradbury General Plan Update, p. 4.

<sup>20</sup> Air Quality and Greenhouse Gas Evaluation, 2012-2030 City of Bradbury General Plan Update, p. 25.

<sup>21</sup> Air Quality and Greenhouse Gas Evaluation, 2012-2030 City of Bradbury General Plan Update, p. 27.

<sup>22</sup> Air Quality and Greenhouse Gas Evaluation, 2012-2030 City of Bradbury General Plan Update, p. 27.

<sup>23</sup> Air Quality and Greenhouse Gas Evaluation, 2012-2030 City of Bradbury General Plan Update, p. 4.



#### **IV. BIOLOGICAL RESOURCES: Would the project:**

**(a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?**

Lands in the City of Bradbury are largely urbanized and the lower slopes contain few significant biological resources. Areas that provide habitat for sensitive or special-status species are primarily located in the northern, steep slopes near the Angeles National Forest. The types of vegetation expected in these areas include: Coastal Scrub, Chaparral, Oak Woodland and Riparian Woodland. A variety of mammals, birds and reptiles occur in the northern portion of the City. Most prevalent among the mammals are deer, bear, coyote, bobcats, raccoon, skunk, rabbits, mice rats, opossums and squirrels. Typical birds include varieties of scrub jay, hummingbird, warbler, wren and sparrow. Reptiles found in the hillside area include: lizards, rattlesnakes and garter snakes.<sup>24</sup> Prior to development of land located in a Resource Management Area, as specified in the Community Resource Element<sup>25</sup>, detailed studies will be required to determine the magnitude of any potential impacts in order to ensure any impacts are less than significant.

The 1994 General Plan established three sensitivity categories for biological resources. Low Sensitivity areas have no significant habitats remaining. Areas with Moderate Sensitivity contain remnants of environmentally sensitive habitats or may be adjacent to ecologically sensitive areas. Development on these Moderately Sensitive areas could negatively impact adjacent parcels. Finally, Areas with High Sensitivity have not been disturbed and maintain the original native vegetation. Fields surveys are required for any new development in the high sensitivity areas, including the northern hillside areas. The 1994 General Plan EIR found impacts to biological resources to be less than significant without mitigation. In addition, the 1994 General Plan resulted in the adoption of Hillside Development Standards which promote development guidelines for new projects.

For the Bradbury 2012-2030 General Plan Update, a California Natural Diversity Data Base (CNDDDB) Survey was prepared. This report identifies biological resources potentially occurring in or nearby the City by reviewing the CNDDDB and aerial photos of the area<sup>26</sup>. The survey found no US Fish and Wildlife designated critical habitat occurring in the City. One CNDDDB-sensitive community, southern coast live oak riparian forest, was documented in Bradbury Canyon and Bliss Canyon.<sup>27</sup> Seven other vegetation communities were identified in the 25-square mile survey area.<sup>28</sup> The CNDDDB search also identified 31 plant species and 32 wildlife species with the potential to occur in Bradbury.<sup>29</sup> However, the survey further explains that many of the species identified are habitat specialists, meaning that they only live in one specific

<sup>24</sup> City of Bradbury 1994 General Plan Environmental Impact Report, p. 3-41.

<sup>25</sup> 2012-2030 City of Bradbury General Plan Update, Community Resource Element, p. 16.

<sup>26</sup> City of Bradbury CNDB Search, January 17, 2014, p. 1.

<sup>27</sup> City of Bradbury CNDB Search, January 17, 2014, p. 2.

<sup>28</sup> City of Bradbury CNDB Search, January 17, 2014, p. 9.

<sup>29</sup> City of Bradbury CNDB Search, January 17, 2014, Table 1 p. 3-8

habitat. That habitat and those species were included because there was not sufficient habitat data available at the time of the survey to rule out their potential occurrence.<sup>30</sup>

The 2012-2030 General Plan Update continues the land use and resource protection policies established in the 1994 General Plan, readopted in 2007 and described above. The proposed plan augments these protections with the following goals and policies:

Open Space Goal 1 – Protect and enhance Bradbury's Open Space.

Open Space Policy 1 – Protect and preserve oak woodlands and mandate replacement planting of native oaks where oak woodlands are proposed for alteration.

Open Space Policy 3 – Mandatory replacement planting of native trees and oaks.

Open Space Policy 4 – Protect existing Blueline Streams.

Open Space Policy 7 – Protect wildlife and their habitats, including rare and endangered species.

Conservation Goal 8 – Ensure that development in the steep foothill area is sensitive to the local environment.

Conservation Policy 6 – Conserve riparian vegetation.

Conservation Policy 7 – Conserve wildlife habitat and assist residents in living with wildlife.

Conservation Policy 8 – Conserve oak woodlands.

Conservation Policy 12 – Protect sensitive plant species and their habitats.

Conservation Policy 13 – Protect rare, threatened, or endangered species.

Conservation Policy 14 – Explore the use of Habitat Conservation Plans and Natural Communities Conservation Programs.

Conservation Policy 19 – Protect natural resources.

The impacts on candidate, sensitive or special species are considered ***less than significant***

**(b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies and regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?**

Refer to response to IV(a). Impacts on riparian habitat or other sensitive natural community are considered ***less than significant***.

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<sup>30</sup> City of Bradbury CNDB Search, January 17, 2014, p. 2



**(c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?**

There are no federally-protected wetlands in the City.<sup>31</sup> Refer to responses to IV(a). Impacts on federally protected wetlands are ***less than significant***.

**(d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?**

Protection of the migration patterns was achieved in the 1994 General Plan and continues in the 2012-2030 General Plan Update through the designation and classification of Sensitivity Areas and the low density residential patterns. Sensitivity Area policies protect habitat and low density land use patterns provide connections to the Angeles National Forest.

The 2012-2030 General Plan Update proposes no substantive changes to existing land use classifications or development envelopes that would create additional impacts to biological resources within the City. In addition, the goals and policies proposed in the 2012-2030 General Plan Update and listed in response IV(a) ensure impacts will be ***less than significant***.

**(e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**

Refer to response to IV(a). There are ***no impacts*** resulting from conflicts with local policies or ordinances protecting biological resources.

**(f) Conflict with the provisions of an adopted Habitat Conservation plan, Natural Community Conservation plan, or other approved local, regional, or state habitat Conservation plan?**

Presently, there are no Habitat Conservation Plans, Natural Community Conservation Plans, or other approved local, regional, or State Habitat Conservation plans that apply to the City. However, Conservation Policy 14 in the 2012-2030 General Plan Update proposes exploring the use of these types of plans in the future. Lastly, given that the 2012-2030 General Plan Update proposes no substantive changes to existing land use classifications or development envelopes, ***no impacts*** in regards to this issue area will occur.

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<sup>31</sup> City of Bradbury CNDB Search, January 17, 2014, p. 2.



## V. CULTURAL RESOURCES: Would the project:

### (a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

The City of Bradbury does not have any sites listed as Federal and/ or State resources (listed on the National Register of Historical Place or California Register of Historic Resources, or otherwise listed as historic or potentially historic in the California Historic Resources Information System (CHRIS) maintained by the State Office of Historic Preservation). Places having local historic significance include the following sites:<sup>32</sup>

- 1775 Royal Oaks Drive, North. This property contains an old stone milk house, and cistern.
- 5 Bradbury Hills Road. This property contains a single-story prairie style home that was designed by the Frank Lloyd Wright studio.
- 555 Deodar Lane. This site contains an old building referred to as the stone carriage house.
- 2001 Gardi Street. This site is the location of an 1890's two-story Queen Ann Farm House.

It is anticipated that as the City matures some structures or sites may be identified as worthy of preservation due to their age or the relationship to significant events in local history. In addition, ground-disturbing activities, particularly in areas that have not previously been excavated, have the potential to damage or destroy historic resources that may be present on or below the ground surface.

The 1994 General Plan relied on the general plan policies to ensure that historic resources were protected. The EIR for that document stated that the Conservation Element would serve as the primary tool to prevent impacts to these resources and impact levels would be insignificant with implementation of the proposed conservation plan.<sup>33</sup> Similarly, the 2012-2030 General Plan Update includes:

- Open Space Policy 6 – Preservation of historically or culturally significant sites.
- Conservation Policy 21 – Protect archaeological, historical and paleontological resources.

The 2012-2030 General Plan Update proposes no substantive changes to existing land use classifications or development envelopes. Additionally, policies and programs proposed and currently existing will ensure continued protection of these resources resulting in ***less than significant impacts***.

<sup>32</sup> 2012-2030 City of Bradbury General Plan Update, Community Resources Element, p. 4.

<sup>33</sup> City of Bradbury 1994 General Plan Environmental Impact Report, p. 3-65.

**(b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?**

No archaeological resources have been identified in the City and the potential for the existence of archaeological resources is low in the developed areas of the City due to previous construction-related, ground disturbing activities. Even so, ground-disturbing activities, particularly in areas that have not previously been excavated, have the potential to damage or destroy prehistoric archaeological resources that may be present on or below the ground surface.<sup>34</sup> Archaeological resources are often of cultural or religious importance to Native American groups, particularly if the resource includes human or animal burials.

The 1994 General Plan relied on the General Plan Conservation and Land Use policies to ensure that archaeological resources were protected. Particularly effective were land use policies limiting development and consequently excavation work to urbanized areas. Additionally, City regulations require all construction work to cease if a potential archaeological resource is discovered and only continue once the potential resource has been evaluated. The 1994 General Plan EIR found that impacts related to archaeological resources were less than significant with the adoption of the Conservation Element.

The 2012-20130 General Plan Update also proposes the following policies to protect archaeological resources:

Conservation Policy 14 – Explore the use of Habitat Conservation Plans and Natural Communities Conservation Programs.

Conservation Policy 19 – Protect natural resources.

Conservation Policy 21 – Protect archaeological, historical and paleontological resources.

These policies ensure that archaeological resources are protected and impacts to archaeological resources are ***less than significant***.

**(c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?**

Paleontological resources may be present in fossil bearing soils and rock formations below the ground surface. Ground-disturbing activities in fossil-bearing soils and rock formations have the potential to damage or destroy paleontological resources that may be present below the ground surface. Therefore, construction-related and earth-disturbing actions could damage or destroy fossils in these rock units.

The 1994 General Plan relied on the general plan Conservation and Land Use policies to ensure that paleontological resources were protected. Additionally, State and City regulations require all construction work to cease if a potential paleontological resource is discovered and only continue once the potential resource has been evaluated. The 1994 General Plan EIR

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<sup>34</sup> City of Bradbury 1994 General Plan Environmental Impact Report, p. 3-62.



found that impacts related to paleontological resources were less than significant with the adoption of the Conservation Element.

The 2012-2030 General Plan Update also proposes policies to protect archaeological resources. Specifically, Conservation Policy 21 stated above, ensures that archaeological resources are protected and impacts related to this issue area are ***less than significant***.

**(d) Disturb any human remains, including those interred outside of formal cemeteries?**

Human burials outside of formal cemeteries often occur in prehistoric archeological contexts. Although the majority of the City is built out, the potential still exists for these resources to be present.

The 1994 General Plan relied on the general plan Conservation and Land Use policies to ensure that paleontological resources were protected. State, County and local regulations require all construction work to cease if a human body is discovered and only continue once the potential resource has been evaluated.

The 2012-2030 General Plan Update also proposes policies to protect archaeological resources. Specifically, Conservation Policy 21 stated above, ensures that paleontological resources are protected and impacts related to this issue area are ***less than significant***.

**VI. GEOLOGY AND SOILS: Would the project:**

**(a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:**

**i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?**

**ii) Strong seismic ground shaking?**

**iii) Seismic-related ground failure, including liquefaction?**

**iv) Landslides?**

Similar to other communities located in the Los Angeles basin, the City of Bradbury is exposed to risk from multiple earthquake fault zones. The highest risks originate from the Sierra Madre and Duarte faults both delineated on the Alquist-Priolo Earthquake zone map. Areas of the City, which are underlain by faults, may be prone to earthquake induced ground surface rupture, strong seismic shaking, seismic-related ground failure, including liquefaction, and landslides.

The 1994 General Plan addressed potential seismic impacts through adoption of land use policies and a development plan that encouraged low density development. Safety policies more directly responded to potential risks resulting from seismic activity. With these policies in place, the General Plan EIR found seismic-related impacts to be less than significant.

The 2012-2030 General Plan Update does not propose substantive changes to existing land use classifications or development envelopes and continues to respond to seismic impacts with Land Use policies and safety goals. Additionally, the Update includes a policy that requires all new construction to adhere to the most current building and seismic codes. Proposed strategies to address seismic impacts ensure that impacts are ***less than significant***.

Safety Element Goal 1 – To protect the citizens, their property and public facilities from natural and man-made hazards.

Safety Element Goal 2 – To establish, maintain, and develop awareness on the part of all residents of Bradbury as to how to react and protect themselves and each other, in the event of a natural or man-made hazard or disaster.

Safety Element Goal 4 – To minimize the risk to persons and property due to seismic activity.

Safety Element Goal 7 – Protect the community from foods and landslides.

Safety Element Objective 1 – Prepare the community for expected or unexpected disasters resulting from natural or manmade causes.

Safety Element Objective 6 – Assure that potential flooding and landslide hazards are reviewed during new development.

Safety Element Policy 2 – Implement precautionary measures in high risk areas to reduce injury and loss of property caused by natural or manmade hazards.

Safety Element Policy 3 – Review all development proposal for compliance with established hazard avoidance criteria.

Safety Element Policy 12 – Restrict development in areas prone to seismic hazards.

#### **(b) Result in substantial soil erosion or the loss of topsoil?**

The 1994 General Plan EIR discussed this issue area under Earth Resources and proposed a number of policies and implementation programs that addressed the geologic and seismic hazards that are present in the planning area. The EIR stated that these policies and programs would mitigate impacts associated with any new development proposed and any adverse impacts associated would be mitigated by the policies, programs, land use controls, and building and engineering methods.<sup>35</sup>

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<sup>35</sup> City of Bradbury 1994 General Plan Environmental Impact Report, p. 3-23-24.



Erosion is the natural process by which earth materials are loosened, worn away, decomposed, or dissolved, and transported to another site.<sup>36</sup> Precipitation, runoff, running water, and wind are common agents of erosion. The potential for erosion is generally low in exposed natural slopes but it greatly increases when slopes have been denuded of all ground cover and vegetation. Barren slopes are more susceptible to erosion and subject to riling or raveling.

The 2012-2030 General Plan Update does not include substantive changes in land use or allowable development envelopes. Continuation of existing programs as well as new policies such as Open-Space Policy 5 which specifically addresses the prevention of soil erosion ensures that impacts associated with soil erosion or loss of topsoil are ***less than significant***.

**(c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?**

The 1994 General Plan EIR discussed this issue area under Earth Resources and proposed a number of policies and implementation programs that addressed the geologic and seismic hazards that are present in the planning area. The EIR stated that these policies and programs would mitigate impacts associated with any new development proposed and any adverse impacts associated would be mitigated by the policies, programs, land use controls, and building and engineering methods.<sup>37</sup>

Alluvium, which generally consists of fine particles such as silt and clay along with larger particles like sand and gravel, is generally highly susceptible to ground shaking and is considered an expansive soil. Soils in the City are predominantly alluvium within lower developed portions of the City. Using unsuitable materials for fill and/or foundation support would have the potential to create future heaving, subsidence, spreading, or collapse problems leading to building settlement and/or utility line and pavement disruption. The City requires a site-specific foundation investigation and report for any new development that identifies potentially unsuitable soil conditions and contains appropriate recommendations for foundation type and design criteria that conform to the analysis and implementation criteria described in the City's Building Code.

The 2012-2030 General Plan Update does not include substantive changes in land use or allowable development envelopes. It will continue established policies and programs. As a result, with the additional policies listed below impacts related to these issue areas are ***less than significant***:

Open Space Policy 5 – Prevention of soil erosion.

Safety Policy 20 – Require that all new development incorporate sufficient measures to mitigate flood and landslide hazards including but not limited to on-site drainage systems and grading of site to minimize storm-water runoff.<sup>38</sup>

<sup>36</sup> 2012-2030 City of Bradbury General Plan Update, Health and Safety Element, p. 20.

<sup>37</sup> City of Bradbury 1994 General Plan Environmental Impact Report, p. 3-23-24.

<sup>38</sup> 2012-2030 City of Bradbury General Plan Update, Community Resources Element, p. 7; 2012-2030 City of Bradbury General Plan Update, Health and Safety Element, p. 35.

**(d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?**

The 1994 General Plan EIR under Earth Resources found that no impacts in regards to expansive soil would occur.

Expansive soil is any soil with an expansion index greater than twenty. The 2012-2030 General Plan Update does not include substantive changes in land use or allowable development envelopes. Impacts associated with expansive soil are *less than significant*.

**(e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?**

The 1994 General Plan EIR discussed this issue area under Earth Resources and proposed a number of policies and implementation programs that addressed the geologic and seismic hazards that are present in the planning area. The EIR stated that these policies and programs would mitigate impacts associated with any new development proposed and any adverse impacts associated would be mitigated by the policies, programs, land use controls, and building and engineering methods.<sup>39</sup>

The majority of the total 400 single-family dwelling units in the City of Bradbury provide privately owned and maintained septic systems to process effluent generated on-site.<sup>40</sup> Agricultural areas do not have public sewers. Only a small portion of the City has access to public sewer services. The public mainline sewer system is maintained by the Los Angeles County Sewer Maintenance District.

There are thirty-two vacant lots and five underutilized parcels of land in the City of Bradbury.<sup>41</sup> If development were to occur, the City could expect to add 91 additional dwellings. Although many of the new dwelling units will not have access to a public sewer system, the existing public sewer system has the capacity to accommodate the projected additional number of dwelling units. Any new construction would be subjected to existing development regulations and compliance with current seismic and geologic hazard safety standards, including design and construction standards that regulate land use in areas known to have or potentially have significant seismic and/or other geologic hazards.

The 2012-2030 General Plan Update does not include substantive changes in land use or allowable development envelopes and the goal, objectives and policies listed above in response VI (a) and (c) as it relates to soil stability will ensure impacts related to this issue area are *less than significant*.

<sup>39</sup> City of Bradbury 1994 General Plan Environmental Impact Report, p. 3-23-24.

<sup>40</sup> 2012-2030 City of Bradbury General Plan Update, Community Resources Element, p. 30.

<sup>41</sup> 2012-2030 City of Bradbury General Plan Update, Community Resources Element, p. 30.



## **VII. GREENHOUSE GAS EMISSIONS: Would the project:**

Currently, no state or regional regulatory agency has formally adopted or widely agreed upon thresholds of significance for greenhouse gas emissions. CEQA Guidelines Section 15064.7 states that "each public agency is encouraged to develop and publish thresholds of significance that the agency uses in the determination of the significance of environmental effects." This section allows lead agencies to determine their own climate change thresholds.

The Association of Environmental Professionals (AEP) recommends that "[i]f a Lead Agency chooses to address GCC [Global Climate Change] in a [CEQA] document, it should be addressed in the context of a cumulative (versus project-specific) impact." Additionally, according to the California Air Pollution Control Officers Association (CAPCOA):

"To determine what emission reductions are required for new projects one would have to know accurately the 1990 budget and efficacy of other GHG promulgated regulations as a function of time. Since the California Air Resources Board (CARB) will probably not outline its regulation strategy for several more years, it is difficult to determine accurately what the new project reductions should be in the short term."

Additional guidance was given by the legislature in 2007 under SB 97, amending CEQA to establish that GHG emissions and their impacts are appropriate subjects for CEQA analysis. But the law does not address the evaluation and determination of significance. The law simply directs the State's Office of Planning and Research ("OPR") to develop draft CEQA Guidelines "for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions" and directs the State Resources Agency to certify and adopt the CEQA Guidelines. Until that time, the OPR has issued a Technical Advisory ("Addressing Climate Change through CEQA Review") to help guide agencies through the process by providing suggested standards for calculating GHG emissions, determining potential significance, and implementing mitigation measures, if necessary and feasible.

The City of Bradbury has begun requiring reductions in greenhouse gas emissions through the preparation of a Draft Greenhouse Gas Inventory and Forecast, which will provide thresholds for specific impacts and each development would be evaluated on a case-by-case basis. Additionally, the 2012-2030 General Plan Update includes the Climate Action Plan Element which proposed several Goals, Objectives, Policies and Actions that are related to the reduction of GHG emissions. As thresholds and regulations develop, new construction will be evaluated using the most up to date evaluation criteria and will be constructed consistent with the most current requirements.

Although the 1994 General Plan EIR did not analyze greenhouse gas emissions, the General Plan EIR contained enough information about existing land use, zoning and air quality that with the exercise of reasonable diligence, information about greenhouse gases and greenhouse gas emissions was readily available to the public and the impacts for consideration and evaluation. Therefore, impacts resulting from greenhouse gas emissions are not a new impact.

**(a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?**

Gases that trap heat in the atmosphere are sometimes referred to as greenhouse gases (GHGs).<sup>42</sup> These gases are released into the atmosphere by both natural and human activities. The accumulation of GHGs in the atmosphere is considered to be the cause of the increase in the Earth's temperature. The primary GHGs are carbon dioxide, methane, nitrous oxide, fluorinated gases, aerosols, and water vapor.

The Environmental Impact Report (EIR) prepared for the 2012 AQMP reported GHG emissions in the SCAB for the year of 2008.<sup>43</sup> Major sources of GHG emissions included fuel combustion, waste disposal, cleaning and surface coating, petroleum production and marketing, industrial processes, and other miscellaneous processes. The EIR found that mobile sources generate 59.4 percent of all GHG emissions in the SCAB.

The 2012-2030 General Plan Update will result in emissions of carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O) from building energy use, water supply treatment and distribution, solid waste, and mobile sources.<sup>44</sup>

**Building Energy Use.** GHGs are emitted from buildings as a result of activities for which electricity and natural gas are typically used as energy sources. These are considered direct GHG emissions. The off-site generation of electricity from fossil fuels also emits GHGs; these emissions are considered to be indirect. GHG emissions resulting from building energy use are anticipated to total 306.97 metric tons per year from project buildout.

**Water Supply Treatment and Distribution.** Indirect GHG emissions will result from the production of electricity which is used to convey, treat and distribute water and wastewater. GHG emissions resulting from water supply treatment and distribution are anticipated to total 29.08 metric tons per year from project buildout.

**Solid Waste.** Solid waste will largely be diverted from landfills by, for instance, recycling and composting. The remainder will be disposed at a landfill, which produces in GHG emissions during anaerobic breakdown. GHG emissions resulting from waste are anticipated to total 43.27 metric tons per year from project buildout.

**Mobile Sources.** Mobile source GHG emissions will result from the daily operation of motor vehicles by visitors, employees, and customers. GHG emissions resulting from mobile sources are anticipated to total 1,018.66 metric tons per year.

The significance threshold for greenhouse gas emissions has not yet been determined.<sup>45</sup> The SCAQMD recommended a significance threshold of 3,000 metric tons of carbon dioxide equivalent (MTCO<sub>2</sub>e). Under the 2012-2030 General Plan Update, the total GHG emissions from all sources are anticipated to total 1,459.16 metric tons per year, far below the threshold of 3,000 metric tons per year.<sup>46</sup> Thus, GHG emissions (both direct and indirect) associated with

<sup>42</sup> Air Quality and Greenhouse Gas Evaluation, 2012-2030 City of Bradbury General Plan Update, p. 32.

<sup>43</sup> Air Quality and Greenhouse Gas Evaluation, 2012-2030 City of Bradbury General Plan Update, p. 31.

<sup>44</sup> Air Quality and Greenhouse Gas Evaluation, 2012-2030 City of Bradbury General Plan Update, p. 59.

<sup>45</sup> Air Quality and Greenhouse Gas Evaluation, 2012-2030 City of Bradbury General Plan Update, p. 52.

<sup>46</sup> Air Quality and Greenhouse Gas Evaluation, 2012-2030 City of Bradbury General Plan Update, p. 61.



implementation of the 2012-2030 General Plan Update will not have a significant impact on the environment. Therefore, with the implementation of the Climate Action Plan Element and the following goals, objectives and policies proposed any impacts related to GHG emissions are ***less than significant***.

Climate Objective 1. Reduce dependence on nonrenewable energy resources.

Climate Policy 2. Regularly review and update the City's Green House Gas (GHG) inventory, energy profile and Energy Action Plan.

Climate Policy 5. Promote the reduction of dependency on motor vehicles by encouraging the use of alternate transportation modes.

**(b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?**

Applicable plans, policies and regulations which address GHG emissions include, among others:<sup>47</sup>

- Title 24's energy efficiency standards
- Vehicle standards
- The Energy Independence and Security Act of 2007
- The draft NEPA Guidelines on GHGs
- The Western Regional Climate Action Initiative
- California Assembly Bill No. 1493 (AB 1493)
- Executive Order S-3-05
- California Senate Bill No. 1368 (SB 1368)
- Senate Bill 97 (SB 97)

The City is zoned for low density residential uses. The General Plan encourages the energy efficiency and would require new development to follow the rules and regulations under Title 24, as well as the policies and regulations relating to energy as they may be developed through the Energy Action Plan (EAP) and those outlined in the California Green Building Code related to energy efficiency requirements.

The 2012-2030 General Plan Update would not substantively change land use, the allowable development envelopes, or the existing patterns and intensities of use. Additionally, many of the new Climate Action Plan Element policies included would ensure that energy efficient appliances, practices, and building design features be used to ensure that energy use within the City is as efficient as possible.

Therefore, with the implementation of the Climate Action Plan Element and the objectives and policies listed above in response VII (a) any impacts related to GHG emissions are ***less than significant***.

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<sup>47</sup> Air Quality and Greenhouse Gas Evaluation, 2012-2030 City of Bradbury General Plan Update, p. 44-52.

## VIII. HAZARDS AND HAZARDOUS MATERIALS: Would the project:

### (a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

The 1994 General Plan EIR addressed this issue area under the title, Risk of Upset/Human Health. The EIR stated that hazardous materials are unlikely to pose serious threats to public safety in Bradbury in that the residential nature of the City limits hazardous materials to primarily household types and quantities. Additionally, any potential impacts in regards to this area would be mitigated by programs in the General Plan as well as by State, Federal and Regional laws.<sup>48</sup>

The existing layout of the City of Bradbury is low density residential uses in the lower elevations and estate and agricultural uses along the upper slopes. No hazardous waste generators exist in the City and no hazardous waste transportation routes traverse the City. The Land Use Element does not envision any future development that would generate an adverse impact in regards to this issue.<sup>49</sup>

The 2012-2030 General Plan Update would not substantively change existing land uses, the allowable development envelopes, or the existing patterns and intensities of use. The presence, absence, use, storage and/or transport of hazardous materials are most often a function of specific commercial uses and associated with a specific development project or site. Additionally, the Los Angeles County Fire Department, Health Hazard Material Division administers the Unified Hazardous Waste and Hazardous Materials Management Regulatory Program for the City of Bradbury.<sup>50</sup>

Therefore, with the incorporation of the following goals, objectives and policies, impacts resulting from the routine transport, use, or disposal of hazardous materials are considered **less than significant**.<sup>51</sup>

Safety Goal 6 – To minimize the risk to persons and property due to the use and storage of hazardous materials.

Safety Objective 5 – Reduce the possibility of hazardous materials becoming a health and safety issue within the community.

Safety Policy 7 – Obtain materials and support the dissemination of written information to all Bradbury households regarding minimizing or avoiding hazards within the home.

Safety Policy 17 – Regulate and monitor, to the extent possible, the delivery, use and storage of hazardous materials within the City.

<sup>48</sup> City of Bradbury 1994 General Plan Environmental Impact Report, p. 3-48.

<sup>49</sup> City of Bradbury 1994 General Plan Initial Study, p. 3-10.

<sup>50</sup> 2012-2030 City of Bradbury General Plan Update, p. 28.

<sup>51</sup> 2012-2030 City of Bradbury General Plan Update, Health and Safety Element, p. 33-35.



**(b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?**

Refer to response to VIII(a). impacts resulting from the reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment are **less than significant**.<sup>52</sup>

**(c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?**

The 1994 General Plan EIR addressed this issue area under the title, Risk of Upset/Human Health. The EIR stated that hazardous materials are unlikely to pose serious threats to public safety in Bradbury in that the residential nature of the City limits hazardous materials to primarily household types and quantities. Additionally, any potential impacts in regards to this area would be mitigated by programs in the General Plan as well as by State, Federal and Regional laws.<sup>53</sup>

The California Education Code (section 17210 *et seq.*) outlines the requirements of siting school facilities near or on known or suspected hazardous materials sites, or near facilities that emit hazardous air emissions, handle hazardous or acutely hazardous materials, substances, or waste. Although hazardous materials and waste generated from future development may pose a health risk to nearby schools, all businesses that handle, or have on-site transportation of hazardous materials, would be required to comply with the provisions of the City's Fire Code and any additional measures required under the California Health and Safety Code (Article 1 Chapter 6.95).

The Royal Oaks Elementary School is located at 2499 Royal Oaks Drive, in the City of Bradbury. The general student population of Bradbury is served by the Duarte School District.

The 2012-2030 General Plan Update would not substantively change existing land uses, the allowable development envelopes, or the existing patterns and intensities of use. The City's General Plan provides for low density residential uses, which would not contribute to the potential for storage of large hazardous materials or hazardous air emissions. With the implementation of the goals, objectives and policies listed above in response to VIII(a), impacts resulting from hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school are **less than significant**.

**(d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?**

The 1994 General Plan EIR did not address this issue area.

<sup>52</sup> 2012-2030 City of Bradbury General Plan Update, Health and Safety Element, p. 33-35.

<sup>53</sup> City of Bradbury 1994 General Plan Environmental Impact Report, p. 3-48.

The City of Bradbury is not located on a site included on the Hazardous Waste and Substances "Cortese" List.<sup>54</sup> Therefore, **no impacts** related to this issue.

**(e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?**

The 1994 General Plan EIR did not address this issue area. The City of Bradbury is not located within any airport land use plan or within two miles of a public use airport. The nearest airport is El Monte Airport, approximately 13 miles to the south, and there are no existing private airstrips within the City.

The 2012-2030 General Plan Update does not propose an airport or substantively modify the allowable development envelopes, or the existing patterns and intensities of use. Therefore, there are **no impacts** resulting from airport safety hazards related to a public airport.

**(f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?**

Refer to response to VIII(e). Therefore, there are **no impacts** resulting from airport safety hazards related to a private air strip.

**(g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**

The 1994 General Plan EIR addressed this issue area under the title, Risk of Upset/Human Health and stated that less than significant impacts would occur in regards to this issue area. The Safety Element of the 1994 included a plan that identified emergency evacuation routes and shelters. Additionally, the plan recognized that potential impacts in regards to this area would be mitigated by programs in the General Plan as well as by State, Federal and Regional laws.<sup>55</sup>

The City of Bradbury adopted a Hazard Mitigation Plan in 2004. The Plan provides guidance for the City's response to emergency situations associated with natural and manmade disasters. The Plan concentrates on management concepts and response procedures relative to large-scale disasters. Such disasters could pose major threats to life, the environment and property, and can impact the well-being of a large number of people.

The 2012-2030 General Plan Update would not substantively change land use or the allowable development envelopes and would not increase the residential or daily working populations in the City beyond those contemplated by the existing General Plan and Hazard Mitigation Plan. The 1994 General Plan and the 2007 General Plan projected a population of 1,500 and 501

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<sup>54</sup> Website accessed on July 25, 2013, <http://www.calepa.ca.gov/sitecleanup/corteselist/SectionA.htm>.

<sup>55</sup> City of Bradbury 1994 General Plan Environmental Impact Report, p. 3-48.



dwelling units at full build-out. Similarly, the 2012-2030 General Plan Update estimates a population of 1,540 and 497 dwelling units at build-out.

The 2012-2030 General Plan Update updates emergency routes in the City, as well as identifies collection and information centers. The following streets would be used as primary evacuation routes:

- Mount Olive Drive.
- Woodlyn Lane (gates will be opened to permit exiting at Royal Oaks Drive, North). The access gate located near Mount Olive Drive will be used by "First Responders" to gain access to the Woodlyn Lane neighborhood.
- Deodar Lane (gates at Wild Rose, Barranca, and Woodlyn Lane will be opened to permit exiting from the Bradbury Estates neighborhood.
- Winston Avenue and the Lemon Avenue access to the Flood Control Channel will be used as access points for "First Responders".

Although no specific development project is considered at this time, development will continue under the full build-out of the General Plan. Both the existing and proposed General Plans provide for low density population, so a major increase in traffic is not anticipated. In the event of an accident or natural disaster, any delay in evacuation would occur due to the narrow roads and the abundance of private gates. These factors could also increase response times for emergency medical or containment services and/or evacuation personnel.<sup>56</sup> All new development would consult with the Fire Department to ensure adequate emergency access routes. As a result with the implementation of the goals, and objectives listed below, impacts related to emergency access are **less than significant**.<sup>57</sup>

Circulation-Transportation Goal 1 – The Circulation-Transportation Element seeks to maintain safe and efficient circulation systems that do not impact the rural residential character of the City.

Circulation-Transportation Goal 5 – Promote traffic safety throughout the community.

Circulation-Transportation Objective 2 – Strive for the creation of new transportation facilities for motorists, equestrians, pedestrians, and bicyclists. Emphasize design standards that result in the construction of circulation and transportation systems that are safe and efficient; and sensitive to the needs of the disabled and City's unique rural residential character.

Safety Objective 4 – Implement the City's Hazard's Mitigation Plan in a timely manner.

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<sup>56</sup> 2012-2030 City of Bradbury General Plan Update, Background Report, p. V-9.

<sup>57</sup> 2012-2030 City of Bradbury General Plan Update, Circulation Element, p. 12-13; 2012-2030 City of Bradbury General Plan Update, Health and Safety Element, p. 33.

**(h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?**

This specific issue area was not discussed in the 1994 EIR General Plan. However, under the title, Risk of Upset/Human Health addressed in the Initial Study the concern of an increase in fire hazards was found to be Potentially Significant Unless Mitigated. Implementation of the Public Safety Plan and programs provided in the 1994 General Plan provided ways to reduce the risk and protect residents from these hazards.

The City of Bradbury is located within a "Very High Fire Hazard Severity Zone," as determined by the Los Angeles County Fire Department, and is subject to the requirements of Section 51182 of the California Government Code, California Fire Protection. The Los Angeles County Fire Department adopted Fuel Modification Plan Guidelines in 1998 that provide guidelines and regulations for development and for maintaining existing properties within Fire Zone 4 or Very High Fire Hazard Severity Zones.<sup>58</sup> All new development would be required to comply with existing City and County standards which require, among other things, the installation of automatic fire extinguishing systems, brush clearance around structures, incorporation of fire prevention building practices, and installation of fire retardant plant materials.

The 2012-2030 General Plan Update will continue plans and program initiated in the 1994 General Plan. In addition to existing standards, the following goals, objectives and policies will ensure that impacts in regards to this issue area are ***less than significant***.<sup>59</sup>

Safety Goal 1 – To protect the citizens, their property and public facilities from natural and man-made hazards.

Safety Goal 5 – To minimize the risk to lives and property due to fire hazards

Safety Goal 8 – Assure that existing and new development addresses fire protection in a proactive and preventative way.

Safety Objectives 1 – Prepare the community for expected or unexpected disasters resulting from natural or manmade causes.

Safety Objective 2 – Prepare the residents of Bradbury to be aware of potential hazards and disasters and to be prepared to be self-reliant for at least seven-days in the event of a disaster.

Safety Objective 4 – Implement the City's Hazard's Mitigation Plan in a timely manner.

Safety Objective 7 – Ensure that adequate service levels of fire protection are maintained in the City.

Safety Policy 2 – Implement precautionary measures in high risk areas to reduce injury and loss of property caused by natural or manmade hazards.

<sup>58</sup> 2012-2030 City of Bradbury General Plan Update, Background Report, p. V-5.

<sup>59</sup> 2012-2030 City of Bradbury General Plan Update, Health and Safety Element, p. 33-35.



Safety Policy 3 – Review all development proposals for compliance with established hazard avoidance criteria.

Safety Policy 4 – Provide adequate levels of service to ensure that the residents are protected to the best of the City's ability from natural and manmade disasters.

Safety Policy 11 – Maintain and evaluate the level of safety services available to the community.

Safety Policy 14 – Continue to support programs to reduce fire hazards within the community.

Safety Policy 15 – Provide appropriate fire-fighting equipment, personnel and peakload water supply.

Safety Policy 18 – Require all existing and new development to install and maintain adequate smoke detection systems.

Safety Policy 19 – All new development to install fire sprinkler systems.

## **IX. HYDROLOGY AND WATER QUALITY: Would the project:**

### **(a) Violate any water quality standards or waste discharge requirements?**

The 1994 General Plan Initial Study stated that future residential development is not expected to include uses that would cause major discharges or alteration in surface water. Additionally, new development would be subjected to the preparation of a Standard Urban Stormwater Mitigation Plan (SUSMP), in compliance with the Municipal Stormwater NPDES Permit.<sup>60</sup> The EIR prepared for the 1994 General Plan found that no significant adverse impacts would occur with build-out of the area due to the implementation of Land Use and Conservation Policies.<sup>61</sup>

California American Water conducts extensive monitoring to test for various contaminants that may be present in the water supply and to ensure that all safe water quality standards are met. A report issued in 2011 indicated that all state and federal water quality standards were met in the City of Bradbury.<sup>62</sup>

The 2012-2030 General Plan Update would not substantively change land uses, the allowable development envelopes, or the existing patterns and intensities of use. Addition of the following goals, objectives and policies will ensure that impacts in regards to water quality standards and discharge requirements are **less than significant**.<sup>63</sup>

Open-Space Policy 2 – Protect water quality.

<sup>60</sup> City of Bradbury 1994 General Plan Initial Study, p.3-5.

<sup>61</sup> City of Bradbury 1994 General Plan Environmental Impact Report, p. 3-28.

<sup>62</sup> 2012-2030 City of Bradbury General Plan Update, Background Report, p. VII-4.

<sup>63</sup> 2012-2030 City of Bradbury General Plan Update, Community Resources Element, p. 7, 29-31.

Open-Space Policy 5 – Prevention of soil erosion.

Conservation Goal 3 – Protect the valuable watershed and natural habitat areas.

Conservation Goal 4 – Protect and maintain the local water supply to ensure that the City's growing demand for water is properly accommodated.

Conservation Objective 5 – Continue to develop a comprehensive NPDES plan that meets state standards.

Conservation Policy 1 – Protect water bodies, watersheds and courses from development impacts.

Conservation Policy 3 – Protect surface water resources from contamination.

Conservation Policy 5 – Conserve water supplies (ground and surface).

Conservation Policy 15 – Eliminate identified water pollution sources.

Conservation Policy 16 – Improve major sewer, water, and storm drainage systems.

Conservation Policy 17 – Control hazardous materials in areas where water pollution is possible.

**(b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?**

The EIR prepared for the 1994 General Plan stated that although new residential development in the City of Bradbury would lead to increases in water consumption and increased pumping of groundwater resources, the lower density development envisioned under the General Plan would not create a significant adverse impact.<sup>64</sup> Since that time, fixtures have become more efficient and the Building Codes have required use of the same.

The proposed 2012-2030 General Plan Update would not substantively change land uses, the allowable development envelopes, or the existing patterns and intensities of use. Any new development in the City would be subjected to compliance with City and County Codes, as they pertain to groundwater issues. Additionally, implementation of the following goals and policies would ensure impacts to groundwater supplies or recharge are ***less than significant***.<sup>65</sup>

Conservation Goal 3 – Protect the valuable watershed and natural habitat areas.

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<sup>64</sup> City of Bradbury 1994 General Plan Environmental Impact Report, p. 3-26.

<sup>65</sup> 2012-2030 City of Bradbury General Plan Update, Community Resources Element, p. 29-30.



Conservation Goal 4 – Protect and maintain the local water supply to ensure that the City's growing demand for water is properly accommodated.

Conservation Policy 1 – Protect water bodies, watersheds and courses from development impacts.

Conservation Policy 5 – Conserve water supplies (ground and surface).

**(c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner, which would result in substantial erosion or siltation on- or off-site?**

The EIR prepared for the 1994 General Plan found that issues related to water would not result in significant adverse impacts through the implementation of various programs in the General Plan.<sup>66</sup>

The City of Bradbury does not discharge to a water body that would be susceptible to erosion and siltation caused by alteration of drainage properties. Additionally, drainage patterns in the City would not be substantially altered in a manner that could cause or contribute to increased erosion or siltation. Existing development regulations include design requirements to minimize post-construction erosion impacts, reduction of stormwater runoff, adequate drainage and the prevention of any illegal discharges that could contribute to capacity exceedances and localized flooding. These regulations ensure incorporation of stormwater detention facilities, design of drainage facilities to minimize adverse effects on water quality, and minimization of increases in impervious areas.

The 2012-2030 General Plan Update would not substantively change land use, the allowable development envelopes, or the existing patterns and intensities of use. Additionally, with the implementation of the goals, objectives, and policies listed in IX a) and b) would ensure impacts resulting from alterations to the existing drainage patterns that would cause erosion and siltation are ***less than significant***.

**(d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?**

Refer to response to IX(c). Impacts resulting from alterations to the existing drainage patterns that would cause flooding are ***less than significant***.

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<sup>66</sup> City of Bradbury 1994 General Plan Environmental Impact Report, p. 3-28.

**(e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?**

The EIR prepared for the 1994 General Plan found that issues related to water would not result in significant adverse impacts through the implementation of various programs in the General Plan.<sup>67</sup>

The City of Bradbury is almost entirely built-out with established utility services and discharges stormwater to the Los Angeles Hyperion Wastewater Treatment Plant (HWTP), which provides secondary treatment to dry-weather stormwater within its service area. Current regulations reduce the potential for runoff so that the stormwater system does not contribute to water quality contamination. Specific projects would be required to undergo project-specific environmental review, at which time specific mitigation or design changes would occur to reduce the exposure of people or structures to flooding.

No development is contemplated at this time and the 2012-2030 General Plan Update does not substantively change land use or development intensity. With the implementation of the proposed goals, objectives and policies listed above in response IX (a) and (b) as they relate to this issue area the 2012-2030 General Plan Update would not exceed the volume stormwater runoff and impacts are ***less than significant***.

**(f) Otherwise substantially degrade water quality?**

The EIR prepared for the 1994 General Plan found that issues related to groundwater would not result in significant adverse impacts through the implementation of various programs in the General Plan.<sup>68</sup>

Common sources of groundwater contamination during construction include earth-disturbing activities, such as trenching for underground utilities and pile driving for foundations. These activities could penetrate the water table and potentially result in minor groundwater contamination. Compliance with existing regulations would ensure that these earth-disturbing activities would not result in adverse groundwater conditions.

Another source of ground water contamination is spillage resulting from improper handling, or storage of hazardous materials used during construction, which, could contaminate surface water or percolate into the groundwater. Careful monitoring of construction activities to ensure compliance with best management practices would ensure groundwater degradation during construction is not substantial. Additionally, project-specific environmental review would be required, with appropriate mitigation identified.

No development is contemplated at this time and the 2012-2030 General Plan Update does not substantively change land use or development intensity. With the implementation of the proposed goals, objectives and policies listed above IX (a) and (b) as they relate to water quality

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<sup>67</sup> City of Bradbury 1994 General Plan Environmental Impact Report, p. 3-28.

<sup>68</sup> City of Bradbury 1994 General Plan Environmental Impact Report, p. 3-28.



the 2012-2030 General Plan Update would not degrade water quality and impacts are ***less than significant***.

**(g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?**

The EIR prepared for the 1994 General Plan found that issues related to flooding would not result in significant adverse impacts through the implementation of various programs in the General Plan.<sup>69</sup>

The City of Bradbury is not located within a 100-year flood hazard area, as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map. The City's storm drain system would continue to be maintained and upgraded. The City's large agriculturally zoned and developed parcels either retain surface run-off on-site or it is directed to the public facilities by a system of privately owned and maintained drainage swales.<sup>70</sup> Minor occurrences concerning water runoff occurred in the past during extremely wet years, however privately owned improvements have been made to rectify the local flooding issues. These minor flooding problems tend to be localized and primarily relate to very small mudslides and small erosion problems in areas where the natural topography had been altered.

The City of Bradbury adopted and updated the Natural Hazard Mitigation Plan on July 7, 2007 by City Council Resolution No. 07-17.<sup>71</sup> The updated plan fulfills the City's obligation pursuant to the Federal Disaster Mitigation Act of 2000. Flood mitigation including flood hazard mitigation would continue to be addressed as part of the City's Natural Hazard Mitigation Plan to minimize potential risks associated with flooding.

Furthermore, future projects under the continued build-out of the General Plan would be required to undergo project-specific environmental review, at which time specific mitigation or design changes would be required to appropriately protect against potential flooding and would not result in exposing additional people to flooding. With the implementation of the proposed goals, objectives in the 2012-2030 General Plan Update and specifically the following Policy and Goal impacts as they related to housing placed within a flood hazard area are ***less than significant***.

Conservation Policy 18 - Implement and maintain flood management facilities.

Safety Goal 7 - Protect the community from floods and landslides.

**(h) Place within a 100-year flood hazard area structures, which would impede or redirect flood flows?**

Refer to response to IX(g). Impacts as they related to structures placed within a 100-year flood hazard area are ***less than significant***.

<sup>69</sup> City of Bradbury 1994 General Plan Environmental Impact Report, p. 3-28.

<sup>70</sup> 2012-2030 City of Bradbury General Plan Update, Health and Safety Element, p. 19.

<sup>71</sup> 2012-2030 City of Bradbury General Plan Update, Health and Safety Element, p. 27.

**(i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?**

The EIR prepared for the 1994 General Plan found that issues related to flooding would not result in significant adverse impacts through the implementation of various programs in the General Plan.<sup>72</sup>

The San Gabriel River, situated east of the City of Bradbury, the Spinks Debris Basin and the Bradbury Debris Basin are within areas subject to flooding. Existing and future land uses and residents within the flood hazard areas will continue to be exposed to inundation hazards. The City's Natural Hazard Mitigation Plan minimizes potential risks from flooding.

Current design and construction practices and ongoing programs of review, modification, or total reconstruction of existing dams are intended to ensure that all dams are capable of withstanding the maximum credible earthquake (MCE) for the Incentive Area. FEMA requires that all reservoir owners develop Emergency Action Plans (EAP) for warning, evacuation, and post-flood actions. Although there may be coordination with County officials when drafting the EAP, the responsibility for developing potential flood-inundation maps and facilitation of emergency response is the responsibility of the reservoir owner. There are four reservoirs currently located with the City.<sup>73</sup>

The 2012-2030 General Plan Update includes the following policies and goals to ensure impacts are less than significant:

Conservation Policy 18 – Adopt ordinances that require new development to utilize techniques and equipment that reduce consumption of non-renewable resources.

Safety Goal 7 – Protect the community from floods and landslides.

Impacts related to the loss of property or harm to individuals due to hazards related to flooding are considered ***less than significant***.

**(j) Inundation by seiche, tsunami, or mudflow?**

The 1994 General Plan EIR discussed this issue area under Earth Resources and proposed a number of policies and implementation programs that addressed the geologic and seismic hazards that are present in the planning area, including, but not limited to:

- Geologic investigations should be performed for projects within one-half mile of the Duarte and Sierra Madre fault traces. Buildings should be located away from the fault, as much as possible. Investigations should also be performed for development on potential landslide areas.

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<sup>72</sup> City of Bradbury 1994 General Plan Environmental Impact Report, p. 3-28.

<sup>73</sup> 2012-2030 City of Bradbury General Plan Update, Health and Safety Element, p. 26.



- Areas with slopes greater than 20 percent should be subject to engineering design methods to achieve adequate foundation support.
- Exposed slopes should be landscaped immediately after grading to prevent erosion.
- Projects within or near identified flood hazard areas should be constructed to withstand flood waters at a capacity of the 100-year flood or should include storm drain improvements to eliminate potential flooding.
- Water lines and utilities infrastructure in hazard zones should be designed with a higher safety factor.

The EIR stated that these policies and programs would mitigate impacts associated with any new development proposed and any adverse impacts associated would be mitigated by the policies, programs, land use controls, and building and engineering methods.<sup>74</sup>

The City of Bradbury is almost entirely built-out and the 2012-2030 General Plan Update would not substantively change land use, the allowable development envelopes, or the existing patterns and intensities of use.

A seiche is wave generated on the surface of a landlocked body of water, such as a lake, reservoir or swimming pool.<sup>75</sup> A tsunami is a great sea wave produced by submarine earth movement or volcanic eruption. Both seiches and tsunamis are known to occur following earthquakes. After a major earthquake, it can be assumed that there may be minor flooding and damage caused by water sloshing out of swimming pools (resulting from a seiche); however, this is not anticipated to be substantial. The City is located inland from the Pacific Ocean and would not be subjected by a tsunami. The San Gabriel River Channel, east of the City, is designed to contain a 100-year flood. The Natural Ground Center, the Spinks Debris Basin, the Bradbury Debris Basin, and check dams provide the City with protection from large scale floods. The General Plan EIR found less than significant impact from seiche.

Mudflows are often triggered by periods of heavy rainfall. Earthquakes, subterranean water flow and excavation can also trigger mudflows. Factors contributing to rain-caused mudslides are barren earth, steep slopes and roads. Although landslides are natural processes, the incidence of mudslides and their impacts on people and structures can be exacerbated by human activities. Grading and construction can decrease the stability of a slope by adding weight to the top, removing support at the base, or increasing water content. Other activities that can increase the potential for mudslides include: excavation, improper drainage, ground water alteration and vegetation removal (due to construction or wildfire). Minor problems involving small mudslides and erosion problems have occurred due to runoff in areas where the natural grade has been disturbed.

The City is located at the foot of the San Gabriel Mountains, with hillside areas to the north. In the event of heavy rains, saturated soils in hillside areas may be subject to failure. The majority of the vacant parcels in the City are located in areas where the existing slope grade exceeds a 2:1 ratio of horizontal to vertical distance. Existing regulations regulate grading that would increase the potential for mudslides and the General Plan encourages the preservation of natural features in hillside areas.

<sup>74</sup> City of Bradbury 1994 General Plan Environmental Impact Report, p. 3-28.

<sup>75</sup> Merriam-Webster Dictionary, 2009.

No individual development projects are contemplated at this time. Any future development in the City of Bradbury would be required to analyze hazards associated with mudflow and seiches. Due to the City's location, there is no need for reports to address tsunamis.

With the implementation of the proposed goals and objectives stated in the 2012-2030 General Plan Update impacts as they related to inundation by seiche, tsunami, or mudflow are ***less than significant***.

Safety Goal 1 – To protect the citizens, their property, and public facilities from natural and man-made hazards.

Safety Goal 4 – To minimize the risk to persons and property due to seismic activity.

Safety Goal 7 – Protect the community from floods and landslides.

Safety Objective 1 – Prepare the community for expected or unexpected disasters resulting from natural or manmade causes.

Safety Objective 6 – Assure that potential flooding and landslide hazards are reviewed during new development.

Safety Policy 12 – Restrict development in areas prone to seismic hazards.

Safety Policy 20 – Require that all new development incorporate sufficient measures to mitigate flood and landslide hazards including but not limited to on-site drainage systems and grading of site to minimize storm-water runoff.

## **X. LAND USE AND PLANNING: Would the project:**

### **(a) Physically divide an established community?**

The 1994 General Plan EIR found that no impact would occur in regards to physically dividing an established community. Additionally, the EIR stated that the Land Use Plan was designed to prevent adverse impacts on land use. Future development envisioned under the Land Use Element would not result in land use conflicts or incompatibilities.<sup>76</sup>

The 2012-2030 General Plan Update would not substantively change land use, the allowable development envelopes, or the existing patterns and intensities of use. The City of Bradbury is essentially built-out, with a very limited inventory of large, unconstrained, vacant properties available for new development. There are no land use changes or any extensions of roadways or other development features that could result in the physical division of an established community. Rather, the 2012-2030 General Plan Update supports the preservation of existing residential neighborhoods while allowing the City to continue developing under the allowable envelopes, preserving residential neighborhoods, promoting transit accessibility and ensuring design which will provide for appropriate transitions and compatibility between adjoining uses.

<sup>76</sup> City of Bradbury 1994 General Plan Environmental Impact Report, p. 3-8.



The protection of residential neighborhoods is an important objective of the General Plan. The 2012-2030 General Plan Update would continue to protect the City's residential communities and would not physically divide an established community. Therefore, with the implementation of the Land Use Element and the following there are **no impacts** resulting in the physical division of an established community.

Land Use Goal 1 – The Land Use Element maintains the existing rural residential character of the City. The element designates the general location, distribution, and extent of existing and permitted development.

Land Use Objective 1 – To maintain the existing character of the community and to preserve those environmental resources and amenities that make the City of Bradbury a desirable place to live.

Land Use Policy 1 - The residential character of the community and environmental resources important to the City will be maintained.

**(b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?**

The 1994 General Plan EIR found that no impact would occur in regards to conflicting with applicable environmental plans or policies. Additionally, the EIR stated that the Land Use Plan was designed to prevent adverse impacts on land use and future development envisioned under the Land Use Element would not result in land use conflicts or incompatibilities.<sup>77</sup>

Applicable regionally adopted plans, policies, and regulations include the 2007 Air Quality Management Plan (AQMP), the Regional Transportation Plan (RTP) and SCAG's Regional Comprehensive Plan and Guide (RCPG). The SCAG regional plans cover Los Angeles County, which includes the City of Bradbury, and five other counties within Southern California.

Implementation of the 2012-2030 General Plan Update would not result in additional development beyond what has already been contemplated within the existing General Plan. Therefore, the growth projections included in the RCPG, which are based on full build-out of the City's existing General Plan, still provide a good estimation of growth for the City, and, in turn, are consistent with the growth projections included in the AQMP. With the implementation of the Land Use Goal, Policy and Objective stated above in response X(a) there are **no impacts** in resulting from conflicts with planning regulations.

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<sup>77</sup> City of Bradbury 1994 General Plan Environmental Impact Report, p. 3-8.

**(c) Conflict with any applicable Habitat Conservation Plan or Natural Community Conservation Plan?**

Implementation of the 2012-2030 General Plan Update would not conflict with any Habitat Conservation Plan or Natural Community Conservation Plans because the City does not have any habitat or natural community conservation plans. The City is almost entirely built-out and the majority of the vacant parcels are in areas that may be difficult to develop due to steep slopes, erosion potential and natural constraints. The developed areas contain paved, landscaped areas of ornamental and non-native plant species. Any proposed development in areas of natural vegetation would be required to submit a biological resource evaluation and be subject to potential mitigation.

Although the City does not have any Habitat Conservation Plans or Natural Community Conservation Plans, the 2012-2030 General Plan Update includes:

Conservation Policy 14 – Explore the use of Habitat Conservation Plans and Natural Communities Conservation Programs.

Therefore, there are ***no impacts***.

**XI. MINERAL RESOURCES: Would the project:**

**(a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?**

The 1994 General Plan EIR discussed this issue area under the title of Energy and Mineral Resources. The EIR found that no impacts would occur in that the City is not located within a Significant Mineral Aggregate Resource Area nor in an area with active mineral extraction activities.<sup>78</sup>

The Surface Mining and Reclamation Act of 1975 (SMARA) provides for the regulation of surface mining operations to assure that adverse environmental impacts are minimized and mined lands are reclaimed to a usable condition. The SMARA also encourages the production, conservation, and protection of the State's mineral resources. California Public Resources Code, Section 2207 provides annual reporting requirements for all mines in the State, under which the State Mining and Geology Board (SMGB) is also granted authority and obligations.

There are no MRZ zones in the City of Bradbury.

The 2012-2030 General Plan Update does not substantively change land use or development intensity. The General Plan Update includes:

Conservation Policy 19 – Protect natural resources.

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<sup>78</sup> City of Bradbury 1994 General Plan Initial Study, p.3-10.



With the implementation of the proposed goals, objectives and policies in the 2012-2030 General Plan Update and specifically Conservation Policy 19, **no impacts** related to the loss of availability of a known mineral resource.

**(b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?**

Refer to response to XI(a). There are **no impacts** related to the loss of availability of a locally-important mineral resource.

**XII. NOISE: Would the project result in:**

**(a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?**

The 1994 General Plan EIR's major goal of the Noise Element was to prevent the creation of noise problems in the City and the mitigation of existing noise sources. Policies and programs in the Noise Element serve to reduce noise impacts due to future development in the planning area. Implementation of these programs would mitigate noise impacts to a level of insignificance.<sup>79</sup>

The City of Bradbury is exclusively zoned and developed with single-family residential detached dwelling units on primarily private roads.<sup>80</sup> Under the 2012-2030 General Plan Update, the City would remain exclusively single-family residential. There are no industrial uses in close proximity to residents in the City. As a result, noise levels which are acceptable for commercial and industrial uses in other communities are not acceptable in the City of Bradbury.

Within the City, outdoor and indoor noise is generated from activities associated with single-family residences, such as yard maintenance, barking dogs, and the use of appliances and electronics.<sup>81</sup> The average residential lot in the City is substantially larger than single-family residential lots in adjacent communities. These large parcels generally contain dense landscaping and have significant setbacks which buffer noise emanating from adjacent uses.

The Irwindale Raceway located south of the City of Bradbury has been identified as a noise source.<sup>82</sup> To combat noise related to the Raceway, dwelling units constructed within the past several decades are well insulated and are equipped with double and triple pane windows.

The greatest source of noise for the City of Bradbury is traffic.<sup>83</sup> Therefore, revised Noise Contours were prepared for the General Plan Update 2012-2030. Royal Oaks Drive, which borders the City, Huntington Drive, Buena Vista Street, Highland Avenue, and Duarte Road are

<sup>79</sup> City of Bradbury 1994 General Plan Environmental Impact Report, p. 3-53.

<sup>80</sup> City of Bradbury General Plan Update 2012-2030, Health and Safety Element, p. 4-6.

<sup>81</sup> City of Bradbury General Plan Update 2012-2030, Health and Safety Element, p. 4-5.

<sup>82</sup> City of Bradbury General Plan Update 2012-2030, Health and Safety Element, p. 4-5.

<sup>83</sup> City of Bradbury General Plan Update 2012-2030, Health and Safety Element, p. 5.

the major arterials that serve the City. Interstate I-210 and I-605 freeways also generate noise. All of these noise sources are located beyond the City limits. The highest ambient noise level impacting the community is generated by traffic using Royal Oaks Drive, which is located in the City of Duarte. However, Royal Oaks noise levels do not exceed Bradbury City noise standards.<sup>84</sup>

Because the City of Bradbury will remain exclusively single-family residential, the 2012-2030 General Plan Update is not expected to result in increased local traffic. Any increases in traffic volumes along major roadways is expected to be generated by development located outside the City and impacts resulting from traffic are ***less than significant***. The following goals, objectives and policies further ensure that potential noise impacts remain less than significant.

Noise Goal 1 – Reduce noise impacts from transportation sources.

Noise Goal 2 – Develop measures to address non-transportation noise impacts such as those that are generated from surrounding commercial and recreational activities (racetracks, etc.).

Noise Goal 3 – Establish land uses which are compatible with existing noise levels within the community.

Noise Goal 4 – Prevent and mitigate the adverse impacts of noise on City residents.

Noise Objective 1 – Maintain and reduce where feasible background noise levels emanating from citywide transportation sources.

Noise Objective 2 – Identify and mitigate construction activity and other sources of noise that may impact the community.

Noise Objective 3 – Careful consideration of noise impacts should be part of all land use decisions.

Noise Objective 4 – Maintain the quiet residential character of the City free from excessive noise from mobile and fixed source generators both citywide and region-wide.

Noise Policy 1 – Ensure noise mitigation measures are included in the design of new developments.

Noise Policy 2 – Encourage the State Department of Transportation (Caltrans) to continue programs that lead to the reduction of noise levels on the Interstate I-210 and I-605 freeways.

Noise Policy 3 – Continue the City's street improvement program to help reduce noise levels.

Noise Policy 4 – Encourage the use of acoustical materials in all new residential developments.

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<sup>84</sup>City of Bradbury Existing and Future Noise Contours, January 2014



Noise Policy 5 – Limit delivery, and truck traffic to designated routes.

Noise Policy 6 – Ensure residential developments are designed and mitigated achieve a maximum exterior CNEL of 65 dB and a maximum interior CNEL of 45 dB.

Noise Policy 7 – Encourage, support, and enforce all State and Federal legislation designed to abate and control noise pollution.

Noise Policy 8 – Encourage the use of rubberized asphalt for resurfacing streets.

Noise Policy 9 – Continuously review the Noise Ordinance to ensure noise-generating uses are adequately addressed.

Noise Policy 10 – Strive to resolve existing and potential conflicts between noise-generating uses and human activities.

Noise Policy 11 – Prohibit significant noise-generating activities on land located near sensitive noise receptors.

Noise Policy 12 – Evaluate the noise impacts generated by existing and future projects located in surrounding communities that impact or may impact the Bradbury ambient noise level.

Noise Policy 13 – Enforce limits set by the State to control noise levels, particularly those governing motor vehicles.

Noise Policy 14 – Ensure that construction noise does not cause an adverse impact to the residents of the City.

**(b) Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?**

The 1994 General Plan EIR's major goal of the Noise Element was to prevent the creation of noise problems in the City and the mitigation of existing noise sources. Policies and programs in the Noise Element served to reduce noise impacts due to future development in the planning area. Implementation of these programs would mitigate noise impacts to a level of insignificance.<sup>85</sup>

The City of Bradbury is subject to ground-borne vibration and noise levels associated with traffic from nearby major roadways and freeways and from construction activities. The 2012-2030 General Plan Update does not propose any new development which would result in ground borne vibration or noise levels beyond those levels accounted for in the existing General Plan. Implementation of the goals, objectives and policies stated in XII (a) as they relate to ground borne vibration and noise would ensure impacts related to this issue area are ***less than significant***.

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<sup>85</sup> City of Bradbury 1994 General Plan Environmental Impact Report, p. 3-53.

**(c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?**

The 1994 General Plan EIR's major goal of the Noise Element was to prevent the creation of noise problems in the City and the mitigation of existing noise sources. Policies and programs in the Noise Element served to reduce noise impacts due to future development in the planning area. Implementation of these policies and programs will ensure that noise impacts remain **insignificant**.<sup>86</sup>

The City of Bradbury will continue to remain exclusively single-family residential under the 2012-2030 General Plan Update.<sup>87</sup> This land use is not expected to result in any significant increases in local traffic, which, as explained in XII (a), is the primary source of noise in the City. Thus, future development under the 2012-2030 General Plan Update and implementation of the goals, objectives and policies stated above in response XII (a) will ensure **less than significant impacts** in regards to ambient noise levels.

**(d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?**

The 1994 General Plan EIR's major goal of the Noise Element was to prevent the creation of noise problems in the City and the mitigation of existing noise sources. Policies and programs in the Noise Element served to reduce noise impacts due to future development in the planning area. Implementation of these policies and programs will ensure that noise impacts remain insignificant.<sup>88</sup>

The City of Bradbury's Municipal Code limits the duration and magnitude of noise levels. The 2012-2030 General Plan Update does not propose any new development beyond that anticipated in the 1994 General Plan and implementation of the General Plan would not expose residents to excessive noise levels. Therefore, with the goals, objectives and policies proposed in the 2012-2030 General Plan Update and listed above in response XII (a) noise impacts are **less than significant**.

**(e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?**

The 1994 General Plan EIR did not address this issue area. The City of Bradbury is not located within the immediate vicinity of any commercial airport nor does any area of the City fall within an airport land use plan. Therefore, there are **no impacts** resulting from public airports.

<sup>86</sup> City of Bradbury 1994 General Plan Environmental Impact Report, p. 3-53.

<sup>87</sup> City of Bradbury General Plan Update 2012-2030, Health and Safety Element, p. 6-7.

<sup>88</sup> City of Bradbury 1994 General Plan Environmental Impact Report, p. 3-53.



**(f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?**

Refer to response XII (e) Therefore, there are ***no impacts*** resulting from public airports.

### **XIII. POPULATION AND HOUSING: Would the project:**

**(a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?**

The 1994 General Plan EIR stated that the Housing Element's policies and programs were designed to accommodate the housing demand in the City and region. Adverse impacts on population and housing due to future development would be mitigated by policies and programs in the Land Use and Housing Elements. No adverse impacts were associated with the adoption of the 1994 General Plan in terms of housing and population.<sup>89</sup>

The City of Bradbury is one of the ten smallest cities in Los Angeles County, with 1,048 residents in 2010.<sup>90</sup> The 2012-2030 General Plan Update does not include any changes to currently permitted uses and densities in the City. The 1994 General Plan projected Bradbury's population to be 1,500 and approximately 501 residential units at full build-out. The General Plan Update projects a population of approximately 1,541 and 497 units.

Implementation of the 2012-2030 General Plan Update, existing 2008 Housing Element<sup>91</sup> policies and programs as well the following goal, objective and policy of the Land Use Element would ensure impacts related to this issue area are ***less than significant***.

Land Use Goal 1 -The Land Use Element maintains the existing rural residential character of the City. The element designates the general location, distribution, and extent of existing and permitted development.

Land Use Objective 1 - To maintain the existing character of the community and to preserve those environmental resources and amenities that make the City of Bradbury a desirable place to live.

Land Use Policy 1 - The residential character of the community and environmental resources important to the City will be maintained.

**(b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?**

The 1994 General Plan EIR stated that the Housing Element's policies and programs were designed to accommodate the housing demand in the City and region. Adverse impacts on

<sup>89</sup> City of Bradbury 1994 General Plan Environmental Impact Report, p. 3-14.

<sup>90</sup> 2012-2030 City of Bradbury General Plan Update, Introduction, p. 5.

<sup>91</sup> The City of Bradbury is currently updating its Housing Element.

population and housing due to future development would be mitigated by policies and programs in the Land Use and Housing Elements. No adverse impacts were associated with the adoption of the 1994 General Plan in terms of housing and population.<sup>92</sup>

The 2012-2030 General Plan Update does not include any changes to currently permitted uses and densities in the City. Implementation of the 2012-2030 General Plan Update and existing 2008 Housing Element would not require demolition of existing housing, necessitating the construction of replacement housing elsewhere. Additionally, the Land Use goal, objective, and policy stated above in response XIII (a) would ensure that there are **no impacts** in regards to this issue area.

**(c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?**

The 1994 General Plan EIR stated that the Housing Element's policies and programs were designed to accommodate the housing demand in the City and region. Adverse impacts on population and housing due to future development would be mitigated by policies and programs in the Land Use and Housing Elements. No adverse impacts were associated with the adoption of the 1994 General Plan in terms of housing and population.<sup>93</sup>

The 2012-2030 General Plan Update does not include any changes to currently permitted uses and densities in the City. Implementation of the 2012-2030 General Plan Update and existing 2008 Housing Element would not require demolition of existing housing, necessitating the construction of replacement housing elsewhere. Additionally, the Land Use goal, objective, and policy stated above in response XIII (a) would ensure that there are **no impacts** in regards to this issue area.

#### **XIV. PUBLIC SERVICES:**

**(a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:**

##### **Fire protection**

The 1994 General Plan EIR stated that impacts of new development on public services would be reduced by regular evaluation of public service needs. The Safety Element contained standards and plans that would be effective in reducing potential adverse impacts in regards to public services.<sup>94</sup>

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<sup>92</sup> City of Bradbury 1994 General Plan Environmental Impact Report, p. 3-14.

<sup>93</sup> City of Bradbury 1994 General Plan Environmental Impact Report, p. 3-14.

<sup>94</sup> City of Bradbury 1994 General Plan Environmental Impact Report, p. 3-55.



The Los Angeles County Fire Department provides fire protection services to the City of Bradbury.<sup>95</sup> Station 44 in Duarte provides equipment and manpower for fire incidents. Back-up paramedic assistance is provided by Station 29 in Baldwin Park and Station 32 in Azusa. The Monrovia Fire Department offers additional back-up service when necessary.

The City of Bradbury is located within a Very High Fire Hazard Severity Zone as designated by the County of Los Angeles Fire Department.<sup>96</sup> The entire City lies within a Local Responsibility Area, an area managed by local fire departments. Public Resource Code section 4291 requires that homeowners provide fuel modification to 100 feet (or to the property line) around their buildings to create a defensible space for firefighters and to protect their homes from wildfires. Residents must reduce dry fuel around the perimeter of any structure and comply with the recently adopted building codes that provide standards for mitigating fire hazards.

Any new development would be required to comply with all applicable federal, state and local regulations governing the provision of fire protection services, including adequate fire access and number of hydrants. The California Fire Code includes provisions addressing construction standards for new structures and remodels, road widths and configurations designed to accommodate the passage of fire trucks and engines, and requirements for minimum fire flow rates for water mains.

With the implementation of the following proposed goals, objectives and policies in the 2012-2030 General Plan Update, there are **no impacts** as they relate related to fire protection.

Safety Goal 3: To achieve a greater sense of citizen satisfaction with the safety services within the community, through constantly monitoring the effective and efficient staffing of safety service personnel.

Safety Goal 8: Assure that existing and new development addresses fire protection in a proactive and preventative way.

Safety Objective 3: Communicate with Bradbury residents through all available media, that safety personnel are properly trained to provide assistance in the event of a disaster.

Safety Objective 7: Ensure that adequate service levels of fire protection are maintained in the City.

Safety Policy 2: Implement precautionary measures in high risk areas to reduce injury and loss of property caused by natural or manmade hazards.

Safety Policy 4: Provide adequate levels of service to ensure that the residents are protected to the best of the City's ability from natural and manmade disasters.

Safety Policy 6: Establish and maintain a variety of media sources to enable interactive safety awareness and preparedness educational opportunities for the residents.

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<sup>95</sup> 2012-2030 City of Bradbury General Plan Update, Health and Safety Element, p. 26.

<sup>96</sup> 2012-2030 City of Bradbury General Plan Update, Health and Safety Element, p. 16.

Safety Policy 8: Provide opportunities to continually advise and update community residents regarding actions and activities they should engage in after a significant natural or manmade disaster.

Safety Policy 9: Support continuing review and updating of the City's Disaster Preparedness Program manual.

Safety Policy 11: Maintain and evaluate the level of safety services available to the community.

Safety Policy 13: Continue to support "mutual assistance" agreements between local and State fire fighting agencies.

Safety Policy 14: Continue to support programs to reduce fire hazards within the community.

Safety Policy 15: Provide appropriate fire-fighting equipment, personnel and peakload water supply.

Safety Policy 16: Provide access to potable water for emergency purposes.

Safety Policy 18: Require all existing and new development to install and maintain adequate smoke detection systems.

Safety Policy 19: All new development to install fire sprinkler systems

## **Police protection**

The 1994 General Plan EIR stated that impacts of new development on public services would be reduced by regular evaluation of public service needs. The Safety Element contained standards and plans that would be effective in reducing potential adverse impacts in regards to public services.<sup>97</sup>

There are 88 cities within Los Angeles County. The City of Bradbury is one of 42 cities within the County that contracts with the County of Los Angeles for law enforcement services. The Los Angeles County Sheriff's Department (LASD) provides police protection to the City of Bradbury.<sup>98</sup> In times of emergency, the Sheriff dedicates all available personnel and equipment to address the City's needs.

In 2013 there were 23 reported crimes in City of Bradbury.<sup>99</sup> The City's crime rate is one of the lowest in Los Angeles County, which may be attributed to the gated communities and individual properties equipped with gates and security. Additionally, the narrow and dead-end roads limit opportunities for undesirable activities.

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<sup>97</sup> City of Bradbury 1994 General Plan Environmental Impact Report, p. 3-55.

<sup>98</sup> 2012-2030 City of Bradbury General Plan Update, Health and Safety Element, p. 26.

<sup>99</sup> *City of Bradbury Crime Statistics*, December 2013, prepared by the Los Angeles County Sheriff.



With the 2012-2030 General Plan Update implementation of the proposed goals, objectives and policies stated in response XIV (a) as it relates to police protection, there are **no impacts** in regards to related to police protection.

## **Schools**

The 1994 General Plan EIR stated that impacts of new development on public services would be reduced by regular evaluation of public service needs. The payment of school impact fees was expected to reduce impacts on school services.<sup>100</sup>

The Duarte Unified School District provides elementary, junior high and high school services to the City of Bradbury. The District services Bradbury, Duarte, Monrovia, and portions of the unincorporated area of the County of Los Angeles. The District boasts five elementary schools, (Andres Duarte Elementary, Beardslee Elementary, Maxwell Elementary, Royal Oaks Elementary, and Valley View Elementary Schools), one intermediate school (Northview Intermediate), and one high school (Duarte High School).

Currently, there are 173 residents under the age of 18 that attend or potentially would attend schools within the Duarte Unified School District. The under 18 year-old population comprises 16.5 percent of the total population. Even under full build-out, the potential increase in the population would have a minimal impact on the School District.

Implementation of the 2012-2030 General Plan Update Land Use Element goal, objective and policy listed below ensures the conservation of existing patterns and intensities of use and therefore would not substantially alter the number of students in the school system. **No impacts** in regards to this issue area will occur.

Land Use Goal 1: The Land Use Element maintains the existing rural residential character of the City. The element designates the general location, distribution, and extent of existing and permitted development.

Land Use Objective 1: To maintain the existing character of the community and to preserve those environmental resources and amenities that make the City of Bradbury a desirable place to live.

Land Use Policy 1: The residential character of the community and environmental resources important to the City will be maintained.

## **Parks**

The 1994 General Plan EIR discussed issues related to parks under the Recreation heading. The EIR stated that the Open Space Element dealt with open space and recreation issues in the City. It was determined at that time that the community did not want to see new park development in the City. Additionally, the Land Use Plan which called for low density

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<sup>100</sup> City of Bradbury 1994 General Plan Environmental Impact Report, p. 3-55.

development would not create a need for additional parkland. No adverse impacts occurred regarding this issue area.<sup>101</sup>

Residents of the City of Bradbury enjoy private pools, tennis courts, basketball courts, and equestrian facilities within the community. The Royal Oaks Elementary School offers a play field for active recreation and organized ball games. The community interest in public recreation facilities is minimal and focuses primarily on open space preservation and trails as demonstrated by the general plan policies below. However, there is an abundance of public active and passive recreation within close proximity. Additionally, public facilities for active recreation such as organized sports (baseball, football, soccer, competitive swimming, golf, etc.) are readily available within adjacent communities. Input from the community indicates that residents are interested in trails.

With the implementation of the following 2012-2030 General Plan Update goals, objectives and policies as they relate to park land, there are **no impacts**.

Open-Space Goal 1: Protect and enhance Bradbury's Open-Space.

Open-Space Goal 2: To develop sufficient open-space and recreational-trail access to meet the needs of the community residents.

Open-Space Goal 3: To provide open-space and recreational opportunities to the greatest extent possible.

Open-Space Objective 1: Make Open-Space resources available to existing and future residents.

Open-Space Policy 6: Preservation of historically or culturally significant sites.

Open-Space Policy 9: Promote development and management of public and private parks, trails and recreational areas.

### **Other public facilities**

The 1994 General Plan recognized that the impacts of new development on public facilities could be reduced through the regular evaluation of public service needs in the City and implementation of necessary adjustments to provide adequate services. In addition, policies recommending adoption of an emergency preparedness plan would further reduce impacts.

The County of Los Angeles offers library services at the Duarte Library, located at 1302 Buena Vista Street, in the City of Duarte. Additional nearby libraries are at Temple City Library, Live Oak Library and Norwood Library.

Emergency medical services are available throughout Los Angeles County. Hospitals near the City of Bradbury that provide acute care include the Methodist Hospital in Arcadia, Huntington

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<sup>101</sup> City of Bradbury 1994 General Plan Environmental Impact Report, p. 3-66.



Hospital in Pasadena, City of Hope National Medical Center in Duarte, Kaiser-Permanente Foundation Hospital in Baldwin Park, and Foothill Presbyterian Hospital in Glendora.

The General Plan Update does not substantively change land use or development intensity. With the implementation of the 2012-2030 General Plan Update goals, objectives and policies as stated above in response XIV (a) and their relation to public facilities, there are **no impacts**.

## **XV. RECREATION:**

**(a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?**

The 1994 General Plan EIR discussed issues related to parks under the Recreation heading. The EIR stated that the Open Space Element dealt with open space and recreation issues in the City. It was determined at that time that the community did not want to see new park development in the City. Additionally, the Land Use Plan which called for low density development which would not create a need for additional parkland. No adverse impacts occurred regarding this issue area.<sup>102</sup>

The continued increase in population as projected in the Land Use Element based on the full build-out potential of the existing General Plan could minimally increase demand for recreational services and facilities. However, continued build-out of the existing General Plan would also include the development of pedestrian/equestrian trails and other open spaces. With the implementation of the following Open-Space objective and policies as they relate to recreational uses there are **no impacts**.

Open-Space Objective 1: Make Open-Space resources available to existing and future residents.

Open-Space Policy 6: Preservation of historically or culturally significant sites.

Open-Space Policy 9: Promote development and management of public and private parks, trails and recreational areas.

**(b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?**

Refer to response XV (a). There are no impacts related to expansion or construction of new recreational facilities.

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<sup>102</sup> City of Bradbury 1994 General Plan Environmental Impact Report, p. 3-66.

## **XVI. TRANSPORTATION/TRAFFIC: Would the project:**

**(a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?**

The 1994 General Plan EIR did not address this issue area.

The City of Bradbury is comprised entirely of single-family residential detached dwelling units. There are no retail commercial, industrial or multi-family uses of land within the City. There are no signalized intersections and no arterial highways.<sup>103</sup> All public and private streets are designated as local or local-collector streets.

The 2012-2030 General Plan Update does not conflict with any other applicable plans, ordinances or policies. In fact, the General Plan Update provides the following goals, objectives and polices, which further the effectiveness and performance of the circulation system:<sup>104</sup>

Circulation-Transportation Goal 1: The Circulation-Transportation Element seeks to maintain safe and efficient circulation systems that do not impact the rural residential character of the City.

Circulation-Transportation Goal 2: Maintain transit programs that do not exceed the City's annual transit funding allocation or budget.

Circulation-Transportation Goal 3: Inform residents of all available transit programs.

Circulation-Transportation Goal 4: Support regional rail services such as the METRO Gold Line light rail system.

Circulation-Transportation Goal 5: Promote traffic safety throughout the community.

Circulation-Transportation Goal 6: Promote a "Dark Sky" development concept for all circulation systems that is consistent with the City's rural character.

Circulation-Transportation Objective 1: To accommodate existing traffic patterns and plan for future demand.

Circulation-Transportation Objective 2: Strive for the creation of new transportation facilities for motorists, equestrians, pedestrians, and bicyclists. Emphasize design standards that result in the construction of circulation and transportation systems that are safe and efficient; and sensitive to the needs of the disabled and City's unique rural residential character.

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<sup>103</sup> Traffic Impact Analysis, 2012-2030 City of Bradbury General Plan Update Circulation Element, p. 5.

<sup>104</sup> Traffic Impact Analysis, 2012-2030 City of Bradbury General Plan Update Circulation Element, p. 12-13.



Circulation-Transportation Policy 1: All public roadways and roadway improvements will be constructed to the City of Bradbury local street standards so as to preserve the rural residential character of the City.

Circulation-Transportation Policy 2: Continue inter-jurisdictional relationships with neighboring cities to coordinate the design and implementation of transportation systems.

Circulation-Transportation Policy 3: Explore all available funding sources and opportunities for improving transportation programs and facilities.

Circulation-Transportation Policy 4: Develop a public information/marketing campaign to advertise the availability of transit services to City residents.

Circulation-Transportation Policy 5: Continue to support and work with regional agencies to support the expansion of the Gold Line and other transportation programs and services for the San Gabriel Valley.

Circulation-Transportation Policy 6: Promote enforcement of speed laws and continue to monitor the use of City streets.

The 2012-2030 General Plan Update also includes an Action Program to carry out the above goals, objectives and policies.<sup>105</sup> Therefore, there are **no impacts** in regards to this issue area will occur.

**(b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?**

The 1994 General Plan EIR did not address this issue area.

The Level of Service (LOS) is a qualitative indicator that is used to describe the operative conditions of a roadway. The levels range from A to F, with LOS A being the best operating conditions and LOS F being the worst. A new Traffic Impact Analysis was prepared for the 2012-2030 General Plan Update. The Analysis found that all roadway segments currently operate at LOS A.<sup>106</sup>

The City of Bradbury is near build-out. However, approximately 97 additional residential units can be constructed in the undeveloped/underutilized parcels in the City. If all 97 residential units are constructed, approximately 923 trip-ends per day will be generated.<sup>107</sup> So, even if full build-out is achieved, roadways will continue to operate at LOS A.<sup>108</sup>

<sup>105</sup> 2012-2030 City of Bradbury General Plan Update, Circulation Element, p. 13-14.

<sup>106</sup> Traffic Impact Analysis, 2012-2030 City of Bradbury General Plan Update, Circulation Element, p. 8.

<sup>107</sup> Traffic Impact Analysis, 2012-2030 City of Bradbury General Plan Update, Circulation Element, p. 9.

<sup>108</sup> Traffic Impact Analysis, 2012-2030 City of Bradbury General Plan Update, Circulation Element, p. 14.

The 2012-2013 General Plan Update therefore does not conflict with applicable congestion management programs. In addition the proposed goals, objectives and policies as stated in response XVI (a) will ensure there are **no impacts** in regards to this issue area.

**(c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?**

The 1994 General Plan EIR recognized that the El Monte Airport located approximately 13 miles away would not be affected by adoption of the General Plan and found that there would be no impact on air traffic patterns.

As there are no airports in the City of Bradbury, implementation of the 2012-2030 General Plan Update does not interfere or alter air traffic patterns in or near the City of Bradbury. Therefore, **no impacts** will occur regarding this issue area.

**(d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?**

The 1994 General Plan EIR found that the limited development envisioned by the Land Use Element would not create changes in the circulation system that would result in unsafe conditions. No impact was identified.

Similarly, the 2012-2030 General Plan Update would not change transportation routes or traffic patterns which would increase hazards. Individual development in the northern hills will be required to provide an analysis of traffic and circulation, including design features. The 2012-2013 General Plan Update therefore does not conflict with applicable congestion management programs. In addition the proposed goals, objectives and policies as stated in response XVI (a) will ensure **no impacts** in regards to this issue area will occur.

**(e) Result in inadequate emergency access?**

The 1994 General Plan EIR recognized that future development envisioned under the plan might be required to provide infrastructure improvements within existing rights-of-way. Construction activities associated with these improvements could cause temporary detours which could affect emergency services. However, the impact, because of its temporary nature, was found to be less than significant.

The City of Bradbury adopted a Natural Hazard Mitigation Plan on April 19, 2007.<sup>109</sup> The Plan is evaluated annually to determine the effectiveness of its programs and to reflect changes in land development or programs. The 2012-2030 General Plan Update does not change transportation routes or traffic patterns, nor does it reduce emergency access. Any new development would be required to meet all applicable local and state regulatory standards for adequate emergency access and comply with applicable provisions of the Municipal Code and Fire Code. In addition

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<sup>109</sup> 2012-2030 City of Bradbury General Plan Update, Circulation Element, p. 8.



the proposed goals, objectives and policies as stated in response XVI (a) will ensure ***no impacts*** in regards to this issue area will occur.

**(f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?**

The 1994 General Plan EIR found that there would be no significant increase in vehicular traffic and therefore determined that there would be no impact on bicycle or pedestrian facilities. In addition, the 1994 General Plan EIR found that transit facilities would not be impacted by the proposed implementation of the 1994 General Plan.

The 2012-2030 General Plan Update does not include substantive changes in land use or allowable development envelopes. In addition the proposed goals, objectives and policies as stated in response XVI (a) will ensure ***no impacts*** in regards to this issue area will occur.

**XVII. UTILITIES AND SERVICE SYSTEMS: Would the project:**

**(a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?**

Although relatively small number of residences has access to a public sewer system operated by the Los Angeles County Sewer Maintenance District, most of the City's 400 dwellings have private on-site septic systems. There is ample capacity in the existing public wastewater treatment system. However, most of the vacant sites do not have access to the public sewer system and will require on-site septic systems<sup>110</sup>

The 1994 General Plan anticipated that new development would be able to connect to the existing public sewer systems and included policies that discouraged septic tank use. The General Plan EIR found that there were no significant adverse impacts related to wastewater collection and treatment as all impacts could be mitigated to below a level of significance.

The 2012-2030 General Plan Update anticipates that most new homes will have their private, on-site septic systems. New septic systems will be regulated by the Los Angeles County Department of Environmental Health. Therefore, impacts as they relate to wastewater treatment requirements are ***less than significant impacts***.

**(b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?**

For a discussion of wastewater impacts see response to XVII (a). The impacts to wastewater are ***less than significant***.

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<sup>110</sup> 2012-2030 City of Bradbury General Plan Update, Community Resources Element, p. 27.

California America Water Company provides domestic and fire flow water to Bradbury residents and has ample capacity and infrastructure to meet existing demand and the slight increase in demand that will occur with future development.<sup>111</sup> In addition, a new well is proposed on Lemon Avenue.

The 1994 General Plan EIR found there were no adverse impacts to water service delivery as all impacts could be mitigated to below a level of significance. Water demand necessitated by development of the 2012-2030 General Plan Update remains the same as the previous plan. In addition the following policies are designed to conserve water and reduce demand:

Conservation Policy 1 – Protect water bodies, watersheds and courses from development impacts.

Conservation Policy 5 – Conserve water supplies (ground and surface).

With these policies in place, 2012-2030 General Plan Update will not require the construction or expansion of new water facilities; therefore, there is ***no impact***.

**(c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?**

Storm water run-off in Bradbury flows along natural channels and canyons, roadways and the Bradbury Flood Control Channel.<sup>112</sup> The 1994 General Plan EIR anticipated that new development would provide new facilities and recognized that in some cases downstream facilities would need to be upgraded. However, the 1994 EIR found that the impacts could be mitigated to below a level of significance.

The 2012-2030 General Plan Update would not substantively change land use or the allowable development envelopes previously planned for under the existing General Plan. New development must contain run-off in on-site detention and retention basins. Potential impacts related to storm water run-off are considered ***less than significant***.

**(d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?**

The California American Water Company obtains its water from numerous sources, including local groundwater, surface water and water imported from the Metropolitan Water District (MWD). As previously stated, a new well is proposed on Lemon Avenue. Any future development will require connection to existing water lines and will result in increased water consumption.

The 1994 General Plan EIR found that implementation of water conservation policies in the plan would reduce the impact to below a level of significance.

<sup>111</sup> 2012-2030 City of Bradbury General Plan Update, Community Resources Element, p. 27.

<sup>112</sup> 1994 City of Bradbury General Plan Environmental Impact Report, p. 3-58.



The 2012-2030 General Plan Update would not substantively change land use or the allowable development envelopes previously planned for under the existing General Plan. The following general plan goals and objectives will further reduce any related impacts. As discussed in response XVII (b), California American Water Company can supply the City's existing and future water demands; therefore, the impact remains ***less than significant***.

Conservation Goal 4: Protect and maintain the local water supply to ensure that the City's growing demand for water is properly accommodated.

Conservation Policy 1: Protect water bodies, watersheds and courses from development impacts.

Conservation Policy 4: Support water purveyor in efforts to provide domestic and agricultural water.

Conservation Policy 5: Conserve water supplies (ground and surface).

**(e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?**

See response to XVII (a). Project impacts related to capacity of public sewer system operated by the Los Angeles County Sewer Maintenance remain ***less than significant***.

**(f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?**

The City of Bradbury is served by Burrtec Waste Industries, Inc., which hauls solid waste to the Puente Hills Material Recovery Facility (MRF). From there the refuse is delivered to the Orange County Landfill system. The Los Angeles County Sanitation District which oversees the Puente Hills MRF has a three-year contract with Orange County Sanitation District to accommodate solid waste disposal. The contract ends fall 2016.<sup>113</sup> Curbside Recyclables are delivered to the Allan Company; whereas Green Waste is delivered to the Burrtec West Valley Material Recovery Facility (MRF) located in Fontana. Farm animal manure is delivered to local nurseries.<sup>114</sup>

The 1994 General Plan recognized that new development permitted by the plan would generate additional solid waste. However, it determined that implementation of the goals, objectives and policies outlined in the general plan would reduce the impacts to less than significant.

Similarly, the 2012-2030 General Plan Update contains the following goals and objectives are designed to encourage recycling and reduce solid waste management impacts; therefore, this impact remains ***less than significant***.

<sup>113</sup> Phone conversation on January 28, 2014 with Richard Nino, Director of Municipal Services, Burrtec Waste Industries.

<sup>114</sup> 2012-2030 City of Bradbury General Plan Update, Community Resources Element, p. 24-25.

Conservation Goal 1 – Maintain a healthy and clean city.

Conservation Goal 2 – Ensure adequate and cost effective trash collection for Bradbury residents.

Conservation Goal 6 – Prolong the life and safety of landfills and find an environmentally safe alternative means for the disposal of solid waste.

Conservation Objective 1 – Continue to improve the waste diversion and recycling programs already in place.

Conservation Objective 3 – When markets for new types of recyclables open up, the City should begin implementing new programs with the trash hauler.

**(g) Comply with federal, state, and local statutes and regulations related to solid waste?**

This impact was not addressed in the 1994 General Plan EIR.

State law requires a 50 percent diversion of solid waste from landfills. The City of Bradbury has achieved this diversion through recycling and collection of green waste, and has diverted at least 50 percent of its solid waste in compliance with state law.<sup>115</sup> The City remains committed to continue its existing waste reduction and minimization efforts as evidenced by the following goals and objectives listed in response XVII (f). Therefore, impacts in regards to this issue area are ***less than significant***.

**XVIII. MANDATORY FINDINGS OF SIGNIFICANCE:**

**(a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?**

The City of Bradbury is largely built-out with single family residential community. Lots in the southern portions that border the City of Duarte are smaller than other areas of the Bradbury. Generally, the lot size increases as the approach the steep foothills of the Los Angeles Mountains. The northern hillsides that border the National Forest are designated Open Space, Private Owned Undeveloped. Development is limited in this area based on the Hillside Development Standards which limit development and protect biological resources and native habitat.

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<sup>115</sup> 2012-2030 City of Bradbury General Plan Update, Community Resources Element, pg. 25.



The 1994 General Plan established the Hillside Preservation Overlay and the Conservation Overlay to protect habitat and species in the northern hillside portions of the City. These overlay designations along with supporting land use and conservation policies were found to mitigate impacts on plants and animals to below a level of significance.

Under the 2013-2030 General Plan Update, the 302 acres in the northern hillside portions of the City will continue to be subject to the Hillside Development Standards that are set forth in the City's zoning ordinance. Additionally, the property remains in a resource management overlay as set forth in the Conservation Element. Additional development policies as set forth below further protect the environment. Any development in the 302 acres in the northern hillside area will require in-depth design and environmental study and mitigation. As a result, cumulative impacts on the biological habitat and the species that it supports are ***less than significant***.

Land Use Goal 1 – The Land Use Element maintains the existing rural residential character of the City. The element designates the general location, distribution, and extent of existing and permitted development.

Land Use Goal 2 – Preserve the identity, image and environmental quality of the hillside and open space areas in perpetuity by enforcing the Hillside Development Standards.

Land Use Objective 1 – To maintain the existing character of the community and to preserve those environmental resources and amenities that make the City of Bradbury a desirable place to live.

Land Use Policy 1 – The residential character of the community and environmental resources important to the City will be maintained.

Open-Space Policy No. 1 – Protect and preserve oak woodlands and mandate replacement planting of native oaks where oak woodlands are proposed for alteration.

Open-Space Policy No. 3 – Mandatory replacement planting of native trees and oaks.

Open-Space Policy No. 4 – Protect existing Blueline Streams.

Open-Space Policy No. 6 – Preservation of historically or culturally significant sites.

Open-Space Policy No. 7 – Protect wildlife and their habitats, including rare and endangered species.

Open-Space Policy No. 8 – Protection of rare and endangered plants.

Conservation Goal 3 – Protect the valuable watershed and natural habitat areas.

Conservation Policy 6 – Conserve riparian vegetation.

Conservation Policy 7 – Conserve wildlife habitat and assist residents in living with wildlife.

Conservation Policy 8 – Conserve oak woodlands.

Conservation Policy 12 – Protect sensitive plant species and their habitats.

Conservation Policy 13 – Protect rare, threatened, or endangered species.

Conservation Policy 14 – Explore the use of Habitat Conservation Plans and Natural Communities Conservation Programs.

Conservation Policy 19 – Protect natural resources.

Conservation Policy 21 – Protect archaeological, historical and paleontological resources

**(b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.)**

The cumulative impacts analysis in the 1994 General Plan EIR focused on future development in the City of Bradbury and the surrounding Cities of Duarte, Monrovia and Irwindale. The impact-by-impact discussion determined that cumulative impacts were either less than significant or could only be considered on a site specific analysis.

The 2012-2030 General Plan Update elaborates the City’s Vision, Goals, Policies, and Objectives and includes an Action Plan to implement those Goals, Policies and Objectives. The 2012-2030 General Plan Update also requires additional protection of resources and enhancement of environmental and quality of life factors through the following policies. With the addition of these policies, cumulative impacts remain *less than significant*.

Open-Space Policy 1 – Protect and preserve oak woodlands and mandate replacement planting of native oaks where oak woodlands are proposed for alteration.

Open-Space Policy 2 – Protect water quality.

Open-Space Policy 3 – Mandatory replacement planting of native trees and oaks.

Open-Space Policy 4 – Protect existing Blueline Streams.

Open-Space Policy 6 – Preservation of historically or culturally significant sites.

Open-Space Policy 10 – Protect areas of outstanding scenic beauty.

Conservation Policy 1 – Protect water bodies, watersheds and courses from development impacts.

Conservation Policy 3 – Protect surface water resources from contamination.

Conservation Policy 7 – Conserve wildlife habitat and assist residents in living with wildlife.



Conservation Policy 8 – Conserve oak woodlands.

Conservation Policy 15 – Eliminate identified water pollution sources.

Conservation Policy 19 – Protect natural resources.

Conservation Policy 21 – Protect archaeological, historical and paleontological resources.

**(c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?**

Relying on goals, policies and programs in the General Plan for mitigation, the 1994 General Plan EIR found that all impacts could be reduced to below a level of significance.

As previously discussed, the City of Bradbury is almost entirely built-out and the 2012-2030 General Plan Update would not substantively change land use or the allowable development envelopes. Implementation of the General Plan would not result in any additional development beyond what has already been contemplated under the existing General Plan. Development will continue under the full build-out projections of the General Plan.

With the implementation of the goals, objectives and policies stated above in response XVIII (a) and (b) cumulative impacts in regards to this issue area are **less than significant**.

## 5. APPENDICES

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- A Traffic Evaluation
- B Air Quality and Greenhouse Gas Evaluation
- C Noise Analysis
- D Biological Survey
- E City of Bradbury General Plan Matrices
  - City of Bradbury General Plan Comparison Matrix
  - City of Bradbury General Plan Goals and Objectives Comparison Matrix

# **APPENDIX A – Traffic Evaluation**

# **CITY OF BRADBURY GENERAL PLAN UPDATE TRAFFIC EVALUATION**

**CITY OF BRADBURY, CALIFORNIA**

**JANUARY 7, 2014**

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**TRAMES SOLUTIONS INC.**

**(0053-0003-06)**



# **CITY OF BRADBURY GENERAL PLAN UPDATE CIRCULATION ELEMENT**

## **TRAFFIC IMPACT ANALYSIS**

### **CITY OF BRADBURY, CALIFORNIA**

## **1.0 INTRODUCTION**

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The City of Bradbury is located north of the Foothill Freeway (I-210) and west of the terminus of the San Gabriel River Freeway (I-605). The City is bordered by the Angeles National Forest to the north, the City of Monrovia to the west, Duarte to the south, and Azusa to the east. Figure A illustrates the regional location of the City.

The Circulation Element represents the City's overall transportation plan to ensure that the growth and development indicated in the Land Use Element is adequately served. The transportation plan contributes to the form and character of the community by providing connections between neighborhoods and major transportation corridors.

The study objectives include evaluating key roadways that provide access into the City. The following conditions were analyzed:

- **EXISTING TRAFFIC**

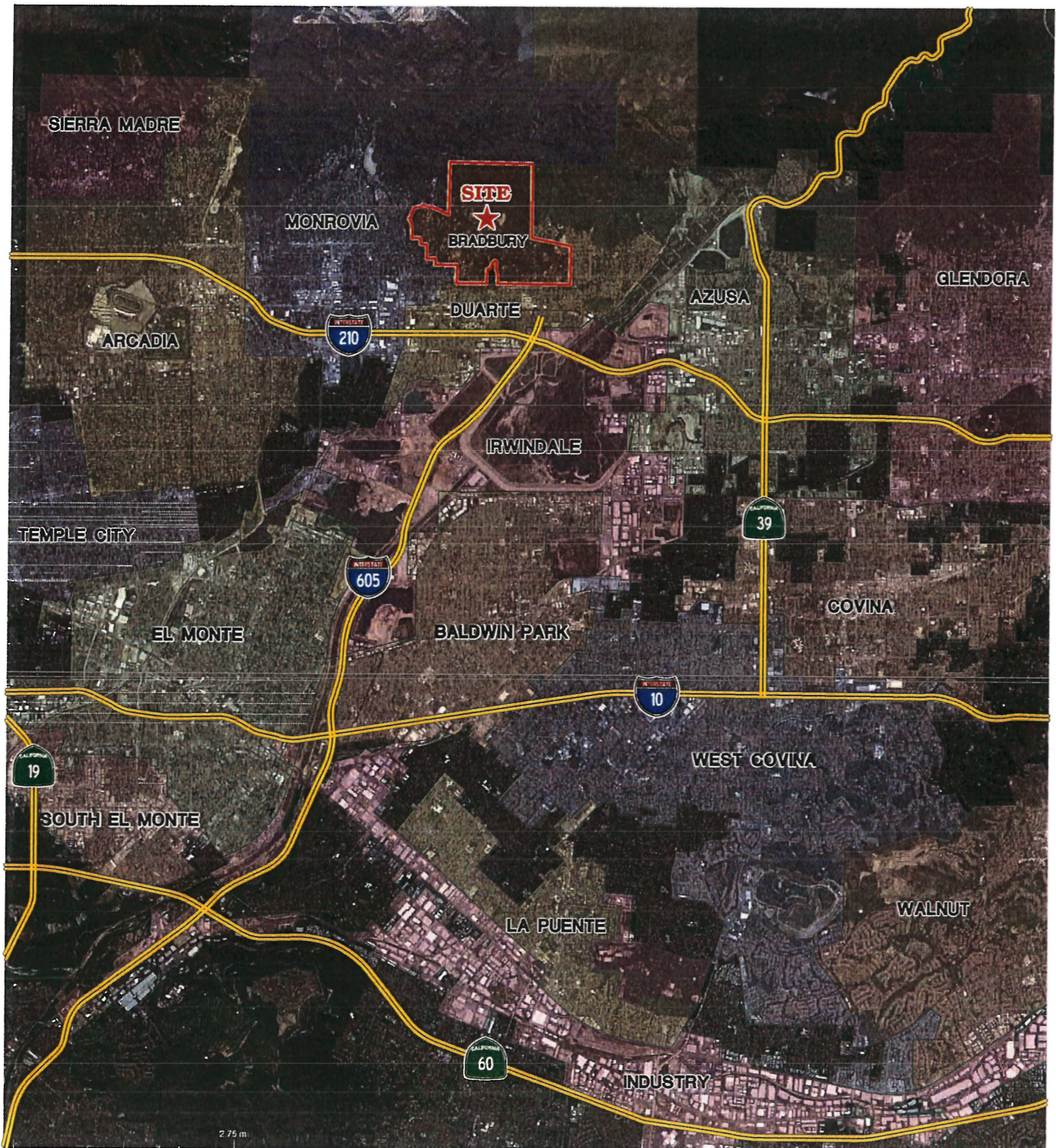
Existing daily traffic counts were collected to determine current conditions. This constitutes the baseline environmental setting for a CEQA analysis.

- **FUTURE CONDITIONS**

Future traffic conditions are estimated by adding existing traffic to the traffic generated by other vacant/underutilized parcels throughout the City. Since the City's roadways are not conducive to pass-through traffic from other Cities, the expected traffic growth can be attributed to the buildout of these parcels.



# FIGURE A REGIONAL MAP





## 2.0 EXISTING TRAFFIC CONDITIONS

The study area includes the roadway segments that provide access to the City. These segments include the following and are shown on Figure B:

ID	ROADWAY SEGMENTS
1	Deodar Lane, between Mountain Ave. and Palm Hill Ln.
2	Deodar Lane, between Wildrose Ave. and the gated entry.
3	Lemon Avenue, between Sombrero Rd. and Winston Ave.
4	Winston Avenue, between Royal Oaks Drive North and Lemon Ave.
5	Woodlyn Lane, between Royal Oaks Drive North and Deodar Ln.
6	Mt. Olive Drive, between Royal Oaks Drive and Gardi St.

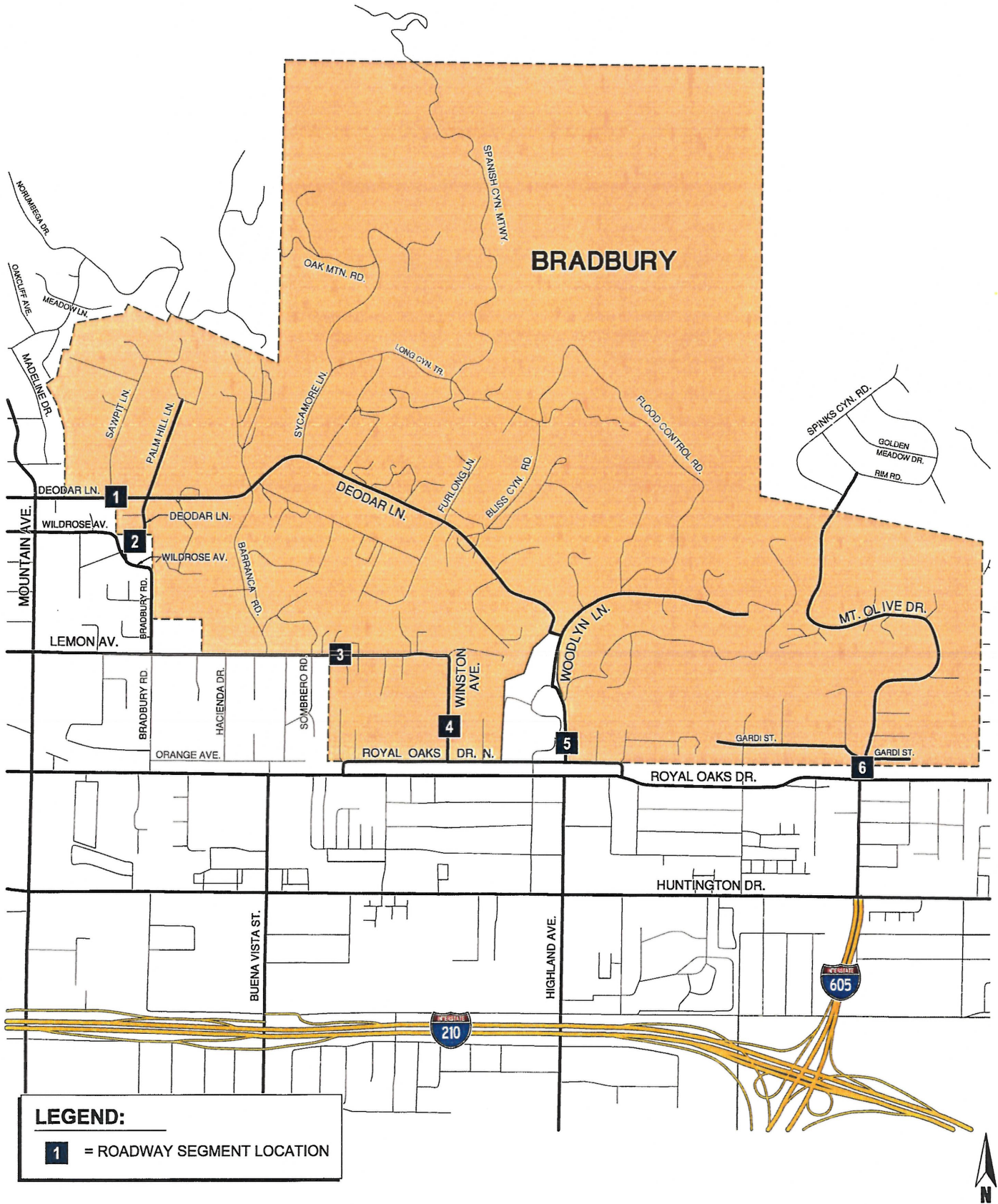
The roadways in the City of Bradbury range from collectors down to local residential streets. Collectors channel traffic from the local streets and distribute them to larger classified roadways such as arterials. The width of collectors allow for on-street parking with minimal impedances on through traffic. The capacity of collector roadways is 16,000 vehicles per day.

Local streets collect traffic from residences and distribute them to collectors. Parking is typically allowed on local streets but the relatively narrow width of the cross-section significantly reduces the roadways capacity and speeds. Motorists tend to experience more difficulty exiting residential driveways as traffic volumes increase. Industry standards suggest a "neighborhood" capacity of 2,000 vehicles per day as an appropriate threshold for these narrow, low speed roadways.

### EXISTING TRAFFIC VOLUMES

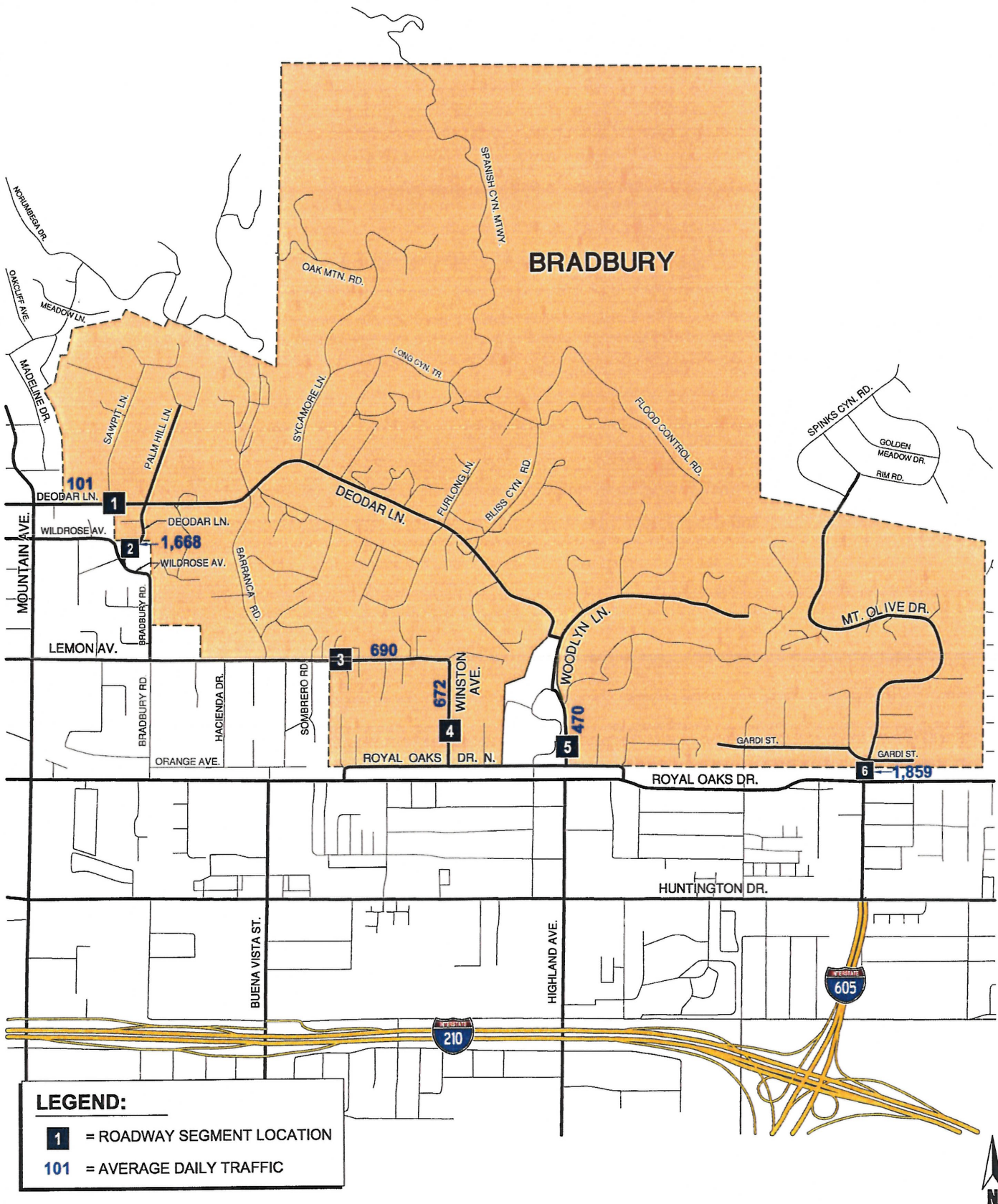
Existing average daily traffic (ADT) counts on the study area road segments are shown on Figure C. The traffic counts were collected in March 2013 on a typical weekday. The traffic count worksheets are included in Appendix "A".

# FIGURE B ROADWAY SEGMENT LOCATION MAP





# FIGURE C EXISTING DAILY TRAFFIC COUNTS



## **OPERATIONS ANALYSIS METHODOLOGY**

Level of Service (LOS) is a qualitative indicator that is used to describe the operative conditions of a roadway. The levels range from A to F, with LOS "A" being the best operating conditions and "F" being the worst. Levels of service are usually defined as A thru F. Beyond level of service E, capacity has been exceeded, and arriving traffic will exceed the ability of a given street to accommodate it. A description of the meaning of the six Levels of Service (LOS) is as follows:

- Level of Service A indicates no physical restriction on operating speeds.
- Level of Service B indicates stable flow with few restrictions on operating speed.
- Level of Service C indicates stable flow and more restrictions on speed and lane changing due to higher volumes of traffic.
- Level of Service D indicates approaching unstable flow conditions with little freedom to maneuver and which may be tolerable for short periods.
- Level of Service E is the absolute capacity of the road. It is characterized by unstable flow, lower operating speeds than LOS D, and some momentary stoppages.
- Level of Service F indicates forced flow operation (more traffic demand than there is capacity on the road) where the highway acts as a storage area and many stoppages occur.

Roadway segments are evaluated based on the calculated daily volume-to-capacity ratio. The following illustrates the correspondence between the volume-to-capacity ratio and subsequent levels of service.

VOLUME-TO-CAPACITY RATIO	LOS
0-0.60	A
0.61-0.70	B
0.71-0.80	C
0.81-0.90	D
0.91-1.00	E
Greater than 1.00	F

Generally, LOS "D" is the maximum allowable threshold for roadway segments. Therefore, LOS "E" or "F" is considered unacceptable and requires improvements measures.

The results of the existing conditions roadway segment analysis are summarized in Table 1. Based on the calculated roadway segment levels of service, the analyzed locations are currently operating at acceptable conditions.

**TABLE 1****EXISTING CONDITIONS ROADWAY SEGMENT LEVEL OF SERVICE**

ID	Roadway Segment	Existing Daily Traffic Volume	Roadway Capacity	V/C <sup>1</sup> Ratio	Level of Service
1	Deodar Ln., between Mtn. Ave. and Palm Hill Ln.	101	2,000	0.05	A
2	Deodar Ln., between Wildrose Ave. and the gated entry	1,668	16,000	0.10	A
3	Lemon Ave, between Sombrero Rd. and Winston Ave.	690	16,000	0.04	A
4	Winston Ave., between Royal Oaks Drive N. and Lemon Ave.	672	2,000	0.34	A
5	Woodlyn Ln., between Royal Oaks Drive N. and Deodar Ln.	470	2,000	0.24	A
6	Mt. Olive Drive, between Royal Oaks Drive and Gardi St.	1,859	16,000	0.12	A

<sup>1</sup> V/C = Volume-to-Capacity



### **3.0 PROJECTED FUTURE TRAFFIC**

This section of the report quantifies the number of trips generated by the proposed project and other known developments in the area. The City of Bradbury is nearly built out. However, the City has identified that approximately 97 additional residential units can be constructed in the undeveloped/underutilized parcels throughout the City.

#### **UNDEVELOPED/UNDERUTILIZED TRIP GENERATION**

Trip generation represents the amount of traffic which is attracted and produced by a development. For the purpose of this analysis, the following land use assumption is evaluated:

- 97 unbuilt residential units

Trip generation rates for the proposed development are shown in Table 2. The trip generation rates are based upon data collected by the Institute of Transportation Engineers (ITE).

The daily and peak hour trip generations for the proposed project are shown on Table 3. The undeveloped/underutilized developments are projected to generate a total of approximately 923 trip-ends per day with 72 vehicles per hour during the AM peak hour and 97 vehicles per hour during the PM peak hour.

#### **TOTAL DAILY FUTURE TRAFFIC VOLUMES**

Based on the identified trip generation for the undeveloped/underutilized developments on the roadways throughout the study area, future average daily traffic (ADT) are shown on Figure D.

**TABLE 2**  
**TRIP GENERATION RATES<sup>1</sup>**

Land Use	ITE Code	Quantity	Units <sup>2</sup>	Peak Hour Trip Rates						Daily
				AM			PM			
				In	Out	Total	In	Out	Total	
Single Fam. Detached	210	81	DU	0.19	0.56	0.75	0.63	0.37	1.00	9.52

<sup>1</sup> Source: ITE (Institute of Transportation Engineers) Trip Generation Manual, 9th Edition, 2012.

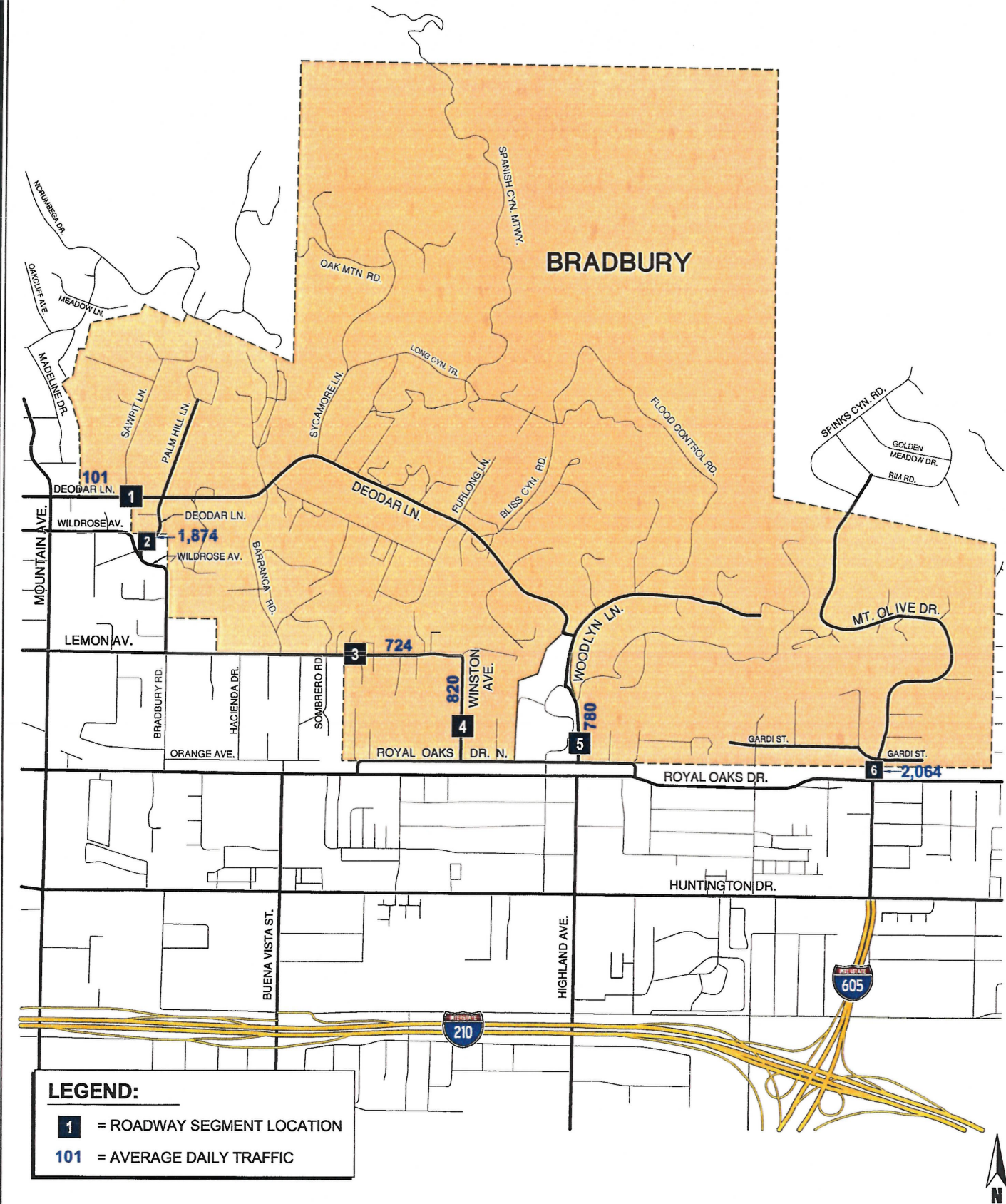
<sup>2</sup> DU = Dwelling Units

**TABLE 3**  
**TRIP GENERATION SUMMARY**

Land Use	Quantity	Units <sup>1</sup>	Peak Hour Trip Rates						Daily
			AM			PM			
			In	Out	Total	In	Out	Total	
Single Fam. Detached	97	DU	18	54	72	61	36	97	923
Total			18	54	72	61	36	97	923

<sup>1</sup> DU = Dwelling Units

### FIGURE D FUTURE DAILY TRAFFIC VOLUMES





# 4.0 TRAFFIC ANALYSIS

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For future traffic conditions, the study area roadway streets are anticipated to operate at acceptable levels of service based on daily volume-to-capacity ratios. Table 4 presents a summary of the future volume-to-capacity ratios along with the corresponding levels of service.

**TABLE 4****FUTURE CONDITIONS ROADWAY SEGMENT LEVEL OF SERVICE**

ID	Roadway Segment	Existing Daily Traffic Volume	Added Traffic	Total Traffic	Roadway Capacity	V/C <sup>1</sup> Ratio	Level of Service
1	Deodar Ln., between Mtn. Ave. and Palm Hill Ln.	101	0	101	2,000	0.05	A
2	Deodar Ln., between Wildrose Ave. and the gated entry	1,668	206	1,874	16,000	0.12	A
3	Lemon Ave, between Sombrero Rd. and Winston Ave.	690	34	724	16,000	0.05	A
4	Winston Ave., between Royal Oaks Drive N. and Lemon Ave.	672	148	820	2,000	0.41	A
5	Woodlyn Ln., between Royal Oaks Drive N. and Deodar Ln.	470	310	780	2,000	0.39	A
6	Mt. Olive Drive, between Royal Oaks Drive and Gardi St.	1,859	205	2,064	16,000	0.13	A

<sup>1</sup> V/C = Volume-to-Capacity

## 5.0 FINDINGS AND CONCLUSIONS

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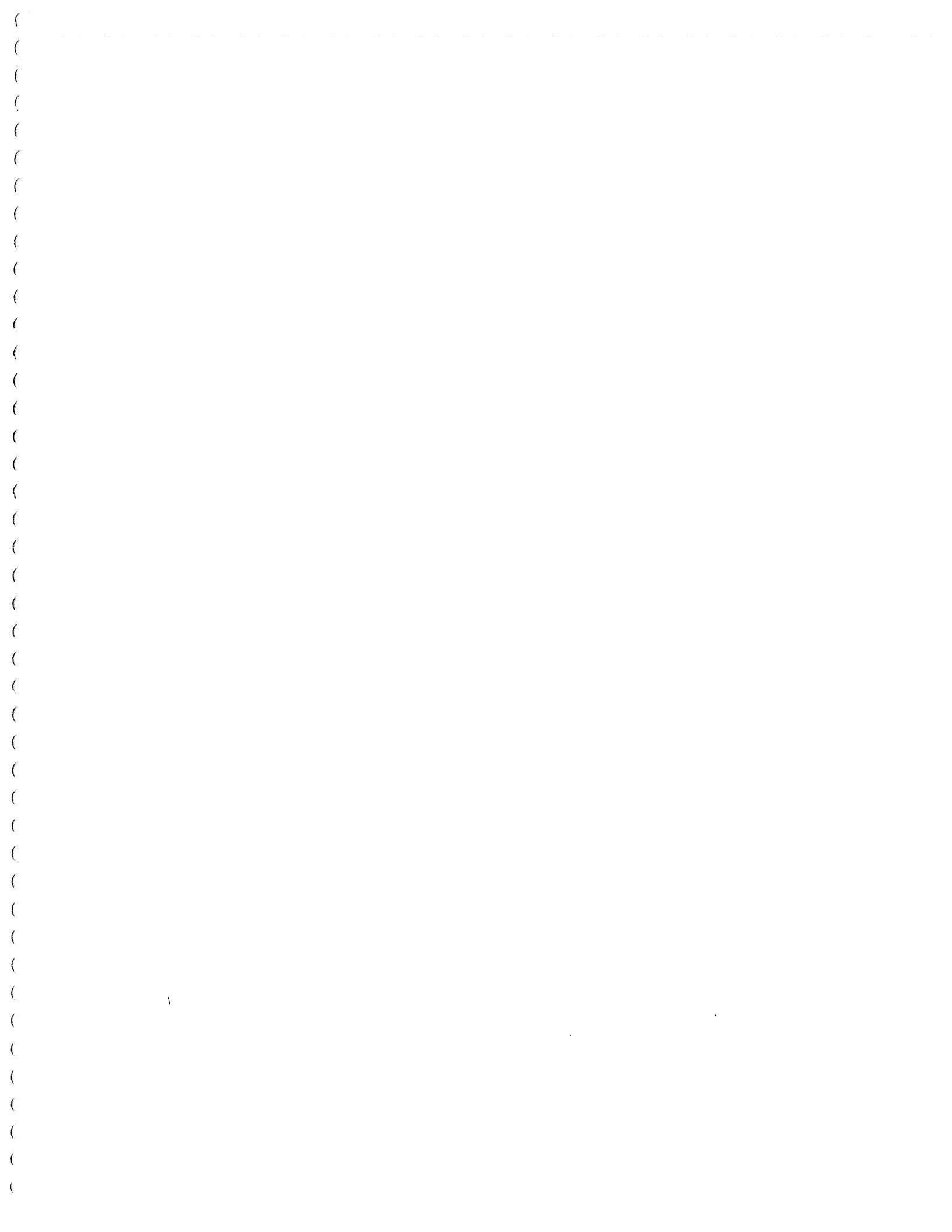
The study area roadway segments are currently operating at acceptable conditions based on the daily volume-to-capacity ratios and corresponding levels of service. For future conditions with the buildout of 97 future undeveloped/underutilized residential units, the roadway segments are expected to continue to operate at acceptable operating conditions.

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**APPENDIX A**

TRAFFIC COUNT WORKSHEETS



City of Bradbury  
Deoder Lane  
E/ Mountain Avenue  
24 Hour Directional Volume Count

BDY001  
Site Code: 201-13081  
Date Start: 12-Mar-13  
Date End: 12-Mar-13

Start Time	12-Mar-13 Tue	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		0	0			0	0				
12:15		0	0			0	0				
12:30		0	0			0	3				
12:45		0	1	0	1	0	0	0	3	0	4
01:00		0	0			0	0				
01:15		0	2			0	2				
01:30		0	0			0	0				
01:45		0	4	0	6	0	0	0	2	0	8
02:00		0	3			0	2				
02:15		0	1			0	1				
02:30		0	0			0	0				
02:45		0	0	0	4	0	0	0	3	0	7
03:00		0	0			0	1				
03:15		0	0			0	0				
03:30		0	0			0	0				
03:45		0	0	0	0	0	0	0	1	0	1
04:00		0	0			0	0				
04:15		0	1			0	2				
04:30		2	1			1	1				
04:45		0	6	2	8	0	1	1	4	3	12
05:00		0	2			0	1				
05:15		0	2			0	2				
05:30		0	4			0	3				
05:45		0	2	0	10	0	0	0	6	0	16
06:00		0	2			1	2				
06:15		0	1			0	0				
06:30		0	0			1	1				
06:45		0	2	0	5	0	0	2	3	2	8
07:00		3	0			4	0				
07:15		0	0			1	0				
07:30		0	0			1	1				
07:45		0	0	3	0	1	0	7	1	10	1
08:00		2	0			0	0				
08:15		0	0			0	0				
08:30		2	0			3	0				
08:45		0	0	4	0	1	0	4	0	8	0
09:00		2	0			0	0				
09:15		0	0			0	0				
09:30		0	4			1	0				
09:45		2	2	4	6	2	0	3	0	7	6
10:00		0	0			1	0				
10:15		0	0			0	0				
10:30		0	0			0	0				
10:45		0	2	0	2	1	0	2	0	2	2
11:00		0	0			0	0				
11:15		2	0			0	0				
11:30		0	0			0	0				
11:45		0	0	2	0	2	0	2	0	4	0
Total		15	42	15	42	21	23	21	23	36	65
Combined Total		57		57		44		44		101	
AM Peak		07:45				07:00					
Vol.		4				7					
P.H.F.		0.333				0.438					
PM Peak			04:45				04:45				
Vol.			14				7				
P.H.F.			0.583				0.583				
Percentage		26.3%	73.7%			47.7%	52.3%				
ADT/AADT		ADT 101		AADT 101							

City of Bradbury  
Deoder Lane  
E/ Wild Rose Avenue

BDY002

Site Code: 201-13081

Date Start: 12-Mar-13

Date End: 12-Mar-13

24 Hour Directional Volume Count

Start Time	12-Mar-13 Tue	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		0	13			0	19				
12:15		0	20			1	22				
12:30		0	21			1	14				
12:45		0	22	0	76	0	16	2	71	2	147
01:00		2	9			0	19				
01:15		0	10			0	11				
01:30		0	4			0	14				
01:45		0	19	2	42	0	14	0	58	2	100
02:00		0	18			0	12				
02:15		0	19			0	25				
02:30		0	12			0	21				
02:45		0	23	0	72	1	16	1	74	1	146
03:00		0	8			0	11				
03:15		0	17			0	10				
03:30		2	12			0	20				
03:45		0	17	2	54	0	25	0	66	2	120
04:00		0	12			0	23				
04:15		0	7			0	14				
04:30		0	11			2	10				
04:45		0	8	0	38	2	7	4	54	4	92
05:00		3	12			2	18				
05:15		4	10			3	11				
05:30		3	21			0	11				
05:45		4	10	14	53	2	8	7	48	21	101
06:00		4	12			3	11				
06:15		5	19			6	7				
06:30		9	14			9	10				
06:45		29	15	47	60	2	6	20	34	67	94
07:00		9	14			8	12				
07:15		15	10			17	6				
07:30		5	7			10	7				
07:45		16	6	45	37	19	9	54	34	99	71
08:00		22	9			5	4				
08:15		15	11			7	3				
08:30		12	5			10	9				
08:45		9	6	58	31	8	3	30	19	88	50
09:00		9	8			12	4				
09:15		23	11			10	0				
09:30		18	9			16	4				
09:45		16	12	66	40	9	2	47	10	113	50
10:00		13	4			14	8				
10:15		18	6			12	2				
10:30		17	6			14	2				
10:45		13	2	61	18	11	1	51	13	112	31
11:00		18	5			15	0				
11:15		14	1			20	1				
11:30		18	6			17	1				
11:45		20	3	70	15	16	0	68	2	138	17
Total		365	536	365	536	284	483	284	483	649	1019
Combined Total		901		901		767		767		1668	
AM Peak Vol.	09:15	70				11:00	68				
P.H.F.	0.761					0.850					
PM Peak Vol.			12:00				03:30				
P.H.F.			76				82				
			0.864				0.820				
Percentage		40.5%	59.5%			37.0%	63.0%				
ADT/AADT		ADT 1,668	AADT 1,668								



Counts Unlimited, Inc.  
PO Box 1178  
Corona, CA 92878  
(951) 268-6268

Page 1

City of Bradbury  
Lemon Avenue  
E/ Sombrero Road  
24 Hour Directional Volume Count

BDY003  
Site Code: 201-13081  
Date Start: 12-Mar-13  
Date End: 12-Mar-13

Start Time	12-Mar- 13 Tue	Eastbound		Hour Totals		Westbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		0	4			0	0				
12:15		0	1			0	6				
12:30		0	11			0	5				
12:45		0	6	0	22	0	4	0	15	0	37
01:00		1	9			0	3				
01:15		0	3			0	2				
01:30		0	11			1	1				
01:45		0	3	1	26	0	6	1	12	2	38
02:00		1	9			0	6				
02:15		0	8			0	3				
02:30		0	5			0	1				
02:45		0	5	1	27	0	6	0	16	1	43
03:00		0	6			0	3				
03:15		0	12			0	1				
03:30		0	2			0	0				
03:45		0	9	0	29	0	1	0	5	0	34
04:00		0	11			0	4				
04:15		0	10			1	5				
04:30		0	12			0	4				
04:45		0	34	0	67	0	5	1	18	1	85
05:00		0	26			0	3				
05:15		1	18			0	2				
05:30		0	27			0	4				
05:45		0	18	1	89	1	4	1	13	2	102
06:00		1	15			1	1				
06:15		0	15			2	6				
06:30		0	5			3	2				
06:45		2	5	3	40	5	4	11	13	14	53
07:00		3	7			10	1				
07:15		1	12			17	2				
07:30		2	4			16	2				
07:45		6	6	12	29	19	2	62	7	74	36
08:00		2	4			7	5				
08:15		5	1			8	2				
08:30		0	2			1	1				
08:45		1	4	8	11	10	0	26	8	34	19
09:00		4	3			5	2				
09:15		1	3			5	1				
09:30		3	1			5	0				
09:45		2	4	10	11	5	1	20	4	30	15
10:00		4	1			2	0				
10:15		4	1			1	0				
10:30		3	1			6	1				
10:45		3	0	14	3	1	2	10	3	24	6
11:00		6	1			3	2				
11:15		9	1			1	0				
11:30		2	2			5	1				
11:45		3	0	20	4	4	0	13	3	33	7
Total		70	358	70	358	145	117	145	117	215	475
Combined Total		428		428		262		262		690	
AM Peak		10:30				07:00					
Vol.		21				62					
P.H.F.		0.583				0.816					
PM Peak			04:45				00:15				
Vol.			105				18				
P.H.F.			0.772				0.750				
Percentage		16.4%	83.6%			55.3%	44.7%				
ADT/AADT		ADT 690	AADT 690								

City of Bradbury  
Winston Avenue  
N/ Royal Oaks Drive

24 Hour Directional Volume Count

BDY004  
Site Code: 201-13081  
Date Start: 12-Mar-13  
Date End: 12-Mar-13

Start Time	12-Mar-13 Tue	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		0	3			0	3				
12:15		1	5			1	3				
12:30		0	4			0	12				
12:45		0	4	1	16	0	5	1	23	2	39
01:00		0	2			1	5				
01:15		0	2			0	4				
01:30		1	2			0	11				
01:45		0	8	1	14	0	3	1	23	2	37
02:00		0	9			1	10				
02:15		0	4			0	8				
02:30		0	3			0	4				
02:45		0	2	0	18	0	9	1	31	1	49
03:00		0	4			0	7				
03:15		0	5			1	9				
03:30		0	2			0	4				
03:45		0	1	0	12	0	8	1	28	1	40
04:00		0	4			0	14				
04:15		0	5			0	10				
04:30		0	2			0	9				
04:45		0	5	0	16	0	22	0	55	0	71
05:00		0	2			0	24				
05:15		0	3			1	21				
05:30		1	5			0	22				
05:45		0	2	1	12	1	23	2	90	3	102
06:00		1	2			1	15				
06:15		2	3			1	12				
06:30		1	3			1	4				
06:45		3	2	7	10	1	8	4	39	11	49
07:00		9	3			1	7				
07:15		18	2			3	10				
07:30		10	3			2	1				
07:45		17	2	54	10	9	4	15	22	69	32
08:00		9	2			7	2				
08:15		11	2			6	1				
08:30		2	2			4	0				
08:45		6	1	28	7	2	5	19	8	47	15
09:00		6	1			5	1				
09:15		6	0			1	2				
09:30		2	0			3	1				
09:45		6	1	20	2	2	1	11	5	31	7
10:00		2	1			2	1				
10:15		2	1			3	1				
10:30		3	0			1	0				
10:45		1	1	8	3	4	0	10	2	18	5
11:00		3	0			7	2				
11:15		1	1			9	0				
11:30		2	1			3	1				
11:45		3	0	9	2	8	0	27	3	36	5
Total		129	122	129	122	92	329	92	329	221	451
Combined Total		251		251		421		421		672	
AM Peak	07:00					11:00					
Vol.	54					27					
P.H.F.	0.750					0.750					
PM Peak			01:45				05:00				
Vol.			24				90				
P.H.F.			0.667				0.938				
Percentage		51.4%	48.6%			21.9%	78.1%				
ADT/AADT		ADT 672		AADT 672							

City of Bradbury  
Woodlyn Lane  
N/ Royal Oaks Drive  
24 Hour Directional Volume Count

BDY005  
Site Code: 201-13081  
Date Start: 12-Mar-13  
Date End: 12-Mar-13

Start Time	12-Mar- 13 Tue	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		0	4			0	3				
12:15		0	4			0	5				
12:30		0	4			0	3				
12:45		2	7	2	19	0	3	0	14	2	33
01:00		0	5			0	4				
01:15		0	2			0	0				
01:30		0	4			0	3				
01:45		0	2	0	13	0	4	0	11	0	24
02:00		1	4			0	8				
02:15		0	2			0	6				
02:30		0	8			0	2				
02:45		0	3	1	17	0	2	0	18	1	35
03:00		0	7			0	4				
03:15		0	1			0	2				
03:30		0	7			0	4				
03:45		0	8	0	23	0	4	0	14	0	37
04:00		0	4			0	6				
04:15		0	0			0	3				
04:30		0	1			1	7				
04:45		0	7	2	12	1	1	2	17	4	29
05:00		2	9			0	5				
05:15		0	9			0	3				
05:30		0	6			1	4				
05:45		0	4	2	28	0	3	1	15	3	43
06:00		0	9			1	3				
06:15		0	5			2	5				
06:30		1	8			3	0				
06:45		2	3	3	25	4	3	10	11	13	36
07:00		0	2			1	6				
07:15		1	4			5	1				
07:30		6	4			5	2				
07:45		4	3	11	13	6	1	17	10	28	23
08:00		3	4			4	1				
08:15		11	3			4	0				
08:30		2	0			4	0				
08:45		5	0	21	7	7	1	19	2	40	9
09:00		3	4			7	0				
09:15		2	3			4	0				
09:30		3	3			2	1				
09:45		2	2	10	12	4	1	17	2	27	14
10:00		4	0			6	0				
10:15		7	2			1	0				
10:30		7	1			3	0				
10:45		8	2	26	5	4	0	14	0	40	5
11:00		0	0			3	0				
11:15		2	0			6	1				
11:30		2	0			0	0				
11:45		7	0	11	0	3	0	12	1	23	1
Total		89	174	89	174	92	115	92	115	181	289
Combined											
Total		263		263		207		207		470	
AM Peak		10:00				08:15					
Vol.		26				22					
P.H.F.		0.591				0.786					
PM Peak			04:45				01:30				
Vol.			31				21				
P.H.F.			0.861				0.656				
Percentage		33.8%	66.2%			44.4%	55.6%				
ADT/AADT		ADT 470		AADT 470							

City of Bradbury  
Mount Olive Drive  
N/ Royal Oaks Drive

24 Hour Directional Volume Count

BDY006

Site Code: 201-13081

Date Start: 12-Mar-13

Date End: 12-Mar-13

Start Time	12-Mar- 13 Tue	Northbound		Hour Totals		Southbound		Hour Totals		Combined Totals	
		Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon	Morning	Afternoon
12:00		0	13			0	18				
12:15		1	7			2	11				
12:30		1	18			0	16				
12:45		1	16	3	54	0	15	2	60	5	114
01:00		0	15			2	16				
01:15		0	16			4	8				
01:30		1	13			0	21				
01:45		1	14	2	58	1	17	7	62	9	120
02:00		1	22			0	18				
02:15		0	21			1	18				
02:30		1	24			0	15				
02:45		0	12	2	79	0	7	1	58	3	137
03:00		1	16			0	9				
03:15		0	17			1	15				
03:30		0	13			1	13				
03:45		1	16	2	62	0	12	2	49	4	111
04:00		1	16			0	5				
04:15		0	9			1	13				
04:30		0	21			3	8				
04:45		1	23	2	69	1	14	5	40	7	109
05:00		1	20			1	17				
05:15		1	14			7	15				
05:30		1	10			3	20				
05:45		2	24	5	68	6	10	17	62	22	130
06:00		2	27			9	16				
06:15		1	14			8	8				
06:30		3	17			6	17				
06:45		2	15	8	73	12	8	35	49	43	122
07:00		9	18			20	10				
07:15		13	12			29	15				
07:30		9	19			28	7				
07:45		11	21	42	70	23	10	100	42	142	112
08:00		13	16			20	9				
08:15		16	17			17	12				
08:30		14	17			17	8				
08:45		12	14	55	64	28	6	82	35	137	99
09:00		11	13			22	7				
09:15		5	9			14	1				
09:30		10	11			17	3				
09:45		7	6	33	39	16	4	69	15	102	54
10:00		15	9			12	3				
10:15		15	14			20	0				
10:30		6	9			10	3				
10:45		13	5	49	37	14	3	56	9	105	46
11:00		15	4			18	1				
11:15		6	3			19	0				
11:30		11	2			17	2				
11:45		16	0	48	9	11	1	65	4	113	13
Total		251	682	251	682	441	485	441	485	692	1167
Combined											
Total		933		933		926		926		1859	
AM Peak											
Vol.	08:00					07:00					
P.H.F.	55					100					
PM Peak	0.859					0.862					
Vol.			05:45				01:30				
P.H.F.			82				74				
			0.759				0.881				
Percentage		26.9%	73.1%			47.6%	52.4%				
ADT/AADT											
T		ADT 1,859	AADT 1,859								



## **APPENDIX B – Air Quality and Greenhouse Gas Emissions Evaluation**

January 16, 2014

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**Subject: City of Bradbury General Plan Update Air Quality and Greenhouse Gas Evaluation**

**PURPOSE**

The purpose of this evaluation is to determine the air quality and greenhouse gas impacts associated with the implementation of the City of Bradbury's General Plan update.

The entire City is developed with single-family residential dwelling units. Publically owned property consists of the Civic Center; Royal Oaks Elementary School; Los Angeles County Flood Control District owned Flood Control Debris Basins and Channels; and privately owned Water Reservoirs. The vacant parcels within the City fall within two categories. Those parcels located in the northernmost portion of the City (Category 1) are constrained by steep slopes, lack of access, lack of utilities, protected ridgelines and riparian habitat; and sensitive native vegetation. Additionally, the City's Hillside Development Standards severely restrict grading of these slopes which are in excess of 50%. The remaining vacant 24 parcels and 5 underutilized parcels, (Category 2) are considered as having potential for development of single-family residential dwellings.

**Category 1** is comprised of a 302-acre area consisting of eight (8) parcels in the City's northern boundary adjacent to the City of Monrovia and the Angeles National Forest. The General Plan Land Use Map identifies this area as Open Space-Hillside Preservation, Privately Owned Undeveloped, having a maximum density of one dwelling unit per five acres. The area contains hillsides in excess of 50%; numerous protected ridgelines, blue line streams; earthquake induced landslide zones; lack of public or private access; lack of public utilities and habitat that may include sensitive or endangered flora and fauna. These development restrictions can lead one to consider that development of the area is physically and economically infeasible. This area is further restricted by the designation as a Very High Fire Hazard Severity Zone in

compliance with California State Law. The area has been zoned A-5 SP (Agriculture-Residential Specific Plan). If future circumstances change a Specific Development Plan could be submitted for consideration.

Use of this area could include the creation of a conservation conservancy/easement; the use of development right transfer strategies or cluster development concepts.

CATEGORY 1							
VACANT OPEN SPACE HILLSIDE PRESERVATION PARCELS							
	Parcel No.	Area.	Zone	Land Use	Potential DU's	Potential 2 <sup>nd</sup> DU's	Total DU's
1.	8527-001-001	41.40	A-5 (SP)	Estate 5-Ac	1	1	2
2.	8527-001-008	70.00	A-5 (SP)	Estate 5-Ac	1	1	2
3.	8527-001-009	20.54	A-5 (SP)	Estate 5-Ac	1	1	2
4.	8527-001-010	59.19	A-5 (SP)	Estate 5-Ac	1	1	2
5.	8527-001-012	59.30	A-5 (SP)	Estate 5-Ac	1	1	2
6.	8527-005-001	8.37	A-5 (SP)	Estate 5-Ac	1	1	2
7.	8527-005-002	1.03	A-5 (SP)	Estate 5-Ac	1	1	2
8.	8527-005-004	42.36	A-5 (SP)	Estate 5-Ac	1	1	2
	<b>Total</b>	<b>302.19</b>			<b>8</b>	<b>8</b>	<b>16</b>

**Category 2** is comprised of five (5) Underutilized and twenty-four (24) Vacant parcels. All of these sites are considered as appropriate for development of single-family residential dwelling units.

CATEGORY 2							
-UNDERUTILIZED PARCELS							
	Parcel No.	Parcel Size	Zone	Land Use	Potential No. of Units	Potential No. of 2nd DU's	Total No. Potential DU's
1.	8527-021-041	12.40-ac	A-1	Estate – 1 unit per acre	6	7	13
2.	8527-023-020	2.75 ac	A-1	Estate – 1 unit per acre	1	2	3
3.	8527-023-021	3.80-ac	A-1	Estate – 1 unit per acre	2	3	5
4.	8527-002-014	12.8-ac	A-5	Estate – 0.2unit per-acre	1	2	3
5.	8527-003-035	2.08 ac	A-1	Estate – 1 unit per acre	2	2	4
	<b>Total</b>	<b>33.83 ac</b>			<b>12</b>	<b>16</b>	<b>28</b>



CATEGORY 2							
VACANT UNDEVELOPED RESIDENTIAL PARCELS							
	Parcel No.	Parcel Size	Zone	Land Use	Potential No. of Units	Potential No of 2 <sup>nd</sup> Dwellings	Total No. of Potential DU's
1.	8527-002-023	5.58	A-5	Estate 5-Ac	1	1	2
2.	8527-004-020	2.12	A-5	Estate 5-Ac	1	1	2
3.	8527-006-019	4.96	A-2	Estate 2-Ac	1	1	2
4.	8527-007-023	0.39	A-2	Estate 2-Ac	1	1	2
5.	8527-007-024	1.96	A-2	Estate 2-Ac	1	1	2
6.	8527-007-025	2.14	A-2	Estate 2-Ac	1	1	2
7.	8527-007-026	2.32	A-2	Estate 2-Ac	1	1	2
8.	8527-007-027	2.87	A-2	Estate 2-Ac	1	1	2
9.	8527-016-009	8.01	A-2	Estate 2-Ac	3	3	6
10.	8527-016-019	2.03	A-2	Estate 2-Ac	1	1	2
11.	8527-016-035	1.35	A-2	Estate 2-Ac	1	1	2
12.	8527-016-036	2.18	A-2	Estate 2-Ac	1	1	2
13.	8527-016-037	1.18	A-2 (SP)	Estate 2-Ac	1	0	1
14.	8527-016-039	1.29	A-2 (SP)	Estate 2-Ac	1	0	1
15.	8527-021-011	1.54	A-2	Estate 2-Ac	1	1	2
16.	8527-021-044	1.13	A-1	Estate 1-Ac	1	1	2
17.	8527-024-032	5.3	A-5	Estate 5-Ac	1	1	2
18.	8527-025-035	2.05	A-5	Estate 5-Ac	1	1	2
19.	8527-026-006	2.90	A-5	Estate 5-Ac	1	2	3
20.	8527-026-033	2.40	A-5	Estate 5-Ac	1	1	2
21.	8527-026-034 & 8527-026-036	2.29	A-5	Estate 5-Ac	1	1	2
22.	8527-029-001	2.54	A-5	Estate 5-Ac	1	1	2
23.	8527-029-017	7.16	A-5	Estate 5-Ac	1	1	2
24.	8527-023-012	2.13	A-1	Estate 1-Ac	2	2	4
	<b>Total</b>	<b>67.82</b>			<b>27</b>	<b>26</b>	<b>53</b>

Based on the latest land use information, it appears that 97 dwelling units can be developed under the General Plan Update.

### **SUMMARY**

The results of the analysis support the following conclusions:

- The project is in compliance with the SCAQMD's 2012 Air Quality Management Plan.
- The project-generated emissions do not have the potential to violate federal and state ambient air quality standards.
- The project's contribution to cumulative impacts is not cumulatively considerable.

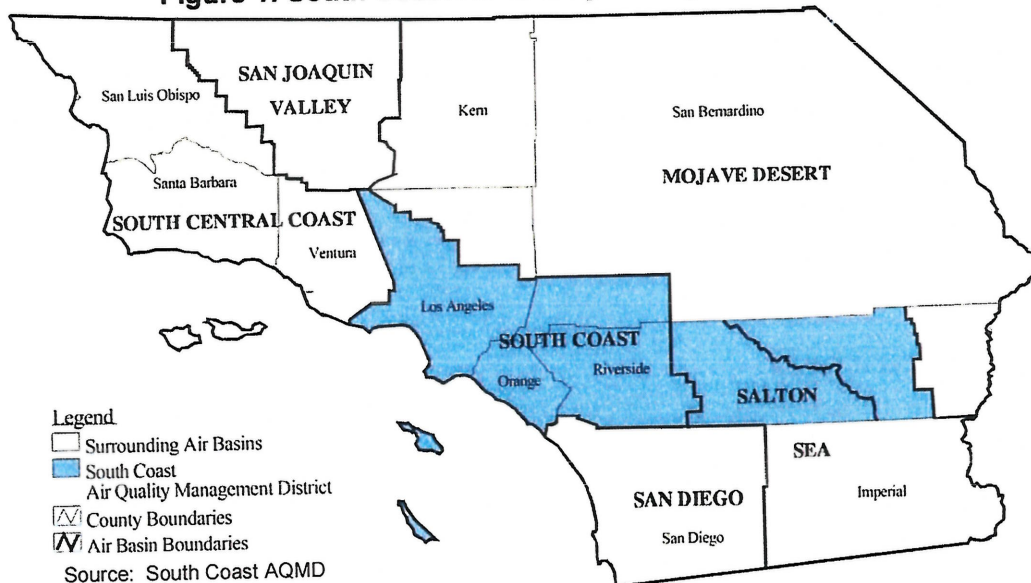
- The project does not have the potential to expose sensitive receptors to substantial pollutant concentrations.
- Project-generated odors will not affect a substantial number of people.
- Project-generated greenhouse gas emissions, either directly or indirectly will not have a significant impact on the environment.
- The project will not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

#### **SOUTH COAST AIR BASIN**

The project site is located in the SCAB (South Coast Air Basin) within the jurisdiction of SCAQMD. The SCAQMD was created by the 1977 Lewis-Presley Air Quality Management Act, which merged four county air pollution control bodies into one regional district. Under the Act, the SCAQMD is responsible for bringing air quality in areas under its jurisdiction into conformity with federal and state air quality standards. The SCAQMD has jurisdiction over an area of approximately 10,743 square miles, consisting of the four-county Basin (Orange County and the non-desert portions of Los Angeles, Riverside and San Bernardino Counties), and the Riverside County portions of the Salton Sea Air Basin and Mojave Desert Air Basin.

The Basin is bound by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Los Angeles County portion of the Mojave Desert Air Basin is bound by the San Gabriel Mountains to the south and west, the Los Angeles / Kern County border to the north, and the Los Angeles / San Bernardino County border to the east. The Riverside County portion of the Salton Sea Air Basin is bound by the San Jacinto Mountains in the west and spans eastward up to the Palo Verde Valley. The federal non-attainment area (known as the Coachella Valley Planning Area) is a subregion of the Riverside County and Salton Sea Air Basin that is bound by the San Jacinto Mountains to the west and the eastern boundary of the Coachella Valley to the east.

**Figure 1: South Coast Air Quality Management District**



### **WIND PATTERNS**

The importance of wind to air pollution is considerable. The direction and speed of the wind determines the horizontal dispersion and transport of the air pollutants. During the late autumn to early spring rainy season, the Basin is subjected to wind flows associated with the traveling storms moving through the region from the northwest. This period also brings five to ten periods of strong, dry offshore winds, locally termed "Santa Anas" each year. During the dry season, which coincides with the months of maximum photochemical smog concentrations, the wind flow is bimodal, typified by a daytime onshore sea breeze and a nighttime offshore drainage wind. Summer wind flows are created by the pressure differences between the relatively cold ocean and the unevenly heated and cooled land surfaces that modify the general northwesterly wind circulation over Southern California. Nighttime drainage begins with the radiational cooling of the mountain slopes. Heavy, cool air descends the slopes and flows through the mountain passes and canyons as it follows the lowering terrain toward the ocean. Because of the City of Bradbury's location, air quality is generally good, as many pollutants are carried inland by daytime on-shore winds, which tend to be stronger than nighttime drainage flows.

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The prevailing winds in the project area move predominately from the south and southwest with an average wind speed of 1.27 m/s. A Windrose exhibit is available for review as presented in Figure 2 of this report and shows prevailing wind patterns and average speed in the Bradbury area. The nearest available meteorological data in the project vicinity was obtained from the Pasadena monitoring site and is used to be representative of the project area. The meteorological data was available for use by the SCAQMD on their website (<http://www.aqmd.gov/smog/metdata/MetDataTable1.html>).

### **TEMPERATURE INVERSIONS**

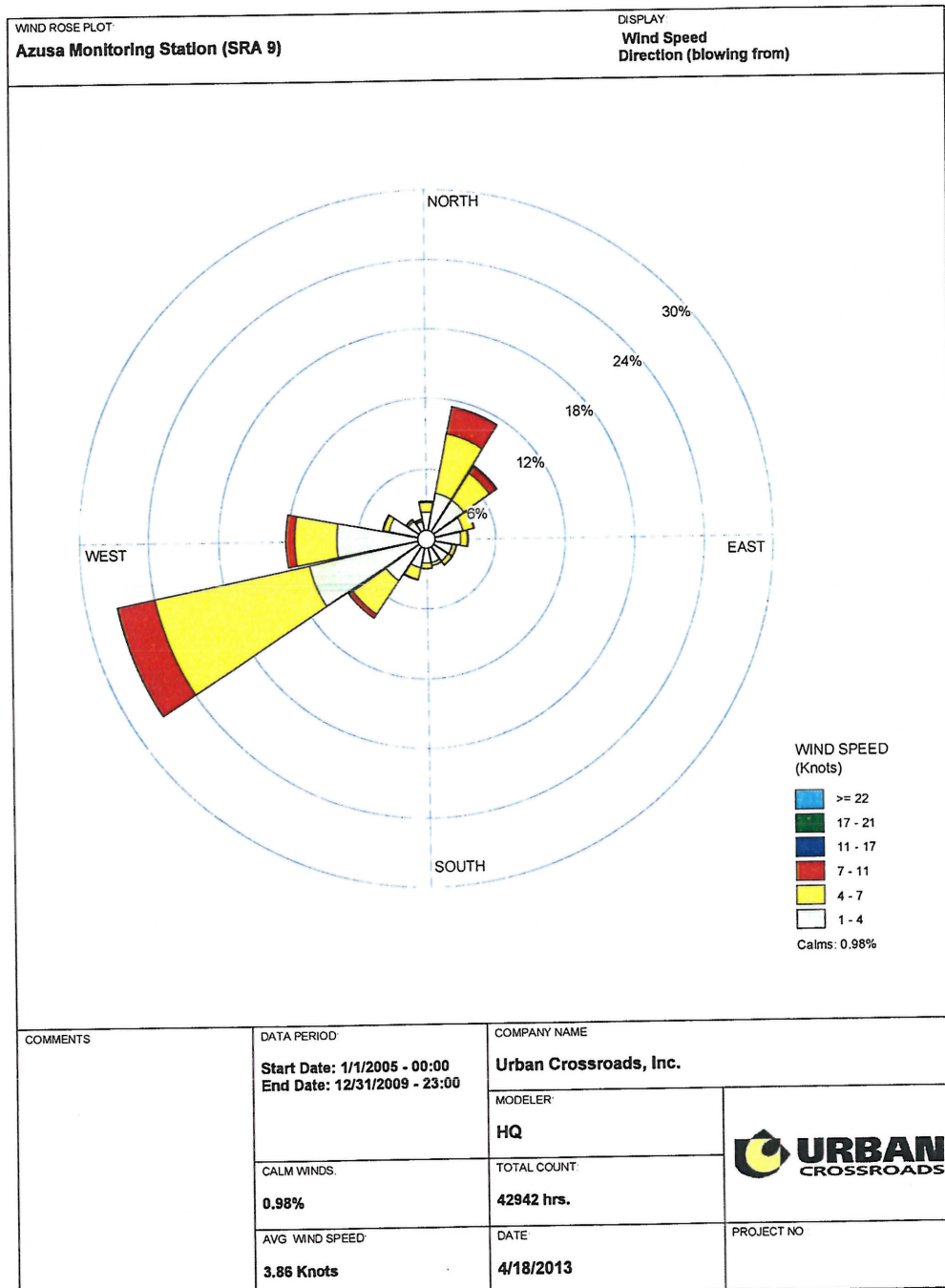
In the Basin, there are two distinct temperature inversion structures that control vertical mixing of air pollution. During the summer, warm high-pressure descending (subsiding) air is undercut by a shallow layer of cool marine air. The boundary between these two layers of air is a persistent marine subsidence/inversion. This boundary prevents vertical mixing which effectively acts as an impervious lid to pollutants over the entire Basin. The mixing height for the inversion structure is normally situated 1,000 to 1,500 feet above mean sea level.

A second inversion-type forms in conjunction with the drainage of cool air off the surrounding mountains at night followed by the seaward drift of this pool of cool air. The top of this layer forms a sharp boundary with the warmer air aloft and creates nocturnal radiation inversions. These inversions occur primarily in the winter, when nights are longer and onshore flow is weakest. They are typically only a few hundred feet above mean sea level. These inversions effectively trap pollutants, such as NO<sub>x</sub> and CO from vehicles, as the pool of cool air drifts seaward. Winter is therefore a period of high levels of primary pollutants along the coastline.



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**Figure 2**  
**Wind Rose Exhibit**



WRPLOT View - Lakes Environmental Software

### **AMBIENT AIR QUALITY STANDARDS**

Existing air quality is measured based upon ambient air quality standards. These standards are the levels of air quality that are considered safe, with an adequate margin of safety, to protect the public health and welfare. Those standards currently in effect for both California and federal air quality are shown in Table 2.

The determination of whether a region's air quality is healthful or unhealthful is determined by comparing contaminant levels in ambient air samples to the state and federal standards presented in Table 2. The air quality in a region is considered to be in attainment if the measured ambient air pollutant levels for O<sub>3</sub>, CO, SO<sub>2</sub> (1-hour and 24-hour), NO<sub>2</sub>, and PM<sub>10</sub> are not exceeded and all other standards are not equaled or exceeded at any time in any consecutive three-year period; and the federal standards (other than O<sub>3</sub>, PM<sub>10</sub>, and those based on annual averages or arithmetic mean) are not exceeded more than once per year. The O<sub>3</sub> standard is attained when the fourth highest eight-hour concentration in a year, averaged over three years, is equal to or less than the standard.

For PM<sub>10</sub>, the 24-hour standard is attained when 99 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. See Table 3 for attainment designations for the project area.

### **AIR POLLUTANT MONITORING AND DESCRIPTION OF POLLUTANTS**

The nearest long-term air quality monitoring for Ozone (O<sub>3</sub>), Carbon Monoxide, Nitrogen Dioxide (NO<sub>2</sub>) is carried out by the SCAQMD at the East San Gabriel Valley #2 (SRA 9) monitoring station. Data for Inhalable Particulates (PM<sub>10</sub>) and Ultra-Fine Particulates (PM<sub>2.5</sub>) is not monitored at the East San Gabriel Valley #2 (SRA 9) monitoring station and was therefore obtained from the next nearest monitoring site that records this data at the East San Gabriel Valley #1 (SRA 9) Monitoring site. Data for sulfur dioxide (SO<sub>2</sub>) has been omitted from this analysis as attainment is regularly met in the SCAB and few monitoring stations measure SO<sub>2</sub> concentrations. The 3 years of data in Table 4 shows the number of days standards were exceeded for the study area.

TABLE 2 (PAGE 1 OF 2)

Ambient Air Quality Standards						
Pollutant	Averaging Time	California Standards <sup>1</sup>		National Standards <sup>2</sup>		
		Concentration <sup>3</sup>	Method <sup>4</sup>	Primary <sup>3,5</sup>	Secondary <sup>3,6</sup>	Method <sup>7</sup>
Ozone (O <sub>3</sub> )	1 Hour	0.09 ppm (180 µg/m <sup>3</sup> )	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m <sup>3</sup> )		0.075 ppm (147 µg/m <sup>3</sup> )		
Respirable Particulate Matter (PM <sub>10</sub> )	24 Hour	50 µg/m <sup>3</sup>	Gravimetric or Beta Attenuation	150 µg/m <sup>3</sup>	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m <sup>3</sup>		—		
Fine Particulate Matter (PM <sub>2.5</sub> )	24 Hour	—	—	35 µg/m <sup>3</sup>	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m <sup>3</sup>	Gravimetric or Beta Attenuation	12 µg/m <sup>3</sup>		
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m <sup>3</sup> )	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m <sup>3</sup> )	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m <sup>3</sup> )		9 ppm (10 mg/m <sup>3</sup> )	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m <sup>3</sup> )		—	—	
Nitrogen Dioxide (NO <sub>2</sub> ) <sup>8</sup>	1 Hour	0.18 ppm (339 µg/m <sup>3</sup> )	Gas Phase Chemiluminescence	100 ppb (188 µg/m <sup>3</sup> )	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m <sup>3</sup> )		0.053 ppm (100 µg/m <sup>3</sup> )	Same as Primary Standard	
Sulfur Dioxide (SO <sub>2</sub> ) <sup>9</sup>	1 Hour	0.25 ppm (655 µg/m <sup>3</sup> )	Ultraviolet Fluorescence	75 ppb (196 µg/m <sup>3</sup> )	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m <sup>3</sup> )	
	24 Hour	0.04 ppm (105 µg/m <sup>3</sup> )		0.14 ppm (for certain areas) <sup>10</sup>	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas) <sup>10</sup>	—	
Lead <sup>10,11</sup>	30 Day Average	1.5 µg/m <sup>3</sup>	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m <sup>3</sup> (for certain areas) <sup>11</sup>	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m <sup>3</sup>		
Visibility Reducing Particles <sup>12</sup>	8 Hour	See footnote 12	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m <sup>3</sup>	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m <sup>3</sup> )	Ultraviolet Fluorescence			
Vinyl Chloride <sup>10</sup>	24 Hour	0.01 ppm (26 µg/m <sup>3</sup> )	Gas Chromatography			

See footnotes on next page ...

## TABLE 2 FOOTNOTES (PAGE 2 OF 2)

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide ( $\text{SO}_2$ ) and 24-hour, nitrogen dioxide, and particulate matter (PM<sub>10</sub>, PM<sub>2.5</sub>, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM<sub>10</sub>, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above  $150 \mu\text{g}/\text{m}^3$  is equal to or less than one. For PM<sub>2.5</sub>, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.
3. Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of  $25^\circ\text{C}$  and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of  $25^\circ\text{C}$  and a reference pressure of 760 torr. ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. Any equivalent measurement method which can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.
5. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.
6. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.
7. Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.
8. To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
9. On June 2, 2010, a new 1-hour  $\text{SO}_2$  standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971  $\text{SO}_2$  national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.  
  
Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
10. The ARB has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.
11. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard ( $1.5 \mu\text{g}/\text{m}^3$  as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
12. In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.



**TABLE 3**  
**ATTAINMENT STATUS OF CRITERIA POLLUTANTS IN THE SOUTH COAST AIR BASIN (SCAB)**

Criteria Pollutant	State Designation	Federal Designation
Ozone - 1hour standard	Nonattainment	No Standard
Ozone - 8 hour standard	Nonattainment	Extreme Nonattainment
PM <sub>10</sub>	Nonattainment	Serious Nonattainment
PM <sub>2.5</sub>	Nonattainment	Nonattainment
Carbon Monoxide	Attainment	Attainment/Maintenance
Nitrogen Dioxide	Nonattainment	Attainment/Maintenance
Sulfur Dioxide	Attainment	Attainment
Lead	Attainment/Nonattainment <sup>4</sup>	Attainment/Nonattainment
All others	Attainment/Unclassified	Attainment/Unclassified

Source: California Air Resources Board 2012 (<http://www.arb.ca.gov/desig/desig.htm>, <http://www.arb.ca.gov/desig/feddesig.htm>)

<sup>4</sup> The Los Angeles County portion of the SCAB is classified as nonattainment; the remainder of the SCAB is in attainment of the State Standard.

**TABLE 4**  
**PROJECT AREA AIR QUALITY MONITORING SUMMARY 2010-2012**  
**EAST SAN GABRIEL VALLEY #2 AND EAST SAN GABRIEL VALLEY #1 (SRA 9) AIR**  
**MONITORING STATION DATA <sup>a</sup>**

POLLUTANT	STANDARD	YEAR		
		2010	2011	2012
Ozone (O <sub>3</sub> )				
Maximum 1-Hour Concentration (ppm)		0.124	0.134	0.147
Maximum 8-Hour Concentration (ppm)		0.099	0.111	0.111
Number of Days Exceeding State 1-Hour Standard	> 0.09 ppm	25	35	45
Number of Days Exceeding State 8-Hour Standard	> 0.07 ppm	48	40	59
Number of Days Exceeding Federal 8-Hour Standard	> 0.075 ppm	20	30	45
Number of Days Exceeding Health Advisory	≥ 0.15 ppm	0	0	0
Carbon Monoxide (CO)				
Maximum 1-Hour Concentration (ppm)		2.0	1.4	1.3
Maximum 8-Hour Concentration (ppm)		1.3	1.1	1.1
Number of Days Exceeding State 1-Hour Standard	> 20 ppm	0	0	0
Number of Days Exceeding Federal / State 8-Hour Standard	> 9.0 ppm	0	0	0
Number of Days Exceeding Federal 1-Hour Standard	> 35 ppm	0	0	0
Nitrogen Dioxide (NO <sub>2</sub> )				
Maximum 1-Hour Concentration (ppm)		0.0785	0.0776	0.060
Annual Arithmetic Mean Concentration (ppm)		0.0154	0.0129	--
Number of Days Exceeding State 1-Hour Standard	> 0.25 ppm <sup>b</sup>	0	0	0
Number of Days Exceeding State 1-Hour Standard	> 0.18 ppm	0	0	0
Inhalable Particulates (PM <sub>10</sub> )				
Maximum 24-Hour Concentration (µg/m <sup>3</sup> )		70	65	78
Number of Samples		55	61	61
Number of Samples Exceeding State Standard	> 50 µg/m <sup>3</sup>	5	9	36
Number of Samples Exceeding Federal Standard	> 150 µg/m <sup>3</sup>	0	0	0
Ultra-Fine Particulates (PM <sub>2.5</sub> )				
Maximum 24-Hour Concentration (µg/m <sup>3</sup> )		44.4	49.5	39.6
Number of Samples		93	118	118
Annual Arithmetic Mean (µg/m <sup>3</sup> )		10.9	11.4	11
Number of Samples Exceeding Federal 24-Hour Standard	> 35 µg/m <sup>3</sup>	1	1	--

<sup>a</sup> East San Gabriel Valley #2 (SRA 9) Monitoring Station utilized for all pollutants except PM<sub>10</sub>, and PM<sub>2.5</sub>.  
Source: South Coast Air Quality Management District (SCAQMD) ([www.aqmd.gov](http://www.aqmd.gov)) (<http://www.epa.gov/airdata/>)

Examples of sources and effects of these pollutants are identified below:

- Carbon Monoxide (CO): Carbon monoxide is a colorless, odorless, tasteless and toxic gas resulting from the incomplete combustion of fossil fuels. CO interferes with the blood's ability to carry oxygen to the body's tissues and results in numerous adverse health effects. CO is a criteria air pollutant.
- Oxides of Sulfur (SO<sub>x</sub>): Typically strong smelling, colorless gases that are formed by the combustion of fossil fuels. SO<sub>2</sub> and other sulfur oxides contribute to the problem of acid deposition. SO<sub>2</sub> is a criteria pollutant.
- Nitrogen Oxides (Oxides of Nitrogen, or NO<sub>x</sub>): Nitrogen oxides (NO<sub>x</sub>) consist of nitric oxide (NO), nitrogen dioxide (NO<sub>2</sub>) and nitrous oxide (N<sub>2</sub>O) and are formed when nitrogen (N<sub>2</sub>) combines with oxygen (O<sub>2</sub>). Their lifespan in the atmosphere ranges from one to seven days for nitric oxide and nitrogen dioxide, to 170 years for nitrous oxide. The lifespan of these pollutants refers to the amount of time they are stable in the atmosphere and can react with other pollutants; once the particles become unstable they are "removed" from the atmosphere through processes of rain, snow, and deposition to the ground. Nitrogen oxides are typically created during combustion processes, and are major contributors to smog formation and acid deposition. NO<sub>2</sub> is a criteria air pollutant, and may result in numerous adverse health effects; it absorbs blue light, resulting in a brownish-red cast to the atmosphere and reduced visibility.
- Ozone (O<sub>3</sub>): A strong smelling, pale blue, reactive toxic chemical gas consisting of three oxygen atoms. It is a product of the photochemical process involving the sun's energy. Ozone exists in the upper atmosphere ozone layer as well as at the earth's surface. Ozone at the earth's surface causes numerous adverse health affects and is a criteria air pollutant. It is a major component of smog.
- Particulate Matter less than 10 microns (PM<sub>10</sub>): A major air pollutant consisting of tiny solid or liquid particles of soot, dust, smoke, fumes, and aerosols. The size of

the particles (10 microns or smaller, about 0.0004 inches or less) allows them to easily enter the lungs where they may be deposited, resulting in adverse health effects. PM<sub>10</sub> also causes visibility reduction and is a criteria air pollutant.

- Particulate Matter less than 2.5 microns (PM<sub>2.5</sub>): A similar air pollutant consisting of tiny solid or liquid particles which are 2.5 microns or smaller (which is often referred to as fine particles). These particles are formed in the atmosphere from primary gaseous emissions that include sulfates formed from sulfur dioxide release from power plants and industrial facilities and nitrates that are formed from NO<sub>x</sub> release from power plants, automobiles and other types of combustion sources. The chemical composition of fine particles highly depends on location, time of year, and weather conditions.
- Reactive Organic Gases (ROGs): ROGs, also known as reactive organic compounds (ROCs) and volatile organic compounds (VOCs), consist of non-methane hydrocarbons and oxygenated hydrocarbons. Hydrocarbons are organic compounds that contain only hydrogen and carbon atoms. Non-methane hydrocarbons are hydrocarbons that do not contain methane.

### **REGULATORY SETTING**

The U.S. Environmental Protection Agency (EPA) is responsible for setting and enforcing the National Ambient Air Quality Standards (NAAQS) for oxidants (O<sub>3</sub>), CO, NO<sub>x</sub>, SO<sub>2</sub>, PM<sub>10</sub>, and lead. The U.S. EPA has jurisdiction over emissions sources that are under the authority of the federal government including aircraft, locomotives, and emissions sources outside state waters (Outer Continental Shelf). The U.S. EPA also establishes emission standards for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission requirements of the CARB.

The Federal Clean Air Act (CAA) was first enacted in 1955 and has been amended numerous times in subsequent years (1963, 1965, 1967, 1970, 1977, and 1990). As discussed above, the CAA establishes the Federal Air Quality Standards, the NAAQS, and specifies future dates for achieving compliance. The CAA also mandates that States submit and implement State



Implementation Plans (SIPs) for local areas not meeting these standards. These Plans must include pollution control measures that demonstrate how the standards will be met.

The 1990 amendments to the CAA that identify specific emission reduction goals for areas not meeting the NAAQS require a demonstration of reasonable further progress toward attainment and incorporate additional sanctions for failure to attain or to meet interim milestones. The sections of the CAA most directly applicable to the development of the project site include Title I (Non-Attainment Provisions) and Title II (Mobile Source Provisions).

Title I provisions were established with the goal of attaining the NAAQS for the following criteria pollutants O<sub>3</sub>, NO<sub>2</sub>, SO<sub>2</sub>, PM<sub>10</sub>, CO, PM<sub>2.5</sub>, and lead. The NAAQS were amended in July 1997 to include an additional standard for O<sub>3</sub> and to adopt a NAAQS for PM<sub>2.5</sub>.

Mobile source emissions are regulated in accordance with Title II provisions. These provisions require the use of cleaner burning gasoline and other cleaner burning fuels such as methanol and natural gas. Automobile manufacturers are also required to reduce tailpipe emissions of hydrocarbons and nitrogen oxides (NO<sub>x</sub>). NO<sub>x</sub> is a collective term that includes all forms of nitrogen oxides (NO, NO<sub>2</sub>, NO<sub>3</sub>) which are emitted as byproducts of the combustion process.

The CARB, which became part of the California EPA in 1991, is responsible for ensuring implementation of the California Clean Air Act (AB2595), responding to the federal CAA, and for regulating emissions from consumer products and motor vehicles. The California CAA mandates achievement of the maximum degree of emissions reductions possible from vehicular and other mobile sources in order to attain the state ambient air quality standards by the earliest practical date. The CARB established the CAAQS for all pollutants for which the Federal government has NAAQS and, in addition, establishes standards for sulfates, visibility, hydrogen sulfide, and vinyl chloride. However at this time, hydrogen sulfide and vinyl chloride are not measured at any monitoring stations in the Basin because they are not considered to be a regional air quality problem. It should also be noted that the CAAQS are generally more stringent than the NAAQS.

Local air quality management districts, such as the SCAQMD, regulate air emissions from commercial and light industrial facilities. All air pollution control districts have been formally designated as attainment or non-attainment for each CAAQS.

Under the 1977 Federal Clean Air Act, areas that are not in compliance with national clean air standards are required to prepare air quality management plans that include specified emission reduction strategies in an effort to meet these goals.

### **LOCAL PLANS, POLICIES, REGULATIONS, AND LAWS**

#### **South Coast Air Quality Management District**

The SCAQMD attains and maintains air quality conditions in the Basin through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The clean air strategy of the SCAQMD includes the preparation of plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations concerning sources of air pollution, and issuance of permits for stationary sources of air pollution. The SCAQMD also inspects stationary sources of air pollution and responds to citizen complaints; monitors ambient air quality and meteorological conditions; and implements programs and regulations required by the CAA, CAAA, and the CCAA. Air quality plans applicable to the proposed project are discussed below.

#### **Air Quality Management Plan**

The SCAQMD, with input from the Southern California Association of Governments (SCAG), is responsible for preparing the air quality management plan (AQMP), which addresses federal and state CAA requirements. The AQMP details goals, policies, and programs for improving air quality in the Basin.

The Project site is located within the SCAB, which is characterized by relatively poor air quality. The SCAQMD has jurisdiction over an approximately 12,000 square-mile area consisting of the four-county Basin and the Los Angeles County and Riverside County portions of what use to be referred to as the Southeast Desert Air Basin. In these areas, the SCAQMD is principally responsible for air pollution control, and works directly with the Southern California Association of

Governments (SCAG), county transportation commissions, local governments, as well as state and federal agencies to reduce emissions from stationary, mobile, and indirect sources to meet state and federal ambient air quality standards.

Currently, these state and federal air quality standards are exceeded in most parts of the Basin. In response, the SCAQMD has adopted a series of Air Quality Management Plans (AQMPs) to meet the state and federal ambient air quality standards. AQMPs are updated regularly in order to more effectively reduce emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy.

The Final 2012 AQMP was adopted by the AQMD Governing Board on December 7, 2012. The 2012 AQMP incorporates the latest scientific and technological information and planning assumptions, including the 2012 Regional Transportation Plan/Sustainable Communities Strategy and updated emission inventory methodologies for various source categories.

Similar to the 2007 AQMP, the 2012 AQMP was based on assumptions provided by both CARB and SCAG in the latest available EMFAC model for the most recent motor vehicle and demographics information, respectively. The air quality levels projected in the 2012 AQMP are based on several assumptions. For example, the 2012 AQMP has assumed that development associated with general plans, specific plans, residential projects, and wastewater facilities will be constructed in accordance with population growth projections identified by SCAG in its 2012 RTP. The 2012 AQMP also has assumed that such development projects will implement strategies to reduce emissions generated during the construction and operational phases of development.

#### **SCAQMD Rules and Regulations**

All projects are subject to SCAQMD rules and regulations in effect at the time of construction. Specific rules applicable to the construction of the proposed project may include, but are not limited to:

**Rule 401 – Visible Emissions.** A person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three minutes in any one hour which is as dark or darker in shade as that designated No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines.

**Rule 402 – Nuisance.** A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause injury or damage to business or property. The provisions of this rule do not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

**Rule 403 – Fugitive Dust.** This rule is intended to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (man-made) fugitive dust sources by requiring actions to prevent, reduce or mitigate fugitive dust emissions. Rule 403 applies to any activity or man-made condition capable of generating fugitive dust.

**Rule 1113 – Architectural Coatings.** No person shall apply or solicit the application of any architectural coating within the SCAQMD, with VOC content in excess of the values specified in a table incorporated in the Rule.

#### **THRESHOLD FOR DETERMINING SIGNIFICANCE**

The criteria used to determine the significance of potential project-related air quality impacts are taken from the Initial Study Checklist in Appendix G of the State CEQA Guidelines (14 California Code of Regulations §§15000, et seq.). Based on these thresholds, implementation of the General Plan would result in a significant impact related to air quality if it would do any of the following:

- (1) Conflict with or obstruct implementation of the applicable air quality plan.*
- (2) Violate any air quality standard or contribute to an existing or projected air quality violation.*
- (3) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors).*



*(4) Expose sensitive receptors to substantial pollutant concentrations.*

*(5) Create objectionable odors affecting a substantial number of people.*

Within the context of the above threshold considerations, based on the SCAQMD's CEQA Air Quality Handbook (1993), project impacts would be significant if they exceed the following California standards for localized CO concentrations:

- 1-hour CO standard of 20.0 parts per million (ppm)
- 8-hour CO standard of 9.0 ppm.

The SCAQMD has also developed regional significance thresholds for other regulated pollutants, as summarized at Table 5. The SCAQMD's CEQA Air Quality Significance Thresholds (March 2011) indicate that any projects in the SCAB with daily emissions that exceed any of the indicated thresholds should be considered as having an individually and cumulatively significant air quality impact.

**TABLE 5**

<b>MAXIMUM DAILY EMISSIONS THRESHOLDS (REGIONAL THRESHOLDS)</b>		
<b>Pollutant</b>	<b>Construction</b>	<b>Operational</b>
NO <sub>x</sub>	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM <sub>10</sub>	150 lbs/day	150 lbs/day
PM <sub>2.5</sub>	55 lbs/day	55 lbs/day
SO <sub>x</sub>	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day

The SCAQMD has also developed localized significance threshold methodology that can be used to determine whether or not a project may generate significant adverse localized air quality impacts. Localized significance thresholds represent the maximum emissions from a project that would not cause or contribute to an exceedance of the most stringent applicable Federal or State ambient air quality standards and are developed based on the ambient concentrations of that pollutant for each source receptor area.

Localized significance thresholds are applicable to the project-specific level. Although the City of Bradbury is located in Source Receptor Area 9 (East San Gabriel Valley), the proposed General Plan Update represents a regional project. Therefore, localized significance thresholds would not be applicable to the proposed General Plan Update.

## **ANALYSIS OF ENVIRONMENTAL IMPACTS – AIR QUALITY**

### **Analysis Methodology**

Regional and local emissions of criteria air pollutants and precursors, and TACs during project construction and operations consistent with the General Plan were assessed in accordance with the methodologies described below.

Air quality impacts from future development allowed by the General Plan can be divided into two types, short-term impacts and long-term impacts. Short-term impacts are associated with construction activities, and long-term impacts are associated with the continued operation of developed land uses and the associated increase in vehicular trips.

On October 2, 2013, the SCAQMD in conjunction with the California Air Pollution Control Officers Association (CAPCOA) released the latest version of the California Emissions Estimator Model™ (CalEEMod™) v2013.2.2. The purpose of this model is to calculate construction-source and operational-source criteria pollutant (NO<sub>x</sub>, VOC, PM<sub>10</sub>, PM<sub>2.5</sub>, SO<sub>x</sub>, and CO) and greenhouse gas (GHG) emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation measures. Accordingly, the latest version of CalEEMod™ has been used for this Project to determine construction and operational air quality emissions. Output from the model runs for both construction and operational activity are provided in Appendix A.

CalEEMod utilizes widely accepted methods for emission estimates combined with appropriate default data that can be used when site-specific information is not available. CalEEMod references sources such as the United States Environmental Protection Agency (USEPA) AP-42 emission factors (Compilation of Emission Factors), California Air Resources Board (CARB) on-road and off-road equipment emission models such as the Emission FACtor model (EMFAC)

and the Offroad Emissions Inventory Program model (OFFROAD), and studies commissioned by California agencies such as the California Energy Commission (CEC) and CalRecycle. With respect to the estimation of mass criteria pollutant emissions, CalEEMod is not only more current than URBEMIS2007, but it also corrects errors in that model and, in addition, utilizes new methods for estimating fugitive dust emissions from construction equipment that tie the emissions to actual equipment usage, and incorporates the latest methods for quantifying mitigation and project design features not available in URBEMIS 2007.

### **CONSTRUCTION CRITERIA POLLUTANT EMISSIONS**

During construction activities associated with individual projects, emissions of emissions of CO, VOCs, NO<sub>x</sub>, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> will likely be released through the burning of fossil fuel in construction equipment, grading fugitive dust, asphalt paving, and the application of architectural coatings during painting activity. Because few details are known at this time regarding the construction resulting from implementation of the General Plan update, criteria pollutant emissions for construction activity have not been quantified in this evaluation. Construction related criteria pollutant emissions will instead be quantified in future air quality analyses to be conducted for individual CEQA projects. In addition, for projects that are estimated to exceed the construction emissions significance thresholds established by the SCAQMD (after mitigation), the preparation of an Environmental Impact Report (EIR) would be required (pursuant to CEQA) and an analysis of alternatives and other emissions reduction measures would take place.

It should be noted that construction projects within the City would also be required to comply with the applicable regulatory requirements established by the SCAQMD, including but not limited to Rule 1113 (Architectural Coatings), Rule 431.2 (Low Sulfur Fuel), Rule 403 (Fugitive Dust), and Rule 1186 / 1186.1 (Street Sweepers).

Because the General Plan identifies future land uses and does not contain specific development proposals, construction-related emissions are speculative and cannot be accurately determined at this stage of the planning process. Therefore, such impacts are too speculative to evaluate (see CEQA Guidelines Section 15145). To the extent that specific projects are known, those projects have already been or would be subjected to their own environmental analysis. Additionally, due to the variables that must be considered when examining construction impacts (e.g., development

rate, disturbance area per day, specific construction equipment and operating hours, etc.), it would be speculative to state conclusively that construction activity associated with the General Plan Update would cause a significant air quality impact.

#### **OPERATIONAL POLLUTANT EMISSIONS**

Operational activities associated with the proposed project will result in emissions of ROG, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>. Operational emissions would be expected from the following primary sources:

- Area Sources
- Building Energy Use
- Mobile Sources

##### Area Sources

The area source emissions included in this analysis result from landscaping equipment such as lawn mowers, consumer products and architectural coatings. Criteria pollutant emissions due to natural gas combustion in buildings, except for hearths, are also area sources but are excluded from this section since they are considered in the emissions associated with energy use category.

##### Building Energy Use

Combustion emissions would be generated by the use of natural gas to power heating, and HVAC systems in the development. The emissions associated with natural gas use were calculated based on assumptions from the CalEEMod model.

##### Mobile Sources

Project mobile (vehicular) impacts are dependent primarily on overall daily vehicle trip generation for the proposed project. The CalEEMod model defaults for trips and trip lengths were utilized.

Vehicles traveling on paved roads would be a source of fugitive emissions due to the generation of road dust. The emissions estimates for travel on paved roads were calculated using the CalEEMod model.



### Operations Emissions Summary

The project-related operations emissions summary, along with a comparison of SCAQMD regional significance thresholds, is presented at Table 6. Additionally, detailed model output files and associated calculations are provided in Appendix "A". The project related emissions levels for operational emissions will not exceed the regional criteria pollutant thresholds established by the SCAQMD and a less than significant impact will occur.

**TABLE 6**  
**SUMMARY OF OPERATIONAL EMISSIONS (SUMMER)**  
**(POUNDS PER DAY) (WITHOUT MITIGATION)**

Operational Activities	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Area Source Emissions <sup>a</sup>	29.49	0.74	56.79	0.08	7.45	7.45
Energy Emissions <sup>b</sup>	0.09	0.73	0.31	4.66e-3	0.06	0.06
Mobile Emissions <sup>c</sup>	2.88	8.05	33.36	0.11	7.23	2.02
<b>Maximum Daily Emissions</b>	<b>32.46</b>	<b>9.51</b>	<b>90.46</b>	<b>0.19</b>	<b>14.74</b>	<b>9.53</b>
SCAQMD Regional Threshold	55	55	550	150	150	55
<b>Significant?</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>

**SUMMARY OF OPERATIONAL EMISSIONS (WINTER)**  
**(POUNDS PER DAY) (WITHOUT MITIGATION)**

Operational Activities	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Area Source Emissions <sup>a</sup>	29.49	0.74	56.79	0.08	7.45	7.45
Energy Emissions <sup>b</sup>	0.09	0.73	0.31	4.66e-3	0.06	0.06
Mobile Emissions <sup>c</sup>	2.96	8.45	32.83	0.10	7.23	2.02
<b>Maximum Daily Emissions</b>	<b>32.54</b>	<b>9.92</b>	<b>89.92</b>	<b>0.18</b>	<b>14.74</b>	<b>9.53</b>
SCAQMD Regional Threshold	55	55	550	150	150	55
<b>Significant?</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>

Note: Please refer to Appendix "A" for the CalEEMod output files and additional supporting information for the estimated emissions.

<sup>a</sup> Includes emissions of natural gas, landscape maintenance equipment, and architectural coatings emissions

<sup>b</sup> Includes emissions from natural gas combustion.

<sup>c</sup> Includes emissions of vehicle emissions and fugitive dust related to vehicular travel

### **SCAQMD AIR QUALITY MANAGEMENT PLAN IMPACTS**

Emissions of criteria air pollutants and ozone precursors (ROG and NOX) associated with new growth under the General Plan are treated as new to the region. (This is a conservative [worst-case] assumption because many "new vehicle trips" may actually be moved from one part of the region to another partly as a result of the General Plan.)

In preparation of the AQMP, the SCAQMD and SCAG rely on population growth projections in the region to forecast, inventory, and allocate regional emissions from land use and development-related sources. The 2012 AQMP relied on demographic growth forecasts developed by SCAG for the 2012 Regional Transportation Plan (RTP). For purposes of analyzing consistency with the AQMP, it may be assumed that if the General Plan would accommodate population growth substantially greater than anticipated in the AQMP, then the proposed project would conflict with the AQMP. According to the most recent SCAG projections for the adopted 2012 RTP, the City of Bradbury is estimated to include 300 households (in 2008), the projected number of households is expected to be 400 households in 2020 and 2035. Thus, the General Plan would not conflict with the growth assumptions assumed in the AQMP and a less than significant impact will occur.

### **IMPACTS TO SENSITIVE RECEPTORS**

With implementation of the General Plan, new or modified sources of TACs would not be placed near existing sensitive receptors, and new sensitive receptors would not be developed near existing sources of TACs. Emissions of TACs during construction of development envisioned under the General Plan (e.g., emissions from heavy-duty diesel equipment) and from operational sources under the General Plan (e.g., emissions from area, stationary and mobile source) and the resulting levels of TAC exposure of sensitive receptors will be less than significant.

#### ***Local CO Impacts***

CO concentration is a direct function of motor vehicle activity (e.g., idling time and traffic flow conditions), particularly during peak commute hours, and meteorological conditions. Under specific meteorological conditions (e.g., stable conditions that result in poor dispersion), CO concentrations may reach unhealthy levels with respect to local sensitive land-uses such as residential areas, schools, and hospitals. As a result, the SCAQMD recommends analysis of CO emissions at a local as well as a regional level.

As a part of the previously adopted 2003 SCAQMD AQMP, the SCAQMD modeled the four (4) highest volume intersections to determine the highest potential for a CO hotspot in the SCAB. The results of the SCAQMD's analysis are provided in Table 7 and illustrate that only one intersection for the 8-hour CO standard (Long Beach – Imperial) is exceeded.

**Table 7. CO Modeling Results from the 2003 AQMP (ppm)**

<b>Intersection Location</b>	<b>Morning 1-hour</b>	<b>Afternoon 1-hour</b>	<b>Peak 1-hour</b>	<b>8-hour</b>
<b>Wilshire-Veteran</b>	4.6	3.5	--	4.2
<b>Sunset-Highland</b>	4.0	4.5	--	3.9
<b>La Cienega-Century</b>	3.7	3.1	--	5.8
<b>Long Beach-Imperial</b>	3.0	3.1	1.2	9.3
Notes: ppm = parts per million. Federal 1-hour standard is 35 ppm and the federal 8- hour standard is 9.0 ppm.				

CO concentrations are expected to be lower for the project. When qualitatively comparing the locations in the attainment plan to the proposed project, several factors can be used to demonstrate that the project site can be expected to have lower CO concentrations than in the attainment plan. The factors considered are traffic demand, emission variables, site variables, and meteorological variables. Table 8 provides a summary of the traffic volumes contained in the SCAQMD's modeling. Future peak hour traffic volumes at intersections within the City would be less than those included in the AQMP modeling analysis. Based on this comparison, the proposed project is expected to result in lower CO concentrations than the intersections modeled in the attainment plan.

Because project implementation would not result in higher CO concentrations than those existing within the region at the time of attainment demonstration, a less than significant impact is expected for implementation of the proposed General Plan Update and no further analysis is needed. This approach is consistent with Caltrans CO Project-Level Protocol that is utilized in Caltrans Environmental Assessment Reports.

Table 8. Traffic Volumes Used in the 2003 AQMP				
Intersection Location	Eastbound (AM/PM)	Westbound (AM/PM)	Southbound (AM/PM)	Northbound (AM/PM)
Wilshire-Veteran	4,951/2,069	1,830/3,317	721/1,400	560/933
Sunset-Highland	1,417/1,764	1,342/1,540	2,304/1,832	1,551/2,238
La Cienega-Century	2,540/2,243	1,890/2,728	1,384/2,029	821/1,674
Long Beach-Imperial	1,217/2,020	1,760/1,400	479/944	756/1,150
Source: SCAQMD AQMP 2003.				

### **ODOR IMPACTS**

As discussed previously, the human response to odors is extremely subjective, and sensitivity to odors varies greatly among the public. The screening-level distance identified by the SCAQMD under Rule 410 for transfer stations and material recovery facilities is 2,000 feet from sensitive receptors. The SCAQMD does not identify a screening-level distance for other major sources of odors near sensitive receptors. Minor sources of odors, such as exhaust from mobile sources and charbroilers associated with commercial uses, are not typically associated with numerous odor complaints but are known to have some temporary, less concentrated odorous emissions. Major and minor sources of odors are discussed separately below.

#### ***Major Sources of Odors***

The SCAQMD has identified some common types of facilities that have been known to produce odors: agriculture (farming and livestock), wastewater treatment plants, food processing plants, chemical plants, composting operations, refineries, landfills, rendering plants, dairies, rail yards, and fiberglass molding operations. This list is not meant to be entirely inclusive, but to act as general guidance. The General Plan does not propose the development of any major odor sources identified above. Therefore, land use conflicts between major odor sources and sensitive receptors are not expected to occur. As a result, this impact would be less than significant.

#### ***Minor Sources of Odors***

Minor sources of odors associated with the General Plan would be associated with the construction of the proposed land uses. The predominant source of power for construction equipment is diesel engines. Exhaust odors from diesel engines, as well as emissions associated with asphalt paving and the application of architectural coatings may be considered offensive to some individuals.



Similarly, diesel-fueled locomotives traveling along the rail lines in the City and diesel-fueled trucks traveling on local roadways would produce associated diesel exhaust fumes. However, because odors associated with diesel fumes and other minor sources would be temporary and would disperse rapidly with distance from the source, construction-generated and mobile-source odors would not result in the frequent exposure of receptors to objectionable odor emissions. As a result, short-term construction-related and long-term mobile-source related odors would be less than significant.

#### **AIR QUALITY IMPACTS CONCLUSION**

- The project is in compliance with the SCAQMD's 2012 Air Quality Management Plan.
- The project-generated emissions do not have the potential to violate federal and state ambient air quality standards.
- The project's contribution to cumulative impacts is not cumulatively considerable.
- The project does not have the potential to expose sensitive receptors to substantial pollutant concentrations.
- Project-generated odors will not affect a substantial number of people.

## **INTRODUCTION TO GLOBAL CLIMATE CHANGE**

Global Climate Change (GCC) is defined as the change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms. GCC is currently one of the most controversial environmental issues in the United States, and much debate exists within the scientific community about whether or not GCC is occurring naturally or as a result of human activity. Some data suggests that GCC has occurred in the past over the course of thousands or millions of years. These historical changes to the Earth's climate have occurred naturally without human influence, as in the case of an ice age. However, many scientists believe that the climate shift taking place since the industrial revolution (1900) is occurring at a quicker rate and magnitude than in the past. Scientific evidence suggests that GCC is the result of increased concentrations of greenhouse gases in the earth's atmosphere, including carbon dioxide, methane, nitrous oxide, and fluorinated gases. Many scientists believe that this increased rate of climate change is the result of greenhouse gases resulting from human activity and industrialization over the past 200 years.

An individual project like that considered here cannot generate enough greenhouse gas emissions to effect a discernible change in global climate. However, the proposed Project may participate in the potential for GCC by its incremental contribution of greenhouse gasses combined with the cumulative increase of all other sources of greenhouse gases, which when taken together constitute potential influences on GCC. Because these changes may have serious environmental consequences, Section 3.0 will evaluate the potential for the proposed Project to have a significant effect upon the environment as a result of its potential contribution to the greenhouse effect.

## **GREENHOUSE GAS EMISSIONS INVENTORIES**

### *Global*

Worldwide anthropogenic (man-made) GHG emissions are tracked by the Intergovernmental Panel on Climate Change for industrialized nations (referred to as Annex I) and developing nations (referred to as Non-Annex I). Man-made GHG emissions data for Annex I nations are available through 2009. Man-made GHG emissions data for Non-Annex I nations are available through

2007. For the Year 2009 the sum of these emissions totaled approximately 40,084 MMTCO<sub>2</sub>e.<sup>1</sup> Emissions from the top five countries and the European Union accounted for approximately 65 percent of the total global GHG emissions, according to the most recently available data (see Table 9, Top GHG Producer Countries and the European Union). The GHG emissions in more recent years may differ from the inventories presented in Table 9; however, the data is representative of currently available inventory data.

#### *United States*

As noted in Table 9, the United States, as a single country, was the number two producer of GHG emissions in 2009. The primary greenhouse gas emitted by human activities in the United States was CO<sub>2</sub>, representing approximately 83 percent of total greenhouse gas emissions.<sup>2</sup> Carbon dioxide from fossil fuel combustion, the largest source of US greenhouse gas emissions, accounted for approximately 78 percent of the GHG emissions.<sup>3</sup>

**TABLE 9**  
**TOP GHG PRODUCER COUNTRIES AND THE EUROPEAN UNION<sup>4</sup>**

Emitting Countries	GHG Emissions (MMT CO <sub>2</sub> e)
China	6,703
United States	6,608
European Union (27 member countries)	8,338
Russian Federation	2,159
India	1,410
Japan	1,209
<b>Total</b>	<b>26,427</b>

#### *State of California*

<sup>1</sup> The global emissions are the sum of Annex I and non-Annex I countries, without counting Land-Use, Land-Use Change and Forestry (LULUCF). For countries without 2005 data, the UNFCCC data for the most recent year were used. United Nations Framework Convention on Climate Change, "Annex I Parties – GHG total without LULUCF," [http://unfccc.int/ghg\\_emissions\\_data/ghg\\_data\\_from\\_unfccc/time\\_series\\_annex\\_i/items/3841.php](http://unfccc.int/ghg_emissions_data/ghg_data_from_unfccc/time_series_annex_i/items/3841.php) and "Flexible GHG Data Queries" with selections for total GHG emissions excluding LULUCF/LUCF, all years, and non-Annex I countries, <http://unfccc.int/di/FlexibleQueries/Event.do?event=showProjection>. n.d.

<sup>2</sup> US Environmental Protection Agency, "Inventory of US Greenhouse Gas Emissions and Sinks 1990–2009," <http://www.epa.gov/climatechange/emissions/usgginventory.html>. 2011.

<sup>3</sup> *ibid*

<sup>4</sup> World Resources Institute, "Climate Analysis Indicator Tool (CAIT) Excludes emissions and removals from land use, land-use change and forestry (LULUCF) Emissions Inventory," <http://cait.wri.org>

CARB compiles GHG inventories for the State of California. Based upon the 2008 GHG inventory data (i.e., the latest year for which data are available) for the 2000-2008 greenhouse gas emissions inventory, California emitted 474 MMTCO<sub>2</sub>e **including** emissions resulting from imported electrical power in 2008.<sup>5</sup> Based on the CARB inventory data and GHG inventories compiled by the World Resources Institute<sup>6</sup>, California's total statewide GHG emissions rank second in the United States (Texas is number one) with emissions of 417 MMTCO<sub>2</sub>e **excluding** emissions related to imported power. From a per capita standpoint, California had the 46th lowest emissions. This is attributed to the success of its energy-efficiency and renewable energy programs and commitments that have lowered the State's GHG emissions rate of growth by more than half of what it would have been otherwise. Another factor that has reduced California's fuel use and GHG emissions is its mild climate compared to that of many other states. Further, per capita emissions in California have slightly decreased from 2000 to 2009 (by 9.7 percent), but the overall 9 percent increase in population during the same period offset this emission reduction.

#### *South Coast Air Basin*

An Environmental Impact Report for the SCAQMD's 2012 Air Quality Management Plan recently reported the GHG emissions in the South Coast Air Basin (SCAB) for calendar year 2008.<sup>7</sup> The emissions for each major source category were reported as follows: 43.1 MMT CO<sub>2</sub>e from fuel combustion, 4.78 MMT CO<sub>2</sub>e from waste disposal, 0.88 MMT CO<sub>2</sub>e from cleaning and surface coatings, 0.89 MMT CO<sub>2</sub>e from petroleum production and marketing, 0.10 MMT CO<sub>2</sub>e from industrial processes, and 13.1 MMT CO<sub>2</sub>e from miscellaneous processes. The SCAQMD Environmental Impact Report also reported that of these emissions, mobile sources generate 59.4 percent of the total GHG emissions in the Basin (47.0 percent from on-road vehicles and 12.5 percent from other mobile sources (aircraft, trains, ships and boats, and other sources (construction equipment, airport equipment, oil and gas drilling equipment))). The remaining 40.6 percent of the total Basin GHG emissions are from stationary and area sources. The largest

<sup>5</sup> California Air Resources Board, "California Greenhouse Gas 2000-2008 Inventory by Scoping Plan Category - Summary," <http://www.arb.ca.gov/cc/inventory/data/data.htm>. 2010.

<sup>6</sup> World Resources Institute, "Climate Analysis Indicator Tool (CAIT)-US – Yearly Emissions Inventory," <http://cait.wri.org>

<sup>7</sup> South Coast Air Quality Management District, Draft Program Environmental Impact Report for the 2012 Air Quality Management Plan, Available: [http://www.aqmd.gov/ceqa/documents/2012/aqmd/draftEA/2012A149,087QMP/Chapter3/DPEIR\\_3\\_2\\_Air\\_Quality.pdf](http://www.aqmd.gov/ceqa/documents/2012/aqmd/draftEA/2012A149,087QMP/Chapter3/DPEIR_3_2_Air_Quality.pdf). Accessed October 2012.



stationary/area source is fuel combustion, which is 27.8 percent of the total Basin GHG emissions (68.6 percent of the GHG emissions from the stationary and area source category).

## **GLOBAL CLIMATE CHANGE DEFINED**

Global Climate Change (GCC) refers to the change in average meteorological conditions on the earth with respect to temperature, wind patterns, precipitation and storms. Global temperatures are regulated by naturally occurring atmospheric gases such as water vapor, CO<sub>2</sub> (Carbon Dioxide), N<sub>2</sub>O (Nitrous Oxide), CH<sub>4</sub> (Methane), hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. These particular gases are important due to their residence time (duration they stay) in the atmosphere, which ranges from 10 years to more than 100 years. These gases allow solar radiation into the Earth's atmosphere, but prevent radioactive heat from escaping, thus warming the Earth's atmosphere. GCC can occur naturally as it has in the past with the previous ice ages. According to the California Air Resources Board (CARB), the climate change since the industrial revolution differs from previous climate changes in both rate and magnitude (CARB, 2004, Technical Support document for Staff Proposal Regarding Reduction of Greenhouse Gas Emissions from Motor Vehicles).

Gases that trap heat in the atmosphere are often referred to as greenhouse gases. Greenhouse gases are released into the atmosphere by both natural and anthropogenic (human) activity. Without the natural greenhouse gas effect, the Earth's average temperature would be approximately 61° Fahrenheit (F) cooler than it is currently. The cumulative accumulation of these gases in the earth's atmosphere is considered to be the cause for the observed increase in the earth's temperature.

Although California's rate of growth of greenhouse gas emissions is slowing, the state is still a substantial contributor to the U.S. emissions inventory total. In 2004, California is estimated to have produced 492 million gross metric tons of carbon dioxide equivalent (CO<sub>2</sub>e) greenhouse gas emissions. Despite a population increase of 16 percent between 1990 and 2004, California has significantly slowed the rate of growth of greenhouse gas emissions due to the implementation of energy efficiency programs as well as adoption of strict emission controls.<sup>8</sup>

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<sup>8</sup> California Energy Commission, "Inventory of California Greenhouse Gas Emissions and Sinks," <http://www.energy.ca.gov/2005publications/CEC-600-2005-025/CEC-600-2005-025.PDF>. 2005.

## GREENHOUSE GASES

For the purposes of this analysis, emissions of carbon dioxide, methane, and nitrous oxide were evaluated (see Table 3-4 later in this report) because these gasses are the primary contributors to GCC from development projects. Although other substances such as fluorinated gases also contribute to GCC, sources of fluorinated gases are not well defined and no accepted emissions factors or methodology exist to accurately calculate these gases.

Greenhouse gases have varying global warming potential (GWP) values; GWP values represent the potential of a gas to trap heat in the atmosphere. Carbon dioxide is utilized as the reference gas for GWP, and thus has a GWP of 1.

The atmospheric lifetime and GWP of selected greenhouse gases are summarized in the following Table. As shown in the table below, GWP range from 1 for carbon dioxide to 23,900 for sulfur hexafluoride.

<b>TABLE 10</b>		
<b>GLOBAL WARMING POTENTIALS AND ATMOSPHERIC LIFETIME OF SELECT GHGs</b>		
<b>Gas</b>	<b>Atmospheric Lifetime (years)</b>	<b>Global Warming Potential (100 year time horizon)</b>
Carbon Dioxide	50-200	1
Methane	12 ± 3	21
Nitrous Oxide	120	310
HFC-23	264	11,700
HFC-134a	14.6	1,300
HFC-152a	1.5	140
PFC: Tetrafluoromethane (CH <sub>4</sub> )	50,000	6,500
PFC: Hexafluoroethane (C <sub>2</sub> F <sub>6</sub> )	10,000	9,200
Sulfur Hexafluoride (SF <sub>6</sub> )	3,200	23,900
Source: EPA 2006 (URL: <a href="http://www.epa.gov/nonco2/econ-inv/table.html">http://www.epa.gov/nonco2/econ-inv/table.html</a> )		

Water Vapor: Water vapor (H<sub>2</sub>O) is the most abundant, important, and variable greenhouse gas in the atmosphere. Water vapor is not considered a pollutant; in the atmosphere it maintains a climate necessary for life. Changes in its concentration are primarily considered to be a result of climate feedbacks related to the warming of the atmosphere rather than a direct result of industrialization. A climate feedback is an indirect, or secondary, change, either positive or negative, that occurs within the climate system in response to a forcing mechanism. The feedback loop in which water is involved is critically important to projecting future climate change.

As the temperature of the atmosphere rises, more water is evaporated from ground storage (rivers, oceans, reservoirs, soil). Because the air is warmer, the relative humidity can be higher (in essence, the air is able to 'hold' more water when it is warmer), leading to more water vapor in the atmosphere. As a GHG, the higher concentration of water vapor is then able to absorb more thermal indirect energy radiated from the Earth, thus further warming the atmosphere. The warmer atmosphere can then hold more water vapor and so on and so on. This is referred to as a "positive feedback loop." The extent to which this positive feedback loop will continue is unknown as there are also dynamics that hold the positive feedback loop in check. As an example, when water vapor increases in the atmosphere, more of it will eventually also condense into clouds, which are more able to reflect incoming solar radiation (thus allowing less energy to reach the Earth's surface and heat it up).

There are no human health effects from water vapor itself; however, when some pollutants come in contact with water vapor, they can dissolve and the water vapor can then act as a pollutant-carrying agent. The main source of water vapor is evaporation from the oceans (approximately 85 percent).<sup>9</sup> Other sources include: evaporation from other water bodies, sublimation (change from solid to gas) from sea ice and snow, and transpiration from plant leaves.

Carbon Dioxide: Carbon dioxide (CO<sub>2</sub>) is an odorless and colorless GHG. Outdoor levels of carbon dioxide are not high enough to result in negative health effects. Carbon dioxide is emitted from natural and manmade sources. Natural sources include: the decomposition of dead organic matter; respiration of bacteria, plants, animals and fungus; evaporation from

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<sup>9</sup> ibid.

oceans; and volcanic outgassing. Anthropogenic sources include: the burning of coal, oil, natural gas, and wood. Carbon dioxide is naturally removed from the air by photosynthesis, dissolution into ocean water, transfer to soils and ice caps, and chemical weathering of carbonate rocks<sup>10</sup>.

Since the industrial revolution began in the mid-1700s, the sort of human activity that increases GHG emissions has increased dramatically in scale and distribution. Data from the past 50 years suggests a corollary increase in levels and concentrations. As an example, prior to the industrial revolution, CO<sub>2</sub> concentrations were fairly stable at 280 parts per million (ppm). Today, they are around 370 ppm, an increase of more than 30 percent. Left unchecked, the concentration of carbon dioxide in the atmosphere is projected to increase to a minimum of 540 ppm by 2100 as a direct result of anthropogenic sources.<sup>11</sup>

Methane: Methane (CH<sub>4</sub>) is an extremely effective absorber of radiation, though its atmospheric concentration is less than carbon dioxide and its lifetime in the atmosphere is brief (10-12 years), compared to other GHGs. No health effects are known to occur from exposure to methane.

Methane has both natural and anthropogenic sources. It is released as part of the biological processes in low oxygen environments, such as in swamplands or in rice production (at the roots of the plants). Over the last 50 years, human activities such as growing rice, raising cattle, using natural gas, and mining coal have added to the atmospheric concentration of methane. Other anthropocentric sources include fossil-fuel combustion and biomass burning.<sup>12</sup>

Nitrous Oxide: Nitrous oxide (N<sub>2</sub>O), also known as laughing gas, is a colorless greenhouse gas. Nitrous oxide can cause dizziness, euphoria, and sometimes slight hallucinations. In small

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<sup>10</sup> On a warmer Earth, chemical weathering is promoted by more vigorous cycling of water through the atmosphere and higher temperatures. "More chemical weathering removes more CO<sub>2</sub> from the atmosphere as carbonic acid reacts with silicate minerals, producing bicarbonate ion." *Carbon Cycle and Climate Change* – J Bret Bennington, Hofstra University.  
[http://www.cengage.com/custom/enrichment\\_modules/data/Carbon\\_Cycle\\_0495738557\\_LowRes.pdf](http://www.cengage.com/custom/enrichment_modules/data/Carbon_Cycle_0495738557_LowRes.pdf)

<sup>11</sup> International Panel on Climate Change 2007, "Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report,"  
[http://www.ipcc.ch/publications\\_and\\_data/publications\\_ipcc\\_fourth\\_assessment\\_report\\_wg1\\_report\\_the\\_physical\\_science\\_basis.htm](http://www.ipcc.ch/publications_and_data/publications_ipcc_fourth_assessment_report_wg1_report_the_physical_science_basis.htm)

<sup>12</sup> *ibid.*



doses, it is considered harmless. However, in some cases, heavy and extended use can cause Olney's Lesions (brain damage)<sup>13</sup>.

Concentrations of nitrous oxide also began to rise at the beginning of the industrial revolution. In 1998, the global concentration was 314 parts per billion (ppb).<sup>14</sup> Nitrous oxide is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (fossil fuel-fired power plants, nylon production, nitric acid production, and vehicle emissions) also contribute to its atmospheric load. It is used as an aerosol spray propellant, i.e., in whipped cream bottles. It is also used in potato chip bags to keep chips fresh. It is used in rocket engines and in race cars. Nitrous oxide can be transported into the stratosphere, be deposited on the Earth's surface, and be converted to other compounds by chemical reaction

Chlorofluorocarbons: Chlorofluorocarbons (CFCs) are gases formed synthetically by replacing all hydrogen atoms in methane or ethane (C<sub>2</sub>H<sub>6</sub>) with chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble and chemically unreactive in the troposphere (the level of air at the Earth's surface). CFCs are no longer being used; therefore, it is not likely that health effects would be experienced. Nonetheless, in confined indoor locations, working with CFC-113 or other CFCs is thought to result in death by cardiac arrhythmia (heart frequency too high or too low) or asphyxiation.

CFCs have no natural source, but were first synthesized in 1928. They were used for refrigerants, aerosol propellants and cleaning solvents. Due to the discovery that they are able to destroy stratospheric ozone, a global effort to halt their production was undertaken and was extremely successful, so much so that levels of the major CFCs are now remaining steady or declining. However, their long atmospheric lifetimes mean that some of the CFCs will remain in the atmosphere for over 100 years.

Hydrofluorocarbons: Hydrofluorocarbons (HFCs) are synthetic, man-made chemicals that are used as a substitute for CFCs. Out of all the greenhouse gases, they are one of three groups with the highest global warming potential. The HFCs with the largest measured atmospheric

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<sup>13</sup> U.S. Department of Labor. Occupational Safety and Health Guideline for Nitrous Oxide.

<http://www.osha.gov/SLTC/healthguidelines/nitrousoxide/recognition.html>

<sup>14</sup> *ibid.*

abundances are (in order), HFC-23 ( $\text{CHF}_3$ ), HFC-134a ( $\text{CF}_3\text{CH}_2\text{F}$ ), and HFC-152a ( $\text{CH}_3\text{CHF}_2$ ). Prior to 1990, the only significant emissions were of HFC-23. HFC-134a emissions are increasing due to its use as a refrigerant. The U.S. EPA estimates that concentrations of HFC-23 and HFC-134a are now about 10 parts per trillion (ppt) each; and that concentrations of HFC-152a are about 1 ppt.<sup>15</sup> No health effects are known to result from exposure to HFCs, which are manmade for applications such as automobile air conditioners and refrigerants.

Perfluorocarbons: Perfluorocarbons (PFCs) have stable molecular structures and do not break down through chemical processes in the lower atmosphere. High-energy ultraviolet rays, which occur about 60 kilometers above Earth's surface, are able to destroy the compounds. Because of this, PFCs have very long lifetimes, between 10,000 and 50,000 years. Two common PFCs are tetrafluoromethane ( $\text{CF}_4$ ) and hexafluoroethane ( $\text{C}_2\text{F}_6$ ). The U.S. EPA estimates that concentrations of  $\text{CF}_4$  in the atmosphere are over 70 ppt.<sup>16</sup>

No health effects are known to result from exposure to PFCs. The two main sources of PFCs are primary aluminum production and semiconductor manufacture.

Sulfur Hexafluoride: Sulfur hexafluoride ( $\text{SF}_6$ ) is an inorganic, odorless, colorless, nontoxic, nonflammable gas. It also has the highest GWP of any gas evaluated (23,900). The U.S. EPA indicates that concentrations in the 1990s were about 4 ppt.<sup>17</sup> In high concentrations in confined areas, the gas presents the hazard of suffocation because it displaces the oxygen needed for breathing.

Sulfur hexafluoride is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

## **ENVIRONMENTAL EFFECTS OF CLIMATE CHANGE IN CALIFORNIA**

The California Environmental Protection Agency (CalEPA) published a report titled "Scenarios of Climate Change in California: An Overview" (Climate Scenarios report) in February 2006

<sup>15</sup> U.S. EPA. High Global Warming Potential (GWP) Gases. <http://www.epa.gov/highgwp/scientific.html>

<sup>16</sup> *ibid.*

<sup>17</sup> *ibid.*

(California Climate Change Center 2006), that while not adequate for a CEQA project-specific or cumulative analysis, is generally instructive about the statewide impacts of global warming.

The Climate Scenarios report uses a range of emissions scenarios developed by the Intergovernmental Panel on Climate Change (IPCC) to project a series of potential warming ranges (i.e., temperature increases) that may occur in California during the 21<sup>st</sup> century: lower warming range (3.0-5.5°F); medium warming range (5.5-8.0°F); and higher warming range (8.0-10.5°F). The Climate Scenarios report then presents an analysis of future climate in California under each warming range, that while uncertain, present a picture of the impacts of global climate change trends in California.

In addition, most recently on August 5, 2009, the State's Natural Resources Agency released a public review draft of its "California Climate Adaptation Strategy" report that details many vulnerabilities arising from climate change with respect to matters such as temperature extremes, sea level rise, wildfires, floods and droughts and precipitation changes. This report responds to the Governor's Executive Order S-13-2008 that called on state agencies to develop California's strategy to identify and prepare for expected climate impacts

According to the reports, substantial temperature increases arising from increased GHG emissions potentially could result in a variety of impacts to the people, economy, and environment of California associated with a projected increase in extreme conditions, with the severity of the impacts depending upon actual future emissions of GHGs and associated warming.

It should be noted, however, that the Second District Court of Appeal recently held that the environment's effects on a proposed project do not have to be analyzed under CEQA in *Ballona Wetlands Land Trust et al. v. City of Los Angeles* (2011) 201 Cal.App.4th 455 (*Ballona Wetlands*). Specifically, the *Ballona Wetlands* court evaluated the issue of whether CEQA required an analysis of the environmental impact of sea level rise on a proposed mixed-use development project. The court held: "[w]e believe that identifying the environmental effects of attracting development and people to an area is consistent with CEQA's legislative purpose and statutory requirements, but identifying the effects on the project and its users of locating the

project in a particular environmental setting is neither consistent with CEQA's legislative purpose nor required by the CEQA statutes." The court also cited three decisions in support of its holding that the purpose of an EIR is to identify the significant effects of a project on the environment and not the significant effects of the environment on a project. The Supreme Court court's denial of the petition for review leaves the opinion intact as controlling appellate law on all superior courts throughout the state.

Under the emissions scenarios of the Climate Scenarios report, the impacts of global warming in California have the potential to include, but are not limited to, the following areas:

#### ***Air Quality/General Thermal Effects***

According to Cal EPA, higher temperatures may increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation could increase from 25 to 35 percent under the lower warming range to 75 to 85 percent under the medium warming range. In addition, if global background ozone levels increase as predicted in some scenarios, it may become difficult to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances, depending on wind conditions. The Climate Scenarios report indicates that large wildfires could become more frequent if GHG emissions are not significantly reduced.

In addition, under the higher warming range scenario, there could be up to 100 more days per year with temperatures above 90°F in Los Angeles and 95°F in Sacramento by 2100. This is a large increase over historical patterns and approximately twice the increase projected if temperatures remain within or below the lower warming range. Rising temperatures could increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat.

#### ***Water Resources***

A vast network of man-made reservoirs and aqueducts captures and transports water throughout the state from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada snowpack to supply water during the dry spring and summer months.



Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snowpack, increasing the risk of summer water shortages.

If temperatures continue to increase, more precipitation could fall as rain instead of snow, and the snow that does fall could melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90 percent. Under the lower warming range scenario, snowpack losses could be only half as large as those possible if temperatures were to rise to the higher warming range. How much snowpack could be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snowpack could pose challenges to water managers and hamper hydropower generation. It could also adversely affect winter tourism. Under the lower warming range, the ski season at lower elevations could be reduced by as much as a month. If temperatures reach the higher warming range and precipitation declines, there might be many years with insufficient snow for skiing and snowboarding.

The State's water supplies are also at risk from rising sea levels. An influx of saltwater could degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta – a major fresh water supply.

### ***Agriculture***

Increased temperatures could cause widespread changes to the agriculture industry reducing the quantity and quality of agricultural products statewide. First, California farmers could possibly lose as much as 25 percent of the water supply they need. Although higher CO<sub>2</sub> levels can stimulate plant production and increase plant water-use efficiency, California's farmers could face greater water demand for crops and a less reliable water supply as temperatures rise. Crop growth and development could change, as could the intensity and frequency of pest and disease outbreaks. Rising temperatures could aggravate O<sub>3</sub> pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less-than-optimal development for many crops, so

rising temperatures could worsen the quantity and quality of yield for a number of California's agricultural products. Products likely to be most affected include wine grapes, fruits and nuts.

In addition, continued global climate change could shift the ranges of existing invasive plants and weeds and alter competition patterns with native plants. Range expansion could occur in many species while range contractions may be less likely in rapidly evolving species with significant populations already established. Should range contractions occur, new or different weed species could fill the emerging gaps. Continued global climate change could alter the abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates.

### ***Forests and Landscapes***

Global climate change has the potential to intensify the current threat to forests and landscapes by increasing the risk of wildfire and altering the distribution and character of natural vegetation. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55 percent, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors, including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout the state. In contrast, wildfires in northern California could increase by up to 90 percent due to decreased precipitation.

Moreover, continued global climate change has the potential to alter natural ecosystems and biological diversity within the state. For example, alpine and subalpine ecosystems could decline by as much as 60 to 80 percent by the end of the century as a result of increasing temperatures. The productivity of the state's forests has the potential to decrease as a result of global climate change.

### ***Rising Sea Levels***

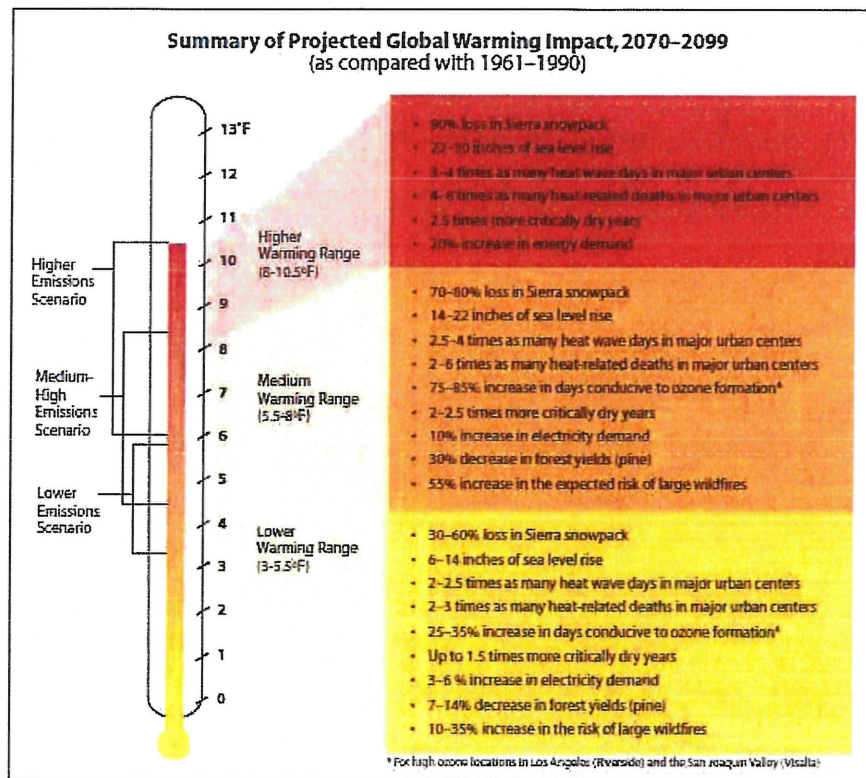
Rising sea levels, more intense coastal storms, and warmer water temperatures could increasingly threaten the state's coastal regions. Under the higher warming range scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Elevations of this magnitude would inundate low-lying coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water

systems, and disrupt wetlands and natural habitats. Under the lower warming range scenario, sea level could rise 12-14 inches.

## **HUMAN HEALTH EFFECTS OF GHG EMISSIONS**

The potential health effects related directly to the emissions of carbon dioxide, methane, and nitrous oxide as they relate to development projects such as the proposed Project are still being debated in the scientific community. Their cumulative effects to global climate change have the potential to cause adverse effects to human health. Increases in Earth's ambient temperatures would result in more intense heat waves, causing more heat-related deaths. Scientists also purport that higher ambient temperatures would increase disease survival rates and result in more widespread disease. Climate change will likely cause shifts in weather patterns, potentially resulting in devastating droughts and food shortages in some areas (American Lung Association, 2004). Figure 1 presents the potential impacts of global warming.

Figure 1



Source: California Energy Commission, 2006. Our Changing Climate, Assessing the Risks to California, 2006 Biennial Report.

Specific health effects associated with directly emitted GHG emissions are as follows:

Water Vapor: There are no known direct health effects related to water vapor at this time. It should be noted however that when some pollutants react with water vapor, the reaction forms a transport mechanism for some of these pollutants to enter the human body through water vapor.

Carbon Dioxide: According to the National Institute for Occupational Safety and Health (NIOSH) high concentrations of carbon dioxide can result in health effects such as: headaches, dizziness, restlessness, difficulty breathing, sweating, increased heart rate, increased cardiac output, increased blood pressure, coma, asphyxia, and/or convulsions. It should be noted that current concentrations of carbon dioxide in the earth's atmosphere are estimated to be approximately 370 parts per million (ppm), the actual reference exposure level (level at which adverse health effects



typically occur) is at exposure levels of 5,000 ppm averaged over 10 hours in a 40-hour workweek and short-term reference exposure levels of 30,000 ppm averaged over a 15 minute period (NIOSH 2005).

Methane: Methane is extremely reactive with oxidizers, halogens, and other halogen-containing compounds. Methane is also an asphyxiant and may displace oxygen in an enclosed space (OSHA 2003).

Nitrous Oxide: Nitrous Oxide is often referred to as laughing gas; it is a colorless greenhouse gas. The health effects associated with exposure to elevated concentrations of nitrous oxide include dizziness, euphoria, slight hallucinations, and in extreme cases of elevated concentrations nitrous oxide can also cause brain damage (OSHA 1999).

Fluorinated Gases: High concentrations of fluorinated gases can also result in adverse health effects such as asphyxiation, dizziness, headache, cardiovascular disease, cardiac disorders, and in extreme cases, increased mortality (NIOSH 1989, 1997).

Aerosols: The health effects of aerosols are similar to that of other fine particulate matter. Thus aerosols can cause elevated respiratory and cardiovascular diseases as well as increased mortality (NASA 2002).

## **REGULATORY SETTING**

### International Regulation and the Kyoto Protocol:

In 1988, the United Nations established the Intergovernmental Panel on Climate Change to evaluate the impacts of global warming and to develop strategies that nations could implement to curtail global climate change. In 1992, the United States joined other countries around the world in signing the United Nations' Framework Convention on Climate Change (UNFCCC) agreement with the goal of controlling greenhouse gas emissions. As a result, the Climate Change Action Plan was developed to address the reduction of GHGs in the United States. The Plan currently consists of more than 50 voluntary programs for member nations to adopt.

The Kyoto protocol is a treaty made under the UNFCCC and was the first international agreement to regulate GHG emissions. Some have estimated that if the commitments outlined in the Kyoto protocol are met, global GHG emissions could be reduced an estimated five percent from 1990 levels during the first commitment period of 2008-2012. Notably, while the United States is a signatory to the Kyoto protocol, Congress has not ratified the Protocol and the United States is not bound by the Protocol's commitments. In December 2009, international leaders from 192 nations met in Copenhagen to address the future of international climate change commitments post-Kyoto.

The major feature of the Kyoto Protocol is that it sets binding targets for 37 industrialized countries and the European community for reducing GHG emissions. The targets amount to an average of five percent reduction levels against 1990 levels over the five-year period 2008-2012. The major distinction between the Protocol and the Convention is that while the Convention encouraged industrialized countries to stabilize GHG emissions, the Protocol commits them to do so. Recognizing that developed countries are principally responsible for the current high levels of GHG emissions in the atmosphere as a result of more than 150 years of industrial activity, the Protocol places a heavier burden on developed nations under the principle of "common but differentiated responsibilities."

Negotiations after Kyoto have continued in an attempt to address the period after the first "commitment period" of the Kyoto Protocol, which is set to conclude at the end of 2012. In Durban, South Africa, in 2011, parties to the protocol agreed in principle to negotiate a new comprehensive and legally binding climate agreement by 2015 to enter into force for all parties from 2020. However, significant divisions remain in determining the parameters of any such new protocol, including its enforcement mechanisms and the degree to which developing economies will begin to be subject to binding emissions targets.

#### Federal Regulation and the Clean Air Act:

Although the U.S. is not a party to the Kyoto Protocol, in 2002, President George W. Bush set a national policy goal of reducing the GHG emission intensity (tons of GHG emissions per million

dollars of gross domestic product) of the U.S. economy by 18% by 2012.<sup>18</sup> The goal did not establish any binding reduction mandates. Rather, the United States Environmental Protection Agency (USEPA) began to administer a variety of voluntary programs and partnerships with industries that produce and utilize synthetic gases to reduce emissions of particularly potent GHGs.

Coinciding 2009 meeting in Copenhagen, on December 7, 2009, the U.S. Environmental Protection Agency (EPA) issued an Endangerment Finding under Section 202(a) of the Clean Air Act, opening the door to federal regulation of GHGs. The Endangerment Finding notes that GHGs threaten public health and welfare and are subject to regulation under the Clean Air Act. To date, the EPA has not promulgated regulations on GHG emissions, but it has already begun to develop them.

Previously the EPA had not regulated GHGs under the Clean Air Act because it asserted that the Act did not authorize it to issue mandatory regulations to address global climate change and that such regulation would be unwise without an unequivocally established causal link between GHGs and the increase in global surface air temperatures. In *Massachusetts v. Environmental Protection Agency et al.* (127 S. Ct. 1438 (2007)), however, the U.S. Supreme Court held that GHGs are pollutants under the Clean Air Act and directed the EPA to decide whether the gases endangered public health or welfare. The EPA had also not moved aggressively to regulate GHGs because it expected Congress to make progress on GHG legislation, primarily from the standpoint of a cap-and-trade system. However, proposals circulated in both the House of Representative and Senate have been controversial and it may be some time before the U.S. Congress adopts major climate change legislation. The EPA's Endangerment Finding paves the way for federal regulation of GHGs with or without Congress.

Although global climate change did not become an international concern until the 1980s, efforts to reduce energy consumption began in California in response to the oil crisis in the 1970s, resulting in the incidental reduction of greenhouse gas emissions. In order to manage the

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<sup>18</sup> National Oceanic and Atmospheric Administration. 2002. President Announces Clear Skies & Global Climate Change Initiative [online]. February. Available: <http://georgewbushwhitehouse.archives.gov/news/releases/2002/02/20020214-5.html>.

state's energy needs and promote energy efficiency, AB 1575 created the California Energy Commission (CEC) in 1975.

#### Title 24 Energy Standards:

The California Energy Commission (CEC) first adopted Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6) in 1978 in response to a legislative mandate to reduce energy consumption in the state. Although not originally intended to reduce GHG emissions, increased energy efficiency, and reduced consumption of electricity, natural gas, and other fuels would result in fewer GHG emissions from residential and nonresidential buildings subject to the standard. The standards are updated periodically to allow for the consideration and inclusion of new energy efficiency technologies and methods. The latest revisions were adopted in 2008 and became effective on January 1, 2010.

Part 11 of the Title 24 Building Standards Code is referred to as the California Green Building Standards Code (CALGreen Code). The purpose of the CALGreen Code is to "improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories: (1) Planning and design; (2) Energy efficiency; (3) Water efficiency and conservation; (4) Material conservation and resource efficiency; and (5) Environmental air quality."<sup>19</sup> The CALGreen Code is not intended to substitute or be identified as meeting the certification requirements of any green building program that is not established and adopted by the California Building Standards Commission (CBSC). The CBSC has released the *2010 California Green Building Standards Code* on its Web site.<sup>20</sup> Unless otherwise noted in the regulation, all newly constructed buildings in California are subject of the requirements of the CALGreen Code.

#### Vehicle Standards

Other regulations have been adopted to address vehicle standards including the USEPA and NHTSA joint rulemaking for vehicle standards:

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<sup>19</sup> California Building Standards Commission, 2008 California Green Building Standards Code, (2009).

<sup>20</sup> "CALGreen," <http://www.bsc.ca.gov/CALGreen/default.htm>. 2010



- On March 30, 2009, the NHTSA issued a final rule for model year 2011.<sup>21</sup>
- On May 7, 2010, the USEPA and the NHTSA issued a final rule regulating fuel efficiency and GHG pollution from motor vehicles for cars and light-duty trucks for model years 2012–2016.<sup>22</sup>
- On August 9, 2011, USEPA and NHTSA issued a Supplemental Notice of Intent announcing plans to propose stringent, coordinated federal greenhouse gas and fuel economy standards for model year 2017-2025 light-duty vehicles.<sup>23</sup>
- NHSTA intends to set standards for model years 2022-2025 in a future rulemaking.<sup>24</sup>
- In addition to the regulations applicable to cars and light-duty trucks, on August 9, 2011, the USEPA and the NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks, which applies to vehicles from model year 2014–2018.<sup>25</sup>

#### Energy Independence and Security Act

On December 19, 2007, the Energy Independence and Security Act of 2007 (EISA) was signed into law.<sup>26</sup> Among other key measures, the Act would do the following, which would aid in the reduction of national GHG emissions, both mobile and non-mobile.

#### CEQ NEPA Guidelines on GHG

On February 18, 2010, the White House Council on Environmental Quality published draft guidance on the consideration of greenhouse gases and climate change for NEPA analyses.<sup>27</sup> It recommends that proposed federal actions that are reasonably expected to directly emit 25,000 metric tons of CO<sub>2</sub>e/year should prepare a quantitative and qualitative NEPA analysis of direct and indirect greenhouse gas emissions.

<sup>21</sup> NHSTA. 2009. *Average Fuel Economy Standards Passenger Cars and Light Trucks Model Year 2011, Final Rule*. 75 Fed. Reg. 25324.

<sup>22</sup> USEPA. 2010. *Light Duty Vehicle Greenhouse Gas Emission Standards and Corporate Average Fuel Economy Standards, Final Rule*. 75 Fed. Reg. 25324.

<sup>23</sup> Available: <http://www.gpo.gov/fdsys/pkg/FR-2011-08-09/pdf/2011-19905.pdf>. Accessed November 2011.

<sup>24</sup> NHSTA. 2012. *2017 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions and Corporate Average Fuel Economy Standards*. 77 Fed. Reg. 62624.

<sup>25</sup> USEPA Office of Transportation and Air Quality. 2011. *EPA and NHTSA Adopt First-Ever Program to Reduce Greenhouse Gas Emissions and Improve Fuel Efficiency of Medium- and Heavy-Duty Vehicles*. Available: <http://www.epa.gov/otaq/climate/documents/420f11031.pdf>. Accessed November 2011.

<sup>26</sup> EISA. 2007. Pub.L. 110-140. 110th U.S Congress. Washington D.C. (January 4).

<sup>27</sup> Sutley, Nancy H. (Council on Environmental Quality). *Memorandum for Heads of Federal Departments and Agencies: Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions*. February 2010. Available: <http://www.whitehouse.gov/sites/default/files/microsites/ceq/20100218-nepa-consideration-effects-ghg-draft-guidance.pdf>

The draft guidance provides reporting tools and instructions on how to assess the effects of climate change. The draft guidance does not apply to land and resource management actions, nor does it propose to regulate greenhouse gases. Although CEQ has not yet issued final guidance, various NEPA documents are beginning to incorporate the approach recommended in the draft guidance.<sup>28</sup>

#### Other Applicable Regulations and Policies

In addition to the federal regulations and programs described above, there are still more policies and programs to address climate change. A database compiled by the International Energy Agency lists more than 300 policies and measures addressing climate change in the United States.<sup>29</sup>

#### The Western Regional Climate Action Initiative (WCI)

The Western Regional Climate Action Initiative (WCI) is a partnership among seven states, including California, and four Canadian provinces to implement a regional, economy-wide cap-and-trade system to reduce global warming pollution. The WCI will cap GHG emissions from the region's electricity, industrial, and transportation sectors with the goal to reduce the heat trapping emissions that cause global warming to 15% below 2005 levels by 2020. When the WCI adopted this goal in 2007, it estimated that this would require 2007 levels to be reduced worldwide between 50% and 85% by 2050. California is working closely with the other states and provinces to design a regional GHG reduction program that includes a cap-and-trade approach. ARB's planned cap and-trade program, discussed below, is also intended to link California and the other member states and provinces.

#### California Assembly Bill No. 1493 (AB 1493):

AB 1493 requires CARB to develop and adopt the nation's first greenhouse gas emission standards for automobiles. The Legislature declared in AB 1493 that global warming was a matter of increasing concern for public health and environment in California. Further, the legislature stated that technological solutions to reduce greenhouse gas emissions would stimulate the California economy and provide jobs.

<sup>28</sup> See, e.g., National Highway Traffic Safety Administration, Corporate Average Fuel Economy Standards, Passenger Cars and Light Trucks, Model Years 2017–2025, Final Environmental Impact Statement, 5-1, 9-62 (July 2012) available at [http://www.nhtsa.gov/staticfiles/rulemaking/pdf/cafe/FINAL\\_EIS.pdf](http://www.nhtsa.gov/staticfiles/rulemaking/pdf/cafe/FINAL_EIS.pdf).

<sup>29</sup> International Energy Agency, Addressing Climate Change: Policies and Measures Database. Available: <http://www.iea.org/policiesandmeasures/climatechange/>. Accessed October 2012.

To meet the requirements of AB 1493, ARB approved amendments to the California Code of Regulations (CCR) adding GHG emission standards to California's existing motor vehicle emission standards in 2004. Amendments to CCR Title 13 Sections 1900 (CCR 13 1900) and 1961 (CCR 13 1961) and adoption of Section 1961.1 (CCR 13 1961.1) require automobile manufacturers to meet fleet average GHG emission limits for all passenger cars, light-duty trucks within various weight criteria, and medium-duty passenger vehicle weight classes beginning with the 2009 model year. Emission limits are further reduced each model year through 2016.

In December 2004 a group of car dealerships, automobile manufacturers, and trade groups representing automobile manufacturers filed suit against ARB to prevent enforcement of CCR 13 1900 and CCR 13 1961 as amended by AB 1493 and CCR 13 1961.1 (*Central Valley Chrysler-Jeep et al. v. Catherine E. Witherspoon*, in her official capacity as Executive Director of the California Air Resources Board, et al.). The suit, heard in the U.S. District Court for the Eastern District of California, contended that California's implementation of regulations that in effect regulate vehicle fuel economy violates various federal laws, regulations, and policies. In January 2007, the judge hearing the case accepted a request from the State Attorney General's office that the trial be postponed until a decision is reached by the U.S. Supreme Court on a separate case addressing GHGs. In the Supreme Court Case, *Massachusetts vs. EPA*, the primary issue in question is whether the federal CAA provides authority for USEPA to regulate CO<sub>2</sub> emissions. In April 2007, the U.S. Supreme Court ruled in *Massachusetts*' favor, holding that GHGs are air pollutants under the CAA. On December 11, 2007, the judge in the *Central Valley Chrysler-Jeep* case rejected each plaintiff's arguments and ruled in California's favor. On December 19, 2007, the USEPA denied California's waiver request. California filed a petition with the Ninth Circuit Court of Appeals challenging USEPA's denial on January 2, 2008.

The Obama administration subsequently directed the USEPA to re-examine their decision. On May 19, 2009, challenging parties, automakers, the State of California, and the federal government reached an agreement on a series of actions that would resolve these current and potential future disputes over the standards through model year 2016. In summary, the USEPA and the U.S. Department of Transportation agreed to adopt a federal program to reduce GHGs and improve fuel economy, respectively, from passenger vehicles in order to achieve equivalent

or greater greenhouse gas benefits as the AB 1493 regulations for the 2012–2016 model years. Manufacturers agreed to ultimately drop current and forego similar future legal challenges, including challenging a waiver grant, which occurred on June 30, 2009. The State of California committed to (1) revise its standards to allow manufacturers to demonstrate compliance with the fleet-average GHG emission standard by “pooling” California and specified State vehicle sales; (2) revise its standards for 2012–2016 model year vehicles so that compliance with USEPA-adopted GHG standards would also comply with California’s standards; and (3) revise its standards, as necessary, to allow manufacturers to use emissions data from the federal CAFE program to demonstrate compliance with the AB 1493 regulations (CARB 2009, <http://www.arb.ca.gov/regact/2009/ghgpv09/ghgpvisor.pdf>) both of these programs are aimed at light-duty auto and light-duty trucks.

Executive Order S-3-05:

Executive Order S-3-05, which was signed by Governor Schwarzenegger in 2005, proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra’s snowpack, further exacerbate California’s air quality problems, and potentially cause a rise in sea levels. To combat those concerns, the Executive Order established total greenhouse gas emission targets. Specifically, emissions are to be reduced to the 1990 level by 2020, and to 80% below the 1990 level by 2050. The Executive Order directed the Secretary of the California Environmental Protection Agency (CalEPA) to coordinate a multi-agency effort to reduce greenhouse gas emissions to the target levels. The Secretary also is required to submit biannual reports to the Governor and state Legislature describing: (1) progress made toward reaching the emission targets; (2) impacts of global warming on California’s resources; and (3) mitigation and adaptation plans to combat these impacts. To comply with the Executive Order, the Secretary of the CalEPA created a Climate Action Team (CAT) made up of members from various state agencies and commission. CAT released its first report in March 2006. The report proposed to achieve the targets by building on voluntary actions of California businesses, local government and community actions, as well as through state incentive and regulatory programs.

California Assembly Bill 32 (AB 32):

In September 2006, Governor Arnold Schwarzenegger signed AB 32, the California Climate Solutions Act of 2006. AB 32 requires that statewide GHG emissions be reduced to 1990 levels



by the year 2020. This reduction will be accomplished through an enforceable statewide cap on GHG emissions that will be phased in starting in 2012. To effectively implement the cap, AB 32 directs CARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then CARB should develop new regulations to control vehicle GHG emissions under the authorization of AB 32.

AB 32 requires that CARB adopt a quantified cap on GHG emissions representing 1990 emissions levels and disclose how it arrives at the cap; institute a schedule to meet the emissions cap; and develop tracking, reporting, and enforcement mechanisms to ensure that the state achieves reductions in GHG emissions necessary to meet the cap. AB 32 also includes guidance to institute emissions reductions in an economically efficient manner and conditions to ensure that businesses and consumers are not unfairly affected by the reductions.

In November 2007, CARB completed its estimates of 1990 GHG levels. Net emission 1990 levels were estimated at 427 MMTs (emission sources by sector were: transportation – 35 percent; electricity generation – 26 percent; industrial – 24 percent; residential – 7 percent; agriculture – 5 percent; and commercial – 3 percent)<sup>30</sup>. Accordingly, 427 MMTs of CO<sub>2</sub> equivalent was established as the emissions limit for 2020. For comparison, CARB's estimate for baseline GHG emissions was 473 MMT for 2000 and 532 MMT for 2010. "Business as usual" conditions (without the 30 percent reduction to be implemented by CARB regulations) for 2020 were projected to be 596 MMTs.

In December 2007, CARB approved a regulation for mandatory reporting and verification of GHG emissions for major sources. This regulation covered major stationary sources such as cement plants, oil refineries, electric generating facilities/providers, and co-generation facilities, which comprise 94 percent of the point source CO<sub>2</sub> emissions in the State.

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<sup>30</sup> On a national level, the EPA's Endangerment Finding stated that electricity generation is the largest emitting sector (34%), followed by transportation (28%), and industry (19%).

On December 11, 2008, CARB adopted a scoping plan to reduce GHG emissions to 1990 levels. The Scoping Plan's recommendations for reducing GHG emissions to 1990 levels by 2020 include emission reduction measures, including a cap-and-trade program linked to Western Climate Initiative partner jurisdictions, green building strategies, recycling and waste-related measures, as well as Voluntary Early Actions and Reductions. Implementation of individual measures must begin no later than January 1, 2012, so that the emissions reduction target can be fully achieved by 2020.

Table 11 shows the proposed reductions from regulations and programs outlined in the Scoping Plan. While local government operations were not accounted for in achieving the 2020 emissions reduction, local land use changes are estimated to result in a reduction of 5 MMTons of CO<sub>2</sub>e, which is approximately 3 percent of the 2020 GHG emissions reduction goal. In recognition of the critical role local governments will play in successful implementation of AB 32, CARB is recommending GHG reduction goals of 15 percent of 2006 levels by 2020 to ensure that municipal and community-wide emissions match the state's reduction target. According to the Measure Documentation Supplement to the Scoping Plan, local government actions and targets are anticipated to reduce vehicle miles by approximately 2 percent through land use planning, resulting in a potential GHG reduction of 2 MMTons tons of CO<sub>2</sub>e (or approximately 1.2 percent of the GHG reduction target).

California Senate Bill No. 1368 (SB 1368):

In 2006, the State Legislature adopted Senate Bill 1368 ("SB 1368"), which was subsequently signed into law by the Governor. SB 1368 directs the California Public Utilities Commission ("CPUC") to adopt a greenhouse gas emission performance standard ("EPS") for the future power purchases of California utilities. SB 1368 seeks to limit carbon emissions associated with electrical energy consumed in California by forbidding procurement arrangements for energy longer than five years from resources that exceed the emissions of a relatively clean, combined cycle natural gas power plant. Due to the carbon content of its fuel source, a coal-fired plant cannot meet this standard because such plants emit roughly twice as much carbon as natural gas, combined cycle plants. Accordingly, the new law will effectively prevent California's utilities from investing in, otherwise financially supporting, or purchasing power from new coal plants located in or out of the State. Thus, SB 1368 will lead to dramatically lower greenhouse gas

emissions associated with California energy demand, as SB 1368 will effectively prohibit California utilities from purchasing power from out of state producers that cannot satisfy the EPS standard required by SB 1368.

Senate Bill 97 (SB 97):

Pursuant to the direction of SB 97, OPR released preliminary draft CEQA Guideline amendments for greenhouse gas emissions on January 8, 2009, and submitted its final proposed guidelines to the Secretary for Natural Resources on April 13, 2009. The Natural Resources Agency adopted the Guideline amendments and they became effective on March 18, 2010.

Of note, the new guidelines state that a lead agency shall have discretion to determine whether to use a quantitative model or methodology, or in the alternative, rely on a qualitative analysis or performance based standards. CEQA Guideline § 15064.4(a) "A lead agency shall have discretion to determine, in the context of a particular project, whether to: (1) Use a model or methodology to

**TABLE 11**  
**SCOPING PLAN GHG REDUCTION MEASURES TOWARD 2020 TARGET**

	<i>Reductions Counted toward 2020 Target of 169 MMT CO<sub>2</sub>e</i>	<i>Percentage of Statewide 2020 Target</i>
<b>Recommended Reduction Measures</b>		
<b>Cap and Trade Program and Associated Measures</b>		
California Light-Duty Vehicle GHG Standards	31.7	19%
Energy Efficiency	26.3	16%
Renewable Portfolio Standard (33 percent by 2020)	21.3	13%
Low Carbon Fuel Standard	15	9%
Regional Transportation-Related GHG Targets <sup>1</sup>	5	3%
Vehicle Efficiency Measures	4.5	3%
Goods Movement	3.7	2%
Million Solar Roofs	2.1	1%
Medium/Heavy Duty Vehicles	1.4	1%
High Speed Rail	1.0	1%
Industrial Measures	0.3	0%
Additional Reduction Necessary to Achieve Cap	34.4	20%
<b>Total Cap and Trade Program Reductions</b>	<b>146.7</b>	<b>87%</b>
<b>Uncapped Sources/Sectors Measures</b>		
High Global Warming Potential Gas Measures	20.2	12%
Sustainable Forests	5	3%
Industrial Measures (for sources not covered under cap and trade program)	1.1	1%
Recycling and Waste (landfill methane capture)	1	1%
<b>Total Uncapped Sources/Sectors Reductions</b>	<b>27.3</b>	<b>16%</b>
<b>Total Reductions Counted toward 2020 Target</b>	<b>174</b>	<b>100%</b>
<b>Other Recommended Measures – Not Counted toward 2020 Target</b>		
State Government Operations	1.0 to 2.0	1%
Local Government Operations	To Be Determined <sup>2</sup>	NA
Green Buildings	26	15%
Recycling and Waste	9	5%
Water Sector Measures	4.8	3%
Methane Capture at Large Dairies	1	1%
<b>Total Other Recommended Measures – Not Counted toward 2020 Target</b>	<b>42.8</b>	<b>NA</b>

Source: CARB. 2008, MMTons CO<sub>2</sub>e: million metric tons of CO<sub>2</sub>e 1 Reductions represent an estimate of what may be achieved from local land use changes. It is not the SB 375 regional target. 2 According to the Measure Documentation Supplement to the Scoping Plan, local government actions and targets are anticipated to reduce vehicle miles by approximately 2 percent through land use planning, resulting in a potential GHG reduction of 2 million metric tons of CO<sub>2</sub>e (or approximately 1.2 percent of the GHG reduction target). However, these reductions were not included in the Scoping Plan reductions to achieve the 2020 Target



quantify greenhouse gas emissions resulting from a project, and which model or methodology to use . . .; or (2) Rely on a qualitative analysis or performance based standards.”

CEQA emphasizes that the effects of greenhouse gas emissions are cumulative, and should be analyzed in the context of CEQA's requirements for cumulative impacts analysis. (See CEQA Guidelines Section 15130(f)).

Section 15064.4(b) of the CEQA Guidelines provides direction for lead agencies for assessing the significance of impacts of greenhouse gas emissions:

1. The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;
2. Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project; or
3. The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must include specific requirements that reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

The CEQA Guideline amendments do not identify a threshold of significance for greenhouse gas emissions, nor do they prescribe assessment methodologies or specific mitigation measures. Instead, they call for a “good-faith effort, based on available information, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project.” The amendments encourage lead agencies to consider many factors in performing a CEQA analysis and preserve lead agencies’ discretion to make their own determinations based upon substantial evidence. The

amendments also encourage public agencies to make use of programmatic mitigation plans and programs from which to tier when they perform individual project analyses. Specific GHG language incorporated in the Guidelines' suggested Environmental Checklist (Guidelines Appendix G) is as follows:

## VII. GREENHOUSE GAS EMISSIONS

Would the project:

- a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
- b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

### Executive Order S-01-07:

On January 18, 2007 California Governor Arnold Schwarzenegger, through Executive Order S-01-07, mandated a statewide goal to reduce the carbon intensity of California's transportation fuel by at least ten percent by 2020. The order also requires that a California specific Low Carbon Fuel Standard be established for transportation fuels.

### Senate Bills 1078 and 107 and Executive Order S-14-08:

SB 1078 (Chapter 516, Statutes of 2002) requires retail sellers of electricity, including investor-owned utilities and community choice aggregators, to provide at least 20% of their supply from renewable sources by 2017. SB 107 (Chapter 464, Statutes of 2006) changed the target date to 2010. In November 2008 Governor Schwarzenegger signed Executive Order S-14-08, which expands the state's Renewable Energy Standard to 33% renewable power by 2020.

### Senate Bill 375:

SB 375, signed in September 2008 (Chapter 728, Statutes of 2008), aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. SB 375 requires metropolitan planning organizations (MPOs) to adopt a sustainable communities strategy (SCS) or alternative planning strategy (APS) that will prescribe land use allocation in that MPO's regional transportation plan. ARB, in consultation with MPOs, will

provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every 8 years but can be updated every 4 years if advancements in emissions technologies affect the reduction strategies to achieve the targets. ARB is also charged with reviewing each MPO's SCS or APS for consistency with its assigned targets. If MPOs do not meet the GHG reduction targets, transportation projects will not be eligible for funding programmed after January 1, 2012.

On September 23, 2010, ARB adopted Regional Targets for the reduction of GHG applying to the years 2020 and 2035.<sup>31</sup> For the area under SCAG's jurisdiction—including the project area—ARB adopted Regional Targets for reduction of GHG emissions by 8 percent for 2020 and by 13 percent for 2035. On February 15, 2011, the ARB's Executive Officer approved the final targets.<sup>32</sup>

SCAG's SCS is included in the SCAG 2012-2035 Regional Transportation Plan Sustainable Communities Strategy (RTP/SCS) (SCAG 2012). The document was adopted by SCAG in April 2012. The goals and policies of the RTP/SCS that reduce VMT focus on transportation and land use planning that include building infill projects, locating residents closer to where they work and play and designing communities so there is access to high quality transit service. The RTP/SCS adopts land use patterns at the jurisdictional level.<sup>33</sup>

The RTP/SCS also includes an appendix listing examples of measures that could reduce impacts from planning, development and transportation.<sup>34</sup> It notes, however, that the example measures are "not intended to serve as any kind of checklist to be used on a project-specific

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<sup>31</sup> ARB. 2010. *Notice of Decision: Regional Greenhouse Gas Emissions Reduction Targets for Automobiles and Light Trucks Pursuant to Senate Bill 375*. Sacramento, CA: ARB.  
<http://www.arb.ca.gov/cc/sb375/notice%20of%20decision.pdf>

<sup>32</sup> ARB. 2011. *Executive Order No. G-11-024: Relating to Adoption of Regional Greenhouse Gas Emission Reduction Targets for Automobiles and Light Trucks Pursuant to Senate Bill 375*. Sacramento, CA: ARB. (February)

<sup>33</sup> SCAG 2012-2035 Regional Transportation Plan Sustainable Communities Strategy, Table 18, Growth Forecast Appendix.

<sup>34</sup> SCAG, Final PEIR for the 2012-2035 RTP/SCS, Appendix G, available here:  
[http://rtpscs.scag.ca.gov/Documents/peir/2012/final/2012fPEIR\\_AppendixG\\_ExampleMeasures.pdf](http://rtpscs.scag.ca.gov/Documents/peir/2012/final/2012fPEIR_AppendixG_ExampleMeasures.pdf).

basis." Since every project and project setting is different, project specific analysis is needed to identify applicable and feasible mitigation. The GHG example measures include the following:

- **GHG1:** SCAG member cities and the county governments may adopt and implement Climate Actions Plans (CAPS, also known as Plans for the Reduction of Greenhouse Gas Emissions as described in CEQA Guidelines Section 15183.5 Tiering and Streamlining the Analysis of Greenhouse Gas Emissions).
- **GHG2:** Project sponsors may require Best Available Control Technology (BACT) during construction and operation of projects, including:
  - a) Solicit bids that include use of energy and fuel efficient fleets;
  - b) Solicit preference construction bids that use BACT, particularly those seeking to deploy zero- and/or near zero emission technologies;
  - c) Employ use of alternative fueled vehicles;
  - d) Use lighting systems that are energy efficient, such as LED technology;
  - e) Use CEQA Guidelines Appendix F, Energy Conservation, to create an energy conservation plan;
  - f) Streamline permitting process to infill, redevelopment, and energy-efficient projects;
  - g) Use an adopted emissions calculator to estimate construction-related emissions;
  - h) Use the minimum feasible amount of GHG-emitting construction materials that is feasible;
  - i) Use of cement blended with the maximum feasible amount of flash or other materials that reduce GHG emissions from cement production;
  - j) Use of lighter-colored pavement where feasible;
  - k) Recycle construction debris to maximum extent feasible; and
  - l) Plant shade trees in or near construction projects where feasible.
- **GHG3:** Local jurisdictions can and may establish a coordinated, creative public outreach activities, including publicizing the importance of reducing GHG emissions and steps community members may take to reduce their individual impacts.
- **GHG4:** Pedestrian and Bicycle Promotion: Local jurisdictions may work with local community groups and business associations to organize and publicize walking tours and bicycle events, and to encourage pedestrian and bicycle modes of transportation.



- **GHG5:** Waste Reduction: Local jurisdictions can and should may organize workshops on waste reduction activities for the home or business, such as backyard composting, or office paper recycling, and may schedule recycling drop-off events and neighborhood chipping/mulching days.
- **GHG6:** Water Conservation: Local jurisdictions may organize support and/or sponsor workshops on water conservation activities, such as selecting and planting drought tolerant, native plants in landscaping, and installing advanced irrigation systems.
- **GHG7:** Energy Efficiency: Local jurisdictions may organize workshops on steps to increase energy efficiency in the home or business, such as weatherizing the home or building envelope, installing smart lighting systems, and how to conduct a self-audit for energy use and efficiency.
- **GHG8:** Schools Programs: Local jurisdictions may develop and implement a program to present information to school children about climate change and ways to reduce GHG emissions, and may support school-based programs for GHG reduction, such as school based trip reduction and the importance of recycling.

This law also extends the minimum time period for the regional housing needs allocation cycle from 5 years to 8 years for local governments located within an MPO that meets certain requirements. City or county land use policies (including general plans) are not required being consistent with the regional transportation plan (and associated SCS or APS). However, new provisions of CEQA would incentivize (through streamlining and other provisions) qualified projects that are consistent with an approved SCS or APS, categorized as "transit priority projects."

CARB's Preliminary Draft Staff Proposal for Interim Significance Thresholds:

Separate from its Scoping Plan approved in December of 2008, CARB issued a Staff Proposal in October 2008, as its first step toward developing recommended statewide interim thresholds of significance for GHGs that may be adopted by local agencies for their own use. CARB staff's objective in this proposal is to develop a threshold of significance that will result in the vast majority (approximately 90 percent statewide) of GHG emissions from new industrial projects being subject to CEQA's requirement to impose feasible mitigation. The proposal does not attempt to address every type of project that may be subject to CEQA, but instead focuses on common project types that, collectively, are responsible for substantial GHG emissions – specifically, industrial,

residential, and commercial projects. CARB is developing these thresholds in these sectors to advance climate objectives, streamline project review, and encourage consistency and uniformity in the CEQA analysis of GHG emissions throughout the state. These draft thresholds are under revision in response to comments. There is currently no timetable for finalized thresholds at this time.

As currently proposed by CARB, the threshold consists of a quantitative threshold of 7,000 metric tons (MT) of CO<sub>2</sub>e per year for operational emissions (excluding transportation), and performance standards for construction and transportation emissions. These performance standards have not yet been adopted.

However, CARB's proposal is not yet final, and thus is not applied to the Project. Further, CARB's proposal sets forth draft thresholds for industrial projects that have high operational stationary GHG emissions, such as manufacturing plants, or uses that utilize combustion engines. The Project does not propose or requires these types of uses, and therefore, if the CARB threshold were applied to the Project, such an application could be either misleading, or irrelevant. This Project's GHG emissions are mostly from mobile sources, and as such, the CARB proposal is not germane to the Project.<sup>35</sup>

#### South Coast Air Quality Management District Recommendations for Significance Thresholds:

In April 2008, the South Coast Air Quality Management District (SCAQMD), in order to provide guidance to local lead agencies on determining the significance of GHG emissions identified in CEQA documents, convened a "GHG CEQA Significance Threshold Working Group."<sup>36</sup> The goal of the working group is to develop and reach consensus on an acceptable CEQA significance threshold for GHG emissions that would be utilized on an interim basis until CARB (or some other state agency) develops statewide guidance on assessing the significance of GHG emissions under CEQA.

Initially, SCAQMD staff presented the working group with a significance threshold that could be applied to various types of projects—residential; non-residential; industrial; etc. However, the threshold is still under development. In December 2008, staff presented the SCAQMD Governing

<sup>35</sup> <http://www.arb.ca.gov/cc/localgov/ceqa/meetings/102708/prelimdraftproposal102408.pdf>

<sup>36</sup> For more information visit: <http://www.aqmd.gov/ceqa/handbook/GHG/GHG.html>.

Board with a significance threshold for stationary source projects where it is the lead agency. This threshold uses a tiered approach to determine a project's significance, with 10,000 metric tons of carbon dioxide equivalent (MTCO<sub>2</sub>e) as a screening numerical threshold for stationary sources.

In September 2010, the Working Group released additional revisions which recommended a threshold of 3,500 MTCO<sub>2</sub>e for residential projects, 1,400 MTCO<sub>2</sub>e for commercial projects, and 3,000 MTCO<sub>2</sub>e for mixed use projects, additionally the working group identified project-level efficiency target of 4.8 MTCO<sub>2</sub>e per service population as a 2020 target and 3.0 MTCO<sub>2</sub>e per service population as a 2035 target. The recommended areawide or plan-level target for 2020 was 6.6 MTCO<sub>2</sub>e and the plan-level target for 2035 was 4.1 MTCO<sub>2</sub>e. The SCAQMD has not established a timeline for formal consideration of these thresholds.

The SCAQMD has also adopted Rules 2700, 2701, and 2702 that address GHG reductions. However, these rules address boilers and process heaters, forestry, and manure management projects, none of which are proposed or required by the Project.

## **DISCUSSION ON ESTABLISHMENT OF SIGNIFICANCE THRESHOLDS**

In order to assess the significance of a proposed Project's environmental impacts it is necessary to identify quantitative or qualitative thresholds which, if exceeded, would constitute a finding of significance. As discussed above, while Project-related GHG emissions can be estimated, the direct impacts of such emissions on climate change and global warming cannot be determined on the basis of available science. There is no evidence at this time that would indicate that the emissions from a project the size of the proposed Project would directly affect global climate change.

AB 32 states, in part, that "[g]lobal warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California." Because global warming is the result of GHG emissions, and GHGs are emitted by innumerable sources worldwide, global climate change is considered to be a significant cumulative impact. GHG emissions from the project would contribute to cumulative GHG emissions in California and to the potential adverse environmental impacts of climate change.

As previously discussed, the new CEQA guidelines indicate that a project would result in a significant impact on climate change if a project were to: a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. Or b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

For the purposes of this analysis, implementation of the proposed project may have a significant adverse impact on GHG emissions if it would result in any of the following:

1. Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, based on any applicable threshold of significance.
  1. A potentially significant impact would occur if the project exceeds the SCAQMD's interim screening threshold of 3,000 MT/yr of CO<sub>2</sub>e.
2. Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.
  2. Since no local plan currently exists, a significant impact could occur if a project were unable to show consistency with AB 32's Scoping Plan and related measures.

#### **ANALYSIS OF ENVIRONMENTAL IMPACTS – CLIMATE CHANGE**

This section presents an assessment of potential GHG impacts associated with the proposed project. On February 3, 2011, the SCAQMD released the California Emissions Estimator Model™ (CalEEMod™). The purpose of this new model is to more accurately calculate air quality and greenhouse gas (GHG) emissions from direct and indirect sources and quantify applicable air quality and GHG reductions achieved from mitigation measures. As such, the latest version of CalEEMod™ has been used for this project to determine construction and operational greenhouse gas emissions. Output from the model runs are provided in Appendix "A". The GHG emissions for this scenario were calculated using CalEEMod defaults.



## **LIFE-CYCLE ANALYSIS**

A full life-cycle analysis (LCA) is not included in this analysis due to the lack of consensus guidance on CA methodology at this time.<sup>37</sup> Life-cycle analysis (i.e., assessing economy-wide GHG emissions from the processes in manufacturing and transporting all raw materials used in the project development and infrastructure) depends on emission factors or econometric factors that are not well established for all processes. At this time a LCA would be extremely speculative and thus has not been prepared.

## **OPERATIONAL EMISSIONS**

Operational activities associated with the proposed Project will result in emissions of CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O from the following primary sources:

- Building Energy Use (Combustion Emissions Associated with Natural Gas and Electricity)
- Water Supply, Treatment and Distribution
- Solid Waste
- Vehicles

### **BUILDING ENERGY USE**

GHGs are emitted from buildings as a result of activities for which electricity and natural gas are typically used as energy sources. Combustion of any type of fuel emits CO<sub>2</sub> and other GHGs directly into the atmosphere; these emissions are considered direct emissions associated with a building. GHGs are also emitted during the off-site generation of electricity from fossil fuels; these emissions are considered to be indirect emissions. Unless otherwise noted, CalEEMod™ default parameters were used.

### **WATER SUPPLY, TREATMENT AND DISTRIBUTION**

Indirect GHG emissions result from the production of electricity used to convey, treat and distribute water and wastewater. The amount of electricity required to convey, treat and

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<sup>37</sup> California Natural Resources Agency, *Final Statement of Reasons for Regulatory Action, Amendments to the State CEQA Guidelines Addressing Analysis and Mitigation of Greenhouse Gas Emissions Pursuant to SB97*, December 2009.

distribute water depends on the volume of water as well as the sources of the water. Unless otherwise noted, CalEEMod™ default parameters were used.

#### **SOLID WASTE**

Commercial land uses will result in the generation and disposal of solid waste. A large percentage of this waste will be diverted from landfills by a variety of means, such as reducing the amount of waste generated, recycling, and/or composting. The remainder of the waste not diverted will be disposed of at a landfill. GHG emissions from landfills are associated with the anaerobic breakdown of material. GHG emissions associated with the disposal of solid waste associated with the proposed Project were calculated by the CalEEMod™ model using default parameters.

#### **MOBILE SOURCE EMISSIONS**

GHG emissions will also result from mobile sources associated with the Project. These mobile source emissions will result from the typical daily operation of motor vehicles by visitors, employees, and customers.

Project mobile source emissions are dependent on both overall daily vehicle trip generation. Trip characteristics based on CalEEMod defaults were utilized in this analysis.

#### **EMISSIONS SUMMARY**

A summary of the net increase in GHG emissions that would occur as a result of the General Plan Update are presented on Table 12.

**TABLE 12**  
**TOTAL GREENHOUSE GAS EMISSIONS (METRIC TONS PER YEAR) 2020 SCENARIO**

Emission Source	Emissions Type			Total CO <sub>2</sub> E
	CO <sub>2</sub>	CH <sub>4</sub>	N <sub>2</sub> O	
Area	31.74	0.03	7.00e-4	32.63
Energy	304.12	0.01	4.75e-3	305.85
Mobile	1,232.86	0.04	--	1,233.78
Waste	23.05	1.36	--	51.66
Water	28.81	0.21	5.20e-3	34.78
Total CO <sub>2</sub> E				<b>1,658.71</b>
Threshold				<b>3,000</b>
Significant?				<b>NO</b>

NOTES: See Appendix "A" for detailed calculation summaries

#### **GREENHOUSE GAS IMPACTS CONCLUSION**

- Project-generated greenhouse gas emissions, either directly or indirectly will not have a significant impact on the environment.
- The project will not conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

Mr. Dave Meyer  
LDM Associates  
January 16, 2014  
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If you have any questions, please contact me directly at (949) 660-1994.

Respectfully submitted,  
URBAN CROSSROADS, INC.

A handwritten signature in black ink, appearing to be 'Haseeb Qureshi', with a stylized, cursive script.

Haseeb Qureshi, MES  
Senior Associate

HQ  
JN: 08553-02 REPORT



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**ATTACHMENT A**

CalEEMod™ Input/Output  
Construction and Operational Emissions

**Bradbury Addendum**  
**South Coast AQMD Air District, Summer**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	97.00	Dwelling Unit	31.49	174,600.00	277

**1.2 Other Project Characteristics**

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	9			Operational Year	2020
Utility Company	Southern California Edison				
CO2 Intensity (lb/MW/hr)	486.91	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006

**1.3 User Entered Comments & Non-Default Data**

Project Characteristics - CPUC GHG Calculator version 3c  
Land Use - information provided by the applicant  
Construction Phase - no construction emissions modeled  
Off-road Equipment - no construction emissions modeled  
Architectural Coating -  
Woodstoves - no woodstoves. all natural gas fireplaces  
Energy Use - based on a 2020 operational year  
Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	30.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	630.89	466.91
tblProjectCharacteristics	Operational Year	2014	2020

## 2.0 Emissions Summary





## 2.2 Overall Operational

### Unmitigated Operational

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Area	29.4932	0.7378	56.7855	0.0780		7.4538	7.4538		7.4527	7.4527	908.5911	1,760.4096	2,669.0007	2.7236	0.0617	2,745.3145
Energy	0.0854	0.7299	0.3106	4.6600e-003		0.0590	0.0590		0.0590	0.0590		931.7296	931.7296	0.0179	0.0171	937.4000
Mobile	2.8807	8.0469	33.3613	0.1062	7.0879	0.1394	7.2273	1.8940	0.1285	2.0225		8,203.9798	8,203.9798	0.2815		8,209.8911
Total	32.4594	9.5145	90.4574	0.1888	7.0879	7.6522	14.7401	1.8940	7.6402	9.5342	908.5911	10,896.1190	11,804.7101	3.0230	0.0788	11,892.6056

### Mitigated Operational

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Area	29.4932	0.7378	56.7855	0.0780		7.4538	7.4538		7.4527	7.4527	908.5911	1,760.4096	2,669.0007	2.7236	0.0617	2,745.3145
Energy	0.0854	0.7299	0.3106	4.6600e-003		0.0590	0.0590		0.0590	0.0590		931.7296	931.7296	0.0179	0.0171	937.4000
Mobile	2.8807	8.0469	33.3613	0.1062	7.0879	0.1394	7.2273	1.8940	0.1285	2.0225		8,203.9798	8,203.9798	0.2815		8,209.8911
Total	32.4594	9.5145	90.4574	0.1888	7.0879	7.6522	14.7401	1.8940	7.6402	9.5342	908.5911	10,896.1190	11,804.7101	3.0230	0.0788	11,892.6056

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

### 3.0 Construction Detail

#### Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2015	1/1/2015	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

#### OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Excavators	0	8.00	162	0.38
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Rubber Tired Dozers	0	8.00	255	0.40

#### Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0	0	0	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

### 3.1 Mitigation Measures Construction

## Clean Paved Roads

**3.2 Demolition - 2015****Unmitigated Construction On-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

**Unmitigated Construction Off-Site**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000



**3.2 Demolition - 2015****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day															
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day															
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

**4.0 Operational Detail - Mobile**

#### 4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.8807	8.0469	33.3613	0.1062	7.0879	0.1394	7.2273	1.8940	0.1285	2.0225	8,203.979	8,203.979	8,203.979	0.2815		8,209.891
												8	8			1
Unmitigated	2.8807	8.0469	33.3613	0.1062	7.0879	0.1394	7.2273	1.8940	0.1285	2.0225	8,203.979	8,203.979	8,203.979	0.2815		8,209.891
												8	8			1

#### 4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated		Mitigated		
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT	Annual VMT	Annual VMT	Annual VMT
Single Family Housing	928.29	977.76	850.69	3,158,376	3,158,376	3,158,376	3,158,376	3,158,376
Total	928.29	977.76	850.69	3,158,376	3,158,376	3,158,376	3,158,376	3,158,376

#### 4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.509128	0.059640	0.181069	0.139276	0.042833	0.006726	0.016156	0.033615	0.001941	0.002483	0.004400	0.000574	0.002159

#### 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																
NaturalGas Mitigated	0.0854	0.7299	0.3106	4.6600e-003		0.0590	0.0590		0.0590	0.0590		931.7296	931.7296	0.0179	0.0171	937.4000
NaturalGas Unmitigated	0.0854	0.7299	0.3106	4.6600e-003		0.0590	0.0590		0.0590	0.0590		931.7296	931.7296	0.0179	0.0171	937.4000

### 5.2 Energy by Land Use - NaturalGas

#### Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day															
Single Family Housing	7919.7	0.0854	0.7299	0.3106	4.6600e-003		0.0590	0.0590		0.0590	0.0590		931.7296	931.7296	0.0179	0.0171	937.4000
Total		0.0854	0.7299	0.3106	4.6600e-003		0.0590	0.0590		0.0590	0.0590		931.7296	931.7296	0.0179	0.0171	937.4000

**5.2 Energy by Land Use - NaturalGas****Mitigated**

Land Use	NaturalGas Use kBTU/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																	
Single Family Housing	7.9197	0.0854	0.7299	0.3106	4.6600e- 003	0.0590	0.0590	0.0590	0.0590	0.0590	0.0590		931.7296	931.7296	0.0179	0.0171	937.4000
<b>Total</b>		0.0854	0.7299	0.3106	4.6600e- 003	0.0590	0.0590	0.0590	0.0590	0.0590	0.0590		931.7296	931.7296	0.0179	0.0171	937.4000

**6.0 Area Detail****6.1 Mitigation Measures Area**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	29.4932	0.7378	56.7855	0.0780		7.4538	7.4538		7.4527	7.4527	908.5911	1,760.409 6	2,669.000 7	2.7236	0.0617	2,745.314 5
Unmitigated	29.4932	0.7378	56.7855	0.0780		7.4538	7.4538		7.4527	7.4527	908.5911	1,760.409 6	2,669.000 7	2.7236	0.0617	2,745.314 5



## 6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Eio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Consumer Products	3.4571					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	25.4175	0.6449	48.7563	0.0776		7.4097	7.4097		7.4085	7.4085	908.5911	1,746,000 <sub>0</sub>	2,654,591 <sub>1</sub>	2.7096	0.0617	2,730,609 <sub>9</sub>
Landscaping	0.2445	0.0929	8.0292	4.2000e-004		0.0442	0.0442		0.0442	0.0442		14.4096	14.4096	0.0141		14.7046
Architectural Coating	0.3742					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>29.4932</b>	<b>0.7378</b>	<b>56.7855</b>	<b>0.0780</b>		<b>7.4538</b>	<b>7.4538</b>		<b>7.4527</b>	<b>7.4527</b>	<b>908.5911</b>	<b>1,760,409<sub>6</sub></b>	<b>2,669,000<sub>7</sub></b>	<b>2.7236</b>	<b>0.0617</b>	<b>2,745,314<sub>5</sub></b>

**6.2 Area by SubCategory****Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Consumer Products	3.4571					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	25.4175	0.6449	48.7563	0.0776		7.4097	7.4097		7.4085	7.4085	908.5911	1,746,000.0	2,654,591.1	2.7096	0.0617	2,730,609.9
Landscaping	0.2445	0.0929	8.0292	4.2000e-004		0.0442	0.0442		0.0442	0.0442		14.4096	14.4096	0.0141		14.7046
Architectural Coating	0.3742					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>29.4932</b>	<b>0.7378</b>	<b>56.7855</b>	<b>0.0780</b>		<b>7.4538</b>	<b>7.4538</b>		<b>7.4527</b>	<b>7.4527</b>	<b>908.5911</b>	<b>1,760,409.6</b>	<b>2,669,000.7</b>	<b>2.7236</b>	<b>0.0617</b>	<b>2,745,314.5</b>

**7.0 Water Detail****7.1 Mitigation Measures Water****8.0 Waste Detail****8.1 Mitigation Measures Waste****9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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**10.0 Vegetation**

## Bradbury Addendum

### South Coast AQMD Air District, Winter

#### 1.0 Project Characteristics

##### 1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	97.00	Dwelling Unit	31.49	174,600.00	277

##### 1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	9			Operational Year	2020

Utility Company      Southern California Edison

CO2 Intensity (lb/MW/hr)	466.91	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006
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##### 1.3 User Entered Comments & Non-Default Data

Project Characteristics - CPUC GHG Calculator version 3c

Land Use - information provided by the applicant

Construction Phase - no construction emissions modeled

Off-road Equipment - no construction emissions modeled

Architectural Coating -

Woodstoves - no woodstoves, all natural gas fireplaces

Energy Use - based on a 2020 operational year

Construction Off-road Equipment Mitigation -

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	30.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	630.89	466.91
tblProjectCharacteristics	OperationalYear	2014	2020

## 2.0 Emissions Summary

### Unmitigated Construction

### Mitigated Construction

[illegible]



**2.2 Overall Operational****Unmitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day															
Area	29.4932	0.7378	56.7855	0.0780		7.4538	7.4538		7.4527	7.4527	908.5911	1,760.409 6	2,669.000 7	2.7236	0.0617	2,745.314 5
Energy	0.0854	0.7299	0.3106	4.6600e-003		0.0590	0.0590		0.0590	0.0590		931.7296	931.7296	0.0179	0.0171	937.4000
Mobile	2.9593	8.4535	32.8259	0.1009	7.0879	0.1398	7.2277	1.8940	0.1289	2.0229		7,814.987 4	7,814.987 4	0.2818		7,820.905 2
Total	32.5379	9.9211	89.9220	0.1835	7.0879	7.6526	14.7405	1.8940	7.6406	9.5346	908.5911	10,507.12 66	11,415.71 77	3.0233	0.0788	11,503.61 97

**Mitigated Operational**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day															
Area	29.4932	0.7378	56.7855	0.0780		7.4538	7.4538		7.4527	7.4527	908.5911	1,760.409 6	2,669.000 7	2.7236	0.0617	2,745.314 5
Energy	0.0854	0.7299	0.3106	4.6600e-003		0.0590	0.0590		0.0590	0.0590		931.7296	931.7296	0.0179	0.0171	937.4000
Mobile	2.9593	8.4535	32.8259	0.1009	7.0879	0.1398	7.2277	1.8940	0.1289	2.0229		7,814.987 4	7,814.987 4	0.2818		7,820.905 2
Total	32.5379	9.9211	89.9220	0.1835	7.0879	7.6526	14.7405	1.8940	7.6406	9.5346	908.5911	10,507.12 66	11,415.71 77	3.0233	0.0788	11,503.61 97

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

### 3.0 Construction Detail

#### Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2015	1/1/2015	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

#### OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Excavators	0	8.00	162	0.38
Demolition	Rubber Tired Dozers	0	8.00	255	0.40

#### Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

### 3.1 Mitigation Measures Construction

**3.2 Demolition - 2015****Unmitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day															
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

**Unmitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day															
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

**3.2 Demolition - 2015****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day															
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day															
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

**4.0 Operational Detail - Mobile**





### 5.1 Mitigation Measures Energy

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Natural Gas Mitigated	0.0854	0.7299	0.3106	4.6600e-003		0.0590	0.0590		0.0590	0.0590		931.7296	931.7296	0.0179	0.0171	937.4000
Natural Gas Unmitigated	0.0854	0.7299	0.3106	4.6600e-003		0.0590	0.0590		0.0590	0.0590		931.7296	931.7296	0.0179	0.0171	937.4000

### 5.2 Energy by Land Use - Natural Gas

#### Unmitigated

Land Use	Natural Gas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	kBTU/yr																
Single Family Housing	7919.7	0.0854	0.7299	0.3106	4.6600e-003		0.0590	0.0590		0.0590	0.0590		931.7296	931.7296	0.0179	0.0171	937.4000
Total		0.0854	0.7299	0.3106	4.6600e-003		0.0590	0.0590		0.0590	0.0590		931.7296	931.7296	0.0179	0.0171	937.4000

## 5.2 Energy by Land Use - NaturalGas

### Mitigated

Land Use	NaturalGas Use kBtu/yr	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
lb/day																	
Single Family Housing	7.9197	0.0854	0.7299	0.3106	4.6600e-003		0.0590	0.0590		0.0590	0.0590		931.7296	931.7296	0.0179	0.0171	937.4000
Total		0.0854	0.7299	0.3106	4.6600e-003		0.0590	0.0590		0.0590	0.0590		931.7296	931.7296	0.0179	0.0171	937.4000

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Elc- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	29.4932	0.7378	56.7855	0.0780		7.4538	7.4538		7.4527	7.4527	908.5911	1,760,409 <sup>6</sup>	2,669,000 <sup>7</sup>	2.7236	0.0617	2,745,314 <sup>5</sup>
Unmitigated	29.4932	0.7378	56.7855	0.0780		7.4538	7.4538		7.4527	7.4527	908.5911	1,760,409 <sup>6</sup>	2,669,000 <sup>7</sup>	2.7236	0.0617	2,745,314 <sup>5</sup>

## 6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.3742					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	3.4571					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	25.4175	0.6449	48.7563	0.0776	7.4097	7.4097	7.4097	7.4085	7.4085	7.4085	908.5911	1,746.0000	2,654.5911	2.7096	0.0617	2,730.6099
Landscaping	0.2445	0.0929	8.0292	4.2000e-004		0.0442	0.0442		0.0442	0.0442		14.4096	14.4096	0.0141		14.7046
<b>Total</b>	<b>29.4932</b>	<b>0.7378</b>	<b>56.7855</b>	<b>0.0780</b>		<b>7.4538</b>	<b>7.4538</b>		<b>7.4527</b>	<b>7.4527</b>	<b>908.5911</b>	<b>1,760.4096</b>	<b>2,669.0007</b>	<b>2.7236</b>	<b>0.0617</b>	<b>2,745.3145</b>

**6.2 Area by SubCategory****Mitigated**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Consumer Products	3.4571					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	25.4175	0.6449	48.7563	0.0776		7.4097	7.4097		7.4085	7.4085	908.5911	1,746.0000	2,654.5911	2.7096	0.0617	2,730.6099
Landscaping	0.2445	0.0929	8.0292	4.2000e-004		0.0442	0.0442		0.0442	0.0442		14.4096	14.4096	0.0141		14.7046
Architectural Coating	0.3742					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
<b>Total</b>	<b>29.4932</b>	<b>0.7378</b>	<b>56.7855</b>	<b>0.0780</b>		<b>7.4538</b>	<b>7.4538</b>		<b>7.4527</b>	<b>7.4527</b>	<b>908.5911</b>	<b>1,760.4096</b>	<b>2,669.0007</b>	<b>2.7236</b>	<b>0.0617</b>	<b>2,745.3145</b>

**7.0 Water Detail****7.1 Mitigation Measures Water****8.0 Waste Detail****8.1 Mitigation Measures Waste****9.0 Operational Offroad**

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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**10.0 Vegetation**

**Bradbury Addendum**  
**South Coast AQMD Air District, Annual**

**1.0 Project Characteristics**

**1.1 Land Usage**

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	97.00	Dwelling Unit	31.49	174,600.00	277

**1.2 Other Project Characteristics**

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	31
Climate Zone	9			Operational Year	2020

Utility Company      Southern California Edison

CO2 Intensity (lb/MW/hr)	466.91	CH4 Intensity (lb/MW/hr)	0.029	N2O Intensity (lb/MW/hr)	0.006
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**1.3 User Entered Comments & Non-Default Data**

Project Characteristics - CPUC GHG Calculator version 3c

Land Use - information provided by the applicant

Construction Phase - no construction emissions modeled

Off-road Equipment - no construction emissions modeled

Architectural Coating -

Woodstoves - no woodstoves. all natural gas fireplaces

Energy Use - based on a 2020 operational year

Construction Off-road Equipment Mitigation -



Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	30.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblProjectCharacteristics	CO2IntensityFactor	630.89	466.91
tblProjectCharacteristics	OperationalYear	2014	2020

## 2.0 Emissions Summary



## 2.2 Overall Operational

### Unmitigated Operational

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Elc- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Area	1.0475	0.0197	1.6131	1.0200e-003		0.0981	0.0981		0.0981	0.0981	10.3033	21.4333	31.7366	0.0323	7.0000e-004	32.8321
Energy	0.0156	0.1332	0.0567	8.5000e-004		0.0108	0.0108		0.0108	0.0108	0.0000	304.1167	304.1167	0.0123	4.7500e-003	305.8479
Mobile	0.4847	1.4833	5.7027	0.0176	1.1973	0.0240	1.2213	0.3204	0.0221	0.3425	0.0000	1,232,860 <sup>2</sup>	1,232,860 <sup>2</sup>	0.0439	0.0000	1,233,782 <sup>2</sup>
Waste						0.0000	0.0000		0.0000	0.0000	23.0537	0.0000	23.0537	1.3624	0.0000	51.6648
Water						0.0000	0.0000		0.0000	0.0000	2.0050	26.8032	28.8083	0.2076	5.2100e-003	34.7820
Total	1.5477	1.6362	7.3725	0.0194	1.1973	0.1329	1.3302	0.3204	0.1310	0.4514	35.3620	1,585,213 <sup>5</sup>	1,620,575 <sup>4</sup>	1.6585	0.0107	1,658,709 <sup>0</sup>

**2.2 Overall Operational****Mitigated Operational**

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr															
Area	1.0475	0.0197	1.6131	1.0200e-003		0.0981	0.0981		0.0981	0.0981	10.3033	21.4333	31.7366	0.0323	7.0000e-004	32.6321
Energy	0.0156	0.1332	0.0567	8.5000e-004		0.0108	0.0108		0.0108	0.0108	0.0000	304.1167	304.1167	0.0123	4.7500e-003	305.8479
Mobile	0.4847	1.4833	5.7027	0.0176	1.1973	0.0240	1.2213	0.3204	0.0221	0.3425	0.0000	1,232.860 2	1,232.860 2	0.0439	0.0000	1,233.782 2
Waste						0.0000	0.0000		0.0000	0.0000	23.0537	0.0000	23.0537	1.3624	0.0000	51.6648
Water						0.0000	0.0000		0.0000	0.0000	2.0050	26.8032	28.8083	0.2076	5.2000e-003	34.7788
<b>Total</b>	<b>1.5477</b>	<b>1.6362</b>	<b>7.3725</b>	<b>0.0194</b>	<b>1.1973</b>	<b>0.1329</b>	<b>1.3302</b>	<b>0.3204</b>	<b>0.1310</b>	<b>0.4514</b>	<b>35.3620</b>	<b>1,585.213 5</b>	<b>1,620.575 4</b>	<b>1.6585</b>	<b>0.0107</b>	<b>1,658.705 8</b>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.00

**3.0 Construction Detail****Construction Phase**

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2015	1/1/2015	5	1	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Excavators	0	8.00	162	0.38
Demolition	Concrete/Industrial Saws	0	8.00	81	0.73
Demolition	Rubber Tired Dozers	0	8.00	255	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

**3.1 Mitigation Measures Construction**

Clean Paved Roads



### 3.2 Demolition - 2015

## Unmitigated Construction On-Site

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr											MT/yr				
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

### Unmitigated Construction Off-Site

[illegible]

**3.2 Demolition - 2015****Mitigated Construction On-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

**Mitigated Construction Off-Site**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

**4.0 Operational Detail - Mobile**

#### 4.1 Mitigation Measures Mobile

Category	tons/yr										MT/yr					
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Mitigated	0.4847	1.4833	5.7027	0.0176	1.1973	0.0240	1.2213	0.3204	0.0221	0.3425	0.0000	1,232.860 2	1,232.860 2	0.0439	0.0000	1,233.782 2
Unmitigated	0.4847	1.4833	5.7027	0.0176	1.1973	0.0240	1.2213	0.3204	0.0221	0.3425	0.0000	1,232.860 2	1,232.860 2	0.0439	0.0000	1,233.782 2

#### 4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated Annual VMT	Mitigated Annual VMT
	Weekday	Saturday	Sunday		
Single Family Housing	928.29	977.76	850.69	3,158,376	3,158,376
Total	928.29	977.76	850.69	3,158,376	3,158,376

#### 4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
0.509128	0.059640	0.181069	0.139276	0.042833	0.006726	0.016156	0.033615	0.001941	0.002483	0.004400	0.000574	0.002159

#### 5.0 Energy Detail

Historical Energy Use: N

### 5.1 Mitigation Measures Energy

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Electricity Mitigated						0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	149.8584	149.8584	9.3100e-003	1.9300e-003	150.6508
Electricity Unmitigated						0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	149.8584	149.8584	9.3100e-003	1.9300e-003	150.6508
NaturalGas Mitigated	0.0156	0.1332	0.0567	8.5000e-004		0.0108	0.0108	0.0108	0.0108	0.0108	0.0000	154.2583	154.2583	2.9600e-003	2.8300e-003	155.1971
NaturalGas Unmitigated	0.0156	0.1332	0.0567	8.5000e-004		0.0108	0.0108	0.0108	0.0108	0.0108	0.0000	154.2583	154.2583	2.9600e-003	2.8300e-003	155.1971

### 5.2 Energy by Land Use - NaturalGas

#### Unmitigated

Land Use	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Single Family Housing	2.89069e+006	0.0156	0.1332	0.0567	8.5000e-004		0.0108	0.0108	0.0108	0.0108	0.0108	0.0000	154.2583	154.2583	2.9600e-003	2.8300e-003	155.1971
Total		0.0156	0.1332	0.0567	8.5000e-004		0.0108	0.0108	0.0108	0.0108	0.0108	0.0000	154.2583	154.2583	2.9600e-003	2.8300e-003	155.1971

## 5.2 Energy by Land Use - NaturalGas

### Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	KBTU/yr	tons/yr															
Single Family Housing	2.89069e+006	0.0156	0.1332	0.0567	8.5000e-004		0.0108	0.0108		0.0108	0.0108	0.0000	154.2583	154.2583	2.9600e-003	2.8300e-003	155.1971
Total		0.0156	0.1332	0.0567	8.5000e-004		0.0108	0.0108		0.0108	0.0108	0.0000	154.2583	154.2583	2.9600e-003	2.8300e-003	155.1971

## 5.3 Energy by Land Use - Electricity

### Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	KWh/yr	MT/yr			
Single Family Housing	707591	149.8584	9.3100e-003	1.9300e-003	150.6508
Total		149.8584	9.3100e-003	1.9300e-003	150.6508



### 5.3 Energy by Land Use - Electricity

#### Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Single Family Housing	707591	149.8584	9.3100e-003	1.9300e-003	150.6508
Total		149.8584	9.3100e-003	1.9300e-003	150.6508

### 6.0 Area Detail

#### 6.1 Mitigation Measures Area

Category	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
	tons/yr										MT/yr					
Mitigated	1.0475	0.0197	1.6131	1.0200e-003		0.0981	0.0981		0.0981	0.0981	10.3033	21.4333	31.7366	0.0323	7.0000e-004	32.6321
Unmitigated	1.0475	0.0197	1.6131	1.0200e-003		0.0981	0.0981		0.0981	0.0981	10.3033	21.4333	31.7366	0.0323	7.0000e-004	32.6321

## 6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0683					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.6309					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.3177	8.0600e-003	0.6095	9.7000e-004		0.0926	0.0926		0.0926	0.0926	10.3033	19.7993	30.1026	0.0307	7.0000e-004	30.9646
Landscaping	0.0306	0.0116	1.0037	5.0000e-005		5.5200e-003	5.5200e-003		5.5200e-003	5.5200e-003	0.0000	1.6340	1.6340	1.5900e-003	0.0000	1.6675
<b>Total</b>	<b>1.0475</b>	<b>0.0197</b>	<b>1.6131</b>	<b>1.0200e-003</b>		<b>0.0981</b>	<b>0.0981</b>		<b>0.0981</b>	<b>0.0981</b>	<b>10.3033</b>	<b>21.4333</b>	<b>31.7366</b>	<b>0.0323</b>	<b>7.0000e-004</b>	<b>32.6321</b>

## 6.2 Area by SubCategory

Mitigated

SubCategory	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
tons/yr																
Consumer Products	0.6309					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.3177	8.0600e-003	0.6095	9.7000e-004		0.0926	0.0926		0.0926	0.0926	10.3033	19.7993	30.1026	0.0307	7.0000e-004	30.9646
Landscaping	0.0306	0.0116	1.0037	5.0000e-005		5.5200e-003	5.5200e-003		5.5200e-003	5.5200e-003	0.0000	1.6340	1.6340	1.5900e-003	0.0000	1.6675
Architectural Coating	0.0683					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	1.0475	0.0197	1.6131	1.0200e-003		0.0981	0.0981		0.0981	0.0981	10.3033	21.4333	31.7366	0.0323	7.0000e-004	32.6321

## 7.0 Water Detail

## 7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
MT/yr				
Mitigated	28.8083	0.2076	5.2000e-003	34.7788
Unmitigated	28.8083	0.2076	5.2100e-003	34.7820

## 7.2 Water by Land Use

### Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	6.31994 / 3.98431	28.8083	0.2076	5.2100e-003	34.7820
Total		28.8083	0.2076	5.2100e-003	34.7820

### Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Single Family Housing	6.31994 / 3.98431	28.8083	0.2076	5.2000e-003	34.7788
Total		28.8083	0.2076	5.2000e-003	34.7788

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Unmitigated	23.0537	1.3624	0.0000	51.6648
Mitigated	23.0537	1.3624	0.0000	51.6648

**8.2 Waste by Land Use**Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	113.57	23.0537	1.3624	0.0000	51.6648
Total		23.0537	1.3624	0.0000	51.6648



## 8.2 Waste by Land Use

### Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Single Family Housing	113.57	23.0537	1.3624	0.0000	51.6648
<b>Total</b>		<b>23.0537</b>	<b>1.3624</b>	<b>0.0000</b>	<b>51.6648</b>

## 9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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## 10.0 Vegetation

## **APPENDIX C – Noise Contours**

Table 1. Distance to Existing CNEL Contour Lines, City of Bradbury

Arterial / Reach	Speed Limit, mph	% Trucks		Traffic Dist.*	Avg. Daily Traffic Existing	Hard (H) or Soft (S) Site?	Barrier Details**		Dist., Sens. Rec. to C/L	CNEL at Sens. Rec.	Distance to CNEL Contours From Roadway Centerline, feet					
		Med.	Hvy.				(leave blank if none)									
							Height (2-10m)	Distance (10/30m)			60dB	65dB	70dB	75dB	80dB	
<b>Deodar Lane</b>																
Wildrose Ave. to the gated entry	25	1.84%	0.74%	1	1,668	H			33'	54.8	--	--	--	--	--	--
<b>Deodar West</b>																
Mountain Ave. to Palm Hill Ln.	25	1.84%	0.74%	1	101	H			33'	42.6	--	--	--	--	--	--
<b>Lemon Avenue</b>																
Sombrero Rd. to Winston Ave.	25	1.84%	0.74%	1	690	H			33'	51.0	--	--	--	--	--	--
<b>Mt. Olive Drive</b>																
Royal Oaks Dr. to Gardi St.	25	1.84%	0.74%	1	1,859	H			33'	55.3	--	--	--	--	--	--
<b>Royal Oaks Drive</b>																
Buena Vista St. to Highland Ave.	30	1.84%	0.74%	1	8,550	H			164'	56.8	77	--	--	--	--	--
Highland Ave. to Bradbourne Ave.	25	1.84%	0.74%	1	7,610	H			164'	54.6	48	--	--	--	--	--
Bradbourne Ave. to Mt. Olive Dr.	25	1.84%	0.74%	1	7,870	H			156'	55.0	50	--	--	--	--	--
Mt. Olive Dr. to Las Lomas Rd.	30	1.84%	0.74%	1	10,380	H			98'	59.8	94	--	--	--	--	--
<b>Winston Avenue</b>																
Royal Oaks Dr. N. to Lemon Ave.	25	1.84%	0.74%	1	672	H			33'	50.8	--	--	--	--	--	--
<b>Woodlyn Road</b>																
Royal Oaks Dr. N. to Deodar Ln.	25	1.84%	0.74%	1	470	H			33'	49.3	--	--	--	--	--	--

\* The following summarizes the traffic distributions used in the analysis:

Traffic Distribution No.	Day				Evening				Night			
	A		MT		HT		A		HT		A	
	75.51%	1.56%	0.64%	12.57%	0.09%	0.02%	9.34%	0.19%	0.08%			

A = automobiles; MT = medium (2-axle) trucks; HT = heavy (3+ axle) trucks

The above values are adjusted as needed so that the overall medium truck and heavy truck percentages for a traffic distribution number agree with the values entered into the "% Trucks" columns on the summary table.

\*\* For street segments with barriers, noise levels and contour distances are only reported for locations 10m (approx. 30') or more beyond the noise barrier.

Table 2. Distance to Future CNEL Contour Lines, City of Bradbury

Arterial / Reach	Speed Limit, mph	% Trucks		Traffic Dist.*	Avg. Daily Traffic Future	Hard (H) or Soft (S) Site?	Barrier Details**		Dist., Sens. Rec. to C/L	CNEL at Sens. Rec.	Distance to CNEL Contours From Roadway Centerline, feet				
		Med.	Hvy.				Height (2-10m)	Distance (10/30m)			60dB	65dB	70dB	75dB	80dB
<b>Deodar Lane</b>	25	1.84%	0.74%	1	1,874	H			33'	55.3	--	--	--	--	--
<b>Deodar West</b>	25	1.84%	0.74%	1	101	H			33'	42.6	--	--	--	--	--
<b>Lemon Avenue</b>	25	1.84%	0.74%	1	724	H			33'	51.2	--	--	--	--	--
<b>Mt. Olive Drive</b>	25	1.84%	0.74%	1	2,064	H			33'	55.7	--	--	--	--	--
<b>Royal Oaks Drive</b>	30	1.84%	0.74%	1	10,944	H			164'	57.9	99	--	--	--	--
	25	1.84%	0.74%	1	9,741	H			164'	55.7	60	--	--	--	--
	25	1.84%	0.74%	1	10,074	H			156'	56.1	62	--	--	--	--
	30	1.84%	0.74%	1	13,286	H			98'	60.9	123	38	--	--	--
<b>Winston Avenue</b>	25	1.84%	0.74%	1	820	H			33'	51.7	--	--	--	--	--
<b>Woodlyn Road</b>	25	1.84%	0.74%	1	780	H			33'	51.5	--	--	--	--	--

\* The following summarizes the traffic distributions used in the analysis:

Traffic Distribution No.	Day			Evening			Night		
	A	MT	HT	A	MT	HT	A	MT	HT
1	75.51%	1.56%	0.64%	12.57%	0.09%	0.02%	9.34%	0.19%	0.08%

A = automobiles; MT = medium (2-axle) trucks; HT = heavy (3+ axle) trucks

The above values are adjusted as needed so that the overall medium truck and heavy truck percentages for a traffic distribution number agree with the values entered into the "% Trucks" columns on the summary table.

\*\* For street segments with barriers, noise levels and contour distances are only reported for locations 10m (approx. 30') or more beyond the noise barrier.

## **APPENDIX D – California Natural Diversity Data Base Survey**





WERNER BIOLOGICAL CONSULTING  
P.O. Box 547 805-272-5871 PH  
OJAI, CA 93024 805-330-4712 FAX

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January 17, 2014

Candida Neal  
114 N. Indian Hill Blvd. #S  
P.O. Box 1978  
Claremont, CA 91711

Subject: CNDDDB search for the City of Bradbury General Plan update

Dear Ms. Neal:

This letter report is in response to your request for a records search of the California Natural Diversity Database (CNDDDB) as it relates to the City of Bradbury.

### **Introduction and Background**

Werner Biological Consulting's Principal Biological and Owner, Scott Werner, was contacted by Candida Neal in December 2013 about conducting a CNDDDB (CDFW 2013) search for sensitive and/or protected biological resources in support of the City of Bradbury's General Plan Update (Neal 2014). Mr. Werner was provided with the draft plan update containing maps and general land-use descriptions of Bradbury and agreed to draft this letter describing an overview of CNDDDB-listed resources, or their habitats, associated with the City of Bradbury and its immediate surroundings. Scott Werner is a wildlife ecologist with over 17 years of experience and holds a U.S. Fish and Wildlife Service (USFWS) Recovery Permit TE-179013-1 for least Bell's vireo (*Vireo bellii pusillus*) and southwestern willow flycatcher (*Empidonax traillii extimus*), and California Department of Fish and Wildlife (CDFW) Scientific Collecting Permit SC-005186 with MOU. Mr. Werner is listed as an approved consulting biologist for the County of Ventura's Planning Division and has conducted biological surveys throughout southern California with an emphasis on Ventura, Los Angeles, and San Bernardino Counties. He has written hundreds of biological impact assessment reports and is a regular contributor to the CNDDDB.

### **Methods**

The City of Bradbury covers a 1216-acre (1.9 square mile) area of primarily residential developments at the southern edge of the San Gabriel Mountains in Los Angeles County. The elevation within the city ranges from approximately 565 feet to 2000 feet above mean sea level. The city is bordered by the cities of Monrovia and Duarte to the east, west, and south, and by the Angeles National Forest to the north (Neal 2014). The General Plan update calls for maintaining much of the existing rural residential character of the city, and the proposed land use would be very similar to existing land use (Figures 1 and 2).

This report presents the results of a desktop review of the biological resources potentially occurring in or nearby the City of Bradbury using the CNDDDB and publically available aerial photography (e.g., Google Earth). No field work was conducted and no attempt was made to determine the presence or absence of any species, habitats, or natural vegetation communities within the City of Bradbury. Mr. Werner has extensive field experience with the flora and fauna of the San Gabriel Mountains and outlying areas but



does not claim to have any particular knowledge of rare or protected species located within the City of Bradbury unless cited directly from the CNDDDB.

The CNDDDB is the primary statewide biological resources database accepted by land-use agencies for planning purposes, but it has certain limitations for land-use planning. It is a database of rare species occurrences maintained by the CDFW and populated with species data by voluntary users. Because it only contains data from field surveys of specific locations at specific points in time, it is not an exhaustive list and cannot predict a species' presence or absence. It can be quite useful as a supplemental tool for field surveys, in which a field biologist identifies potentially suitable habitat and then conducts a presence/absence survey for that species.

Given the CNDDDB's limitations it is usually appropriate to conduct a database search of as wide a geographic area as possible. The City of Bradbury is located entirely within the boundaries of the Azusa U.S. Geological Survey 7.5-minute quadrangle map. A CNDDDB search of the Azusa and the surrounding 8 quadrangles (Mt. Wilson, Glendora, El Monte, Baldwin Park, San Dimas, Chilao Flat, Waterman Mtn, and Crystal Lake) was conducted. This search area is approximately 25.8 miles by 21.4 miles, totaling 553 square miles. Additional references were consulted to filter the results based on elevational range, or highly limited ranges that do not extend to the Bradbury area (USDA Forest Service 2005a, 2005b, CNPS 2014). In addition to the CNDDDB search, the city limits and immediate surroundings were searched for any U.S. Fish and Wildlife Service designated critical habitat for species listed under the U.S. Endangered Species Act.

## Results

The 9-quadrangle search revealed 31 plant species and 32 wildlife species with the potential to occur in the Bradbury area (Table 1). Many of these species are habitat specialists whose habitat likely does not occur in Bradbury, but they are included nonetheless because of the lack of habitat data available at the time of the database search. For example, based on aerial photos there appears to be little or no perennial riverine habitat, a requirement of all three fish species listed in Table 1. Similarly, Bradbury may lack suitable riparian habitat for two federally endangered bird species, least Bell's vireo and southwestern willow flycatcher, although known populations exist several miles east in the San Gabriel River watershed. Eight sensitive vegetation communities are documented in this 9-quadrangle area (Table 1). This exhaustive list of species and communities may well be reduced if it is cross-referenced with habitat data from field surveys conducted in Bradbury.

No U.S. Fish and Wildlife designated critical habitat occurs in Bradbury, but there is a known population and critical habitat unit of federally endangered Branton's milkvetch located 1.32 miles northwest of the city limits (USFWS 2006). It is not known if its specialized habitat (calcareous soils in chaparral or coastal sage scrub) occurs within the city.

In reviewing the CNDDDB GIS layer, one CNDDDB-sensitive community, southern coast live oak riparian forest, was documented within the Bradbury city limits, in Bradbury Canyon and Bliss Canyon. One-mile radius occurrence polygons for California saw-grass (*Cladium californicum*) and pallid bat (*Antrozous pallidus*) extend slightly into the eastern city limits, but these polygons were drawn for occurrences outside of the city. One extirpated occurrence of the CNDDDB-sensitive community Riversidean alluvial fan sage scrub extends into the southwestern edge of the city limits.



Table 1. CNDDDB search results from the Asuza quadrangle and eight surrounding quadrangles (Mt. Wilson, Glendora, El Monte, Baldwin Park, San Dimas, Chilo Flat, Waterman Mtn, and Crystal Lake). Species whose ranges do not overlap with Bradbury, including elevational ranges not extending below 2000 feet, were excluded.

Common Name	Scientific Name	Status	General Habitat Description
<b>PLANTS</b>			
slender silver moss	<i>Anomobryum julaceum</i>	2B.2	Broadleafed upland forest, lower montane coniferous forest, north coast coniferous forest. Moss which grows on damp rocks and soil; acidic substrates. Usually seen on roadcuts. 330-3280 ft.
San Gabriel manzanita	<i>Arctostaphylos glandulosa ssp. gabrielensis</i>	1B.2	Rocky outcroppings, chaparral. 1950-4920 ft.
Braunton's milk-vetch	<i>Astragalus brauntonii</i>	FE, 1B.1	Closed-cone coniferous forest, chaparral, coastal scrub, valley and foothill grassland. Recent burns or disturbed areas; in saline, somewhat alkaline soils high in calcium, magnesium, with some potassium. Soil specialist; requires shallow soils to defeat pocket gophers and open areas. Preferably on hilltops, saddles or bowls between hills. 13-2100 ft.
Nevin's barberry	<i>Berberis nevinii</i>	FE, SE, 1B.1	Sandy to gravelly soils. Washes, chaparral, cismontane woodland, and coastal scrub. Generally found in lowlands or drainages. 900-2700 ft.
thread-leaved brodiaea	<i>Brodiaea filifolia</i>	FT, SE, 1B.1	Grasslands and vernal pools, openings in chaparral or coastal sage scrub, playas. Often found in clay. Southern base of San Gabriel Mts. At Glendora and San Dimas and San Bernardino at Arrowhead Springs. 82-3675 ft.
round-leaved filaree	<i>Californica macrophylla</i>	1B.1	Found in cismontane woodland, valley and foothill grasslands. Prefers clay soils at elevations 50-3936 ft.
slender mariposa lily	<i>Calochortus clavatus</i> var. <i>gracilis</i>	1B.2	Shaded foothill canyons on steep grassy slopes within chaparral and CSS, south base of San Gabriel and Sierra Pelona mountains. 246-4264 ft.
Plummer's mariposa lily	<i>Calochortus plummerae</i>	4.2	Occurs in coastal scrub, chaparral, valley foothill grassland, cismontane woodland, and lower montane coniferous forest habitats on rocky, sandy sites composed of alluvial and granitic materials. 328-5576 ft.
Intermediate mariposa lily	<i>Calochortus weedii</i> var. <i>intermedius</i>	1B.2	Occurs in coastal scrub, chaparral, and valley and foothill grassland on dry, rocky open slopes and rocky outcrops. 345-2800 ft.
southern tarplant	<i>Centromadia parryi</i> ssp. <i>australis</i>	1B.1	Marshes and swamps (margins), valley and foothill grassland. Often in disturbed sites near the coast at marsh edges; also in alkaline soils sometimes with saltgrass. Sometimes on vernal pool margins. 0-1575 ft.
Parry's spineflower	<i>Chorizanthe parryi</i> var. <i>parryi</i>	1B.1	Dry slopes in chaparral coastal sage scrub, or alluvial scrub, often in ecotones. Dry, sandy areas, 900-4000 ft.
California saw-grass	<i>Cladium californicum</i>	2B.2	Freshwater and alkali marshes, seeps. Freshwater or alkaline moist habitats. 200-2840 ft.
Peruvian dodder	<i>Cuscuta obtusiflora</i> var. <i>glandulosa</i>	2B.2	Marshes and swamps (freshwater). Freshwater marsh. 50-920 ft.
slender-horned spineflower	<i>Dodecadema leptoceras</i>	SE, FE, 1B.1	Occurs in chaparral and alluvial fan sage scrub on flood-deposited terraces and washes. 656-2490 ft.



Common Name	Scientific Name	Status	General Habitat Description
San Gabriel River dudleya	<i>Dudleya cymosa</i> ssp. <i>crebrifolia</i>	1B.2	On exposed granite outcroppings in CSS or chaparral areas. Fish Canyon, possibly Lytle Creek area. 900-1500 ft.
San Gabriel Mountains dudleya	<i>Dudleya densiflora</i>	1B.1	Steep granitic canyon walls adjacent to chaparral, coastal scrub, and coniferous forest. Southeast San Gabriel Mountains. 800-2000 ft.
many-stemmed dudleya	<i>Dudleya multicaulis</i>	1B.2	Heavy soils, often clayey, coastal plain. Chaparral, coastal scrub, and valley and foothill grassland. 50-2600 ft.
hot springs fimbriatylis	<i>Fimbristylis thermalis</i>	2B.2	Meadows (alkaline). Near hot springs. 360-4400 ft.
San Gabriel bedstraw	<i>Galium grande</i>	1B.2	Open, broad-leaved forest, open chaparral, cismontane woodland, and lower forest. Rocky slopes. 1400-4920 ft. San Gabriel Mtns.
mesa horkelia	<i>Horkelia cuneata</i> var. <i>puberula</i>	1B.1	Chaparral, cismontane woodland, coastal scrub. Sandy/gravelly sites at 230-2660 ft.
California satintail	<i>Imperata brevifolia</i>	2B.1	Calcareous seeps, hot springs, disturbed wet areas. Generally 0-4000 ft.
Robinson's pepper-grass	<i>Lepidium virginicum</i> var. <i>robinsonii</i>	4.3	Chaparral, coastal scrub. Dry soils, shrubland. 3-2900 ft.
California muhly	<i>Muhlenbergia californica</i>	4.3	Coastal sage, chaparral, lower montane coniferous forest, meadows. Usually found near streams or seeps. 328-6560 ft.
Robbins' nemacladus	<i>Nemacladus secundiflorus</i> var. <i>robbinsii</i>	1B.2	Chaparral, valley and foothill grassland. Dry, sandy or gravelly slopes. 1148-5576 ft.
Brand's star phacelia	<i>Phacelia stellaris</i>	1B.1	Coastal scrub, coastal dunes. Open areas. 3.28-1312 ft.
white rabbit-tobacco	<i>Pseudognaphalium leucocephalum</i>	2B.2	Riparian woodland, cismontane woodland, coastal scrub, chaparral. Sandy, gravelly sites. 0-6888 ft.
southern mountains skullcap	<i>Scutellaria bolanderi</i> sp. <i>austromontana</i>	1B.2	Chaparral, cismontane woodland, lower montane coniferous forest. In gravelly soils on streambanks or in mesic sites in oak or pine woodland. 1394-6560 ft.
chaparral ragwort	<i>Senecio aphanactis</i>	2B.2	Cismontane woodland, coastal scrub. Drying alkaline flats. 50-2624 ft.
San Bernardino aster	<i>Symphyotrichum defoliatum</i>	1B.2	Meadows and seeps, marshes and swamps, coastal scrub, cismontane woodland, lower montane coniferous forest, grassland. Vernal mesic grassland or near ditches, streams and springs; disturbed areas. 7-6700 ft.
Greata's aster	<i>Symphyotrichum greatae</i>	1B.3	Chaparral, cismontane woodland. Mesic canyons. 984-6600 ft.
Sonoran maiden fern	<i>Thelypteris puberula</i> var. <i>sonorensis</i>	2B.2	Streams, meadows, and seeps. 164-2000 ft.
<b>FISH</b>			
arroyo chub	<i>Gila orcuttii</i>	CSC	Species found in slow moving or backwater sections of warm to cool streams with mud or sand substrates.
Santa Ana speckled dace	<i>Rhinichthys osculus</i> ssp. 3	CSC	Species inhabits a number of streams and channel types, small springs, brooks, and pools in intermittent streams and large rivers. Generally requires abundant cover and well-oxygenated water flowing over shallow cobble and gravel riffles.
Santa Ana sucker	<i>Catostomus santaanae</i>	FT, CSC	Species inhabits shallow streams and rivers less than 23 feet wide where water temperature is generally below 72° F. Generally prefer clear water and often found in pools.



Common Name	Scientific Name	Status	General Habitat Description
<b>AMPHIBIANS</b>			
large-blotched salamander	<i>Ensatina klauberi</i>	CSC	Found in conifer and woodland associations. Found in leaf litter, decaying logs and shrubs in heavily forested areas.
Coast Range newt	<i>Taricha torosa</i>	CSC	Coastal drainages from Mendocino County to San Diego County. Lives in terrestrial habitats and will migrate over 0.5 miles to breed in ponds, reservoirs and slow moving streams.
arroyo toad	<i>Anaxyrus californicus</i>	FE, CSC	Habitat requirements are perennial and intermittent streams with shallow, sandy or gravelly pools adjacent to sand or fine gravel terraces. Found in plains, mountains, and desert slopes of So. California, below 7900 ft.
<b>REPTILES</b>			
western pond turtle	<i>Emys marmorata</i>	CSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation, below 6000 feet elevation. Need basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.
coast horned lizard	<i>Phrynosoma blainvillii</i>	CSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants and other insects.
coastal whiptail	<i>Aspidoscelis tigris stejnegeri</i>	-	Found in deserts and semiarid areas with sparse vegetation and open areas. Also found in woodland and riparian areas. Ground may be firm soil, sandy, or rocky.
rosy boa	<i>Charina trivirgata</i>	-	Desert and chaparral from the coast to the Mojave and Colorado deserts. Prefers moderate to dense vegetation and rocky cover. Habitats with a mix of brushy cover and rocky soil such as coastal canyons and hillsides, desert canyons, washes and mountains.
two-striped garter snake	<i>Thamnophis hammondi</i>	CSC	Coastal California from vicinity of Salinas to northwest Baja California. From sea to about 7,000 ft elevation. Highly aquatic, found in or near permanent fresh water. Often along streams with rocky beds and riparian growth.
<b>BIRDS</b>			
Cooper's hawk	<i>Accipiter cooperii</i>	WL	Woodland, chiefly of open, interrupted or marginal type. Nest sites mainly in riparian growths of deciduous trees, as in canyon bottoms on river flood-plains; also, live oaks.
merlin	<i>Falco columbarius</i>	WL	Seacoast, tidal estuaries, open woodlands, savannahs, edges of grasslands and deserts, farms and ranches. Clumps of trees or windbreaks are required for roosting in open country. An uncommon winter resident of the San Gabriel foothills.





Common Name	Scientific Name	Status	General Habitat Description
western yellow-billed cuckoo	<i>Coccyzus americanus occidentalis</i>	FPE, SE	Riparian forest. Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, w/ lower story of blackberry, nettles, or wild grape.
black swift	<i>Cypseloides niger</i>	CSC	Coastal belt of Santa Cruz and Monterey Co.; central and southern Sierra Nevada; San Bernardino and San Jacinto Mountains. Breeds in small colonies on cliffs behind or adjacent to waterfalls in deep canyons and sea-bluffs above the surf; forages widely.
southwestern willow flycatcher	<i>Empidonax traillii extimus</i>	FE, SE	Riparian woodland. Riparian woodlands in Southern California. Requires dense vegetation and standing water or saturated soils.
bank swallow	<i>Riparia riparia</i>	ST	Colonial nester; nests primarily in riparian and other lowland habitats west of the desert. Requires vertical banks/cliffs with fine-textured/sandy soils near streams, rivers, lakes, ocean to dig nesting hole.
coastal California gnatcatcher	<i>Poliophtila californica californica</i>	FT, CSC	Obligate, permanent resident of coastal sage scrub dominated by California sagebrush ( <i>Artemisia californica</i> ) below 2500 feet in Southern California. Low, coastal sage scrub in arid washes, on mesas and slopes.
least Bell's vireo	<i>Vireo bellii pusillus</i>	FE, SE	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms; below 2000 ft. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, <i>Baccharis</i> , mesquite.
yellow-breasted chat	<i>Icteria virens</i>	CSC	Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow, blackberry, wild grape; forages and nests within 10 ft of ground.
southern California rufous-crowned sparrow	<i>Aimophila ruficeps canescens</i>	WL	Resident in Southern California coastal sage scrub and sparse mixed chaparral. Frequents relatively steep, often rocky hillsides with grass and forb patches.
<b>MAMMALS</b>			
pallid bat	<i>Antrozous pallidus</i>	CSC, WBWG H	Deserts, grasslands, shrublands, woodlands and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.
hoary bat	<i>Lasiurus cinereus</i>	WBWG M	Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.
western yellow bat	<i>Lasiurus xanthinus</i>	CSC, WBWG H	Found in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in trees, particularly palms. Forages over water and among trees.
fringed myotis	<i>Myotis thysanodes</i>	WBWG H	In a wide variety of habitats, optimal habitats are pinyon-juniper, valley foothill hardwood and hardwood-conifer. Uses caves, mines, buildings or crevices for maternity colonies and roosts.



Common Name	Scientific Name	Status	General Habitat Description
long-legged myotis	<i>Myotis volans</i>	WBWG H	Most common in woodland and forest habitats above 4000 ft. Trees are important day roosts; caves and mines are night roosts. Nursery colonies usually under bark or in hollow trees, but occasionally in crevices or buildings.
Yuma myotis	<i>Myotis yumanensis</i>	WBWG LM	Optimal habitats are open forests and woodlands with sources of water over which to feed. Distribution is closely tied to bodies of water. Maternity colonies in caves, mines, buildings or crevices.
western mastiff bat	<i>Eumops perotis californicus</i>	CSC, WBWG H	Many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, grasslands, chaparral etc. Roosts in crevices in cliff faces, high buildings, trees and tunnels.
pocketed free-tailed bat	<i>Nyctinomops femorosaccus</i>	CSC, WBWG M	Variety of arid areas in Southern California; pine-juniper woodlands, desert scrub, palm oasis, desert wash, desert riparian, etc. Rocky areas with high cliffs.
big free-tailed bat	<i>Nyctinomops macrotis</i>	CSC, WBWG MH	Low-lying arid areas in Southern California. Need high cliffs or rocky outcrops for roosting sites. Feeds principally on large moths.
San Diego black-tailed jackrabbit	<i>Lepus californicus bennettii</i>	CSC	Intermediate canopy stages of shrub habitats and open shrub / herbaceous and tree / herbaceous edges. Coastal sage scrub habitats in Southern California.
American badger	<i>Taxidea taxus</i>	CSC	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Needs sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs burrows.
<b>CNDDDB SENSITIVE COMMUNITIES</b>			
Riversidian Alluvial Fan Sage Scrub		G1S1.1	See Holland (1986). Detailed description provided upon request.
Southern Coast Live Oak Riparian Forest		G4S4	See Holland (1986). Detailed description provided upon request.
Southern Cottonwood Willow Riparian Forest		G3S3.2	See Holland (1986). Detailed description provided upon request.
Canyon Live Oak Ravine Forest		G3S3.3	See Holland (1986). Detailed description provided upon request.
Southern Sycamore Alder Riparian Woodland		G4S4	See Holland (1986). Detailed description provided upon request.
Open Engelmann Oak Woodland		G2S2.2	See Holland (1986). Detailed description provided upon request.
California Walnut Woodland		G2S2.1	See Holland (1986). Detailed description provided upon request.
Walnut Forest		G1S1.1	See Holland (1986). Detailed description provided upon request.

Status Key (see CDFW 2011):

FE = Federal Endangered  
 FT = Federal Threatened  
 FPE = Federal Proposed Endangered  
 SE = California Endangered  
 ST = California Threatened  
 CSC = California Species of Concern  
 CR = California Rare  
 WL = California Watch List  
 WBWG H: Western Bat Working Group - High Priority



- WBWG LM: Western Bat Working Group - Low-Medium Priority  
WBWG M: Western Bat Working Group - Medium Priority  
WBWG MH: Western Bat Working Group - Medium-High Priority  
California Rare Plant Ranks:  
1B = Rare, Threatened or Endangered in California and elsewhere  
2 = Rare, Threatened or Endangered in California, but more common elsewhere  
3 = Plants about which we need more information - a review list  
4 = Plants of limited distribution - a watch list  
.1 = seriously threatened in California  
.2 = fairly threatened in California  
.3 = not very threatened in California
- G1: Globally critically imperiled  
G2: Globally imperiled  
G3: Globally vulnerable  
G4: Globally apparently secure  
G5: Globally secure  
S1: Critically imperiled in California  
S2: Imperiled in California  
S3: Vulnerable in California  
S4: Apparently secure in California  
S5: Secure in California



## Conclusion

Many CNDDDB-listed species and communities were documented within the 9-quadrangle area centered at the City of Bradbury, but only one CNDDDB element, an occurrence of southern coast live oak riparian forest, was confirmed with the city limits. Additional analysis based on field habitat data is recommended to determine the potential for occurrence for the 63 species and 8 vegetation communities documented in the CNDDDB search.

Please contact me at (805) 272-5871 or [scott@wernerbio.com](mailto:scott@wernerbio.com) if you have any questions.

Sincerely,

Scott Werner  
Principal Biologist/Owner

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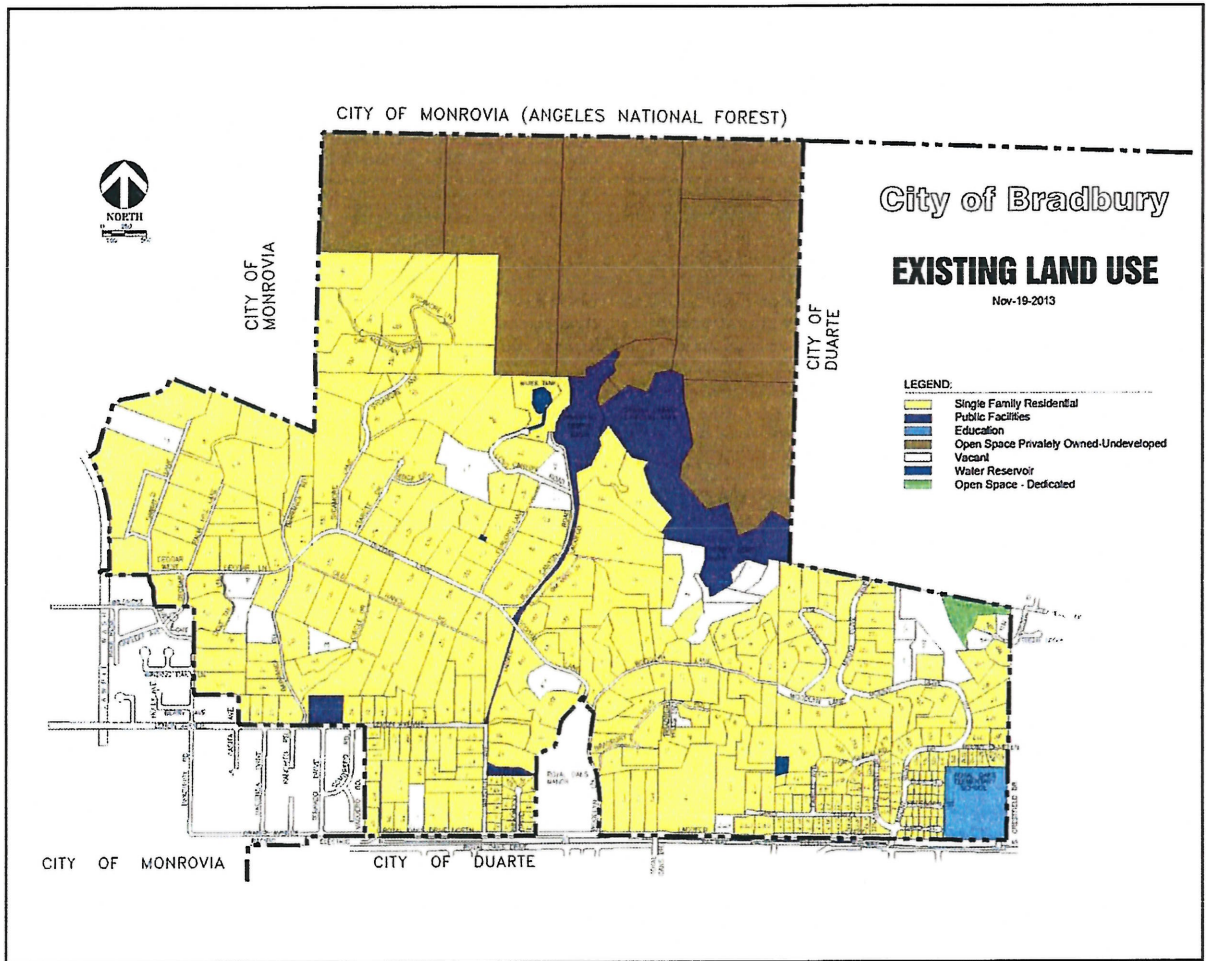


Figure 1. Existing land use in the City of Bradbury (Neal 2014).



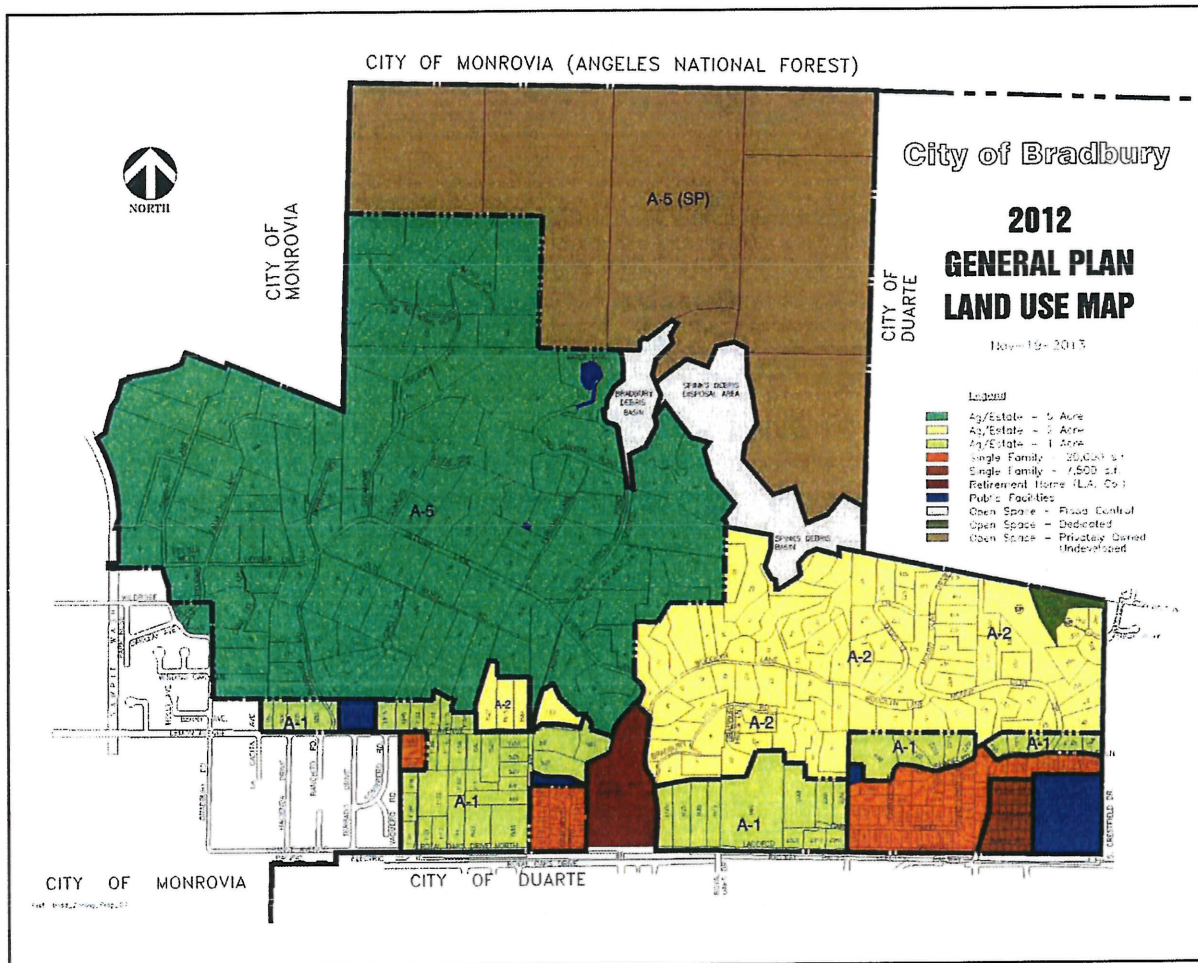


Figure 2. Land use in the City of Bradbury proposed under the 2013 General Plan update (Neal 2014).

## **APPENDIX E – City of Bradbury General Plan Matrices**

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- City of Bradbury General Plan Comparison Matrix
- City of Bradbury General Plan Goals and Objectives Comparison Matrix

# **City of Bradbury General Plan Policy Comparison**

## **1994 General Plan**

## **2007 General Plan, and**

## **2012-2030 General Plan Update**

### **Matrix**

January 30 2014

The purpose of the matrix is to review the City of Bradbury general plans for 1994, 2007 and the proposed 2012-2030 General Plan Update that is under consideration by the City Council and compare the documents with specific focus on the impact of the general plans on some 302-acres of privately owned hillside undeveloped property which has been questioned by the owners of approximately 192-acres of vacant undeveloped hillside property. The intent of the matrix is to ascertain how each mandatory general plan element identified the potential development opportunities for the entire 302-acres of Privately Owned Undeveloped Hillside Property.

It should be noted that the 1994 General Plan and associated environmental impact report (EIR) described and mapped the property in question as 316-acres. A review of the Los Angeles County Tax Assessor records indicates that the property in question contains only 302-acres of land area. The reason for this 14-acre discrepancy has not been analyzed.

Furthermore it should be noted that the City of Bradbury in an attempt to comply with encouragement from the State Department of Planning and Research (OPR) reviewed and re-adopted the 1994 General Plan as its long-range planning policy document in 2007.

The 2012-2030 General Plan Update is an attempt to reformat the previously adopted General Plan in conformance with the State's current General Plan Guidelines. Data provided by the 2010 federal Census and data provided by State agencies and others has been used to update the narrative portions of the General Plan in an attempt to describe the City of Bradbury in a contemporary context. The development opportunity for the 302-acres of vacant undeveloped hillside property remains unchanged in the proposed General Plan 2012-2030 Update.

Element	1994	2007	2012	Comment
<b>Executive Summary</b>	<p>The subject undeveloped open space area designated as Estate – Five Acres/Hillside Development Overlay is described as being subject to the requirements of the City's Hillside Ordinance</p> <p>Area described as 316-acres appears to be 302-acres in size as tabulated using the tax Assessor Maps.</p> <p>Objectives and policies for each element stated in the executive summary</p>	<p>The 2007 General Plan contains a new Executive Summary that essentially restates the 1994 Executive Summary.</p>	<p>The 2012-2030 General Plan Update does not include an Executive Summary.</p> <p>The Introduction section contains information similar to that contained in the 2007 General Plan Executive Summary.</p> <p>Goals, objectives and policies for each Element included at the end of each Element, or Chapter of each Element</p>	
<b>Introduction</b>	<p>Provides overview of the general plan content and a summary of various long-range planning policies.</p>	<p>The 2007 General Plan is a carbon copy of the 1994 General Plan.</p>	<p>The 2012-2030 General Plan Update provides an overview of the general plan content to include goals.</p> <p>A statement is included that essentially the land use policies and patterns established in 1994 and 2007 general plans are followed.</p> <p>Development potential for the 302-acre area is not meant to be changed from that previously approved and adopted.</p>	<p>The only difference between the 1994/2007 and the 2012-2030 General Plans is the detailing of the community goals. The community expressed a desire that the 1994 general plan goal "to promote rural tranquility" be retained as the guiding principal for future physical development of the community.</p>
<b>Land Use Element</b>	<p>The 1994 City population was reported to be 850.</p> <p>The number of dwelling units was reported to be 281. Estimated that under theoretical buildout would have an additional 220 units for a total of 501 units.</p> <p>Property included in the Estate (Hillside) -5 acre land use with corresponding zoning of A-5 (1 unit per 5 acres) and shown to be</p>	<p>The 2007 General Plan Land Use Element is a carbon copy of the 1994 General Plan Land Use Element.</p>	<p>The 2012-2030 General Plan Update population estimate is based on 2010 federal Census data and it is reported to be 1,048.</p> <p>The number of dwelling units is reported to be 400. Estimated that an additional 97 units could be built for a total of 497 units.</p> <p>Property in question was redesignated as Open Space, Privately Owned Undeveloped without any change in</p>	<p>The 1994 General theoretical Buildout estimate for the subject Open Space Undeveloped privately owned land of 32 dwelling units did not include allowable accessory dwelling units.</p> <p>The theoretical Buildout for the 316-acres could have been calculated at 316-acres/5-acres per dwelling = 63.2 x two or a maximum yield of 126.4 dwelling units.</p> <p>The total theoretical City Buildout was estimated to be 501 dwellings and a</p>

Element	1994	2007	2012	Comment
	<p>Open Space – Undeveloped on Land Use Map.</p> <p>The Hillside Development standards require that between 50% and 85% of each lot in the property be kept in natural open space depending upon the slope</p> <p>Theoretical Buildout density for the subject "316-acre" Open Space area was estimated to be 32 dwelling units.</p> <p>The theoretical Buildout population for the property in question was estimated to be 95 persons.</p> <p>No method of calculating the dwelling unit yield for the property in question was given. The Buildout projection of 32 dwelling units represents a 50% reduction of the maximum theoretical yield (e.g. 316-acres/5-acres per dwelling = 64 DUs)</p> <p>Recognized that theoretical buildout is not likely to occur in hillside areas because of constraints and hillside standards.</p> <p>Existing Land Use of the property in question defined as Open Space-Undeveloped.</p> <p>Proposed Land Use of the property in question defined as Open Space Undeveloped with density of one dwelling unit per 5-acres.</p> <p>Land Use category was noted as</p>		<p>zoning.</p> <p>Hillside Development standards still apply to require between 50% and 85% of each lot of the property in question to be kept in natural open space depending upon the slope.</p> <p>The proposed development density for the subject Privately Owned Undeveloped Open Space area was set as 1 unit per 5-acres.</p> <p>Theoretical Buildout density for the subject property is based on its eight (8) lot configuration. One main dwelling and one accessory dwelling is permitted for each lot therefore, a Buildout projection of 16 dwelling units has been calculated.</p> <p>Additional dwelling unit yield for the property in question would be based on future subdivision and development plans that would be elements of a required specific plan. Development of the site in question would include extensive environmental review.</p> <p>General Plan development density is the same as the 1994 and 2007 general plans.</p>	<p>projected population of 1,500.</p> <p>The reduction of 126.4 dwelling units for the subject property to 32 dwelling units was not explained. However the 1994 and the 2007 general plans did indicate that the property in question was subject to site and environmental constraints.</p> <p>The 2012-2030 General Plan Update identifies that the subject property is currently comprised of 8 parcels. Each A-5-SP zoned parcel has the potential of developing two dwelling units per parcel (one primary and one accessory dwelling).</p> <p>Development proposals for the property in question must be in the form of a Specific Plan. Additional density yield for the property in question will be the topic site specific environmental and hillside development standards review.</p> <p>Total City Buildout potential in the 1994 and 2007 general plans was 501 dwelling units and a projected population of 1,500 persons.</p> <p>Total City Buildout potential in the 2012-2030 General Plan Update is 497 dwelling units and a projected population of 1,540 persons.</p>



Element	1994	2007	2012	Comment
	<p>being subject to requirements of the City's hillside development standards because of topographic constraints.</p> <p>Property in question said to be bisected by intermittent streams</p>			
Housing Element	<p>The 1994 General Plan Housing Element states that housing accommodations should be provided for all economic segments of the community in accordance with State Law.</p> <p>The Housing Element identifies 331-acres as subject to Environmental Constraints such as steep hillsides and that the area is subject to development at the owner's discretion.</p> <p>The 331-acre designation includes the subject undeveloped hillside property.</p>	<p>The 2007 General Plan includes a Housing Element that was revised in 2000 in accordance with State Law.</p> <p>The Housing element recognizes the subject 302-acre Open Space Undeveloped parcel as constrained by environmental issues, lack of infrastructure and cost of construction.</p> <p>Nothing in the Housing Element 2000 indicates that the property in question was not developable. The development potential of the subject property was only described as difficult or constrained.</p>	<p>The 2012-2030 General Plan Update does not include a housing element modification. The existing Housing Element 2008 was certified as in compliance with State Law.</p> <p>The Housing Element may be considered for revision in 2014.</p> <p>The subject 302-acre Open Space Undeveloped site is defined as having marginal expectation for development due to steep hillsides, lack of infrastructure, topographical, geological and geotechnical constraints.</p> <p>The area is subject to natural hazards to include wild fires.</p> <p>A density yield of 28 dwelling units was projected for the property in question. No explanation of how the projection was derived was offered in the Housing Element. However, it was noted that the subject property may have difficulty in achieving the projected density.</p>	<p>The required revision schedule for housing elements is different than that for the remaining mandatory elements of the general plan.</p> <p>The subject 302-acre Open Space Undeveloped site is considered to have significant development constraints.</p> <p>The notation that the subject 302-acre Open Space Undeveloped site would be difficult to develop is constant throughout the 1994/ 2007 and the 2012-2030 general plans.</p>
Circulation Element	<p>The 1994 General Plan Circulation Element's guiding principal was to preserve the City's rural residential character.</p> <p>Buildout was projected to be 501 dwelling units. Traffic generated by</p>	<p>The 2007 Circulation Element is a carbon copy of the 1994 Circulation Element.</p>	<p>The 2012-2030 General Plan Update Circulation-Transportation Element addresses the Complete Streets Network as required by the State Planning Law.</p> <p>Alternate methods and modes of</p>	<p>A traffic study was conducted to determine if the local and regional circulation and transportation systems were adequate to handle existing and projected demand and traffic volumes.</p> <p>The systems were deemed adequate.</p>

Element	1994	2007	2012	Comment
	<p>the projected density and population was analyzed and the impact on the rural residential circulation system was anticipated to be minimal.</p>		<p>transportation are advocated.</p> <p>Surrounding regional arterial circulation and transportation systems were analyzed.</p> <p>It was determined that impact on the City and regional transportation and circulation systems is negligible.</p> <p>A traffic study was undertaken and the information was used to determine that the circulation and transportation systems for the City and the region were adequate.</p>	<p>The 2012-2030 General Plan Update promotes the use of alternate modes and methods of transportation. Reduction of the use of motor vehicles is encouraged.</p> <p>Emergency Access and Evacuation routes were identified and evaluated</p>
<p><b>Conservation Element</b></p>	<p>The 1994 General Plan Conservation Element contains a major goal directed at the restoration and protection of the quality of the physical environment through conservation of natural water courses, soils, and native plant and animal life.</p> <p>The Element states that conservation of natural resources should be a leading determinant for development type and density, as well as for the preservation of open space.</p> <p>302 acres identified as being in high sensitivity Resource Management Area and development subject to specified guidelines and field survey requirements</p>	<p>The 2007 General Plan Conservation Element is a carbon copy of the 1994 general plan.</p>	<p>The 2012-2030 General Plan Update Conservation Chapter of the Community Resources Element contains the same objective as the 1994 and 2007 general plans.</p> <p>The subject 302-acre Open Space Undeveloped site is identified as an area that might require extensive analysis prior to development.</p> <p>The revised Resource Management Area Map excludes the developed portion of the Bradbury Estates and the Woodlyn Lane Estates as shown on the previously adopted general plan Resource Management Area Maps.</p> <p>However, the subject 302-acre Open Space Privately Owned Undeveloped site was retained as shown on the 1994 and 2007 general plan Resource Management Area Maps and continues to be in a high sensitivity area.</p> <p>Development in high sensitivity area subject to same guidelines and filed</p>	<p>The format of the Conservation Element has been modified to comply with the State's General Plan Guidelines.</p> <p>Current demographic and technical data has been cited regarding water, energy and solid waste conservation issues.</p> <p>Two previously identified "Wildlife Habitat" areas have been removed from the Resource Management Area Map because these areas have been developed with residential estates.</p> <p>The map legend identifying "Wildlife Habitat" has been replaced with legend designations of: Open Space, dedicated; and Opens Space privately owned-Undeveloped. Additionally, the flood control debris basins have been included on the map.</p> <p>Goals, objectives, policies and action programs have been expanded to reflect current positions and activities undertaken by the City.</p>

Element	1994	2007	2012	Comment
			<p>survey requirements.</p> <p>The recently dedicated privately owned 4-acre open space parcel at Sharon Hill Lane was added as a Resource Management Area.</p> <p>An Environmental Resources Map was added depicting the location of the seasonal Blueline streams, the flood control debris basins and significant prominent ridgelines.</p> <p>A photograph of the 302-acres of the privately owned undeveloped hillside property has been included for informational purposes.</p> <p>Information regarding community resources has been updated using current demographic and technical data. Additional topics have been added such as Mineral Resources and Air Quality, Recycling, Hazardous Waste, and NPDES</p>	
<b>Safety Element</b>	<p>The 1994 General Plan Safety Element focuses on those issues that may affect the health and safety of City residents that should be considered in current and future planning.</p> <p>Specific issues include fire risk and prevention; flooding; geologic and seismic hazards; and other natural and man-made hazards that could affect the City.</p> <p>Property shown as being in Hillside/Slope Failure area.</p> <p>Identifies threat from fires in foothill areas.</p>	<p>The 2007 General Plan Safety Element is a carbon copy of the 1994 General Plan.</p>	<p>The 2012-2030 General Plan Update combines the required Noise Element and the required Safety Element.</p> <p>The Safety Element format has been updated to be consistent with the State's General Plan Guidelines.</p> <p>The history of natural and man-made disasters that have occurred has been updated.</p> <p>The adopted Fire Hazard Severity Zone Map prepared by the County Fire Department has been included.</p> <p>The Seismic Hazard Zones Map as prepared by the State Department of Mines and Geology has been included</p>	<p>The Fire Hazard Severity Zone Map reflects current assessment of the potential fire hazard to the community, but the area was already identified as being subject to fire threats.</p> <p>The Seismic Hazard Zones Map identifies areas of potential hazards such as: Liquefaction Zones; Earthquake induced Landslide Zones; Surface Rupture/Fault Trace Areas; and potential regulatory zones surrounding the surface rupture/fault trace areas.</p> <p>Safety and Emergency Preparedness Plans and Programs have been identified and elaborated on.</p> <p>Emergency Access and Evacuation routes</p>

Element	1994	2007	2012	Comment
			and property still shown as being subject to earthquake induced landslide area.	have been updated.  Goals, objectives, policies and action programs have been memorialized to reflect current policies and activities.
<b>Noise Element</b>	<p>The 1994 General Plan Noise Element objective is to maintain and preserve the existing quiet and noise-free environment in the City.</p> <p>A noise mitigation plan was outlined in the element. No significant noise impacts were identified.</p> <p>Noise control measures and standards were included.</p> <p>A Noise Environment Map was prepared to locate noise contours</p>	<p>The 2007 General Plan Noise Element is a carbon copy of the 1994 General Plan Noise Element.</p>	<p>The 2012-2030 Noise Element is now a part of the Health and Safety Element.</p> <p>Potential noise impacts were identified as associated with traffic in and around the City.</p> <p>A traffic study was prepared and noise contours were identified and mapped.</p> <p>A revised Noise Environment Map was prepared.</p> <p>Noise goals, objectives, policies and action programs were written for the protection of the community.</p>	<p>A revised noise contour map was prepared based on recent traffic volume studies.</p> <p>The Noise Goals, Objectives, Policies and Action Programs were revised to clearly define the City's expectations aspiration.</p>
<b>Open Space Element</b>	<p>The 1994 General Plan Open Space Element goal is to maintain the rural character of the community and to maximize the existing open space resources.</p> <p>It was noted that there was large undeveloped areas in the City and that many of these areas are not suitable for development due to steep slopes or water drainage. Although it was recognized that the much of the land was best served as open space, it was noted that it was under private ownership and remained undeveloped at owner's discretion.</p> <p>The Open Space Plan identifies</p>	<p>The 2007 Open Space Element is a carbon copy of the 1994 Open Space Element.</p>	<p>The 2012-2030 General Plan Update includes the required open space element as part of the Community Resources Element.</p> <p>This General Plan Element notes that the City is concerned and committed to the preservation of the agricultural uses of land that are part of the community's heritage.</p> <p>Locally significant historical buildings were identified and mapped.</p> <p>The City's existing Open Space Areas were mapped to include the subject 302-acres of privately owned undeveloped property.</p> <p>The undeveloped privately owned</p>	<p>The preservation of open space both private and publicly owned is a goal consistent throughout the 1994/ 2007 and the 2012 General Plan iterations.</p> <p>The 2012-2030 General Plan Update identifies the existing publically owned flood control debris basins, flood control channels, civic center, pedestrian/equestrian trails and the elementary school as open space areas.</p> <p>Privately Owned Open Space areas include: water reservoirs, privately owned dedicated natural open space and 302-acres of privately owned undeveloped hillside property.</p> <p>Goals, objectives, policies have been clearly defined as per direction from community residents.</p>

Element	1994	2007	2012	Comment
	331-acres of open space undeveloped hillside property that is subject to environmental constraints.		<p>hillside property was described as being developable at the density of one dwelling unit per five acres of land area.</p> <p>Development of hillside property having an average slope in excess of 10% and a land area in excess of 2-acres is subject to the City's hillside development standards.</p> <p>The City's hillside development standards require the preservation of the natural topography.</p> <p>The amount of land area to be preserved depends on the average slope of the property being developed.</p>	Action plans include the use of specific development plans to set aside open-space areas. But specific plans are already required for development in 302 acre area. Idea of specific plan is that development standards can be modified to allow alternative developments, such as cluster developments in order to preserve more sensitive areas.
Climate Action Plan	Not Included	Not Included	The 2012-2030 General Plan Update includes the Climate Action Plan adopted previously by the City Council.	



# City of Bradbury General Plan Goals and Objectives 1994 – 2007 and 2012 Update Comparison Matrix

January 31, 2014

Element	1994/2007	2012
Executive Summary	Includes objectives and policies for each element that will be discussed below.	No Executive Summary
Introduction	Repeats objectives and policies set forth in Executive Summary	Includes overall community goals: <b>Goals:</b> The objectives and policies expressed throughout this General Plan shall be based on achieving and implementing the following goals: <ol style="list-style-type: none"> <li>1. Financial sustainability.</li> <li>2. Independent local government.</li> <li>3. Local responsive and responsible governance.</li> <li>4. Quiet and peaceful living environment.</li> <li>5. Safe community.</li> <li>6. Compatibility between rural agriculture and residential estate development.</li> <li>7. Balance the City's rural character, including agricultural opportunities, preservation of open-space and natural topography, with residential necessities such as traditional municipal services and utilities.</li> <li>8. Living/housing opportunities for all ages and economic levels.</li> <li>9. Services for residents that encompass and are sensitive to an aging population and cultural diversity.</li> </ol>
Land Use Element	<p><b>Objective:</b> To maintain the existing character of the community and to preserve those environmental resources and amenities that make the City of Bradbury a desirable place to live</p> <p><b>Policy:</b> The residential character of the community and environmental resources important to the City will be maintained</p>	<p><b>Land Use Goal 1:</b> The Land Use Element maintains the existing rural residential character of the City. The element designates the general location, distribution, and extent of existing and permitted development.</p> <p><b>Land Use Goal 2:</b> Preserve the identity, image and environmental quality of the hillside and open space areas in perpetuity by enforcing the Hillside Development Standards</p> <p><u><b>Land Use Objectives</b></u></p> <p><b>Land Use Objective 1:</b> To maintain the existing character of the community and to preserve those environmental resources and amenities that make the City of Bradbury a desirable place to live.</p> <p><u><b>Land Use Policies</b></u></p> <p><b>Land Use Policy 1:</b> The residential character of the community and environmental resources important to the City will be maintained.</p>

Element	1994/2007	2012
		<p><u>Land Use Actions</u></p> <p><b>Land Use Action 1:</b> Encourage as much hillside preservation as possible through the use of conservation easements, acquisition efforts by conservation organizations or preservation as natural preserves that promote the protection of natural hillsides as open-space in perpetuity.</p> <p><b>Land Use Action 2:</b> Work with the City of Monrovia to adjust the common municipal boundaries to expand the City of Bradbury to the edge of the Wild Rose Avenue right-of-way to be consistent with the legal boundaries of the Bradbury Estates Community Services District.</p> <p><b>Land Use Action 3:</b> Revise the City's Design Guidelines to promote sustainable building and development design alternatives.</p> <p><b>Land Use Action 4:</b> Encourage the homeowner associations to consider the update or adoption of design guidelines for their respective jurisdictions.</p> <p><b>Land Use Action 5:</b> Engage the community and the homeowner associations to explore the need to control development intensity including but not limited to re-examination of lot coverage definitions, relationship of setbacks and building height and the ratio of main dwelling unit footprints to the total parcel size.</p> <p><b>Land Use Action 6:</b> Perform a biennial review of the Hillside Development Standards and update if necessary to carry out the goals of the General Plan.</p>
Housing Element	<p><b>Objective:</b> To maintain the existing residential character of the community while providing for the housing needs of the City residents.</p> <p><b>Policy 1:</b> The City will promote and cooperate in the enforcement of fair housing laws.</p> <p><b>Policy 2:</b> The City will continue to permit the development of a variety of housing types and to designate sites for new residential development in the General Plan.</p> <p><b>Policy 3:</b> The City will pursue opportunities to provide housing for low and moderate income households.</p> <p><b>Policy 4:</b> The City will continue to work to remove those governmental constraints that</p>	<p>The 2012-2030 General Plan Update does not include a housing element modification. The existing Housing Element 2008 was certified as in compliance with State Law.</p> <p>The Housing Element may be considered for revision in 2014.</p> <p>The subject 302-acre Open Space Undeveloped site is defined as having marginal expectation for development due to steep hillsides, lack of infrastructure, topographical, geological and geotechnical constraints.</p> <p>The area is subject to natural hazards to include wild fires.</p> <p>A density yield of 28 dwelling units was projected for the property in question. No explanation of how the projection was derived was offered in the Housing Element. However, it was noted that the subject property may have difficulty in achieving the projected density.</p>

Element	1994/2007	2012
	<p>limit or discourage the development of new housing in the City.</p> <p><b>Policy 5:</b> The City will work to conserve and improve the existing housing (including affordable housing) in the City.</p> <p><b>Policy 6:</b> The City will promote and encourage public participation.</p>	
<b>Circulation Element</b>	<p><b>Objective:</b> To accommodate existing traffic (equestrians, pedestrians, and vehicles) in a manner that is both safe and sensitive to the City's unique character.</p> <p><b>Policy:</b> All public roadways and roadway improvements will be constructed to City of Bradbury local street standards so as to preserve the residential character of the City.</p>	<p><b>Goals</b></p> <p><b>C-T Goal 1:</b> The C-T Element seeks to maintain safe and efficient circulation systems that do not impact the rural residential character of the City.</p> <p><b>C-T Goal 2:</b> Maintain transit programs that do not exceed the City's annual transit funding allocation or budget.</p> <p><b>C-T Goal 3:</b> Inform residents of all available transit programs.</p> <p><b>C-T Goal 4:</b> Support regional rail services such as the METRO Gold Line light rail system.</p> <p><b>C-T Goal 5:</b> Promote traffic safety throughout the community</p> <p><b>C-T Goal 6:</b> Promote a "Dark Sky" development concept for all circulation systems that is consistent with the City's rural character.</p> <p><b>Objectives</b></p> <p><b>C-T Objective 1:</b> To accommodate existing traffic patterns and plan for future demand.</p> <p><b>C-T Objective 2:</b> Strive for the creation of new transportation facilities for motorists, equestrians, pedestrians, and bicyclists. Emphasize design standards that result in the construction of circulation and transportation systems that are safe and efficient; and sensitive to the needs of the disabled and City's unique rural residential character</p> <p><b>Policies</b></p> <p><b>C-T Policy 1:</b> All public roadways and roadway improvements will be constructed to the City of Bradbury local street standards so as to preserve the rural residential character of the City.</p> <p><b>C-T Policy 2:</b> Continue inter-jurisdictional relationships with neighboring cities to coordinate the design and implementation of transportation systems.</p> <p><b>C-T Policy 3:</b> Explore all available funding sources and opportunities for improving transportation programs and facilities.</p>

Element	1994/2007	2012
		<p><b>C-T Policy 4:</b> Develop a public information/marketing campaign to advertise the availability of transit services to City residents.</p> <p><b>C-T Policy 5:</b> Continue to support and work with regional agencies to support the expansion of the Gold Line and other transportation programs and services for the San Gabriel Valley.</p> <p><b>C-T Policy 6:</b> Promote enforcement of speed laws and continue to monitor the use of City streets.</p> <p><b>Implementation Action Programs</b></p> <p><b>C-T Action 1: Safety:</b> Continue to evaluate traffic calming measures such as speed bumps, bulb-outs, stop signs and other improvements that effectively reduce speed.</p> <p><b>C-T Action 2: Light-Rail:</b> Promote improvements that expand access to the Gold Line light-rail and other regional transportation systems for community residents. Examine the feasibility of creating a park-and-ride lot at the Civic Center for use by City residents.</p> <p><b>C-T Action 3: Public Information:</b> Develop a marketing program to provide information to residents on the various available transportation services including Dial-A-Ride, Foothill Transit, and the Gold Line. Post this information on the City website.</p> <p><b>C-T Action 4: Para-Transit System:</b> Maintain a Dial-a-Ride program that does not exceed the City's annual transit funding allocation of budget.</p> <p><b>C-T Action 5: Roadway Coordination -</b> Support roadway improvements to intersections of all streets with the surrounding arterial highway network. Coordinate street improvements with the adjacent cities that may result in the improvement of Level-of-Service (LOS) at all street intersections.</p> <p><b>C-T Action 6: Roadway Improvements -</b> Continue to work with the City of Duarte and the Duarte Unified School District to identify improvements that will reduce traffic congestion and improve pedestrian access to Royal Oaks Elementary School during hours of operation.</p> <p><b>C-T Action 7: Complete Streets Network -</b> Continue to examine the existing circulation system in order to identify improvements that will lead to improved compliance with the "Complete Streets Network" as envisioned by AB 1358.</p>
<p><b>Conservation Element</b></p>	<p><b>Objective:</b> To preserve those resources that are important to the community and to cooperate in regional efforts to improve environmental quality throughout the region.</p> <p><b>Policy:</b> Existing and future development will be sensitive to those natural resources found in the City and in maintaining those natural resources.</p>	<p><b>Conservation Goals</b></p> <p><b>Conservation Goal 1.</b> Maintain a healthy and clean city.</p> <p><b>Conservation Goal 2.</b> Ensure adequate and cost effective trash collection for Bradbury residents.</p> <p><b>Conservation Goal 3.</b> Protect the valuable watershed and natural habitat areas.</p> <p><b>Conservation Goal 4.</b> Protect and maintain the local water supply to ensure that the City's growing demand for water is properly accommodated.</p> <p><b>Conservation Goal 5.</b> Protect Bradbury's environment through the use of renewable energy</p>

Element	1994/2007	2012
		<p>resources.</p> <p><b>Conservation Goal 6.</b> Prolong the life and safety of landfills and find an environmentally safe alternative means for the disposal of solid waste.</p> <p><b>Conservation Goal 7.</b> Regulate future surface streets to minimize impacting natural open-space areas.</p> <p><b>Conservation Goal 8.</b> Ensure that development in the steep foothill area is sensitive to the local environment.</p> <p><b>Conservation Goal 9.</b> Maintain Land Use policies that have minimal impact on existing air quality.</p> <p><b>Conservation Goal 10.</b> Maximize efforts to reduce air pollution from mobile sources.</p> <p><b>Conservation Goal 11.</b> Strive to achieve ambient levels of particulate matter to meet State and Federal clean air standards.</p> <p><b><u>Conservation Objectives:</u></b></p> <p><b>Conservation Objective 1.</b> Continue to improve the waste diversion and recycling programs already in place.</p> <p><b>Conservation Objective 2.</b> Provide adequate waste disposal systems and increase the use of compatible renewable energy resources.</p> <p><b>Conservation Objective 3</b> When markets for new types of recyclables open up, the City should begin implementing new programs with the trash hauler.</p> <p><b>Conservation Objective 4.</b> Require that toxic and hazardous waste be disposed of properly.</p> <p><b>Conservation Objective 5.</b> Continue to develop a comprehensive NPDES plan that meets State standards.</p> <p><b><u>Conservation Policies:</u></b></p> <p><b>Conservation Policy 1.</b> Protect water bodies, watersheds and courses from development impacts.</p> <p><b>Conservation Policy 2.</b> Assist residents in developing compatible renewable resources and identifying funding sources.</p> <p><b>Conservation Policy 3.</b> Protect surface water resources from contamination.</p> <p><b>Conservation Policy 4.</b> Support water purveyor in efforts to provide domestic and agricultural water.</p> <p><b>Conservation Policy 5.</b> Conserve water supplies (ground and surface).</p> <p><b>Conservation Policy 6.</b> Conserve riparian vegetation.</p> <p><b>Conservation Policy 7.</b> Conserve wildlife habitat and assist residents in living with wildlife.</p>



Element	1994/2007	2012
		<p>Conservation Policy 8. Conserve oak woodlands.</p> <p>Conservation Policy 9. Minimize conflict between agricultural and urban land uses.</p> <p>Conservation Policy 10. Control and prevent erosion.</p> <p>Conservation Policy 11. Enforce preservation landscape design programs.</p> <p>Conservation Policy 12. Protect sensitive plant species and their habitats.</p> <p>Conservation Policy 13. Protect rare, threatened, or endangered species.</p> <p>Conservation Policy 14. Explore the use of Habitat Conservation Plans and Natural Communities Conservation Programs.</p> <p>Conservation Policy 15. Eliminate identified water pollution sources.</p> <p>Conservation Policy 16. Improve major sewer, water, and storm drainage systems.</p> <p>Conservation Policy 17. Control hazardous materials in areas where water pollution is possible.</p> <p>Conservation Policy 18. Implement and maintain flood management facilities.</p> <p>Conservation Policy 19. Protect natural resources.</p> <p>Conservation Policy 20. Protect and improve air quality through coordinated efforts with other public agencies and jurisdictions.</p> <p>Conservation Policy 21. Protect archaeological, historical and paleontological resources</p> <p><u>Conservation Action Programs</u></p> <p>Conservation Action 1. Maintain a contract with a waste hauler to provide services to residences for trash and recycling collection.</p> <p>Conservation Action 2. Continue to provide opportunities for the disposal of large household items.</p> <p>Conservation Action 3. Require the waste collection purveyor to provide recycling containers to all customers.</p> <p>Conservation Action 4. Continue to implement the Collection, Disposal and Recycling program.</p> <p>Conservation Action 5. Purchase and use post-consumer and recycled products as much as possible.</p> <p>Conservation Action 6. Promote green waste and recycling programs such as "green and clean" which increases the usage of green waste for compost and reduces the amount of green waste exported.</p> <p>Conservation Action 7. Continue to partner with the County of Los Angeles on hazardous waste pick-up at least once a year.</p>

Element	1994/2007	2012
		<p><b>Conservation Action 8.</b> Continue to provide information to community members regarding various options for safe hazardous waste disposal.</p> <p><b>Conservation Action 9.</b> Continue with regular street sweeping.</p> <p><b>Conservation Action 10.</b> Create and maintain renewable energy guidelines for residents</p> <p><b>Conservation Action 11.</b> Plan and schedule implementation for additional TMDL's.</p> <p><b>Conservation Action 12.</b> Plan for measures to control pollutants in surface run off.</p> <p><b>Conservation Action 13.</b> Develop public education and outreach programs with regard to surface runoff, catch basin and storm drainage system maintenance.</p> <p><b>Conservation Action 14.</b> Implement procedures to detect and eliminate illegal discharges and illicit disposal practices.</p> <p><b>Conservation Action 15.</b> Promote, publicize and facilitate public reporting of illegal dumping activities.</p> <p><b>Conservation Action 16.</b> Continue city-wide catch basin stenciling program.</p> <p><b>Conservation Action 17.</b> Provide community residents with information as to how to peacefully coexist with the natural wildlife inhabiting the area.</p> <p><b>Conservation Action 18.</b> Adopt ordinances that require new development to utilize techniques and equipment that reduce consumption of non-renewable resources.</p>
<p><b>Safety Element</b></p>	<p><b>Objective:</b> To enable the City to be sensitive to natural and manmade hazards in future decision-making for future planning efforts.</p> <p><b>Policy:</b> Public safety will be the focus of the City's comprehensive emergency preparedness plan which will emphasize wildfire hazards, seismic risk, and a range of other manmade and natural hazards.</p>	<p><b>Safety Goals</b></p> <p><b>Safety Goal 1.</b> To protect the citizens, their property and public facilities from natural and man-made hazards.</p> <p><b>Safety Goal 2.</b> To establish, maintain, and develop awareness on the part of all residents of Bradbury as to how to react and protect themselves and each other, in the event of a natural or man-made hazard or disaster.</p> <p><b>Safety Goal 3.</b> To achieve a greater sense of citizen satisfaction with the safety services within the community, through constantly monitoring the effective and efficient staffing of safety service personnel.</p> <p><b>Safety Goal 4.</b> To minimize the risk to persons and property due to seismic activity.</p> <p><b>Safety Goal 5.</b> To minimize the risk to lives and property due to fire hazards.</p> <p><b>Safety Goal 6.</b> To minimize the risk to persons and property due to the use and storage of hazardous materials.</p> <p><b>Safety Goal 7.</b> Protect the community from floods and landslides.</p>

Element	1994/2007	2012
		<p><b>Safety Goal 8.</b> Assume that existing and new development addresses fire protection in a proactive and preventative way.</p> <p><u><b>Safety Objectives</b></u></p> <p><b>Safety Objective 1.</b> Prepare the community for expected or unexpected disasters resulting from natural or manmade causes.</p> <p><b>Safety Objective 2.</b> Prepare the residents of Bradbury to be aware of potential hazards and disasters and to be prepared to be self reliant for at least seven-days in the event of a disaster.</p> <p><b>Safety Objective 3.</b> Communicate with Bradbury residents through all available media, that safety personnel are properly trained to provide assistance in the event of a disaster.</p> <p><b>Safety Objective 4.</b> Implement the City's Hazard's Mitigation Plan in a timely manner.</p> <p><b>Safety Objective 5.</b> Reduce the possibility of hazardous materials becoming a health and safety issue within the community.</p> <p><b>Safety Objective 6.</b> Assume that potential flooding and landslide hazards are reviewed during new development.</p> <p><b>Safety Objective 7.</b> Ensure that adequate service levels of fire protection are maintained in the City.</p> <p><u><b>Safety Policies</b></u></p> <p><b>Safety Policy 1.</b> Support community programs that train volunteers to assist "First Responders" in the implementation of the Hazard Mitigation Plan programs.</p> <p><b>Safety Policy 2.</b> Implement precautionary measures in high risk areas to reduce injury and loss of property caused by natural or manmade hazards.</p> <p><b>Safety Policy 3.</b> Review all development proposals for compliance with established hazard avoidance criteria.</p> <p><b>Safety Policy 4.</b> Provide adequate levels of service to ensure that the residents are protected to the best of the City's ability from natural and manmade disasters.</p> <p><b>Safety Policy 5.</b> Cooperate with Federal, State and County agencies responsible for the enforcement of all health and safety laws and regulations.</p> <p><b>Safety Policy 6.</b> Establish and maintain a variety of media sources to enable interactive safety awareness and preparedness educational opportunities for the residents.</p> <p><b>Safety Policy 7.</b> Obtain materials and support the dissemination of written information to all Bradbury households regarding minimizing or avoiding hazards within the home.</p> <p><b>Safety Policy 8.</b> Provide opportunities to continually advise and update community residents regarding actions and activities they should engage in after a significant natural or manmade disaster.</p>

Element	1994/2007	2012
		<p><b>Safety Policy 9.</b> Support continuing review and updating of the City's Disaster Preparedness Program manual.</p> <p><b>Safety Policy 10.</b> Work closely with adjacent cities, County, State and Federal agencies to inform, monitor and communicate the presence of wild animals.</p> <p><b>Safety Policy 11.</b> Maintain and evaluate the level of safety services available to the community.</p> <p><b>Safety Policy 12.</b> Regulate development in accordance with State statutes in areas prone to seismic hazards.</p> <p><b>Safety Policy 13.</b> Continue to support "mutual assistance" agreements between local and State fire fighting agencies.</p> <p><b>Safety Policy 14.</b> Continue to support programs to reduce fire hazards within the community.</p> <p><b>Safety Policy 15.</b> Provide appropriate fire-fighting equipment, personnel and peakload water supply.</p> <p><b>Safety Policy 16.</b> Provide access to potable water for emergency purposes.</p> <p><b>Safety Policy 17.</b> Regulate and monitor, to the extent possible, the delivery, use and storage of hazardous materials within the City.</p> <p><b>Safety Policy 18.</b> Require all existing and new development to install and maintain adequate smoke detection systems.</p> <p><b>Safety Policy 19.</b> All new development to install fire sprinkler systems.</p> <p><b>Safety Policy 20.</b> Require that all new development incorporate sufficient measures to mitigate flood and landslide hazards including but not limited to on-site drainage systems and grading of site to minimize storm-water runoff.</p> <p><b><u>Safety Implementation Program</u></b></p> <p><b>Safety Action 1.</b> Assure that the land use element recognizes and addresses seismic threats.</p> <p><b>Safety Action 2.</b> Promote public education about fire safety at home.</p> <p><b>Safety Action 3.</b> Promote public education about disaster preparedness.</p> <p><b>Safety Action 4.</b> Update the hillside development standards which include fire prevention design measures.</p> <p><b>Safety Action 5.</b> Continue to make emergency and disaster preparedness a community priority.</p> <p><b>Safety Action 6.</b> Update and review the Emergency Operation Plan annually.</p> <p><b>Safety Action 7.</b> City staff to continue to work with the LACFD on brush removal and weed</p>

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		<p>abatement from April to June.</p> <p><b>Safety Action 8.</b> Conduct public outreach on wildfire prevention awareness.</p> <p><b>Safety Action 9.</b> Promote voluntary efforts of tree trimming and brush and weed abatement.</p> <p><b>Safety Action 10.</b> Maintain and update the multi-hazard emergency plan for the City.</p> <p><b>Safety Action 11.</b> Continue support and participation with the Emergency Response Committee.</p>
<p><b>Noise Element</b></p>	<p><b>Objective:</b> To maintain a quiet and noise-free environment in the City.</p> <p><b>Policy:</b> The City will strive to maintain its quiet and noise free environment.</p>	<p><u><b>Noise Goals</b></u></p> <p><b>Noise Goal 1.</b> Reduce noise impacts from transportation sources.</p> <p><b>Noise Goal 2.</b> Develop measures to address non-transportation noise impacts such as those that are generated from surrounding commercial and recreational activities (racetracks, etc.).</p> <p><b>Noise Goal 3.</b> Establish land uses which are compatible with existing noise levels within the community.</p> <p><b>Noise Goal 4.</b> Prevent and mitigate the adverse impacts of noise on City residents.</p> <p><u><b>Noise Objectives</b></u></p> <p><b>Noise Objective 1.</b> Maintain and reduce where feasible background noise levels emanating from citywide transportation sources.</p> <p><b>Noise Objective 2.</b> Identify and mitigate construction activity and other sources of noise that may impact the community.</p> <p><b>Noise Objective 3.</b> Careful consideration of noise impacts should be a part of all land use decisions.</p> <p><b>Noise Objective 4.</b> Maintain the quiet residential character of the City free from excessive noise from mobile and fixed source generators both Citywide and region-wide.</p> <p><u><b>Noise Policies</b></u></p> <p><b>Noise Policy 1.</b> Ensure noise mitigation measures are included in the design of new developments.</p> <p><b>Noise Policy 2.</b> Encourage the State Department of Transportation (Caltrans) to continue programs that lead to the reduction of noise levels on the Interstate I-210 and I-605 freeways.</p> <p><b>Noise Policy 3.</b> Continue the City's street improvement program to help reduce noise levels.</p> <p><b>Noise Policy 4.</b> Encourage the use of acoustical materials in all new residential developments.</p>



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		<p><b>Noise Policy 5.</b> Limit delivery, and truck traffic to designated routes.</p> <p><b>Noise Policy 6.</b> Ensure residential developments are designed and mitigated to achieve a maximum exterior CNEL of 65 dB and a maximum interior CNEL of 45 dB.</p> <p><b>Noise Policy 7.</b> Encourage, support, and enforce all State and Federal legislation designed to abate and control noise pollution.</p> <p><b>Noise Policy 8.</b> Encourage the use of rubberized asphalt for resurfacing streets.</p> <p><b>Noise Policy 9.</b> Continuously review the Noise Ordinance to ensure noise-generating uses are adequately addressed.</p> <p><b>Noise Policy 10.</b> Strive to resolve existing and potential conflicts between noise-generating uses and human activities.</p> <p><b>Noise Policy 11.</b> Prohibit significant noise-generating activities on land located near sensitive noise receptors.</p> <p><b>Noise Policy 12.</b> Evaluate the noise impacts generated by existing and future projects located in surrounding communities that impact or may impact the Bradbury ambient noise level.</p> <p><b>Noise Policy 13.</b> Enforce limits set by the State to control noise levels, particularly those governing motor vehicles.</p> <p><b>Noise Policy 14.</b> Ensure that construction noise does not cause an adverse impact to the residents of the City.</p> <p><b>Noise Implementation Action Program</b></p> <p><b>Noise Action 1:</b> Review current policies regarding the use of gas-powered maintenance equipment and consider restricting the type of equipment used and duration of operation.</p> <p><b>Noise Action 2:</b> The City will continue to enforce the noise ordinance to protect residents from undue disturbance.</p>
Open Space Element	<p><b>Objective:</b> To maintain the rural character of the community and to maximize the remaining open space resources.</p> <p><b>Policy:</b> The preservation of the existing natural open space resources in the community will be emphasized, where appropriate, through the implementation of the General Plan.</p>	<p><b>Open-Space Goals:</b></p> <p><b>Open-Space Goal No. 1:</b> Protect and enhance Bradbury's Open-Space.</p> <p><b>Open-Space Goal No. 2:</b> To develop sufficient open-space and park acreage to meet the needs of the community residents.</p> <p><b>Open-Space Goal No. 3:</b> To provide open-space and recreational opportunities to the greatest extent possible.</p> <p><b>Open-Space Objectives:</b></p> <p><b>Open-Space Objective No. 1.</b> Make open-space resources available to existing and future</p>

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		<p>residents.</p> <p><b>Open-Space Objective No. 2.</b> Make open-space resources accessible without the need to use motorized transportation.</p> <p><u><b>Open-Space Policies:</b></u></p> <p><b>Open-Space Policy No. 1.</b> Protect and preserve oak woodlands and mandate replacement planting of native oaks where oak woodlands are proposed for alteration.</p> <p><b>Open-Space Policy No. 2.</b> Protect water quality.</p> <p><b>Open-Space Policy No. 3.</b> Mandatory replacement planting of native trees and oaks.</p> <p><b>Open-Space Policy No. 4.</b> Protect existing Blueline Streams.</p> <p><b>Open-Space Policy No. 5.</b> Prevention of soil erosion.</p> <p><b>Open-Space Policy No. 6.</b> Preservation of historically or culturally significant sites.</p> <p><b>Open-Space Policy No. 7.</b> Protect wildlife and their habitats, including rare and endangered species.</p> <p><b>Open-Space Policy No. 8.</b> Explore the use of transferring development rights to create and preserve open-space.</p> <p><b>Open-Space Policy No. 9.</b> Promote development and management of public and private parks, trails and recreational areas.</p> <p><b>Open-Space Policy No. 10.</b> Protect areas of outstanding scenic beauty.</p> <p><u><b>Open Space Action Programs</b></u></p> <p><b>Open-Space Action No. 1.</b> Protect water quality</p> <p><b>Open-Space Action No. 2.</b> Avoid drainage run-off where possible</p> <p><b>Open-Space Action No. 3.</b> Promote landscaping efforts that comply with State water efficient standards, fire department standards, and protection of plant and wildlife communities.</p> <p><b>Open-Space Action No. 4.</b> Prevent soil erosion.</p> <p><b>Open-Space Action No. 5.</b> Promote agricultural uses by the use of large-lot zones and overlay zones for hazard areas.</p> <p><b>Open-Space Action No. 6.</b> Promote public acquisition of open-space land by non-profit land trusts or conservation organizations.</p> <p><b>Open-Space Action No. 7.</b> Use Specific Plans to set aside open-space areas as part of development proposals.</p>

Element	1994/2007	2012
		<p><b>Open-Space Action No. 8.</b> Explore the use of transferring development rights to create and preserve open-space</p> <p><b>Open-Space Action No. 9.</b> Explore grant financing opportunities to acquire and development pedestrian and equestrian trails.</p>
<b>Climate Action Plan</b>	Not Included	The 2012-2030 General Plan Update includes the Climate Action Plan adopted previously by the City Council.

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