
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.

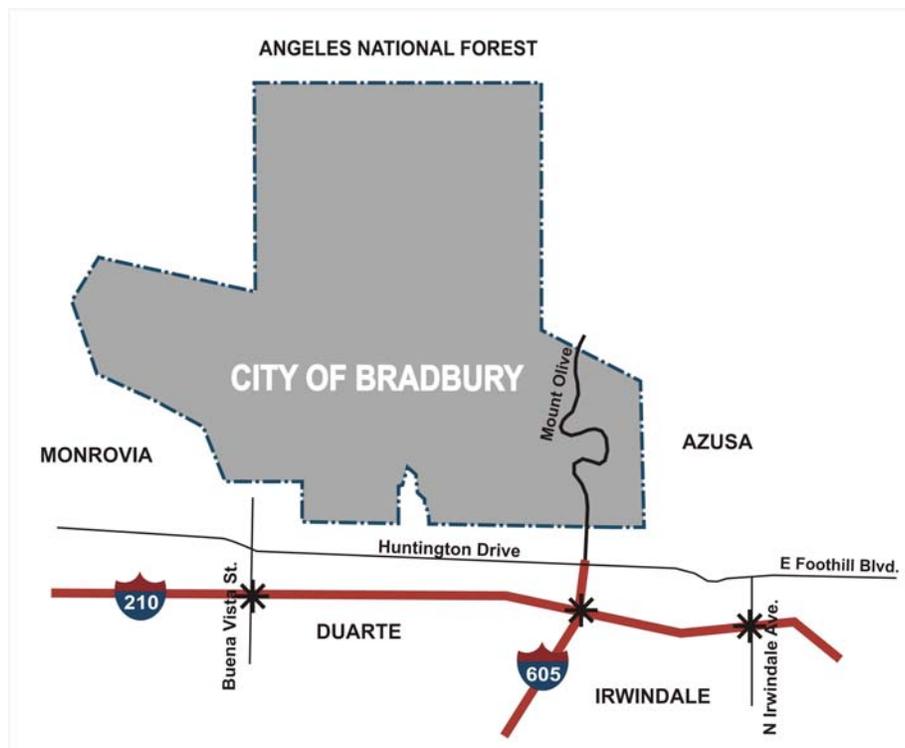


Exhibit C-T No. 1

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.

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

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

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.

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.

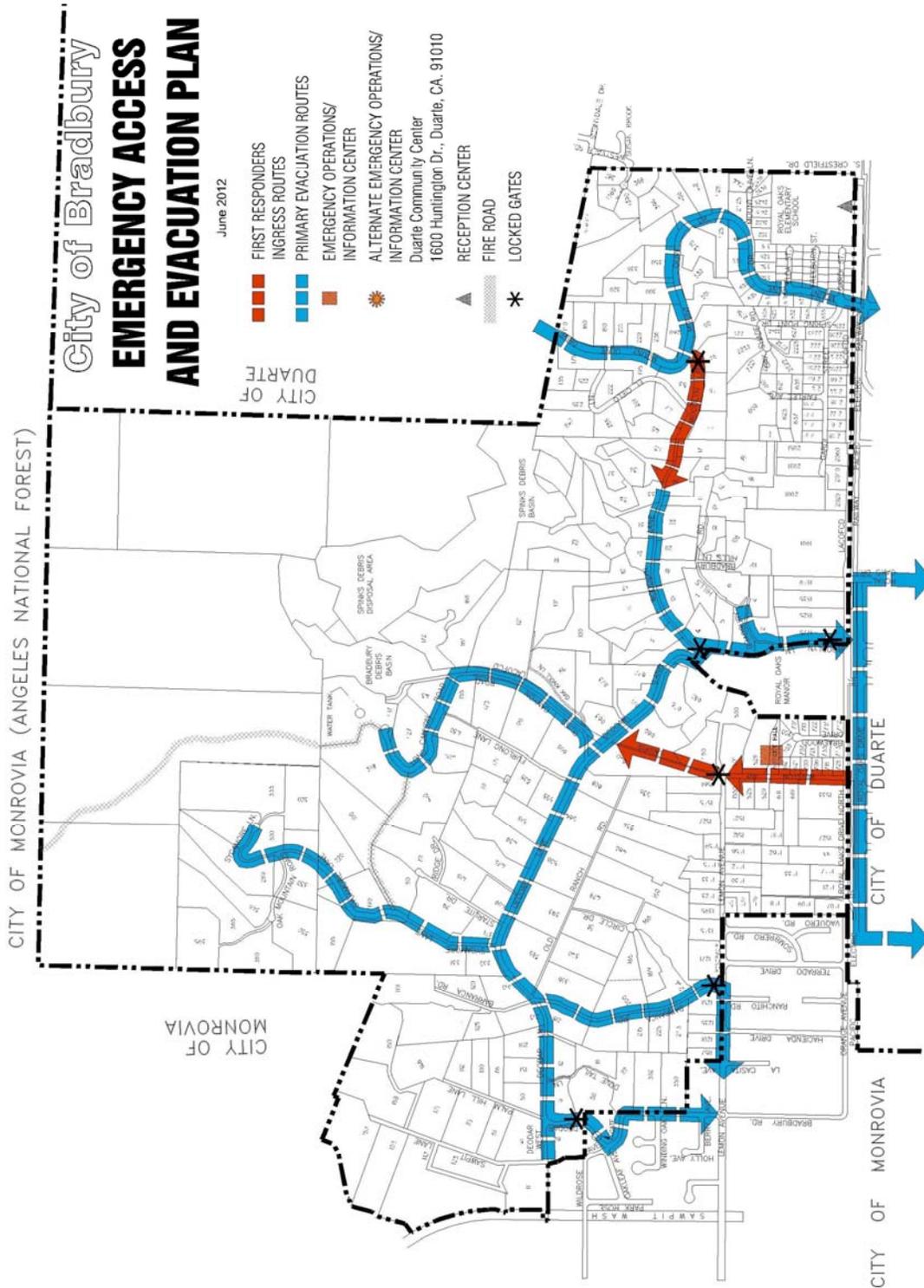


Exhibit C-T No. 3
EMERGENCY ACCESS AND EVACUATION PLAN:

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.

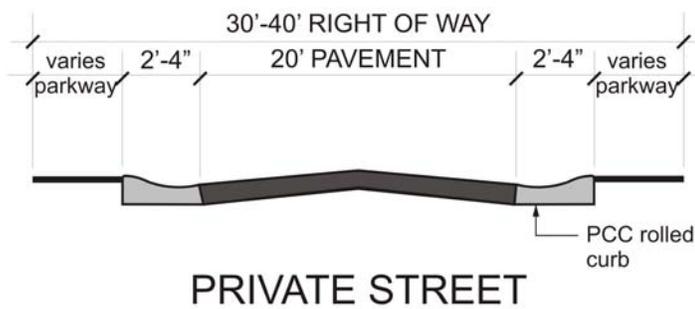
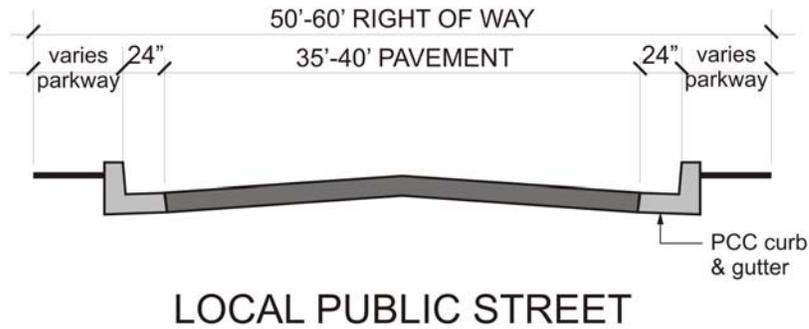
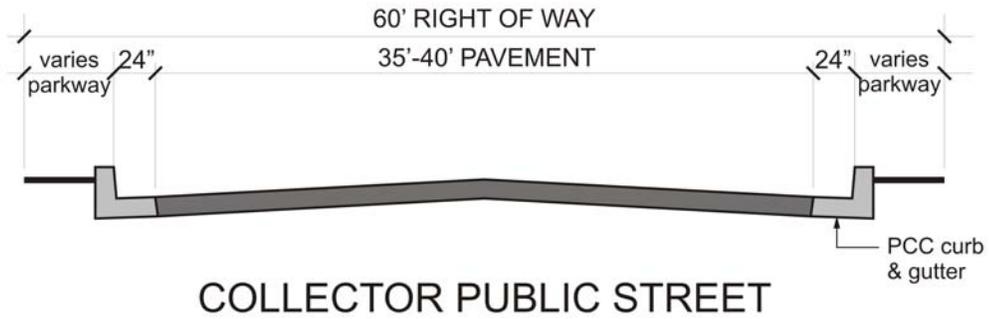


Exhibit C-T No. 4
ROADWAY CONCEPT PLANS

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

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|---|---|
| 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 Objectives

- | | |
|--|---|
| 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.

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.