

City of Bradbury

SB 99 Analysis White Paper Residential Emergency Evacuation Route Analysis

Appendix H-S B



Prepared by De Novo Planning Group
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City of Bradbury SB 99 Analysis White Paper

In coordination with its Health and Safety Element Update (2023), the City of Bradbury has prepared an analysis consistent with Senate Bill 99 to identify residential developments in high hazard zones that do not have at least two emergency evacuation routes. The analysis identified one (1) residential area of concern in the high hazard zone that warrants further study, and that is located on the eastern side of the City. The following is an explanation of the methodology used to map the evacuation routes.

DEFINITIONS & DATA SOURCES

HAZARD AREAS

High Hazard Zones are defined as areas that are located in one or more of the following pre-defined hazard zones:

1. FEMA's 100-year flood zone (NOT PRESENT)
2. California OES dam inundation area (PRESENT)
3. California Geological Survey's Map Sheet 58 Landslide Susceptibility classes 8, 9, or 10 (PRESENT)
4. California Geological Survey's Potential Liquefaction areas, mapped as part of the California Seismic Hazard Zonation Program (PRESENT)
5. California Geological Survey's Potential Landslide areas, mapped as part of the California Seismic Hazard Zonation Program (PRESENT)
6. California Geological Survey's Alquist-Priolo Fault Hazard Zones (PRESENT)
7. CAL FIRE's Very High Fire Hazard Severity Zones in Local Responsibility Areas (PRESENT)

These high hazard zones were combined into one single "Combined Hazard Area" using ArcGIS union geoprocessing tools.

RESIDENTIAL DEVELOPMENTS

Parcel data were obtained from the County of Los Angeles Enterprise Geographic Information Systems. This parcel set includes Land Use Classifications based on the City's General Plan land use designations (2014). Parcels with the "Residential" designation were considered residential developments for the purposes of this study.

ACCESS TO MAJOR ARTERIALS

The CAMS database from Los Angeles County was used to identify points of exit from clusters (neighborhoods) of residential parcels. Road centerlines were divided into three main classes:

1. **Freeway or Highway**
2. **Arterial Road** – These roads are noted as Primary and Secondary Roads in the CAMS database.
3. **Minor Road** – These roads are generally the first roads a resident will encounter when departing their residence.

ASSUMPTIONS & METHODOLOGY

IDENTIFICATION OF RESIDENTIAL DEVELOPMENTS IN HAZARD AREAS

Using ArcGIS, Residential Developments in Hazard Areas were identified by running a location query to find the parcels with Residential General Plan designations that intersect the single Combined Hazard Area.

IDENTIFICATION OF RESIDENTIAL SUBDIVISION EXIT POINTS

The goal of this analysis was to find at least two separate points of exit from residential areas in hazard zones by following a rudimentary roadway network in which vehicles move from Minor Roads to Arterial Roads, and eventually to a Freeway or Highway. The following assumptions apply:

1. Residential Developments have immediate access to Minor/Residential Roads but are distant from Freeways.
2. Arterials connect Minor/Residential Roads to the Freeways.
3. Residential Exit Points are the points where Minor/Residential Roads intersect Arterials, thereby providing eventual access to a Freeway.

ANALYSIS & RESULTS

ANALYSIS

Upon visual analysis, residential parcels within the Combined Hazard Area were assigned to one of two categories:

1. One Exit Point with Access to Single Arterial
2. Multiple Exit Points with Access to Multiple Arterials

RESULTS

A total of 402 unique land parcels were identified as Residential AND within the Combined Hazard Area. Of these:

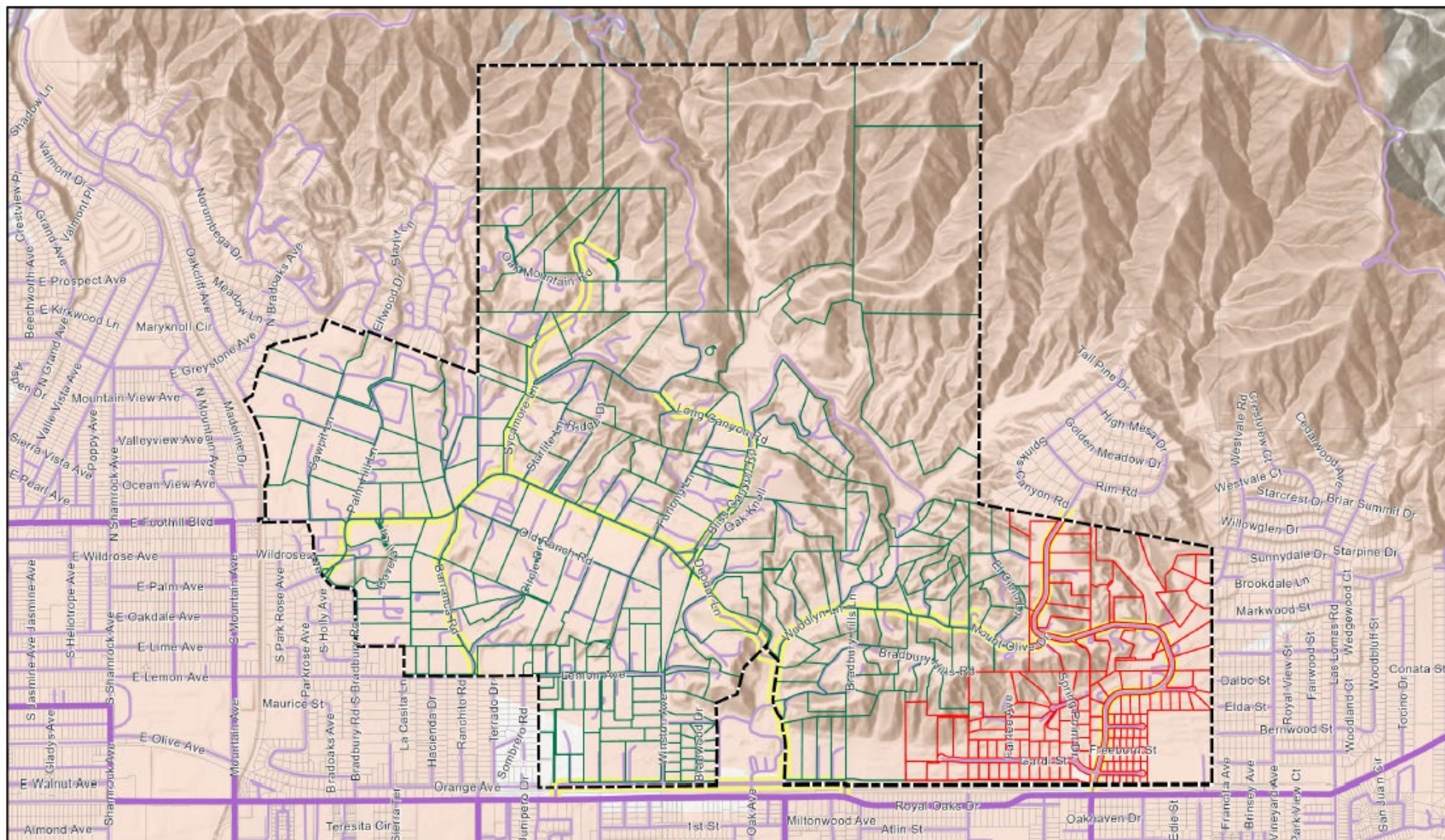
1. 262 parcels in the western portion of the City have multiple exit points with access to multiple arterials (GREEN ON THE MAP).
2. 140 parcels in the eastern portion of the City have one exit point with access directly onto a single arterial (RED ON THE MAP).

CONCLUSION

The following neighborhoods should be reviewed for adequate exit strategies:

- Mount Olive Drive provides north-south access to the City of Bradbury in the eastern portion of the City. It provides the single point of access for many Bradbury residents, as well as residents living in the neighboring Duarte Mesa. A total of 140 single-family residential parcels in Bradbury and an undetermined number of single-family residential parcels in the Duarte Mesa must all exit the area via Mount Olive Drive, which is classified as a Collector Street in the City's General Plan Circulation-Transportation Element and as Minor/Residential Road in the Los Angeles County

CAMS database. Mount Olive Drive exits onto Royal Oaks Drive, which is classified as an Arterial Road. Although a potential secondary point of access exists via Woodlyn Lane, this street is gated and identified only as a “First Responders Ingress Route” in the Circulation-Transportation Element. Woodlyn Lane is not considered a through street from Mount Olive Drive.



LEGEND

- Combined Hazard Area
- Bradbury City Limits
- Freeway or Highway*
- Arterial Road
- Minor Road
- City of Bradbury Primary Evacuation Routes

Residential Parcels in Hazard Areas

- One Exit Point with Access to Single Arterial
- Multiple Exit Points with Access to Multiple Arterials



CITY OF BRADBURY

Access to Arterials from Residential Areas in High Hazard Zones

* There are no freeways or highways within the mapped extent.
Sources: CGS, CalFire, FEMA, Los Angeles County GIS. Map date: May 30, 2023.