Appendix F

SB 99 Network Accessibility Analysis
AB 747 Evacuation Route Capacity Analysis

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Final Technical Memorandum

July 11, 2023 Project# 28331

To: Elizabeth McElligott, Alison Abbors
Alameda County

From: Grace Carsky, Matt Braughton, RSP1; Kittelson & Associates, Inc.

CC: Hannah Kornfeld, AICP, Zach Miller; Ascent Environmental, Inc.

RE: Alameda County Community Climate Action Plan and Safety Element – Task 8.2a SB 99 Network Accessibility Analysis

INTRODUCTION

This memorandum presents the evacuation analysis findings for Task 8.2a – Senate Bill (SB) 99 Network Accessibility as part of the Alameda County Climate Action Plan and Safety Element Update. Kittelson & Associates, Inc. (Kittelson) identified evacuation routes and vulnerable communities that may be impacted under three hazard scenarios for unincorporated Alameda County as part of the County's Safety Element update. Specifically, the analysis identifies:

- Where wildfire, flooding, and dam inundation hazards are likely to occur in unincorporated Alameda County, resulting in an evacuation;
- Unincorporated Alameda County freeways, arterials, and collectors that would be impacted by any of the three hazards;
- Unincorporated Alameda County communities that have limited evacuation routes (i.e., less than two egress points).

Legislative Requirements

Recent California legislation, including AB 747 and SB 99, requires all local agencies to review accessibility and evacuation routes when specific elements within the General Plan or other emergency planning documents are completed or updated by a local agency.

- **Senate Bill (SB) 99**[1] requires review and update of Safety Element to include information to identify residential developments in hazard areas that do not have at least two emergency evacuation routes. This is intended to assist the County in identifying opportunities to improve the connectivity and resiliency of the transportation system.
- **Assembly Bill (AB) 747**[2] requires that the Safety Element be reviewed and updated to identify evacuation routes and their capacity, safety, and viability under a range of emergency scenarios. This is a requirement for all Safety Elements or updates to Hazard Mitigation Plans completed after January 2022.

This memorandum focuses on evaluating the County's unincorporated roadway network consistent with SB 99 requirements.

[1] https://openstates.org/ca/bills/20192020/SB99/
[2] https://openstates.org/ca/bills/20192020/AB747/

SB 99 NETWORK ACCESSIBILITY ANALYSIS

Alameda County is located on the east side of the San Francisco Bay. Unincorporated Alameda County, which is the focus of this analysis, includes the communities of Ashland, Castro Valley, Cherryland, Fairview, Hayward Acres, San Lorenzo, and Sunol, and unincorporated rural areas outside the cities of Livermore, Pleasanton, and Dublin. Many residents of unincorporated Alameda County are located in communities along the interstates (I-880, I-580, and I-680) while the unincorporated areas in the eastern parts of the County are primarily rural, agricultural land. Residents are most likely to use these interstates, and the major corridors that connect to them, to evacuate during an emergency event. Therefore, the interstates, state highways, arterials, and collectors are the focus of the network accessibility analysis presented below.

Existing Hazards

Unincorporated Alameda County is susceptible to several hazards that could trigger an evacuation for residents. Specifically, wildfires and flooding from heavy rains or dam failures are hazards that are of greatest concern to the County based on staff input. In recent years, wildfire and flooding from heavy rains have impacted the unincorporated county and resulted in residents evacuating from their homes. For example, recent rain storms in California caused landslides throughout Alameda County, closing roadways and preventing residents from traveling along major roadways. In unincorporated Alameda County, landslides closed Redwood Road and Lake Chabot Road, in northern Castro Valley. Both roadways are expected to be closed throughout 2023.

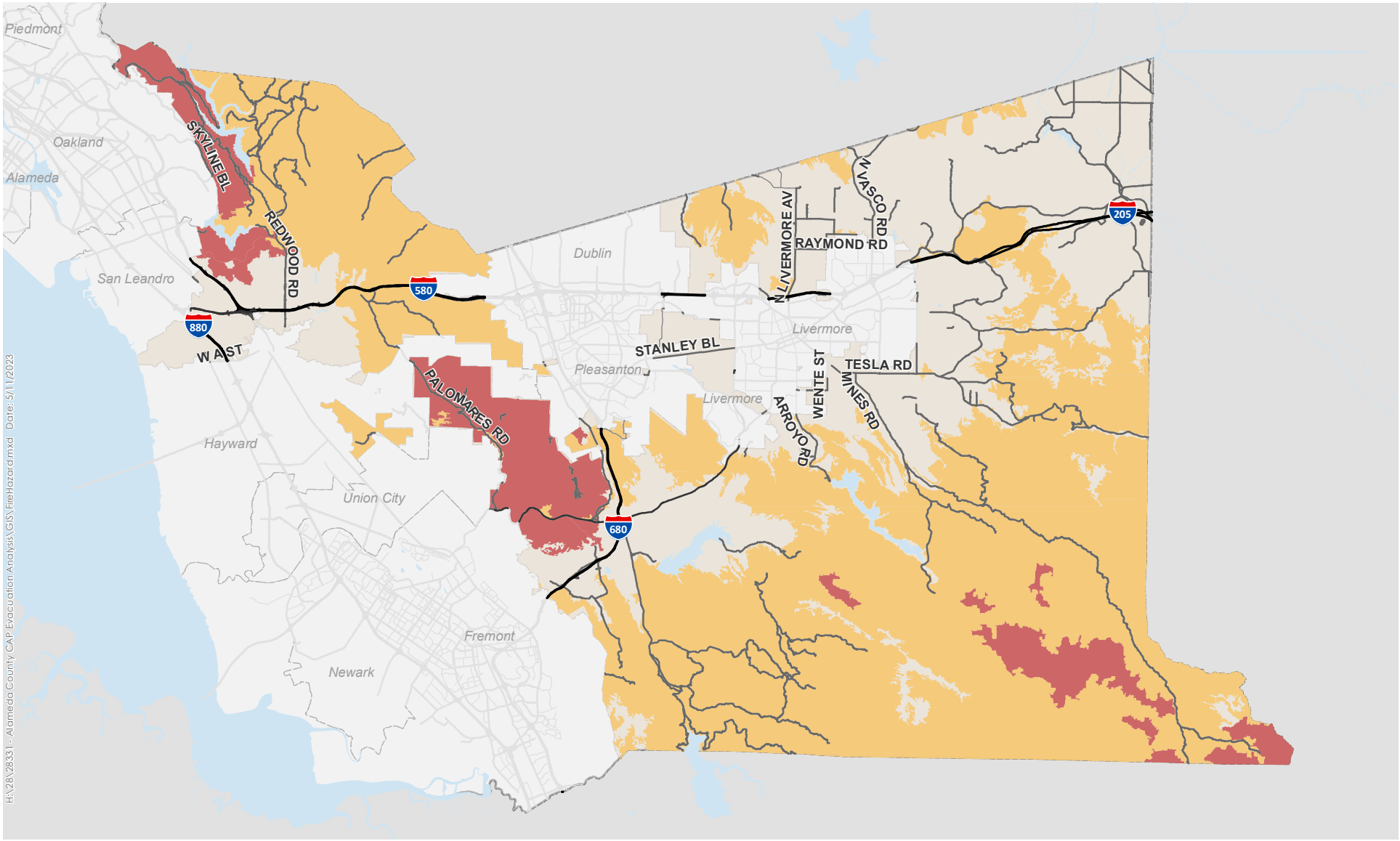
Wildfires are the largest hazard and are predicted to impact nearly all of the unincorporated county (Figure 1). The highest wildfire hazards are concentrated in and around Anthony Chabot Regional Park, north of the Castro Valley urban area and in the area that includes Palomares Canyon, Niles Canyon, Pleasanton Ridge, Vargas Plateau, and the rural community of Sunol.. Rural areas in the southeast part of the unincorporated county are also expected to experience a higher severity hazard in the event of a wildfire.

Flooding hazards from heavy rains and dam inundation are estimated to impact less of the unincorporated county. Flooding from heavy rains is estimated to impact parts of San Lorenzo, Castro Valley, Sunol, and the unincorporated areas around Dublin, Pleasanton, and Livermore (Figure 2). Flooding from potential dam failures (e.g., Chabot Dam, Upper San Leandro Dam, James H. Turner Dam) is estimated to further impact larger parts of Sunol and unincorporated areas south of Livermore and the northeast areas of the county (Figure 3).

Figure 4 presents the evacuation routes in unincorporated Alameda County (i.e., interstates, state highways, arterials, and collectors) that cross through one or more of the identified hazard areas. The highlighted roads make up approximately 275 miles (23%) of the unincorporated County roadway network. Almost all portions of interstate and state highways, such as I-580, I-680, and SR-84, could be impacted by a wildfire or flooding hazard in the County. There are also several arterials that cross through all three hazard impact areas:

- Arroyo Road (south of Livermore)
- Foothill Road (Sunol)
- Lake Chabot Road (Castro Valley)
- Niles Canyon Road (Sunol)
- Redwood Road (Castro Valley)

As a result of their location within the hazard impact areas, these roadways are more likely to be used for evacuations. In some cases, they may be one of few major corridor connecting residents to the rest of the County roadway network.



Fire Hazard Severity Zones

- Very High
- High

- Unincorporated Alameda County
- City Boundary
- Alameda County Boundary

0 4.5 Miles

Figure 1

Fire Hazard Severity Zones
Alameda County Community Climate Action Plan & Safety Element Update

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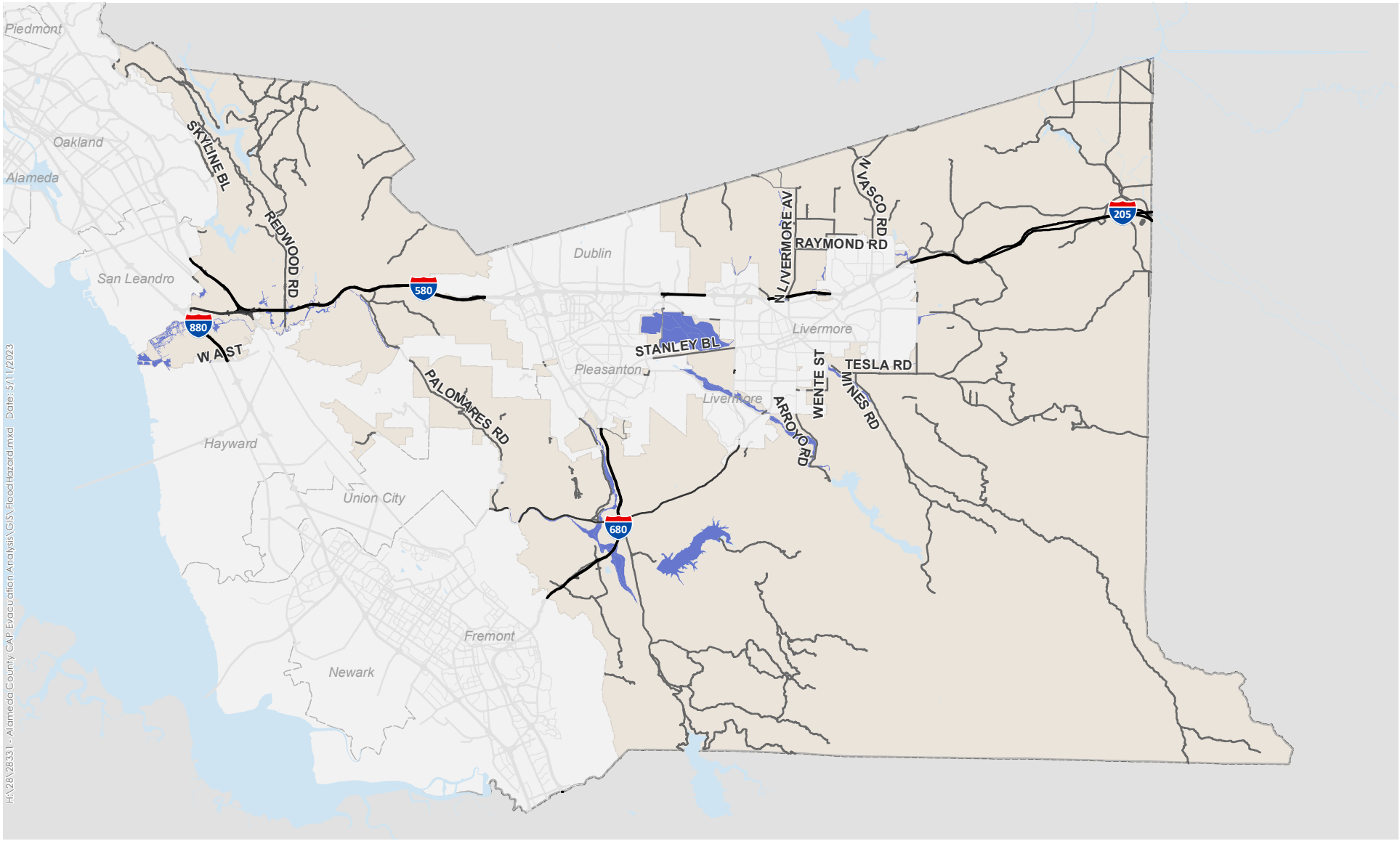

Flooding Hazard (1% Chance)

Unincorporated Alameda County

City Boundary

Alameda County Boundary

0 4.5 Miles

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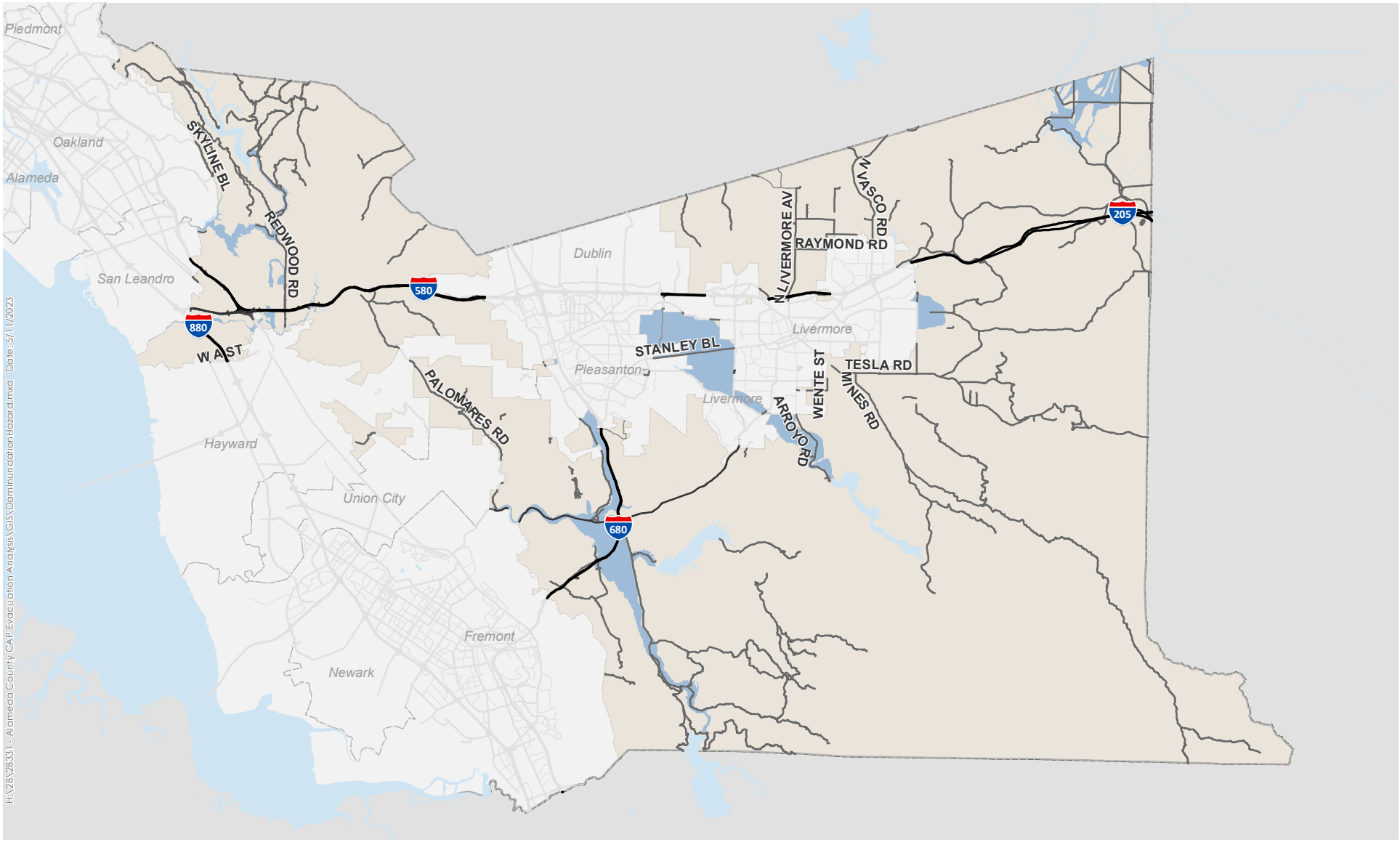
Figure 2

Flood Hazard
Alameda County Community Climate Action Plan & Safety Element Update



Dam Inundation Hazard

Unincorporated Alameda County

City Boundary

Alameda County Boundary

0 4.5 Miles

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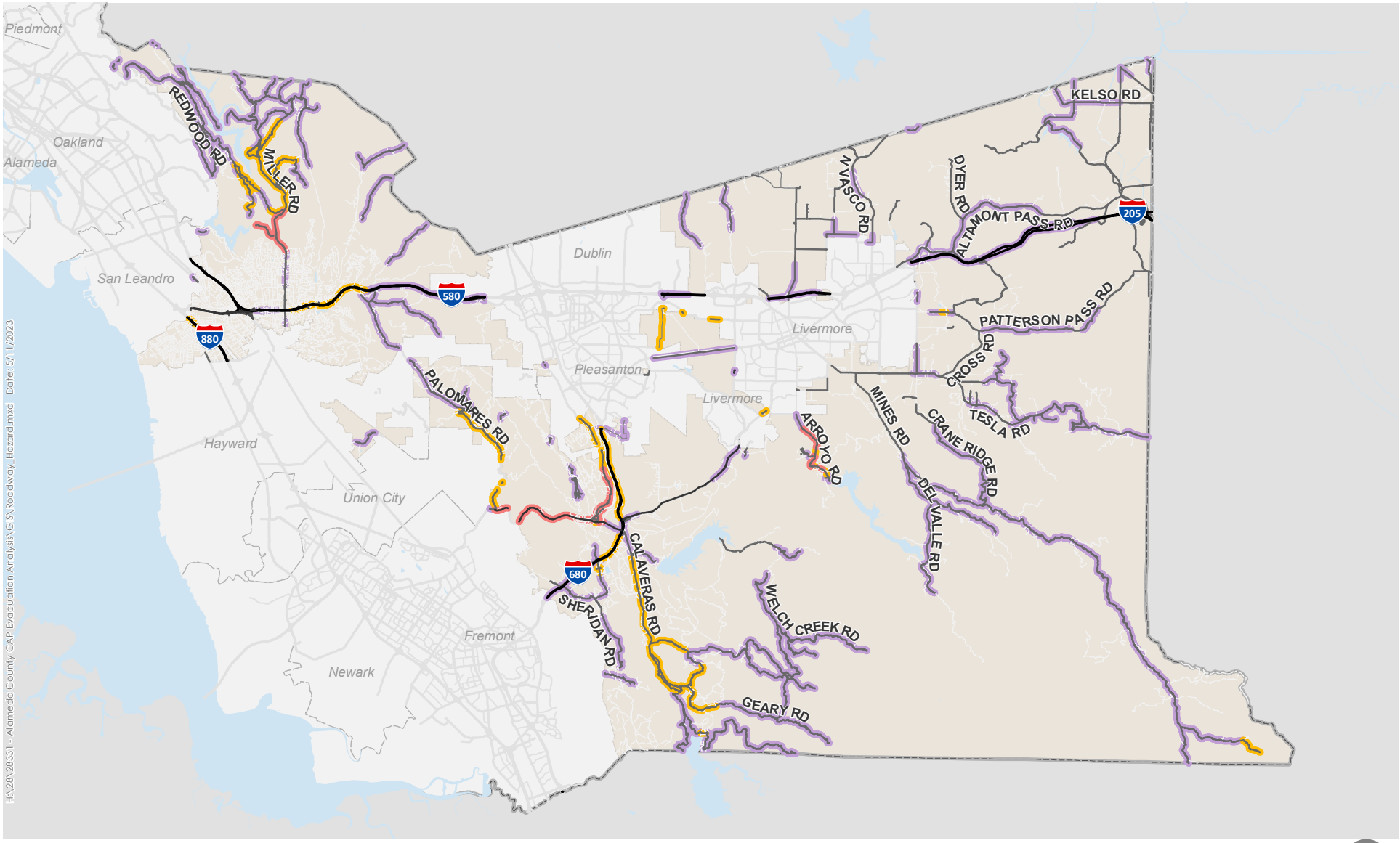
Figure 3

Dam Inundation Hazard
Alameda County Community Climate Action Plan & Safety Element Update



Total Hazard Impact

- Impacted by three hazards
- Impacted by two hazards
- Impacted by one hazard

- Unincorporated Alameda County
- Cities
- Alameda County Boundary

0 4.5 Miles

Figure 4

Impacted Evacuation Routes
Community Climate Action Plan
Alameda County, CA

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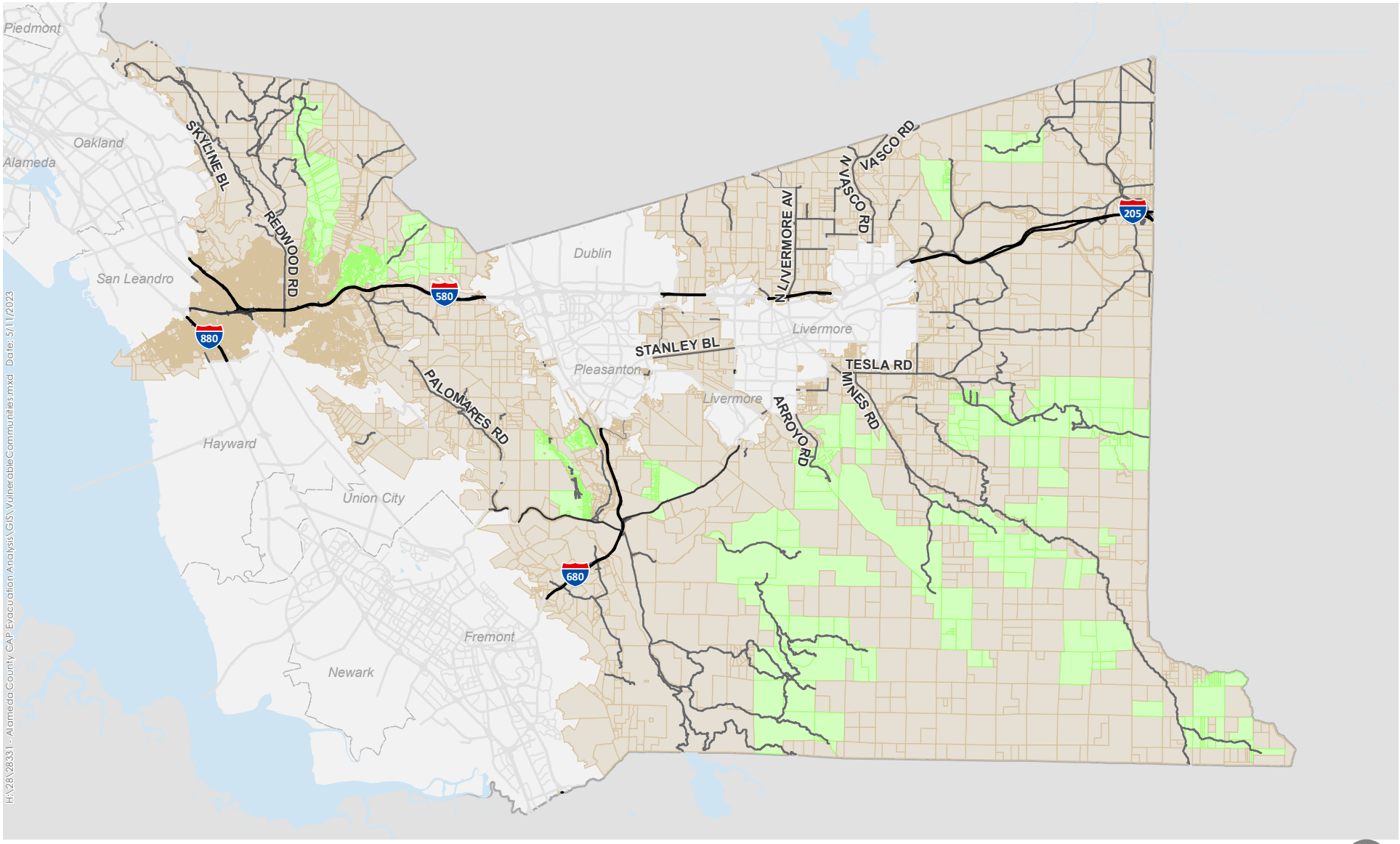
Identifying Vulnerable Neighborhoods

The SB 99 legislation requires that the updated safety element identify communities (referred to as "vulnerable developments" hereafter) that have a single egress point for evacuations. Alameda County has identified 25 potential vulnerable developments in the unincorporated areas of the county based on requirements of AB 2911, Section 4290.5 of the California Public Resource Code.[3] Kittelson compared the 25 vulnerable developments against the impacted evacuation network to identify which developments have a single egress route for an evacuation. County land use data and building data were also used to identify additional vulnerable developments in residential neighborhoods or parcels with residential buildings. Figure 5 presents the identified vulnerable developments in unincorporated Alameda County.

In some cases, residents may have to travel along a single roadway that connects to alternative evacuation routes farther away. In the Castro Valley Canyonlands, for example, residents living along Crow Canyon Road and Norris Canyon Road can evacuate north into San Ramon or south into Castro Valley. While this isn't considered a single egress point under SB 99 legislation, impacts to these roadways due to a hazard may result in a single egress route for evacuations.

[3] https://osfm.fire.ca.gov/divisions/community-wildfire-preparedness-and-mitigation/subdivision-review-program/



SB 99 Vulnerable Developments

Alameda County Parcels

Cities

Unincorporated Alameda County

Alameda County Boundary

0 4.5 Miles

Figure 5

SB 99 Vulnerable Developments
Community Climate Action Plan
Alameda County, CA

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NEXT STEPS

As part of the forthcoming AB 747 analysis, Kittelson will evaluate the impacted evacuation network identified in this memorandum to assess the capacity, safety, and viability of the evacuation routes. Several factors will be used to screen the evacuation network and define the corridors as a low-, medium-, or high-priority evacuation route for potential improvements. Table 1 lists the proposed factors that will be used to define the relative priority of roadways for potential improvements or further study.

Results from the AB 747 analysis will be documented in a draft Safety Element Update Evacuation Analysis memorandum for County review. Comments will be addressed in the final Safety Element Update.

Table 1. Proposed Prioritization Factors for Evacuation Improvement Considerations

Factor	Data Source	Proposed Prioritization Scoring
Hazard Data (wildfire, floods, dam inundation)	SB 99 Analysis	• High: evacuation route crosses 2 or 3 hazard areas • Medium: evacuation route crosses 1 hazard area • Low: evacuation route crosses no hazard areas
Existing Roadway Capacity	Alameda County Transportation Commission Travel Demand Model	• High: evacuation route volume is above capacity (V/C > 1.0) • Medium: evacuation route is close to overcapacity (v/c between 0.9 and 0.99) • Low: evacuation route is below capacity (v/c < 0.9)
Vulnerable Developments	County and SB 99 identified vulnerable developments	• High: evacuation route serves a SB 99 vulnerable development • Medium: evacuation route serves a County-identified vulnerable development • Low: roadway is outside of a vulnerable development
Critical Infrastructure (e.g., schools, hospitals, public buildings)	County identified	• High: evacuation route connects to critical infrastructure • Low: evacuation route does not connect to critical infrastructure
Disadvantaged Populations	Transportation Disadvantaged Populations Index, MTC Disadvantaged communities, Environmental Justice Priority Populations	• High: roadway falls within a disadvantaged community • Low: evacuation route does not fall in a disadvantaged community

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Technical Memorandum

October 26, 2023 Project# 28331

To: Elizabeth McElligott, Alison Abbors
Alameda County

From: Grace Carsky, Matt Braughton, RSP$_1$; Kittelson & Associates, Inc.

CC: Hannah Kornfeld, AICP, Zach Miller; Ascent Environmental, Inc.

RE: Alameda County Community Climate Action Plan and Safety Element – Task 8.2b AB 747 Evacuation Route Capacity Analysis

INTRODUCTION

This memorandum presents the findings for Task 8.2b Assembly Bill (AB) 747 Evacuation Route Capacity Analysis as part of the Alameda County Community Climate Action Plan and Safety Element Update. In this memorandum, Kittelson & Associates, Inc. (Kittelson) conducted a countywide risk screening to identify high, medium, and low-priority evacuation routes for potential evacuation improvements. This follows the Senate Bill (SB) 99 Network Accessibility memorandum (May 2023), which identified evacuation routes and vulnerable communities that are susceptible to hazards in unincorporated Alameda County.

Specifically, this memorandum includes:

- Prioritization factors to help determine the level of priority for potential evacuation improvements;
- A priority list of unincorporated county roadways that can be considered for evacuation planning and project improvements;
- Evacuation planning and project considerations that can be implemented on the evacuation roadway network or during evacuation orders;
- Funding opportunities to help with planning and resiliency of evacuation routes and community areas in unincorporated Alameda County.

EVACUATION ROUTE CAPACITY ANALYSIS

AB 747 requires that the Safety Element review and identify the capacity, safety, and viability of evacuation routes. Evacuation routes in unincorporated Alameda County were identified in areas that are susceptible to fire, flooding, and dam failure hazards (Appendix A). The following sections outline how evacuation routes can be prioritized for future planning and improvements to ensure they are viable in emergency scenarios. Example strategies to address the capacity and resiliency of evacuation routes are included that the County can consider for future planning and implementation. Finally, funding opportunities are listed that would support evacuation projects, planning, and education.

Evacuation Route Prioritization

To understand how evacuation routes can be prioritized for future improvements, Kittelson, in discussion with County staff and stakeholders, developed a list of prioritization factors to weigh evacuation routes on their existing level of hazard risk, capacity, and proximity to critical infrastructure and vulnerable populations. Table 1 lists the prioritization factors used for the risk analysis, the source of the data, and how each factor was scored.

Table 1. Proposed Prioritization Factors for Evacuation Improvement Considerations

Factor	Data Source	Proposed Prioritization Scoring
Hazard Data (wildfire, floods, dam inundation)	SB 99 Analysis	• High: evacuation route crosses 3 hazard areas • Medium: evacuation route crosses 2 hazard area • Low: evacuation route crosses 1 hazard area
Existing Roadway Capacity	Alameda County Transportation Commission (ACTC) Travel Demand Model	• High: evacuation route volume is above capacity (v/c > 1.0) • Medium: evacuation route is close to overcapacity (v/c between 0.9 and 0.99) • Low: evacuation route is below capacity (v/c < 0.9)
Vulnerable Developments	County and SB 99 identified vulnerable developments	• High: evacuation route serves a SB 99 vulnerable development • Medium: evacuation route serves a County-identified vulnerable development • Low: roadway does not serve a vulnerable development
Critical Infrastructure (e.g., schools, hospitals, public buildings)	County identified	• High: evacuation route connects to critical infrastructure • Low: evacuation route does not connect to critical infrastructure
Equity	Environmental Justice Priority Populations, County identified communities	• High: roadway falls within a disadvantaged community • Low: evacuation route does not fall in a disadvantaged community

Hazard Data

Unincorporated Alameda County is susceptible to wildfire and flooding resulting from heavy rains or dam failures. These emergency situations could trigger an evacuation for residents and visitors. The SB 99 Network Accessibility memorandum identified the evacuation network at risk to these hazards and found that approximately 275 miles (23%) of the unincorporated County roadway network could be impacted by a wildfire, flooding, or both hazards (Appendix A). Table 2 breaks down the roadway miles at risk of wildfire or flooding hazards.

Priority for evacuation roadway improvements is given to the roadways that have potential to be impacted by multiple hazards.

Table 2. Total Roadways Miles at Risk of Hazards

Hazard Impact*	Unincorporated County Roadway Miles
Impacted by one hazard	222 miles
Impacted by two hazards	43 miles
Impacted by three hazards	10 miles
Total	***275 miles***

* Hazards considered in prioritization include wildfire, flooding from precipitation, and flooding from dam failure

Existing Roadway Capacity

The Alameda County Transportation Commission (ACTC) Travel Demand Model was used to identify the existing roadway capacity on the unincorporated county roadway network. Both morning and evening peak hour roadway capacity was considered in the prioritization. Note that capacity information is not available for all unincorporated county roads, specifically in the more rural areas of the unincorporated county. These roadways are assumed to be under capacity in normal traffic conditions.

Figure 1 and Figure 2 present the existing roadway capacity in unincorporated Alameda County in the AM and PM peak hours, respectively. In both the AM and PM peak hours, large segments of I-580, I-680, Byron Bethany Road, Crow Canyon Road, Pleasanton Sunol Road, Vallecitos Road (SR-84), and North Vasco Road currently have traffic volumes estimated to be near or over capacity.

Priority for evacuation roadway improvements is given to the roadways that are currently over capacity under normal traffic conditions.

Vulnerable Developments

Vulnerable developments are developments that only have one access or egress evacuation route to the main roadway network. Figure 3 presents the vulnerable developments in the unincorporated areas of the county. This includes vulnerable developments identified by County staff and additional vulnerable developments identified in the SB 99 Network Accessibility memorandum (Appendix A).

Priority for evacuation roadway improvements is given to the roadways that serve vulnerable developments with only one access or egress evacuation route.

Figure 1. Existing Roadway Capacity (AM Peak Hour)

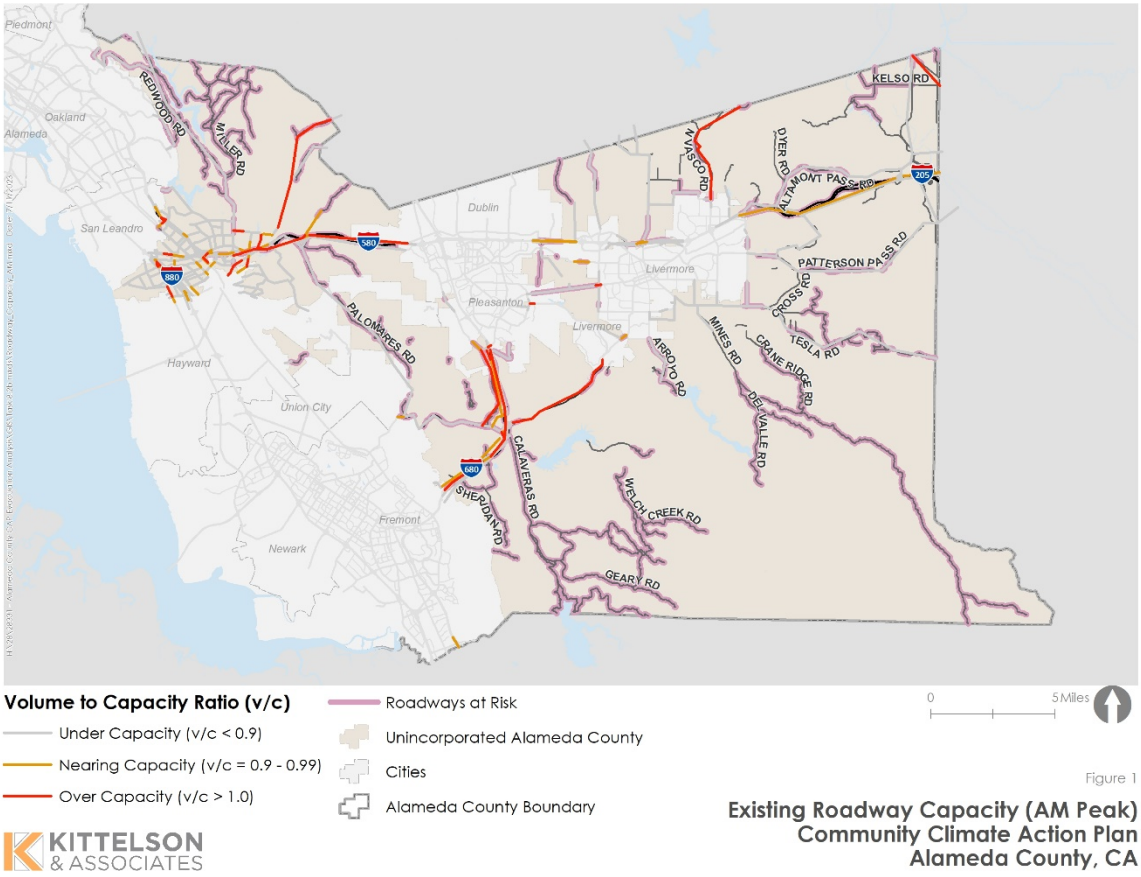


Figure 2. Existing Roadway Capacity (PM Peak Hour)

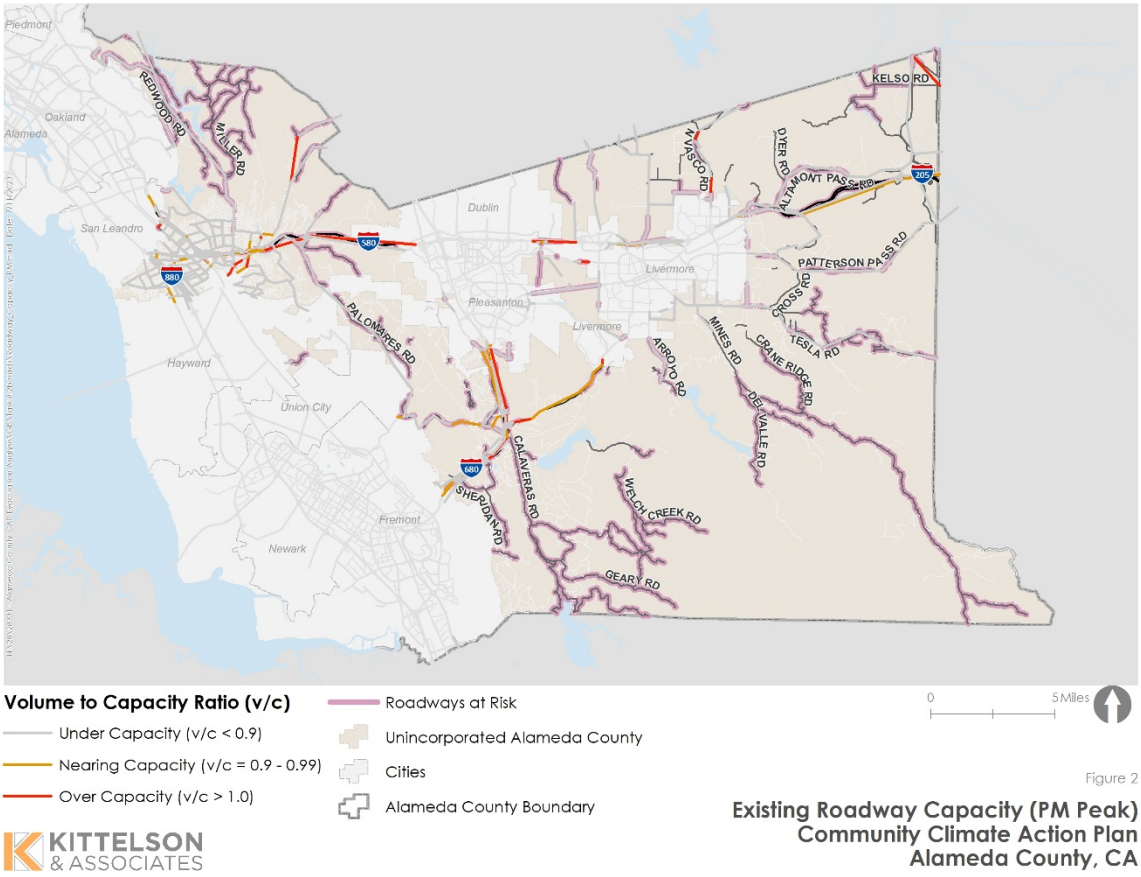
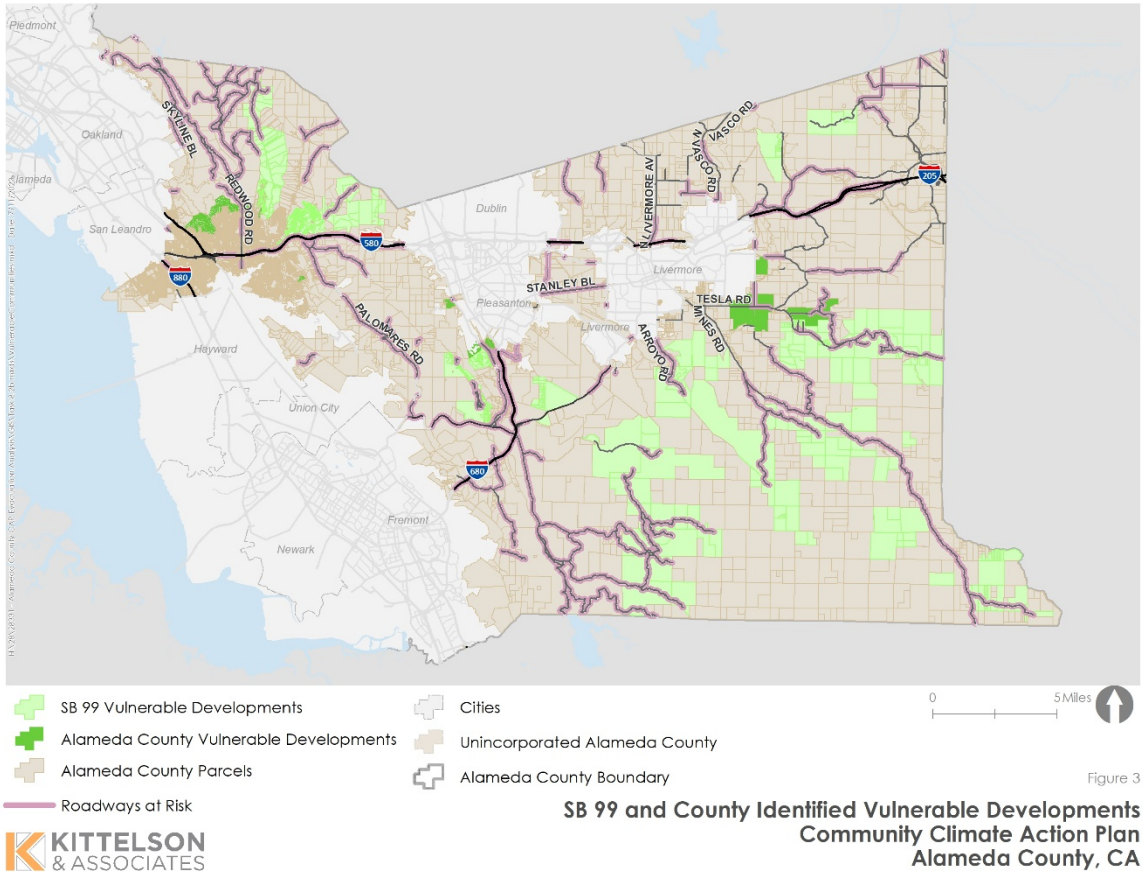


Figure 3. SB 99 and Alameda County Identified Vulnerable Developments



Critical Infrastructure

Critical infrastructure was identified using two Alameda County datasets: County identified critical facilities (including hospitals, public buildings, etc.), and schools. Many of the County's critical facilities are in the more populated areas of the unincorporated County, like Ashland, Castro Valley, and San Lorenzo. Figure 4 presents the location of the critical infrastructure in the unincorporated areas of the county.

There are three roadways at risk that were identified within 0.5 miles of a critical facility:

- I-880 (San Lorenzo Library)
- I-580 (Castro Valley Library – Norbridge Branch)
- Redwood Road (Corp Yard #2, Castro Valley)

And eleven roadways identified within 0.5 miles of a school:

- Bond Street (Sunol Glen Elementary)
- Cowing Road (Palomares Elementary)
- Foothill Road (Sunol Glen Elementary)
- I-580 (Castro Valley Elementary, Independent Elementary, Marshall Elementary, Strobridge Elementary, Creekside Middle)
- Main Street (Sunol Glen Elementary)
- Niles Canyon Road (Sunol Glen Elementary)
- Palo Verde Road (Palomares Elementary)
- Paloma Way (Sunol Glen Elementary)
- Palomares Road (Palomares Elementary)
- Railroad Avenue (Sunol Glen Elementary)
- Redwood Road (Proctor Elementary, Redwood Elementary, Castro Valley High, Roy A. Johnson High)

Priority of evacuation roadway improvements is given to the roadways that are identified within 0.5 miles of a critical facility or school.

Equity

Two datasets were used to identify underserved communities within unincorporated Alameda County: the US Environmental Protection Agency's Environmental Justice Priority Populations and SB 1000 disadvantaged communities identified in the County's Environmental Justice Element as "Priority Communities". Many equity priority communities are in the more populated areas of the unincorporated county, whereas the evacuation roadways at risk are identified in the less populated, rural areas of the unincorporated county (Figure 5). The following roadways were identified with segments in equity priority areas:

- I-880 (San Lorenzo/Hayward Acres)
- I-580 (Castro Valley)
- Hesperian Boulevard (San Lorenzo)
- Redwood Road (Castro Valley)
- Strobridge Avenue (Castro Valley)

Priority of evacuation roadway improvements is given to the roadways that fall within an equity priority community. It is important to note that while a hazard may not directly impact the unincorporated roadway network in equity priority areas, if an evacuation were to occur within the County, evacuees may travel west towards I-580 and I-880 and through underserved communities to evacuate to safety. When planning for improvements on evacuation routes, special consideration should be given to equity priority areas to ensure that these improvements serve the needs of underserved communities while providing resiliency for potential evacuating traffic.

Figure 4. Critical Infrastructure in Alameda County

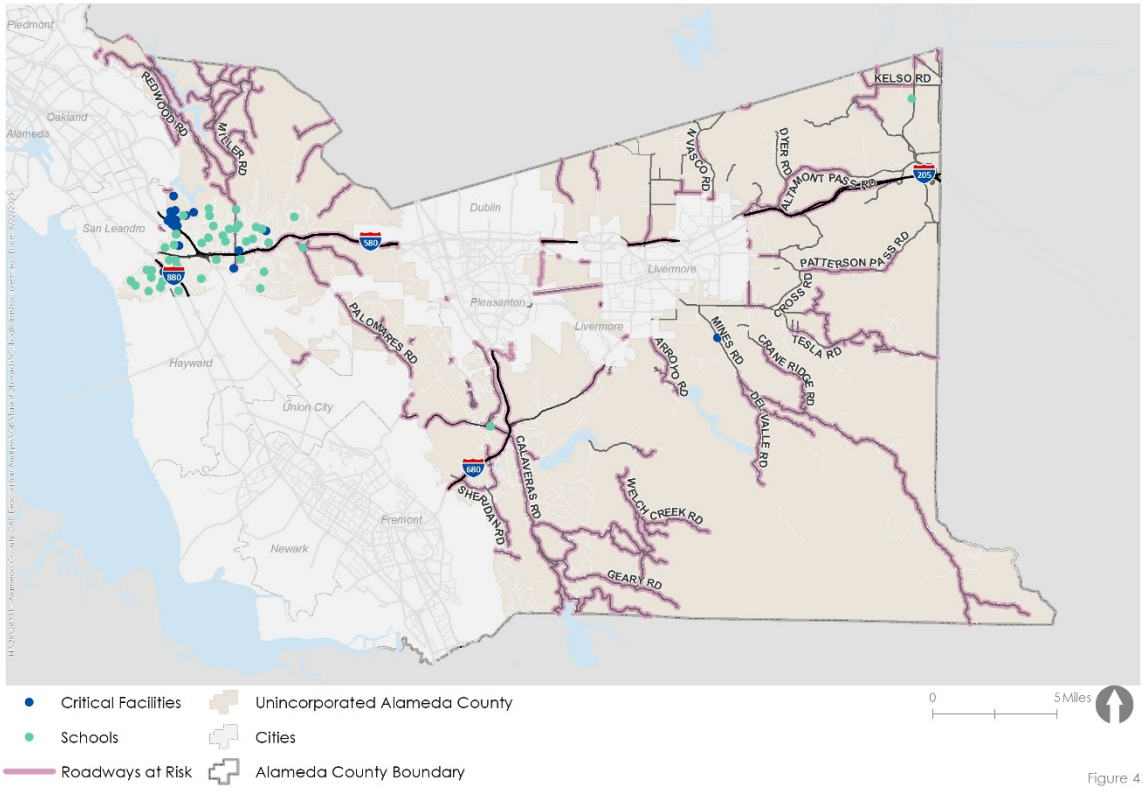
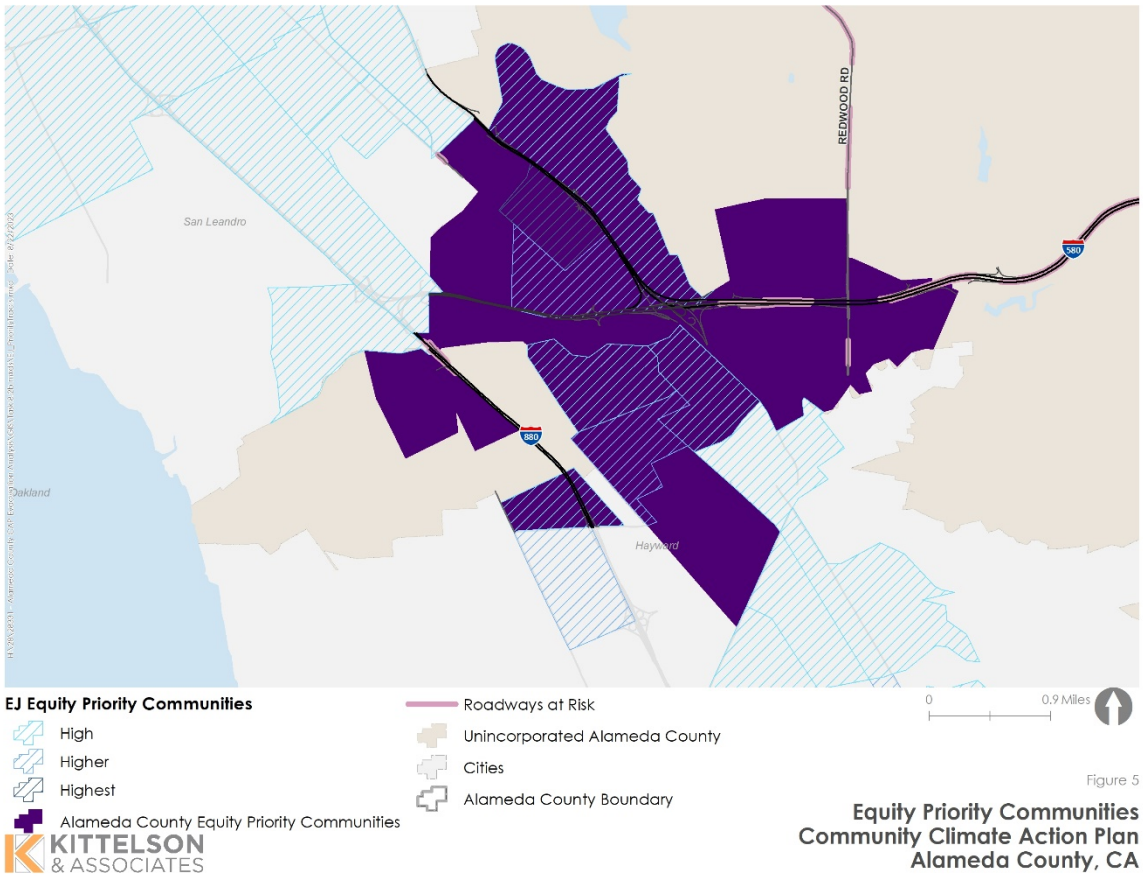


Figure 5. Alameda County Equity Priority Communities



Priority Roadways for Evacuation Improvements

The prioritization factors listed in Table 1 were overlayed on the hazard roadways identified in the SB 99 Network Accessibility memorandum (Appendix A). These factors were weighted to identify the high, medium, and low-priority roadways for future evacuation planning and project considerations. Table 3 presents the results of the prioritization analysis.

Table 3. Priority Roadway Scoring for Evacuation Route Planning and Projects

#	Roadway	Community	Priority Factor Scoring				
			Hazards	Capacity	Vulnerable Developments	Critical Facilities	Equity
1	Bond Street/Main Street/Foothill Road/Railroad Avenue	Sunol	High	High	High	High	Low
2	I-580	Castro Valley	Medium	High	Low	High	High
3	I-880	San Lorenzo	Medium	High	Low	High	High
4	Niles Canyon Road	Sunol	Medium	High	High	High	Low
5	Redwood Road	Castro Valley	Low	High	Low	High	High
6	Palo Verde Road	Castro Valley	Low	High	High	High	Low
7	Eden Canyon Road	Castro Valley	Low	High	High	High	Low
8	Foothill Road	Pleasanton	Medium	High	High	Low	Low
9	I-680	Pleasanton	Medium	High	High	Low	Low
10	Arroyo Road	Livermore	High	Low	High	Low	Low

Evacuation Project Considerations

This section describes evacuation projects and strategies that may be considered to improve the capacity and resilience of the County's unincorporated roadway network to support future evacuation events. The projects and strategies were identified based on previous congestion and evacuation studies, review of

recent evacuation efforts, and effective evacuation planning practices identified by US Department of Transportation (USDOT) and Federal Highway Administration (FHWA). The strategies are organized into five categories:

1. Traffic Management
2. Communications
3. Vulnerable Populations
4. Public Education
5. Resource Management

Roadway Management

This section includes infrastructure-related strategies that will aid in improving the capacity of the evacuation roadway network, which can be a challenging element in a successful evacuation. For each infrastructure-related treatment, it is necessary to consider downstream capacity limitations and identify if those limits nullify the potential benefits of the treatment as well as other competing roadway design needs to serve other functions and goals. Table 4 outlines each of these strategies and provides a brief description of the strategy and desired outcomes.

Table 4. Traffic Management Strategies for Evacuations

Strategy	Description and Outcome
Limited contra flow on highways	Reverse one or more lanes of highway to accommodate an increased flow of traffic in one direction.
Unlimited contra flow on highways	Redirect of all lanes of a designated evacuation route to accommodate rapid evacuation from unincorporated communities in Alameda County.
Limited/unlimited contra flow on unlimited access arterials	Temporarily close inbound travel lanes on selected unlimited access arterials (such as parkways and boulevards) to allow outbound traffic to utilize these lanes during evacuation.
Closure of inbound lanes on selected roads and highways	Close inbound lanes on highways utilized for evacuation routes to prevent drivers on these routes from entering unincorporated communities while evacuation is underway.
Restrict left-turn movements	Minimize left-turn movements along evacuation routes and on roads leading to evacuation routes.
Suspension of tolls	Consider coordinating suspension of tolls to encourage people to use toll roads (e.g., express lanes on I-580, I-680, and I-880) to reduce bottlenecks at toll collection booths.
Signage	Use variable message board equipment and targeted installation of permanent dynamic message signs on evacuation routes to improve communication and reduce public confusion.

Strategy	Description and Outcome
Stage tow trucks	Considers how to stage tow trucks at key bottleneck locations along evacuation routes to help detect and clear minor crashes and maintain traffic flow.
Adjust traffic signal timing	Increase the duration of green lights and/or the progression of traffic signals from red to green for through movements leading out of an evacuation zone.
Traffic signal operation during power outage	Install signal battery backups in case traffic signal operations need to be maintained during a power outage. Consider using channeling devices (e.g., cones, markers, barricades and barriers), signs, and strategic cone placement to manage intersection flow during power outage if the traffic signals lack power.
Additional access routes	Identify and proactively communicate evacuation orders with communities that have less than two access/egress points. Prioritize adding additional access to communities which are currently served by only one or two access points.
Bus system	Develop transportation solutions such as the use of a bus system for evacuating individuals with special needs (such as those with mobility limitations). Develop an accompanying communications plan to identify populations who would rely on public buses for evacuations and how buses would be deployed during an evacuation.
Traffic control points	Establish traffic control points (i.e., locations along designated evacuation routes with emergency management personnel) to maintain a greater degree of evacuation management. These locations could enhance the efficiency of an evacuation, reduce public confusion, and allow increased operational flexibility during an evacuation.
Vegetation clearing/management	Maintain evacuation roadways and shoulders to clear them of trees, vegetation, and debris that would block travel lanes and shoulders for evacuating and emergency operation vehicles.

Communications

This section describes communication strategies that address how information may be shared among agencies, organizations, and the general public for evacuations. During an emergency evacuation event, two types of communication take place: (1) communication among entities involved in the management of response, and (2) communication between the County and the general public. Table 5 outlines each of these strategies and provides a brief description of the strategy and desired outcomes.

Table 5. Communication Strategies for Evacuations

Strategy	Description and Outcome
Establish and maintain communications	Strengthen and maintain communication among coordinating emergency event agencies. This could be achieved through systems such as the Public Information Emergency System and Emergency Satellite Communications.
Traffic Control Center	Implement a traffic control center to coordinate all evacuation activities. This center would have up to the minute reports on traffic patterns and can communicate directly with emergency officers via broadcast media, social media, AC Alert, and other emergency communications channels to let drivers know about roadway congestion and conditions and direct them to alternate routes.
Traffic counters/CCTV cameras	Install traffic counters and/or CCTV cameras on freeways, which can help assess traffic flow, volume of vehicles evacuating, and monitor incidents during emergency evacuation events.
Highway Advisory Radio	Implement highway advisory radio to provide information regarding primary and secondary evacuation routes and incidents to the public.

Vulnerable Populations

This section identifies strategies specifically for evacuation of vulnerable populations. The County can use demographic data and U.S. Census data to identify vulnerable population locations and communities. County staff and emergency response teams may work with specialized organizations such as hospitals, medical associations, public service organizations, public health staff, and other providers or community groups to identify relevant population segments and the types of assistance needed. Table 6 outlines considerations by need.

Table 6. Considerations for Evacuation Vulnerable Populations

Special Need	Additional Steps/Considerations
Vulnerable populations communications plan	Develop a vulnerable populations communication plan to identify and communicate with populations who may need assistance in an evacuation. Identify the different types of assistance vulnerable populations may need (e.g., assistance from other people, assistance with vehicle evacuation, assistance with verbal or written communication, etc.).
Visually impaired	May be reluctant to leave familiar surroundings when the request for evacuation comes from a stranger. People who are blind or partially-sighted may have to depend on others to lead them to safety.
Hearing impaired	May need to make special arrangements to receive evacuation warnings.
Mobility impaired	May need special assistance such as paratransit.
People without vehicles	May need information provided about public transit routes and services for evacuation, or other private sector transit services.
Non-English-speaking persons	Translated materials should be prepared to support communication to Non-English-speaking populations including during evacuation.
People with medical conditions	May need help responding to emergencies and getting to an evacuation shelter. Should know the location and availability of more than one facility if dependent on dialysis machine or other life-sustaining equipment.
People with developmental conditions	May need help responding to emergencies and getting to an evacuation shelter. May need to depend on caregiver support to lead them to safety.
Unhoused (Homeless)	May need to leverage pre-existing unhoused (homeless) shelter expertise in communications efforts and in finding adequate housing and transportation. May need to augment evacuation efforts with additional resources (e.g. services related to crisis intervention, mental health and substance abuse services, emergency food, clothing, and shelter, etc.)

Public Education

Sharing information is a critical element to help educate the general public on how to prepare in advance for an evacuation. The public education strategies the County may consider include:

- Defining the meaning of different types of evacuation orders;
- Sharing how evacuation orders are declared and communicated to the public;
- Providing information on preparations to carry out in advance (such as emergency "go" kits or family evacuation plans);
- Conducting a public affair campaign(s) to distribute easy-to-read evacuation maps with alternate routes;
- Providing information on available transportation options, including for vulnerable populations; and
- Providing information on evacuation shelters and support services offered during evacuation.
- Providing regular emergency preparedness trainings in multiple languages at convenient, accessible locations.
- Building capacity of resilience hubs, CBOs and other community groups to support community-based disaster preparedness efforts through direct or passthrough funding, grant writing support, information sharing, etc.

Resource Management

Evacuations are resource-intensive events that require significant personnel, facilities, and equipment to implement successfully. The County should determine what resources they have available as well as what resources they will need to perform their allotted roles during an evacuation successfully, which can include the following:

- Clarity on staff roles and expertise available;
- Facilities available (e.g., traffic operations center, shelters, etc.);
- Available information systems to support the evacuation (e.g., ITS, computer networks, ancillary hardware such as cameras, road sensor loops, etc.);
- Communication systems (e.g., landline, mobile phones, radio system, email, sirens);
- Vehicles/transports (e.g., staff transport, tow trucks, transit vehicles, heavy equipment); and,
- Miscellaneous materials to support implementation of evacuation strategies (e.g., traffic cones, channeling devices, static signs).

If critical resource gaps are identified, the County may look to work with other evacuation entities to determine additional resources and needs. The County may also work with private sector entities to expand the resource base. For example, utilities companies may keep cell and internet services running in vulnerable communities during public safety power shutoffs. Private service companies such as ambulance operators and towing companies can provide additional assets during evacuation. These companies can clarify what is expected of them during a potential evacuation event to ensure their services are available, when needed.

Funding Opportunities

Table 7 presents a variety of funding opportunities that can help support the projects and strategies presented in this memorandum. These funding sources cover evacuation planning, capital improvement projects, and public education programs that aim to build roadway and community resiliency.

Table 7. Funding Opportunities for Evacuation, Resilience, and Community Planning

Grant	Funding Agency	Funds Available	Description	Eligible Groups
FHWA Promoting Resilient Operations for Transformative, Efficient, and Cost-saving Transportation (PROTECT) Grant	Federal	$848 million total (2023)	Provides funding to ensure transportation resilience to natural hazards through support of planning activities, resilience improvements, community resilience and evacuation routes, and at-risk coastal infrastructure.	■ State governments ■ MPOs ■ Local governments ■ Special Purpose Districts (e.g., County Service Areas, Fire Protection Districts, Community Service Districts, etc.) ■ Tribal Governments
CA Strategic Growth Council Community Resilience Centers	State	$98.6 million total	Provides funding for new construction or upgrades to existing neighborhood-level resilience centers that provide shelter and resources during climate and other emergencies as well as year-round services and programming.	■ Incorporated Cities ■ Counties, including unincorporated communities ■ Local and regional public agencies (e.g., special districts, joint powers authorities, COGs) ■ Coalitions or associations of nonprofit organizations ■ Tribal Governments ■ Community-based organizations ■ Emergency management, response, preparedness, and recovery services providers and organizations ■ Small businesses
CAL FIRE Fire Prevention Grants	State	$115 million total; max. $5 million per award (2022-2023)	Funds projects in or near fire-threatened communities to improve public health and safety, including: ■ Hazardous fuel reductions. ■ Wildfire prevention planning and education.	■ State and Federal agencies ■ Tribal governments ■ Joint Powers Authority ■ City agencies ■ County agencies ■ Fire protection districts ■ Community services districts ■ Water districts

Grant	Funding Agency	Funds Available	Description	Eligible Groups
				■ Resource conservation districts ■ Special districts ■ Local conservation crops ■ Fire Safe Councils
California Fire Safe Council (CFSC) County Evacuation Route Grant	State	$3.3 million (2022)	Supports counties with evacuation route identification and planning, fuel reduction, maintenance, public education, and signage for emergencies.	■ Counties
CFSC Defensible Space Assistance Grant	State	$4 million total; max. $500,000 per award (2023)	Provides funding to countywide organizations to assist vulnerable populations in High and Very High Fire Hazard Severity Zones with defensible space and home hardening treatments.	■ Local governments and agencies ■ Cities ■ Counties ■ Fire protection districts ■ RCDs ■ Special districts ■ Tribal Governments ■ Fire Safe Councils with a 501(c)(3) designation ■ Other qualified 501(c)(3) nonprofit organizations
Caltrans Sustainable Transportation Planning Grants	State	$84 million total $29.5 million – Sustainable Communities Grants $50 million – Climate Adaptation Planning Grants $4.5 million – Strategic Partnerships Grants (2023-2024)	The Sustainable Transportation Planning Grant Program includes three funding opportunities for transportation planning projects: ■ Sustainable Communities Grants: funds projects that support local and regional planning that supports state goals, implements Regional Transportation Plan strategies, and reduced greenhouse gases. ■ Climate Adaptation Planning Grants: provides funds to identify transportation-related climate vulnerabilities	■ Applicants must have statutory authority to conduct transportation/transit planning for their jurisdiction. ■ Tribal Governments must be Federally recognized to be eligible.

Grant	Funding Agency	Funds Available	Description	Eligible Groups
			through the development of climate adaptation plans and adaptation projects and strategies for transportation infrastructure. ■ Strategic Partnership Grants: identify and address statewide, interregional, or regional transportation deficiencies on the State highway system in partnership with Caltrans.	
California Fire Foundation	State	$25,000 max. per award (2023)	Supports California-based fire departments, firefighter associations, tribal organizations, and local non-profits in funding climate-driven disaster prevention and preparedness projects with focus on under-resourced or vulnerable communities.	■ Fire Departments ■ Firefighter Associations ■ Nonprofit Organizations ■ Tribal Governments and Tribal Nonprofit Organizations Other groups may apply if collaborating with an eligible organization.

Appendix A – SB 99 Network Accessibility Memorandum