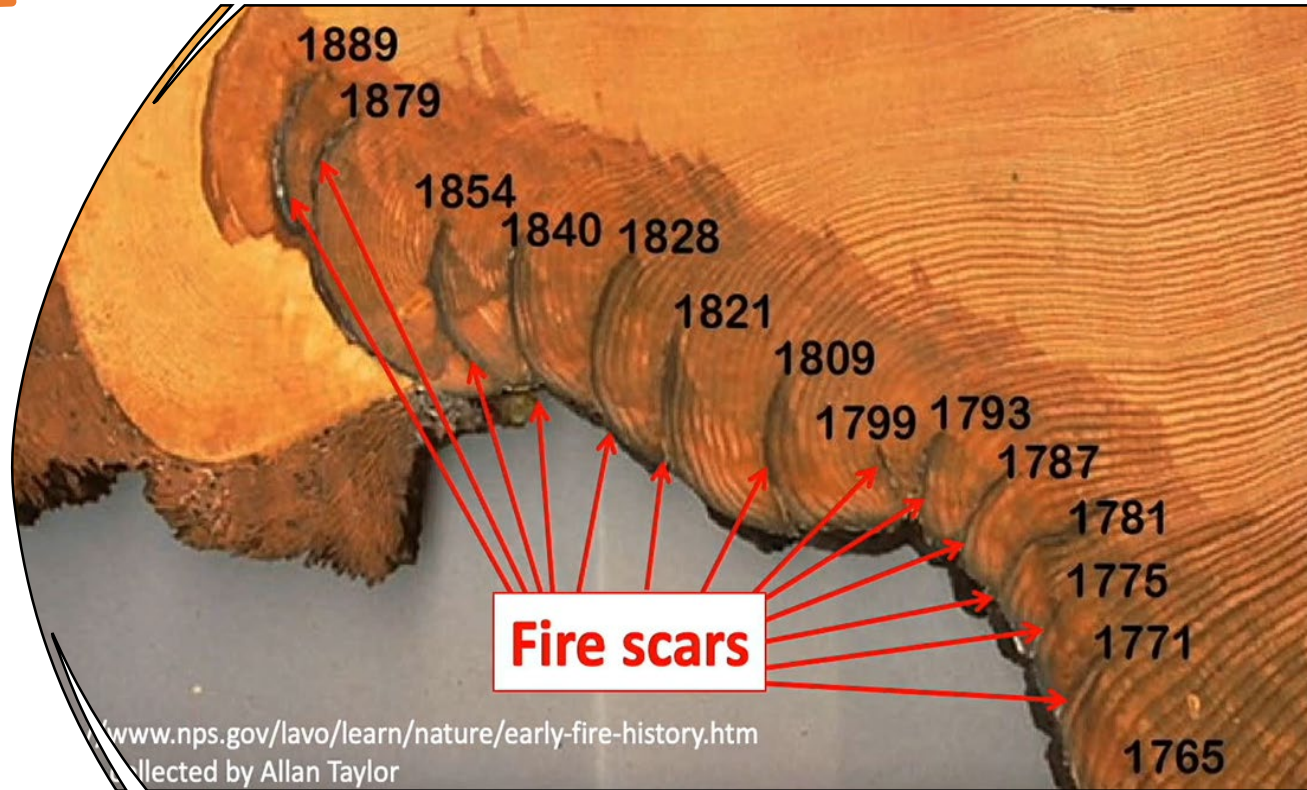


Effective
Measures for
Berkeley's
Ember
Resilience



We have lost control of wildfire in the Western U.S.

- Systematic exclusion of fire from the landscape, *which drove...*
- a significant increase in available fuel, *and...*
- as the climate warms, more moisture is pulled from the fuel, making it tinder dry, *and...*
- Compression of the rainy season is creating more ignitable periods during high winter wind events.



Fire Continues to Exploit Key Vulnerabilities

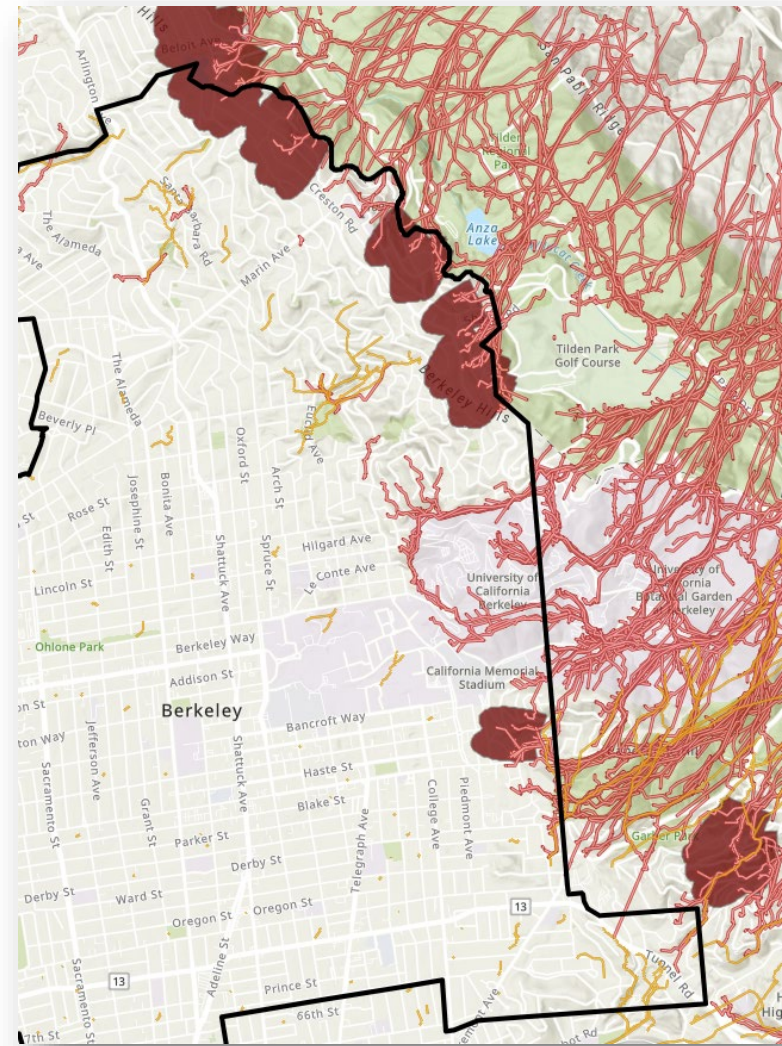
Maintaining
the status quo
will continue
to result in
similar
outcomes

Fire Name	County	Acres	Date	Structures	Deaths
Lahaina	Maui	2,170	08/2023	2,200	102
Camp	Butte	153,336	11/2018	18,804	86
Tunnel	Alameda	1,600	10/1991	2,900	29
Thomas	Ventura, Santa Barbara	281,893	12/2017	1,063	23
Tubbs	Napa, Sonoma	36,807	10/2017	5,643	22
Eaton	Los Angeles	14,117	01/2025	9,400	17
North Complex	Plumas, Butte	318,935	08/2020	2,352	15
Cedar	San Diego	273,246	10/2003	2,820	15
Palisades	Los Angeles	23,713	01/2025	6,800	12

Fire is Opportunistic

There are dozens of pathways for fire to spread through communities.

Doing half of the ember hardening or defensible space work does not translate to a 50 % increase in ignition resistance and structure survivability.



Fire will find the weakest link

Wind driven ember storms are searching for any vulnerability in your landscape or home.

Homes can be a target or a source (of embers).

Hardened homes act as an internal fuel break from which firefighters can anchor and defend the community.

Desired End State

There are three major categories of work/actions for us to best reduce our community-wide risk of urban conflagration:

Ahead of the Event

When Fire Weather is Forecast

Following a Fire Ignition

AHEAD OF THE EVENT

- + Disrupted Contiguous Fuel Pathways
- + Mitigated Fuel Beds Around Structures (Zone 0: Prevent Ember Ignition) *
- + Home Hardening *
- + Fire Department Properly Staffed and Deployed

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FIRE WEATHER FORCASTED

- + Early Fire Weather Warning
- + "Leave Early" Advisory Issued
- + Residents Leave High-Risk Fire Zones
- + Fire Department Upstaffing

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IGNITION

- + Early Detection
- + Early Emergency Alerting Occurs
- + Organized Evacuation
- + Large Firefighting Response

Desired End State

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FIRE WEATHER FORCASTED	
+	Early Fire Weather Warning
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+	Residents Leave High-Risk Fire Zones
+	Fire Department Upstaffing
IGNITION	
+	Early Detection
+	Early Emergency Alerting Occurs
+	Organized Evacuation
+	Large Firefighting Response
=	Best Chance of Minimizing Fire Loss

** Zone 0 and home hardening have to occur with enough density in a given neighborhood to create community immunity. Fire will search and find the weak link – it exploits all vulnerabilities.*

Where We Are Today: **Unmitigated Community**

Fires Outpace the Accumulation of Firefighting Resources

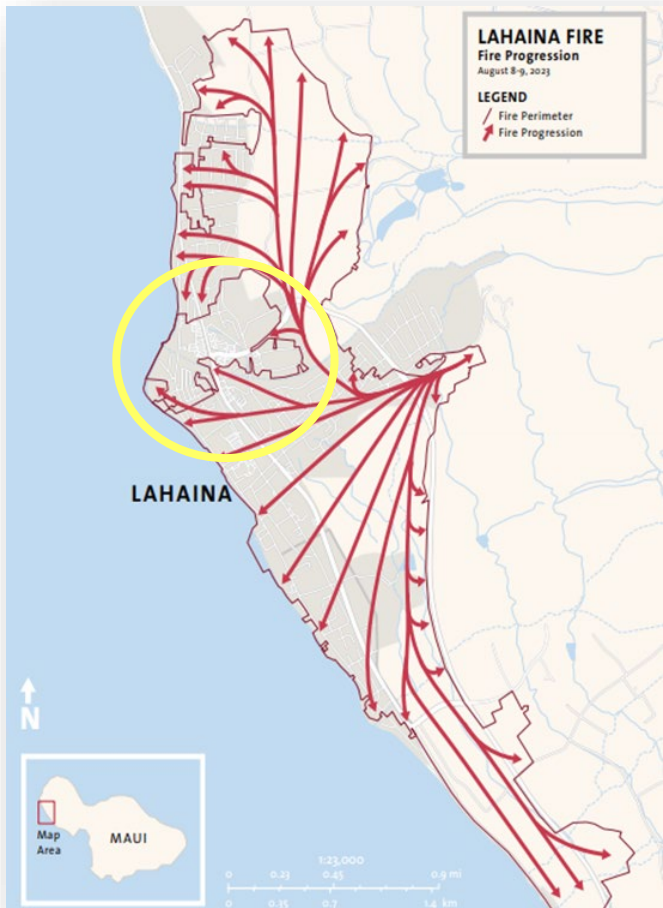


Where We Want To Be: Mitigated Community

of Firefighting Resources = /> # Structure Fires



We Know This Works



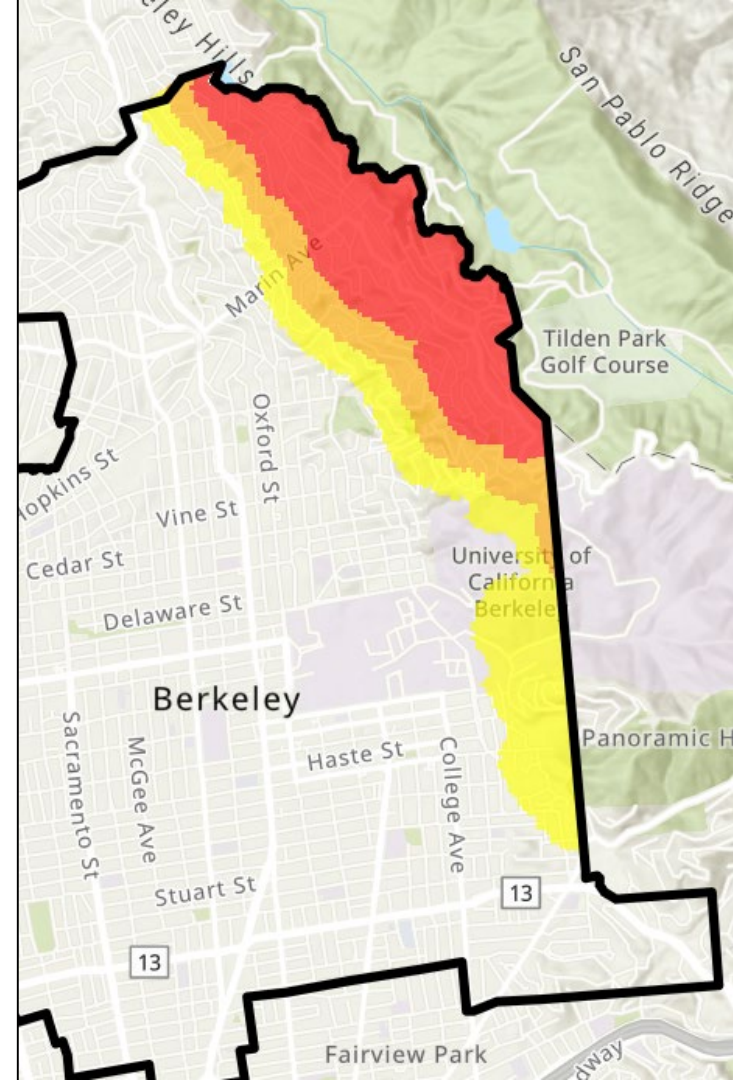
The best offense is a good defense.

Local Responsibility Area Maps

Adoption of CALFIRE Map and Additional Areas Designated as the City of Berkeley
Fire Hazard Severity Zones

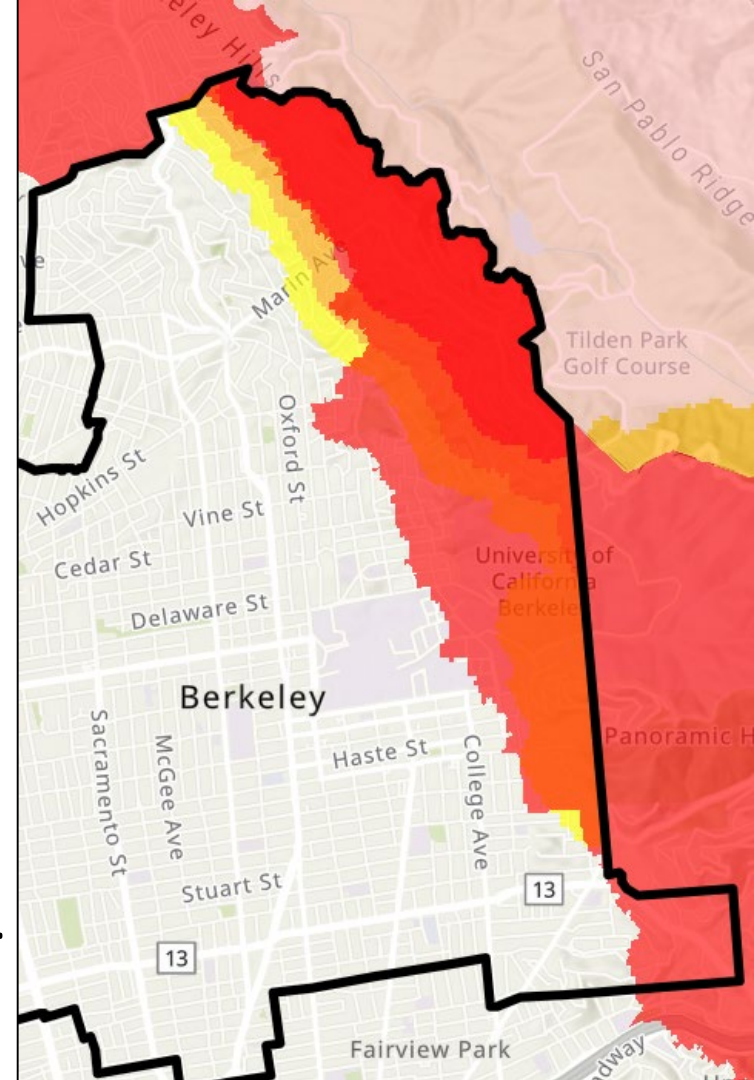
CALFIRE Fire Hazard Severity Zones

- Very High – Defensible Space & Chapter 7A
- High – Chapter 7A
- Moderate - None



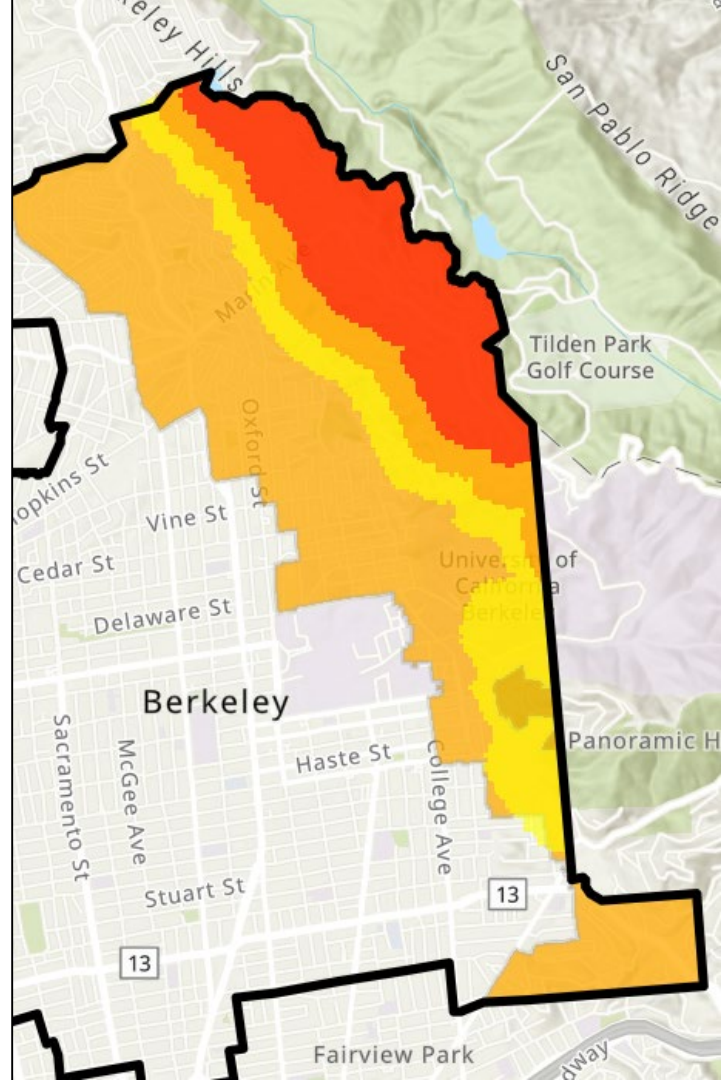
CALFIRE Modeling

- Not a structure loss model
- Does not consider key information
 - Structure ignition potential (hardening)
 - Structure Separation Distance (SSD)
 - Year constructed (Chapter 7A)
 - Roadway design and capacity
- Terrain, weather, urban vegetation cover, blowing embers, proximity to wildland, fire history, and fire hazard in nearby wildlands.



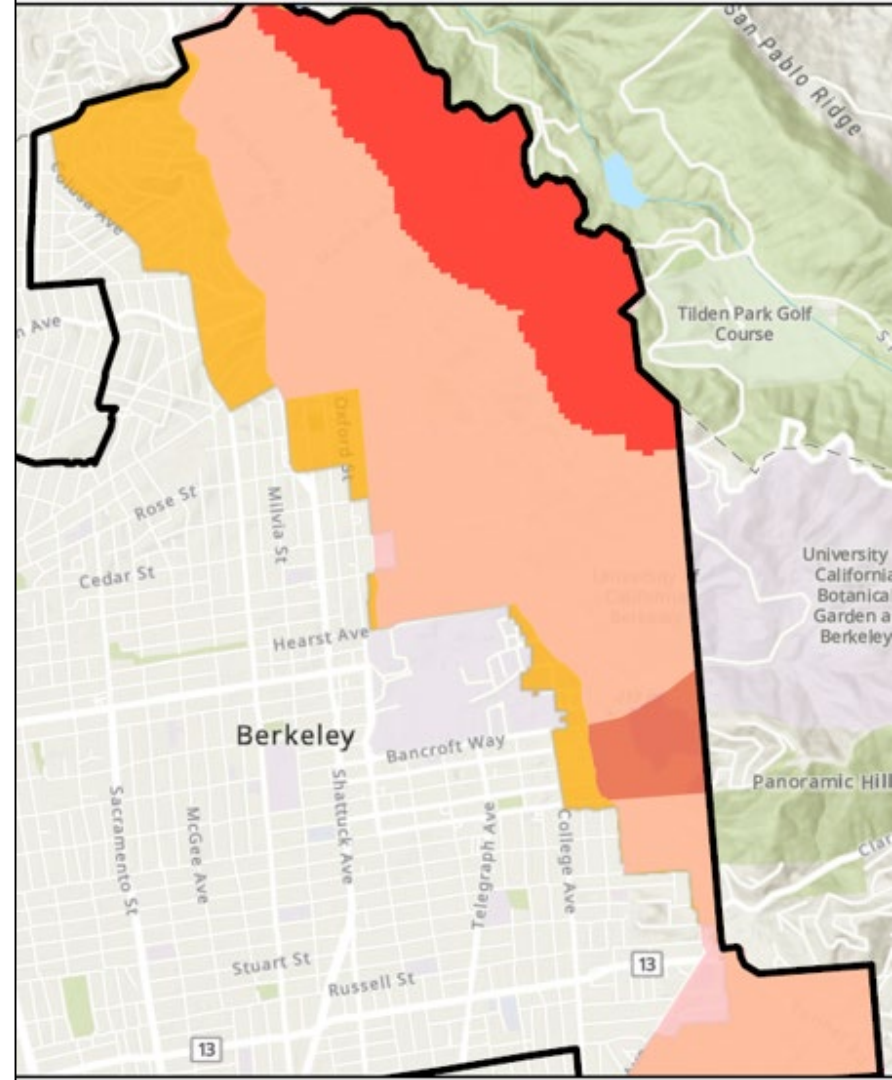
Local Amendment History

- Berkeley is required to adopt, at minimum, the CALFIRE FHSZs.
- Berkeley has adopted a larger FHSZ since the early 1990s
- This action is based on a number of local conditions that CALFIRE does not consider
- Currently the Very High FHSZ is the larger, orange boundary



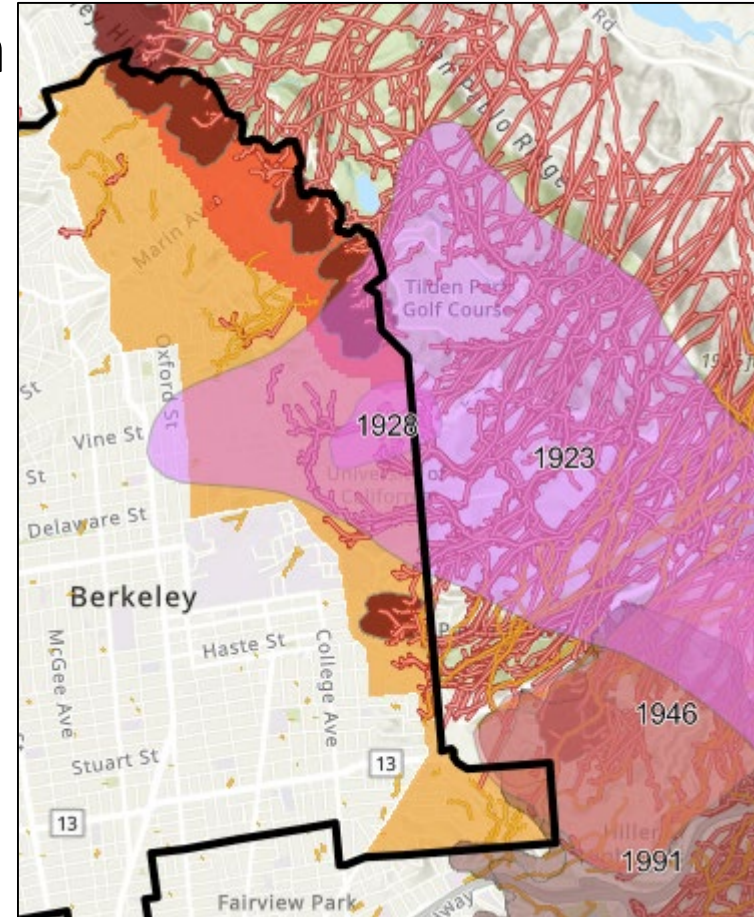
2025 Recommendation

- Adopt the CALFIRE Very High FHSZ
- Adopt a larger High FHSZ
- Western boundary of FHSZ moves east
- Significant portion of Very High transitions to High



Local Recommendation Based On

- Fire history (1905, **1923**, **1928**, 1946, 1970, 1980, and **1991**)
- Known fire pathways
- Narrow Structure Separation Distance
- Limited retrofitting of structures (Chapter 7A)
- Long term replacement of structures
- Limited east to west evacuation routes
- Strategic use of north-south streets



Adopting Zone 0

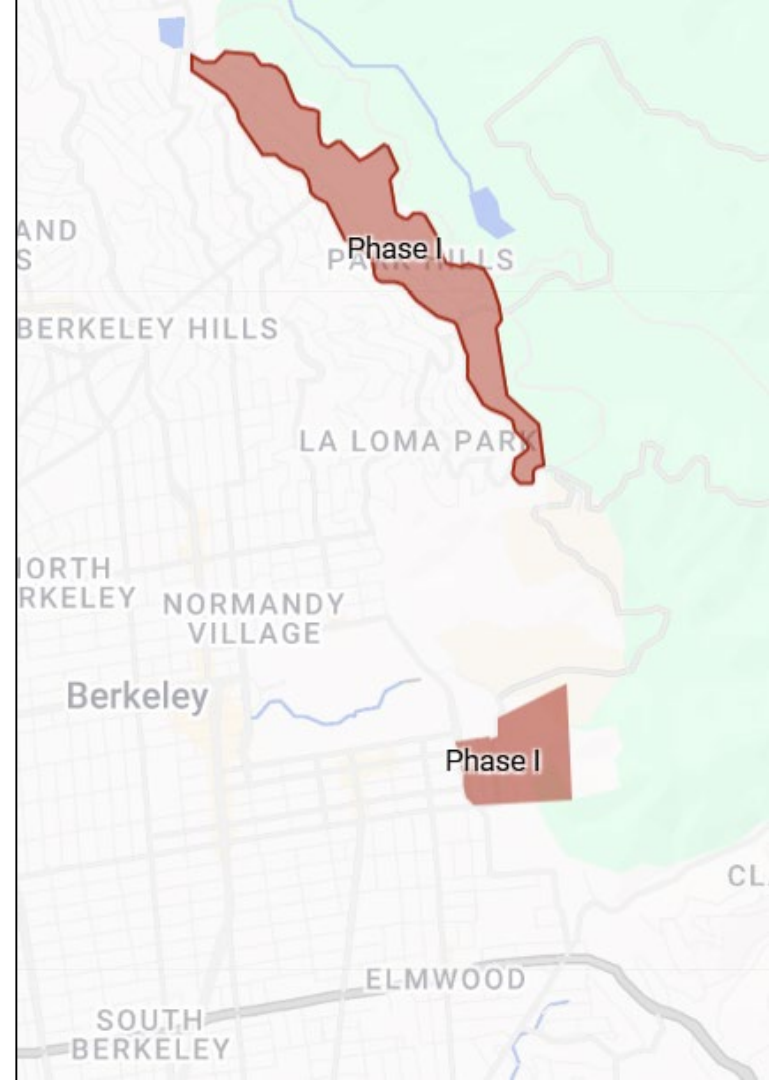
Modification and Adoption of Berkeley Fire Code Local Amendments

What The Science Says: Within 5' of Structures

- ✓ 10 non-combustible planters (=/< 5gal) with plants that are less than 18"
- ✓ Mature trees taller than 15' or roofline, adequately pruned to minimize risk.
- ✓ *No in-ground vegetation permitted*
- ✓ *No climbing vines*
- ✓ *No combustible mulch*
- ✓ *No wooden or combustible fences*
- ✓ *No wood or combustible items unless easily moveable on high fire danger days*
- ✓ *No tree limbs extending into the Zone - limbs must be removed or thinned*

Phase I

- 2026 - 2027
- Key buffer zones
- Runway (today thru 2/1/2026)



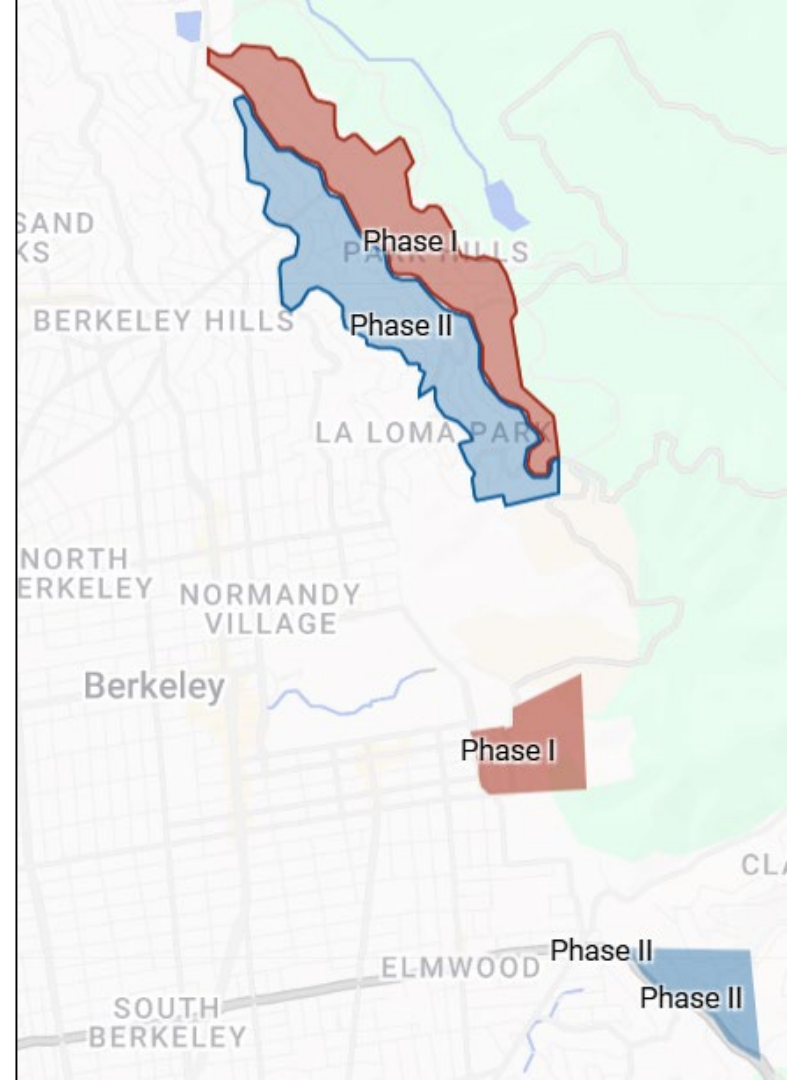
Phase I: Timeline

**Council
Approval
(April/May)**



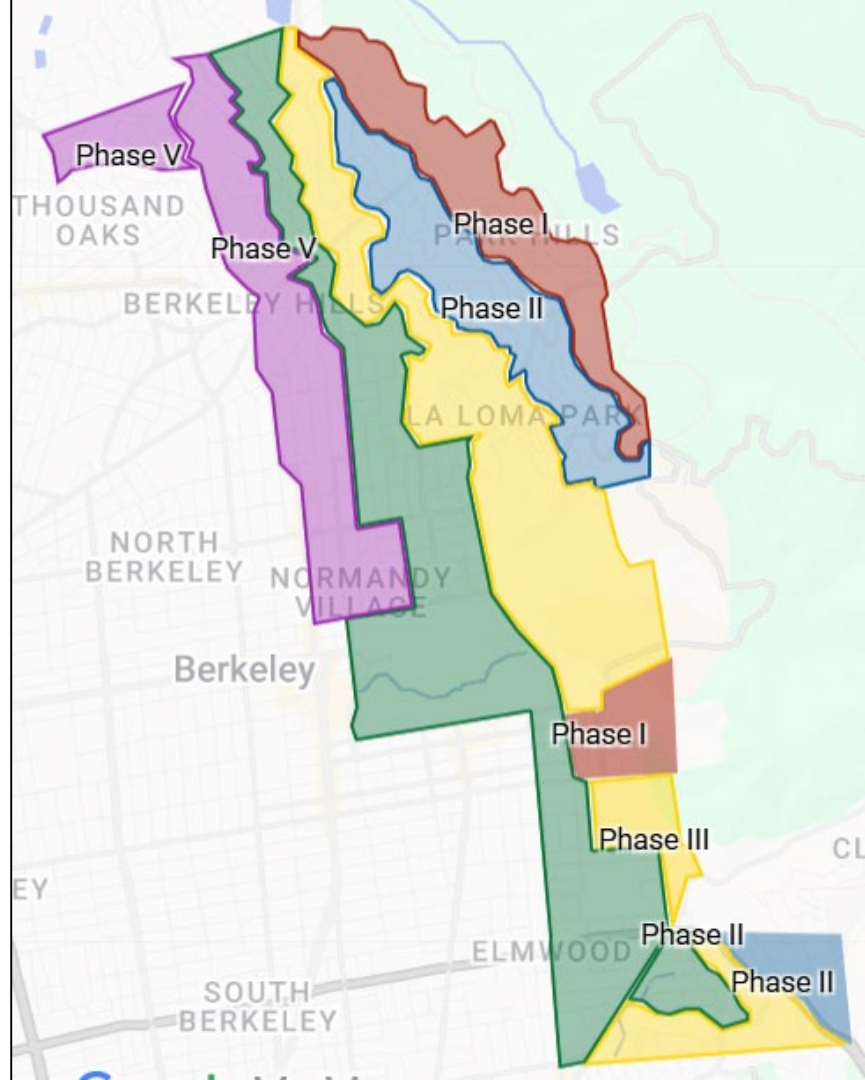
Phase II (Conceptual)

- Triggered by:
 - State adoption of Zone 0, *or*
 - Target saturation in Phase I
- Primarily CALFIRE Very High FHSZ
- Requires modification to the Fire Code, Council Adoption



Phase III - V (Conceptual)

- Triggered by:
 - Target saturation in prior phase
- Each phase requires modification to the Fire Code, Council Adoption



A Picture is Worth 1,000 Words

Fire is opportunistic and exploits the connections between vegetation, fences and structures to move throughout a community during a wind-driven fire event



Forward
TOGETHER



berkeleyfiresafe.org

