

# Emergency Evacuation

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# Issue

- Evacuation is a challenge and the most significant source of life loss during wildfires
- Wildfire regulations do not address “how”
- Need for consistency in development approval process
- Desire for a standard model universally used



# Problem

## USDA Forest Service 2020

Casualties are record-breaking with climate change and development & populations in high fire prone environments as key drivers Wildfire regulations do not address “how”

Civilian fatalities in US and Europe dominated by those trapped by fire as they tried to evacuate

29 million live with significant potential for extreme wildfires; 12 million are “socially vulnerable” and an extreme event could be devastating

# Wildfires & WUI Civilian Fatalities

|   | 1901–1964         | 1965–2011         | 1901–2011 (total) |
|---|-------------------|-------------------|-------------------|
| Late evacuation                           | 111 (37.2%)       | 93 (24.8%)        | 204 (30.4%)       |
| Defending property outside                | 90 (30.2%)        | 61 (16.3%)        | 151 (22.4%)       |
| Inside property                           | 18 (6.0%)         | 152 (40.2%)       | 168 (24.8%)       |
| Travelling through the area unaware       | 22 (7.4%)         | 44 (11.8%)        | 66 (9.8%)         |
| Waiting rescue                            | 1 (0.3%)          | 6 (1.6%)          | 7 (1%)            |
| Assisting firefighting operations         | 6 (2%)            | 2 (0.5%)          | 8 (1.2%)          |
| Returned into burning building            | 2 (0.7%)          | 6 (1.6%)          | 8 (1.2%)          |
| In an undefendable shelter (dugout, shed) | 8 (2.7%)          | 3 (0.8%)          | 11 (1.6%)         |
| Activity unknown at time of fatality      | 42 (14.1%)        | 9 (0.8%)          | 51 (7.6%)         |
| <b>Total</b>                              | <b>298 (100%)</b> | <b>376 (100%)</b> | <b>674 (100%)</b> |

Blanchi et al, 2012



## SB 571 1/10/24

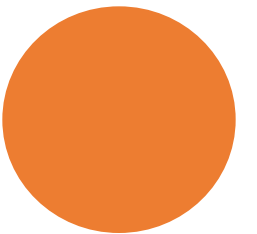
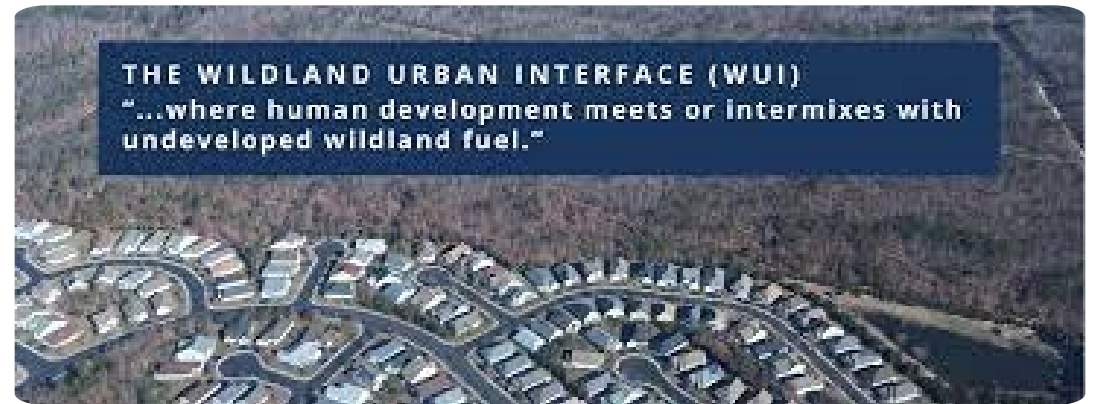
- Fire safety regulations; Development projects, Ingress and egress route standards
- Senator Allen with Stern
- Introduced 2/15/23 and amended 3 times
- Ordered to 3<sup>rd</sup> reading 2/22/24



# Scope & Content



- All development in SRA
- Very High and High FHSZs of LRA
- Impact to existing communities
- Safety needs of vulnerable populations
- Population density
- Motor vehicle volume





# Considerations

- Developments of various sizes and locations
- Criteria for two or more ingress and egress routes
- Existing regulations – avoid duplication

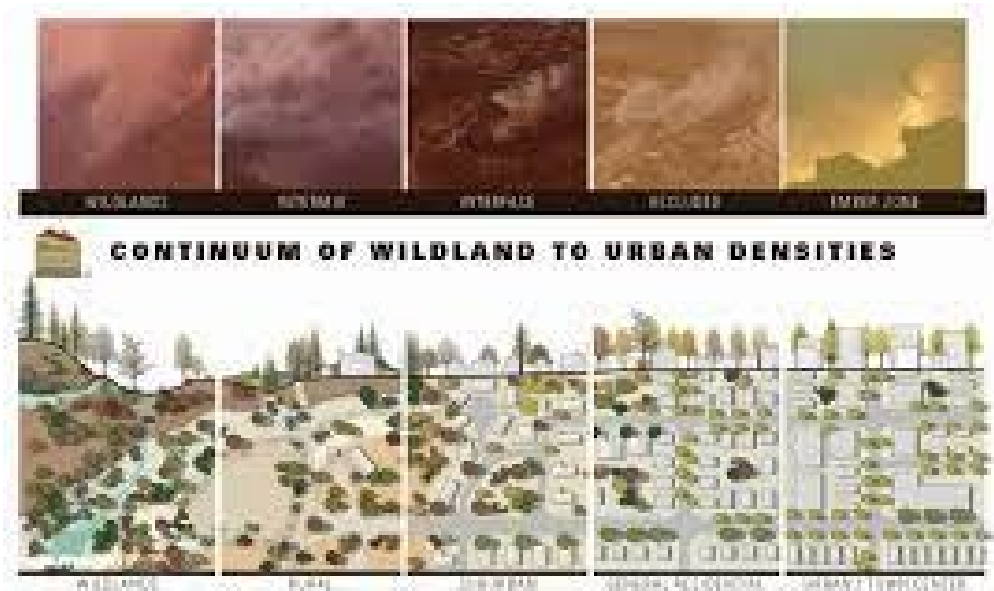


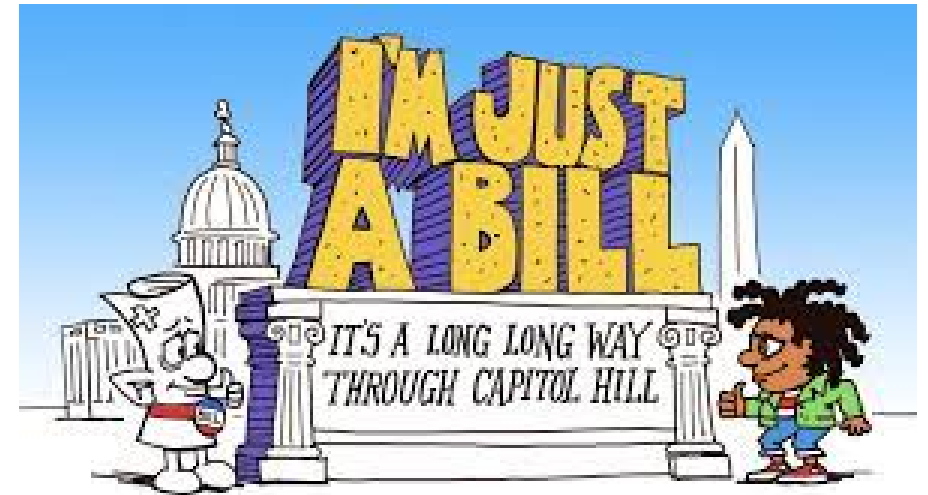
Figure 1. Communities in the wildland-urban interface can be affected by wildfire in different ways, depending on their development patterns and other factors of wildfire susceptibility.





## Process & Timeframe

- BOF report to Legislature by January 1, 2027
- Regulations added to minimum fire safe standards (CCR Title 14, Divi 1.4, Chpt 7)
- Public input opportunities
- Response to public comment in final report
- Include enforcement standards for board
- State board reg adoption after July 1, 2024







# Concerns & Challenges

- No standards
- Limited studies
- Wildfire behavior & time constraints
- Risk assessment, including 1<sup>st</sup> Responders
- Wildfire behavior models – average/extreme
- Traffic Engineering Studies – models limited
- Vulnerable populations
- Entrapment/Safe Refuge
- Plans and Communications

