

Wildfire Evacuation Planning Trends

Tom Cova

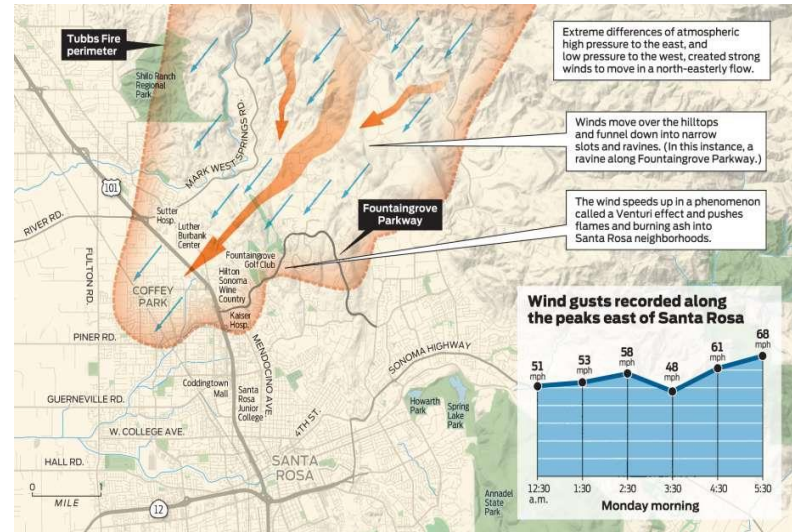
Center for Natural & Technological Hazards
Department of Geography
University of Utah, Salt Lake City

Colorado Springs, CO
November 4, 2021

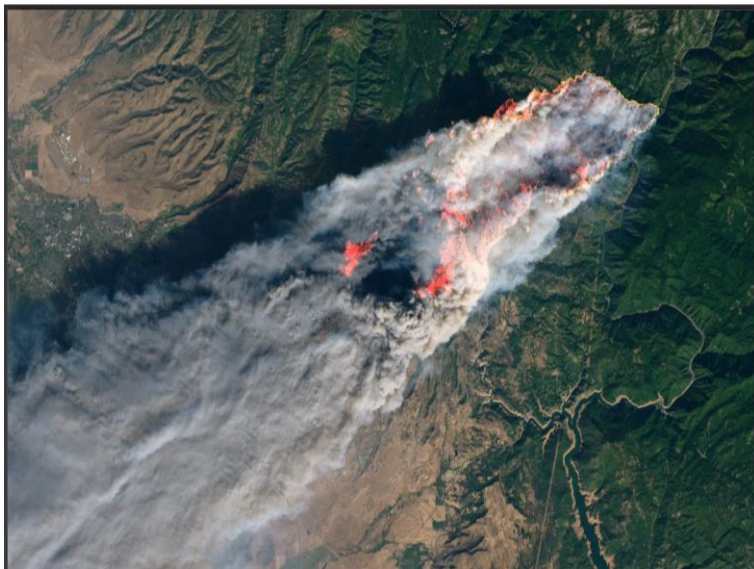
2016 Two Chimneys Fire, TN



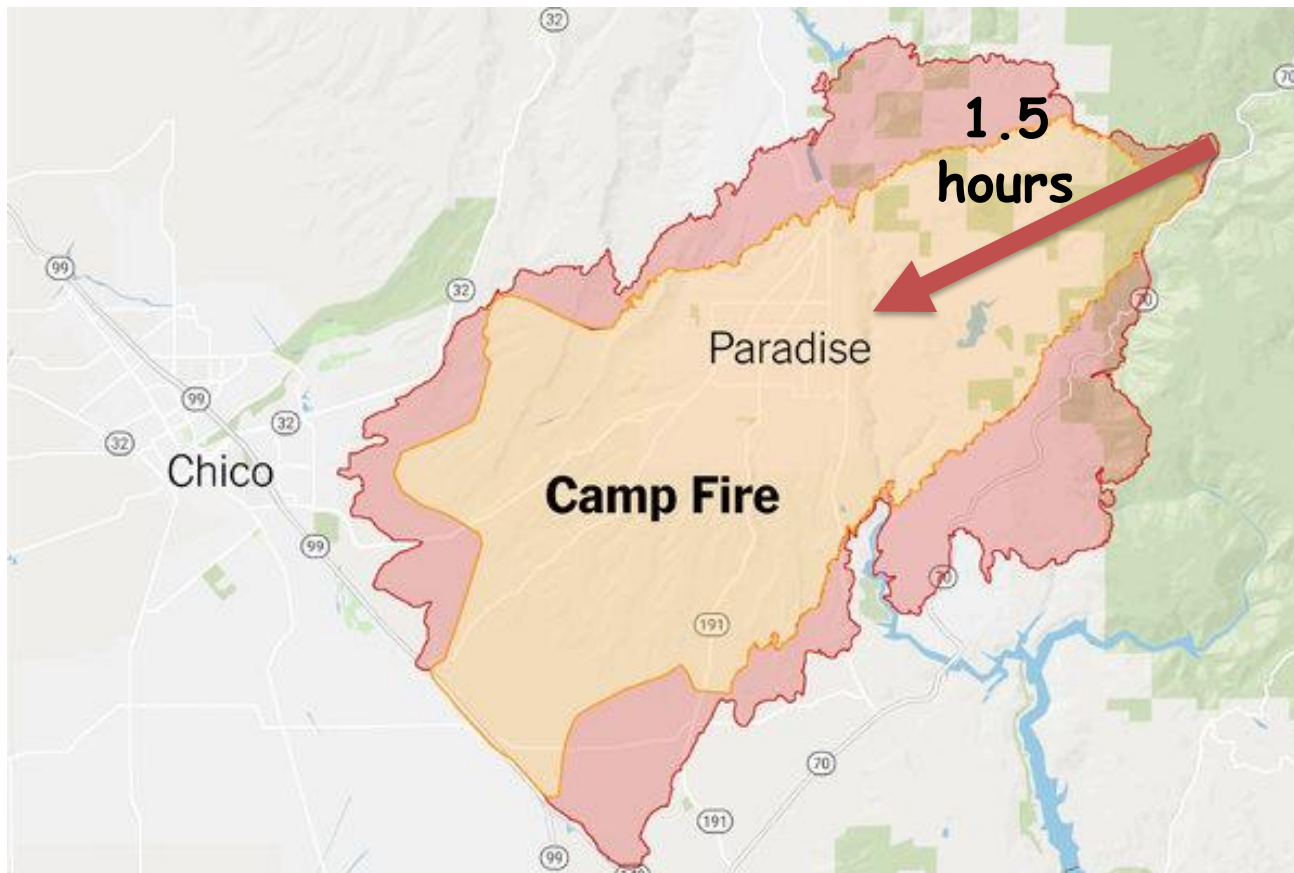
2017 Tubbs Fire, CA

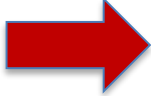


2018 Camp Fire, CA

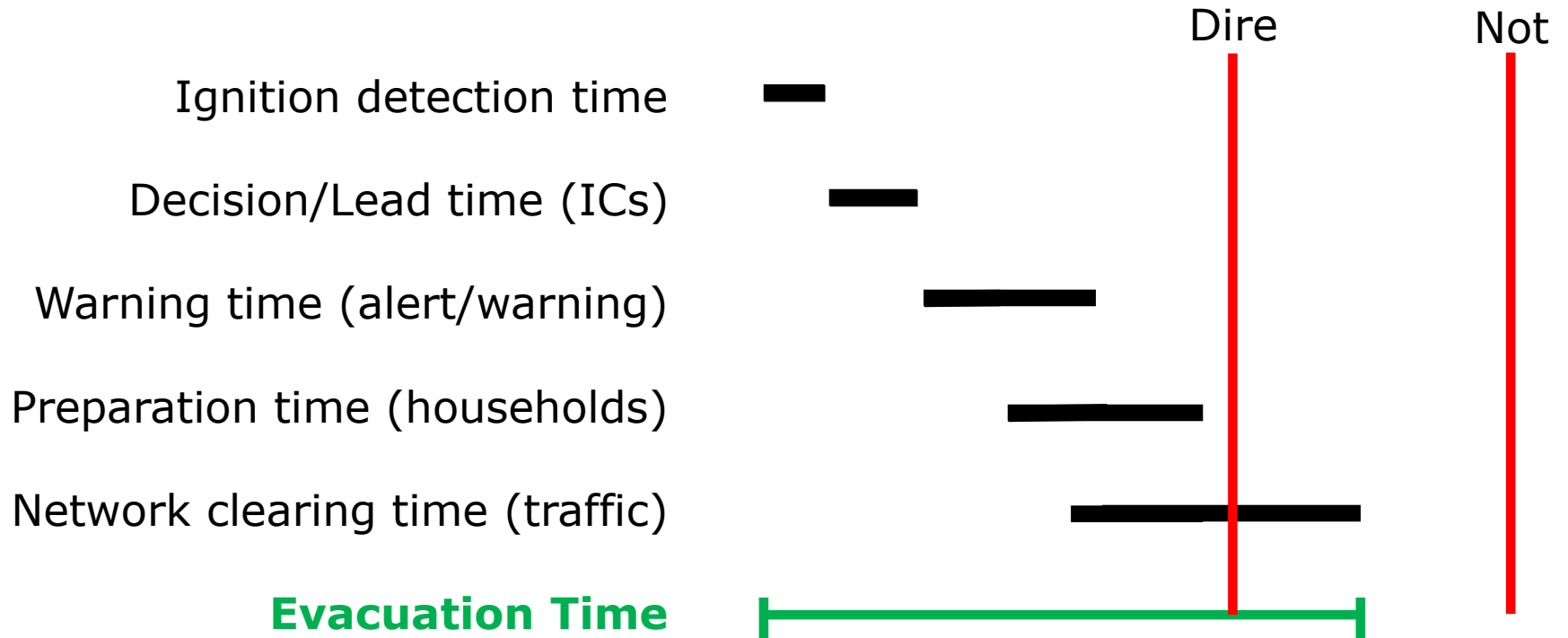


Dire scenario formation



duration + *decisions* + *design*  *direness*
(time to act) (officials/community) (community)

Evacuation planning phases

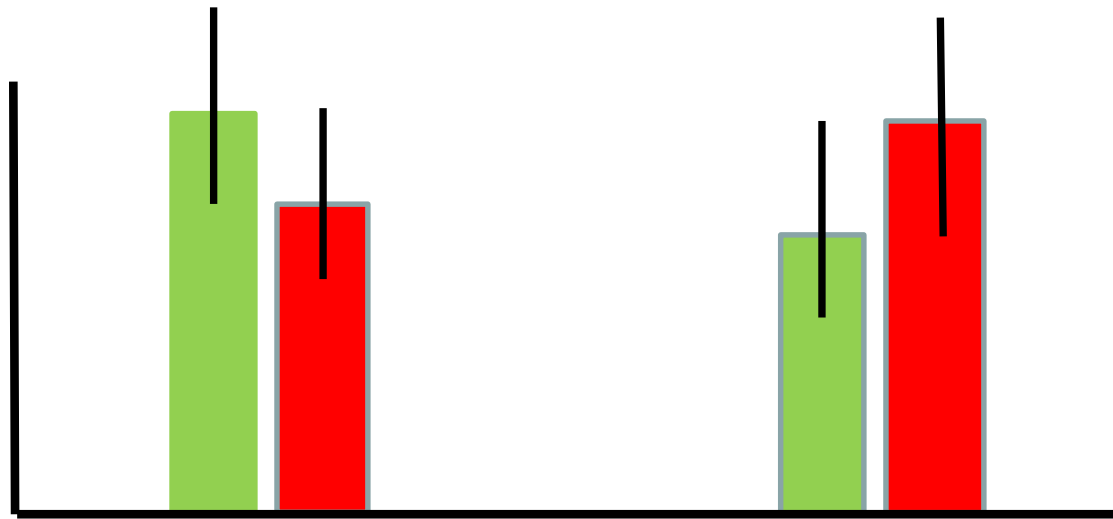


Can a fire reach a community in less time than it would take to evacuate it?

Dire scenario: dynamic & uncertain

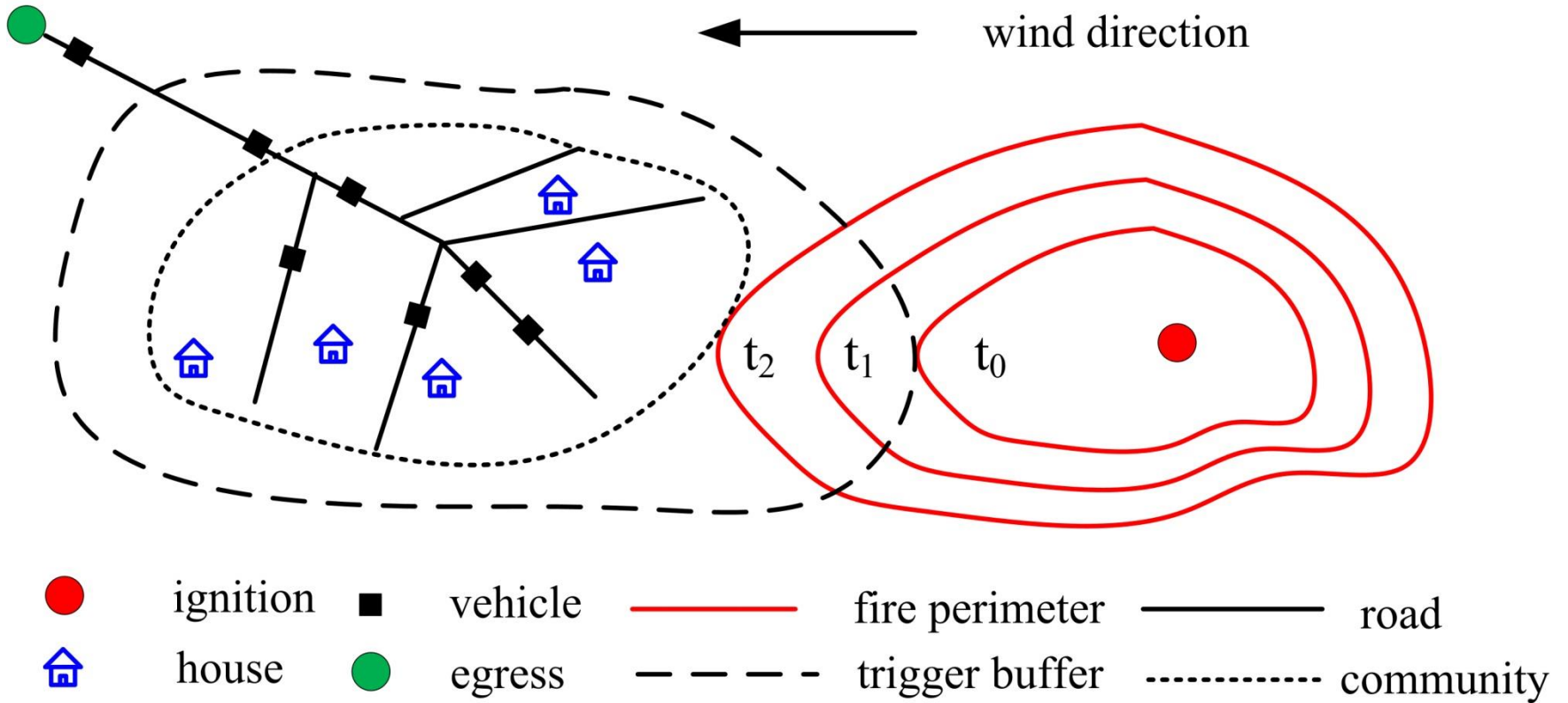


Trigger
Point

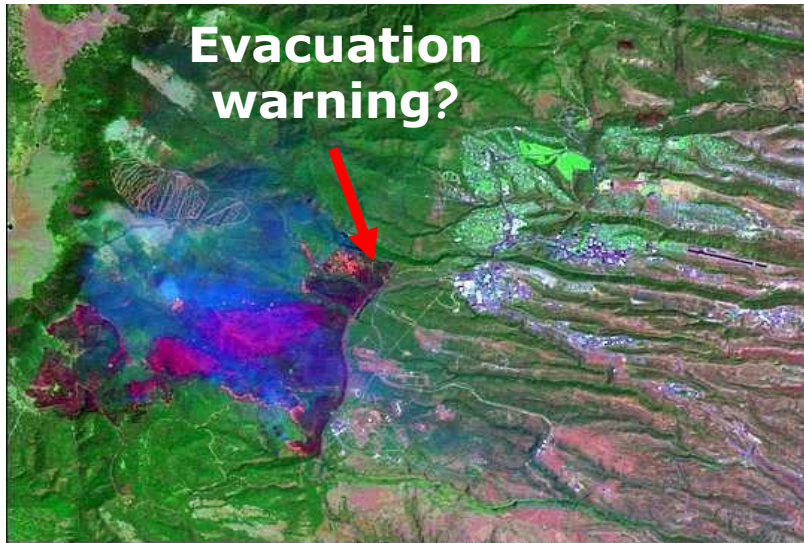


Time available

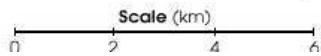
Evacuation time



2017 Thomas Fire, CA



red=shortwave infrared, green=near infrared, blue=green



⚠️ EMERGENCY ALERTS

Emergency Alert
FAST MOVING BRUSH FIRE
BETWEEN SANTA PAULA, VENTURA,
OJAI - GO TO
READYVENTURACOUNTY.ORG F



2012 Waldo Canyon Fire, CO

Woodland Park

Rampart Reservoir

Air Force Academy

24

Manitou Ave

Garden of the Gods

Manitou Springs

N 300 St

Cantenna Blvd

Sinton Rd

W Fillmore St

Mesa Rd

Google earth



National Weather Service
Pueblo, CO

Issued: 700 AM MST 6/27/12

-  6/27/12
-  6/26/12
-  6/25/12
-  6/24/12

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Front Range wildfire scenarios: dynamic & uncertain

Wildfires factors/trends

Fire-spread rates are increasing in many areas

Evacuation factors/trends

Favorable

wireless warnings (WEA)

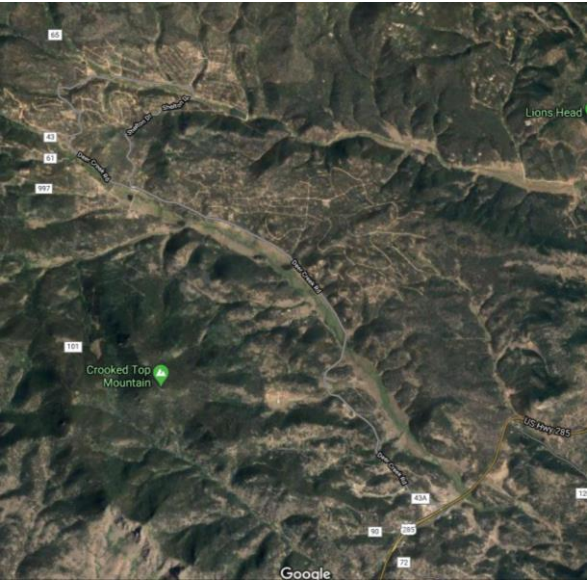
increased awareness (residents)

evacuation planning efforts (officials)

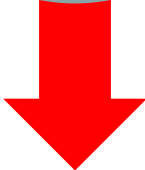
Unfavorable

community density/development

Bailey, Colorado

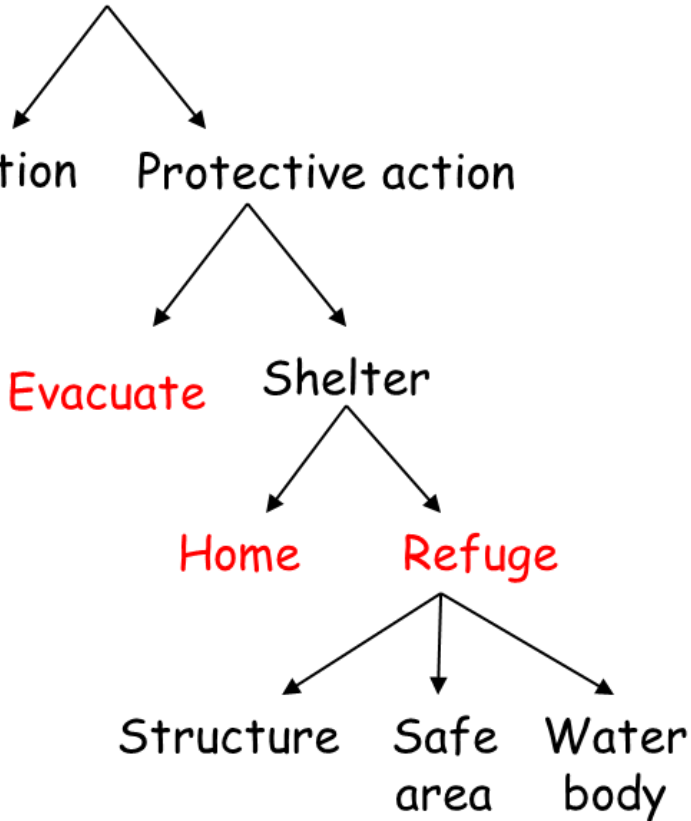


2000
homes



Fire Shelter

Perceived Wildfire Threat



Barona Casino
2003 Cedar Fire, CA



Westmont College Gym
2008 Tea Fire, CA

Dire Scenario Planning

1. Work to reduce dire-scenario likelihood: officials/public and community/households.
2. Develop back-up plans if they happen anyway (e.g. temporary refuge areas/structures).

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