

GUNNISON COUNTY, CO

An aerial photograph of a mountain valley. In the foreground, there are fields and a winding river. In the middle ground, a town with a grid street pattern is visible. The background features large, forested mountains with patches of snow on their peaks and slopes.

Gunnison County Community Development Wildfire Planning

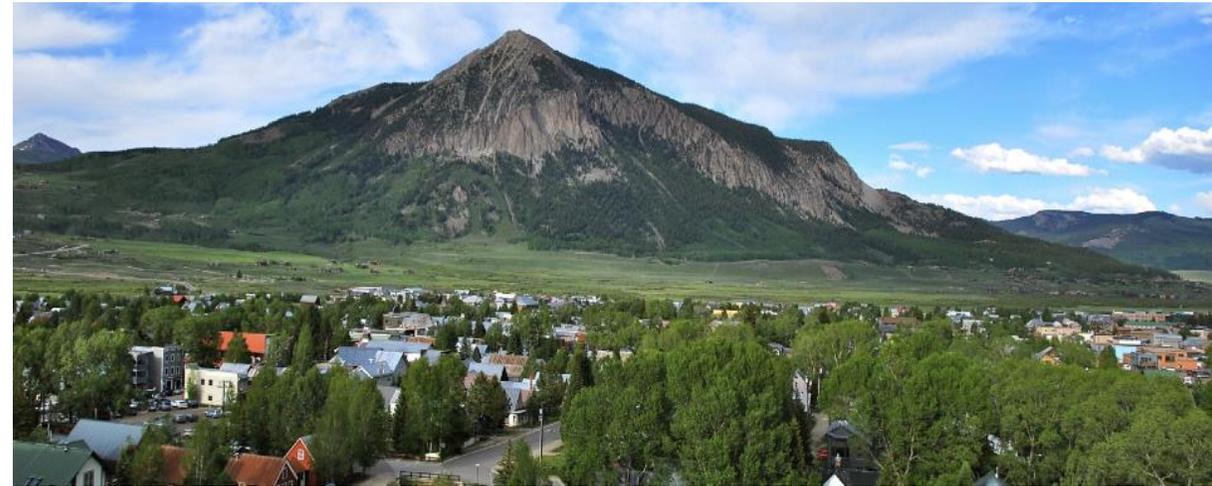
Community Planning Assistance for Wildfire

- **CPAW began in 2019**
- **Team of professionals from Wildfire Planning International, Headwaters Economics & USFS Rocky Mtn Research Station**
- **Outreach and engagement process with local stakeholders + constituents**
- **Develop mapping tools and policy recommendations**



Wildfire Risk

- Diverse range of fuel types, from high elevation forests to grass and sage
- Successful suppression and pine beetle infestation is driving fuel loading
- High potential for large wildfires
- Increasing damage from beetles
- Perception of risk may be lower than exists—largest fire in past 50 years has been 1,400 acres



Fire Professionals

- Engaged with wildfire and fire professionals in community including:
 - West Region Wildfire Council
 - USFS
 - Colorado State Forest Service
 - Emergency Management
 - Crested Butte Fire Protection District
 - Gunnison Fire Protection District
 - US Forest Service



State of Colorado Fire Commission

- The Fire Commission and associated WUI Subcommittee are working to develop broadly supported recommendations from the IWUIC that will be presented to State Legislature before implementation of regulations.
- WUI related legislation may be introduced this session.
- Recommendations are currently being drafted.
- New regulations may impact the entire state.
- State of Colorado has been [ineligible](#) for some federal funding due to the lack of an adopted state-wide building code.

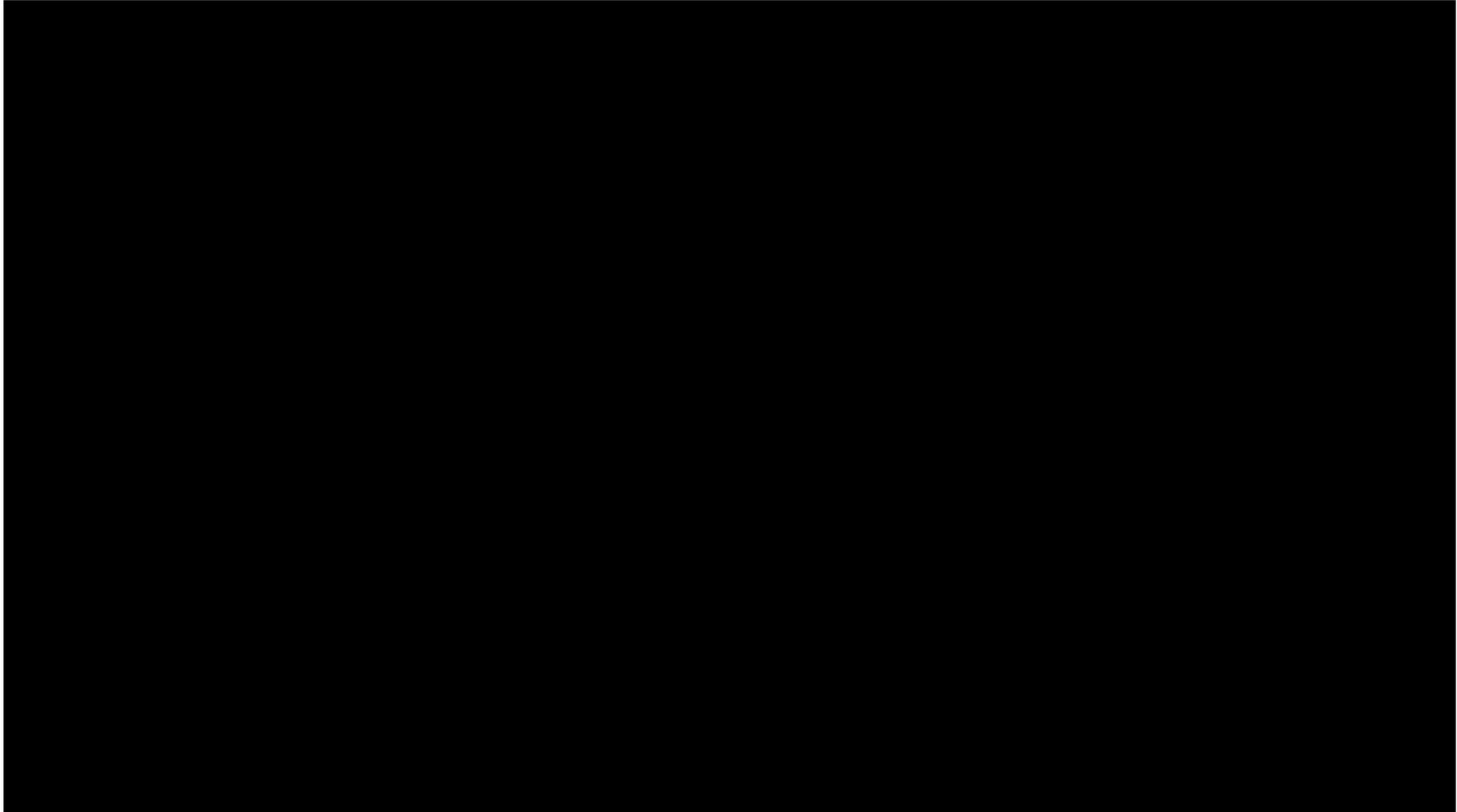


Risk to Community

A [report](#) from Forest Sciences Laboratory, Rocky Mountain Research Station, US Forest Service in 2013 states:

“Wildfires are inevitable, but the destruction of homes, ecosystems, and lives is not...Overcoming perceptions of wildland urban interface fire disasters as a wildfire control problem rather than a home ignition problem, determined by home ignition conditions, will reduce home loss.”

Risk to Community



Risk to Community

A [report](#) from Forest Sciences Laboratory, Rocky Mountain Research Station, US Forest Service in 2013:

“...mitigation of the home ignition zone (HIZ) is the most cost-effective investment for reducing home destruction, and this can be augmented with other investments.

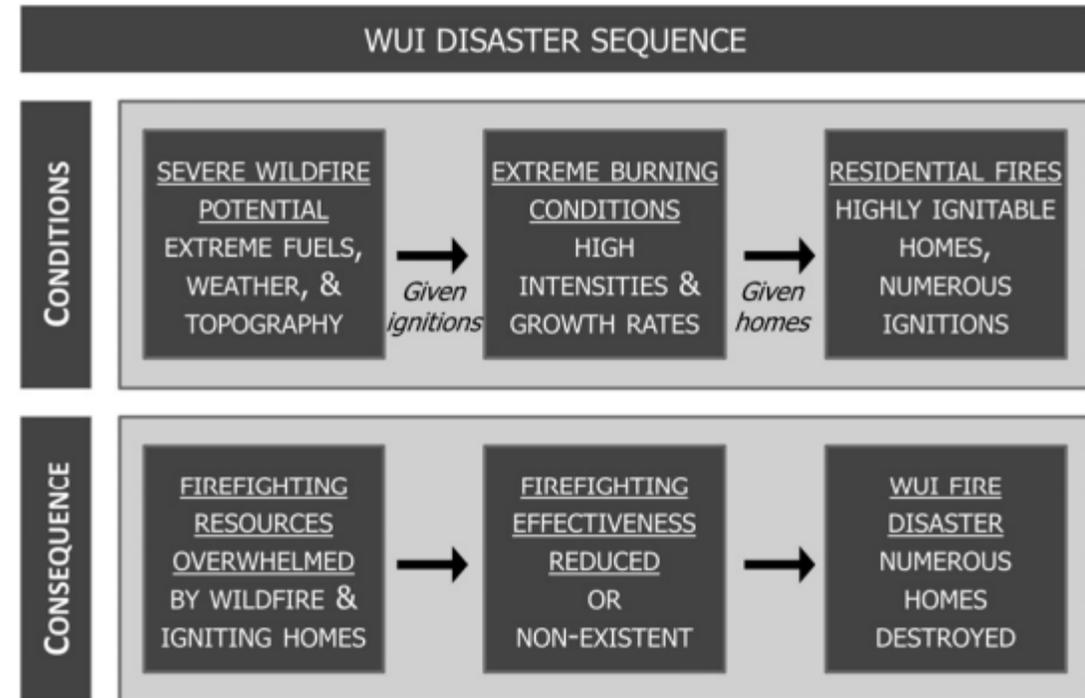


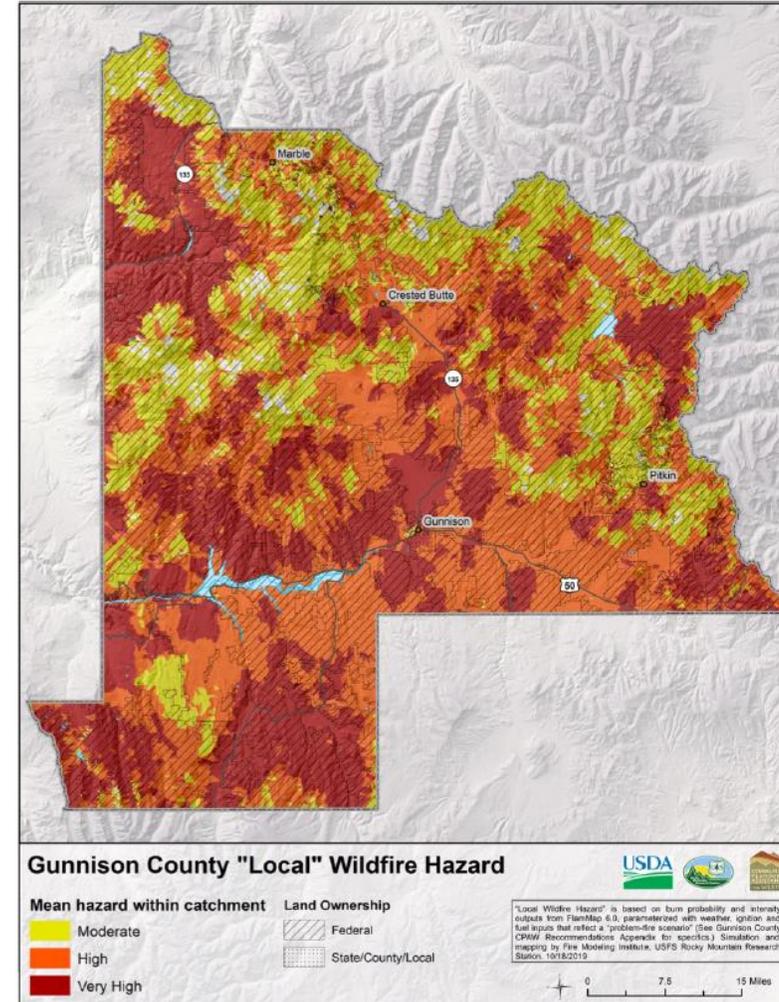
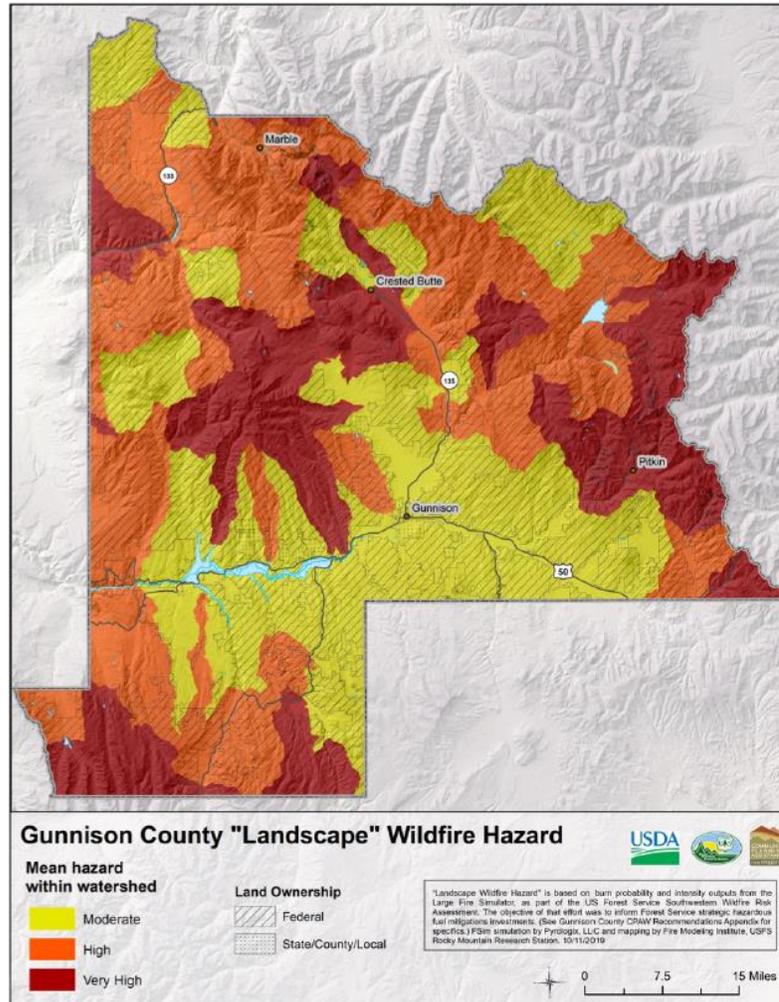
Fig. 2. WUI disaster sequence. Each box corresponds to a factor that critically contributes to high numbers of destroyed homes during a WUI fire. Note that, if homes are ignition-resistant and numerous home ignitions do not occur (step 3), structure protection effectiveness is greater for home ignitions that do occur, thereby preventing disastrous losses.

Responding to the Risk – CPAW Recommendations

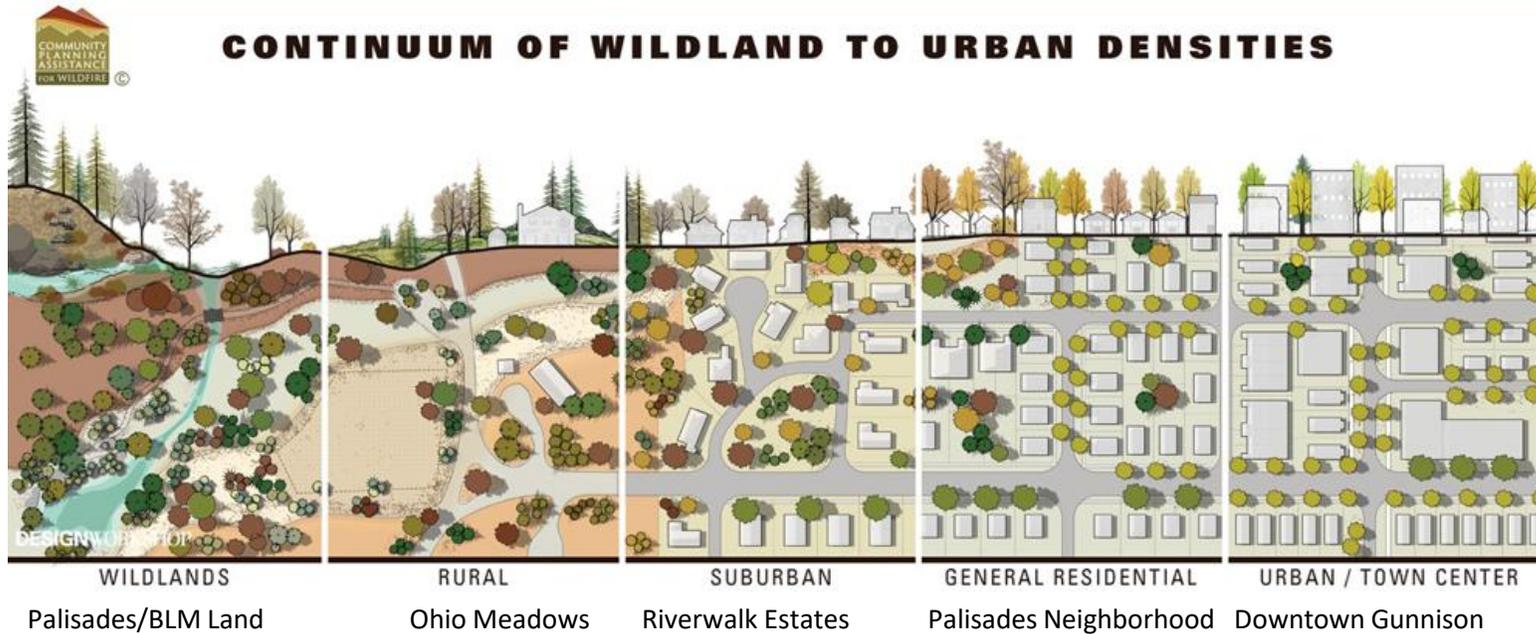
- **Define the Wildland Urban Interface (WUI) and Implement a WUI Risk Assessment Program**
- **Adopt the WUI Code and Update Land Use Regulations to Create a Resilient Approach to Development in the WUI**
- **Leverage Existing Plans to Support Wildfire Hazard and Regulatory Priorities across Gunnison County**



Wildfire Mapping Analysis



Wildfire Mapping Analysis



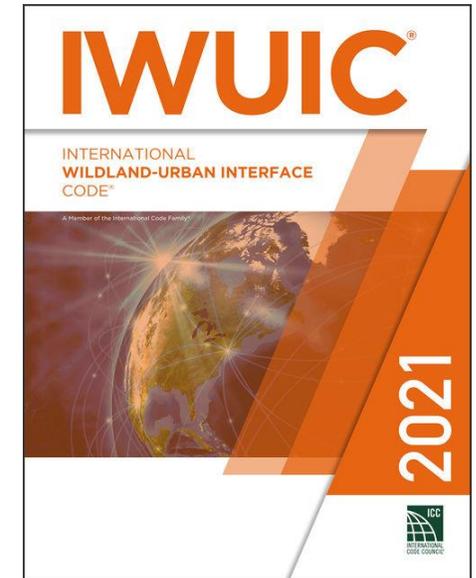
The Science Behind Fire and IWUIC

Multiple scientific analyses have found that embers from a fire are the “[most important cause of home ignition.](#)” A report from UC Davis, *Home Survival in Wildfire-Prone Areas: Building Materials and Design Consideration* found that 2 of 3 homes destroyed in a San Diego County fire were ignited by embers “and not from the actual flames of the fire.”

“In order to have a wildfire-safe home, two equally important factors must be implemented: 1) the wise selection of building materials and designs that will help the home resist the wildfire and 2) the home must have adequate defensible space...”

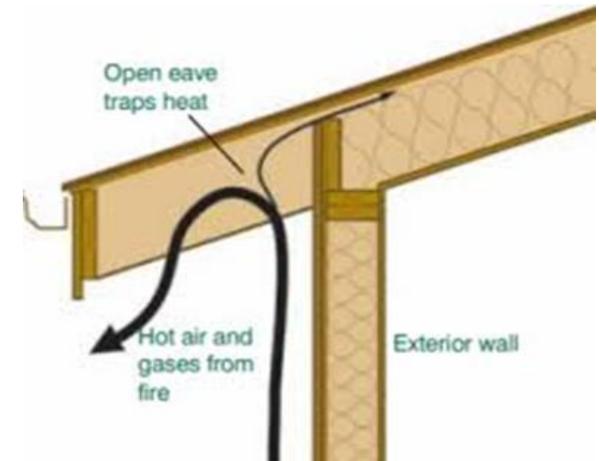
IWUI Code

- Intended to be used supplemental to the adopted building code.
- Establishes minimum requirements for the safeguarding of life and property from the intrusion of fire from the wildland fire exposures and fire exposures from adjacent structures and to prevent structure fires from spreading to wildland fuels, even in the absence of fire department intervention.
- Defensible space management and ignition resistant construction material requirements are provided in a tiered manner commensurate with the relative level of hazard present.
- In the county, site review and analysis will be needed in some areas.
- In municipalities, review is expected to be less challenging. Landscaping standards may pose conflicts.



Ignition Resistant Material & Construction

- Depending on the Fire Hazard Severity, can be **Class 1 for Extreme Hazard**, **Class 2 for High Hazard**, **Class 3 for Moderate Hazard**
- Roofs, eaves and soffits, exterior walls, decks and projections, exterior glazing, exterior doors, and vent openings and locations may have requirements for ignition resistant materials depending on the fire hazard.

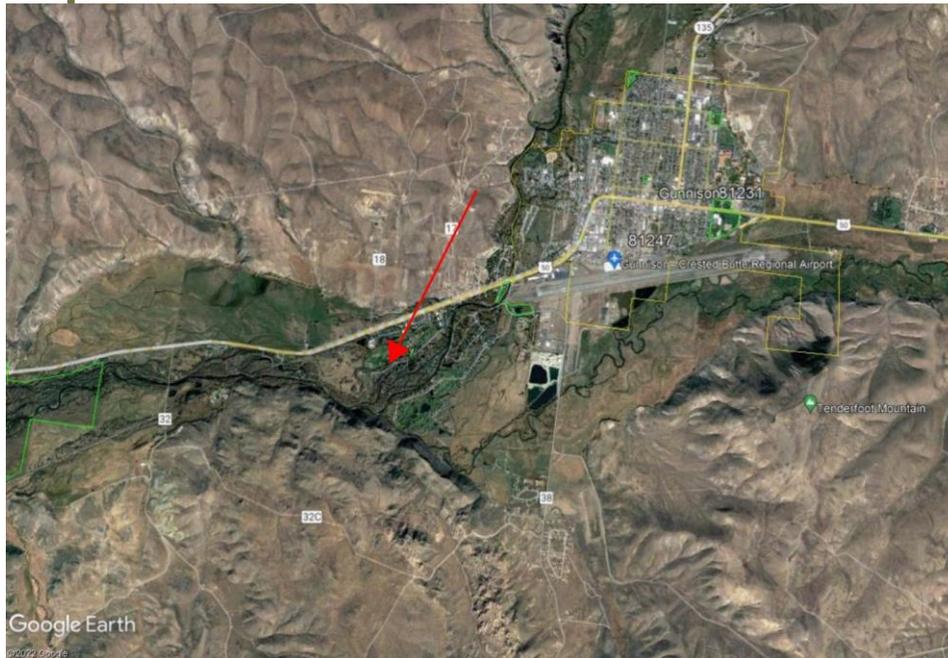


Defensible Space

- **IWUI code general defensible space requirements are 100 feet for extreme hazard, 50 feet for high hazard, and 30 feet for moderate hazard.**
 - **Trees spaced 10 feet apart and pruned to remove limbs located less than 6 feet above the ground.**
 - **Vegetation or ground cover shall not provide a means of transmitting fire from growth to any structure.**
- **Colorado State Forest Service recommendations for the home ignition zone provide a sophisticated approach that is customized for Colorado fuels, weather and topography.**
 - **Could be used as part of a vegetation management plan to reduce overall hazard severity at the site.**

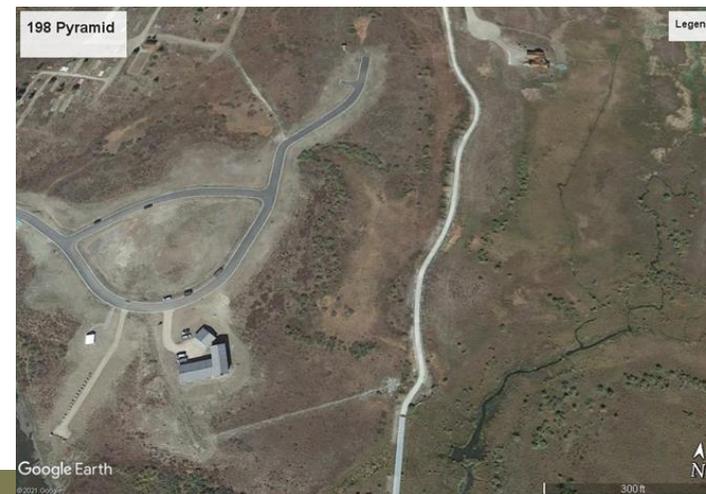
Example 1: Dos Rios House

- Moderate hazard
- Defensible space requirement is 30 feet or to the lot line, whichever is less.
- Class 3 Ignition Resistant Construction: Class B roof or non-combustible covering, non-combustible gutters and downspouts
- If defensible space is not provided, a Class 2 Ignition Resistant Construction would be required.



Example 2: Near Crested Butte

- Moderate hazard
- Defensible space requirement is 30 feet or to the lot line, whichever is less.
- **Class 3 Ignition Resistant Construction** would be required if the defensible space requirement is met. If not, **Class 2** is required: non-combustible roof covering, eaves and soffits protected, exterior walls and decks/projections either heavy timber, non-combustible materials, fire-retardant-treated wood, ignition-resistant materials, or 1-hour fire-resistance-rated, vent openings covered with noncombustible corrosion-resistant mesh or designed to prevent flame or ember into the structure, and vents not located in soffits, eave overhangs, between rafters at eaves, and in other overhang areas.

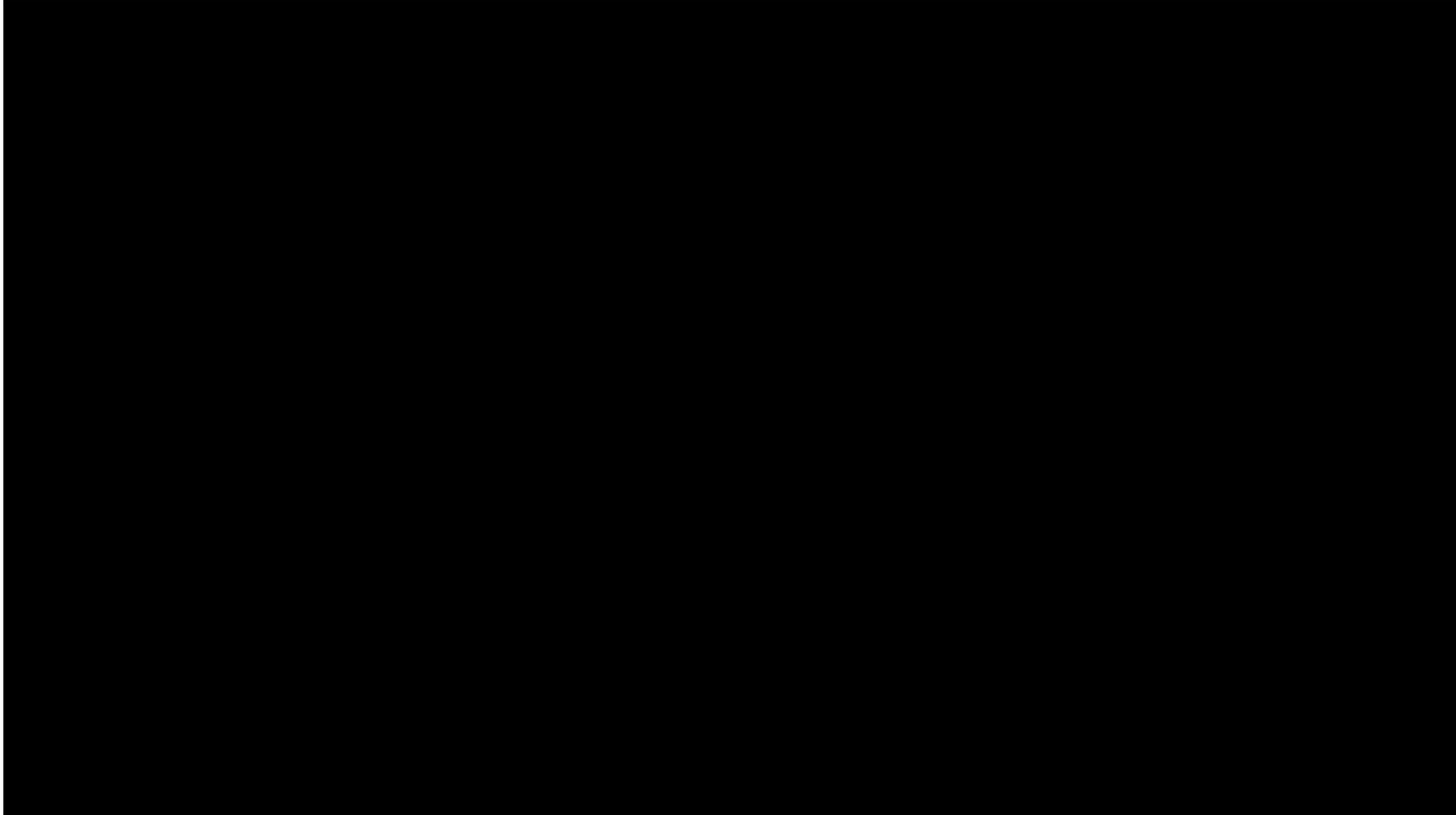


Example 3: Smith Hill above CB

- Extreme fire hazard severity
- Defensible space requirement is 100 feet or to the lot line, whichever is less.
- Class 1 Ignition Resistant Construction would be required with the defensible space. If an additional 50 feet of defensible space could be provided, Class 2 Ignition Resistant Construction is permitted. For Class 1: Class A roof assembly, eaves and soffits protected, exterior walls and decks/projections either heavy timber, non-combustible materials, fire-retardant-treated wood, ignition-resistant materials, or 1-hour fire-resistance-rated, vent openings covered with noncombustible corrosion-resistant mesh or designed to prevent flame or ember into the structure, and vents not located in soffits, eave overhangs, between rafters at eaves, and in other overhang areas.



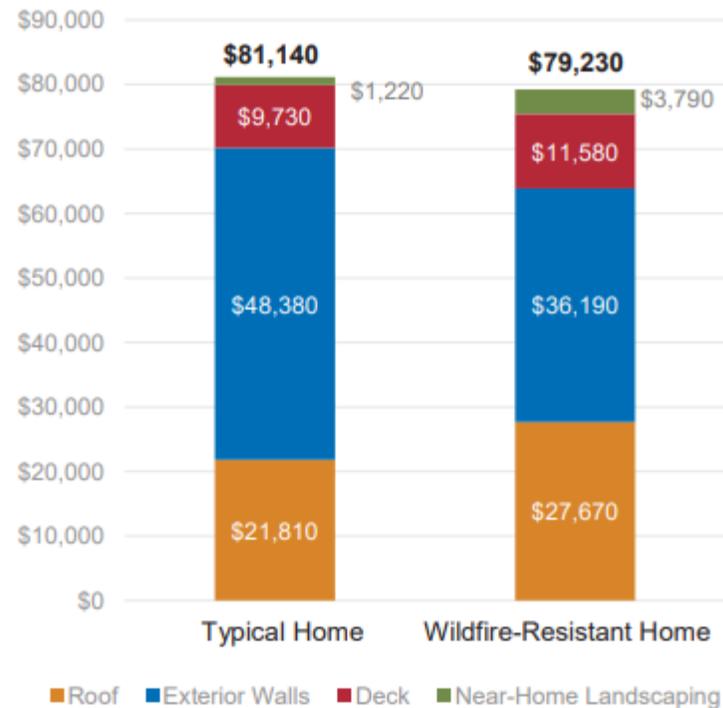
Insurance Institute for Business & Home Safety



Codes and Cost for Fire Resistant Construction

- **Headwaters Economics and The Insurance Institute for Business & Home Safety and Bechtle Architects prepared “Building a Wildfire-Resistant Home: Codes and Costs” in 2018.**
- **The study found “negligible costs differences between a typical home and home constructed using wildfire-resistant materials and design features.”**

Figure 2. New construction costs by component in typical and wildfire-resistant home.



“Building a Wildfire-Resistant Home: Codes and Costs”

Summary findings of the report:

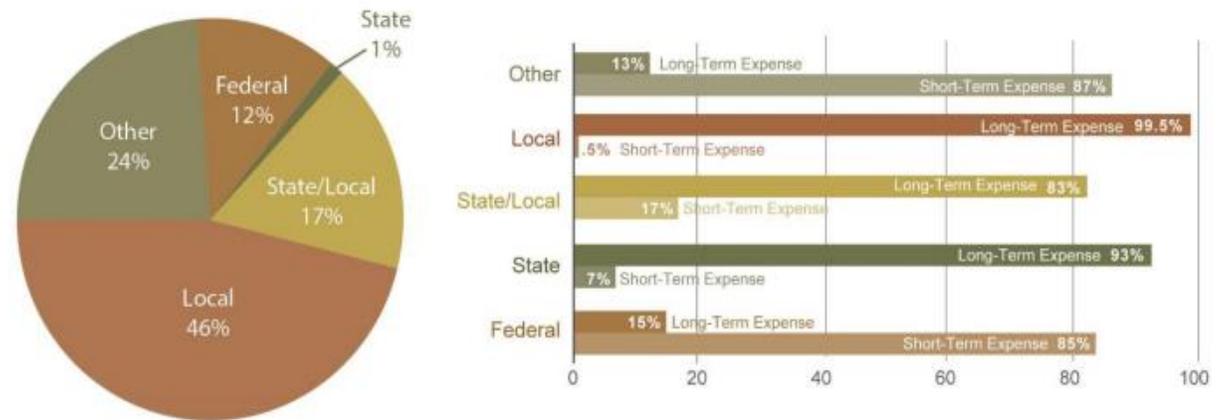
- **“Wildfire disasters will be more common if unmitigated home development continues in the wildland-urban interface.**
- **A new home built to wildfire-resistant codes can be constructed for roughly the same cost as a typical home.**
- **Costs vary for retrofitting an existing home to be wildfire-resistant, with some components such as the roof and walls having significant expense. Some of these costs can be divided and prioritized into smaller projects.**
- **Technology and standards exist today that will make communities safer. Cities, counties, and other jurisdictions can implement wildfire resistant building codes to reduce their vulnerability to wildfire.”**

Community Costs of Wildfire

[The Full Community Costs of Wildfire](#), prepared by Headwaters Economics analyzed costs of wildfire:

“nearly half of all wildfire costs are paid at the local community level by government agencies, non-governmental organizations, businesses, and homeowners. Almost all wildfire costs accrued at the local level are the result of long-term damages such as landscape rehabilitation, lost business and tax revenues, degraded ecosystem services, depreciated property values, and impacts to tourism and recreation.”

Figure 5: Summary of proportional costs paid at the local, state, and federal level and how these costs are distributed as short-term expenses or long-term damages.



Anticipated Next Steps

- **Develop recommendations based on public and stakeholder input.**
- **Outline program elements and staffing resources**
- **Review WUI Code and identify possible amendments**
- **Propose recommendation to Gunnison County Planning Commission and possibly municipal councils.**
- **Planning Commission reviews and makes recommendation to BOCC**
- **BOCC holds public hearing and makes final decision**



Contact



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Resources

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