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## **California dramatically underestimating costs from future wildfires as housing shortage and existing policies incentivize rebuilding in high risk zones**

*Researchers call for policy overhaul to transform how state rebuilds after fires as report finds current efforts are increasing future safety, economic and climate risks amid record drought*

**SAN FRANCISCO**—California must comprehensively reshape how we rebuild after wildfires—or risk an unthinkable surge in costs and major setbacks to the state’s housing supply amidst a record housing crisis. That’s the finding of [\*Rebuilding for a Resilient Recovery: Planning in California’s Wildland Urban Interface\*](#), released today from researchers at the UC Berkeley Center for Community Innovation and non-partisan, non-profit think tank Next 10.

Researchers studied three communities recently affected by wildfires and found that state and local land use policies—coupled with the state’s housing shortage—are ratcheting up the economic and human cost of wildfire by incentivizing rebuilding in the high risk-wildland urban interface (WUI), instead of redirecting development away from fire-prone areas. This is intensifying untenable safety, economic, and climate risks as the state prepares for another harrowing wildfire season in the midst of record drought.

“Wildfire threatens the lives and homes of more than one-quarter of California’s population,” said F. Noel Perry, founder of Next 10, which commissioned the report. “We must overhaul local and state policies and planning procedures to ensure that we are not incentivizing actions that elevate wildfire risks.”

Rather than directing development away from high-fire risk areas in the WUI, state and local policies primarily emphasize strategies that maintain development in risky areas but minimize fire damage, including updating building codes, retrofitting existing homes, and developing emergency management plans. Researchers found that the lack of incentives to avoid building in fire-prone areas is contributing to the persistent and increasing risk of significant economic and human costs associated with wildfires. The report finds that, conservatively, it would cost at least \$610 billion in replacement costs just for residential structures currently located in the high- and very high-fire hazard risk zone within the WUI. And researchers say this is just the tip of the iceberg when it comes to potential costs from wildfires.



“The more we researched the risks of wildfires in California, the more we realized that the state is underestimating just how costly and cross-cutting this issue is,” said Robert Olshansky, one of the lead report authors and Professor Emeritus at the University of Illinois, Urbana-Champaign. “Right now, we’re making a bad problem worse after wildfires occur. If the status quo continues, we risk insurmountable costs for insuring and addressing risk down the line. Instead, we should pursue land use conservation and urban infill strategies that reduce disaster risk, promote housing supply and mitigate climate change impacts.”

### **Costs may be underestimated; Insurance crisis likely**

Under current estimates, more than one in 12 Californian homes is located in an area identified as having a high risk of burning in a wildfire event, though researchers caution that this number is likely an underestimate, as the state has not updated its fire risk maps since 2007. In addition, over a half million new homes could well be built on underutilized residential land in the WUI in coming decades.

“Wildfires can erase years of housing supply growth in California in a matter of hours. Yet we found that continued development in the WUI will make California’s existing supply of housing more vulnerable, while also degrading wildland habitats and undermining state efforts to curb greenhouse gas emissions. All of this is setting up major fiscal challenges,” said Karen Chapple, Professor at the UC Berkeley Department of City and Regional Planning and Director of the Center for Community Innovation.

Additionally, the insurance impacts of continued development in high-risk areas of the WUI place significant burdens on local economies. From 1964 to 1990, the insurance industry paid out an average of \$100 million per year in fire insurance claims in California. From 2011 to 2018, that figure increased to \$4 billion per year and—following the 2017 and 2018 fire seasons—insurers paid out approximately \$26 billion to homeowners. Californians are already seeing insurance premiums increase in response to these costs, but researchers warn that rates could rise much further in coming years, as state policies currently blunt insurers’ ability to shape rates based on risk and drop customers in fire-prone areas. Nearly 2.4 million home insurance policyholders in California currently fall under a one year moratorium of non-renewal of coverage that was instituted in November 2020.

“Non-renewal moratoria are a temporary fix and cannot last forever. Ultimately, rates that adequately insure property that is endangered by wildfire will simply be too high for customers to pay, which means insurers may choose to get out of the market entirely, leaving homes in the WUI uninsurable,” noted Olshansky. “If we continue with rebuilding as usual, it’s almost inevitable that a major insurance crisis lies ahead, which makes the report’s recommendation to change course all the more vital.”

Investing in hazard mitigation is one way to reduce future costs. Each federal dollar spent on wildfire mitigation in the WUI saves 3 dollars in avoided disaster recovery costs, while each dollar spent on improving building safety saves 4 dollars in avoided recovery costs. But despite the cost-effectiveness of



these measures, California currently spends several times more on wildfire suppression and disaster recovery than on hazard mitigation.

### **Case studies illustrate rebuilding challenges**

The researchers studied three communities recently affected by fires—Santa Rosa (Tubbs Fire, 2017), Ventura (Thomas Fire, 2017) and Paradise (Camp Fire, 2018)—to understand the economic and human impacts of wildfire and possible recovery trajectories. Researchers analyzed three rebuilding scenarios in line with each community's physical and socioeconomic characteristics and identified the economic, climate, workforce, future fire risk, and resident displacement impacts each of those scenarios were likely to have.

Scenarios included:

- Rebuilding as usual, in which existing recovery plan and historical growth trends guide the anticipated development patterns;
- Managed retreat and urban density, in which disaster survivors are incentivized to move to lower-risk locations, while land use planning and incentives promote infill development in existing urban nodes; and
- Resilience Nodes, in which communities rebuild some housing in high-risk areas but incorporate robust wildfire mitigation features, including development clusters surrounded by defensible space.

The report finds that pursuing either the “Managed Retreat” or “Resilience Nodes” pathways can reduce fire risk and household costs for residents, when compared with the “rebuilding as usual” scenario, while also helping to meet housing and climate goals. While the “Managed Retreat” scenario provides the largest safety and climate benefits, it presents new displacement risks for residents. The “Resilience Nodes” scenario offers the most potential for economic growth, with fewer social equity impacts, but also delivers less of a guarantee of lower future fire risks.

“Because major policy development is not geared to rebuilding back smarter, we’re missing a key risk reduction opportunity,” summarized Chapple. “Working across silos to help mitigate future risk while improving resiliency can help communities rebuild stronger.”

Findings from the scenario analysis include:

- The “Managed Retreat” scenario would do the most to reduce the number of homes at risk from fires: in Santa Rosa, a managed retreat reduced the number of dwelling units in fire hazard zones by nearly 54%; in Ventura, by 52%.
- “Managed Retreat” and “Resilience Nodes” planning scenarios both offered the most environmental benefit.
  - A managed retreat of housing units in Santa Rosa could reduce greenhouse gas emissions (GHG) by nearly 19% and vehicle miles traveled (VMT) per household by



nearly 40%. Rebuilding with resiliency in mind through the “Resilience Nodes” scenario would reduce emissions by more than 15% and VMT per household by 20%.

- In Paradise, a managed retreat offered the greatest potential environmental benefits: GHGs would be reduced by 6% in that scenario, with VMT per household declining by 6%, as well.
- With a managed retreat, Ventura could see emissions decline by more than 12%, and VMT per household by more than 17%. “Resilient Nodes” would offer nearly 6% reduction in emissions while reducing VMT by 12% per household.
- And rebuilding with resiliency in mind could offer economic benefits, aside from reducing risk and providing environmental benefits.
  - Per household, costs—including transportation, energy, and water—would decline in all “Managed Retreat” and “Resilience Nodes” scenarios by as little 6% and as much as nearly 37%.
  - While rebuilding after a fire will create construction jobs and increase economic output in any planning scenario, “Resilient Nodes” offered the most economic benefit: supporting about 96,000 jobs and \$7 billion in economic output in Santa Rosa, supporting 57,000 jobs and \$8.4 billion in Paradise, and supporting nearly 37,000 jobs and \$5 billion in increased economic output in Ventura.

### Policy recommendations

In order to achieve rebuilding that creates co-benefits while reducing risk, researchers offered some key policy recommendations, including:

- **Identify new revenue sources and financing mechanisms to facilitate adaptation and resilience in the WUI.** For example, by levying a 0.25 percent fee on the assessed value of existing residential properties in high and very high fire hazard severity zones, the state could generate more than \$1.8 billion to reinvest in wildfire risk reduction planning and projects;
- **Prevent displacement:** State and local disaster housing policies must acknowledge that wildfire disasters disproportionately displace and unhouse renters and low-income homeowners and, therefore, these residents should be prioritized in hazard mitigation and disaster recovery funding;
- **Incentivize lower-risk development:** Limiting WUI sprawl while not worsening California’s housing crisis requires the state to provide disincentives against risky development and incentives for infill housing affordable to people of all income levels;
- **Improve local capacity:** Institutional investments to build capacity at regional and local levels will enable California and its communities to proactively and equitably govern recovery and adaptation in the WUI.

“While there are trade-offs for all rebuilding strategies, the report identifies some really important co-benefits to alternatives to rebuilding as usual,” added Perry. “Ultimately, there will be no perfect



answer, but a comprehensive approach to housing and wildfire planning and policy can help maximize benefits for Californians when rebuilding after the next fire.”

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#### **About Next 10**

*Next 10 is an independent, nonpartisan, nonprofit organization that educates, engages and empowers Californians to improve the state’s future. With a focus on the intersection of the economy, the environment, and quality of life, Next 10 employs research from leading experts on complex state issues and creates a portfolio of nonpartisan educational materials to foster a deeper understanding of the critical issues affecting our state.*

#### **About the Center for Community Innovation**

*UC Berkeley Center for Community Innovation (CCI) combines community-engaged research and urban data analytics to build more equitable and resilient futures. The Center houses our three major projects: The Urban Displacement Project, Planning Sustainable Regions, and Planning for Jobs.*