

Scaling wildfire resilience through collective action.

/ Amanda Liu / Matt Linzer / Rowan Limbach / Will Fletcher

Business Models CCA DMBA Fall 2025









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Product Design, UX Research

Matt Linzer

Systems & Organizational Design, Social Dynamics

Rowan Limbach

Ideation & Creative Problem Solving

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Qualitative Research Specialist



Wildfire risk is rising faster than communities can respond.



- / WUI zones ↑
- / Insurance availability ↓
- / Zone Zero & Home Hardening regulations are confusing and inconsistent
- / Homeowners are overwhelmed



- / 97% of CA counties have a high or very high wildfire risk to homes
- / Over 150,000 households (10.5%) in the highest-risk ZIP codes had no home insurance (2023)
- / Combining home hardening & defensible space can cut structure losses by as much as **50**%

Clients



Robert Shear

Fire technology entrepreneur with 30 years experience in wildfire mitigation, software, and community risk modeling.



Dave Winnacker

Recently retired Moraga-Orinda fire chief with 21 years of experience and is now the deputy chief of mitigation for Berkeley. They both saw...

/ The science is getting clear on what stops homes from burning.

/ Stop community-level home loss in wildfire events.

/ People refuse to act on what works.

/ Make zone zero mitigations normal, expected, culturally supported.

/ This resistance is the real barrier, not lack of knowledge.

/ A social movement, not a campaign.

"There's been carrots, there's been sticks, appealing to logic, appealing to your family... all of this stuff has been done."

Juniper's Vision

Scale mitigation through collective action, not individual upgrades.

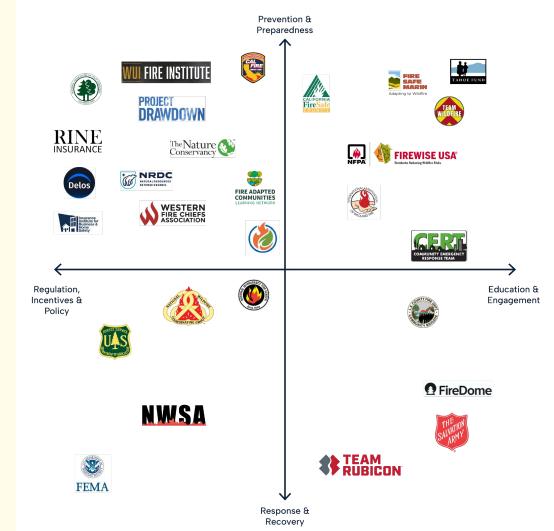
- / Is that Smokey Bear 2.0?
- / Create a model that can scale.
- / How do we overcome the fear of change?

"Without participation from residents... everything else is going to be ineffective."



What others are doing

- / Fire Tech crap
- / Education campaigns
- / Fuel breaks
- / Insurance solutioning
- / Landscape treatments
- / Avoiding anything involving homeowner action
- / Response > Recovery



Wildfire losses are breaking the insurance market, and Zone Zero hardening only works when entire communities participate. Existing efforts face resistance and overwhelm — what's needed is a new, community—driven path to widespread adoption.



TAM 44-46M U.S. homeowners in the WUI

5.1M homes in CA community associations

in over 50,000 HOAs

soм 153k homes (assuming 3% penetration)

Finding the right customer

Homeowners

Key stakeholders, but hard to reach given individual differences and potential pushback.

HOAs

Closely linked to homeowners and have the power for hyper local enforcement and decision making.

Insurance Companies

Strong grasp of complex risks and a financial incentive to reduce fire risk.

State Agencies

Lots of resources, expertise, and enforcement power, but can feel confrontational to some.

5+2 Interviews

PRIMARY CUSTOMERS

Keith Buck

HOA President Sunnyvale

Harry Smith & Jim

HOA Board Members Winter Creek, Tahoe

Mary Tatum

Director of Sustainability The Villages, San Jose

John Kotowski

HOA Fire Lead Orinda View, Orinda

Ethan White

Mental Health & Case Management Boys & Girls Club Malibu 2018 Woolsey Fire Survivor

EXPERTS

Sky Biblin

Communications Coordinator CA Wildfire & Forest Resilience Task Force

Max Rudsten

Business Development Watch Duty

- / Cost is a huge barrier to action
- Overwhelm, confusion and sometimes conflicting messaging
- Emotional resistance & fear of change
- / Capacity issues management companies & service providers
- / Fire risk is shared across communities can only be effective if done at a community scale.

making your home fire safe... but if your neighbors don't, it doesn't mean anything."

"You can put tens of

IIM

thousands of dollars into

What we heard.

We found that lots of solutions exist. So many that it can be overwhelming for communities to manage.

We envisioned a new kind of service based on helping communities find and orchestrate solutions in an efficient and cost effective way.



/ Community

HOAs are well positioned to address community risks.

/ Home Hardening → Home Value

Even homeowners who don't worry about fire, could be convinced to take action if it increases the value of their home.

Hypotheses

/ Expert Knowledge

Homeowners and HOAs require expert guidance and tailored advice tailored to their community

/ Financial Accessibility

Cost is the ultimate bottleneck; upgrades can be prohibitively expensive public funding is often inaccessible while. Create a one-stop-shop for community fire preparedness—combining planning, execution, financing and oversight.



Value Proposition



Customer

Primary HOAs in the WUI

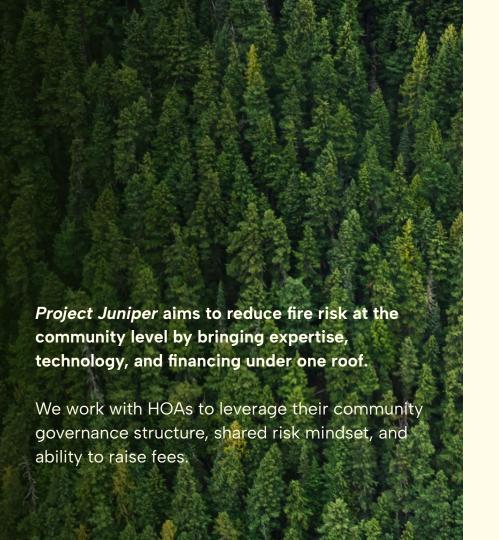
Secondary
Homeowners in the HOA

Revenue

HOA Membership

Grants & Philanthropy

Contractor Commissions



The Project Juniper Service

Assess Risk + Develop a Tailored Plan

Model risk and identify high priority projects

Connect with Contractors + Landscapers

Projects bid at the community level drive savings.

Homeowner Funding Access

Unlock affordable financing so every homeowner can participate.

Continued Monitoring

Long-term resilience requires ongoing stewardship.

Safety & Value

Increased home values, and more favorable insurance outcomes

Accessible Financing 25% Community 25% Grants + **Funded** Philanthropy 50% Repaid by Homeowners **Total Cost of Fire Mitigation**

Accessible Financing for Hardening Private Homes

- / Establish a Home Hardening fund using HOA dues and grant funding.
- / Offer subsidized loans to individual homeowners.
- / Loan repayment helps to refill the fund and establishes long term commitment



Riskiest Assumption

Does Community Interest Exists with HOAs & Homeowners?

/ Survey

with Homeowners

Is COST the right motivational lever to pull?

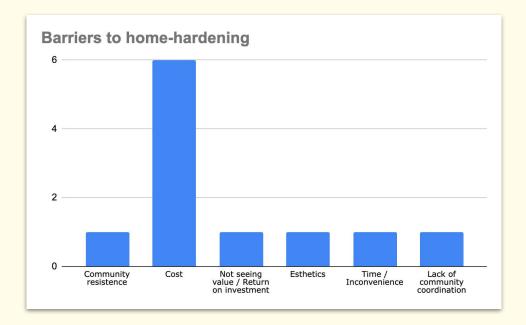
/ Brochure + Interview

with HOA

What would/wouldn't work in your community?



Survey



Cost is the greatest barrier to home hardening.

Also, from unstructured responses: HOA acceptance of changes to structure

87%

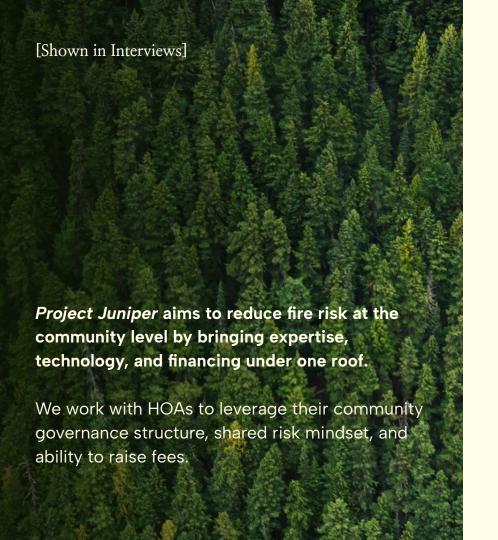
Of participants expressed interest in paying >\$20/month of HOA dues for community home hardening.

82%

Believe wildfire risk should be addressed at the community level as opposed to the individual.

100%

Would be more motivated to act if their neighbors were also taking action to protect their homes from wildfire.



The Project Juniper Service

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Learnings

- / There is a **real need** for this kind of service and HOAs want structured support.
- / Our **financing model posed roadblocks** for a number of communities, but they confirmed that addressing cost is key.
- / Every HOA is unique so tailoring is essential.
- / Efforts in an HOAs are driven by **one or** two motivated residents.
- / HOAs struggle to engage their own community.

"Just to give you a sense of how long it takes, I had a woman tell me that she had just installed an earthquake shutoff valve, after having an interaction on the subject six years ago"

KELBY

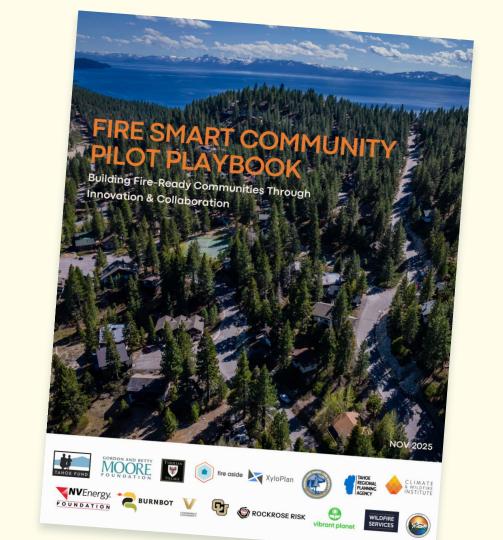


We also discovered a potential first client

Harry and Jim from Winter Creek in Truckee are actively trying to promote fire safety through their HOA and want to discuss becoming a pilot for Project Juniper.

Fire Smart & Project Juniper

- / Born out of observed needs for community scale mitigation by Tahoe Fund
- / HOA focused—piloted in one, with six more in the works.
- / Risk modeling and tailored advice
- Implement through fire mitigation partners, aggregated services, sociologists, and technology
- / Provide grant and funding support
- / Interested in developing scalable model



This is a collaborative space, not a competitive one. ——



Caitlin Meyer

Chief Program Officer at Tahoe Fund

- / Tahoe Fund wants to share this model and support others adopting it.
- / Validates bottleneck is capacity, not willingness.
- Requires a constellation of partners, not a single organization.
- / Organizations in this space are looking for partners to simplify and coordinate community adoption.



Choose your Adventure

PATHWAY A The Whole Enchilada



PATHWAY B Pick One Piece of the Pie



Build the end-to-end ecosystem

- Offering full kit of service from planning, financing to long-term monitoring
- / Becoming the orchestrator
- / Heavy operational cost & leverage
- / High reward & systematic solution

Zoom in on a single gap in the overall ecosystem

- / Offering one aspect of the service (choosing from community marketing, software or financing)
- / Becoming the niche player
- / Easier to build & test
- / Quick entry & faster time-to-market





Phase 1 (0-6 months)

Pilot Launch (Single HOA)

Phase 2 (6-12 months)

Partner Network Orchestration

Phase 3 (12-24 months)

Digital Management Enablement

One pioneering HOA in Winter Creek with Jim & Harry.

Build a coordinated ecosystem with local partnerships.

Transform Project Juniper into a scalable digital platform

Key Actions

/ Conduct interviews & surveys to refine community needs / Establish expectations & collaboration modes

Key Actions

/ Find local partnerships of: contractors, financing partners, tech providers, fire agencies, (insurance partners).

Key Actions

/ Identify and partner with third-party tech developers
/ Build a modular online portal that integrates all features Juniper offers.

Key Deliverables

/ Community wildfire-readiness assessment/ Zone Zero + home-hardening recommendations

Key Deliverables

/ A coordinated partner system with curated service offerings that HOAs and homeowners can activate through Juniper.

Key Deliverables

/ Community Portal (HOA branded interface) / Homeowner Portal



Phase 4 **Long-term Expansion Strategy**

Scale Juniper across the state by engaging two major market players—insurance carrier and real estate market.

Key Actions

/ Build strategic partnerships with insurance carriers / Activate the real estate market as a value multiplier

Key Deliverables

/ Insurance Partnership Program / Juniper "Fire-ready" Community certificate / Juniper "ROI" Case Studies

Phase Alpha Potential Collaboration with Fire Smart (Tahoe Fund)

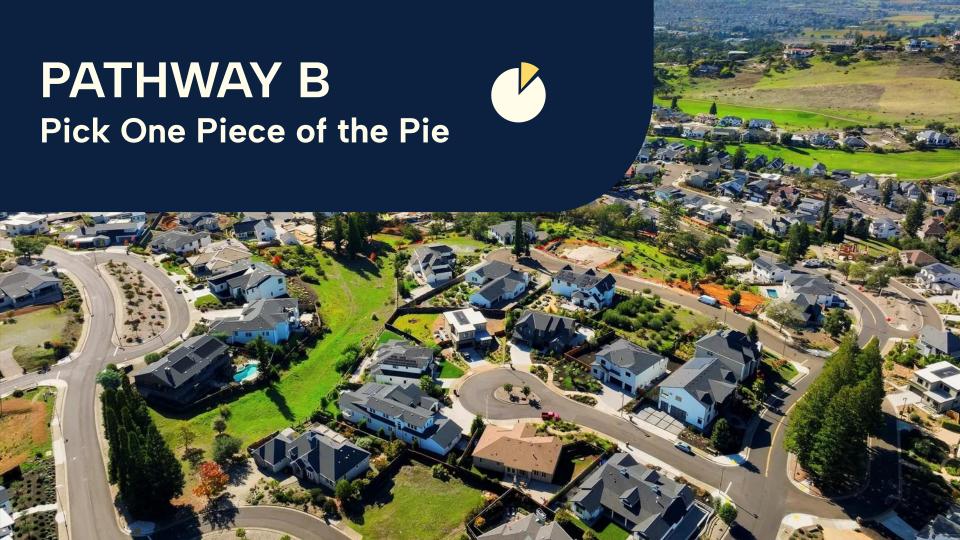
At any point of your timeline, explore whether Juniper should collaborate, form a joint program, or integrate/be absorbed into Fire Smart's ecosystem.

Key Actions

/ Initiate exploratory meeting with Fire Smart Tahoe leadership to define overlapping & non-overlapping / Conduct strategic fit assessment / Determine long-term partnership model

Key Deliverables

/ Fire Smart x Juniper Strategic Fit Report / Collaboration Blueprint (if applicable) / Integration Blueprint (if applicable)





3 POTENTIAL AREAS OF FOCUS

Community Communication

Motivation through **social engineering**

Partner with HOA to encourage action in comm.

Hyper-targeted marketing campaigns

Motivational Financing

Motivation through **pocketbook**

Find financing model that works

Likely **bespoke** per community

Software for Communities

License and bundle **modeling** tools on the community level.



Phase 1 (0-6 months): Insight Gain (Single HOA)

Phase 2 (6-12 months): Test Launch (Single HOA)

Phase 3 (12 month and so on): Scale & Monetization

One partnered HOA with Fire Smart to understand motivations & barriers.

Shift homeowner perception + normalize home-hardening action through HOA-led communication.

Become the wildfire-resilience behavior change partner for multiple HOAs, cities, and fire agencies.

Key Actions

/ Conduct interviews & surveys to map incentives & behaviors / Brand story tailored to the community

Key Actions

 / Run the branding campaign targeting the specific HOA
 / Set metrics in terms of behavior change and community adoption

Key Actions

/ Partner with different parties to set up collaboration / Sell Juniper's Branding-as-a-Service and to HOAs

Key Deliverables

 / Behavioral insights deck
 / HOA-specific narrative and messaging strategy
 / Creative brief for a pilot PR/ branding campaign

Key Deliverables

/ Custom HOA-branded campaign / Data on engagement and shifts in readiness / Report on the campaign's effectiveness

Key Deliverables

/ Scalable, stream-lined PR kit / Regional partnerships / Market identity as the behavior shift leader in wildfire mitigation

Four action items that you can start on tomorrow —

- / Contact **Fire Smart** to explore resource sharing and possible collaboration
- / Contact **Harry and Jim** to discuss Winter Creek as a pilot community
- Contact **Tucker** to talk about on the ground communication strategy (we didn't get a chance to talk to him)
- Spend a few hours talking with our AI enabled folders filled with research and interview data



Thank you!

Appendix

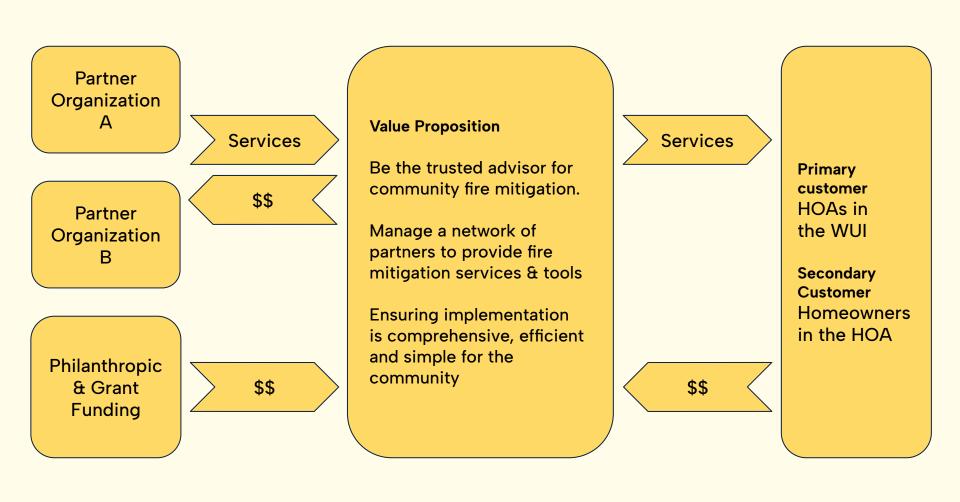
"You can put tens of thousands of dollars into making your home fire safe... but if your neighbors don't, it doesn't mean anything." JIM "People love their lushness... I doubt there are even a dozen homes that don't have stuff in the 0–5 zone." MARY

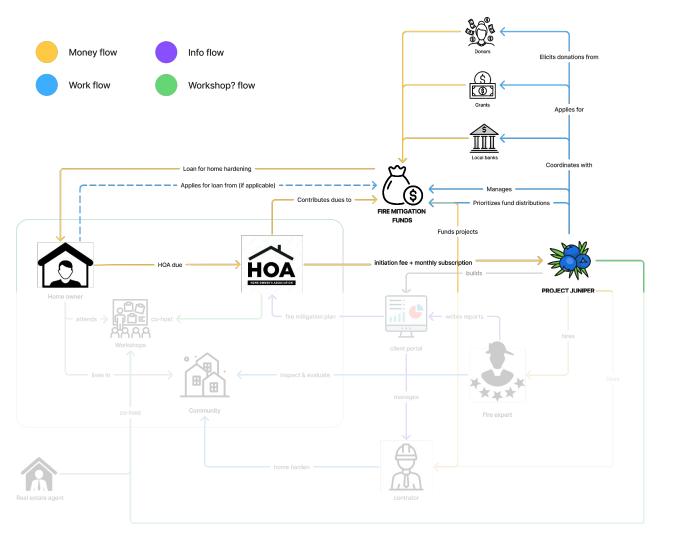
"Trying to change adult behavior... is not easy." ETHAN

"We're struggling to... create regulation around Zone Zero largely because there isn't public desire for it." SKY

"You kind of have taxing authority... you can charge fines... but you can't just cram stuff down on people or they freak out." HARRY

"We've all lost our fire insurance... They wouldn't even come out to look at it... It's meaningless." JOHN





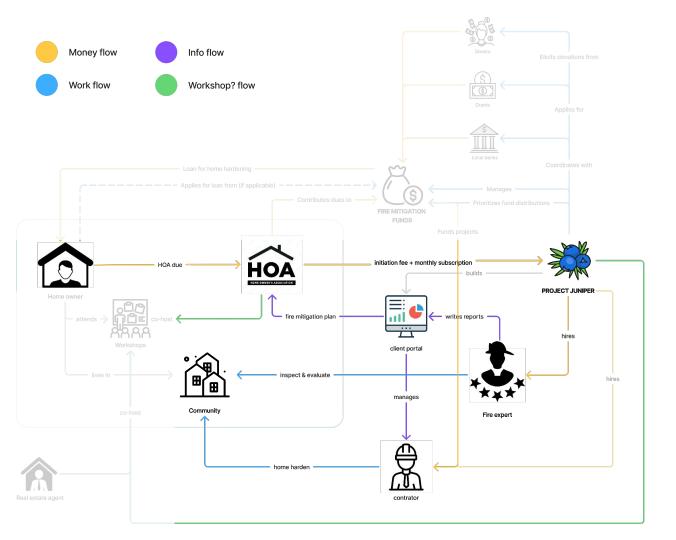
Homeowners pay HOA dues



HOA hires Project Juniper



Juniper pulls together Fire Mitigation Funds from different sources



Homeowners pay HOA dues



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Juniper pulls together Fire Mitigation Funds from different sources



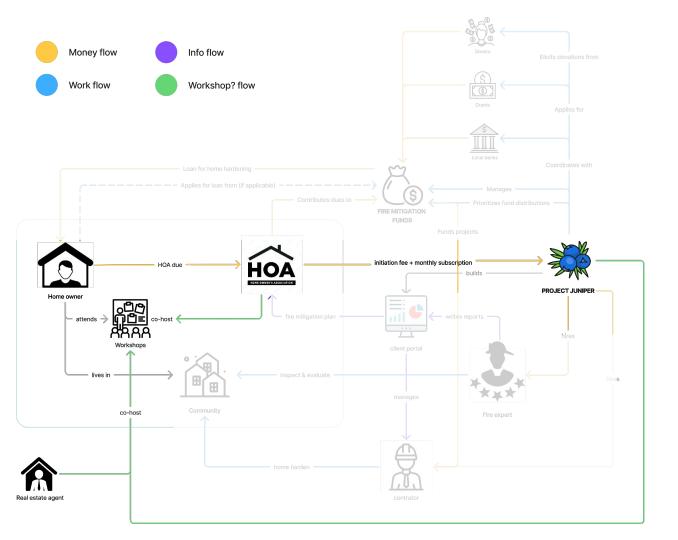
Juniper builds portal and hires fire expert & contractors



Fire experts inspect the community



Contractors do work based on expert guidance



Homeowners pay HOA dues



HOA hires Project Juniper



Juniper pulls together Fire Mitigation Funds from different sources



Juniper builds portal and hires fire expert & contractors



Fire experts inspect the community



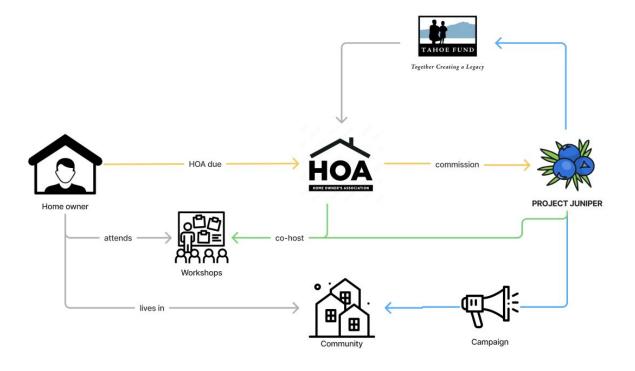
Contractors do work based on expert guidance



Juniper + HOA co-host workshops



Workshop? flow



Homeowners pay **HOA dues HOA hires Project** Juniper Juniper consults with HOA Juniper designs the campaign Juniper & HOA co-host workshops Community becomes increasingly fire-ready

1 COMMUNITY

/ HOAs are the closest thing to governance at the neighborhood level

/ They already coordinate vendors, maintenance, communication

/ They struggle with enforcement + homeowner pushback

/ Peer influence is powerful — adoption jumps once 20–30% engage

Confirms Juniper's model should run through HOAs creating accountability, consistency, and action.

2 KNOWLEDGE

- / Assess what matters most
- / Develop a game plan
- / Connect with existing resources
- / Track progress

Create a trusted, simplified, personalized roadmap for a community.

3 SOCIAL FACTORS

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/ Fear-based messaging doesn't drive behavior
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/ Homeowners want this to be simple and lower lift

/ Social cues from neighbors matter more than technical ones

/ Incentivise action
Loan forgiveness
Pooled funds
Increase property value

People don't want to be told what to do but it has to be a community lift.

4 FINANCIAL

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/ Homeowners can't pay
$5k-$20k upfront
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/ Grants exist but are specific and complex

/ HOAs don't want to be banks

/ Financing needs to be simple and scalable

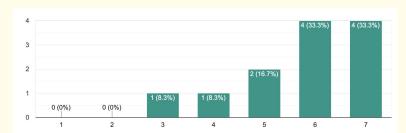


Financing unlocks action when the HOA creates a shared fund, outside dollars match it, and homeowners access low or forgivable loans tied to maintaining compliance.

Survey

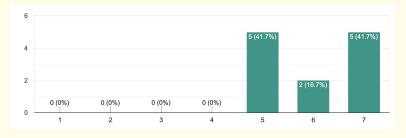
Community

On a scale of 1–7, how much do you think wildfire risk should be addressed at the community level versus the individual level?



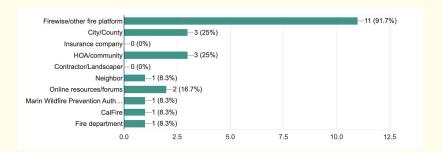
Social Factors

On a scale of 1–7, how motivated would you feel to act if you knew your neighbors were also taking action to protect their homes from wildfire?



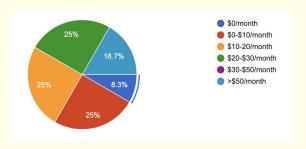
Knowledge

Whose guidance would you trust most when it comes to fire safety in your community?



Financials

How much would you be willing to contribute in additional HOA fees to support your community's wildfire-safety program?



Build a Safer, More Resilient Community Together

Program Overviews & Benefits

Nov 2025



Program Overview

Assess Risk + Develop a Plan

Model risk and identify high priority projects

Connect with Contractors + Landscapers

Projects bid at the community level drive savings.

Homeowner Funding Access

Unlock affordable financing so every homeowner can participate.

Continued Monitoring

Long-term resilience requires ongoing stewardship.

Safety & Value

Increased home values, and more favorable insurance outcomes

Why Join

Expert Advisors and a Tailored Plan

We develop a single, long-term action plan back by fire science and Al models, removing the confusion of rapidly changing, and potentially conflicting agency guidance.

Common Area / Private Property - Fire doesn't care

And neither do we. We understand that sometimes your greatest risk exposure comes from a neighbor's property. We offer financial incentives to motivate work on private property.

Community Action Increases Adoption

Research suggests that homeowners are more likely to home-harden when their neighbors are as well. We create community-wide awareness and drive widespread adoption.

Protect Local Home Values

Wildfire risk is increasingly influencing home values. Proactive mitigation helps communities protect property prices before a fire ever occurs.

What it Takes

Willingness to Commit

We are looking for communities who would be willing to make a 5-10 year commitment to fire mitigation.

More than Just Common Areas

A key part of resilience work includes changes to individual homes.

Willingness to Enforce

Beyond financial incentives (carrots), what levers do you feel comfortable pulling to encourage changes on private property (sticks)?

Accessible Financing

Community
Funded

Grants +
Philanthropy

Repaid by Homeowners

Total Cost of Fire Mitigation

How it works

HOA Enrollment: A participating HOA opts into the Juniper program and raises dues slightly to seed a local resilience fund.

Grant Infusion: State and philanthropic grants contribute funds to the HOA pool, increasing available capital.

Homeowner Loans: Homeowners borrow from the shared pool to finance home-hardening projects such as ember-resistant vents, roofing, or defensible space improvements.

Repayment: Homeowners receive funds as a subsidized loan which they pay back in installments. Repayments will cover 50% of the total cost while the remaining 50% will be split between grants and community funds.

Project Oversight: Juniper reviews lending proposals to ensure funds are used efficiently and directed toward the highest-impact projects.



Project Juniper

Nov 2025

Fire Smart Playbook deck

https://docs.google.com/presentation/d/1RWv Uz8Bt-ByLqY4ULo_jR3akqTXTe0PX/edit?usp =sharing&ouid=107591499796413117505&rtpo f=true&sd=true

4 Phase Prototype

Key Partnerships	Key Activities	Value Proposition	Customer Relationships	Customer Segments
Fire Departments & regulatory agencies Home Hardening Businesses and Landscapers Real Estate Agents & Platforms Lenders and Insurers Property Management Companies Local & State Agencies	Assess risk & plan improvements Facilitate loans & funding Track progress and compliance Education and Onboarding Key Resources Platform and data tools Vendor and lender networks Fire-safety experts Legal & Financial frameworks	Helping communities fund, coordinate, and maintain wildfire resilience that protects homes and increases value.	Membership & Subscription support Reporting and monitoring Advising & Community Engagement Channels Partnerships with HOAs Digital Platforms Community workshops	HOAs in fire-prone areas Homeowners needing financing

Cost Structure

Platform Development

Marketing & Education

Staff

Insurance/Legal

Outreach & Compliance

Revenue Streams

Philanthropic and Government Grants, Private Investors Maintenance and Enforcement Subscriptions

Fees:

- Consulting & Advisory
- Financing Facilitation
- Workshop & Training

Partner commissions

Pathway A

Platform build

Key Partnerships	Key Activities	Value Propos	ition	Customer Relationships	Customer Segments
Fire agencies Contractors + landscapers Lenders, insurers, grant-makers Property managers Tech partners Fire Smart (future)	Risk assessment + planning Partner orchestration Financing facilitation Community engagement Monitoring + compliance Platform development Key Resources Experts + modeling tools Partner network Financing frameworks Digital infrastructure	A single coord system that he communities and execute we resilience at s	elps plan, fund, vildfire	Advisory + orchestration Long-term monitoring Community reporting Channels HOA partnerships Community workshops Digital platform	HOAs in WUI zones Homeowners needing financing
Cost Structure Staff + expert support Partner coordination			Revenue Streams HOA subscriptions Planning + facilitation fees		

Grants + philanthropy

Outreach + engagement

Pathway B

Key Partnerships	Key Activities	Value Proposition	Customer Relationships	Customer Segments
HOAs Behavioral science + comms partners Fire agencies Creative teams	Behavioral insights Messaging + campaign design HOA-led activation Engagement measurement Key Resources Messaging frameworks Creative assets Behavior data	Normalize action and increase participation through targeted community communication and behavior change.	Advisory + campaign support Fast-cycle testing Scalable PR kits Channels HOA communications Branded toolkits Workshops + events	1. HOAs needing engagement 2. Fire Agencies

Cost Structure

Creative production

Research + interviews

Campaign execution

Revenue Streams

Branding-as-a-Service

Campaign packages

Municipal partnerships

Future State

Business Model 4

Key Partnerships	Key Activities	Value Proposition	Customer Relationships	Customer Segments
Fire Smart Insurance carriers Real estate networks State agencies Tech providers	Standardized risk modeling Community certification Partner onboarding Data + reporting Key Resources Certification standards Modeling tools Data + digital infrastructure	A statewide resilience platform that certifies communities, aligns insurers, and influences home value.	Certification support Platform subscription Multi-stakeholder coordination Channels Partner ecosystem Certification portal Fire Smart program	 HOAs Insurers Local Govs

Cost Structure

Platform + data systems

Certification operations

Partner coordination

Revenue Streams

Certification + subscription fees

Government funding

Insurance partnerships