Stuart Yasgur: Hi, I'm Stuart Yasgur and welcome to Economic Architecture.

Stuart Yasgur: In last week's episode, I spoke to Mark Brown. He's the executive officer at the Marin Wildfire Prevention Authority, and then we spoke about Zone Zero. It's an actionable standard to reduce the risk of wildfire by reducing the amount of combustible materials within five feet of a home, fireproofing fences, and adding screen vents.

Stuart Yasgur: In that conversation, we learned about Mark's innovative structural approach to Zone Zero that helps overcome what we can think of as a chicken and egg problem. There's a limited capacity to help homeowners implement Zone Zero because historically, there's been no demand from customers to implement Zone Zero, so the developers don't have the capacity, the skills, and the offerings to do it.

Stuart Yasgur: One of the things that's so fascinating about this week's conversation with Dave Winnacker is that he's bringing a wider lens to the same issue.

He makes a powerful argument. He points out that we know many of the steps we need to take to reduce the risk of wildfires, but that the critical change we need to make right now is we need to move people towards action

To do this, he takes abstract risks and makes them concrete, tangible, and actionable.

He's created a tool, Xyloplan Risk, that highlights the risk that people face from wildfires. So, people can be made more aware of when wildfires may happen and the risks that they present. Once we know the risks we face from wildfire, we can take those into account in our decision making at the family, community, and organizational level.

Dave Winnacker: *We could spend endless amounts of time admiring the problem or we could turn on executing our mitigations and implementing long-term solutions. And from my perspective, we're spending awful lot of time in the problem admiration phase when we know enough to know where to start. And if we study it for 10 more years, we'll know marginally more than we do now. But our long-term solution's going to look very similar to what we know now. Right. And we know enough to get started.*

Stuart Yasgur: This week I spoke with Dave Winnacker. He's been a member of the fire service for over 17 years. Before which he served in the Marine

Corps. He currently serves as the Commanding General for Force Headquarters Group and the Marine Forces Reserve, and is the co-founder of Xyloplan Risk, which we'll discuss further in today's conversation.

As a veteran fellow at the Hoover Institute, Dave studied risk pricing and how that pricing of risk can be used to advance a homeowner's understanding of not only their risk, but how their actions are contributing or diminishing those risks.

He helped me understand more about the current conversation around wildfire mitigation. Everything from the challenges of existing systems and the potentials for individuals to better understand those challenges and where the real opportunities for action are. As Dave points out, we're not creating beautiful plans to sit on the shelf. The imperative here is for us to take concrete action that reduce the risk.

Dave Winnacker: I think the greatest challenge here is a misconception that people have an idea that because wildfire is inevitable, it is inevitable. We will see large scale loss from wildfire and those statements, just one of those is true.

Wildfire is inevitable, but the second one is not. And the current losses and the exposure we have to the potential for wildfire loss are really a discussion of adaptation. And we can either achieve that adaptation at the time that we build and as we lay out communities, or we can do it in a retrofit manner.

But the fact that we have experienced large scale losses, it doesn't mean that we inevitably will experience future large-scale losses unless. We continue to cross our fingers and hope for the best and really avoid, ignore delay, find ways not to implement a thoughtful regime of wildfire adaptation.

Stuart Yasgur: There's a question of how likely wildfires are to how much risk there is from wildfires. We can address both. But the second is critical here. For folks who aren't familiar with wildfire risk reduction, can you give us a sense of what that means and what that could look like?

Dave Winnacker: I would say it's very important as I break through the component parts that it's a system and if you extract one piece of the system, unsurprisingly it, it will underperform.

Dave Winnacker: If you want to get from one point to another, you need to buy a vehicle, not just the tires or the windshield. So the system from out to in,

from out on the vegetative landscape. It's really a question of managing the fuel sources, the vegetation, so you can achieve a varied age class mosaic that is not capable of supporting rapidly moving fire.

Dave Winnacker: So really want to break up the landscape. And that doesn't mean we're bulldozing things. It means we're trimming, we're limbing, we're thinning, we're seeking to get it back to its natural state, which is not homogenous, single species, single age class. It's a variety. Variety generally imposes attacks, if you will, on a fire by creating a labyrinth that it has to find its way through. So, it slows fire spread. It can also reduce intensity. Bring fire out of the crowns of the trees down to the ground.

Dave Winnacker: The next is the point of entry where the vegetative edge encounters the built environment. And the question there is one of vulnerabilities are there, the things defensible space, IE, vegetation and other combustible materials within a hundred feet of a home with particular emphasis on the vegetation, that combustible materials, they're immediately adjacent to the home. And what we refer to now as Zone Zero, the last five feet.

Dave Winnacker: Is there the continuity and the vegetative fuel load that will allow fire to move through the last a hundred feet to close with the home and subject the home to direct flame impingement thing one.

Dave Winnacker: Thing two is the home prepared to receive fire. So this is the question of the distance between a source and a target. If the home were built out of Orton Place concrete and it looked like a bunker, well then we could take quite a bit of fire, quite a bit of heat, could close with the home. But if a home, as many of the other compromises with regard to fire safety, they make it livable, windows, vents, doors, et cetera, then, then we need to separate the source from the target.

Dave Winnacker: And we do that through defensible space, clearing out. Concentrations of vegetation and combustible material capable of readily transmitting fire in that last a hundred feet. The next thing is the home itself, which is its vulnerability to embers, right when vegetation or other material burns, there is heat.

Dave Winnacker: The convective heat, radiant heat. There are also embers carried a lost in the convective column, so sparks, firebrands, other burning material that are carried a loft. If the home's not prepared to receive those specifically with a class a roof covering or class A roof assembly and ember resistant vents, then all of our other work is for naught.

Dave Winnacker: Embers will fly over any amount of fuel, modification modified areas or fuel reduced areas. They'll enter the void spaces of the house, and the house now starts to burn, which gets us to our last route, which is. In to, in, once those initial structures begin to burn, either from ground component fire or from ember cast, the home which is an asset, now becomes the peril or the liability for other homes.

Dave Winnacker: And, and at that point we have a very real problem because homes burn much hotter and longer than vegetation. And so that if homes begin to burn at such a scale that they overwhelm the firefighting response, our, our firefighters, our suppression folks. Those homes have exceeded the design parameter, that defensible space and home hardening is intended to protect a home against vegetation fire, right?

Dave Winnacker: That will protect a home to a certain point, but a hot, long burning adjacent structure will overwhelm it. So. It's really critical to understand the vulnerabilities, to understand the mechanisms of transmission, and then to systematically go about modifying fuels along the approaches where fire, the pathways that fire will travel along to enter the community.

Dave Winnacker: Preparing defensible space and complimentary home hardening at the points of entry where those fire pathways enter the built environment can make a vegetation to structure, transmission, or transition. Then lastly, when we have a blank slate about new construction, new master plan communities, et cetera, laying the community out in a manner that compartmentalizes homes that have continuity to other homes.

Dave Winnacker: And so, if we break the community into, into blocks, each one of which has enough separation, that if one block starts to burn, the next won't, then we can compartmentalize or minimize the potential extent. All of which buys more time and given enough time, we can rely on firefighters to, to pick up the edge cases, those, those homes you couldn't account for that would start to burn.

Dave Winnacker: So, we like to look at it from out to in and then from in to out. And if we, we break those up and thoughtfully apply our solutions, we can very systematically reduce the risk of structured loss during a wildfire. So, that gives us a really kind of step by step understanding of how, how you start to think about it.

Stuart Yasgur: For the everyday person, it prompts us to think differently about things, right? We think about, the shrubbery that we have in our garden.

Not necessarily just for the aesthetic purposes, but also as fuel for potentially a fire. It also makes us think about a relationship of different homes to one another and what risk they pose to one another.

Stuart Yasgur: In your role as a fire chief for a community, you had to think about how we start to reduce the risk from wildfire. Can you share a little bit about what you thought the mandate was for that role?

What the reason was that you were really pursuing it? What your approach was in that and what some of the challenges you experienced when you were pursuing it?

Dave Winnacker: The role was easy to understand because as the fire chief, you're responsible for the prevention and suppression of fire within your jurisdiction. I believed, if I understood and was able to articulate the problem and able to articulate and associated series of mitigations that could thoughtfully reduce the risk, that the community would, would rally around the colors and we would go forth together on our journey of wildfire adaptation.

Dave Winnacker: That was not how it occurred. Status quo bias is very real. Uncertainty reinforces the status quo bias. There are several confounding external factors that make it very difficult to see the forest for the trees.

And then because of the size of people's experience with wildfire, which is usually several layers of remove. Watching a newscast or hearing about something, people have a very hard time wrapping their heads around that small, relatively inexpensive approachable steps could have such a big impact. If this is such a wicked, large problem, how could these small things be effective?

Dave Winnacker: Certainly, we see this in many other climate related phenomena. All of that then of course was competing with resistance to change. There's cost, there's inconvenience, and really as we get around people's homes, there's a change in the sense of place that the vegetation is part of. So my experience was that people did not rally to the colors and people were very resistant to change.

Dave Winnacker: And that that was what brought me to my, my current interest in prioritization. It would be better if we did everything everywhere. So conceited. But that's not the world we live in. So, the question then becomes, what is the, and there's, there's, from a statistical term or perspective, there's two terms.

I'm very fascinated by: What is the floor? What is the minimum number needed to treat? Below which you get no value. You have done a lot of work, but it doesn't mean you've reduced the risk. And the next one is, what's the ceiling? What is the point of marginal diminishing returns for anyone?

Dave Winnacker: Of the four levers we have to pull here--landscape area, vegetation treatment, defensible space, home hardening, and firefighting response--we tend to over index on the firefighting response and the landscape area treatment and we shy away from the defensible space and home hardening.

Dave Winnacker: And often we, we over index beyond the point of marginal diminishing returns. And so, we can end up with a lot of fuel breaks and a lot of firefighters, and I think the last eight years now bear out that those can become inadequate. And so really understanding where's the point, we should pivot to that to complimentary work in defensible space and home hardening has been a lot work lately.

Stuart Yasgur: Can you give folks just a sense of what we mean by home hardening? For folks who are new to it, it's hard for them to picture.

Dave Winnacker: So, home hardening, as a category, is the suite of measures that would make a home resistive to either, limited amounts of direct flame impingement or much more valuable ember cast.

So those are found in California Building Code chapter 7A. Also, in the International Louie Code or in the IBHS Wildfire Prepared Home. And my personal prioritization, you should have all the above, but if you were going to prioritize them, having a class, a roof covering or assembly is non-negotiable, absolutely must have it.

However, almost all homes have, a class a roof covering or assembly, because really unless you have wood shake roof or a blue tarp, your home is, you have a class A roof. Second is ember resistant vents. So, this is one eighth inch or finer, fence or a ember resistant model such as brand Guard, Vulcan, et cetera.

Dave Winnacker: Others, on the office of the State Farm Marshal Building Material listing service. If you have those things, the home is the home itself. The home envelope is resistive to ember attack, and you get most of the value there. And then the third component that is, is partially defensible space, partially home hardening is Zone Zero.

Dave Winnacker: With nothing that will burn within five feet of the structure. That's inclusive of attached wooden fences or gates as well. Things that will carry ember cause fire to the home.

You also can have double paned windows, both tempered. You can have non-combustible siding. You can have box thieves, you can have non-used gutters and downspouts, and or gutter guards.

Dave Winnacker: And then sealing around gaps like can't have greater an eighth of an inch gap on your, garage. Those constitute home hardening. As I said, the big three though: Class A roof covering, ember resistant vents, and Zone Zero inclusive offenses and gates.

Stuart Yasgur: That's great and one of the things that I think people associate when they're think about changes to their home is, money. And the fact that they're going to, this costs money. But you did a lot of your work in, in communities where money was not really the major obstacle, and yet you still found slow uptake of some of these kinds of mess.

Stuart Yasgur: Can you share a little bit about that?

Dave Winnacker: Change is hard is the best way I can put it. And it doesn't matter except with one or two exceptions, maybe at the ultra-high end community. But it generally doesn't matter if a community is generally affluent or generally not affluent. Getting people to spend money on changes to their home is a, an uphill battle, especially when there's uncertainty and there's disbelief.

Dave Winnacker: People have a really hard time wrapping their heads around. If I just replace that gator fence, I will significantly reduce the risk or if I just replace these vents. But to that point, replacing a roof is a significant capital project. However, said most people already have a class A roof covering, replacing vents is not expensive at all.

Dave Winnacker: One eighth inch mesh. Is pennies and installation can be done by someone who's has a staple gun, is reasonably handy, or is a, a minor handyman project. And replacing gates and fences by itself is not particularly expensive. Home Depot, Lowe's, any of the big box home improvement stores will sell you a metal gate replacement today for about $180.

Dave Winnacker: Now is it going to be the best looking gator fence you ever got? Absolutely agree that you could, it will not necessarily be beautiful. And

you can spend thousands of dollars on artistic gates and fences, but there is a minimum, point at which you can achieve the fire safety component at a very low cost.

Dave Winnacker: And so, from my perspective, the cost is, is not the primary barrier. The primary barrier is change. Now, there are other components to home hardening, double-paned, windows, siding, et cetera. That are astronomically expensive and are primarily limited to either new construction or major remodels where people are, are carrying out, a remodel Anyway, headwaters economics and others have done studies.

Dave Winnacker: It's about a 10% increase in cost to incorporate these measures when you are rebuilding anyway. But as a retrofit, they're, they're eye wateringly expensive, which is why from my perspective, it's important to have prioritization. In this case, roofs, vents, and Zone Zero.

Stuart Yasgur: Right. We're talking about individual homes, but really when it comes to fire, I think one of the things for people to get their heads around is that this is also a risk that gets conveyed through a community, right?

Stuart Yasgur: So, if you can do everything you want to your home, but if your neighbor hasn't done that similarly, you still bear that risk. You know? And I think you, you had some interesting insights about the fact that we're really experiencing a lot of this privately, but we need to start acting, uh, collectively. Can you share a little bit about that?

Dave Winnacker: That's exactly right. That it is not just your neighbor, it's your neighbors'. And if the houses are within 50 feet eve to eve, there is a very high certainty that if one burns, it will transmit to the adjacent houses. And it is a very true fact that if you were, say, in interior portion of Altadena, had you done everything we recommend for wildfire, your home is still very likely to burn.

Dave Winnacker: Because it wasn't a wildfire that burned that home. It was a wildfire initiated. Urban fire. But by the time fire got to most of those homes, the preponderance of structures that were lost had no exposure to the vegetative edge. They were deep interior. And this is why it's fundamentally a government problem; in that we need to protect people a mile from the vegetative edge.

Dave Winnacker: We need to focus outreach, education, incentives, and ultimately enforcement on those homes at the edge that are capable of igniting. The subsequent urban fire, right? Their vulnerabilities represent the risk of the

community. Their asset is everyone else's liability or threat. And so that's where I think it's very important that there's collective action.

Dave Winnacker: And at the community level and at the local government level, certainly the state level, we are seeing how difficult it is to impose this kind of change. The Board of Forestry's ongoing discussions about implementing Zone Zero, highlight the difficulty there. But there's also room for subordinate elements such as, HOAs and community groups and so forth to, to act collectively with a focus on where this work is going to have the greatest benefit, and how can we channel our resources to those areas that will reduce the risk.

Dave Winnacker: And one of my frustrations having. Now, so stipulated that I was a firefighter for 21 years, fire Chief for seven. And I've stared at this problem night and day for a very long time. But the underlying components are very simple. It's topography, weather, and fuel that lets us understand where the fire is going to enter the community.

Dave Winnacker: And at those points, it's defensible space, home hardening at scale within the points of entry. That's it there's not, and then I think we've already discussed what defensible space and home hardening looks like. So that's the vulnerability reduction and. And that's it. And, and we could spend endless amounts of time admiring the problem or we could turn to on, on executing our mitigations and implementing long-term solutions.

Dave Winnacker: And from my perspective, we're spending awful lot of time in the problem admiration phase when we know enough to know where to start. And if we study it for 10 more years, we'll know marginally more than we do now. And we might be able to refine, a few, not quite as many homes would need to be affected by the changes.

Dave Winnacker: But our long-term solution's going to look very similar to what we know now. And we know enough to get started.

Stuart Yasgur: You described it as a government problem, but what role is there for the market?

Dave Winnacker: So, the heart of the work I do at the Hoover Institution at Stanford, which is understanding how the pricing of risk and how that pricing of risk can be used to. Advance a homeowner's understanding of not only their risk, but how their actions are contributing or diminishing those risks.

Dave Winnacker: Because it is one thing to have your fire chief stand up and tell you, this is the problem, and this is how to do it. And I tried. It's a very different thing. And communities have, I think appropriately a sense that they can negotiate and shape, what their government is doing.

Dave Winnacker: Conversely, it's a very different thing. When your, insurance broker or carrier tells you, this is how we're pricing your risk, this is the manner in which your actions and your neighbor's actions or inactions are contributing to that pricing of risk. And either here is your bill, which will be astronomical, at this time or in if there are regulatory constraints that prevent the pricing of risk from floating to match.

Dave Winnacker: The modeled risk. Then here's your non-renewal notice. Because we're departing the market, then we have decided that we cannot profitably insure you. And I think often insurance, because it's so closely tied to our primary residence, people look at insurance as a utility. And it's not and the market, these are for-profit companies.

Dave Winnacker: They have a profit motive, good or bad, not here to make a case either way, but they have a profit motive. And if they're not making profits and they don't believe that they can accurately price the risk, they can remind us that while we can regulate how they write policies, we can't regulate that.

Dave Winnacker: They do write policies. I've watched the massive growth of the Fair Plan. Over the last several years, my frustration grows because the fair plan is intended to be, the insurance of last resort for those who through no fault of their own are unable to get coverage. Well, if you're not doing the things that we know reduce risk, I'm not sure you're in no fault of your own. And so, we now create this pressure relief valve that as market forces are telling people, look for real. This is what you should do.

Dave Winnacker: Availability of the Fair Plan is saying, “Hey, just kidding. It's going to be fine.” And the reason I say that's a temporary solution is not future speculation about the market's ability to support the Fair plan because the fair plan is government mandated insurance. It's not government backed; there's no government money going into that.

Dave Winnacker: But when Zone Zero goes into effect, which is currently slated for January 1st, 2029, everybody who is dragging their feet now about implementing Zone Zero and has been dropped by the carrier as a result and is now in the fair plan, they'll become ineligible for fair plan coverage because the

fair plan says right there on their website. No fault of your own does not mean non-compliance with existing regulations and ordinances.

Dave Winnacker: January 1st, 2029. In any SRA fire hazard severity zone and any LRA very high fire hazard zone, Zone Zero will be the law of the land, and you can be a drop for non-compliance with state law if you haven't implemented Zone Zero. Now, what that means for the enormous number of folks who have been pushed into the fair plan through non-renewals.

Dave Winnacker: It's going to be a massive, massive event. And then if you don't have insurance, well now you can't have a mortgage. Because that's a requirement. And if you don't have an insurance and you don't have a mortgage, now we have massive implications for property tax. It starts to impact the community's ability to issue municipal bonds for capital projects.

Dave Winnacker: The ripples from this are staggering, 2008-ish in their impact, all four. Are either unwillingness or inability to, among other things, create Zone Zero, which is certainly the current flashpoint. And my question for folks that think it's too far--I heard the word draconian thrown around a lot--is what alternative do you propose?

Dave Winnacker: And it's not going to be water balloon throwing satellites and storms of autonomous drones. There's some fundamental basics of how we can disrupt fire spread that at least here we lack either the political will or the community support to implement. That's very frustrating.

Stuart Yasgur: I'm going to play it back to you a little bit just to draw some of this, the building blocks of that kind of arc of what you just described to us cause it's comprehensive. You know, one of the things you're saying is that the pricing that we're getting, the pricing that homeowners get from insurance companies is providing them a huge amount of information about their current situation, the risk they face, either because of their own home or their neighborhoods they're in.

Stuart Yasgur: If that news is so bad that we create regulations that limit that pricing because insurance companies can't, may not be able to make viable businesses at those price points. They're increasingly starting to exit. The lack of available coverage, there is in some ways a reflection also of a lot of information about the current state of the risk.

Stuart Yasgur: If we flip that on its head, it does also suggest the opportunity, right? If we can lower the risk, we have the potential to lower the cost of some

of this housing, and we can really use the information that the market prices convey to help be a bit of a coordinating mechanism to get people to start adopting the practices that are necessary to reduce risk and ultimately protect human life, communities, and property.

Dave Winnacker: That's exactly right. And that's another place where the fair plan and, and other regulations become unhelpful in that if you have reduced risk at your personal property, but your property is intrinsically linked to the risk on properties half a state away. LA is hundreds of miles from the Bay Area, but they're all in the same market.

Dave Winnacker: And the fair plan. Took something in the order of four to $5 billion worth of losses in la those losses get spread back amongst all other players in the admitted market. So now you have done all the work, but you are subsidizing those who have not and vice versa. That becomes unhelpful.

Dave Winnacker: The other thing is there's just a delay. Early in my journey on this, folks are saying, “well, if it's so bad, how come I still have my insurance?” Right? Until you don't.

Dave Winnacker: There's this, you know, you're fine, you're fine, you're fine. And then you hit this cliff and you're not fine. The underlying issue is we need anything that separates a resident from the accurate pricing of the risk that both they and their neighbors have is unhelpful as we try to convince people to move off the X of the status quo.

Stuart Yasgur: So when we start to recognize how much we depend on one another, how important community is, and acting together as a community is, you mentioned before HOAs and the roles that they may play here.

Dave Winnacker: Yeah. HOAs are, is remarkable from my perspective because they're small. They're nimble. They can move very quickly. And the residents all generally have the same exposure, right? Within an HOA, you don't have economic stratification. You don't have the hills versus the flats.

Dave Winnacker: You, you don't have all of those other factors. It caused it to be harder to achieve consensus in a larger political unit. And you have the authority to adopt restrictive CC&Rs. And then lastly, because most HOAs have some common areas, um, you have a very clear collective insurance problem where in talking commercial structures, you're in an entirely different regulatory setup.

Dave Winnacker: And so, the HOA then is seeing firsthand the impact the crisis current crisis has on insurability of their common areas. They have a much better mechanism to understand the impact individual members are having. And they have the levers of power that they can pull by enacting restrictive CC&Rs.

Dave Winnacker: And lastly, many of them have a landscaping budget and a professional landscaper. So, you get past the capacity issue it is not trivial for a community to undertake all these things and most, depending on where you live. Most residents don't have a lot of experience with large scale landscaping change, nor have they had a reason.

Dave Winnacker: For that. So, you don't have the economies and the capacity. Uh, and now you have, you know, in a community of 10, 20,000 people, each one of them must go on this voyage of discovery to figure out what can be done. Where with an HOA, the HOA manager empowered by their board makes one call to one landscape management company, and the next day professional landscapers start implementing it. So, there's efficiencies that are gained with an HOA, having that centralized control mechanism.

Stuart Yasgur: Yeah, absolutely. And it overcomes real barrier to change, each homeowner has a lot of things they're already worrying about, let alone becoming an expert in how we reduce, risk from wildfire. I'm curious where you see the large opportunities and how Xyloplan starts to fit in here for you?

Dave Winnacker: So, a couple of things. One is prioritization that there is an awful lot of effort and certainly, previously unthinkable amounts of money being spent in the space. I'm not convinced that most of that effort and money is going to meaningfully reduce risk because it's not channeled to areas that that'll have an impact and we struggle.

Dave Winnacker: To quantify the value of the work, right? Uh, reporting how many dollars you spent is not particularly helpful to understanding risk reduction, even reporting how many acres have been treated or how many tons have been shipped. Also not helpful, I like to joke. You can buy a very expensive car and still be late for a meter.

Dave Winnacker: This isn't about activity. This is about outcomes. And not all treated acres, not all dollars, generate the same benefit. So, what we've been working on is tools to prioritize mitigations and then quantify the value of that work and the return interval. The fact that a fuel break was created 5, 10, 15 years ago is not particularly relevant to a fire today.

Dave Winnacker: Things regrow. This is a very dynamic environment and understanding where we can get the greatest bang for the buck, what the return interval is, and what additional work needs to be done to complement it. So rather than seeking to equitably distribute geographically, we should be focusing. In single areas until we achieve network effects.

Dave Winnacker: Then moving on to the next one and choosing our mitigation areas wisely, because if they're truly good, we should be maintaining them meaning we have anchored on this spot in perpetuity and some amount of our future mitigation budget will be consumed through maintenance. So, to choose those initial entries very, very wisely.

Dave Winnacker: It's also important to understand where the complimentary work can be done. As I mentioned, fuel treatments on the landscape, fuel breaks, splats, pods, et cetera. Defensible space, home hardening, firefighting response. Within those four different domains, we can understand how to achieve network effects.

Dave Winnacker: So, the same amount of dollar will have a greater impact. We're also doing work with developers because with new construction. Particularly new master plan developments. It's a blank slate. We can do things like identify the points of entry and cite the non-burnable community amenities, dog parks, sports fields, commercial areas with parking, community centers with parking, water features.

Dave Winnacker: Cite those things where all that energy will be wasted on a non-burnable feature. And then be thoughtful about configuring the community so that the conflagration blocks the homes that have the potential to ignite. Other homes are compartmentalized, thinking pocket parks, cul-de-sacs, those sorts of things that can break up the continuity of the community so that we can then build communities that are resilient.

And in doing that, we can now create buffers that separate legacy communities with many vulnerabilities from the vegetative landscape and create new housing. And now we start to solve multiple, community woes. And the last one we're working on is really integration, by providing a risk score with insurers, because if we do all of this and people can't get insurance, I don't know that we solved the problem, right?

Dave Winnacker: The wildfire is abstract, insurance is annual. If we solve for the wildfire problem in a way that the insurance industry. Either can't visualize or doesn't understand. I don't know that we did, we accomplish much so

working as well to inform the insurance industry about the same underlying issues, the value of the mitigations, and increase their awareness not only of what has been done, but how to value it.

Dave Winnacker: There are some very simplistic tools that have been in use for a very long time in the insurance industry that really are hard pressed to accurately account for mitigations. Which then complicates our, our base issue that if the insurance industry is not doing a great job of viewing and valuing mitigations, we then open the door to folks being able to declare their own standards that because we did work, therefore it's better. If you have formed a Firewise neighborhood, that's a very interesting statement of your community's desire to do something to reduce risk.

Dave Winnacker: In and of itself, it doesn't mean you've reduced the risk though. And so, then you can see things such as Firewise neighborhoods being valued in a way that it ought to be the work that the Firewise neighborhood encouraged or facilitated being valued. So, helping to move us away from measures of activity to outcomes. We've spent a lot of time in that space as well.

Stuart Yasgur: What's next for you?

Dave Winnacker: Yeah, we've been shipping, mitigation, prioritized mitigation reports for about a year and a half. I've been working with developers for a little less than a year and have been working with insurers, going back really to the beginning of this year, to help inform that view of risk.

Dave Winnacker: It's understanding that historically, our wildfire risk modeling has been focused on intensity to understand the risk wildfire opposed to merchantable timber or to trees. Merchantable timber is affected by hot fire. Communities are burned by fast fire. And so really trying to shift the paradigm from fire intensity to fire speed, because if a fire takes three, four days to get to a community, we just don't lose homes.

Dave Winnacker: We have firefighters stacked up waiting for those fires. That's why the largest fires, generally have a very small number. Of homes burned and most of our structure losses are occurring in the first or second operational period of a fast-moving fire. That's very, very different animal regarding the combination of topography, weather, and fuel that we're looking at.

Dave Winnacker: And so really trying to shift the discussion from what I think is an inappropriate metric regarding WUI communities, intensity, risk to trees, shifting it to a metric that is appropriate to WUI communities, which is fast fire.

Stuart Yasgur: That's, so that's a totally different way of thinking about the risk that the, that these fires pose.

Stuart Yasgur: Absolutely. And what drives the risk. How responsive have been people been to thinking about risk differently?

Dave Winnacker: We're, we're shipping reports. The message has been well received. The challenge is execution. Producing a beautiful plan that sits on the shelf is not making the problem any better. That's really been our ongoing focus and fascination with prioritization. If we give you a master plan that says everything you should do and it exceeds what you're capable of doing, we didn't particularly help. In fact, it can be unhelpful because now it's overwhelming. And so, identifying what is the minimum number needed to treat?

Dave Winnacker: How can we cluster those together so that, the communities, neighborhoods really is the right scale to look at? It can be taken off the board, they're fully mitigated, and then move on to the next one, and then exploiting those opportunities to work with sub. Political entities such as an HOA, were a smaller scope, an HOA of 200 homes.

Dave Winnacker: It's a lot going to be a lot easier to achieve consensus than, than a, actual community of 20,000 people. So looking for those, those base hits, if you will. It'd be better if we can land a moonshot here, but that seems to be off the table. So focusing instead on, on what are the iterative small steps we can get, but that are within their much narrower scope, geographic scope.

Dave Winnacker: They achieve the full suite of mitigations rather than, than getting just a little bit but everywhere, which is generally not. Not going to be effective on those, those worst days that high wind, low relative humidity during a period of drought. All the things we saw in LA really indexing on what's the worst case scenario here and how do we prepare for that?

Dave Winnacker: We don't need to focus on how we stop the small fire that's gonna be stopped anyway, need to focus on how that fast moving fire under the worst conditions. How do we hold those up?

Stuart Yasgur: A takeaway, what would you suggest if somebody's listening to this, what do you take away? What's the action that they could take, move forward? Kinda adopt

Dave Winnacker: the first is the hit the I believe button that we have agency. We can, at the neighborhood scale, we can absolutely change this. It is not inevitable. It is inevitable that there will be fires. That's part of living in a fire dependent environment.

Dave Winnacker: It's not inevitable that we'll see large scale loss. And if we hit the I believe button and we recognize that the status quo is unsustainable because it is, and we accept that we are going to experience change. And the question is are we going to experience catastrophic change and then we just rebuild.

That's our adaptation. Or are we going to move the needle in advance, which we have the, the agency, the power, the authority, the resources to do what we lack right now is the will to act. And that's really, that's where we're stuck. And as we get past, the love of our junipers and our Italian Cyprus and the other overgrown decadent material that is right next to our homes, and we, we move towards that fire adaptive future, we're going to end up in that fire adaptive future.

Dave Winnacker: The question is, do we do it at the time and place of our choosing, or does that, does that occur in a single catastrophic event on the worst possible day?

Stuart Yasgur: Dave, I think that's a great, that's a great place to leave it. And a lot of food for thought. Thank you so much for taking this time to speak with us today.

Stuart Yasgur: I really appreciate it.

Dave Winnacker: Oh, thank you for having me. I appreciate the opportunity to share the message.

Stuart Yasgur: My conversation with Dave Winnacker resonated with me because we share his view that looking at the problem isn't enough. We need innovations that lead to action.

Stuart Yasgur: As Dave pointed out, wildfires are inevitable. The risks from wildfires are not. Dave's innovation has the potential to contribute at the structural level. Let's spend a moment just to look at why that's the case.

Stuart Yasgur: Structural innovations work because they change the strategic landscape. When a person faces a different strategic landscape, the choices they're going to make to pursue whatever they value may differ and when those choices differ, the behaviors are going to differ. And when the behavior differs, the impact of those behaviors is going to change.

Stuart Yasgur: By making the risks concrete and salient in our decision making. Dave's changing the strategic landscape that people face when they're deciding what to do,

Stuart Yasgur: And as a result of that, he's changing the strategies, they'll pursue, the choices they're going to make, the behaviors, and ultimately their impact.

Stuart Yasgur: I'm Stuart Yager. This is Economic Architecture, the podcast.

Stuart Yasgur: Stay tuned for future episodes of the Economic Architecture Podcast.

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