

Select Committee on Housing Construction Innovation—Hearing 2

Wednesday, January 14, 2026

Assemblymember Buffy Wicks 30:53

Wait, there we go. Now, you guys can hear me. How's everyone doing today? Hello to the audience and those of you housing nerds following online. I want to thank everyone for joining us today in the second hearing of the Select Committee on Housing Construction Innovation. Can you guys hear me okay? Yeah? Okay.

Last week I thought was super interesting, and I think it really helped kind of lay the groundwork. You know, we heard an overall kind of analysis of the housing market, which I think is an important element as we think about these newer models of construction; why costs are so high; and really making the case for the need for more innovation. And I also want to say innovation, in of itself, isn't going to solve the problem, but innovation coupled with smart land use policy, coupled with the right kind of assurances for developers and investors and others, and all these other things that we're trying to think through, and the right types of streamlining potentially could lead to lower costs of housing, and that is exactly why we are here. The whole point of this is to lead to housing that people can afford. It's not doing modular housing for the sake of doing modular housing. It's doing modular housing so that it can be cheaper for our working-class communities and families who need it so desperately.

So, I'm excited to hear from today's panelists. First, we are going to hear from government entities and how they engage with housing innovation. Secondly, we'll hear from investors on how they navigate risk in order to get the returns that they need. And finally, from the workforce, a really important conversation with organized labor. We'll have a general contractor here as well, and even a worker with experience working both on-site and [in a] modular housing factory. And then finally, we will wrap up with some very thoughtful and profound remarks and opining from the Turner Center, which we are—no pressure Turner Center—excited to hear your great words of wisdom.

So that's what is on tap today. And I know members are going to be filing in. People are coming from various different meetings, but I thought it would be good to just jumpstart this right away and start the first panel. With that, it's going to be our perspective from government. So, coming up to the hot seat, please. Mr. Krause, Mr. Kennedy, and Miss Wyant, if you all could come up and please feel free to self-introduce. I also want to say I know Lori Wilson, Assemblymember Wilson, won't be here today. She actually sent me questions she wants asked. So, I will weave those in at a certain point. And with that, I don't know who would like to begin, but please feel free.

Kyle Krause—Deputy Director of the Division of Codes and Standards, California Department of Housing and Community Development 33:40

Test, test. Okay, good afternoon Assemblymember Wicks—

Assemblymember Buffy Wicks 33:44

And sorry, I should also say, I think each guest gets five minutes to present, and then we'll do Q&A.

Kyle Krause—Deputy Director of the Division of Codes and Standards, California Department of Housing and Community Development 33:50

Good afternoon Assemblymember Wicks. My name is Kyle Krause, Deputy Director of the Division of Codes and Standards within the Department of Housing and Community Development. So, I'm a housing nerd. Thank you for inviting—

Assemblymember Buffy Wicks 34:02

You're in a safe space. Yes.

Kyle Krause—Deputy Director of the Division of Codes and Standards, California Department of Housing and Community Development 34:04

I'm not a dragon slayer, but definitely a housing nerd.

Thank you for inviting me today to discuss what factory-built housing—or FBH—is, where it's produced, and the role of state and local agencies with FBH construction and installation. Although there are various types of housing products produced in factory settings, my comments will focus on factory-built housing. FBH is any residential structure—single or multifamily dwellings, apartments, condominiums, hotels, motels, dormitories—or components of these structures that are designed and constructed to California Building Standards and manufactured in whole or in part at any off-site location, such as a factory. In contrast, manufactured housing is designed to remain transportable and is regulated by the United States Department of Housing and Urban Development and manufactured to national construction and safety standards.

Manufacturing FBH off-site allows for site work to be completed at the same time that modules are being constructed in the factory, and construction can be performed in a controlled manufacturing environment where employees and materials are protected from the elements. These factors can reduce construction timelines, reduce material waste, and can also enhance employee safety during the construction process. FBH products designed for use in California are produced by manufacturers in California as well as other states and even other countries. Currently, there's 258 factory-built housing manufacturers that produce FBH products designed for use in California. There's 119 manufacturers in California, 80 within the country but outside of the state, and 59 others located in countries such as Canada, Mexico, China, and Vietnam.

Under factory-built housing law, regardless of where factory-built housing products are manufactured, to be installed in California they must be designed and manufactured in compliance with California building standards. These standards provide uniform minimum health and safety. Each factory-built housing unit is given an insignia of approval prior to leaving the production setting or factory. This insignia indicates the FBH unit is manufactured to the design approval agency, or DAA as we call them, approved plans and deemed to comply with the requirements of all local ordinances that may be applicable to the construction of the housing. A system can be a whole unit, such as an ADU or a small dwelling, or could be part of a larger multifamily structure. From these FBH manufacturers, over 3,200 FBH systems were issued insignia in 2024, and approximately 3,400 in 2025. While insignias themselves do not correlate to a fixed number of housing units of FBH, it's generally an indicator of unit production.

HCD's role in FBH is to ensure products comply with California building codes. The Department accomplishes this in partnership with certified third-party agencies. These agencies, certified by the Department, review and approve factory-built housing designs and conduct quality assurance inspections in the factories. Design approval is performed by [a] third-party design approval agency that's certified and monitored by HCD. HCD has 12 certified DAAs, and they review the designs to verify code compliance and FBH regulations. In-plant inspections are conducted by quality assurance agencies, which are also certified and monitored by HCD. Of these 16 certified QAAs that conduct in-plant inspections to verify products comply with all applicable standards and design-approved plans. They also go through quality control documents prior to authorizing issuance of insignia and placement on the modules.

Local government's role: cities and county building departments are responsible for issuing permits and conducting plan review and inspection of the portions of the project that are not designed as factory-built housing or have not been approved by an HCD third-party agency, including site work such as foundations and utility connections, factory-built housing assembly and installation on the building site, and verification of presence of HCD insignia of approval. Alterations proposed by the owner or contractor after being issued the insignia, or after the units leave the factory, are reviewed and approved by local building departments. Local requirements imposed on factory-built housing may not vary substantially from other residential buildings of similar size. FBH products must meet any local requirements, such as use zones, snow loads, wind pressure, fire zones, building setbacks, side and rear yard requirements, site development and property line requirements, as well as the review and regulation of architectural and aesthetic requirements.

Thank you for the opportunity and time today to share HCD's role and responsibilities of FBH, and I look forward to any questions.

Assemblymember Buffy Wicks 39:34

Thank you very much.

Sean Kennedy—Deputy Director of Energy Investments, California Strategic Growth Council
39:39

Good afternoon. Can you hear me?

Assemblymember Buffy Wicks 39:40

Yes.

Sean Kennedy—Deputy Director of Energy Investments, California Strategic Growth Council
39:41

Good afternoon, Chair and members of the committee, wherever you may be. Thank you for the opportunity to speak today. My name is Sean Kennedy, and I serve as Deputy Director of Energy Investments at the California Strategic Growth Council, or SGC.

In this role, I lead interagency efforts at the intersection of housing and climate, including SGC's regional Factory-Built Housing Pilot Program, which I'll highlight today. SGC was established in 2008 as a cabinet-level body comprising seven state agencies and is uniquely positioned to drive cross-sector solutions to California's most pressing challenges. Since its inception, SGC has invested over \$5 billion in projects across the state, with the bulk of those funds serving disadvantaged communities. Just last

month, SGC committed \$866 million to build affordable housing, expand transit, and protect communities from climate change, including \$185 million for Los Angeles County as it rebuilds after devastating wildfires.

In 2023, SGC identified factory-built housing is a game changing opportunity to accelerate progress toward the State's housing, climate, and energy goals. In addition to affordability benefits resulting from lower costs and streamline construction, factory-built housing can lead to emissions reductions through energy efficient manufacturing, less material waste, while also lowering the cost of infill development that reduces the need to drive. From a recovery and resilience standpoint, factory-built housing has allowed some residents affected by the Eaton Fire, including 24-year Altadena resident Steve Gibson, to return to their neighborhoods in little over a year—compared to two to three years for traditional rebuilding—and in housing that now meets or exceeds new fire safety standards.

Despite proven success elsewhere, these benefits remain largely untapped in California. To catalyze the market, in 2024 SGC launched a pilot predevelopment program with a modest \$12 million budget, designed to unlock hundreds of millions of dollars in federal funding for developers seeking to build or expand factories in California. Through coordination with the US Department of Energy's Loan Programs Office, a \$3 million SGC grant to a developer could leverage \$70 million in low-cost federal loans, enabling the construction of \$100 million factory, which is larger than anything operating in California. Despite extensive outreach, the first two funding rounds yielded only two applications, and the program did not make an award.

The initial program assumed that an increase in the supply of factory-built units would stimulate growth in the sector. Additional market research and stakeholder engagement revealed that limited factory capacity is only one barrier. Another significant barrier, as we have already heard in this committee, is a lack of aggregated demand. Demand for housing in California is obviously huge, but demand for factory-built units in California is not organized in a way that provides a stable pipeline for factories to remain economically viable. Contributing to this issue is a lack of standardized building codes across jurisdictions and levels of government, as well as local zoning restrictions. We also, through our engagement, heard about misaligned financing timelines, distance from factories to job sites and other logistical challenges, as well as negative perceptions among developers and potential buyers, overall leading to low market acceptance.

Much like the potential uses and benefits of factory-built housing, these challenges vary by region, underscoring the need for context-specific regional coordination and integrated strategies. So, the past year, SGC staff in coordination with our sister agencies, including HCD, and external partners completely reimagined the program. The updated program aims to empower regions to identify and address barriers to the delivery of factory-built housing solutions at scale that meet both regional and statewide housing and climate objectives. Rather than focusing solely on production, the revised program aims to support thriving factory-built housing ecosystems—supply, demand, finance, regulatory alignment, public awareness—that can produce a sustained increase in the supply of affordable, climate-friendly housing at the regional level. Round 3 of the program, launching in coming weeks, introduces two flexible funding tracks: catalyst grants of up to \$500,000 to build regional capacity and identify shared strategies, and planning grants of up to \$3 million to accelerate implementation and innovation.

Operating at the regional level with coordination across multiple entities and jurisdictions, we believe is a key strategy to address the issue of demand aggregation that many panelists raised in the first hearing. This pilot is more than a funding program. It's a testbed for learning what works, as well as what doesn't, to finally move the needle on factory-built housing in California. We look forward to

sharing the results of this work, and we'd be happy to support however we can as the Select Committee process moves forward. Thank you.

Assemblymember Buffy Wicks 44:17

Thank you.

Marina Wiant— Executive Director, California Tax Credit Allocation Committee and the California Debt Limit Allocation Committee 44:19

Good afternoon, I'm Marina Wiant. I'm the Executive Director of the California Tax Credit Allocation Committee and the California Debt Limit Allocation Committee, TCAC and CDLAC. We allocate federal and state tax credits and taxes and bonds that support the financing of affordable housing in the state of California. I think I'm really just here to give a little bit of the affordable housing perspective, but to do that I want to first give a little context on our program.

So, since 2020, our program—you know, we run essentially two programs. One of the programs has historically always been a competitive program, that's the 9% tax credit program. The 4% tax credit program has historically been an undersubscribed program. But as of 2020, in large result because of policies that were instituted at the state level, as well as critical state investments that were made at that time, the program became incredibly oversubscribed. And so, we had to reimagine what a competitive program looked like for that—what a competition would look like for that program. And our scoring system that was developed really does incentivize cost containment. There's sort of a public benefit over costs analysis that happens as part of that competition. And at last week's hearing, you heard from several affordable housing developers that I think are naturally incentivized to use innovative construction technologies, innovative financing strategies in order to be competitive in the program. And I do think that's one of the reasons we've seen much more affordable housing production utilize some of these technologies in the most recent years.

But I want to highlight that, you know, changes at the federal level that happened over the summer is now going to be allowing us to nearly double the amount of units we can produce in the 4% program. So, by comparison, in 2024 we funded in total—between the 4 and the 9% program—around 18,000 total units. And in 2025 we financed 28,850 units, so nearly 10,000 more just from implementing those federal changes for the second half of the year. What that means long-term is that our program is likely to become slightly less competitive, especially if there is less investment from the state, which will create more opportunities, in some ways, for folks who want to enter the space, because there'll be a more predictable pipeline availability in the program. So, we're working closely with our colleagues at the other housing agencies, looking at other ways to sort of streamline and how we should be prioritizing housing. But I do think that over time, there will be more ways to—more predictable financing streams available for more production. So, I know one of the challenges that often comes up is what, you know, if there is no pipeline, or they can't build out a pipeline because financing is unpredictable? I do think some of that is going to be solvable over the next couple of years.

And I know last week many speakers highlighted several challenges and potential solutions. And I do think—and they were brought up my colleagues here too—I do think the biggest part of what we should be looking at are broad-base solutions that sort of are for housing, encouraging this across the board, instead of often people are like, "Let's just focus on affordable housing." And I do think, because our program so uniquely already incentivizes the cost containment, I don't know that sort of focusing solutions just on affordable housing is the right approach. But broader solutions that focus on like tax incentives, building code adjustments, those types of solutions I think really are what's going to make a big impact in expanding the utilization of creative building strategies.

Assemblymember Buffy Wicks 48:28

Thank you. Well, thank you everyone for the presentation. I have some questions. I'll defer—I know Ms. Papan just walked in, though. But Ms. Quirk-Silva if you want to kick us off, if you'd like to, or I could go at it. Go for it.

Assemblymember Sharon Quirk-Silva 48:42

I do have a question. And I didn't get the first commentary, but the last two I did. Related to the rounds that you were talking about, as far as grants go... Where are we in that process, as far as this round goes? Is that already closed or is it still open?

Sean Kennedy—Deputy Director of Energy Investments, California Strategic Growth Council 49:04

It's about to open in the coming weeks. Yeah, the NOFA will be released in a couple of weeks. The guidelines were approved by the Strategic Growth Council in December. And so that's—

Assemblymember Sharon Quirk-Silva 49:11

So, it'll be open. And how long is that open for?

Sean Kennedy—Deputy Director of Energy Investments, California Strategic Growth Council 49:05

That'll be open for around three months, the application period.

Assemblymember Sharon Quirk-Silva 49:19

Three months. And what is the typical, say, amount for a grant that is given out?

Sean Kennedy—Deputy Director of Energy Investments, California Strategic Growth Council 49:16

So, we have two grant types in that program. There's a catalyst grant that is up to \$500,000, that's for initial planning and partnership building, and then a larger grant of \$3 million which is focused more on the implementation side of things. But it's a small program, as I mentioned, the total budget is only \$10 million for the grants. So—

Assemblymember Sharon Quirk-Silva 49:45

Can we get some follow up information?

Sean Kennedy—Deputy Director of Energy Investments, California Strategic Growth Council 49:46

Certainly, yeah, I didn't—apologies for not bringing handouts, but I'll follow up.

Assemblymember Sharon Quirk-Silva 49:48

No, that's fine. A lot of this comes under my budget subcommittee. Then related to—hello, and I've seen many of you in our committees, in and out and so forth, and it actually becomes a very small family when we're talking about some of these things.

But related to the 4% and 9% tax credit, I know that there's been a lot of work done in that, offering the flexibility and so forth. You referred to the federal level, what happened this summer. Could you just expand on that, as far as what specifically happened? And then, as many of you know, seeing the governor's budget last week—feels like it's been longer than a week—but we know that last year the budget was zeroed out. This year, there's 500 million for HHAP, but there is no dollars put in for low-income housing tax credits or the multifamily. So, if you could speak to that, because sometimes I know there have been people through HCD, others saying there's a lot of money in the pipeline and like, "Don't worry." But my fear is, if we don't keep backfilling this, we might find ourselves in a cliff, maybe not this year or next year. So, if you can speak to those kind of funding—

Marina Wiant— Executive Director, California Tax Credit Allocation Committee and the California Debt Limit Allocation Committee 51:17

Yeah, no. I'm really happy and great to see all of you. So, in July as part of HR1, I think the only silver lining that came out of that bill was a change on the tax code that we had been advocating for for many years. So previously, in order for an affordable housing development to access 4% tax credits, at least half of the project needed to be financed using tax exempt bonds, which are allocated by CDLAC. Those are fixed based on a per capita formula of the amount of bonds we can allocate every year. The HR1 lowered that 50% financing threshold down to 25%. So practically speaking, it leaves nearly twice as much sort of cost of development that we can now allocate bonds for, which then unlocks that many more tax credits. And so, like I mentioned, you know, we took really swift action to implement those in emergency regulations in August and were able to get 200 million in bonds returned to us from developers that opted in to readjust their projects to meet that lower threshold and redeploy those plus those other changes in our Round 3. And so, we were able to fund 10,000 more units this year than previous years because of those changes. And we expect we could fund—estimates are that we could be funding nearly 20,000 more units in the state, which that 10,000 sort of matches those estimates.

To respond to your question on the financing side, you know, prior—I mentioned in my remarks—prior to 2020, the 4% program was under subscribed, and that was large part due to the fact that there really wasn't very much state investment. There was some, so I don't want to, you know... but we did have the AHSC program was established during that the 2010 to 2018 period. But there was not a significant amount of resources being allocated by the state, and so without those additional resources, it's really hard to leverage all of those the federal resources. And right now, you know, again, we—thanks to many of your advocacy and the governor's advocacy and support over the past seven years now—there was significant investment, which is what also drove that demand into our program. Now that we're able to do double, we're really going to—I do think—see as a potential down the road by as early as next year, of not being able to leverage those federal resources at that same level absent additional investment.

Assemblymember Buffy Wicks 53:59

Thank you. I have one question. I think probably Mr. Krause, you might be best suited to answer this. A couple of us were in Sweden in the fall, and we were learning about performative-based building code versus prescriptive-based building code, which would be, I think, a pretty substantial overhaul building code. I would just love for your thoughts on that, and what you think about that methodology versus our current prescriptive-based.

Kyle Krause—Deputy Director of the Division of Codes and Standards, California Department of Housing and Community Development 54:28

I would say, Assemblymember, that California's codes are currently—our building standards are a mix of performance codes and prescriptive codes. As you may know, they're adopted based on international and national model building codes. So, we—under current construct of law—are directed to adopt the most recent additions of those model codes. But then separately, we adopt some really important codes, such as the Green Building Standards. Since, you know, 2010 we've had, first-in-the-nation green building code. And then also our friends over at the Energy Commission have a very stringent and high performance-based energy efficiency standards. So, between all of those codes, I think we have a really good set of tools to allow, importantly, alternatives at the local level. So alternate materials, alternate methods of construction, are heavily embedded into California law and building standards to allow alternative types of construction and innovative approaches.

Assemblymember Buffy Wicks 55:41

Thank you. Those are the only questions I had. Did anyone else want to... before we move to the next panel? Okay, well, thank you all so much for participating. Next, we're going to hear from the investor community. If you all could step up to the plate and self-introduce, and I'll remind you to try to keep it to five minutes, so we have time for Q&A.

If you want to begin, please feel free.

Cecile Chalifour—Head of Community Development Banking for the West, JP Morgan Chase 56:24

Absolutely. Hi, I'm Cecile Chalifour. I'm the Head of Community Development Banking for the West for JP Morgan Chase, which means I lead our affordable housing platform on the debt side for the West, including in California. And I'm also, as somebody said earlier, a housing nerd. Just for compliance reasons, I do have to share that any opinion I express is solely my opinion.

The firm has a deep and long-term commitment to affordable housing because we believe that everybody should have a safe and affordable place to live in in the community we serve, as it's actually key to a strong economy and growth. Because of that, we invest—we have invested for a long time, and we continue to invest—in innovation, cost containment measure. Because, as you said earlier, that's not going to solve the affordable housing crisis, for sure, but it is an essential tool, or we'll just all keep investing our resources and not really actually make a dent on the crisis that our neighbors are experiencing. We do that in many ways. First, we leverage our financing, which—you guess—it's debt and equity, right? That's a major investment on our part, and I will share a little bit more about that. Two, we do provide philanthropy capital, specifically on research or in, you know, people experimenting with pilots. We do also a lot of policy advocacy. And finally, we do proprietary research to support the field, completely neutral, just to support the field and support other organizations who do research.

On the funding side, on the financing side, we have funded to date, about 30 projects—even more than 30 projects—that are either affordable or workforce housing around the country with modular. There's a big difference by state, I would say, like 25 or so of them are in California and happen to be affordable LIHTC deals, some of them obviously in partnership with the people were here right before us. We've learned quite a bit along the way. Right? Just for the sake of it, of those last eight years, we had two manufacturers going out of business and one that did not go out of business but run into capital issues,

and, you know, weather issues, all the things people can experience in modular. So, a lot of perspective, and that's what I'm happy to share some insight about what we learn along the way today with all of you.

Our starting point from our construction team is that we actually think that modular, in a way, is better quality. And I'm focusing on modular, but we also did like prefabricated panelized, so I'm in it in the most generic word—okay—sense. So, we do believe that factory-built housing has actually proven being excellent collateral and overall better quality and efficiency than the alternative, right? So that comes from our construction team with years of experience in that field, having said that, as everybody is well aware, that doesn't always translate into cost savings from day one, from when the project is originally designed. And even more, which is what matters probably more to financial institutions, along the way, as you have issues coming up. So, cost of earn can be pretty huge—something goes wrong, you're talking about millions of dollars, and we have experienced that.

So, we are really paying attention to that, and in terms of how we do our due diligence, how we decide when, how can we get comfortable with factory-built housing, right? So, a few points. One, we focus on the team experience. Not everybody at the table can be a first-time, you know, practicing person, right? And not just the manufacturer, you need at least the GC or the architect or the developer, right? So clearly, experience is a key point for us. Design. And I don't just mean in general, but like, what our construction team was sharing with me, and we've seen over the years, is we actually ask a lot of questions at the beginning about whether the manufacturer can use their own standard—so like, pretty much they have something ready to go with, like, “Okay, you're going to get that.” Or do they absolutely have to accept that... to live with the custom-made, you know, right, the specific specifications of an architect and an owner. And it makes a lot of difference, not just upfront, but when issues happen over time. And risk I will talk about later. And then second, like the ability of the manufacturer to adjust standards based on local requirements and specifically on system, plumbing, all of this thing, like, how flexible is the product they design? Okay, very quickly then, thank you. Risk, major risk for us—our experience has said it—to the manufacturer going out of business. You know, we have all our eggs in that basket. You know, if it's very specific, you don't have a replacement that can come easily on board. And the third one is capital. A manufacturer, they're always in capital-raising mode. When they fail, and it's really hard to underwrite that, it's a nightmare for all the parties. And we have an example, not in California, but in another one when they went very badly. If you want to see it, it's very public.

What can help? Standardization. Standardization all the way through, like, literally. That's what helps with experience. That's what's helped with more competition. That's what helped with replacing the manufacturer. You know all of this, it plays on, technically, getting the savings, right? Second, more factories, ideally, more local, right? Moving the units is tricky, and assembling on site is very helpful. But still, the closest you are, the more likely you are to have savings. Training and education of developers, certification of crane operators. You get a great quality product at the factory, it's put on site, there is a problem, right? So, you really need certification to plan. I was asked, like, how about backstopping the manufacturer? I would say yes, it's important, because all those things I mentioned that can help, they all work together. They will take a while to fall into place, right? And—as on the financial institution, right? It's all about risk, mitigating risk. It's never zero, but you have to go as low as you can. When a manufacturer fell, you have zero plan B. Costs millions to all of us, so that's where it plays in. And I will be happy to answer questions.

Assemblymember Buffy Wicks 1:02:47

Thank you. That was very helpful.

Rebecca Foster—Chief Executive Officer, Housing Accelerator Fund 1:02:50

I can go next. I have slides. Oh, there they are. Thank you. I was inspired by the nerds last week who brought slides.

Thank you, Chair Wicks and Assemblymembers. I'm Rebecca Foster. I'm the CEO of the Housing Accelerator Fund, and I really want to express thanks for all of your focus on how we bring California's spirit of innovation to our biggest challenge in the state, which is scaling the delivery of affordable housing. So, we can go to the next slide. Thanks.

So, we at the Housing Accelerator Fund are proud to have delivered on the promise of wildly ambitious cost and time goals in the heart of San Francisco, with this beautiful building Tahanan at 833 Bryant Street, which Ben Metcalf referenced last week. And multiple studies have documented that the cost and time savings for this project came in at 20 to 40%—compared to similar projects—for 146 permanent supportive housing units for people exiting homelessness. It was delivered at \$383,000 per unit. So, as we reflected on this, we looked at what are the four key capital innovations in particular that enabled these dramatic cost and time savings and construction innovation that we achieved at Tahanan. First, the upfront risk capital that we were able to provide allowed Mercy, our development team led by Mercy Housing, to design for modular from day one. It really matters to start at the beginning with that plan in mind. Second, we financed the construction with 100% private capital and philanthropic capital, which allowed us to avoid duplicative, additional local requirements. Third, we provided full permanent funding and financing certainty so that the team could lock in their spot at Factory_OS's line—now Harbinger—who was here last week, so they could move full speed ahead on all aspects of design and construction without waiting for that funding certainty. And then finally, our capital, unlike many sources of capital, came with really a North Star goal attached to it: cost and time savings. Not 30 priorities, cost and time. One and two. And every member of the team was aligned on those goals. Okay, we can go to the next one.

So, we took our learnings from Tahanan, which we had a really unusual capital source for that is not... we can't replicate—it was a grant, a giant grant. And said, how do we scale what we learned here? And we developed two different unique products. One is, as Sean mentioned, the modestly sized Industrialized Construction Catalyst Fund, which provides early-stage pre-development through construction loans to incentivize developers to adopt modular for affordable projects. And then the second is the Bay Area Housing Innovation Fund, which provides financing certainty for projects committed to really ambitious cost and time goals. Okay, we can go to the next one.

I'll just talk a little bit about these in our learnings. So, the ICCF... we really built it to increase modular adoption by developers and lenders. We all need more reps to achieve the promise of savings that we need from industrial construction. And this 10 million pilot fund addresses what's currently—but hopefully not forever—a market gap, as we scale adoption. So, it's early stage, very low interest loans that can be used for factory deposits and other early design and soft costs, and then we can stay in the project in a subordinate position, behind a Chase or other loan, so that we can continue to provide the kind of LTVs needed so more lenders, it makes it easier for lenders to lend against modular projects. This fund is fully allocated now, with two loans closed and two near closing, and will support over 400 homes in its first round and then continue to revolve.

And then the next one, next slide. The Bay Area Housing Innovation Fund addresses one of these other big gaps that has been referenced, which is financing certainty. So, this fund provides low-cost construction to perm first and second mortgage loans that replace a competitive funding source for projects that commit to very ambitious cost and time savings. So, when our capital comes in with that certainty and very clear priorities, we really have proved we can achieve these ambitious goals. So, the project that just closed, just finished construction, that's featured here is in the mission in San

Francisco, and the 19-month construction timeline wrapped two months ahead of schedule. It's not fully modular, although it has a number of prefab components, and it was delivered for \$525,000 a unit.

Okay, to my recommendations, we can go to the next slide—

Assemblymember Buffy Wicks 1:07:44

And, just, we're almost at five minutes. But please, feel free.

Rebecca Foster—Chief Executive Officer, Housing Accelerator Fund 1:07:39

I will go quickly. So, I think, as Cecile said, if we could magically arrive at the end state, our shared goal, we would have a productive, efficient, IC industry in California that's producing a large portion of all of our housing needs, because it's reliably contributing to lower cost, faster construction of affordable homes. We aren't there yet, and to get us to that scale requires some bridging investments where the state can play a leadership role. So, we can go into these more, but I'll just highlight them, the main four. One, to build demand and provide funding certainty, creating some sort of priority within the scoring system for tax credits, bonds, state subsidies and public sites for affordable projects that meet cost and time goals or use industrialized construction. Create more regulatory certainty and standardization, as has been mentioned, expanding the authority of the state Factory-Built Housing Program. Reduce risk for developers committing to industrialized construction early, so a scaled pre-dev and mezz construction fund like our ICCF, could be de-risked or supported with state top loss or backstop. And then finally, financing certainty is really critical for locking in on promised savings and scaling up reliable financing products through state-supported products—like CalHFA, perm loans, impact capital products that provide something like our second mortgage fund—really can provide that financing certainty so we can achieve these goals together. Thank you.

Assemblymember Buffy Wicks 1:09:22

Great. Thank you very much. That was very helpful.

Mr. Dawson, you have five minutes, take it away.

Lad Dawson—Founder, Guerdon Modular Buildings 1:09:30

Okay. Thank you, Chair Wicks and the committee for the opportunity. I'm Lad Dawson and I'm the founder of Guerdon in Boise, Idaho. I started the company in 2001 with a single goal to bring modular factory construction into mainstream multifamily and commercial residential development. And I was building on 25 years of personal history as an entrepreneur in the single-family home factory, home building and applying that now to the commercial sector. Guerdon is not a startup, we're a 25-year-old manufacturing company that has survived every economic cycle, code change, and market shift since 2001. And while I'm semi-retired, I remain engaged with Guerdon as a director and a shareholder and as an advisor to the team.

In terms of over that span, we've built over 17,000 modular units, over 14 million square feet of completed projects, 225 successful projects across 12 states, and our current backlog and pipeline through the next three years is over \$300 million in prospective work. So, we build student housing, workforce housing, affordable housing, hotels, and market rate apartments. In fact, we're doing a market rate workforce housing with JP Morgan Chase. It's almost completed, by the way, in the factory.

So, our California presence, about 60% of our historical volume over the last two decades has been in California. Among our many firsts here in the state, we completed California's first wood frame modular student housing project under the Division of State Architects, the DSA, this past year. It was set in, I think, November for Compton College. We currently have multiple active projects in California. More than 65% of our revenues for 2025 are California projects. For 2026, which is already scheduled for the full 12 months, more than 80% of our production is in California.

In terms of cost savings, we talked a little bit about that. For optimized projects with early engagement, we feel like we can routinely in most markets create five to 15% actual hard cost savings, not taking into account the benefits of the time compression. If it's a prevailing wage project, those numbers are often more like 20 to 25% savings. An important key, though, is that I heard from Rebecca, is efficient standardized plans and standardized specifications. We're driving for that. We're actually creating standardized plans and specs and promoting that to our clients, many of whom are embracing that model, so that we can make the factory process more of a manufacturing rather than a job shop, custom, snowflake, one-off mentality that is less efficient in every respect. We typically complete projects 20 to 30% faster than conventional. Maybe a smaller project, 14 to 12 months instead of 18 to 20 or bigger projects, 18 months instead of maybe 28 or 30. Faster delivery means faster lease up, reduced risk for the bank, earlier revenues, lower carrying costs.

Our barriers to scaling modular are... I think the biggest is that the construction lending doesn't fit modular production. We talked about—Rebecca talked about that and her program, by the way, is being used by several of our clients on projects that are in development right now. And it's a fantastic program that could help resolve some of these barriers. But with modular we've got we need pre-closing payments. We need upfront deposits based on the timing of the way we're building simultaneously with the work being done on site. Off-site funding, which a lot of banks don't like, is 40 to 50% of the total, and the velocity of cash flows are tremendous, because if you think about a total modular construction costs are happening in a factory in six to 10 weeks that if they were on site, those draws would be maybe stretched over as much as 15 to 24 months. So, lenders who do fund modular projects sometimes require the developer to use more expensive equity funds for those early payments. Some impose higher interest rates or higher credit enhancement requirements, and all of those create certain obstacles and headwinds for modular construction. As far as the state affordable housing programs, the funding is generally not available until the closing, and so that doesn't work. That timing doesn't work with the need with factory projects, upfront payments in order to reserve capacity, and also to make the long lead time deposits.

In terms of factory investment challenges, a new factory is going to cost somewhere between 30 and 50 million dollars in total for a plant and equipment. And then on top of that, you've got startup expenses, then you've got one or two years of losses that you're going to suffer before you get to profitable volume levels. And so, the only thing that makes that make sense is predictable demand and reliable pipeline and flow in the availability of financing for the projects. Factories fail either because they lack the knowledge or the experience to know what they're doing, or, more likely, because they cannot maintain a consistent flow of projects so they can keep the factory running 50 weeks a year. So, I think, my recommendation is, focus on demand, focus on solving the financing hurdles, and if those are solved, the investment will be there. It'll take care of itself, because there'll be an ROI that will attract private capital. As far as policy recommendations—

Assemblymember Buffy Wicks 1:15:33

And you're at about six minutes. Please feel free to wrap up.

Lad Dawson—Founder, Guerdon Modular Buildings 1:15:36

Okay. I would say, fix the financing system, create modular-specific loan products, perhaps through HCD or IBank or a state agency-provided credit enhancement for modular projects, align tax credit funding and timelines with modular deposit requirements, and support programs like HAF is doing, which I think is right on point. Creating demand is another thing with maybe a certain percentage of affordable housing could be designated for innovative technology that could promote more pipeline. And also, it's already been discussed by HCD, is eliminating regulatory fragmentation, where you've got single codes for all throughout the whole state, without the local code overlays and changes that are required. And the same for accessibility and mobility standards that are often dictated by funding sources. I think that that, and perhaps on my wish list, would be reducing the cost by eliminating sales taxes on modular projects for the manufacturer, for those projects that are specifically designated for affordable or supportive housing. Thank you very much.

Assemblymember Buffy Wicks 1:16:51

Great.

Lad Dawson—Founder, Guerdon Modular Buildings 1:16:51

And sorry for going over.

Assemblymember Buffy Wicks 1:16:52

No, no, that's okay. That was very insightful. Great, I'll bring it back to committee for any questions folks may have. Mr. Harabedian.

Assemblymember John Harabedian 1:17:03

Thank you, Madam Chair, and thank you again for holding this hearing. And thank you all for being here. It's good to see Mr. Dawson again. I just have, I think, one or two brief questions, and it really goes—the main one—to Ms. Chalifour. I guess from hearing everything that we've heard from this hearing, last hearing... it's hard to sort of figure out why the market hasn't caught up with the innovation, and why market rate lenders and financiers aren't seeing what quality product this is and how it's meeting the moment, and why there continues to be seemingly more risk assigned and underwriting to factory-built housing. And I guess for us, like why is there more risk being assigned when you've said the quality is better, you know, the outcomes seem to be very, very good. Why isn't the market meeting that with lower interest rates, products that can ensure that upfront money is there? Because there's only so much that government can do there, and the market really has to get there. So why do you think there is that disconnect?

Cecile Chalifour—Head of Community Development Banking for the West, JP Morgan Chase 1:18:02

That's an excellent question, I would say. So, it's unfortunately, it's not a quick answer. It's a mix of different things, because they are risks all along the way. So, the deposit, for example, that's before construction closing, as Mr. Dawson was mentioning, right? At that point, you literally have no collateral for it. All you have is a unit somewhere which you see tracking, and you hope that you know if for whatever the project doesn't move forward, you will be able to do something with it. So, it's very risky. It falls more like under asset-based lending, pretty risky part of the business based on what your security

is. Once you have construction closing, like again we've done about 25 projects, right? So, we have actually come a long way in actually doing it.

What I was trying to share earlier is there are still some real risks, right? So, the factory part is very well built, no question about that. But you still have to transport that unit and put it somewhere on site. During the transportation it's subject to a lot of stress. There is the crane operator. It might not be assembled the right way. You might not have a really good negotiation happening—going back to experience—between the architect, the GC, and the manufacturer. What we've seen on some sites is like, when a manufacturer fell we were like, literally none of the party knew how you were supposed to connect the units to the ceilings of the hallway, right? Little details like that, seems like a little detail, they can cost millions of dollars. So, it's almost like along the way—the product itself is great—but along the way, you have a lot of room for mistakes. And some banks think that's too much risk, right? And at the end of the day, also, the last risk I mentioned earlier, which is the manufacturer itself, again, getting always in capital-raising mode. They send you their financial. Of course, they're always optimistic they're going to raise it, right? When that capital doesn't show your project might be going just fine. They might even have a pipeline. But suddenly, they fail, and you have no manufacturer. And at that point, again, because you don't have another one to easily go to, because of the standardization issue, right? You cannot just say, like, normally when you do brick and mortar, right? Like, I'm working with you, you're failing. I'll get him. You know what I mean? Like he can step in pretty quickly. And in a LIHTC world where you have very tight timeline when you cannot do that, that's very costly and risky, very fast. Very, very fast.

So, I'm not saying all the lenders, alright? Again, we have actually done quite a fair amount, but you have to be careful, and it's really hard to handle right. It's very, very hard. And at the end of the day, yes, it's a great product, but speaking for financial institutions, we do have to get reimbursed for our debt. But they are ways around it again, like the thing I shared earlier, ways to kind of make it be better. The more we can make it business as usual—I think that's the theme—and standardization becomes more common, you have less of all those issues. You're not at a zero risk. But instead of being this big, scary thing that could actually happen and cost you millions of dollars, you have a risk you can mitigate, if that makes sense.

Assemblymember John Harabedian 1:21:16

Makes sense.

Cecile Chalifour—Head of Community Development Banking for the West, JP Morgan Chase 1:21:17

So that's why.

Assemblymember John Harabedian 1:21:17

Thank you. Very helpful. Thank you.

Assemblymember Buffy Wicks 1:21:18

Thank you. Any other questions? I have some but want to give my colleagues deference here. Oh, Mr. Carrillo.

Assemblymember Juan Carrillo 1:21:25

Thank you again, Madam Chair. My question is really more into the risk that you talked about and looking at where these projects are being developed in urban areas, like the example that you showed in San Francisco, LA, and other areas. When I hear the challenges in the area that I represent, which is north LA County, the high desert about 60 miles from LA, is that investors are not willing to do the multifamily. And interesting to hear what your perspective would be as an investor, if that's something that... what can we do to give more certainty? Obviously, there's a housing crisis. The region that I represent, we provide a lot of the workforce that goes down to LA, and that's very visible on the freeways. We travel down 60 miles to get to work, and it just takes long to get there, and the workforce is coming from these areas that are not as urban as LA. And what would you recommend for us to do to lessen that risk, so that you're able to invest in areas where developers, typical developers, are not willing to take the risk?

Cecile Chalifour—Head of Community Development Banking for the West, JP Morgan Chase

1:22:36

Alright. Complex question too, definitely. And you're right, we don't see a lot of developers and a lot of deals coming on the affordable side from this area. I actually want to share for the bank I work for, we actually do a lot of deals there on the debt and equity side. My team does that, absolutely that's a commitment. We don't have to. We do it. So, it goes into CRA obligation on that front. But we actually do it.

I would say, you know, actually for those areas, the risk is not so much on modular, because actually it's a lot less costly to build in your area. So, actually you know the benefit of doing modular can be really great—and maybe Mr. Dawson can talk more about that—or actually less, depending on the specific site, right? Because modular creates savings, not in every project. Your area, I would say probably in terms of attracting developers and investors, the risk is more typically on the discount to market. It's more... softer market in terms of, you know, rent growth. Operating expenses are still pretty high, for that matter. That's an area that has very, you know, high expenses too, but not necessarily the same rent. So, it's, I wouldn't say in that area the issue is modular, because actually in your area, modular is easy in terms of storage, assembly, you know, it's just logistics are a lot easier. So, I would actually focus on, you know, if I may say, on advocacy with financing institutions to make sure they also invest in your market.

Assemblymember Juan Carrillo 1:24:06

And to your point of having more factories and the demand.

Cecile Chalifour—Head of Community Development Banking for the West, JP Morgan Chase

1:24:09

Yes.

Assemblymember Juan Carrillo 1:24:10

I think that that's the perfect combination of the space to build these factories. And Mr. Lawson, you mentioned, you cited the cost of a factory to be between 30 and 50 million dollars. Is that in California?

Lad Dawson—Founder, Guerdon Modular Buildings 1:24:22

Yeah, well, I mean, it could vary depending on a lot of factors. How big is it? Where is it? How much is the land? But it's just, that's a typical investment if you were to figure the cost of building the factory, buying the land, outfitting it, equipping it, working capital, and then on top of that, you're going to have a certain amount of startup costs and losses. The one thing I would say is that one of the things that JP Morgan does, and most of our lenders on the projects—we've done 225 of these—and everyone has had a bank. And we've had to work through this and educate the bank in each case, and come to terms with how we're going to... So, we invite the bank to our factory. They came with a group of, like, six or seven people from around the country that were construction experts. They spent almost a whole day, and we went through—so they assured themselves. She talked about the experience... JP Morgan assured themselves that the capability, the experience, the knowledge, the processes, the manufacturing, and controls were there, that they could have a high confidence that it was going to be a successful project. And that was how they eliminate the risk.

The other thing is, we create programs within our own company. We have our own design studio, so we try to work with the developers and the architects to create and modify plans so that they are efficient and that they do use as many standardized specifications as possible. These are all things that we've learned to how to reduce risk for all the parties, and also how to lower costs, increase the speed—which, that's our whole objective. The other thing is, we have personnel that are on the site during the installation. We're there to supervise the site, to make sure that it goes well. We've got personnel that are there the entire time so that if there's any issue, it's taken care of quickly in real time. So, all these things are designed to mitigate risk and make the lenders comfortable. But it is a process with each one. And the other piece of that is that our focus is on developing strategic alliances with architects, general contractors and clients, so that we have a team that is working repetitively on recurring projects, so that it gets easier and easier as we go along, and the financing is always a lot easier in that case as well.

Assemblymember Juan Carrillo 1:26:43

Thank you. Thank you, Madam Chair.

Assemblymember Buffy Wicks 1:26:45

That team effort seems to be a theme here. Because if you're working with architects and contractors who have familiarity with all of this seems to make it easier. The last question I have, unless there's any other questions. So, it sort of also feels like you all have been sort of at the tip of the spear in many ways for this nascent but growing industry and have been sort of building the plane as it takes off the runway, so to speak. And learning from that through fits and starts. And Ms. Foster, love the innovative models that you're trying to do, and the fact you're trying to pilot different programs to see how can we provide more sort of flexible financing and really try to grow this? I know that the—what was it? The ICCF is a \$10 million pilot, which is a pretty small amount of money. Are there possible ways to expand that? I don't know who funds that but expand that. And also, as you're learning through this process, how are you presenting those learnings to the broader community so that other potential pilots or other models could come from that in other parts of the state?

Rebecca Foster—Chief Executive Officer, Housing Accelerator Fund 1:27:48

Yes. So, I would say the delta between when we did Tahanan and the projects we're doing now with the ICCF, and our Innovation Fund is the number of developers in the affordable space that are embracing modular and are laser focused on cost and time savings is just—it's a huge shift. And partially that's because local resources are scarce, and so the way you solve a lot of these problems

about softer rent markets, no local subsidy sources is by bringing down cost for your total development costs. You can allocate any of those scarce subsidies towards operating—to other things where we need to be putting our public dollars. So, I think part of the scaling and the lessons learned, we partner closely with Terner and other partners on research, and we co-chair an NPH cost and time working group right now focused on this with the field. But I think it's also that was the goal of the Industrialized Construction Fund was get more reps. Because we have several of our projects—they were here last week, Mutual Housing—they're doing first of five. And it takes doing them over and over again in order to start to get—we have similar projects with Mercy—to get at those savings.

So, to your point, yes, I think the pre-dev fund we have, which is supported by the CDFI Fund and the Chan Zuckerberg Initiative, and then the Innovation Fund, with Apple, Sobrato, several others... both could scale dramatically. And could the state provide some sort of backstop, top loss? That pre-dev fund, it's small but mighty, because it revolves. And we also need the financing certainty of our longer-term fund, but the pre-dev fund, I think, is—hopefully, we only need it for five years, and then we have a scaled system. It's de-risked. We have standardization. I mean, that's the goal that we get to. And so, if we have something that increases uptake and builds that demand in the meantime, I think that's really powerful.

Assemblymember Buffy Wicks 1:29:53

Great. Thank you. Well, with that, thank you so much to this—our technically third panel, but seems like second panel.

And with that, now we're going to move on to the workforce panel. For those of you—for folks testifying, please step into the hot seat. And again, would ask to keep your remarks five minutes ideally. And we have four panelists here who are going to speak. And we're very excited to hear from our friends in the labor movement. We had a lot of questions starting on this last week, so eager for the conversation. Why don't we start off, why don't we go in order of the agenda here. Mr. Thompson, would you like to begin? And I will start my clock and just kindly show you the time as it nears five minutes.

Randall Thompson—Preconstruction Executive, NibbiPrefab at Nibbi Brothers General Contractors 1:30:42

My name is Randall Thompson, and I'm Preconstruction Executive for NibbiPrefab at Nibbi Brothers General Contractors. Thank you, Madam Chair, for leading the select committee and for all of the effort put forth thus far by the committee members to research and understand how industrialized construction can support the state's housing needs. It's a privilege to be here today and take an active role in this process.

Nibbi Brothers is a third-generation family-owned union general contractor in San Francisco. With 75 years of experience, Nibbi has a strong, longstanding reputation of building quality projects throughout San Francisco and the surrounding Bay Area, not the least of which includes market rate and affordable multifamily housing. Operating as a division within Nibbi Brothers, NibbiPrefab was created two years ago in response to the successful completion of our first modular construction project: a 102-unit affordable housing development in Milpitas, California. This project started out as a conventionally built project but was converted to modular construction during pre-construction to make the project financially viable. Based on the metrics of cost, schedule and quality, that project was a success. As a result, we currently have 160 units of modular construction housing—or, sorry—modular housing under construction, and another 480 units in pre-construction at the moment.

At NibbiPrefab, we work closely with developers and design professionals during the design process to evaluate the feasibility of employing modular construction. When modular construction is selected, we are then responsible for vetting and selecting the modular manufacturer, their integration into the design process, and in in-factory oversight during production. Then upon the arrival of the modules at the job site, our union carpenters and laborers execute the on-site setting and structural connections of the modules. The attributes that we value most about modular construction are cost certainty for a significant portion of the construction project, increased level of coordination during design and preconstruction, reduced risk of schedule delays and otherwise caused by weather, and increased overall quality.

While the use of modular construction does shift a portion of the project's trade work from our local workforce to the factory, the use of modular construction is often a means to an end. In other words, the 10 to 15% cost savings achieved through modular construction is oftentimes the determining factor in a project's financial feasibility. It's better to build a portion of something than all of nothing. At the time, we built our first modular project, clients were modular-curious, merely exploring modular construction and doing so with mixed results. Now, clients are proactively choosing to employ modular construction to reduce costs as a competitive advantage when pursuing developer requests for proposals and tax credit applications. While momentum is building within the industry, we do have some work to do. We need to operate under the assumption that funding will continue to be a constraint, and therefore we must establish a more cost-effective means of developing, designing, and building housing. We need project team procurement processes that allow for collaborative project delivery methods. We need financial policy that supports the predevelopment and construction cash flow needs for implementing off-site construction. We need to change our thinking from a project level to a program level, and we need to educate project stakeholders, from developers through to our trades people, on the best practices associated with executing modular construction so that we can bring more successful modular projects to market.

Over my 22 years in the construction industry, though, one thing has consistently been clear: we can do better. Construction is the only major industry in the world that has become less productive over the last 40 years. During that time, manufacturing and agriculture have doubled their productivity. The technology sector tripled it. In its current state, the US lags most European countries like Sweden, whom you all visited, and its construction productivity growth. On top of that, our skilled and trained construction workforce is on trend to significantly shrink over the next 10 to 15 years. Again, we need to be thinking about how we can do more with less, or better yet, how we can attract and retain the next generation of the construction workforce. California is the largest state economy in the United States and the fourth largest in the world. We lead the US in many business sectors, including technology, aerospace, manufacturing, agriculture, entertainment, and life sciences, to name a few. As a state, we have the means, the resources, and the talent and the leadership to solve the housing deficit. What we need is big picture thinking. We need leadership and policy to pave the way. California leads the country in many ways; why not set the example of how high-quality, aesthetically pleasing housing at scale can be accomplished? Thank you for your time, and I welcome your questions.

Assemblymember Buffy Wicks 1:35:18

Thank you very much. Mr. Lira, would you like to go next?

Oswaldo Lira—Supervisor, Harbinger Production 1:35:22

Yes. Good afternoon, Chair, members of the committee. Thank you for the opportunity to be here. My name is Oswald Lira, and I am a supervisor for Harbinger Production, formerly Factory_OS. I began my construction career as a carpenter for residential and commercial contracting companies. I started as a

laborer digging trenches for commercial contracting companies, managing various projects ranging from new construction restaurants to houses, and offices, renovations and fit outs, traveling to different cities and counties. I travel with the crew for trained labor—bringing and gaining experience and knowledge and managing active construction projects. I have high standards and exceptional motivation skills from which I earn and transition to a role of a lead. I have 20 years of experience in construction industry as a union member and lead for Harbinger and now promoted to supervisor, superintendent Harbinger. I manage projects from the start to production through completion, I can work with general contractors, superintendents, design professionals, code officials and subcontractors, providing them information needed to complete projects in a timely fashion and on budget. Communication skills and ability to work through day-to-day challenges make a valuable part of our construction team.

Collaborating with the crew in the field has disadvantages. On-site construction has several disadvantages for workers. Long travel times, sometimes up to one and a half hours one way, creates fatigue and often unpaid. And delay from traffic or weather add to the strain. Weather interruptions can slow projects, increase safety risk, and cause workers to miss days, reducing their ability to provide for their families and limiting consistent hourly income. Extended time away from—also affects family dynamics, as workers miss daily responsibilities and important events, increasing stress and reducing work-life balance. Overall, these factors can lower morale, impact families' stabilities and make the road difficult to sustain without proper support and compensation.

Now I would like to talk about my eight years' experience with Harbinger Production, Inc. going from working outdoors to a factory. Factory constructions like Harbinger Inc. offers several advantages for workers, including a consistent location to eliminate long travel, reduces fatigue and lower personal expenses, like tolls, gas, car maintenance, etc. Workers benefit from predictable schedules, stronger communication with teams, and improves safety due to familiarity with one of their environments. Being able to return home daily supports better for life balance, allows participation in family responsibilities, and creates greater stability at home. These factors contribute a higher morale, steady income, and a more substantial working arrangement.

Also, at Harbinger Production, Inc. a faster turnaround time is essential to ensure the individuals in need are housed quickly, allowing them to transition out of hardship and into stability. This is especially important for those with criminal records who are seeking a second chance to succeed. As a contraction company, Harbinger Production, Inc. committed to supporting our workforce. We continue to see growth in diversity across age, gender-inclusive environment, and backgrounds within the team. We value the opportunity to bring in individuals who are in need to the construction trade, as well as those seeking those chances, including workers who might have faced past challenges or criminal records. By keeping a job local, we support our surrounding communities, provide training opportunities and help employees develop into skilled and valued team members. This approach not only benefits the company and the industry, but also gives workers a path towards stability, career advancements, and long-term success. Access to stable housing can remove barriers, support reintegration, and provide the foundation needed for long-term success. Keeping projects local will allow our companies to be stronger, contribute more effectively, and with that, people will have opportunities to work. Trust the process. Thanks for the time.

Assemblymember Buffy Wicks 1:40:56

Thank you very much. Mr. Smith, good to see you.

Jeremy Smith—Deputy Legislative Director, State Building and Construction Trades Council of California 1:40:59

Good to see you too.

Assemblymember Buffy Wicks 1:41:00

Would you like to begin when you're ready?

Jeremy Smith—Deputy Legislative Director, State Building and Construction Trades Council of California 1:41:02

Yes, I'm going to do my own stopwatch.

Assemblymember Buffy Wicks 1:41:03

Look at you. It's like, it's almost like you've been here before.

Jeremy Smith—Deputy Legislative Director, State Building and Construction Trades Council of California 1:41:06

Double check you.

Assemblymember Buffy Wicks 1:41:07

Yeah, trust, but verify.

Jeremy Smith—Deputy Legislative Director, State Building and Construction Trades Council of California 1:41:08

Yeah, right. I just don't want to go over.

Assemblymember Buffy Wicks 1:41:10

Ready. The same time, ready set go?

Jeremy Smith—Deputy Legislative Director, State Building and Construction Trades Council of California 1:41:13

Well, thank you. Thank you, Madam Chair, members of the committee. Jeremy Smith, here on behalf of the State Building and Construction Trades Council of California. We appreciate the time you're all spending here today on the Select Committee. I know this is my second committee today; I can't imagine how many different directions you're all being pulled in but thank you for being here today.

As we've talked about over the last decade during meetings and debate about streamlining bills, building the housing we need is something that needs to be discussed. Actually building it. We believe there are multiple reasons for the lack of housing supply in California. We're glad to be part of the conversation to discuss how the housing is built. While we prefer the model that predominates now—a job site where workers from all trades can do the work they were trained on in state-approved apprenticeship programs, they were trained to do at the highest skill level attainable. This training leads to an efficiently constructed and well-built project. We are no way implying that construction work should be taken off job sites, but the idea of modular construction intrigues us to the extent that

modular-built housing provides a solution to building—to actually building—more housing for people of all income levels. Members of all the construction trade unions should be part of this process.

That being said, modular housing faces a tall challenge to deliver units more efficiently than traditionally constructed housing that has had a century to be fine-tuned and streamlined. This is a challenge, but with the union workforce engaged and the State of California's support, the Building Trades Council is optimistic that we have a long-term model that incorporates all of the construction trade unions. That model is the one found at Fullstack Modular out of Carson. The president of Fullstack Modular is here today, prepared to speak during public comment, but available for questions on their model if the Chair or other committee members have any. And we will be following up with all of you to invite you to tour the facility between now and when things get really busy, just so we can all see what a full Building Trades Union facility looks like. Fullstack's partnership with the State Building Trades Council in California includes all of the construction unions in California building housing and represents the future of highroad housing delivery in California. Fullstack has voluntarily committed to card check neutrality and a full statewide agreement, including on-site construction, with the State Building and Construction Trades Council when they possess the right of control for all crafts, including the Carpenters, showing that speed, innovation, and respect for workers can coexist.

In addition to the ingenious design and system developed by Fullstack Modular, the partnership with the State Building Trades includes subject matter experts that ensure quality and integrity, in addition to helping with training a harmonious workforce that provides additional opportunities and entry points into the unionized construction trades—this is a point made earlier by previous speaker. Fullstack Modular has already ramped up to a workforce of around 200 hardworking building trades-represented employees. In addition to the hiring of subject matter experts, Fullstack Modular has hired a substantial amount of pre-apprenticeship graduates and other candidates referred by multiple trade unions. Because of the consistent work hours and the factory location within the community, trades workers and more crafts people are able to consider the trades and still accommodate childcare and other life needs. Workers who have not secured reliable transportation, for example, can more easily get to the stationary location of the Carson factory, making their transition into the building trades easier. These workers will hopefully enjoy a long career at Fullstack Modular or use this as an entry point into registered apprenticeship in our trade unions and become the next generation of skilled and trained construction workers in the state of California. Fullstack Modular has respected our union craftsmanship and our needs for good wages and secure benefits for these workers represented by the State Building Trades and signatory unions. The legislature wants housing built faster without sacrificing quality or safety. We believe this is the model to support. Fullstack demonstrates that modular construction when paired with union labor, both on the job site and in the factory, accelerates delivery, controls costs, and creates middle class careers across the state. Skilled and trained construction workers who already built housing right the first time, on time and on budget, outside will deliver the same high-quality products in a factory setting. Thanks.

Assemblymember Buffy Wicks 1:45:29

Under. Look at that, 4:15. Good job. Mr. Curtin, you are—

Danny Curtin—Director, California Council of Carpenters 1:45:35

Don't count on that happening.

Assemblymember Buffy Wicks 1:45:37

I've got my watch on you.

Danny Curtin—Director, California Council of Carpenters 1:45:39

Okay. Members, it's a pleasure to be here. I'm here to tell you on behalf of the Carpenters' Union—and if there's nothing else, remember, we support this effort, the work you're doing, the integrating with modular housing, absolutely from the top all the way down. We want to do everything we can to help this happen. And I appreciate these comments as well.

So many of you have heard me say this before, but I'm going to say it again to start the conversation. The housing crisis is the most disruptive social, economic, and political issue of our time. I don't know if you noticed me crossing some stuff out here, but I'll just leave it at that. You understand that probably better than I do. The Governor's recent report of the nearly 10% decline in unsheltered homelessness is welcome news, no question about it, but it's also a reminder of how difficult this problem is. You've been working on it and putting money into it. It's not simple. This crisis, I believe, is the foundation for the enormous anger we're seeing politically that's dividing us in America. A flipside of the housing crisis is the obscene and growing wealth divide, and I want to take a minute on that. The worst in over a century in America. The bottom—I love this—the bottom 90% of American workers make about 5% less today than they earned in 1970. In today's dollars, that's about \$12,000 a year. At the same time, the average cost of a house today in California is four and a half times higher than it was in 1970. Today's union carpenter—and some of you have heard me say this—in California, at the top of their game, working hard fulltime does not qualify for a 30-year mortgage for a bottom tier home in California. No wonder everybody is pissed off, not just us.

So, let me just say there's no question—we will not reach the millions of homes we need to build without the technological innovation and increased productivity of manufactured housing. You're seeing it firsthand; you're delivering it firsthand. But we need to build those factories in California. And I know that's a big part of the discussion, but there'll be a lot of pressure to import. The millions of homes we need is the market that can drive the investment. And the little bit that I followed what you're doing... was made very clear today... got to make the market coherent to support the kind of manufactured housing we're talking about.

A strong California manufactured housing industry can also play a key role—and I want you to think of this—as we adapt to climate change. You've heard of the term “drive till you qualify”—you were talking about two hours to a drive. Rapid affordable housing development in our urban centers where the jobs are can bring an end to the two-hour commute that many carpenters and other workers are forced to endure in order to buy a home they can afford. There's a major impact on the climate regarding that. Build these factories where good jobs are needed. This is mission critical. Your comments, Assemblyman. The Central Valley also is a prime example. As agriculture adapts to a changing hydrology, the workforce needs are changing. Climate-sensitive manufacturing jobs can be a lifeline, not just in the Central Valley, but all across California.

What we don't need—and can't have—is a race to the bottom, and you'll hear a few things I've been talking about over time. We don't need an industry where wage theft is rampant, where the underground economy and cash pay is a major factor, where billions of dollars of state and federal payroll taxes go uncollected—and I mean billions—where no unemployment and disability payments are made, where billions of dollars of state and federal social support benefits are provided to underpaid and even unpaid workers. That is essentially billions of dollars of government subsidy to the worst employers in the industry. We don't need that. We already have that in major portions of the housing construction industry. Private sector, primarily, of course.

What we do need: every incentive possible to attract housing factories to build in California. You're being overwhelmed by ideas. They're brilliant, many of them, mostly in coordinating the demand and financing things... way out of my league. Good luck to all of you. There's already numerous examples in law—etc., etc.—but you'll be looking for more. What we also need our, and this is the basics for us, decent wage standards. The governor, again, in his State of State speech, proudly mentioned California's newly established wage standards for nurses and fast-food workers. Put manufactured housing on that list, put it in the context that it needs to be. Healthcare coverage, provide workers and their families coverage at least as good as California-covered insurance would provide... often the difference between a livable income and poverty. One health disaster puts you out of the ball game. Retirement benefits, we should not allow, again, state and federally funded social service benefits to subsidize what employers should be providing, and the employees you see here are providing it. It can be done.

The industry is in its infancy, and if we don't do this right, we will undermine this industry that exists now that's just starting with low wage competition from out of state. You have a big task ahead of you. I don't want to in any way diminish it, but you won't just be building desperately needed housing. You'll be building a much healthier and happier California, I might add, and you'll be building a much stronger California economy. So, we really do look forward to working with you on the details as you shape this program. With the things I've just said in consideration, we look forward to working with you. We look forward to getting to work. Thank you.

Assemblymember Buffy Wicks 1:51:36

Thank you. Great. Now we'll bring it back to committee members for any questions. Mr. Carrillo.

Assemblymember Juan Carrillo 1:51:44

Thank you, Madam Chair. And first, I want to thank you for being here, all four of you willing to be part of this conversation. Thank you for doing that and the willingness to be part of the solution. And I appreciate the comments from Mr. Lira bringing out the benefits of having a centralized place where the work is conscious going and get out and get back home to their families as soon as possible. Those of us that represent different parts of the state, we know that we spend a lot of time on the freeways of people that we represent. My region is not any different than that. The two-hour commute is killing us, coming back home, not being able to spend time with our kids, missing the soccer practice, the baseball practice. Whatever it is, it's critical. So, I really appreciate the fact that you're here having this conversation, being part of the solution that we're trying to figure out. If we were able to put either a pilot program, statewide modular housing, your apprenticeship programs... Where is the workforce going to come from? Is that going to be a challenge for you? How is that going to look like if we're able to first solve our problems?

Danny Curtin—Director, California Council of Carpenters 1:52:45

So, I didn't bring up the training aspects, but of course, you know, we have training second to none. We have a leader of our Northern California carpenters here who has established training standards for modular housing as it's developed in Northern California. Mr. Nibbi would be aware of that. I know how the industry works. Some of them train their own people, but I think the training standards... I don't know how you mandate that, but clearly in a competitive situation, particularly what I saw in those factories, they're not as simple as just a robot going bing, bang, boom. They're far different than that. There's some significant training and cross-training. We have a slightly different approach to that, but

yeah, that should be part of your thinking. And I don't know how you mandate it, but that should be the cost that's also involved in some of these projects.

Jeremy Smith—Deputy Legislative Director, State Building and Construction Trades Council of California 1:53:34

I just wanted to pick up on that, and it's something I've been saying over the last decade in committees that you've chaired and about your bills. There's so much need for housing. Apprentices, apprenticeship programs need job sites to work on, to journey through their training, no matter the craft. So, the incentivizing construction of any housing—modular as well—is going to create those places where apprentices and pre-apprentices can become apprentices, and apprentices can journey through because they learn on the job. This case, they learn in the factory, right? But we have to give those spaces for them to work. And so, this housing has the possibility to provide thousands and thousands of new apprentices, because there's going to be places for them to learn.

Assemblymember Buffy Wicks 1:54:23

Great. Thank you. Thank you. Ms. Papan.

Assemblymember Diane Papan 1:54:28

Couple questions. First of all, thank you all for being here, Mr. Thompson—Nibbi's big in my area. So, my first question comes to you, and that is: were there advantages to you creating your own factory, as opposed to purchasing from one of these other people that only do factories?

Randall Thompson—Preconstruction Executive, NibbiPrefab at Nibbi Brothers General Contractors 1:54:55

Yeah, and maybe to clarify the role of NibbiPrefab... so we don't actually own, we don't operate as a manufacturer. We created a division within the company, as kind of a consolidated group of subject matter experts in that case. So, we do partner with manufacturers to do the work. So sorry if that wasn't clear, but yeah. The reason for doing that, though, and this kind of touches on a question you had earlier about some of the perceived risk and challenges. And I think one of the biggest challenges for the industry is, honestly, education. Much of this technology was not something that has a formal education program to teach at any level, whether it's at an apprentice or it's a professional practitioner or designer. So, you know, we're all learning this on the job every single you know one of us, except maybe Lad who's got decades of experience. But you know, we did that to consolidate the experience we had internally so we can ensure the success of future projects. So, within our group, we're taking the time to educate our project teams on each upcoming project, to ensure they understand the best practices. And we also work closely with our clients. We work closely with our design professionals and all of our trades to help them understand the approach as best as possible, so they can all be successful with it.

Assemblymember Diane Papan 1:56:01

And you've worked primarily with one manufacturer or you...?

Randall Thompson—Preconstruction Executive, NibbiPrefab at Nibbi Brothers General Contractors 1:55:05

No. At this point, we've worked with a total of four. We're working with VBC in Tracy. We're working with Guerdon in Idaho. Working with Autovol in Idaho. We're working with Nashua in Idaho.

Assemblymember Diane Papan 1:56:20

Okay, that is curious. Okay, so my next question comes, and—we touched on this at our last hearing, Madam Chair—and it deals with, well, there may be less for the trades to do on a particular project site. Are you going to make up for that in volume? And I haven't heard one way or the other, but I figured this would be your opportunity to enlighten me.

Danny Curtin—Director, California Council of Carpenters 1:56:44

Yeah, and thank you for that. And I also left out a piece about if we do this stuff in-house in-state, and we start rebuilding, you know, jobs. We also have materials. We used to have a really healthy timber product industry in California, which, for some reasons disappeared, literally. There's very few mills left. Those are jobs that could be redeveloped under much more environmentally sensitive timber harvesting and maintenance and provide jobs and work. So, the jobs in the factories, we believe, are somewhat or more fundamentally different than the jobs on the job site. We, as I said, Jay Bradshaw, has established a very strong training program for the factory-based type jobs. And if we do a million, two million homes—and what I understand is about, and you tell me, 40% still, 50% on the job site? Maybe a little less of job site work. It will be more jobs on the job site, and tremendously more jobs in the factories. And the training has to fit the particular needs of both of those. But there's just no question about it, this could be sort of a resurgence of manufacturing in California. Anything that, and I've said this before, anything that's climate change-oriented to meet our goals, we should stop bringing those products in from overseas, from other states. Start building factories. This is the perfect one to start that process with, to re—and I don't want to say re industrialize, that scares people. But with a climate sensitivity, those jobs will be numerous, and it definitely needs to be done because the economy, the wages are not, you know, we can't... It's starting to topple. So, yeah, I don't think there's a jobs issue related to this at all. If we stop building houses, except for these houses, maybe. But there'll be a mix, you know. Fully built on site. But we need so many houses that there's nothing but job growth here.

Assemblymember Diane Papan 1:58:48

But you assume that you're going to have your union folk in the factory.

Danny Curtin—Director, California Council of Carpenters 1:58:53

I don't assume that. I suspect that will be the case, because we do good work. And we bring the production, and I think competitiveness. And perhaps you know that—I think it's a union factory—we can compete. We can compete unless there's no concerns about deteriorating conditions like in the housing industry. I mean, you know, people bringing people to the job, no payroll records, billions of dollars of state subsidies to the workforce. If we do this California right, with a decent standard, and if we can do it for nurses and fast-food workers, we can do it for this particular industry and make it competitive, at least as competitive as importing.

Jeremy Smith—Deputy Legislative Director, State Building and Construction Trades Council of California 1:59:41

Oh, you ready? I agree with Mr. Curtin.

Assemblymember Buffy Wicks 1:59:49

It finally happened.

Jeremy Smith—Deputy Legislative Director, State Building and Construction Trades Council of California 1:59:51

There's so much work, right? I don't think it's a one-to-one ratio. I think it's going to be combo, yeah, I think you're right. On-the-job and in a factory and I think we got to get the wages right. We got to get the benefits right. We support a factory setting where all the crafts are represented. But I couldn't quibble with much of what he said there.

Assemblymember Buffy Wicks 2:00:12

Great. I wanted to also... Ms. Wilson is not well today, so was unable to come. But she sent me a question she wanted to get asked, which I also share the same curiosity. And since Fullstack is here, correct? Maybe they can help. If you want to step up to that mic up there, that would be great.

So, this is what she wrote. Fullstack has an agreement with the State Building Trades and was selected by Cal Poly to complete nine housing buildings in 2030. My understanding is that after the first building was completed, questions arose about whether to continue the partnership, because the anticipated cost savings had not yet been realized, and Cal Poly is now considering pursuing a different approach. I also understand that Fullstack made significant commitments in reliance on the original agreement, including dedicating its whole operation and hiring staff to fulfill the five-building obligation. At our first hearing, we discussed the importance of supply chain stability. This partnership appears to reflect that principle, particularly given its foundation in the use of skilled and trained labor. Could you provide the committee with additional insight into this experience, including what has worked, what challenges have emerged, and what lessons we might draw as we consider potential policy or legislative actions?

Roger Krulak—President, Fullstack Modular 2:01:23

Sure, and thank you. I have so much to say about everything I've heard today, and it sort of all relates to this, which is—and I'll bring it back to Cal Poly in a second—but the most exciting thing is is Cal Poly did understand several things, which is that, for industrialization in construction to work, you have to—

Assemblymember Buffy Wicks 2:01:41

And sorry, is the mic working?

Roger Krulak—President, Fullstack Modular 2:01:43

Am I—is that better? Can you hear me now? Hello? Is that good?

Assemblymember Buffy Wicks 2:01:51

I just want to make sure that folks that are streaming can hear as well. Is that right? Yeah, okay, great. You're on.

Roger Krulak—President, Fullstack Modular 2:01:57

All good?

Assemblymember Buffy Wicks 2:01:57

Yes.

Roger Krulak—President, Fullstack Modular 2:01:57

Okay. Check 1, 2, 3. Okay.

So, Cal Poly's effort related to doing an RFQ for a team of people to build a series of buildings—it wasn't actually six, it was eight buildings and 4,200 beds. And over a six-to-eight-year period of time. And then a team was selected, and that team was the Design Build Team for the project. And as I've heard in almost all of that testimony here today, building that team and the process associated with using industrialized construction requires effort that is not normal construction process. Industrialization requires, we've heard, 100 times throughput through the factory. Having a lot of factories is a good idea, but having a lot of empty factories is just a cost to somebody. So, Cal Poly asked us to commit our factory to building an eight-year program, not look for any other work so that we could have throughput, and they could get their project, you know, year by year, etc. And as often happens, when things get strained, people go back to what they're used to doing. And the standard construction process is not at all an industrialized process.

And so, what's happened is, is there's been strains. The one thing that people must realize is that the first time you do something, it's not near as efficient as the 10th time you do it. And so, the first building is never going to be as good as the fifth building in industrialized construction, because it's over and over again. So, they are going through that stress right now. My hope is is that there's a resolution. The timing is a problem, because if you want a building every year, you have to get the permits in June so that you can start in March so that you could finish in August. And that's what's going on right now. And our hope is that they move forward. And if not, we'll, you know, we'll do something else in the factory. But that's what's going on. The great news is that we've got—and you can tell me to stop whenever. We've got 200 workers in the factory. They're all from pre-apprentice programs. It's every trade in the factory. It works incredibly well. So please come down and see it. And we're putting out three-to-four mods a day, which is some serious square footage, and it's working great.

Assemblymember Buffy Wicks 2:04:29

Thank you for that. And Mr. Smith, did you want to add anything to that?

Jeremy Smith—Deputy Legislative Director, State Building and Construction Trades Council of California 2:04:32

No, no, I think that was great. Thank you for asking.

Assemblymember Buffy Wicks 2:04:36

Great. Okay, thank you. Any other—Mr. Gonzalez?

Assemblymember Mark González 2:04:39

I think somebody referenced this. What is the role of banks' investments in modular housing? Or what are your thoughts on that?

Danny Curtin—Director, California Council of Carpenters 2:04:47

Don't look at me.

Randall Thompson—Preconstruction Executive, NibbiPrefab at Nibbi Brothers General Contractors 2:04:48

Well, they're definitely a partner in the process, I'd say that one of our challenges is getting through the underwriting processes, because, again, it's new and there's been mixed results in the industry, with projects being successful or not. And so, as a builder, we go through an immense amount of scrutiny, with questions getting into way more into the details and the means and methods than we would if it was a conventionally built project. Part of it is because they're hearing these stories and want to make sure that doesn't repeat on their project, which we do appreciate. But I think kind of creating more—again, going back to the educational standpoint of, what are the questions that should be asked? What's the criteria that needs to be satisfied for the lenders to be comfortable that they've got a team that knows what they're doing, they're skilled, and the job is going to be successful? It's something we've kind of contemplated doing as an outreach, but it's just one of the challenges, right? And it always happens right as we're going to closing, that you've got these hurdles, and you've got all these things to respond to, reporting to provide.

Outside of that, I think one of our greatest challenges—which I know has been mentioned, I think a number of times—is the alignment of financing processes and schedules with the construction schedule, particularly for the manufacturer. But then you have partners like HAF, for example, that are coming up with solutions to that, that are providing soft costs to help cover early pre-development costs needed for the factories that otherwise wouldn't be available through another source. But they're just one source providing that at this time. But I think any policy that can be done that can help streamline that would be to the advantage of the industry.

The other biggest hurdle is tax credit schedules. You know, a client gets a tax credit award, we've got six months to get ready to get permitted, go to construction, and start, right? And so, leading up to that, most manufacturers, you know, who have been selected already, they've been part of the design team working to help inform the design process, right? But the client needs to pick a position in that factory queue, and they need to do so with some level of certainty. But oftentimes to help the manufacturer have certainty in their production backlog, they need that commitment earlier on. So, if a client goes out at risk prior to tax credit award, because they're confident about that, they put down hundreds of thousands of dollars as a deposit, and then they don't get that tax credit reward, things start to unravel, right? They lose the money, or B. the manufacturer is kind enough to say, "Hey, I can move my schedule around. I'll give you the next available spot, as long as you're still committed." By the time the tax credit comes back, an award does come around, it could be two or three rounds later. The position available in that factory's queue may not now work for that new construction schedule that says you have to start in six months. We've lived that.

So, it's definitely one of the challenges. I think, if there's policy to be done that can give alternative means of scoring for tax credit applications, so that the developer doesn't feel so compelled to check the readiness box as part of their competitive, you know, edge that would help give some more room so that those six months wouldn't have to be so tightly wound.

Assemblymember Buffy Wicks 2:07:32

Thank you. Ms. Caloza?

Assemblymember Jessica Caloza 2:07:35

Thank you so much to our Chair Wicks for this. And apologies I missed the other panels but really wanted to make sure I was here for this third one, because it's about—outside of addressing our housing crisis—it's also really the opportunity for our workforce and what this means, and what this growing industry and our housing market means for our workforce.

I remember when we went on some of our tours for the factory-built housing and some of the work that's happening in Idaho and in Sweden, one of the things that I was really pleasantly surprised by—and I found really remarkable about the factories—was how many women I saw working in the factories. And so, we'd love to hear a little bit more about that from both of you and anybody else on this panel about what the opportunities could be for some of the underrepresented groups that maybe don't engage as much right now. On the building trades side, on the carpenter side, on the private sector side, that we could grow. Because that was something that I walked away from on these visits, thinking, "Wow, all the women that have left the workforce, this could be a real opportunity for them to re-enter the workforce." Whoever wants to start.

Jeremy Smith—Deputy Legislative Director, State Building and Construction Trades Council of California 2:09:06

I think you raise an excellent point, Assemblymember. And you know, several of you were here back in 2021 or 2022, when the Equal Representation in Construction Apprenticeship Grant Fund was created—the ERICA grant. What we found in our industry is that, especially for women, the number one reason that they don't finish their journey through their apprenticeship is childcare issues, the access to childcare. So, the visualization of a factory with a set time of day where a person is working, whether it be a woman or a man, a single parent. You know, childcare disproportionately falls on the shoulders of women in this country. But I think that is very appealing to folks who have family and childcare needs and issues that are harder to meet when you have to be at an outside job site at 5:30 or 6:00 in the morning, because by 2:00 PM it's 105 degrees and we can't be working anymore, right? And so, I think that this model has a very... this model is going to be very attractive to folks in our economy who maybe want a job in the construction industry but struggle with the demands that the industry puts on families to be at job sites at times of the day or end of the evening or overnight that aren't very family friendly. I think you've hit on something very important, and I'm glad you raised it, and it's something we're very excited about.

Assemblymember Buffy Wicks 2:10:42

Anyone else care to add to that?

Oswaldo Lira—Supervisor, Harbinger Production 2:10:46

Yeah, I wanted to add also at Harbinger we have about 30% of our employees are women, and all genders. I do have 20% of them working with me as painters, and that's all. I mean, it's opportunity for everybody here. We appreciate everybody being with us.

Danny Curtin—Director, California Council of Carpenters 2:11:10

And just one quick comment: that's why this is not going to be stopped, and that's why we have to do it right. This changes the nature of this kind of work. It's indoors, it's 50 weeks a year. At these factories, this is not easy work, as you well know having seen it. But it's doable, and with the right training, it just changes the nature of work so that everybody in the workforce will have a better shot at this. No question about it.

Assemblymember Buffy Wicks 2:11:35

Thank you.

Assemblymember Jessica Caloza 2:11:36

And yeah, and I think that that was something that I didn't hear, and I really wanted to uplift that. And I know there's going to be, you know, some tough policy conversations to be had, but I want to really focus in on the opportunity for some of the people that have been left behind in the current state of the industry, and who is not part of the workforce as much as they could be. And there's a real opportunity here, specifically for women workers, and so just want to emphasize that for all of you.

And my last comment is that it's really nice to see all of you at the table. So, we look forward to seeing more of this this year, thanks to our Chair.

Assemblymember Buffy Wicks 2:12:24

Ms. Quirk Silva?

Assemblymember Sharon Quirk-Silva 2:12:29

Yeah, I do appreciate you all being here. I was a little nervous, because I'm one of the legislators who've been here when we started this conversation a good handful of years ago, where it was difficult and there still will be difficult times, any times there's change. But to hear that, whether it's the Carpenters or the Trades or the private sector, that there's work for us in the future, and there's still room to continue traditional model, as well as invest and educate in this new frontier, if you want to say it that way. The tours that I would be happy to go out to, I think you said... Compton? Carson. Because I think those are really valuable for those of us who have already been out on some... I mean, you have this firsthand experience going to Sweden and seeing their factories, but not just the factory, but also the homes that were built, is pretty eye opening to see the speed, the weather conditions, and theirs are opposite of ours. Really, it's the cold factor that they're trying to build and get these units up within three days of just the prefab, not the interior.

But the factory, to me, was really—like I said—eye opening, because you see the systems they have in place that really protect the worker in many ways. I know one of the little... we want to say “stages,” because to me, it was like, you do this, then you do this, then you do this. Was where they had the workers kind of on a platform. I think they were doing the plumbing of some of the units, and they really just had to turn around, grab the PVC, and everything was lined up and staged for them. So, they're on a platform. They're not going up and down. They're just doing these. And so, you did see women on those lines. And I've seen, like, the iron workers. I have that in my district in La Palma. And that to me seems like really hard, heavy work, whereas for some of these trades, I think women—not that women can't do iron work, so women. But it would be very difficult. But this seemed like there were many

opportunities that women could. So, I wanted to add that I do think as we move forward in the next years to come, we will start to see just an expansion.

But going back to the governor's address that sure we all watched every moment of it. He talked about men, and what's happening with men. I don't know if anybody remembered that part, but I do, which is, you know, we have a loneliness thing. Men aren't going out on dates. Men aren't... I mean, there's this whole thing about doom scrolling. There's the whole thing about like they've just banked out, like they don't—and I really do think this trades, whether it's in factory or out in the workforce, is where we have to focus. And we have to align our education systems, which now I'm being way too macro here. But the point is that we spent a decade, two decades, where everybody's going to college, everybody's going to college. And now we realize that not every young male wants to go to college, and even if they do go to college, they're not thriving there. So, we need to get them out into the workforce, and they want to work with their hands. They want to build things. They want to do this. So, I think this is the right timing for all of this conversation. We got to get guys out of the bedroom, off these devices, and get a hammer in their hand.

Assemblymember Buffy Wicks 2:16:27

There we go. I love that. I love Ms. Quirk-Silva in her last term, just pontificating on all the big things from the dais. I'm here for it.

Thank you very much. I want to say just in closing for this panel, having spent the last, I don't know, four plus years living in the very uncomfortable political place between the Building Trades and the Carpenters and the developers, and trying to figure out, how do we have the strongest work standards and still have stuff pencil and make it feasible and build the housing that we need to. I just deeply appreciate you all being here today, and you have my commitment to try to figure out the right solution so that we can all have our cake and eat it too, because there are demonstrated models where this is actually working, which is encouraging.

So, thank you so much. And with that, appreciate y'all being here, and we're going to move on to our last, most exciting, I guess, or pontification of policy agenda by Turner Labs. Mr. Pullen, please step up to the plate, and you will have... He's even putting on a suit jacket. I mean—

Tyler Pullen— Assistant Director of Building Innovation, Turner Labs 2:17:51

I do this for you.

Assemblymember Buffy Wicks 2:17:52

Thank you. Dress for success. Okay, you will have five minutes, and you can begin when you're ready.

Tyler Pullen— Assistant Director of Building Innovation, Turner Labs 2:18:03

Thank you. Good afternoon, Chair Wicks and the Select Committee. My name is still Tyler Pullen, and I am the Assistant Director of Building Innovation at the Turner Labs and researcher at the Turner Center for Housing Innovation at UC Berkeley. I've spent nearly a decade researching and working in and around innovative and industrialized construction topics, especially factory-built housing or FBH. In that time, I've done hundreds of interviews and sourced and reviewed over 800 companies innovating in the building industry here and abroad and joined or hosted several international study tours on the same topics. And just in the past two months, Turner staff has spoken with more than 50 people in the

housing industry in California, including many of those on these panels to identify best practices and collect potential policy ideas.

From this and previous research, the good news—there is good news—is that many of the challenges you have heard about in these hearings are solvable. An important preface though, the following ideas are not all inclusive of the policies we heard over the last several months, but they represent a subset of those that had relative consensus among interviewees. And I will note importantly that the full and more robust list of policy ideas will be published in the white paper we are actively working on.

Altogether, the policies fall into four main categories. You can move slides. The first area centers around building code reform, everyone's favorite topic. The goal is to increase certainty and consistency in code review and enforcement. For instance, as the state has done for some elements of local zoning, it could decide for the state building code to preempt local codes for FBH, or writ large to minimize local variations that can make standardization that save costs difficult. Some interviewees reported that the existing state program for in-factory inspect inspection that you heard about earlier is intended to apply in this way, but there can still be friction with local code officials unfamiliar with HCD's program. Another suggested policy to address this was to allow state-certified third-party inspectors for all on-site work for FBH projects, rather than just the in-factory portion, to minimize the coordination risk between state and local review scopes. Other ideas supported by interviewees encouraged further streamlining, such as establishing a shot clock for local review of FBH projects. Next slide or next bullet point, please.

A second policy area identified focuses on reducing the risk and liability gaps on FBH projects through targeted state funding. For instance, a state program could support factory bonding to minimize pass-through risk to general contractors and developers while the industry matures to be able to bond more of its own projects. Another suggestion was a state loan guarantee program available to developers using FBH for their projects, so that early adopters of innovation are supported if and when their factory partners fail. Note that we did ask interviewees about potential funding or tax incentives to directly stimulate the construction of new factories but heard that removing regulatory friction and easing project financing was more important to stabilize the industry in the near term. Next bullet point please.

A third policy category centers on using existing programs such as those supporting affordable housing to incentivize and support innovative methods and using limited state resources more efficiently. Incentives could focus on desired outcomes, such as granting additional points or providing additional funds for those delivering housing more quickly and cost effectively, contributing less waste to landfills, or reducing on-site disruption with less noise and traffic impacts on neighbors during construction. Adjustments to existing state financing programs could support a wider range of eligible spending, such as on the upfront deposits mentioned earlier and early drawdowns often required for FBH projects to move forward. Other research into innovative construction highlights demand aggregation as a key place for government intervention. This generally refers to a consistent market demand to stabilize a high volume of factory output needed for factories to succeed. Interview respondents in our research had mixed views on how best to achieve this, but they identified university student housing and surplus state-owned land sites as potential targets to aggregate demand for FBH. Last bullet, please.

The fourth major area identified for state action is an education and research. This could include more outgoing education and training for local code officials and inspectors to improve the streamlining function of the existing in-factory inspection program run by HCD. The state could also standardize, collect, and share better data on project outcomes to build a deeper evidence base on the dynamics influencing development costs generally, and specifically the impact of innovative building methods on these outcomes. And finally, the state could directly fund research with one specific suggestion to seed

one or more research centers providing virtual or physical hubs for the knowledge sharing and training described above.

In conclusion, even the most successful international precedents show that mature and stable ecosystems for construction innovation take time and providing a supportive regulatory environment for housing progress writ large, is definitely a long-term project. But there are near-term opportunities for California to establish itself more firmly as a national and global leader in forward-looking reforms for innovative construction. To that end, I look forward to your questions and continued discussion. Thank you.

Assemblymember Buffy Wicks 2:23:18

Thank you. We have had now, maybe... I don't know, six or seven hours of hearings from the last hearing and this one, in addition to the 70 plus interviews, or experts interviewed, in the process, as well as visits to—

Danny Curtin—Director, California Council of Carpenters 2:23:34

Excuse me, Madam Chair. Men getting away from their phones...

Assemblymember Buffy Wicks 2:23:36

Would you like your phone?

Danny Curtin—Director, California Council of Carpenters 2:23:39

I thought I'd leave it and see what happens.

Assemblymember Buffy Wicks 2:23:46

And there's no non-awkward way to come up and grab your phone while someone else is presenting.

In addition to the hearings, the interviews, we've had visits to Sweden, to Idaho. There are other visits that we're looking to do... Fullstack, Harbinger, others. I know individual members live in other places. The point being, we have done a lot of homework, and now we are really relying on the Turner Center to help take all of that thinking and present a cohesive policy agenda that we can help try to materialize and actualize the vision board. The vision board of bringing down the cost of housing through newer, innovative models.

So, we don't have to have all the answers today, because they're going to provide them in written form. Yes, I know the Turner Center is quickly putting together a policy paper that's going to be out, I think, to the public around mid-February. Is that correct? Great.

Tyler Pullen— Assistant Director of Building Innovation, Turner Labs 2:24:48

In theory.

Assemblymember Buffy Wicks 2:24:49

Yes. That will help to inform our policy work for this year. But with that, I don't know if anyone had any final—I know we have public comment, but any other closing remarks from Members?

Assemblymember Diane Papan 2:25:02

Just thank you, Madam Chair, for leading the charge here. It's been fascinating.

Assemblymember Buffy Wicks 2:25:06

Thank you. And thank you to the Turner Center, to all the Members who've participated. This has been, I think, these past hearings have been some of the most robust—as well as the trips from the committee themselves. And I've been on many a Select Committee, and I can assure you, I'm very proud of the work that we've done here to date and look forward to... this is just the beginning of this conversation around the policy changes that we need to create so that we can actually realize what I think the vision is that many of us have.

So, with that, appreciate your guys' testimony and look forward to more conversations, and we will now open it up to public comment. Anyone, step up to the plate if you would like to opine on housing construction innovation. Just name and who you're with, and any quick comments.

Tyler Schilling—Chief Executive Officer, Integral Methods 2:25:52

Good afternoon. My name is Tyler Schilling, and it's exciting to see a committee focused on manufacturing innovation for the housing industry. I was so compelled by the crisis that a little over a year ago, I stopped doom scrolling, and I started a company called Integral Methods. And our objective is to make home ownership practical again for individuals and families of modest means, and we're doing it through the development of a building system designed to reduce the cost of single-family homes by more than 50% and the construction time by more than 90%. And we're here in the local area in Woodland, California, and I'd invite any members of the committee to come and see what we're doing if you wish. Thank you.

Assemblymember Buffy Wicks 2:26:55

Thank you very much.

Rachel Mueller—California Coalition for Community Investment 2:26:58

Hi, Chair and Members. Rachel Mueller, on behalf of the California Coalition for Community Investment. We're a CDFI coalition in the state. We represent 50 CDFIs, many of which are housing CDFIs, one of which was on your panel today, Housing Accelerator Fund. And I just am grateful that you guys are holding these conversations, inviting CDFIs to participate. They hold a lot of knowledge. They're great at this. They've got decades of experience, and we're just really glad to see that they're part of this conversation. Thank you so much.

Assemblymember Buffy Wicks 2:27:25

Thank you.

Mitch Beckfield—District Council of Iron Workers 2:27:28

Aloha, Chair and Members. Mitch Beckfield on behalf of the District Council of Iron Workers. We think that this is an all-of-the-above approach. It's not going to be just modular; it's not going to be traditional.

But ultimately, at the end of the day, it has to do with workers and wages. So, we just want to make sure that you guys focus on that as well. Thank you.

Assemblymember Buffy Wicks 2:27:45

Thank you. Any other public comment? Last one.

Roger Krulak—President, Fullstack Modular 2:27:52

Again, Roger Krulak, Fullstack Modular. And I wanted to—I heard some of the comments from all of the committee. And I just wanted to touch on something that maybe you're not thinking about, as it relates to say, the building trades. When we're building in a factory and we're assembling things, there are components of those things that are built by somebody. They can be built by union electrical companies, etc. So, they don't necessarily lose the work. What they lose is inefficiency. And so there can be same participation. Rosendin Electric does a lot of prefabricated electric, could go into our systems, etc., so on and so forth. And so, I don't know, think about maybe restructuring the way we think about building construction by embracing industrialization, it's still the same amount of work that can happen here in California.

Assemblymember Buffy Wicks 2:28:38

Great. Thank you. And with that, we are meeting adjourned. Thanks everyone.