



Mass Timber

Insurance Strategy

Roadmap: 2025-2030

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Cover Photo

The Canyons, photo by Marcus Kauffman, Oregon Dept. Of Forestry

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Introduction

Creating the Roadmap

This Roadmap was developed from the findings of six months of existing literature review and conversations with architects, builders, building owners, insurers, brokers, and consortiums. The barriers, opportunities and recommendations identified herein are crafted from these interviews, and have been peer reviewed by the individuals listed on the previous page. There are many benefits to moving quickly to engage in the Roadmap recommendations. The momentum will continue regardless - the outcomes are what this Roadmap hopes to influence.



How to use this report

The document emphasizes the need for collaboration, data collection, education, and standardization to develop a viable insurance market for mass timber construction. To understand the problems the industry is facing, the state of play, top issues as described by insurers, and opportunities for change, turn to the Executive Summary, Goals, Objectives, and a Five-Year Action Plan that appear in the Roadmap section.

To achieve the goals to **balance premium cost** and **increase insurance capacity**, detailed recommendation follow the Roadmap summary that connects nine key challenges to the three main objectives: **Build Data**, **Educate Insurers**, and **Educate Project Teams**. For quick reference, the nine challenges are listed here in the form of key recommendations.

Key Recommendations

1. **Collaborate and Build Relationships:** Develop industry champions, create and participate in consortiums, attend conferences, and build relationships with insurers and reinsurers.
2. **Build Data:** Advocate for standardized classifications, create common databases, track research efforts, and validate international research.
3. **Develop Repairability Standards:** Conduct lab research, develop cost-benefit analyses, create installation guides, and address common repair concerns.
4. **Address Fire and Moisture Damage:** Create lists of causes, conduct lab tests, address smoke damage, and identify mitigation strategies.
5. **Capture Field Research:** Establish funding to publish field research.
6. **Educate Insurers:** Publish mass timber construction market projections, host workshops, maintain online resources, attend events, plan tours, and create market projections.
7. **Develop the Marketplace:** Create a pool of underwriters, update networks, work with insurers to improve rates, and catalogue premium ranges.
8. **Support Project Teams:** Include insurance awareness materials, develop online resources, create protocols, and provide group coverage recommendations.
9. **Address Inexperienced Teams:** Provide workforce training, checklists, standards, mitigation and repair education, and a building owner's manual.

For a deeper dive, continue on...

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Executive Summary

The Problem

Developers and contractors are reporting that a major barrier to building with mass timber is the cost and/or availability of builder's risk and permanent property insurance. Insurers, brokers, and project teams alike all noted that just in the past year premiums have changed dramatically for both insurance categories. This shift resulted in startling impacts on project budgets across North America, leading in some cases to dramatic last-minute value engineering and in others building owners ditching mass timber altogether.

For mass timber to continue as a viable replacement for other construction materials, consistent methods and outcomes for insuring projects are needed. Risk evaluation systems are very complex and the entities who would benefit from lowering insurance premiums straddle many markets. As a result, it is not always clear who is best positioned to lead the effort to address barriers and find solutions. Meanwhile, the landscapes of both the mass timber and the insurance industry are changing rapidly as innovations develop, more data becomes available, and macro-economic influences shift at a global scale. Thus, a comprehensive multi-industry strategy is needed.

Why Now?

Over the last decade, mass timber in North America has mushroomed from a small number of buildings to thousands across all climate zones. At the same time, increasing frequency, severity, and duration of catastrophic weather events has rattled the insurance industry, resulting in inconsistent availability and increased property coverage rates across the board¹. The Urban Land Institute reports that "real estate insurance costs are up 73% from five years ago."² Cautious by definition, insurers also seek to grow their markets. They are taking notice of the rapidly growing mass timber sector as a potentially significant part of their portfolio, especially as they face economic pressures to decarbonize. The increased awareness and demand, while positive, highlights the **lack of actuarial data** and the risks inherent in project teams trying something new. Unknowns equal greater risk. For insurers to cover mass timber assets they need more data, best practices standards, and evidence that teams understand how to execute these projects properly.

The state of actuarial data for mass timber buildings

The insurance industry standard for construction risk classification (ISO) does not currently have a type that matches the actual risks and benefits of mass timber. Insurers who do cover mass timber buildings broadly estimate the risk as somewhere between ISO category 1 (light frame construction) and ISO category 3 (non-combustible), and recognize it as distinct from ISO category 2, where heavy timber has often been classified. Without a standard, insurers all take a company-specific approach, which makes comparative data difficult to achieve. **A new ISO category is necessary to build actuarial databases.** Fortunately, a new mass timber ISO category will be rolled out in 2025³. As there are no drafts available for review, recommendations on engaging with its development are addressed in detail later in this report.⁴

There is also a need for the data itself, which can be reliably gathered in two ways: actual losses and simulated (physical or computer modeled) tests done by trusted labs. Accumulating actual loss data is slow and is happening in silos because of the lack of classification of these buildings and the proprietary nature of each company's data. If this data were publicly available, it would still be a challenge to quantify and sort it; loss incident descriptions can vary widely, making them difficult to compare. Many incidents do not result in a claim, which means the data—which represent valuable learning opportunities—is not being captured. Lab data is an acceptable alternative and can be widely disseminated, but it relies on funding opportunities and to be designed in such a way as to be relevant to multi-sector concerns.

Data gathering efforts should be focused on the following three areas of concern. Presented in order of least to greatest unknowns, they are:

- Fire damage
- Water & moisture damage
- Replacement or repair of damaged installed (in-situ) material.

Each concern applies both during construction and occupancy. It is helpful to consider them as they apply in common claims occurrences and also as framed by “CAT perils:” catastrophic events such as earthquakes, floods, and windstorms. Improving insurer's general understanding of how life safety issues are addressed in these cases is essential.

While fire resistance questions commonly arose during the investigation of this roadmap, most insurers felt this was fairly well addressed by lab tests and a more predictable hazard than moisture. Post fire damage includes sprinkler deluge and smoke damage, which both carry greater unknowns than the fire behavior. Moisture can intrude a structure in a multitude of ways, and there is a dearth of information on how it does or does not impact the performance and appearance of the structure. Unknown costs, timelines, and implications to occupants associated with repair and replacement are significant barriers—insurers are responsible for understanding these impacts in as much detail as possible.

Opportunities

Fortunately, many major insurers have innovation departments and specialists doing research into viable new markets. These groups and individuals are motivated to work with mass timber experts on addressing barriers to accurate risk assessment, creating a timely opportunity to collaborate across disciplines and make rapid progress toward the goal of greater insurability for mass timber buildings.

Global Macro Influences

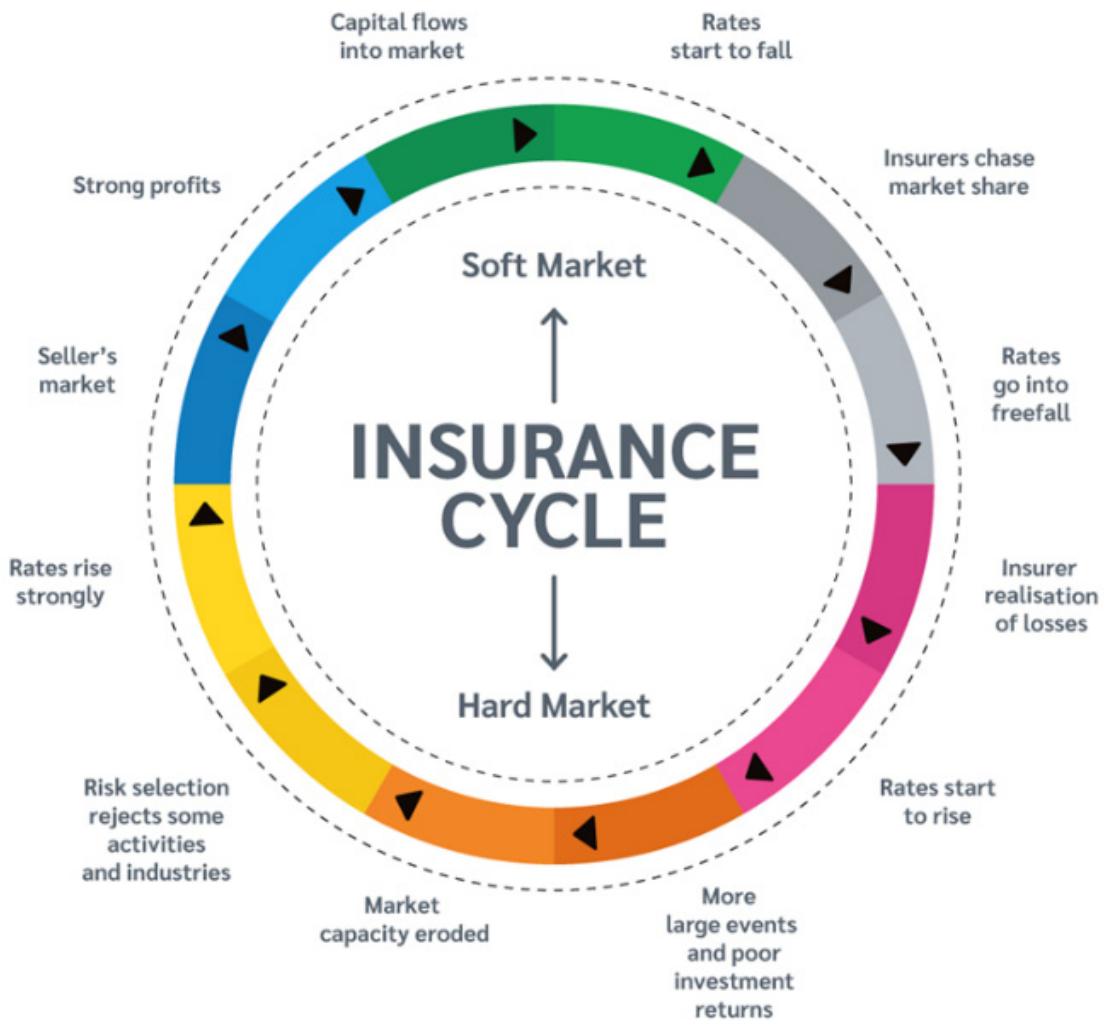
Increased global interest in low-carbon technology is driving the demand for more mass timber buildings. A significant driver for decarbonization is the upcoming [EU Taxonomy](#) carbon regulations that create new disincentives (i.e. fines) for company portfolios that do not meet target carbon reductions. This is important because European insurers and reinsurers provide coverage for many US buildings. If these markets require carbon reporting, American businesses will need to as well to continue working with EU carriers.

Technological tools for project teams to coordinate between disciplines and to track metrics are advancing rapidly. More technology means more data, which could translate to meaningful changes in terms and conditions if properly used, and some companies believe that advances in construction technology can provide a pathway to improving mass timber insurance outcomes. It is becoming more common for insurers to ask for building-embedded technology, such as flow meters and alarm triggers for water main breaks, as a way to mitigate losses during construction and occupancy. In the words of one broker, “pre-built is better than re-built!”

Insurance supply

The available capacity in the insurance market is relevant to the conversation, and will need to be tracked as the Roadmap is executed. New and worsening natural disasters seem to be limiting the supply of insurance for some project types, while others might see more availability, and rates vary across multiple factors. According to USI Insurance Service, the current state of the industry is still in a “hard” market but with moderation trending down in favor of policy holders. For example, in the current market environment for builders risk, there could be both a real and perceived fact that total capacity available may be less than some mass timber project sizes. Therefore, this means that some projects may not be insured to the full value, and multiple carriers must be approached for a “quota share” to achieve full coverage.

Figure 1: Market Cycles



Funding

Who financially benefits the most from overcoming the barriers to mass timber insurability?

- **Insurers** are motivated by new market opportunities and meeting increasing sustainability goals
- **Timber interests** are motivated by new market opportunities for forest fiber
- **Mass timber manufacturers** are motivated by overall improvements in total project costs to improve product uptake in more markets

Of the three, insurers may be in the best position to invest in data gathering efforts. Some already are, as evidenced by the engagement in groups like the Mass Timber Insurance Advisory Group and National Fire Protection Association's Property Insurance Research Group (NFPA's PIRG) group.⁵ Ongoing engagement with these existing groups and translating their efforts to the evolving mass timber market, however, will require investment from timber and wood products industry advocacy associations. Some groups may already see the importance of addressing insurance directly, while others will require outreach.

First steps

The lowest-hanging fruit is identifying a champion to knit this work back to WoodWorks' goals and priorities. A job posting or call for proposals should seek a professional who is fluent in the technical language of construction, real estate, and mass timber, and who also has the interest and ability to quickly learn the landscape of insurance at a national and global scale. The state of mass timber insurance is complex and changing quickly. It will require committed focus to keep the many channels connected back to industry.

End of executive summary.

1 World Economic Forum, [2024 Global Risks Report](#)
2 Climate Risk & Insurance webinar, November 13, 2024
3 See appendix 4: Verisk mass timber white paper
4 See Build Data Challenge #1
5 See the COLLABORATION section for more information

Roadmap

Goals

The goals of this roadmap are to **balance premium cost** and **increase insurance market capacity** for mass timber buildings. A more predictable and consistent market for builder's risk and permanent property insurance that accurately balances cost and risk is necessary to maintain or improve cost competitiveness with other building types.

Prerequisite: Collaboration

An overarching effort to **collaborate across sectors** will be necessary to achieve the goals and execute the objectives. With disparate resources across multiple interest groups and industry sectors, we recommend establishing a dedicated role with someone who can translate between groups and connect progress back to the objectives. The Recommendations section includes more detail on this prerequisite tactic.

Objectives

- **BUILD DATA:** As quickly as possible, build the data necessary to provide all parties (builders, building owners, and insurers) with the assurances they need to collaborate.
- **EDUCATE INSURERS:** Emphasize the growing market and leverage the opportunities within evolving insurance markets to educate and collaboratively build new resources
- **EDUCATE PROJECT TEAMS:** Educate project teams for best possible coverage and premium outcomes

The following tables are a reference summary for the material expanded upon in the Recommendations section. An ethos of continuous improvement (in data, educational materials, strategy, etc.) should be considered within each recommendation.

Timeline

The following timeline can be used to help define the overarching scope of work. A detailed timeline will need to be developed.

Year 1: 2025 - Develop an industry champion role by funding at least one full time equivalent person to execute the Roadmap. This should be someone who understands the roadmap goals from the timber and wood products perspective. They should begin by becoming familiar with the available research and the issues described in the Roadmap to understand the landscape of the problem and motivations of the players.

Year 1 tasks: Participate in and grow networks to meet objectives. Actively engage with the new ISO classification rollout. Build and participate in consortiums that are working on the same barriers. With these consortiums, identify funding opportunities and outline research gaps. Participate in current and ongoing research projects as an advisor. Get to know the innovators within major insurance carrier and brokerage groups who identify as mass timber champions. Improve the [WoodWorks insurance landing page](#) as a repository for the most current and relevant information across sectors.

Years 2-3: 2026-2027 - Data & Education. Plan lab tests to address top insurer concerns. Identify and disseminate relevant and rigorously performed field research. Establish educational modules on risk management and repairability for insurers, designers, contractors, developers. Establish workforce training plans informed by insurer engagement.

Years 4-5: 2028-2030 - Durability & Improvements. Complete baseline research, maintain and evolve databases, educational materials, and networks.

Table 1.0

Prerequisite: COLLABORATE		
	Challenge	Recommendations
1	The complexity of the problem is very high; it involves many interconnected industry groups with similar interests—but differing influences and varying objectives.	A) Develop an industry champion role to maintain existing and build new relationships with insurers and reinsurers B) Participate in and build multi-industry consortiums C) Attend insurance conferences, invite insurers to mass timber conferences D) Develop funding strategies across sectors E) Establish a lobbying effort with the appropriate consortium members F) Investigate if lenders need to be brought into this conversation as well

Table 1.1

Objective #1 : BUILD DATA		
	Challenge	Recommendations
2	Loss data is scarce, and what exists is difficult to pool and compare	<p>A) Advocacy work around the upcoming release of the mass timber ISO classification</p> <p>B) Create a common database using comparable incident/claim descriptions</p> <p>D) Track current & ongoing lab research efforts and plan for more</p> <p>E) Identify if and how international research can be validated for North American use</p>
3	Repair and replacement processes and standards do not exist	<p>A) Collaboratively conduct lab research</p> <p>B) Develop cost-benefit-analyzed connection details based on lab test findings</p> <p>C) Develop installation guides and field verification standards for rehabilitation</p> <p>D) Develop contract and specification language for repairs</p>
4	Fire damage is well understood but still represents a top concern, and moisture damage loss potential is essentially unknown	<p>A) Create a comprehensive list of causes of moisture infiltration, as well as the top performance concerns associated with moisture damage.</p> <p>B) Collaboratively plan & conduct lab tests designed to quantify damage. Include construction phase and repairability research in lab tests whenever possible</p> <p>C) Address smoke damage via testing and outreach materials</p> <p>D) Identify passive and active strategies to mitigate and monitor hazards</p>
5	Field research creates valuable data but is not captured in a structured, peer reviewed way.	<p>A) Identify and fund publishing field research that has already been performed. Provide project teams with a path to create publishable, peer-reviewed findings</p>

Table 1.2

Objective #2: EDUCATE INSURERS		
	Challenge	Recommendations
6	Insurers and reinsurers are seeking education about this new market category, but information is dispersed across the value chain.	<ul style="list-style-type: none"> A) Publish mass timber market projections B) Host in-person workshops. Focus on chief underwriters and risk engineers rather than brokers B) Develop and maintain a Woodworks landing page for insurers as a repository for the most current and relevant test data C) Attend trade events to meet and educate people D) Plan tours and workshops for insurers and developers
7	Underdeveloped marketplace: Without baseline expectations for premiums, the market is not competitive	<ul style="list-style-type: none"> A) Create a pool of underwriters who are willing to cover mass timber B) Update the Wood Innovations Network (WIN) to include insurers C) Work directly with insurers to get feedback on how to improve rates. D) Catalogue premium ranges across construction types, occupancy types, and locations to determine key cost factors

Table 1.3

Objective #3: EDUCATE PROJECT TEAMS		
	Challenge	Recommendations
8	Project teams are surprised by insurance premiums. Awareness and baseline support are needed	<ul style="list-style-type: none"> A) Proactively include insurance awareness materials in all outreach to project teams B) Develop and maintain a Woodworks landing page for project teams looking for insurance resources C) Develop a protocol for handling common inquiries D) Create group coverage and quota-share recommendations and resources
9	Insurers are concerned about the ability of inexperienced teams to properly construct and maintain a new kind of construction.	<ul style="list-style-type: none"> A) Workforce training, checklists, standards B) Work with consortiums to develop assessment criteria and verification for project teams C) Mitigation and repair education and workforce training in design and construction D) Educate designers on resilience as defined by insurers: probable maximum loss (PML) and repairability (time and cost) E) Develop a mass timber building owner's manual

Recommendations

Prerequisite:

Collaborate

Challenge #1 : Complexity of problem

Why is this challenge important to address?

New construction classes are extremely rare; there is no precedent for the introduction of mass timber buildings within the current technological, social, and environmental climate. Insurers figure out how to transfer risks in an economical way by identifying and quantifying risk severity and frequency. They are also interested in growing markets that they might want to address or even lead. These two drivers have already brought insurers to the mass timber table, but much work remains to leverage the growing interest into results for the building industry. Connecting disciplines across multiple sectors in separate regulatory environments is difficult, but because the critical parties are already primed, rapid success is possible if efforts are coordinated.

Status and Leverageable Opportunities

Existing Consortiums

The Climate Smart Buildings Alliance (CSBA), Canadian Wood Council (CWC), and WoodWorks are already collaborating across sectors via a **Mass Timber Insurance Advisory Group**¹ that began convening in mid-2024. They have identified a “Mass Timber Insurance Action Plan” which received Natural Resources Canada (NRCan) funding to move forward with hiring consultants to begin working with two of the five identified task groups:

Table 2: CWC Mass Timber Insurance Advisory Group Progress

CWC Task Group	Consultant	Related Roadmap Objective
Build Data	Mitigateaway	Build Data
Research Strategy	Scius Advisory, Kelly Walsh	Build Data
Contractor Verification	Bespoke Metrics	Educate Insurers
Capacity & Reinsurance	TBD	Educate Insurers
Ongoing Education	TBD	Educate Insurers Educate Project Teams

Existing Consortiums (continued)

The action plan kicked off in October 2024, the task groups began meeting in January 2025, and final consultant reports will come out in the summer of 2025.

The [Property Insurance Research Group \(PIRG\)](#), sponsored by the NFPA Fire Protection Research Foundation, funds research projects related to fire protection issues, funded by members AXA XL, CNA Insurance, FM Global, The Hartford, Travelers Insurance, Verisk, and Zurich Insurance Group. Their current project list includes “Tall Wood Buildings - Repair”

Other relevant relationships

Independent brokers (vs captive agents) navigate the insurance space broadly without representing the agenda of a single carrier. Each broker will have a different perspective and level of comfort in a given region or niche market. A knowledgeable broker can establish relationships for their clients to bring project costs down.

[Managing General Agents \(MGAs\)](#) - MGAs play an interesting role alongside brokers and traditional carriers. They are often the first ones in a new market, leveraging carrier capacity (capital) and developing underwriting acumen in the space. MGAs are active in supporting other emerging markets in climate tech and autonomous mobility. [Shephard](#) is an example of an innovative MGA working out of New York City developing a builder’s risk category.

[Syndicated teams](#) are a possible strategy for similar entities within the same industry to collaborate (such as a group of building owners or contractors) as a group to become more insurable.

Recommendations

- A. Develop an industry champion role to maintain existing and build new relationships with insurers and reinsurers
 - a. See Roadmap introduction for description.
- B. Participate in and build multi-industry consortiums
 - a. Meet with all major insurance entities and get a consortium or consensus between these parties on how they would prioritize actions in order to meet the objectives and goals. Record and publish findings with confirmed commitments to collaborate.
 - b. Include outreach to reinsurers - start with brokers to understand their priorities and how to approach them.
 - c. Establish a conduit of communication with the key insurance entities to build awareness and create a feedback loop around the original arrangement
- C. Attend insurance conferences and host insurers at mass timber conferences
 - a. Attend insurance focused conferences: IRMI, [AGC](#), RIMS (Chicago, May)
 - b. Invite top insurance carriers to attend IMTC, and connect them with industry expert escorts to help them maximize their learning and gain insight into how the industry considers risk in design and construction.
- D. Develop funding strategies across sectors
 - a. Recommendations throughout all the objectives require multi-industry support. Identify parties within each sector to participate

Recommendations (continued)

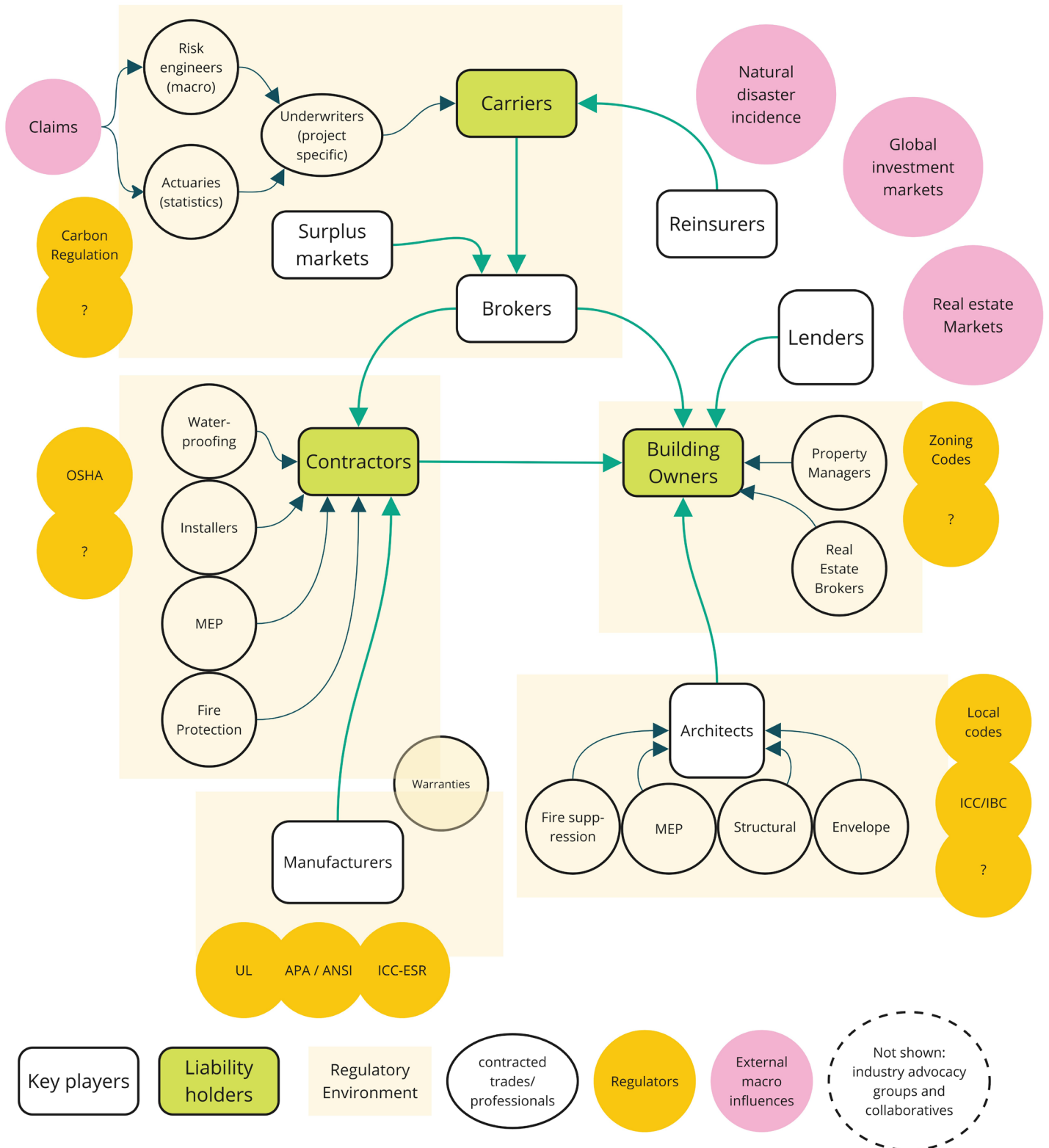
- E. Establish a lobbying effort with the appropriate consortium members
 - a. Identify government & regulatory agencies in each regulatory environment shown in the System Complexity Diagram on the following page
 - b. Consider building on WoodWorks sponsor relationships, include the insurance industry
- F. Investigate if lenders need to be brought into the conversation
 - a. Financing is becoming more difficult in areas impacted by fires and floods - it may be necessary to weave this into the conversation

Collaborators

- The Climate Smart Buildings Alliance (CSBA), Canadian Wood Council (CWC), and WoodWorks Canada
- All insurers and agencies in the Mass Timber Insurance Advisory Group and PIRG
- Reinsurers
- RISE
- Wood Solutions (Australia)
- Urban Land Institute
- Wood Construction Industry Agencies: APA, AWC
- NYC Economic Development Corporation (EDC)
- [Structural Timber Association](#) (UK)
- Public Agencies
- Researchers
- Manufacturers
- US and State Forestry
- Architect, Engineers, Contractors

1 Other members include: FPInnovations, Aviva, AXA XL, Cavell Risk, CIMI, Co-operators, FM Global, HUB, Intact, Liberty Mutual, Lloyds / Cincinatti, Marsh Insurance, Pomerleau, Price Forbes, Université Laval, Victor Insurance, Zurich Canada

Figure 2: System Complexity Diagram





*Oregon Zoo, photo by Josh Partee
(color edited)*

Objective 1: Build Data

Challenge #2: Scarce and disparate loss data

Why is this important?

Much as a construction cost estimator relies on past project data to produce accurate cost estimates, underwriters base their coverage recommendations on data from historical claims. The lack of comparable precedents relating to mass timber buildings creates a fundamental issue for insurers.

Loss data is broadly gathered under classification categories. Mass timber buildings fall under multiple construction types, and no industry-standard protocol for how to classify them from an underwriting standpoint yet exists; various insurers often take different approaches in how they internally classify mass timber buildings. To make things more complicated, mass timber buildings are usually hybrids to some degree and the type of hybrid structure matters to insurers. For example, any amount of light framing on a project might classify the building as a light framed project from a builder's risk perspective, while other carriers might have a tolerance (up to 10% of structural value has been cited). Occupancy types are also treated differently by insurance carriers.

Insurers are most interested in questions like: *How big is the market? What is the history of building with these materials? How vulnerable is the structure to damage? How hard is it to repair? How long is the building losing revenue during repairs? What is the long term cost of these buildings? What is the expected life span of these buildings?*

For specific buildings, additional questions include: *What is the construction type, and what version of the code is being used? Is the permitting path prescriptive or performance-based? How and where are mass timber elements used within the structure?*

Data can be reliably gathered in two ways: through actual losses or simulated tests—either physical or computer-modeled—conducted by trusted labs. Accumulating actual loss data is slow and fragmented, and much of it is siloed due to the lack of standardized building classifications and the proprietary nature of company data. There are other significant challenges. Loss incident descriptions vary widely, making meaningful comparisons difficult. Additionally, many incidents never result in a claim, leaving valuable learning opportunities unrecorded.

Lab data offers a viable alternative, as it can be broadly shared. However, its effectiveness depends on securing funding and designing experiments that address multi-sector concerns.

A third possibility is collecting field data, which is addressed in the next section.

Status and Leverageable Opportunities

ISO Classification

The insurance industry standard for construction risk classification system is ISO - Insurance Services Office - [Verisk](#) is the company behind ISO. They have a subscription-based revenue model, offering access to a large loss data pool for insurance carriers. Insurers subscribe to get the info they need on costs to repair different kinds of buildings in different scenarios. Verisk [announced](#)² in late 2024 that they are developing a new risk classification for mass timber that will be added in 2025. The following is an excerpt from the report:

Therefore, after a thorough analysis, Verisk has added a mass timber construction to the 2025 SCOPES Revision as follows:

1. All three mass timber construction types defined by the 2021 IBC will be categorized between “Non-combustible construction (CC-3) and “Joisted Masonry Construction” (CC-2) in SCOPES as “Mass Timber construction” (CC-M)
2. Weighting factors are created to reflect the fire risk posed by Mass Timber construction. These factors are determining based on the results of an engineering analysis the Verisk risk engineering team conducted.

Meanwhile, insurers have taken company-specific approaches. For example, AXA XL created a new risk classification for mass timber buildings that lies between light frame and non-combustible construction. Zurich too has established its own internal risk classification definition for mass timber. Unfortunately, the data are internal to the companies and so are isolated and cannot be compared. FM Global relies on their own data sheets rather than ISO, which are available online. The FM Global “[DS 1-36 Mass Engineered Timber](#)” [data sheet](#) is included in the appendix.

Conversely, The Hartford is waiting for an ISO classification, also called a “Verisk Class Code”; they believe creating isolated risk classes is not helpful or sustainable. Verisk will either create a workable new ISO classification, or get usurped by a competitor.

Data Pool

A data pool is essential - it is the basis for underwriting. Fortunately, insurers can pool data; it is not considered anti-trust³. The Mass Timber Insurance Advisory Group is currently scoping the creation of a data pool through two related task groups:

Figure 3: CWC Mass Timber Insurance Advisory Groups



Recommendations

- A. Advocacy work around the upcoming release of the mass timber ISO classification
 - a. Review, advocate, and provide input on the new ISO document. Find out the process to update it, and how to provide feedback.
 - b. What potential is there to update the FM Global data sheet to align better with the current research? What is the route to update? How important is this data sheet to the broader insurance community?
- B. Create a common database
 - a. First, work with the existing consortiums.
 - b. Identify where there are barriers to a common database or sharing of proprietary information.
 - c. Consider the system boundary of the database - is it North America, Europe? Beyond?
 - d. Develop comparable incident/claim descriptions
 - i. Be careful not to underestimate the challenges of data integration from various sources. The (possibly subtle) differences in the carrier categorization cited above may create real challenges in combining disparate data sources. Some sort of collaboration between carriers in the consortium will be key here.
 - e. Create the ability to sort data by common risk differentiators including but not limited to: occupancy type, region, construction type, hybrid structure type, code version
 - i. Confirm this list with insurers
 - f. To start collecting data, insurers may be willing to participate via a service that protects any proprietary identifiers. A third party app without bias would be needed
 - g. What is the barrier to using European loss data in the US? How do carriers in the EU classify mass timber?
- C. Track current & ongoing lab research efforts and plan for more
 - a. Industry should help dictate institutional research priorities so that findings are implementable and relevant to market realities
 - b. An insurance industry consortium should weigh in on the testing that they need to see.
- D. Identify if and how international research can be validated for North American use

Collaborators

- Data and standards organizations like APA, ANSI

Resources

- FM global data sheet, Verisk
- Data from actual built or in-construction projects in construction
- Precedent database model: The Forest Carbon Data Platform project is structured through public-private partnerships and data sharing through USDA sponsorship and US Endowment hosting. This allows the methodology to have multi-sector oversight, but protects private data.

² See Appendix 4

³ Interview with Mike Hastings

Challenge #3: Repairability standards do not exist

Why is this important?

Repairability is a major unknown and a top concern for insurers. Technical rehabilitation methods are better understood, in some cases, than the time, cost, and perceived completeness of rehabilitation. Methods of restoring performance characteristics after a fire (structural integrity) have been developed, but there remains a gap in understanding expectations around how a building owner would consider a full repair from an aesthetic perspective. Building down-time and access to the expertise required to assess and recommend remedial approaches remain—to insurers—unknowns that increase the possible cost of repair.

Construction insurance is generally intended to cover physical damages and not aesthetic changes in appearance over time (akin to fading paint or normal wear and tear, which are not typically insurable risks under a builders risk policy). However, some insurers are concerned about the appearance of wood naturally changing over time and are asking for explicit information about how to manage this kind of change. Owners, they say, might be concerned about it and expect a greater level of restoration than is reasonable.

Status and Leverageable Opportunities

European precedent: How is moisture damage repair dealt with, from a loss quantification perspective? Where in the building do most damage incidents occur, and what are the sources? How often are these surfaces exposed to view? When repairs occur, have aesthetic expectations been managed to account for the natural aging of original wood surfaces, versus new?

Recommendations

- A. Collaboratively conduct lab research.
 - a. Solicit direct input from insurers to prioritize investigations
 - b. Work with manufacturers, designers and contractors to support replace & repair lab tests for common economical components, connections, and compartments
 - c. Consider tests that accelerate adhesive aging and record performance after an incident and mitigation has occurred (if left in place).
- B. Develop cost-benefit-analyzed connection details based on lab test findings
- C. Develop installation guides and field verification standards for rehabilitation
 - a. Investigate precedents from other material types that change appearance upon repair, like concrete. Could a tiered category of wood appearance be created to help set expectations around cost and a finish appearance post mitigation?
 - b. Record all findings with workforce training in design and construction in mind; see also “Educate Project Teams” objective category
 - c. Investigate existing precedents from other trades (e.g. sheet rock, or other finish types) that could inform a new mass timber standard. See also ACI technical document for repairing concrete
- D. Develop contract language and/or specifications that address what is considered a complete repair from a performance and visual standpoint.
 - a. Insurer concerns about subjective restoration expectations could be addressed before a loss through policy endorsement language.
 - b. Address natural aging characteristics of wood, like checking and color change, via owner education and specification recommendations

Collaborators

- APA
- AIA
- IBHS - Insurance Institute for Business and Home Safety - fully funded by insurance companies, nearly all are members (Ann Cope presented). They can do full scale destructive tests for wind, wind driven rain, hail, wind-driven wildfire at their labs - inform building codes and common practice towards greater resiliency
- Rothoblaas (Niloufar Khoshbakht and Edward Verdi), see also [Rothoblaas Structural Restoration brochure](#).

Challenge #4: Fire & moisture damage loss potential unknowns

Why is this important?

Fire damage is well understood but still represents a top concern. The expected fire performance of mass timber buildings is not all equal - some buildings are rated, others are not. Some structures are exposed, some are encapsulated. With so much nuance insurers continue to wonder how to classify these buildings. While fire resistance questions commonly arose during the investigation of this roadmap, most insurers felt this was fairly well addressed by lab tests and a more predictable hazard than moisture. Post fire damage includes smoke damage and sprinkler deluge, which carry greater unknowns than the fire behavior.

Water and moisture damage loss potential, on the other hand, is essentially unknown. Moisture can intrude into a structure in a multitude of ways, and there is a dearth of information on how it does or does not impact the performance and appearance of the structure. Concerns about mold growth extend to adhesives as well as wood fiber performance.

Insurers are asking: What are the decay rates of the adhesives? What is the expected lifespan of a mass timber building? How does moisture decay play into expected building life? What coatings are valuable in protection against fire and water damage?

For both fire and moisture, insurers are concerned about adhesive delamination, especially over time, even well after an incident. Moisture concerns will also vary across regions. Recommendations on moisture management plans can be found in the Educate Project Teams sections. Insurers want to know that the insured and contractors have robust water damage prevention and monitoring programs in place that are strictly implemented during the construction phase.

Recommendations

- A. Create a comprehensive list of causes of moisture infiltration through the lifecycle of the material - manufacturing, transportation, storage, installation, etc.
 - a. Carriers will take interest in each step of the process from a product liability standpoint.
 - b. Catalogue the top performance concerns associated with moisture damage, such as loss of structural capacity, and mold growth
- B. Collaboratively plan & conduct lab tests designed to quantify damage.
 - a. Include construction phase and reparability research in lab tests whenever possible. Reference Reparability section above
 - b. Perform remediation testing to assess the impact of sprinkler deluge
 - c. In-situ or lab testing of wet wood, which has been performed on projects, would be great to quantify/track in a database because wood had shown resilience under wetting/drying conditions. Finding the limits is crucial. Wood can get wet, dry out, and still perform structurally and not mold. Understanding if, or how many cycles, and under what wetting/drying cycles it can maintain integrity without rotting/decaying is critical. Are there wood species that perform better than others under adverse wetting/drying cycles?

Recommendations (continued)

- C. Address smoke damage via testing and outreach materials
 - a. Include odor removal. Smoke damage can also lead to industrial hygiene (IH) concerns for the building owners and the eventual building occupants.
- D. Identify passive and active strategies to mitigate and monitor hazards
 - a. Create moisture mitigation plan templates for construction and property management
 - b. Passive strategies (good design) will always be lower cost to the project; prioritize them
 - c. Active strategies during construction (like tenting, heating, or desiccation) or technology embedded in the building (like automatic shut-off, leak detection, flow monitoring, temperature and humidity sensors) have higher upfront and ongoing costs. Determine if these will in fact reduce premiums before promoting. *Potential areas of concern: who decides where the sensors go, and who signs off on the system as effectively reducing risk? Should there be standards for the highest areas of concern? If we know these areas, are there better ways to protect the asset than failure detection? This is a cost addition to a building system already struggling against premiums - does it create more problems than it solves?*
 - d. Investigate whether insurance companies can provide incentives to building owners who provide more data/sensors so that those additional costs could offset their insurance costs? Could it be cost neutral?

Collaborators

- **Advocacy groups:** PIRG, AWC
- **Testing labs:** FM Global, NFPA, UL, IBHS, Tallwood Design Institute
- **Carriers:** Risk Engineering Departments
- **Envelope consultants:** RDH; 4EA (Jeff Speert);
- **Fire/Structural:** Holmes structural engineers (Parisa Nassiri)
- **Manufacturers and Technology:** Wiiste (Warren Trethewey) + Mercer (Nick Milestone and Ryan Edwards); Nisus (Jeff Lloyd - sales for BORA-CARE”, but has very good knowledge of current mixture-related durability studies and findings), SMT Structure Monitoring Technology (Caitlin Hay); Rothoblaas (Niloufar Khoshbakht and Edward Verdi), adhesives manufacturers, coating manufacturers
- **Construction:** Swinerton, Andersen, EllisDon Construction Sciences dept (Mark Gaglione and Anthony Ruscitti)

Resources

- NFPA PIRG fire, moisture, and reparability test - get involved! Contact at The Hartford (Ken Travers) was on the WoodWorks call in November - what specific tests/ repairs are they performing as part of their investigation? Are they testing the repaired members? If so, what test standard are they using? Who is involved in the testing (i.e. what lab)? Are they looking into costs of repairs? If so, how are they determining those costs? Have they involved any of the third party certification agencies that are familiar with the wood test standards (i.e. APA, PFS, Intertek)?
- RDH has some resources and a current renovation project on a MT bldg built ~2011, WoodWorks Moisture Management Webinar, July 10, 2024 by Colin Shane (RDH)
- [Skanska article Designing For Durability: Lessons in water mitigation for mass timber projects](#)

Challenge #5: Capture field research

Why is this important?

Many project teams necessarily perform research and testing on projects to complete them on time and on budget. This work is often not translated outside of the project because there is no incentive for this work to be peer-reviewed and published. There is also a risk to sharing this information as it could possibly be used in future litigation. Anonymizing project information and details could help with that concern. It would be valuable, because insurers seek such information—but they also need to understand the methodology behind the data. Therefore, there is a credibility gap between field research and studies accepted by insurers. This gap could be addressed by connecting project teams with researchers who are motivated to publish.

Status and Leverageable Opportunities

Two examples of moisture testing performed in the field to rigorous standards are a construction-phase moisture monitoring test at The Canyons in Portland, OR, and a fastener strength test during construction at the Portland Airport Expansion. Both were performed for free by the project team members, are rigorous and relevant, neither published due to lack of funding for publishing.

Recommendations

- A. Establish funding to publish rigorously performed field research
 - a. Outreach to insurers to fund researchers and consultants to collaborate on publishable data
 - b. University professors know how to perform research and are motivated to publish. They would need to help set up/design the tests as well. A challenge would be that the academic calendar is often too slow for the instantaneous needs of construction.
 - c. Recommend the project identification process include a request to AEC community and Owners for project specific /proprietary test data that exists but not publicly available. If there is NDA or other sensitivities, create an assurance system so data could be made public while project identifiers remain anonymized.

Collaborators

- Tallwood Design Institute (Mark Fretz, Ben Deumling) and other research institutions focused on timber topics, Mass Timber Meetup presenters and attendees, ZGF, Swinerton, Skanska, Field Edge

Resources

- International Mass Timber Report Chapter 5 for list of research institutions



UCSD Shake Table Tallwood Building, photo by David Baillot, CC BY-2.0
(color edited)

Objective 2: Educate Insurers

Challenge #6: Insurers need more information

Why is this important?

Insurers and reinsurers are seeking education about this new market category, but information is dispersed across the value chain. Of key importance is showing the trajectory of the market and its potential significance in insurer's portfolios.

During the investigation for this report, Field Edge attended the IRMI conference in San Diego in October 2024. Many attendees we spoke with had never heard of mass timber, or had only heard of it as a niche. Attendees believed that it wasn't gaining much traction because factors like cost, complexity (because of being novel), and supply chain risk made projects difficult to deliver. The attendees were contractors, building owners, brokers, and carriers.

Recommendations

- A. Publish mass timber market projections
 - a. Establish an in-house methodology, hire a consultant, or otherwise support a third party to produce annual market projections
 - b. Create a 5-10 year mass timber market projection showing total market size in construction cost - this translates into total premiums to be paid out to underwriters
- B. Host in-person workshops. Focus on chief underwriters and risk engineers rather than brokers
 - a. Workshops should be an information exchange where all parties gain insights from each other
 - b. Gain an understanding of precedents in other construction types. How do insurers consider reparability for concrete structures, for example?
- C. Develop and maintain the WoodWorks landing page for insurers as a repository for the most current and relevant test data
 - a. Create a way for insurers to stay up-to-date on the latest building codes that impact mass timber markets
 - b. Presuming that the WoodWorks website is a go-to resource for insurers looking for information about mass timber, resources should be put into maintaining it as a comprehensive resource, including relevant research published in other countries.
 - c. Consider adding interpretive/summary text for each section about what someone will find by looking through the links. For example, the Fire Performance section could begin with text like: "Through rigorous, large-scale fire testing efforts both nationally and internationally, building codes and best practices for mass timber structures have been developed to meet the highest standards of life safety. Covering a range of fuel load scenarios, occupancies, and fire protection strategies, the science has been key in guiding how mass timber structures are designed today."
 - d. Consider adding a quick descriptor for each resource to provide a fast overview that doesn't require a viewer to download to find a summary.
 - e. Consider developing "takeaway" language for highly technical test reports

Recommendations (continued)

- f. AWC seems like a comprehensive resource as well, but the assets are not easy to browse by users looking for information relevant to insurers. The links from WoodWorks to specific AWC search results are good if they are periodically checked - these links didn't work earlier this year, and a new one has since been broken.
 - i. WoodWorks links to AWC, which posted a collection of RISE reports and a series of reports sponsored by multiple major insurers. Consider including a [link to RISE directly](#)
 - ii. To avoid resource duplication and reader fatigue, consider posting the relevant studies that are on the AWC website OR describe the AWC website resource - is it current? continuously updated?
 - iii. Alternatively, consider adding the [Mass Timber Code Coalition report](#) to the WoodWorks website, since it is a good summary newcomers may find helpful.
 - g. For the [assemblies](#) resource, describe update cycle or where to go to find the most up-to-date information (manufacturer specific, UL, etc)
 - h. Link to [NFPA Research Foundation](#) page on Fire Safety Challenges of Tall Wood Buildings
 - i. Confirm the McClain/Brodhal white paper is on this page
 - j. If adding proprietary resources is a possibility, a resource like [Rothoblaas's Fire Resistance of CLT Joints](#) might be useful. Other similar resources could be added if this is not a conflict of interest.
- D. Attend trade events to meet to meet educate people (see COLLABORATE section for more)
- E. Plan tours and workshops for insurers and developers

Challenge #7: Under-developed marketplace

Why is this important?

Without baseline expectations for premiums on mass timber buildings, contractors and building owners are reporting that the insurance market is not providing competitive options for their projects. Costs are difficult to estimate, and there is no feedback loop between project teams and insurers for what could be done to improve rates. Project teams seeking coverage experience a huge range of outcomes. And already-insured property owners are facing post-occupancy premium increases⁴. One possible cause of the lack of feedback is the increasing frequency of quotes developed through computer modeling. This type of quote can be more complex and less scrutable, leaving project teams with less understanding of the premiums they must pay.

Through workshops with insurers, the CWC Mass Timber Insurance Advisory group found that insurance and finance capacity is restricted by insurance syndicates. Syndicates determine the capacity and terms for insurers, limiting how much risk they are permitted to carry for a mass timber project. Some brokers see insurance products for mass timber increasing and premiums going down as large companies gather actuarial data from real projects, while others report grimmer projections.

Gallagher sees Mass timber builder's risk rates range widely from \$0.15 to \$0.75 per \$100 per year of insured values (construction costs, typically), depending on factors such as project size, percentage of mass timber, location, water & fire protection measures, the broker experience, and insurer appetite at the time of the project start. While premiums matching the costs of concrete or steel projects looks far off, rates have trended downwards with capacity trending upwards.

Whatever the rate, securing full coverage often requires engaging multiple insurers through a "quota share" arrangement.

In a Construction and Fire Risk webinar, presenter Shamim Rashid-Sumar (Build with Strength, a concrete industry advocacy group and author of multiple ad campaigns advising against wood construction) said that builders' risk is the most extreme difference - it can be 19x more expensive to build with wood. Regions with greater fire and wind risk are more extreme. Some insurers will not cover light-framed wood buildings at all (2023 report), this was not the case in 2017.

Status and Leverageable Opportunities

The CWC Mass Timber Insurance Advisory group Capacity & Reinsurance task group is studying how to increase market capacity [see inset image].

Figure 4: CWC Mass Timber Insurance Advisory Groups



Capacity & Reinsurance

- **Who:** Consultant with expertise in reinsurance and public / private collaboration strategies.
- **Scope:** Conduct feasibility assessment of potential domestic reinsurance option to expand market capacity for MT insurance.
- **Deliverable:** Feasibility study on required scale of reinsurance capacity to make an impact, risk analysis and review capitalization and operational options.

Status and Leverageable Opportunities (continued)

Some large-scale builders or campus-scale building owners with large near-term pipelines have had success with large-scale master agreements. For example, insurance carrier Zurich has a differentiated Mass Timber Builders Risk solution with up to \$50m in available capacity for qualifying risks. Insurance carrier Chubb recently worked with a valued and seasoned client, Skanska, on a pre-qualified rate over multiple projects with a \$25M policy limit. Similarly, AXA XL offers discounts for “highly protected projects”, which are projects that utilize risk reducing technologies through their [“Ecosystem”](#) program, which may extend to mass timber projects on a case-by-case basis.

Insurers are motivated by profitability. Large companies with huge asset portfolios (Google, prologis, microsoft, HP) have leverage as major customers who can help push insurers to develop expertise in new markets so those insurers can expand their business and increase profitability.

Well funded clients with priorities aligning with mass timber values beyond cost and are able to move forward despite premiums are also helpful in building insurer portfolios, and help that market mature. Can that opportunity help lower the cost-barrier so other owners can enter the mass timber market?

Recommendations

- A. Create a pool of underwriters who are willing to cover mass timber
 - a. To create more competition between carriers, support companies who do provide coverage by guiding project teams to those brokers & carriers.
 - b. Explore creating project asset pools to help reduce insurance costs for contractors and building owners
 - c. Work with well funded entities with large asset classes to make connections between their projects and larger market goals
- B. Update the Wood Innovations Network (WIN) to include insurers
- C. Work directly with insurers to get feedback on how to improve rates
 - a. Work with insurers on their applications/questionnaires to align their needs and expectations with project team language and process. Example applications: Allianz, AXA XL has one that is in redevelopment at the time of this report, and Zurich has a mass timber-specific questionnaire that is provided to brokers and prospective insureds. FM Global and Chubb are reported to have them as well.
 - b. Continue to develop the WoodWorks checklist as feedback is gained
- D. Catalogue premium ranges across construction types, occupancy types, and locations to determine key cost factors
 - a. Other factors include experienced team and reliability of client
 - b. Consider creating a USDA and WoodWorks initiative that with any project support project teams should provide their insurance rates, which could be kept anonymous.

Collaborators

- Insurance brokers
- Insurers named in recommendation (C) and others
- Verisk

Resources

- [WoodWorks Questionnaire for Builder’s Risk Insurance](#)
- Example study for concrete buildings: <https://buildwithstrength.com/wp-content/uploads/2017/10/insurance.pdf>



*The Canyons, photo by Marcus Kauffman, Oregon Dept. of Forestry
(color edited)*

Objective 3: Educate Project Teams

Challenge #8: Awareness & baseline support

Why is this important?

Project teams are not aware until too late in the process that insurance will be a challenge. In a typical project, insurance is not procured until just before it is needed, and project teams are rarely brought into discussions about insurance rates or concerns. This is leaving project teams with major cost problems at vulnerable times in the project schedule, when value engineering is especially difficult. In the worst-case scenarios, teams are left without insurance options and are forced to switch to a different structural system.

Recommendations

- A. Proactively include insurance awareness materials in all outreach to project teams
 - a. Encourage teams to use the Mass Timber Insurance Playbook, U.S. Edition, and to discuss insurance early in design
 - b. Height, size, occupancy, and location all will play into a carrier's appetite. The risk profile for a mass timber apartment will be higher than an office building, for example. It is a moving target as well with carriers changing appetite based on any recent claims or macro trends for that specific asset class.
- B. Develop and maintain a distinct WoodWorks landing page for project teams looking for insurance resources
 - a. Include information on tools that designers and builders use to mitigate risk. Examples: fire suppression systems (N+1, or more), fire watch, weather protection (temporary & permanent), operational processes, etc.
- C. Develop a protocol for handling common inquiries
 - a. Develop awareness and expertise across WoodWorks so that anyone providing project team support understands the resources available
 - b. Offer to support teams as they fill out insurer's questionnaires
- D. Create group coverage and quota-share recommendations and resources
 - a. Many insurers will only provide $\frac{1}{3}$ coverage or less, so many projects need to attract 3-4 carriers to make a project go forward.
 - b. Group coverage is different from individual building coverage in that losses are pooled with a high deductible over the whole group. Some project teams could explore this option

Collaborators

→ Seattle Public Schools (Richard Best, Matthew Saxon, Vincent Gonzales), Skanska, Lake | Flato

Resources

→ Mass Timber Insurance Playbook, U.S. Edition

Challenge #9: Expressing Team Experience

Why is this important?

Insurers are concerned about the ability of inexperienced teams to properly construct and maintain a new kind of construction. Designers and builders have not historically considered mitigation, repair, or replacement plans as part of their typical scope of work, but insurers are looking for these as indicators of team awareness and experience.

From a session at IRMI 2024 titled Managing Risk over the Construction Life Cycle, the following “big picture lists were presented:

- **Risks during construction** = Property Damage, Soft costs/delays, and Bodily Injury
- **Risks after completion** = Property Damage, Construction defect claims, and bodily injury

According to AXA XL, top issues for builders risk are hot works management, moisture management, materials management, manufacturing, repair/rehab, CAT⁵ exposures.

Well prepared teams with risk mitigation plans and prior mass timber experience are much more likely to be insurable than unprepared teams without a strong case for how they will address risk.

Status and Leverageable Opportunities

If insurers don’t fully understand the risk of the asset, they will seek to understand the team. In absence of robust technical information, the *Mass Timber Insurance Playbook, U.S. Edition* can provide insight into evaluating and expressing the experience of the team behind the design, construction, and maintenance. The CWC Mass Timber Insurance Advisory group Contractor Verification task group is studying how to create a database of experienced contractors as a way to encourage increasing market capacity, see inset image.

Integrated Project Delivery (IPD) is a similar framework to the collaboration necessary for mass timber project success. IPD requires a completely different approach to professional liability insurance because of the “waiver of liability” that the process requires. Not having a trigger for claims means there can be no policy. *Could IPD insurance products be a precedent for new mass timber related products?*

Figure 5: CWC Mass Timber Insurance Advisory Groups



Contractor Verification

- **Who:** Existing construction review and certification platforms.
- **Scope:** Investigate feasibility of using existing platforms to support mass timber specific general contractor experience in a way that meaningfully informs insurance industry risk analyses.
- **Deliverable:** Develop set of assessment criteria relevant to mass timber. Prototype rating platform. Develop budget & plan for full implementation.

Recommendations

- A. Workforce training, checklists, standards, confirmed with insurers as addressing their concerns
 - a. Encourage project teams to think about how to protect the building during and after construction
 - b. Encourage project teams to collaborate with insurers in early design phases
 - c. Create loss control plan templates
 - d. Create a moisture management plan template that emphasizes cost-effectiveness and includes any testing protocols for areas of concern or damage. Include checklist items for common construction or design features that require extra consideration (for example, column penetrations between floors)
 - e. Offer a best practices guide or design checklist that prioritizes passive solutions, which can be had for little by considering them during the design phase, over active ones that add cost to the cost of the structure or operating costs.
 - f. Repair methodology, industry standards, workforce training, building owner education, mass timber owner's manual
 - g. Create Pre- and Post-Incident Repair Strategies for Mass Timber: comprehensive documentation during the construction phase, including detailed records of materials used, connection methods, and construction practices.
 - h. Create Moisture Management plan templates with techniques like controlled drying, moisture barriers, and regular monitoring.
 - i. Structural Integrity and Char Layer Assessment: charred and heat-affected layers need to be carefully assessed and removed during repairs to ensure the remaining structure meets safety standards. Advanced techniques, such as those explored in the RISE study, involve mapping and planing the damaged layers before installing new, high-strength lamella to restore or even enhance the structural capacity.
- B. Work with consortiums like the CWC Contractor Verification task force to develop assessment criteria and verification for project teams
- C. Mitigation and repair education and workforce training in design and construction
- D. Educate designers on resilience as defined by insurers: probable maximum loss (PML) and repairability (time and cost)
 - a. Look into the potential of warranted systems, if they are available. European precedent [New Model Building](#)
- E. Develop a mass timber building owner's manual

Collaborators

- Rothoblaas, Large companies with huge asset portfolios (Google, prologis, microsoft, HP)

Resources

- Mass Timber Insurance Playbook, U.S. Edition
- See Appendix 7, AXA XL presentation for best practices for manufacturers, designers, and builders.

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*** WHAT PEOPLE ARE SAYING
ABOUT THIS ROADMAP:**

**“The Roadmap is great... All players can
hold each other accountable.”**

**- Dean Lewis, Director of Mass Timber &
Prefabrication, Skanska USA**

“Clear and loaded with info.”

- Billy Craig, Consultant

**“You’re recommending a very thoughtful,
comprehensive, and effective approach. If
uncertainty is the enemy (at least from the
carrier perspective), the way to address it is
through data and communication. You’ve got
both here.”**

**- Peter Meilert, Head of Y-Risk Innovation Labs,
The Hartford**