Phase 1:
Motivations, Challenges, and Opportunities for Building K-12 Facilities with Mass Timber

# MASS TIMBER SCHOOLS ACCELERATOR

Prepared by the Washington Mass Timber Accelerator
2025 USFS Wood Innovations Grant

Spring 2026

# Contents

Executive Summary 3
Introduction 5
Why School Districts are Choosing Mass Timber 11
Top Challenges, Gaps, and Opportunities 14
Appendix 1: Mass Timber Schools in Washington State 1.1
Appendix 2: Mass Timber School Resources 2.1
Appendix 3: Washington Regulation Review 3.1

# Executive Summary

## MASS TIMBER SCHOOLS ACCELERATOR PROJECT

The Mass Timber Schools accelerator is working to advance the use of mass timber in K-12 school construction across Washington state. As school districts face the need to rebuild aging school infrastructure, mass timber offers an opportunity to achieve a triple-bottom line value: (1) reduced embodied carbon of educational facility stock, (2) investment in the state and regional timber economy, and (3) warm learning environments that improve student health and academic performance through connection to nature. Over the last ten years, Washington has emerged as a national leader in the use of mass timber in school construction, with 38 mass timber schools across 23 districts built since 2017, or in the planning stages (see Appendix 1, Table 1). The number of new facilities designed with mass timber each year is growing. That said, it is not easy to build with mass timber - both a new structural system and a new project delivery process - and school districts require guidance and support if we are to enable a transition to these low-carbon, health-promoting materials.

With funding from a United States Forest Service Wood Innovations Grant, MASSTAC and partners are leading the charge to address the challenges of integrating this new system, to accelerate successful and equitable use of mass timber in our educational facilities.

The Mass Timber Schools Accelerator Project is designed as a four-phase project, as follows:

**Phase 1:** Distill lessons learned

**Phase 2:** Develop best practices

**Phase 3:** Build tools for school districts

**Phase 4:** Conduct outreach

This report, delivered at the conclusion of Phase 1, is intended to summarize the key challenges of mass timber project delivery and the lessons learned by school districts. This understanding will serve as the foundation of the best practices and owner tools developed in Phases 2 and 3.

## PHASE 1 ACTIVITIES

Phase 1 involved engaging Washington State school districts and the Architecture, Engineering, and Construction (AEC) community to identify barriers that add uncertainty in the mass timber school building process and limit mass timber adoption. Program activities involved:

### School District Survey

31-question school district survey of Washington school facility and capital project staff (17 total responses received of which 10 respondents identified as having prior mass timber project experience)

### Facilities Directors' Roundtable

A facilitated discussion designed to engage district representatives in a discussion of their experiences delivering new facilities with mass timber, during the full project lifecycle: planning, design, procurement, construction, operations

### Literature Review

Literature review of published resources on mass timber school design and construction.

### Washington Regulations Review

Review of Washington rules that shape opportunities in mass timber school construction (see Appendix 3).

## NEXT STEPS

With a robust understanding of the top challenges, gaps, and opportunities for delivering school facilities with mass timber, MASSTAC is prepared to guide the development of a practical, essential playbook for facilities directors to use as a guide in the delivery of a new mass timber school building. Following publication of the playbook, MASSTAC will deliver a robust communication and outreach strategy to share resources and information with the 295 school districts across the State of Washington, and beyond, to support the delivery of high-performance mass timber schools.

# Introduction

## STATE OF SCHOOL FACILITIES

In Washington state, a substantial share of school buildings pre-date modern building codes for accessibility and energy efficiency, and district facility assessments often cite aging mechanical systems, outdated educational spaces, and deferred maintenance—consistent with national trends where nearly one-third of U.S. schools use portable classrooms (according to data released by the National Center for Education Statistics, the statistical center within the U.S. Department of Education's Institute of Education Sciences) and many buildings haven't seen major renovations recently. These aging facilities currently serve 295 school districts and more than a million enrolled students statewide.

Local districts rely on passing bonds or levies, in combination with School Construction Assistance Program (SCAP) funding, to fund expansions, modernizations or reconstruction, and there are recognized gaps between actual construction costs and state funding allocations. The 2025-27 biennial capital budget proposals emphasize increased SCAP funding, seismic safety projects, and modernization assistance to respond to longstanding facility concerns and address health, safety, and instructional quality issues.

### Key Statistics

Based on data provided by the Washington Office of the Superintendent for Public Instruction (OSPI) presenting 4,335 public school facilities (a total of 159 million square feet):

- Average year built: 1981
- Median year built: 1980
- Average building age (2026): ~45 years
- Median age: 46 years
- 37% Build before 1970
- 82% have not been modernized since 2000 (pre high-performance era)
- In 2024, approximately twenty school districts in WA sought to pass bonds to rebuild old and deteriorating school facilities, or to construct new school buildings.
- Average building size: 37,000 square feet

### Implications

- Many buildings predate modern seismic standards.
- Significant portions were built before ADA requirements.
- Most predate current energy codes and high-performance building standards.
- Instructional layouts likely reflect older educational models (double-loaded corridors, limited collaboration space, minimal daylight optimization).
- Even modest per-square-foot reinvestment needs translate into multi-billion-dollar statewide capital requirements over time.
- **If Washington were to rebuild 20 school facilities every year using mass timber structural systems, with each building an average size of 37,000 square feet, this would consume 740,000 square feet of mass timber per year.**

## WHY MASS TIMBER SCHOOLS?

MASSTAC identified more than 38 mass timber schools throughout the state that have been or will be constructed with mass timber since 2017 (see Appendix 1, Table 1). With a growing number of mass timber schools across the state, Washington is emerging as a leader in the design and construction of mass timber school buildings. **When planning to rebuild new facilities, some districts have turned to mass timber to provide warm, health- and performance-enhancing environments; to meet local sustainability and resilience goals; and to reduce construction timelines.**

As the impacts of climate change and the importance of resilient infrastructure become increasingly apparent, and with the mental health of students in crisis (with high levels of anxiety, depression, emotional distress, and suicide, and Washington ranking near the bottom nationally for youth mental health), **we find ourselves at a critical breaking point. From this place of deep social and environmental need, we have the opportunity to rebuild educational infrastructure in a way that promotes human and environmental health.**

School districts are in a unique position to evaluate how materials and construction systems can offer economic value, long-term durability, and occupant wellbeing. Incentivizing the use of mass timber through material-focused public funding policies, would offer districts the opportunity to tap into the triple-bottom-line value of a mass timber school:

(1) economic advantage for school districts through reduced construction timelines, reduced energy and maintenance costs;
(2) environmental and climate stewardship through low-carbon construction and market demand for sustainable wood products and forest management; and
(3) improved health and academic performance for students and teachers.

In 2009, British Columbia, Canada succeeded in passing legislation to promote the use of wood in publicly funded building construction and support the regional forest sector. A mass timber first policy for K-12 schools would represent a strategic investment of the state's public dollars by creating resilient infrastructure that improves student wellbeing, advances the state's forest health and wildfire resilience goals, and promotes economic prosperity in Washington's timber communities. Is a similar policy possible for Washington?

## REPORT AUDIENCE

This report provides **school districts and industry** with insight into the motivations, challenges, and opportunities in the delivery of mass timber school facilities. This report also provides an opportunity to raise awareness amongst **policymakers and legislators** of the economic, environmental, and health benefits of mass timber in k-12 construction, toward the establishment of policies and regulations that promote mass timber use in educational facilities.

# PROJECT BACKGROUND

## About MASSTAC

The Washington Mass Timber Accelerator (MASSTAC) is working to make Washington a leader in low-carbon, high quality construction through increased utilization of locally manufactured mass timber. Formed in 2024, MASSTAC is tackling the real barriers to adoption of mass timber construction in the State of Washington. The organization brings deep experience in mass timber project execution, local expertise, and an ecosystem approach to moving this industry forward. An opportunistic catalyst, MASSTAC works with partners to identify the dynamics, times and places that represent maximum leverage in mass timber's adoption curve.

## Mass Timber Schools Accelerator project

With the vision of increasing the number of school districts committed to mass timber by 2028 and the number of new K-12 mass timber projects by 2038, MASSTAC is working to establish mass timber as a primary choice for K-12 school construction in Washington and nationally. The accelerator project is designed to:

1. Enable school districts in Washington, and nationally, to confidently say yes to building new facilities with mass timber, and
2. Reduce friction during the project delivery process.

With support from our Schools Accelerator committee and industry partners, MASSTAC engages school districts across urban, suburban, and rural Washington that are interested in integrating mass timber into future facilities. This report is the culmination of the first phase of work in a project that distills the lessons learned from mass timber school projects across the region, highlights best practices and resources to support school districts in the decision making process, and creates a toolkit that will give districts the confidence to build their next facility with mass timber.

### Mass Timber Schools Accelerator Committee

MASSTAC's Schools accelerator project is supported by a committee of industry leaders and community members with experience across the mass timber value chain. The Schools Accelerator committee provides guidance and expertise to develop outreach activities, resources, and tools to increase awareness and adoption of mass timber in K-12 construction in Washington and beyond.

Alex Legé, PCS Structural
Amy Poehlitz, PCS Structural
Annie Kwon, Lever
Ben Kaiser, LSW Architects
Bryce Tolene, Lever
Casey Wyckoff, LSW Architects
Craig Curtis, Mithun
David Mount, Mahlum
Dean Lewis, Skanska
Farleigh Winters, LSW Architects
Irma Dore, Bayley Construction
Jake Hendrix, Riff Agency
JoAnn Wilcox, Mithun
Joseph Mayo, Mahlum
Naleigha Williams, LSW Architects
Nate Shipps, Riff Agency
Rachel Auerbach, Mahlum
Ryan Rideout, Mithun
Ryan Weeger, Cornerstone
Séamus Kelly, Mithun
Stefee Knudsen, Bora
Stephen Bernath, former DNR deputy
Steven Williams, PCS Structural

### Project Timeline

The Mass Timber Schools Accelerator project is being delivered in four phases: (1) Distill lessons learned; (2) Develop best practices; (3) Create the playbook; (4) Conduct outreach & communication.  Phase 1includes the following activities, undertaken from mid-2025 to mid-2026:

1. Conduct survey of facilities directors across WA school districts to understand the perceptions and experience with mass timber construction
2. Meet with facilities directors and other representatives from a representative sample of WA school districts to understand the top concerns and challenges related to building mass timber schools
3. Conduct literature review of all reports, white papers and case studies published on mass timber schools.
4. Understand Washington State rules related to schools that govern issues and opportunities with mass timber construction.

## PROJECT METHODOLOGY

Through a variety of engagement activities, school districts shared their experiences and challenges delivering new educational facilities with mass timber. This outreach helped us understand the key challenges and concerns. The feedback received will serve as the foundation of the Mass Timber Schools Playbook, and associated policy proposals.

### School Construction and Mass Timber Survey

The survey, conducted in the summer of 2025, gathered insights from capital project teams in school districts that have some experience with mass timber. The survey covered construction funding, project delivery, design priorities, and perceptions of and experience with mass timber. Using an online surveying application, the 31-question survey was shared with over 40 school facility contacts and targeted school district employees along the decision-making spectrum. Of the 17 responses received, 10 respondents have built a new facility with mass timber. In some cases, more than one person from the district responded to the survey.

**School District Characteristics:**

School District Affiliation

Survey participants were concentrated in Western Washington, with **47%** of participants coming from the Puget Sound Educational Service District (ESD), **17%** from the Northwest ESD and **11%** from the Southwest Washington ESD. The following school districts were represented in the survey responses:

| | | |
|---|---|---|
| Battle Ground | Evergreen | Puyallup |
| Bellevue | Highline | Renton |
| Bellingham | Lake Washington | Seattle |
| Edmonds | Mukilteo | Shoreline |

School District Size

The majority of school districts (**71%**) have an enrollment of 10,000 to 24,999 students; 12% have more than 25,000 enrolled students; **12%** have less than 2,000 enrolled students; and **6%** have 2,000 to 9,999 enrolled students. **MASSTAC and the mass timber schools committee members believe mass timber can be a viable construction solution for districts of all sizes.**

Enrollment Trends

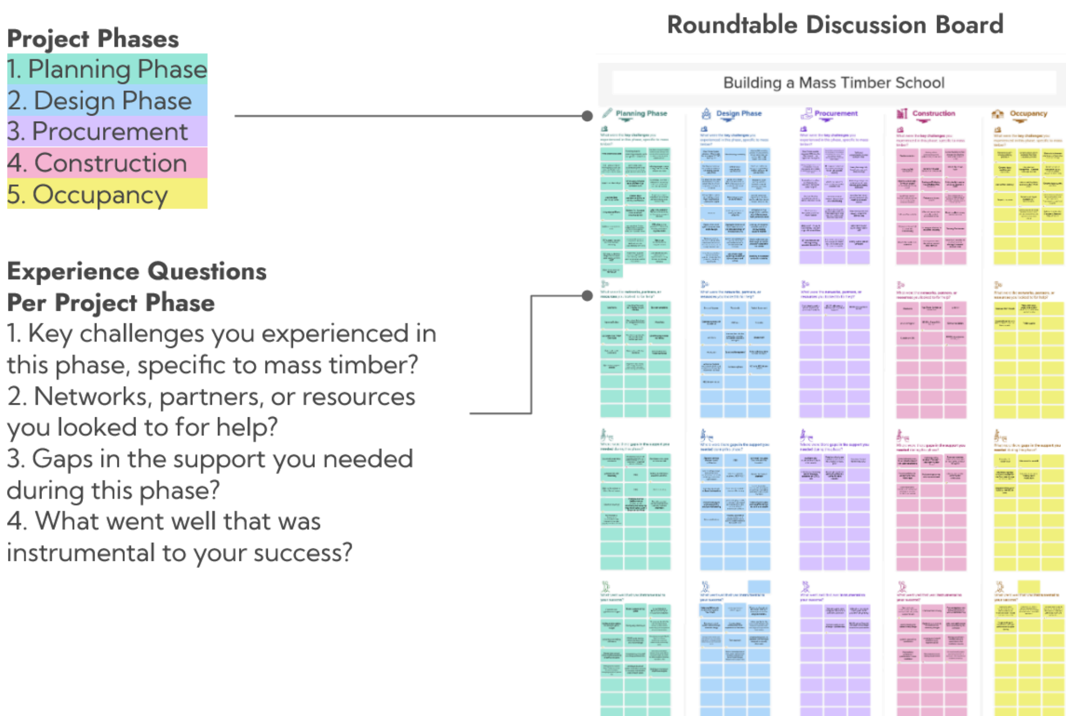
Among the districts represented in the survey, a higher percentage of school districts have seen negative changes in enrollment, with **59%** reporting declining enrollment, **24%** reporting growing enrollment, and **18%** reporting stable enrollment.

### Washington Mass Timber Schools Roundtable

In November 2025, MASSTAC convened representatives from 11 school districts familiar with mass timber to learn about the top challenges and keys to success for delivering new facilities with mass timber. The event was formatted to allow participants to connect, share experiences, and explore what resources and support systems would help them and other districts succeed with mass timber in the future. Following event and participant introductions, participants shared the challenges experienced, resources utilized, and keys to success across five project delivery phases of Planning, Design, Procurement, Construction, and Operation (Figure 1).

After the 40-minute activity session was completed, participants joined the main meeting group to discuss key aspects of the activity including helpful resources, knowledge gaps, and what would help enable districts to adopt mass timber in the future. Additionally, facilitators invited participants to share the type of support they would like to receive from MASSTAC and the Committee, and to reflect on how mass timber projects have impacted their students and the community.

**Figure 1 –** Mass Timber Schools Stakeholder Roundtable Discussion Board




## FUNDERS

This project is made possible by a U.S. Forest Service Wood Innovation Grant, cash matching funds from Timberlab, and in-kind contributions from the committee members.

WHAT DID WE HEAR?

## Why School Districts are Choosing Mass Timber

Findings from the survey and roundtable presented positive associations with mass timber, its versatility, biophilic properties (i.e., design that fosters connection between occupants and natural environments), sustainability, and impact in the regional wood economy. A higher percentage of survey participants selected (1) Attractive/warm student environments, (2) Lower carbon footprint/ sustainability, (3) Faster construction timelines and (4) Positive community perception as benefits of mass timber construction. Participants in the roundtable discussion reported that mass timber aligned with district goals for reducing energy and carbon footprint, addressed student's concerns about having access to nature, was a cost-effective material option post-COVID, and created warm environments that were better to work and learn in.

### FACILITY NEEDS: Are any schools in your district currently in need of modernization or expansion?

In need of replacement: **41%**
Exploring renovation/expansion/replacement: **35%**
In need of renovation: **12%**
In need of expansion or addition: **12%**
No school facility updates needed: **0%**

### CLASSROOM PORTABLE USE: Are you currently using any portable classrooms in your district as a stopgap solution for additional space?

Yes: **82%**
No: **18%**

### TOP PRIORITIES: What are your top three priorities for new school projects?

Student success/outcomes: **59%**
Low maintenance costs, resiliency: **59%**
Safety/security: **53%**
Cost efficiency/taxpayer value: **41%**

### IMPORTANCE OF SUSTAINABILITY: How important is sustainability/climate resilience in facility planning?

Not Important: **0%**
Slightly Important: **6%**
Moderately Important: **29%**
Important: **53%**
Very Important: **12%**

### MAINTENANCE CHALLENGES: What are your district's biggest challenges in facilities management

Overall upkeep: **47%**
Incompatibility of old and new systems: **18%**
Energy use / efficiency: **12%**
Other*: **12%**
Vandalism: **6%**
Replacement of exterior envelope: **6%**
Cleaning: **0%**

***other** responses: General maintenance with limited staff/resources; Maintenance underfunded/systems reaching end of life

## PASSING BONDS AND LEVIES: How does school design influence your district's ability to pass bonds and levies?

"Cost validation for school design tends to be more impactful during funding measures"

"Inviting, long lasting schools will always help if the taxpayers see value in the dollars spent."

"Using a prototype helped us save money and showed fiscal responsibility to the community showing that school design does influence support to pass bonds."

"The community is very supportive of sustainability measures in new construction projects. Mass timber and other strategies that improve health/wellness through design are celebrated by our community and lead to better ballot outcomes."

"If we continue to provide schools that are within our budget and create a sense of community pride, our community seems to support our bond/levy votes. Some community members think our new schools are "too nice", while others see nicer schools in our adjacent peer districts and think we could make our schools nicer also. There is a balance in Renton, but mostly the community seems focused on us delivering what we promised in the best way possible."

"Moderately. Community response to well designed schools is positive, but I don't know that it is crucial to their vote. Lately we have heard some community sentiment that local schools are extravagantly designed so that is the balancing point."

"Master plans are something communities of those schools find interesting, not sure how else school design influences a bond passing. People want updated schools."

"Inflation and cost have risen 50% in the last 10 years. The State of Washington is taxing our communities so much we are losing support making Bonds impossible to get support."

"For the district, it has a large influence as it assists in determining how much bond capacity to request. For the community, I surmise that design isn't necessarily a priority when they are voting yes or no on a ballot. However, I do think those initial schematics could excite voters and hopefully influence them enough to vote yes. I can see design as a tool to show the community how we can be fiscally responsible with bond funds."

"The location of the schools is more important than the building materials."

## Survey quotes: If your district built a mass timber building in the last 10 years, what kind of feedback have you received from students, teachers, parents?

"The teachers and students all really enjoy the material and the beauty. We have been accused of building "overly extravagant" buildings by some community members who stated that we should be building "prototypical schools to save more money."

"Community perception is very positive, both in built projects and in renderings for projects in design phases currently."

"Positive feedback related to the warmth of the wood and overall look."

"Mass timber schools have been well received by staff, students and community."

## Survey Quotes: What was the grand opening like? How was the community reception?

"The ribbon cutting ceremony for the new building was overwhelmingly positive. Accolades have only continued to be amplified since opening day."

"Grand opening/community reception — a lot of positive "wows"... comments on how beautiful and the calmness it exudes... how it matches our landscape... great source of opportunity for our CCTE students (another future job prospect)."

"Many positive reactions to the space. Teachers who relocated from other schools were very excited about their space and the exposure to natural materials."

"The school community and surrounding neighbors were in complete awe about the Mercer MS building. Some felt they didn't deserve it, and we had to reiterate that they do and it's their space."

WHAT DID WE HEAR?

## Top Challenges, Gaps, and Opportunities

Survey responses and roundtable participation highlighted key challenges school districts experienced working with mass timber. A majority of survey respondents cited cost as a concern or obstacle in mass timber construction for new facilities. The top three challenges participants faced during the construction of a mass timber building in the last 10 years, according to the survey, were **(1) Weather protection strategy, (2) Cost premiums compared to steel construction, (3) Availability and affordability of builders risk insurance.** During the roundtable activity, participants examined the challenges addressed in the survey responses, identified the top ten challenges school district facility directors experience, and their importance to mass timber adoption.

**1 Early Commitment And Buy-In**

Mass timber requires buy-in from the community, the capital projects team, the maintenance team, and there are limited resources to educate stakeholders on the benefits and assuage them of the risks.

**2 Procurement & Delivery Method Misalignment**

Mass timber requires early collaboration, but public procurement requires late bidding—creating structural misalignment.

**3 Limited Industry Experience**

A lack of knowledgeable professionals leads to redesign, coordination problems, and higher costs.

**4 System Integration & Coordination**

Lack of clarity on how to integrate mass timber with other building systems creates design risk.

**5 Acoustic Performance**

Lack of standardized / tested assembly options make it difficult to meet acoustic performance requirements.

**6 Procurement Of Mass Timber**

Product and manufacturer selection is required for design progress, but early commitment creates risk.

**7 Cost Estimation And Uncertainty**

Financial unpredictability undermines district leadership support and long-term planning.

**8 Insurance Availability & Cost**

Limited availability and lack of affordability of builders risk and property insurance coverage adds cost and risk to projects.

**9 Moisture Management During Construction**

Weather protection during construction is a top priority for facilities staff concerned about long term durability.

**10 Maintenance & Repair**

Maintenance teams lack understanding of how to properly maintain and repair mass timber buildings, adding to their perception of risk

## 1 Early Commitment And Buy-In

Mass timber requires buy–in from the community, the capital projects team, the maintenance team, and there are limited resources to educate stakeholders on the benefits and assuage them of the risks.

### A. Schematic Design Death and Cost Estimation Inaccuracies

**Challenge**: At SD teams must choose a structural path with incomplete data, which biases early cost comparisons toward familiar steel and penalizes mass timber as an "unknown."

**Specifics:** SD deliverables rarely include panelization, erection sequencing, or MEP coordination details needed to price mass timber; estimators default to steel unit rates, steel numbers often rise later, and timber is conservatively loaded with contingencies up front.

**Resource Gaps**: There is no standardized SD full-project costing tool that captures schedule impacts, temporary works, MEP coordination, finishes, and lifecycle value, and third-party estimators lack consistent timber assumptions.

**Opportunities**: Pilot a concise SD costing template and publish reconciled SD→GMP case studies in Washington to show how timber contingencies shrink and to normalize apples-to-apples comparisons.

### B. Lack of GC Experience or Commitment

**Challenge**: Many GCs add large contingencies or avoid bidding because they lack repeatable mass timber experience, inflating timber pricing or removing it from consideration.

**Specifics:** Contractors prefer familiar systems; without early GC engagement and fabricator input, constructability questions are priced as risk rather than resolved collaboratively, and limited regional fabricator rosters reduce competitive bids.

**Resource Gaps**: Washington lacks a consolidated roster of experienced timber GCs/CMs and accessible, project-scale training or funded pilot opportunities to build contractor capacity.

**Opportunities**: Use design-assist or GMP procurement, fund short pilot projects and workshops, and create a regional GC/fabricator roster to reduce contingencies, shorten schedules, and create repeatable delivery pipelines.

### C. Lack of Public and Political Awareness Motivation Commitment Incentive Support

**Challenge**: Districts and communities often evaluate projects on first cost and lack a concise, local "why" for mass timber, so political support and procurement incentives are weak.

**Specifics:** School boards may not see links between timber, student wellbeing, staff retention, or local economic benefit, and Washington Sustainable Schools Protocol (WSSP) currently under-weights biophilia and embodied carbon in scoring.

**Resource Gaps**: There is no Washington-specific, board-level communications package—concise slide decks, one-page cost comparisons, and local case studies—that ties timber to measurable district outcomes.

**Opportunities**: Develop a turnkey communications kit and WSSP advocacy brief to frame timber as a pedagogical, health, and rural-economic investment that unlocks political will and philanthropic support.

**D. Perception of Risk**

**Challenge**: Persistent concerns about fire, acoustics, durability, maintenance, and insurance create a risk premium that slows approvals and raises costs.

**Specifics**: Evidence is fragmented across manufacturers and projects, prompting repeated project-by-project validation and conservative contract language that amplifies perceived risk.

**Resource Gaps**: No centralized Washington repository consolidates fire tests, acoustic studies, insurer precedents, and long-term maintenance records for K-12 projects.

**Opportunities**: Build a single authoritative evidence pack and pair it with contract risk-sharing clauses and warranties to streamline approvals and lower contingency loading.

**E. Policy Procurement and Supply Chain Constraints**

**Challenge**: Procurement rules, limited regional manufacturing capacity, and weak WSSP credits for timber reduce competition, extend lead times, and increase price volatility.

**Specifics**: Sole-sourcing practices, constrained A/DLT fabrication capacity, and insufficient processing infrastructure for restoration wood limit local sourcing and keep costs elevated.

**Resource Gaps**: Procurement templates rarely reward lifecycle outcomes and there is little coordinated investment in small-scale processing or aggregation for Washington restoration wood.

**Opportunities**: Advocate WSSP revisions to increase credit for embodied carbon and biophilia, create procurement language that enables multiple fabricators to compete, and pilot processing/aggregation projects to grow local supply and jobs.

## 2 Project Delivery Misalignment

Mass timber requires early collaboration, but public procurement requires late bidding—creating structural misalignment.

**A. Delivery-method misunderstanding slows mass timber adoption**

**Challenge:** Stakeholders lack clarity about how delivery method (Design-Build, Design-Bid-Build, GC-CM/Progressive DB) materially affects mass timber procurement, cost, and schedule, which causes teams to "slow down to go fast."

**Specifics:** Design-build enables early procurement conversations and streamlines manufacturer engagement, while DBB pushes procurement later, forcing redesign, wider bidding to many manufacturers, and non-optimal panel sizing that raises costs; Bellingham's success used GC-CM for mandated mass timber projects.

**Resource Gaps:** Limited guidance for districts on matching delivery method to mass timber specifics; few case studies or decision tools comparing lifecycle outcomes by delivery method; lack of early-procurement playbooks tailored to school projects.

**Opportunities:** Create a Washington-specific decision matrix and playbook that maps project size/program to recommended delivery methods, with timelines for procurement milestones and sample contract language to enable earlier manufacturer engagement.

**B. Timing and ownership of cost estimating and procurement decisions**

**Challenge:** Unclear roles and timing for cost estimating (GC vs third-party estimator) and when to lock manufacturers create procurement risk and conservative choices that often eliminate mass timber.

**Specifics:** Ask "when" mass timber is chosen and "who" estimates cost; DB/Progressive DB may lock a manufacturer early (without buying wood), while DBB often defers and then faces redesign or non-competitive panel sizes.

**Resource Gaps:** No standardized protocol for early cost validation; districts lack templates for integrating GC cost feedback or progressive estimating into pre-bond planning; insufficient shared data on manufacturer lead times and pricing volatility.

**Opportunities:** Develop an estimating protocol for mass timber that prescribes estimator type by delivery method, includes contingency scenarios, and provides a simple procurement risk register for districts to present during bond outreach.

**C. Panel optimization and grid clarity as a technical bottleneck**

**Challenge:** Early uncertainty about grid spacing and panel layout drives conservative designs and higher costs because panel optimization is not resolved in early programming.

**Specifics:** Panel optimization requires clarity on grid during early scope/program definition; DBB's late procurement incentivizes designing to accommodate many manufacturers (non-optimal sizes), increasing material and labor costs.

**Resource Gaps:** Lack of early-stage structural guidance, standard grid templates, and decision aids that translate program needs into mass timber panel strategies; few shared examples of optimized grids for common school typologies.

**Opportunities:** Produce a library of pre-validated grid options and panel templates for typical Washington school programs, plus a quick-reference tool for architects to evaluate tradeoffs between grid choices, cost, and manufacturability.

**D. Community perception, bond politics, and design tradeoffs**

**Challenge:** Community scrutiny during bond measures pushes districts toward conservative, lowest-bid choices and makes them reluctant to adopt mass timber or alternative delivery that could raise perceived upfront cost.

**Specifics:** Citizens' committees and bond voters scrutinize past spending; districts fear being seen as poor stewards, so they avoid "doing something different or nicer"; community involvement peaks at bond time, not during technical planning.

**Resource Gaps:** Few communication templates or evidence packages that translate mass timber lifecycle benefits (sustainability, durability, operating costs) into bond-voter language; limited case studies showing community outcomes post-occupancy.

**Opportunities:** Create a bond-ready communications kit with cost comparisons, lifecycle savings, maintenance data, and local success stories (e.g., Bellingham) to help districts justify mass timber choices to voters and committees.

**E. Policy, procurement rules, and alternative delivery pathways**

**Challenge:** State procurement rules and district program requirements (DES/sole source, PRC/CPARB, RCWs) shape which delivery methods are feasible and how mass timber can be mandated or enabled.

**Specifics:** DES/sole source rules, PRC/CPARB for alternative delivery, RCW constraints, and the need to align district program/design requirements with delivery choices.

**Resource Gaps:** Limited, accessible guidance on navigating Washington procurement statutes for mass timber projects; few model RFQ/RFP clauses or sole-source justifications tailored to mass timber.

**Opportunities:** Assemble a legal/procurement toolkit for Washington school districts that includes model RFP language, sole-source justification templates, and a CPARB/PRC checklist to accelerate adoption of GC-CM or Design-Build for mass timber.

**F. Knowledge sharing, stakeholder engagement, and performance feedback**

**Challenge:** Districts need better peer learning, PR support, and operational performance data to feel confident choosing mass timber and alternative delivery methods.

**Specifics:** Districts talk to each other about performance – 50 districts know Bellingham's rationale in choosing mass timber. Districts want operating feedback (durability, maintenance) and PR help; consultants, structural engineers, and CM firms are key.

**Resource Gaps:** No centralized Washington repository of post-occupancy performance, maintenance records, or PR case studies for mass timber schools; insufficient engagement channels linking districts, manufacturers, and CM/estimating firms.

**Opportunities:** Launch a Washington Mass Timber Knowledge Hub that curates POE data, PR case studies, a roster of experienced CMs/estimators, and a peer-mentoring program to connect districts planning bonds with those who have executed mass timber projects.

## 3 Limited Industry Experience

A lack of knowledgeable professionals leads to redesigns, coordination problems, and higher costs.

**A. Owner Perspective**

**Challenge:** Owners and owner's reps vary widely in timber experience, creating inconsistent decision timing and delivery-method choices that hinder early commitment to mass timber.

**Specifics:** Some teams have direct mass timber experience while others "have skills and where-with-all to figure it out"; delivery method must often be decided before design starts; state processes and bond language constrain options; owners need education to weigh alternatives.

**Resource Gaps:** No standardized SD-stage decision checklist; limited owner-facing materials on delivery method tradeoffs; inconsistent RFQ weighting to surface timber expertise.

**Opportunities:** Publish an SD decision checklist, tailored owner one-pagers on CMGC/GCCM/progressive benefits, and sample RFQ/RFP scoring that prioritizes timber experience and owner's rep expertise.

### B. General Contractors and Contingency Practices

**Challenge:** GCs unfamiliar with mass timber add contingency premiums and avoid early involvement, inflating perceived construction cost.

**Specifics:** GCs add line-item contingencies when inexperienced; contingency is often baked into budgets because districts lack confidence; early GC input is limited under hard-bid delivery.

**Resource Gaps:** No regional data on contingency differentials for timber vs conventional systems; lack of procurement language to incentivize early GC engagement.

**Opportunities:** Publish contingency guidance based on project experience, create RFQ language that rewards early GC participation, and pilot alternative delivery projects to demonstrate reduced contingency needs.

### C. Shortage of Experienced GCs and Installers

**Challenge:** A limited pool of experienced GCs and specialist installers drives premiums for expertise and remediation, constraining local capacity.

**Specifics:** Installers charge premiums to bring experts; remediation costs are high when work is done incorrectly; few local GCs have recent timber school experience.

**Resource Gaps:** No vetted roster of WA timber contractors/installers; no regional training pipeline or data on installer premium rates.

**Opportunities:** Build a vetted contractor/installer registry, fund regional installer training, and track installer premium data to inform early budgets.

### D. Designers and Design Team Experience

**Challenge:** Designers with limited timber experience miss foresight opportunities that prevent RFIs, coordination issues, and inefficient structural or MEP layouts.

**Specifics:** Experienced designers improve structural efficiency, MEP coordination, and can push back on GC/estimator assumptions; inexperienced teams require more consultant support.

**Resource Gaps:** Lack of targeted timber training for A/E teams; no SD deliverable checklist specifying the minimum detail needed to select timber confidently.

**Opportunities:** Offer focused training modules on timber detailing and MEP coordination, publish a "top design pitfalls" guide, and require timber experience in procurement scoring.

### E. Project Delivery and State Process Constraints

**Challenge:** State review processes and hard-bid norms force late contractor selection and delay adoption of delivery methods better suited to timber.

**Specifics:** PRC/CPARB steps and bonding rules can add months; alternative delivery (CMGC/GCCM, progressive) is often needed but must be approved early; bond language may not explicitly allow timber-friendly approaches.

**Resource Gaps:** No concise WA playbook showing how to navigate PRC/CPARB for timber projects; limited model bond and procurement clauses that enable alternative delivery.

**Opportunities:** Create a WA state process playbook, draft model bond and procurement clauses that include mass timber, and prepare a short policy brief for decision makers showing time/cost tradeoffs.

### F. Resources and Team Building Strategies

**Challenge:** Owners can mitigate limited industry experience by assembling mixed teams, using consultants, and changing RFQ weighting to surface timber capability.

**Specifics:** Bring in timber consultants and owner's reps who understand mass timber; shift qualifications weighting; build teams with experienced teammates and experts; include bond language that contemplates timber.

**Resource Gaps:** No standard RFQ language or owner's rep scope focused on timber oversight; limited mentorship or starter-kit resources for new teams.

**Opportunities:** Publish RFQ templates requiring timber consultants, create an owner's rep scope with timber oversight, and launch a mentorship/starter-kit program pairing new teams with experienced practitioners.

## 4 System Integration and Coordination

Lack of clarity on how to integrate mass timber with other building systems creates design risk.

### A. System Visibility and Exposed Systems

**Challenge:** Mass timber showcases are constrained by the need to accommodate all the building systems (sprinklers, pipes, devices, lights) and especially acoustics, which limits how much timber can be exposed.

**Specifics:** Districts want mass timber exposed but contend with routing sprinklers, piping, devices, and lighting while meeting acoustic goals; some districts prefer ceiling-mounted devices but heights make wall mounting preferable.

**Resource Gaps:** Limited standardized guidance on balancing exposed timber aesthetics with mechanical/electrical/plumbing (MEP) routing and acoustic treatments.

**Opportunities:** Develop a best-practice roadmap that documents trade-off strategies for visible timber versus concealed systems and prescribes where timber should be exposed (classrooms, corridors, or selective zones).

### B. District Preferences and Maintenance Access

**Challenge**: Varied district preferences—some want all systems hidden, others want everything exposed for access—create inconsistent design targets and coordination friction.

**Specifics:** Different districts' expectations about visibility and access drive divergent detailing and maintenance strategies; preferences affect decisions about device placement and ceiling treatments.

**Resource Gaps:** Lack of decision frameworks that translate district maintenance and access preferences into repeatable design standards.

**Opportunities:** Produce a decision checklist for districts that clarifies where timber is desired and aligns maintenance/access preferences with design solutions and prefabrication strategies.

### C. Acoustics and ADLT Tradeoffs

**Challenge**: Acoustic solutions such as ADLT can protect timber visibility but introduce different wall/ceiling coordination challenges across assemblies.

**Specifics:** ADLT addresses acoustics without full ceiling coverage but creates coordination issues across walls and with slab-edge connections; acoustics are a cross-discipline constraint.

**Resource Gaps**: Limited evidence-based guidance on meeting acoustics while preserving exposed timber; missing studies showing wall panel absorption effectiveness.

**Opportunities**: Leverage the CDHY study insight that wall panels can be more effective than assumed and include acoustics strategies in the roadmap so teams can meet acoustic goals without fully covering timber.

### D. Routing, Floor-to-Floor Heights, and Slab Constraints

**Challenge**: Expectations for floor-to-floor heights and routing (including how to go around corners) plus slab edge/exterior wall connections complicate integration of ducts, conduits, and piping with mass timber elements.

**Specifics:** Deeper beams prevent ducts from passing through; conduits in slab must exit at slab edge to reach exterior walls; slab edge connections affect ratings, piping, displacement ventilation, and acoustics.

**Resource Gaps:** Limited phase-based guidance on when systems decisions must be made or how to plan for deeper beams and slab edge penetrations.

**Opportunities:** Add phase-specific decision points to the roadmap that specify when routing and floor-height decisions must be locked and outline approaches for over/under routing and slab-edge detailing.

**E. HVAC, Ventilation, and Future Flexibility**

**Challenge:** The rise of mass timber coincides with HVAC shifts (DOAS/ventilation) and creates tension between embedding systems in slabs (limiting flexibility) versus exposing systems (affecting aesthetics and acoustics).

**Specifics:** DOAS and ventilation requirements, wildfire smoke concerns, and passive system limitations complicate choices about running systems in slab versus exposed; future modifications are constrained if systems are embedded.

**Resource Gaps:** Guidance on designing for future flexibility and on meeting DOAS/ventilation requirements in timber buildings—especially under wildfire smoke constraints—is sparse.

**Opportunities:** Include strategies in the roadmap for planning future flexibility (generalized classroom layouts, exposed vs slab systems tradeoffs) and develop regulatory pathways for early trade partner involvement to coordinate DOAS solutions.

**F. Standardization, Prefabrication, and Regulatory Barriers**

**Challenge:** Lack of standardization across species, fabricators, and products, plus procurement rules that delay trade partner involvement, force each project to reinvent integration approaches.

**Specifics:** Different timber species and fabricator attributes change detailing; jurisdictions are unclear on sealing rated assemblies/penetrations through CLT; districts often cannot bring fabricators or subcontractors on board early (GMP constraints).

**Resource Gaps:** No statewide roadmap or regulatory path for early trade partner procurement within public procurement; absence of standardized integration templates.

**Opportunities:** Create a roadmap for best practices that includes early trade partner involvement, phase-based system decision timing, approaches for deeper beams and slab routing, and a recommended regulatory path for early procurement to enable prefabrication and shop-level coordination.

## 5 Acoustic Performance

Lack of standardized / tested assembly options make it difficult to meet acoustic performance requirements.

### A. Data scarcity for 3-ply & European panels

**Challenge:** Acoustic testing data for many mass timber products is limited or unavailable.

**Specifics:** Few published STC and IIC results for 3-ply and European type panels; manufacturers rarely provide layer-level performance.

**Resource Gaps:** Lack of independent lab and in-situ test data and no centralized non-proprietary dataset.

**Opportunities:** Commission targeted lab and field tests and create a shared open database of results.

### B. Over-design by acoustical engineers and surface coverage

**Challenge:** Engineers often over-specify acoustic treatments, resulting in most surfaces being covered.

**Specifics:** Conservative specs lead to heavy wall and ceiling treatments that conceal mass timber and prioritize metrics over aesthetics.

**Resource Gaps:** Best practice guides that balance acoustic targets with exposed timber and real-world installation realities.

**Opportunities:** Develop performance-based guidance and case studies that preserve visible timber while meeting targets.

### C. Lack of integrated acoustic profiles in CLT and MPP

**Challenge:** CLT and MPP lack factory integrated acoustic detailing unlike DLT and ADLT.

**Specifics:** ADLT is available from a single manufacturer; most solutions rely on aftermarket toppings or panels.

**Resource Gaps:** No standardized cross-manufacturer integrated acoustic profiles or modular options.

**Opportunities:** Encourage manufacturers to develop modular integrated profiles and regional ADLT-like options.

### D. Thick heavy acoustic toppings and constructability

**Challenge:** Acoustic toppings can be very thick and add significant weight and depth to assemblies.

**Specifics:** Thick toppings affect structural loads floor-to-floor heights and interact with fire and deflection requirements.

**Resource Gaps:** Lightweight high-performance topping alternatives and published weight versus performance data.

**Opportunities:** Test and specify thin resilient or dry toppings and pilot lightweight systems to reduce weight and depth.

### E. Flanking transmission and verification uncertainty

**Challenge:** Flanking transmission over demising walls and junctions is poorly characterized and verification is limited.

**Specifics:** Junctions penetrations and service runs create unknown flanking paths; small installation errors can be impactful.

**Resource Gaps:** In-situ flanking test data affordable field testing protocols and standardized acceptance criteria.

**Opportunities:** Fund flanking studies require spot in-situ verification and standardize commissioning tests on projects.

### F. Cost labor regulatory barriers and missing resources

**Challenge:** Acoustic assemblies and specialty panels are often expensive and labor intensive while regulatory requirements drive conservative design.

**Specifics:** Acoustic panels can cost more than ACT ceilings; WSSP requirements influence K-12 specifications; manufacturers seldom provide STC IIC for individual layers.

**Resource Gaps:** Non-proprietary guides broader testing including K-12 assembly dataset and cost-effective project-level testing methods.

**Opportunities:** Form a Washington state consortium to fund testing, publish non-proprietary guides, create K-12 assembly database and develop prefabricated acoustic modules and installer training.

## 6 Procurement and Cost

Product and manufacturer selection is required for design progress, but early commitment creates risk.

### A. Limited sourcing options creates risk

**Challenge:** Reliance on single manufacturers for products like DLT and MPP concentrates price, lead-time, and substitution risk.

**Specifics:** Single manufacturers produce non-interchangeable member sizes, creating redesign and change orders when substitutions are needed. Lead-time volatility and occasional supplier withdrawal may occur.

**Resource Gaps:** No centralized registry of suppliers, lead times, or equivalencies; guidance on sole-source risk for public procurement is limited.

**Opportunities:** Create a regional supplier registry with lead-time and equivalency tables that detail common manufacturer differences to reduce redesign risk.

### B. Product selection process

**Challenge:** Manufacturer specification differences and inconsistent adherence to bidding documents complicate competitive selection.

**Specifics:** Variations in fiber type and member sizes drive cost/availability issues; some CLT manufacturers may not follow bidding requirements.

**Resource Gaps:** Lack of standardized minimum product specifications and procurement templates for public projects.

**Opportunities:** Standardize minimum product specs and produce procurement templates to enable competitive bidding.

### C. Commitment requirements and regulatory constraints

**Challenge:** Manufacturer deposit demands, early price escalation, and multi-bid rules create financial and process friction for public owners.

**Specifics:** Large deposits are atypical for public work; bringing manufacturers on early can increase costs; rules requiring multiple bids per product can complicate procurement.

**Resource Gaps:** Limited pooled procurement mechanisms and unclear incentives to offset manufacturer terms.

**Opportunities:** Implement KCDA/Omni models where districts can begin design/feasibility before formal bids; explore public incentives or funding streams (including climate funds) to reduce risk in deposits.

### D. Design decision making

**Challenge:** Mass timber requires earlier, more detailed design lock-in than conventional systems, stressing teams and schedules.

**Specifics:** Early bid packages and mini-MACCs demand complete coordination; suppliers need early locked-in designs with limited post-fabrication flexibility.

**Resource Gaps:** Shortage of experienced integrated teams and guidance on what level of detail is sufficient for early procurement.

**Opportunities:** Develop design checklists, early-decision playbook, and fund team training so districts can meet production schedules without costly rework.

### E. Data, estimating practices and decision timing

**Challenge:** Lack of accessible cost database, school-type templates, and damage/risk data lowers owner confidence and delays decisions.

**Specifics:** Owners need early budget numbers, sensitivity templates by school type, and evidence on operational risks.

**Resource Gaps:** No consolidated cost database or historical estimate tracking for Washington school projects.

**Opportunities:** Build three school-level cost templates (elementary/middle/high) with sensitivity ranges or an industry best practices guide, compile case-study cost histories, and create district-facing materials explaining how early decisions reduce contingency.

## 7 Cost Estimation and Certainty

Financial unpredictability undermines district leadership support and long-term planning.

### A. Cost uncertainty due to market forces

**Challenge:** Changing lumber/log prices, tariffs, and limited supplier competition make early budgeting difficult.

**Specifics:** Tariffs, regulatory shifts, and mill production changes drive price swings, supply risk, and supplier exit.

**Resource Gaps:** No centralized, Washington-specific price/lead-time tracker for mass timber inputs.

**Opportunities:** State/regional price database linked to district procurement windows.

**B. Approach to cost analysis**

**Challenge:** Current practice compares timber to steel in time-intensive process that may omit whole-building impacts.

**Specifics:** Comparisons often ignore foundations, MEP, façades, and schedule effects; GCCM feedback frequently labels timber as not cost-competitive

**Resource Gaps:** Lack of systems-comparison tools, pre-validated grids, and experienced early-stage estimating resources.

**Opportunities:** Build a systems comparison tool and a library of pre-validated panel/grid templates for school typologies.

**C. Not accounting for schedule savings**

**Challenge:** Schedule savings/compression benefits may not be accounted for.

**Specifics:** Contractors jump to higher builders-risk costs without quantifying 15–25% schedule reductions and faster superstructure erection.

**Resource Gaps:** No standardized method to monetize schedule savings in public procurement analyses.

**Opportunities:** Adopt a schedule-value calculator that converts time saved into hard cost and risk reductions for owner decision-making.

**D. Contractor contingencies and unfamiliarity**

**Challenge:** Limited GC experience with mass timber inflates contingencies and conservative pricing.

**Specifics:** Inconsistent allocation of costs, missing RFI/CO histories, and late structural decisions drive rework.

**Resource Gaps:** No regional roster of experienced mass-timber GCs or contingency benchmarking.

**Opportunities:** Publish a GC experience database with contingency benchmarks; offer estimator training and back-check guides for districts.

**E. Value Beyond First Cost (Lifecycle & Operational)**

**Challenge:** Owners rarely include lifecycle O&M or carbon value in procurement decisions.

**Specifics:** Perceptions of higher maintenance and insurance persist despite limited evidence.

**Resource Gaps:** No WA post-occupancy O&M database or standardized LCCA reporting for schools.

**Opportunities:** Launch post-occupancy evaluations and an O&M database to validate lifecycle assumptions

**F. Decision timing**

**Challenge:** Structural system choices are often made too late (end SD/start DD), forcing conservative contingencies.

**Specifics:** Districts lack early budget numbers and decision gates to lock structural approach at SD.

**Resource Gaps:** No district-facing materials explaining why early lock-in reduces rework and contingency.

**Opportunities:** Develop cost templates by school type with SD decision-gate checklist.

## 8 Insurance

Limited availability and lack of affordability of builders risk and property insurance coverage adds cost and risk to projects.

**A. Water claims on CLT floors**

**Challenge:** Water events have produced expensive claims where CLT floors got very wet for extended periods.

**Specifics:** PCS project: all CLT floors very wet for a long period; minimal structural repair needed; claim paid under a $1.7M policy (>$8/SF); builder and architect had prior mass timber experience.

**Resource Gaps:** Lack of consolidated past-claim data and clear guidance on distinguishing aesthetic vs structural damage.

**Opportunities:** Collect and publish past claim case studies; develop guidance on assessing aesthetic vs structural impacts.

**B. Aesthetic vs structural concern**

**Challenge:** Most water incidents in mass timber have been aesthetic rather than structural, complicating builder's risk claims.

**Specifics:** Case examples show that no structural issues from water in mass timber were observed; similar claims exist in stick framing; aesthetic damage often not covered as builder's risk.

**Resource Gaps:** Clear criteria and documentation protocols to demonstrate structural vs aesthetic damage for insurers.

**Opportunities:** Standardize inspection and documentation procedures to support claims and underwriting.

### C. Up-front risk mitigation and insurance purchasing

**Challenge:** More detailed early design and clarity on who buys insurance can influence rates but savings are not guaranteed.

**Specifics:** Strategies: more work up front; higher SD pricing for worst-case; reduce rate in DD; coach clients on SD vs DD pricing; architect to provide more SD details; identify whether owner or builder purchases risk insurance; push for owners to take on risk.

**Resource Gaps:** No unified application form or common answers for insurers; uncertainty about who should purchase coverage.

**Opportunities:** Create a unified insurance application template; engage brokers early and clarify purchaser responsibilities.

### D. Regional rate variability and project examples

**Challenge:** Insurance rates vary by project and region; increased SD specificity can reduce rates in some cases.

**Specifics:** PPS projects: Cleveland Type IV HT had high SD phase rates; Ida B Wells used more SD specificity and ultimately had comparable rates.

**Resource Gaps:** No quantifiable actions insurers can point to that guarantee cost reductions; rates negotiated through 2–3 carriers.

**Opportunities:** Use SD drawing specificity and documented protection plans to negotiate with carriers; start broker engagement early.

### E. Policy and regulatory levers

**Challenge:** State-level mechanisms and clearer definitions could help spread risk and make insurers more willing to participate.

**Specifics:** Need for state funded builder's risk or flood backstop similar to wildfire insurance that defines mass timber separately from generic "wood construction". Specifying percentage/products/exposed combustible ratio would support defining mass timber as its own type of material and may require direct work with the WA State Insurance Commissioner.

**Resource Gaps:** Absence of a formal mass timber definition for insurers and no state backstop mechanism.

**Opportunities:** Advocate with WA Insurance Commissioner for definitions and pooled/state backstop; pilot public programs to spread risk.

#### F. Missing resources and broker/carrier engagement

**Challenge:** Industry lacks centralized claim records, a unified insurance form, and early broker engagement practices.

**Specifics:** Communicating with carriers and initiating conversations with brokers is critical. Limited resources available but some include WoodWorks insurance checklist. Conservative quote timeline is 2–3 months where the formal quote takes longer.

**Resource Gaps:** No resource of past claims; no unified form with common answers/recommendations for insurance applications.

**Opportunities:** Build a shared repository of past claims; develop a unified application form and recommended responses; formalize early broker outreach protocols.

## 9 Moisture Management During Construction

Weather protection during construction is a top priority for facilities staff concerned about long term durability.

#### A. Moisture exposure and sequencing

**Challenge:** Moisture risk during erection and sequencing (roof, slab, toppings, seasonal timing) drives most mass-timber moisture failures.

**Specifics:** Roof is a challenge to keep dry (involves waterproofing as much as moisture management). Timing of construction – thinking that no moisture management is particularly necessary, sequencing challenges such as summer versus winter erection, certainty of timeline versus drift change, drying potential and exposure windows.

**Resource Gaps:** Clear, project-scale sequencing checklists and timing thresholds (when to delay toppings, acceptable in-service MC) for Washington climates.

**Opportunities:** Produce a short, Washington-specific sequencing checklist with milestone triggers (roof closed, temporary covers, concrete cure windows) and require the MMP to tie actions to those milestones.

**B. Materials and assemblies behavior**

**Challenge:** Different mass-timber elements and finishes respond differently to wetting and drying, which changes mitigation and remediation needs.

**Specifics:** CLT often left uncoated and is typically squeegeed rather than membrane-coated; GLB/columns may receive coatings; heartwood can behave differently and sometimes allows more cost-effective cleanup.

**Resource Gaps:** Lack of element-specific guidance (when to coat, when membranes are needed, heartwood vs sapwood treatment).

**Opportunities:** Publish a one-page matrix mapping element type to recommended temporary protection and post-wetting remediation approaches.

**C. Roles, specs, and in-field coordination**

**Challenge:** Ambiguity over who provides and enforces the Moisture Mitigation Plan creates accountability gaps in the field.

**Specifics:** Specifics

**Resource Gaps:** Missing contract clauses, sample MMP templates, and clear handoffs for low-bid vs GCCM delivery.

**Opportunities:** Develop standard contract language and an MMP template that assigns responsibilities and inspection checkpoints by delivery method.

**D. Cost, insurance, and claims differentiation**

**Challenge:** Owners and insurers face tradeoffs between prevention cost and restitution, with insurers demanding detailed MMPs.

**Specifics:** Protection and drying systems add upfront cost; many claims are aesthetic (staining) rather than structural or health-related, yet both drive premiums; insurers request detailed plans.

**Resource Gaps:** No regional data comparing cleanup vs prevention costs and no insurer-accepted rubric separating aesthetic from structural risk.

**Opportunities:** Compile Washington case studies on prevention vs cleanup costs and propose an insurer-friendly differentiation framework to limit premium impacts for aesthetic issues.

**E. Quality control, aesthetics, and acceptance criteria**

**Challenge:** Subjective aesthetic differences at close-out create disputes between contractors, architects, and owners.

**Specifics:** Contractors may perform standard cleaning; architects still "see a difference"; direct UV exposure and buff-out variability affect final appearance; client expectations can drive claims even when performance is acceptable.

**Resource Gaps:** No objective acceptance criteria, moisture content thresholds, or standardized buff-out/cleaning protocols in specs.

**Opportunities:** Add measurable acceptance criteria and photo-documented baselines to specs, plus a standardized close-out sign-off form to reduce subjective disputes.

### F. District guidance and practical resources

**Challenge:** School districts need a concise, actionable explainer and decision matrix to evaluate MMP intensity and contractor deliverables.

**Specifics:** Districts need to know what an MMP is, who provides it, what to expect in finished work, and how delivery method and structural system change requirements (CLT on steel, concrete toppings, sloped vs flat roofs).

**Resource Gaps:** No short, Washington-specific one-page explainer, decision matrix, or bid-ready checklist tailored to districts.

**Opportunities:** Produce a one-page district explainer plus a decision matrix (MMP intensity × delivery method × structural system) and sample spec language for procurement and insurance submission.

## 10 Maintenance and Repair

Maintenance teams lack understanding of how to properly maintain and repair mass timber buildings, adding to their perception of risk.

### A. Distinguishing owner expectations versus real maintenance problems

**Challenge:** Owners need clear differentiation between normal timber behaviors and true maintenance or repair issues.

**Specifics:** Districts must understand that timber behaves differently than conventional materials, so phenomena like checks, minor movement noises, or superficial blemishes are often expected rather than defects.

**Resource Gaps:** No concise owner-facing primer that lists expected timber behaviors versus actionable defects and explains when to call a contractor or invoke warranty.

**Opportunities:** Produce a one-page owner primer for Washington districts that lists common, non-critical timber behaviors, defines repair-level conditions, and provides simple decision steps for custodial staff.

**B. Surface and environmental issues (defacement, UV, moisture, acoustics, finishes)**

**Challenge:** Visible and environmental effects—vandalism, UV fading, moisture staining, acoustic coverings, and finish longevity—drive most maintenance concerns.

**Specifics:** Concerns include graffiti and carving on exposed wood, gradual UV discoloration, moisture-related staining and mold risk tied to membranes and vapor permeability, noise from pops/cracks/checks, sap bleed, and uncertainty about sealer selection and re-finish intervals.

**Resource Gaps:** No comparative sealer selection tool, no guidance on vapor-permeable acoustic products, and no cleaning/compatibility protocols for common stains and graffiti.

**Opportunities:** Create a sealer selection matrix, a cleaning-compatibility table, guidance on vapor-permeable acoustic solutions, and a simple maintenance schedule for re-sealing and UV protection tailored to Washington climates.

**C. Physical safety and durability (edges, splinters, water events, fire repair)**

**Challenge:** Edge protection, splinter mitigation, sap treatment, and response procedures for sprinkler or fire events are primary durability and safety priorities for facilities teams.

**Specifics:** Key issues are protecting column edges, preventing and addressing splinters, treating sap bleed, drying and repairing timber after sprinkler activation or plumbing leaks, and defined workflows for post-fire repairs.

**Resource Gaps:** No standard edge-profile recommendations, no splinter inspection/mitigation checklist, and no step-by-step triage and repair workflows for water or fire exposure.

**Opportunities:** Publish recommended edge details, a custodial inspection checklist, sap-stain treatment steps, and a triage flowchart for water and fire incidents for inclusion in district maintenance manuals.

**D. Warranty, custodial roles, and training needs**

**Challenge:** Clear warranty language and targeted training for custodial staff are missing but essential to long-term performance and owner confidence.

**Specifics:** Districts need explicit warranty coverage for timber elements and practical training for custodians on routine care, stain removal, and emergency drying.

**Resource Gaps:** No sample warranty clauses tailored to timber, no custodial training modules, and no laminated quick-reference cards for daily care and incident response.

**Opportunities:** Develop model warranty language for procurement, a short custodial training packet, and laminated quick-reference guides for facilities teams in Washington districts.

**E. Policy and school-standards barriers**

**Challenge:** Existing school standards and aesthetic preferences can constrain practical maintenance and finish strategies for mass timber.

**Specifics:** Some district standards are inflexible for mass timber detailing, and preferences such as "no painting" can limit acceptable sealer or finish approaches and complicate upkeep.

**Resource Gaps:** No draft district standard reconciling aesthetic policies with practical sealer allowances, finish refresh cycles, and maintenance realities.

**Opportunities:** Produce a draft, adaptable school-district standard that balances aesthetic goals with maintenance needs, including recommended sealer allowances and refresh intervals for procurement use.

**F. Practical design, detection, and repair resources missing**

**Challenge:** Practical design, detection, and repair resources missing

**Specifics:** Missing guidance includes corridor drain details, best membrane choices, water-detection strategies, exposure-based design to reduce vandalism, sealer selection tools, vapor-diffusion/drying practices, and illustrated repair steps for common blemishes.

**Resource Gaps:** No single Washington-focused playbook combining design checklists, product selection, detection protocols, and step-by-step repair procedures for custodial and facilities staff.

**Opportunities:** Assemble a concise Washington-specific playbook with design checklists (drains, membranes, exposure strategies), a sealer decision tool, water-detection and drying protocols, and repair steps packaged as a district-ready reference and training aid.

# Appendices

## **Appendix 1:** Mass Timber Schools in Washington State

Table 1

| School Name | School District | Educational Service District | Grades | Improvement Type | Construction System | Year Built | No. Stories | Total Area (SF) | Areas Featuring Timber | Architect | Structural Engineer | General Contractor |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Jefferson Elementary School** | Mount Vernon | **ESD 189 Northwest** | K–5 | Addition (CLT Modular Classroom) | Primarily Mass Timber | 2017 | 1 | 900 | Classroom | Mahlum | Coughlin Porter Lundeen | Walsh Construction |
| **Maple Elementary School** | Seattle | **ESD 121 Puget Sound** | K–5 | Addition (CLT Modular Classroom) | Primarily Mass Timber | 2017 | 1 | 900 | Classroom | Mahlum | Coughlin Porter Lundeen | Walsh Construction |
| **Greywolf Elementary School** | Sequim | **ESD 114 Olympic Region** | PreK–2 | Addition (CLT Modular Classroom) | Primarily Mass Timber | 2017 | 1 | 900 | Classroom | Mahlum | Coughlin Porter Lundeen | Walsh Construction |
| **Valley View Elementary School** | Toppenish | **ESD 105 South Central Washington** | K–5 | Addition (CLT Modular Classroom) | Primarily Mass Timber | 2017 | 1 | 900 | Classroom | atelierjones NAC Architects | Harriott Valentine | Graham Construction |
| **Adams Elementary School** | Wapato | **ESD 105 South Central Washington** | 3–5 | Addition (CLT Modular Classroom) | Primarily Mass Timber | 2017 | 1 | 900 | Classroom | atelierjones NAC Architects | Harriott Valentine | Graham Construction |

| School Name | School District | Educational School District | Grades | Improvement Type | Construction System | Year Built | No. Stories | Total Area (SF) | Areas Featuring Timber | Architect | Structural Engineer | General Contractor |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Vancouver iTech Preparatory** | Vancouver | **ESD 112 Southwest Washington** | 6–12 | Replacement | Steel with Mass Timber Elements | 2019 | 3 | 77,600 | Common area | LSW Architects | KGA Structural Engineers | Robinson Construction. |
| **Kellogg Middle School** | Shoreline | **ESD 121 Puget Sound** | 6–8 | Replacement | Steel with Mass Timber Elements | 2020 | 2 | 152,000 | Common area Library | Mahlum | Coughlin Porter Lundeen | Hoffman Construction |
| **Highline High School** | Highline | **ESD 121 Puget Sound** | 9–12 | Modernization and Expansion | | 2021 | 2 | 226,000 | Classroom Common Area | Bassetti Architects | PCS Structural Solutions | Skanska |
| **Kopachuck Middle School** | Peninsula | **ESD 121 Puget Sound** | 6–8 | Modernization and Addition | Steel with Mass Timber Elements | 2021 | 1 | 67,000 | Admin | TCF Architecture | PCS Structural Solutions | Sheiesow Construction |
| **Key Peninsula Middle School** | Peninsula | **ESD 121 Puget Sound** | 6–8 | Modernization and Expansion | | 2021 | 1 | 11,600 | Admin | TCF Architecture | PCS Structural Solutions | Kassel |
| **Quileute Tribal School** | Quileute | **ESD 114 Olympic Region** | K–12 | Replacement | Primarily Mass Timber | 2021 | 1 | 65,000 | Roof Cafeteria Gym | Rice Fergus Miller Architecture | Degenkolb Engineers | Graham Construction |

| School Name | School District | Educational School District | Grades | Improvement Type | Construction System | Year Built | No. Stories | Total Area (SF) | Areas Featuring Timber | Architect | Structural Engineer | General Contractor |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Marshall Elementary and McLoughlin Middle School** | Vancouver | **ESD 112 Southwest Washington** | 6–8 | Replacement | Primarily Mass Timber | 2021 | 2 | 198,918<br>203,000 (Timber total area) | Classroom<br>Cafeteria<br>Common area | LSW Architects | KGA Structural Engineers | Skanska |
| **Wyeast Middle School** | Evergreen (Clark) | **ESD 112 Southwest Washington** | 6–8 | Replacement | Steel with Mass Timber Elements | 2022 | 2 | 141,000 | Library<br>Commons<br>Roof<br>Cafeteria | Mahlum | KPFF | Todd Construction |
| **Bush New Upper School** | Seattle (Private) | **Private** | K–12 | New Construction | Primarily Mass Timber | 2022 | | 20,000 | Common area<br>Multipurpose room<br>Classroom | Mithun | DCI Engineers | Exxel Pacific |
| **Denny Yasuhara Middle School** | Spokane | **ESD 101 Northeast Washington** | 6–8 | New Construction | Steel with Mass Timber Elements | 2022 | 2 | 140,000 | Commons<br>Roof | MMEC Architecture & Interiors | Coffman Engineers | Bouten Construction Company |
| **Finn Middle School** | Lake Washington | **ESD 121 Puget Sound** | 6–8 | Addition | | 2023 | 2 | 120,000 | Classroom<br>Cafeteria<br>Common area | Integrus | Coughlin Porter Lundeen | BNBuilders |

| School Name | School District | Educational School District | Grades | Improvement Type | Construction System | Year Built | No. Stories | Total Area (SF) | Areas Featuring Timber | Architect | Structural Engineer | General Contractor |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Hilltop Heritage Elementary School** | Renton | **ESD 121 Puget Sound** | 1–5 | New Construction | Steel with Mass Timber Elements | 2023 | 2 | 78,000 | Classroom<br>Gym<br>Common area | Hutteball + Oremus Architecture | Coughlin Porter Lundeen | Cornerstone Construction |
| **Van Asselt School Addition** | Seattle | **ESD 121 Puget Sound** | N/A | Addition | Steel with Mass Timber Elements | 2023 | 2 | 59,330 | Common area | Bassetti Architects | Coughlin Porter Lundeen | Cornerstone Construction |
| **Fairview Middle School** | Central Kitsap | **ESD 114 Olympic Region** | 6–8 | Replacement | Steel with Mass Timber Elements | 2024 | 3 | 106,000 | Library<br>Commons<br>Roof | Bassetti Architects | Coughlin Porter Lundeen | Skanska |
| **Jenkins Junior/Senior High School** | Chewelah | **ESD 101 Northeast Washington** | 9–12 | Modernization | Steel with Mass Timber Elements | 2024 | 1 | 200 | | Press Architecture | | |
| **Center for Deaf and Hard of Hearing** | Vancouver | **ESD 112 Southwest Washington** | PreK K–12 | Addition | Primarily Mass Timber | 2024 | 2 | 51,250 | Classroom<br>Common area | Mithun | PCS Structural Solutions | Skanska |

| School Name | School District | Educational School District | Grades | Improvement Type | Construction System | Year Built | No. Stories | Total Area (SF) | Areas Featuring Timber | Architect | Structural Engineer | General Contractor |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Evergreen High School (Seattle)** | Highline | **ESD 121 Puget Sound** | 9–12 | Replacement | Primarily Mass Timber/ Steel with Mass Timber | 2025 | 3 | 237,220 | Classroom Commons Roof | Bassetti Architects | PCS Structural Solutions | Cornerstone Construction |
| **Tyee High School** | Highline | **ESD 121 Puget Sound** | 9–12 | New Construction | | 2025 | 2 | 218000 | Classroom Cafeteria Common area | Integrus | Integrus | Absher Construction |
| **Alki Elementary School** | Seattle | **ESD 121 Puget Sound** | 1–5 | Modernization and Addition | Primarily Mass Timber | 2025 | 3 | 79,000 | Common area Cafeteria Classroom | Mahlum | PCS Structural Solutions | Cornerstone Construction |
| **Asa Mercer International Middle School** | Seattle | **ESD 121 Puget Sound** | 6–8 | Replacement | Primarily Mass Timber | 2025 | 3 | 174,280 | Library, Classroom | Bassetti Architects | Coughlin Porter Lundeen | Cornerstone Construction |
| **Norman Rockwell Elementary School** | Lake Washington | **ESD 121 Puget Sound** | K–5 | Replacement | Primarily Mass Timber | 2026 | 2 | 83,000 | Common area Gym Library | McGranahanPBK | Coughlin Porter Lundeen | Lydig Construction |
| **River Ridge High School** | North Thurston | **ESD 113 Capital Region** | 9–12 | Modernization | Primarily Mass Timber | 2026 | 2 | 121,000 | Common area | Bassetti Architects | PCS Structural Solutions | Absher |

| School Name | School District | Educational School District | Grades | Improvement Type | Construction System | Year Built | No. Stories | Total Area (SF) | Areas Featuring Timber | Architect | Structural Engineer | General Contractor |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Pe Ell K-12 School** | Pe Ell | **ESD 113 Capital Region** | K-12 | Modernization | | 2026 | 1 | 76,000 | Entry and Admin | Aetta | PCS Structural Solutions | Forma |
| **Maritime 253 Skill Center** | Tacoma | **ESD 121 Puget Sound** | Skill Center | New Construction | | 2026 | 2 | 35,000 | Common area | TCF Architecture | AHBL | BNBuilders |
| **Lowell Elementary School** | Tacoma | **ESD 121 Puget Sound** | K-5 | Replacement | | 2026 | | 50,000 | Common area | BCRA | AHBL | Korsmo Construction |
| **Emerson K-12** | Lake Washington | **ESD 121 Puget Sound** | K-12 | Replacement and Expansion | | 2027 | 2 | 78,000 | Canopies | Mithun | PCS Structural Solutions | Lease Crutcher Lewis |
| **Whittier Elementary School** | Tacoma | **ESD 121 Puget Sound** | Pre-K K-3 | Replacement | | 2027 | 2 | 46,000 | | McgranahanPBK | PCS Structural Solutions | Cornerstone Construction |
| **College Place Elementary and Middle School** | Edmonds | **ESD 189 Northwest** | K-5 6-8 | Replacement | | 2028 | 3 | 222,000 (both schools) | Classroom | NAC | PCS Structural Solutions | Cornerstone Construction |

| School Name | School District | Educational School District | Grades | Improvement Type | Construction System | Year Built | No. Stories | Total Area (SF) | Areas Featuring Timber | Architect | Structural Engineer | General Contractor |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Renton High School** | Renton | **ESD 121 Puget Sound** | 9-12 | Replacement and Expansion | | 2030 | 3 | 330,000<br>50,000 (Timber total area) | Commons<br>Main Gym | BRIC | PCS Structural Solutions | Skanska |
| **Roosevelt Elementary School (Bellingham)** | Bellingham | **ESD 189 Northwest** | Pre-K<br>K-5 | Replacement | | FUTURE | 2 | 70,000 | | Zervas Architecture | | |
| **Bertschi School** | Seattle (Private) | **Private** | Pre-K<br>K-5 | Addition | | FUTURE | 3 | 15,000 | Classroom | Mithun | | Sellen |
| **French American School** | Seattle (Private) | **Private** | Pre-K<br>K-8 | New Construction | | FUTURE | 4 | 32,000 | | Mahlum | Fast+Epp | Cornerstone |
| **Cascadia Tech Academy** | Evergreen (Clark) | **ESD 112 Southwest Washington** | 9-12 | Replacement | Primarily Mass Timber | FUTURE | 2 | 65,000 | Classroom | LSW Architects | Kramer Gehlen & Associates | |

# **Appendix 2:** Mass Timber School Resources

## Literature Review

A number of resources exist to support the integration of mass timber in K-12 school construction. Resources include publications, reports, and presentations, authored by the industry and industry associations. The selected literature covers key themes on the design, procurement, and construction of K-12 mass timber schools. In the reports by Mahlum, Mithun, Thinkspace and Fast+Epp, common topics include space layout/flexibility, occupant health and wellness, material sourcing and sustainability, building codes, weather protection, construction feasibility, and cost. Woodworks publications also discuss  project delivery, team experience, product procurement, and prefabrication. The manufacturer product guides by Stora Enso and Nordic structures provide a broad overview of mass timber school design and construction.

**USFS Wood Innovation Report: Multi-story Mass Timber K-12 Schools**
Mahlum Architects.
*https://www.mahlum.com/wp-content/uploads/2022/02/Mahlum_USFS-Wood-Innovation-Report.pdf*

**Mass Timber School: Building for Wellness**
Mithun
*https://mithun.com/wp-content/uploads/2021/12/MassTimberSchools_Report.pdf*

**Wood Use in British Columbia Schools**
Thinkspace Architecture and Fast+Epp
*https://www.thinkspace.ca/wp-content/uploads/2022/08/wood_use_schools_2022_20220726_FINAL_LR.pdf*

**Designing and Building Mass Timber Schools**
WoodWorks
*https://www.woodworks.org/wp-content/uploads/presentation_slides_Carrigg_Gu_Mass_Timber_Schools_08.2024.pdf*

**Designing Modern Wood Schools**
ThinkWood
*https://thinkwood-wordpress.s3.amazonaws.com/wp-content/uploads/2020/08/22161301/thinkwood-ceu-designing-wood-schools.pdf*

**Building Concepts by Stora Enso: Schools**
Stora Enso
*https://info.storaenso.com/school-concept-brochure*

**Mass Timber Schools**
Nordic Structures
*https://www.nordic.ca/data/files/publication/file/NS-MA705-fr-avril-2019-rev4.pdf*

**Guide for the Utilization of Wood in Primary Schools**
Cecebois
*https://cecobois.com/wp-content/uploads/2021/07/CECO-14000-GuideEcolesPrimaires-WEB.pdf*

## School District Roundtable: Project Resources

In the school district roundtable session held virtually on November 21, 2025, participants from 11 school districts in Washington and Oregon shared the resources they looked to for help during each phase of the building project. Though the resources that participants noted varied depending on particular project characteristics, across all phases, participants most frequently turned to the AEC team, suppliers, manufacturers, technical support organizations, and other school districts.

### Planning phase

Participants noted WoodWorks, AEC team/contacts, other school districts, suppliers and industry convening such as the AIA Seattle Mass Timber Committee and the International Mass Timber Conference as resources.

### Design and Procurement phase

During this phase, participants continued to rely on AEC team/contacts, Woodworks, and manufacturers. For the **Procurement phase** specifically, participants also relied on district legal counsel and suppliers.

### Construction phase

Woodworks, AEC team/contacts, industry convening, and other school districts were common resources.

### Occupancy phase

Resources included contractor O&M manuals, AEC team/contacts, post-occupancy evaluations, and suppliers.

# **Appendix 3:** Washington Regulation Review

## Core laws, codes and programs

1. **RCW 39.04 — Public works law (bidding, definitions, small works roster, retainage, etc.)**
   **What it is:** the statewide public-works statute that defines "public work," bidding and contracting requirements, and small-works roster procedures that local agencies (including school districts) use.
   **Why it matters:** determines how most school construction contracts must be procured and what bidding rules apply (advertising, bid opening, bonding/retainage, etc.).
   **Practical effect:** use of formal competitive bidding for large projects; small works roster for small projects; statutory procurement steps must be followed to avoid protests or funding problems (Washington Office of Superintendent of Public Instruction).
2. **RCW 39.10 — Alternative public works delivery (GC/CM, design-build, JOC)**
   **What it is:** authorizes alternative delivery methods (GC/CM, design-build, job order contracting) and prescribes statutory conditions and procedures for their use.
   **Why it matters:** allows school districts to choose GC/CM or design-build for certain larger/complex projects — but only if they follow the statutory findings, RFQ/RFP steps, public notice, and state evaluation rules.
   **Practical effect:** if a district wants GC/CM (common for schedule-sensitive or complex school projects) it must document justification and follow the RCW/WAC process; mis-use risks bid protests and audit findings (Washington State Legislature)
3. **RCW 28A.335 & OSPI / WAC 392-343 / SCAP (School Construction Assistance Program & D-Form process)**
   **What it is:** school-district specific statutes and OSPI rules governing how districts manage school property, prepare educational specifications, qualify for state construction funding, and the OSPI D-Form process for state assistance. WAC chapter 392-343 implements funding rules. OSPI's SCAP guidance documents outline required documents and procedures.
   **Why it matters:** if you're seeking state funding/assistance you must follow OSPI's education-specs, consultant selection, D-form approvals and reporting requirements — otherwise the district could be ineligible for state assistance.
   **Practical effect:** projects seeking OSPI assistance must prepare educational specifications, use RCW 39.80 (QBS) for A/E selection, submit D-forms, and meet OSPI thresholds and checklist items to receive SCAP funding (Washington Office of Superintendent of Public Instruction).
4. **RCW 39.80 — Qualifications-based selection for A/E services**
   **What it is:** state law requiring selection of architects and engineers based on qualifications (QBS), with negotiation of fair and reasonable compensation. WAC 392-343 cross-references it for school districts.
   **Why it matters:** affects how districts procure design teams (you can't award A/E work purely on low bid).

**Practical effect**: RFQ → shortlist → interviews → negotiate with most qualified; if negotiation fails you must move to the next firm (Washington State Legislature).

5. **RCW 39.12 — Prevailing wage law (L&I enforcement)**
   **What it is**: statutory requirement that public-works contracts pay prevailing wages (hourly + benefits) and file wage statements. The Dept. of Labor & Industries enforces it.
   **Why it matters**: prevailing wage applies to school construction paid with public funds — it affects labor cost estimating, subcontractor selection, off-site prefabrication treatment, and compliance paperwork.
   **Practical effect**: budget and schedule must reflect prevailing wage; failure risks stop-work, fines, and claims (Washington State Legislature).

6. **Washington State Building Code / WAC 51 series & Washington State Energy Code (WSEC)**
   **What it is**: state building code adoption (based on I-Codes) including structural, fire, accessibility, mechanical, and the Energy Code (WSEC) — the Energy Code had a major update effective March 15, 2024 (2021 IECC basis). The State Building Code Council issues rules.
   **Why it matters**: defines minimum life-safety, structural (including mass timber structural provisions), energy performance, and accessibility requirements for school buildings.
   **Practical effect**: design teams must meet State Building Code and WSEC compliance (affects envelope, HVAC sizing, daylighting, energy modeling, and documentation [Washington State Building Code Council]).

7. **High-Performance Public Buildings Act**
   **What it is**: The Washington Sustainable Schools Protocol is the green building standard for schools

   The High-Performance Public Buildings law is in effect for all public K-12 schools. The intent is that state-funded school facilities be designed and built to high-performance green building standards. The standard for K-12 schools is the Washington Sustainable Schools Protocol (WSSP). LEED Silver is an alternative compliance path. OSPI assists school districts in understanding these requirements through additional technical assistance and the resources found on its website (Washington Office of Superintendent of Public Instruction High Performance Buildings Program Resources; Washington Sustainable Schools Protocol):

   ***Materials Procurement Purpose:*** *Create healthy indoor learning environments and increase demand for environmentally preferable building products by specifying products with recycled content, rapidly renewable raw materials, wood, and wood-based products from sustainably managed forests and local or Washington manufactured products. Consider the use of materials that minimize or eliminate the Page | 40 need for secondary finishes such as concrete and masonry. Understand the content of building materials by choosing those that provide transparent reporting of multiple environmental attributes including the effects on human health, the effects on the environment and social sustainability. Credits that rely on the total cost of materials may be calculated using the actual total materials cost or a 35% factor may be applied to the total construction costs to establish a default total materials* *cost for the project. The approach selected (actual or 35% default) must be used consistently across all credits based on total materials cost.*

**MW2.3 Certified Wood** and **MW2.4 Regional/Local Materials**

8. **SEPA (State Environmental Policy Act)**
   **What it is:** state environmental review law that requires environmental review (DNS, EIS, etc.) for government actions with probable significant environmental impacts. Local lead agencies (city/county/district) administer SEPA.
   **Why it matters:** school construction often triggers SEPA review (stormwater, traffic, habitat, wetlands, noise), which can add scope, conditions, mitigation, schedule, and cost.
   **Practical effect:** anticipate SEPA checklist, public comment, potential mitigations (stormwater upgrades, habitat protection) and schedule impacts early in planning (Washington State Department of Ecology).

9. **Other important rules & pieces**
   - **Bonding & financing statutes (RCW 28A.525, RCW 28A.530, WAC guidance)** — how districts issue bonds, use capital funds, and get state matching (Washington Office of Superintendent of Public Instruction)
   - **Insurance/performance/payment bond thresholds** (statutory thresholds for payment and performance bonds on public works [See RCW 39.08 and local guidance])
   - **Historic preservation, stormwater, critical areas ordinances** — local jurisdiction rules can affect siting/design.
   - **Local permitting, fire marshal, and school district policies** — add local requirements beyond state law.
   - **Equity and MWBE outreach and apprenticeship preferences** — growing emphasis in procurement and GC/CM statutes and agency guidance. See alternative procurement guidance and MRSC resources (Municipal Research and Services Center).

## How this translates to project delivery, procurement and design - Quick practical implications

1. **Select delivery method intentionally.**
   If you need GC/CM or design-build, document statutory justification and follow RCW 39.10 procedures (RFQ, public notice, evaluation, findings). Otherwise use standard competitive bid under RCW 39.04 (Washington State Legislature).

2. **If seeking state funding, follow OSPI/SCAP processes to the letter.**
   Complete OSPI D-Forms, educational specifications, A/E selection per RCW 39.80 — missing OSPI requirements can make work ineligible for state assistance (Washington Office of Superintendent of Public Instruction).

3. **Budget for prevailing wage and bond/insurance costs.**
   Prevailing wage applies to public funded school work; include in cost estimates and

contractor prequalification (Washington State Legislature). Washington State Legislature

4. **Design to State Building Code & Energy Code — and prepare compliance documentation.** Energy code compliance, structural code (mass timber rules if applicable), accessibility, and fire code all drive technical design and systems choices (Washington State Building Code Council).

5. **Expect environmental / local jurisdiction conditions.** Early SEPA scoping, stormwater/critical area studies, and local plan approvals reduce change orders and delays (Washington State Department of Ecology).

6. **Procure A/E teams using QBS (RCW 39.80).** You can't pick the lowest fee for architects/engineers — qualifications-based selection is required, then price negotiation (Washington State Legislature).

## Quick compliance checklist for school districts / project teams

1. Decide delivery method (low-bid vs. GC/CM vs. design-build): If alternative delivery, document statutory justification and follow RCW 39.10 process (Washington State Legislature).
2. If you want OSPI funding, start the OSPI SCAP/D-Form process early and prepare educational specifications with a qualified consultant (OSPI).
3. Procure A/E using QBS (RCW 39.80): RFQ → shortlist → interview → negotiate (Washington State Legislature).
4. Verify prevailing wage obligations with L&I and include wage rates in contract language (Washington State Legislature)  Washington State Legislature
5. Confirm bonding/insurance thresholds and include in bid docs; performance/payment bonds as required by RCW (Public Work: Requirements for School Districts).
6. Early SEPA screening and local permitting meetings; perform wetlands / stormwater / traffic studies as needed (Washington State Department of Ecology).
7. Ensure design compliance with the State Building Code and WSEC (energy) and prepare compliance modeling and forms (Washington State Building Code Council).
8. Plan for outreach / MWBE / apprenticeship requirements; per agency guidance for alternative contracting (Municipal Research Services Center)

## Key references

**RCW 39.04 & 39.10 (Public Works & Alternative Contracting)**
Washington State Legislature
Full statutes on the WA Legislature site
*https://app.leg.wa.gov/rcw/default.aspx?cite=39.10*

**RCW 28A.335 and WAC 392-343 / OSPI SCAP pages & SCAP handbook**
Washington Office of Superintendent of Public Instruction (OSPI)
OSPI guidance for school districts and funding (D-Form process)
*https://ospi.k12.wa.us/policy-funding/school-buildings-facilities/school-construction-assistance-program-scap*

**RCW 39.80 (A/E procurement)**
Statute for qualifications-based selection
Washington State Legislature
*https://app.leg.wa.gov/rcw/default.aspx?cite=39.80*

**RCW 39.12 (Prevailing Wage)**and L&I guidance
Washington State Legislature *https://app.leg.wa.gov/rcw/default.aspx?cite=39.12*

**Washington State Building Code & WSEC (WAC 51 series)**
State Building Code Council pages and WSEC documents
*https://sbcc.wa.gov/sites/default/files/2024-01/2021_WSEC_C_2ndEd_012824.pdf*

**SEPA guidance (Ecology)**
Washington State Department of Ecology
Environmental review process
*https://ecology.wa.gov/regulations-permits/sepa/environmental-review/sepa-guidance/basic-overview*

**MRSC & OSPI local guidance**
Municipal Research and Services Center (MRSC)
Practical procurement and alternative delivery checklists and templates
*https://mrsc.org/explore-topics/procurement/public-works-procurement/alternative-public-works*

MASSTAC

Washington Mass Timber Accelerator