

Co-chairs Senator Lew Frederick, Representative Susan McLain and members of the Education Subcommittee of the Joint Committee on Ways & Means,

Thank you for the opportunity to provide information on the TallWood Design Institute (TDI). We are sincerely grateful for the ongoing support of this committee and the State Legislature and look forward to continuing the important work that your funding has made possible. TDI is a unique industry-driven partnership between:

- College of Forestry, Oregon State University
- College of Design, University of Oregon
- College of Engineering, Oregon State University

TDI Mission

To drive **economic development in Oregon's wood products** manufacturing sector and **facilitate increased use of Oregon's sustainable timber products** in the design and building industries. We do this through applied research, technical prototyping and testing, and by providing professional education and extension services to industry audiences.

How Funds are Used

TDI was established in 2015. State funds support core operating costs for some of our staff, equipment and operation of testing and research facilities, and development of industry training programs. These are part of a larger strategic economic development effort to create manufacturing jobs in timber-dependent rural communities and design and construction jobs in urban and rural locations. In addition, these funds are employed as matching dollars that have leveraged significant funding from the federal government and other external sources. TDI personnel also contribute extensively to research, economic development and outreach efforts led by external public and private-sector partners.

Leveraging State Support

Major External Research Grants: \$44.9 million

USDA

Agricultural Research Service: \$8M
Wood Innovations Grants: \$3.73M

Economic Development Administration

I6 Challenge: \$450,000
Build Back Better Regional Challenge Phase 1: \$110,000
Build Back Better Regional Challenge Phase 2: \$24.6M

Business Oregon

Oregon Innovation Council: \$702,000
University Innovation Research Fund: \$6M

Department of Education (Federal)

\$449,000

REACTS Consortium Member Contributions (Industry)

\$300,000

Funding from Non-Oregon State Sources

\$278,000

OR Counties, Cities, UO Design Studios

\$150,000

US Endowment for Forestry & Communities

\$100,000

Softwood Lumber Board

\$39,000

OSU and UO Research and Testing Facility Investments:

OSU's A.A. "Red" Emmerson Advanced Wood Products Laboratory

- Opened Summer 2019; \$12 million private and public funds investment by OSU
- World class capabilities include structural testing, computer-controlled fabrication and manufacturing

Oregon Fire Testing Facility (OSU Corvallis Campus)

- Opening 2025; \$3.3M investment by EDA, Business Oregon and OSU
- Will enable rapid and affordable in-state testing of building assemblies and components, vital for product development and code acceptance

UO's Oregon Acoustic Research Laboratory

- Opening - 2027; \$18.75M investment by EDA and Business Oregon
- Unique capabilities within North America for testing mass timber floor/ceiling assemblies, needed for further building applications to meet code requirements

These facilities, and others across the two universities' campuses, will offer our researchers and the Oregon industry community unparalleled R&D infrastructure and facilitate continued innovation and technical leadership.

TDI has supported or directly funded almost 100 industry-focused R&D projects on structural and seismic resilience of wood buildings, energy efficiency, acoustic and fire performance, indoor air quality, durability, carbon benefits and design demonstration projects. New faculty members continue to be hired at both institutions to add new expertise in these disciplines. These investments all support our economic development strategy to grow Oregon's mass timber industry capacity, creating rural jobs in manufacturing and urban jobs in architecture, engineering, and construction.

Economic Development and Technical Assistance Highlights

Mass Plywood Panel Manufacturing Facility

- \$40 million investment by Freres Lumber Company in Lyons, OR (2018), based on a unique new mass timber product made possible by prototyping and testing by TDI-affiliated researchers.

Swinerton Builders and Timberlab

- TDI R&D and outreach has assisted Swinerton Builders, which has become a major national leader in mass timber construction. Swinerton established an engineering and fabrication subsidiary, Timberlab, in Portland in 2020 and together they have completed 30 buildings, with 40 more in design or construction, including Ascent in Milwaukee, WI, which at 25 stories is the world's tallest hybrid wood building. Timberlab currently employs 90 project managers, fabricators, engineers, digital construction detailers, and construction professionals.

Sauter Timber

- Working with Clackamas County, TDI helped facilitate Sauter Timber's investment in a new CNC fabrication plant in Estacada which broke ground in 2020.

Oregon Mass Timber Supply Chain Analysis

- Conducted by TDI and Business Oregon in summer 2020, this study provides a critical roadmap for the future growth of Oregon's wood products sector and informed the planning of the Oregon Mass Timber Coalition's industry clustering strategy.

Oregon Mass Timber Coalition

- TDI, in partnership with Business Oregon, Port of Portland, Oregon Dept. of Forestry and Oregon Dept. of Land Conservation & Development, won a \$41.4M award from the US Economic Development Administration's Build Back Better Regional Challenge, one of only 21 coalitions to be funded among 529 nationwide. Nine projects will build new R&D capacity, modernize forestry practices, address fiber supply and workforce challenges, and prototype and test affordable modular housing designs and retrofit applications for energy and seismic resilience.

Critical Mass Timber Group

- Almost 1,000 industry professionals and other stakeholders are now part of our peer-to-peer learning hub which meets virtually and in person monthly to share new opportunities, innovations and best-practices in design, manufacturing and construction.

Industry-Driven Research Agenda

- Representatives from the manufacturing, architecture, engineering, and construction sectors work closely with TDI to identify research needs and provide materials and expertise.
- TDI launched the REACTS Consortium in 2021 (Research in Engineering, Architecture and Construction of Timber Structures), consisting of 17 innovative private-sector firms, to sponsor key research and testing projects through funded memberships. Seven industry-led R&D projects are underway or completed.
- 8,000+ Oregon stakeholders have benefited from TDI outreach and extension activities.

Education

- TDI is addressing current Oregon labor market skills gaps by offering certificate programs and developing a Professional Science Master's degree in mass timber manufacturing and construction, in partnership with community colleges, unions and others. In 2022 we received a Congressionally Directed Spending Award to create a suite of training courses on wood design for practicing engineers.
- A new focus area in mass timber design was launched (2021) within UO's Master of Science in Architecture program.

TallWood Design Institute Leadership

TDI has led the way for Oregon to become the epicenter of mass timber development in the United States, beginning with technical support for DR Johnson in Riddle, OR as the first US certified manufacturer of cross-laminated-timber in 2015, and continuing with Freres Lumber, as the only manufacturer of Mass Plywood Panels (201). As a partner in the first International Mass Timber Conference, we have seen this annual Portland event grow from 500 participants in 2016 to 3,000 participants from across the globe in 2023. Oregon is now home to dozens of mass timber buildings and a growing community of architects, engineers and contractors whose unique experience with mass timber is driving down the carbon footprint of the built environment and gaining them business around the country. However, Oregon is facing competition from new manufacturing facilities in Washington, Montana, Illinois, Alabama, and Canada, as well as growing expertise around the U.S., and European mass timber producers are making increasing efforts to capture market share. Your continued support of TDI is vital if Oregon is to consolidate and build on our first-mover advantage in this rapidly growing industry sector.



April 21, 2023

Senator Lew Frederick, Co-Chair
Representative Susan McLain, Co-Chair
Joint Committee on Ways and Means Subcommittee for Higher Education
H-178, State Capitol
Salem, OR 97301

Dear Senator Frederick and Representative McLain:

We are writing to express our support for the proposal to increase the current service level of funding to the TallWood Design Institute (TDI) by 10.1%, in line with the Higher Education Coordinating Commission's Agency Requested Budget (ARB) and that of the Oregon Public Universities. State of Oregon funding over the last eight years has been essential to the important work the Institute has been doing to support and grow Oregon's wood products and mass timber industries.

Launched in 2015, TDI brings together a unique collaboration between leading architecture, wood science, and engineering programs at both Oregon State University and University of Oregon to focus on the development and application of innovative wood products and building components produced in Oregon. The Institute engages extensively with Oregon design and construction professionals and wood products manufacturers to conduct research and testing and drive innovation. This has been pivotal in enabling our state to gain first-mover advantage in the rapidly growing US market for mass timber products and buildings. When TDI was established in 2015 there were only a handful of mass timber buildings completed in the United States. Today the number of mass timber buildings completed or in design/construction is 1,753 and increasing rapidly, and the products and services of Oregon architecture, engineering, manufacturing, and construction firms are in demand throughout the nation.

As architects, engineers, contractors, wood products businesses, and civic and nonprofit organizations, we share a collective interest in building on Oregon's North American leadership in sustainable building design and manufacturing. In the last biennium, TDI again successfully leveraged state funding through a combination of federal, local, and private matching funds to more than double its impact. In particular, TDI was critical to the success of the EDA Build Back Better Regional Challenge award of \$41.4 million given to the Oregon Mass Timber Coalition, which includes the University of Oregon and Oregon State University, the Port of Portland, Business Oregon, the Oregon Department of Forestry, and the Oregon Department of Development and Land Conservation, to support the growth of the mass timber ecosystem in the state from forest supply to mass timber factory production of affordable housing. The Institute has embarked on and supported almost 100 research and testing

projects that are eliminating barriers to the manufacture and application of wood products. In addition, TDI's work supports the growth of high value manufacturing jobs in our rural communities and design and construction jobs in our urban centers through workforce training and education. A key component of its R&D program is the generation of objective, science-based data on the sustainability of the supply chain, essential for the future health of our forests and environment. And critically, it is leading research into viable commercial applications for low-value, small-diameter timber from forest thinnings – work that will help ensure that the catastrophic forest fires our state experienced in 2020 become a thing of the past.

In 2019 TDI opened the state-of-the-art A.A. Emmerson Advanced Wood Products Lab at Oregon State University, providing Oregon with unmatched capabilities in wood products research and development. The opportunities to utilize these facilities in the next few years to drive economic development and sustainability in Oregon's forests and built environment are tremendous. We therefore urge you to support TallWood Design Institute at the funding levels proposed.

Sincerely,

William P. Silva, Director of Pre-Construction
Swinerton Builders

Erica Spiritos, Director of Pre-Construction
Timberlab

Brad Nile, Project Manager
Andersen Construction Co., Inc.

Stefan Schneider, Partner
Cut My Timber

Matt Leeding, President
Walsh Construction Co.

Tyler Freres, Vice President of Sales
Freres Engineered Wood

KayCee Hallstrom, Vice President
Zip-O Laminators

Dr Dan Tingley, Senior Engineer and Wood
Technologist
Wood Research & Development

Eric McDonnell, Principal
Holmes Structures

Ethan Martin, Associate Principal
Director of Sustainability and Mass Timber
DCI Engineers

Reid Zimmerman, Technical Director
KPFF Consulting Engineers

Ben Kaiser, Owner and Principal
Kaiser Group + Path Architecture

Kaley Fought, AIA, President
American Institute of Architects Oregon

Thomas Robinson, Founder and Principal
Lever Architecture

Lisa Petterson, Principal
SRG Partnership, Inc.

Jacob Dunn, Principal
ZGF Architects LLP

Troy Ainsworth, Principal
Ian Gelbrich, Partner
Richard R. Grace, Partner
Christine Rumi, Partner
Edward W. Running, Partner
FFA Architecture + Interiors

Stephen Adams, Policy Director
Lane County

Lianne Thompson, Clatsop County Commissioner
District #5
Clatsop County