

Advanced Wood Products Manufacturing Study

Cross Laminated Timber Acceleration in Oregon and Southwest Washington

Oregon BEST in partnership with the Pacific Northwest Manufacturing Partnership

The anticipated outcomes from the project include:

1. Business and industry leaders will have the information necessary to make decisions on investment of resources and capital to grow this new industry sector.
2. Government and policy agencies will have the information necessary to utilize tools to stimulate market development. For example, building code officials will have data to support regulatory changes and a market transformation to new materials – meeting public safety needs while spurring innovation.
3. Profiles will be available on participating business' needs – capital, machinery, workforce and market support.
4. The region will understand the training needs for this new workforce and can start developing appropriate programs.
5. New areas of research and innovation will allow researchers and entrepreneurs to start developing the next generation of technologies and products using cross-laminated timber.

Investment Region: Rural communities in Oregon and Southwest Washington (Clark, Skamania and Klickitat counties) constitute the Investment Benefit Area (IBA) for the proposed Advanced Wood Products Manufacturing Feasibility Study: Cross-Laminated Timber Acceleration in Oregon and Southwest Washington. Oregon BEST, in cooperation with the Pacific Northwest Manufacturing Partnership (PNMP) is proposing a feasibility study to identify potential economic benefits to distressed, timber-dependent communities in Oregon and Southwest Washington by the commercialization of cross-laminated timber (CLT) and other engineered wood products.

Detailed Project Description of Scope of Work

Investment (Project) Impact and Fit with EDA Funding Priorities: We believe this application is a perfect fit with EDA investment priorities:

- Demonstrates Collaborative Regional Innovation. As project lead, Oregon BEST is a strong original member of the PNMP. The PNMP partners are excited to be able to advance this study as a focus of our work together. Upon founding in early 2014, the PNMP was an unprecedented demonstration of bi-state and supra-regional collaboration to support advanced manufacturing interests in Oregon and Southwest Washington. Receipt of the grant investment will provide an opportunity to put our partnership to test from an integrated project perspective. PNMP currently directly represent 16 counties and four economic development districts in the IBA.
- Engages Public and Private Partners. Manufacturers are a primary focus of this application. Oregon BEST has worked with several who are keen to bring CLT to scale in Oregon. Our application contains a letter of support from one such manufacturer – USNR. A Washington company, UNSR sells machinery and equipment throughout the world and has seen the development and implementation of CLT and associated building systems into the European market.
- Aims to Accelerate Global Competitiveness. The international market for engineered wood products is increasing. The ability for IBA communities could create a dominant export market share. If we do nothing to bring a competitive suite of CLT products to bear, the market will

remain dominated by European and Canadian producers. This feasibility study aims to position the US to reach competitive status based on our historic and well-known advantage in the timber and wood products industry.

- Support Environmentally-Sustainable Development. Timber as a construction material has distinct environmental advantages. It is renewable and when harvested, continues to sequester and store carbon not only in the buildings in which wood products are used, but also in the forests used to regenerate new production. Buildings that use wood products, which store carbon, create multiple environmental benefits over materials that are made from fossil-fuel intensive processes that use steel and concrete. Wood-based building materials result in lower greenhouse gas emissions, less energy consumption and better water quality than other materials. WoodWorks, an initiative of the Wood Products Council, was established to provide free technical support as well as education and resources related to the design of non-residential and multi-family wood buildings. They have assembled background information on the economic and environmental benefits of CLT on their website: www.woodworks.org. The CLT products embody the concept of sustainability by using a regenerative, renewable resource and reducing the waste of traditional milling in the manufacture of the product.
- Provide Relief and Support to Economically Distressed and Underserved Communities. The rapid and significant downsizing of the wood products industry and associated mill closures in Oregon and Southwest Washington remains part of our DNA. This feasibility study will focus on the most distressed rural areas and communities affected by the transition of the wood products economy in Oregon and Southwest Washington. For example, Douglas County has some of the lowest per capita income averages of all Oregon counties, yet retains some of the greatest concentration of wood products manufacturing facilities in our benefit area.

Detailed Project Scope of Work: By accelerating the adoption of innovative engineered wood technologies and products throughout Oregon and Southwest Washington, we create the opportunity for rural communities to recover and rebuild economic prosperity in the most harshly affected, timber-dependent counties in Oregon and Southwest Washington. Rebuilding this industry will help stem the tide of displaced workers leaving the community and rebuild local economic development capacity. Oregon BEST and its partners will conduct a feasibility study to identify and evaluate the issues and options associated with accelerating the adoption of CLT and related technologies in the IBA. Working in partnership with EDA's Economic Development Districts, State of Oregon's Business Development Officers and Manufacturing Extension Partnerships, we will conduct a manufacturing capacity and market development study of select Pacific Northwest communities leading to the development and adoption of CLT. Primary outcomes include:

- assessing natural resource capacity;
- identifying capable producers and local manufacturing capacity;
- quantifying economic benefits; and
- assessing and working to overcome barriers to market.

The principal investigators and project management will come from Oregon BEST, one of the state's signature research centers focused on innovation and commercialization of research. A summary of tasks and the lead participants in each task follows.

Tasks:

1) Natural Resource Capacity:

Aggregate and summarize research conducted-to-date identifying the capacity of the forest within the PNMP region to supply CLT sustainably. Estimate the current and future demand for locally produced CLT in the US.

2) Identify Capable Producers:

Produce profiles of up to 10 manufacturers in Oregon and Southwest Washington capable of supplying CLT commercially, based on their existing location, assets and knowledge base. The profiles will include details about the number and quality of jobs created by an individual production line, as well as market feasibly served by location, building on existing research by Dr. Lech Muszynski, Oregon State University.

3) Economic Benefit:

Part A: Regional Jobs Potential: Based on the potential production scale in the PNMP region identified in grant activity #2, above, the understanding of the scale of demand as identified in grant activity #1, determine the potential job impact to the Oregon and Southwest Washington-based industry in the region for a nine year period post EDA funding.

Part B: Overall Economic Benefits to Region: Summarize the economic impact this industry could have to the states; building on the work by the State of Oregon and John Tokarczyk, among others.

4) Barriers to Market:

Identify, and propose a path to address the challenges with making this product usable by US builders from a full commercialization perspective. Create a map of consumer perceptions and receptivity of the market. Summarize existing US Building Code language, barriers and options. Produce educational materials and support efforts to educate building code officials on seismic and fire code acceptance according to performance path options. Summarize workforce and training needs.