

City TREES

Nov/Dec 2024

Magazine of the Urban & Community Forestry Society



Urban and Community Wood Reuse in Memphis Provides Model for Local Regenerative Economies

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Motivations for Urban and Community Wood Utilization

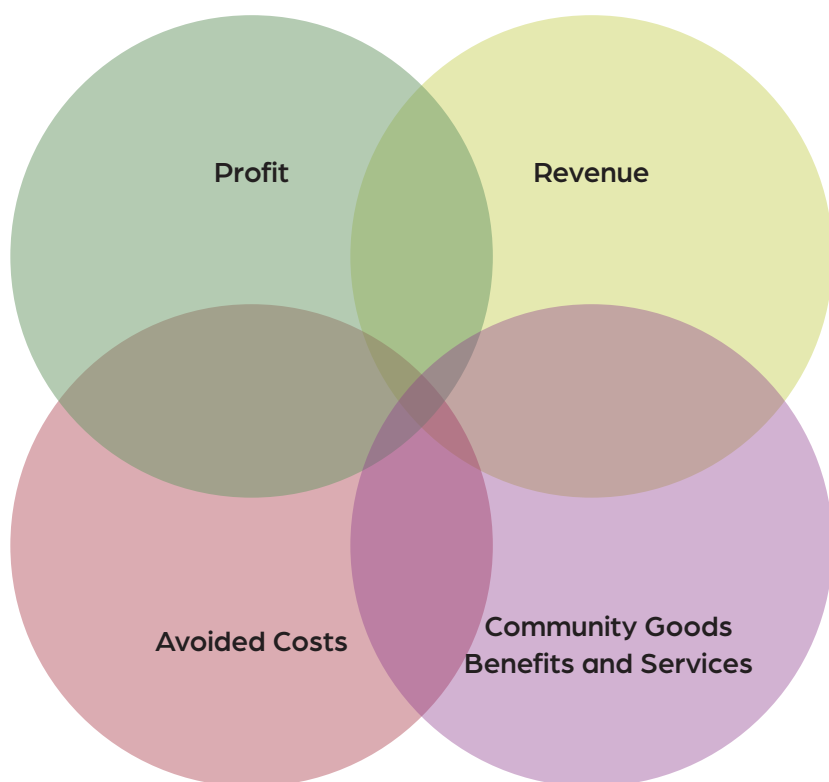
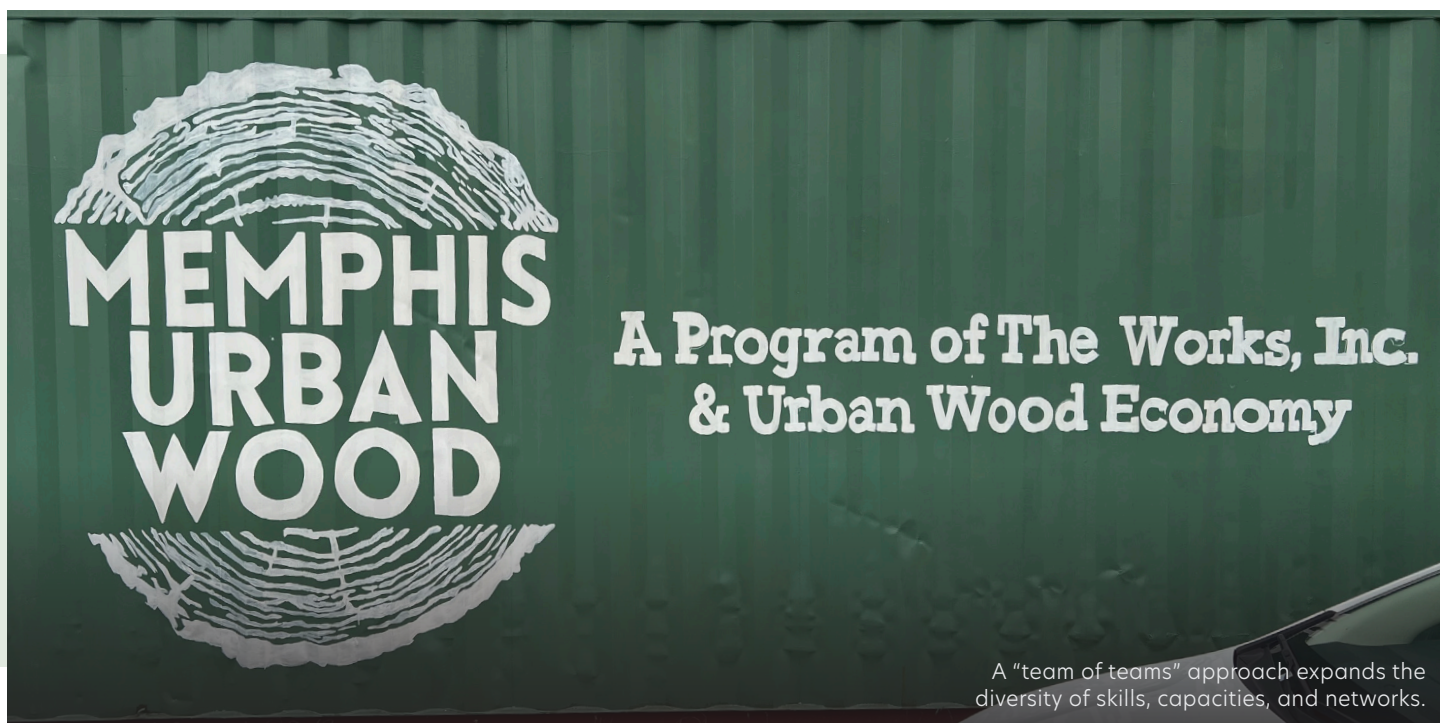


Figure 1. U&C wood utilization projects vary in their types and combinations of motivation and scales at which they produce value.

Introduction

As investment increases in planting and protecting trees and green spaces in the United States, there is a growing need to utilize [wood that is currently treated as waste](#) in urban and community (U&C) settings, and transform it into economic, environmental, and social value, influenced by local contexts and histories. Example approaches might include an individual with a portable bandsaw producing wood slabs; a municipal agency processing logs, wood chips and mulch; or a national business engaging a network of material sources and processors. Regardless of approach, each utilization project will arise from a combination of motivations: 1) generating profit, 2) increasing revenue, 3) avoiding costs, and 4) creating community goods, benefits, and services (Figure 1).

In this article we share the emergence of the [Memphis Urban Wood](#) (MUW) project as an example, including current resources, demand and needs, lessons learned, and potential future directions for the U&C wood utilization sector contributing to local regenerative economies.



Background

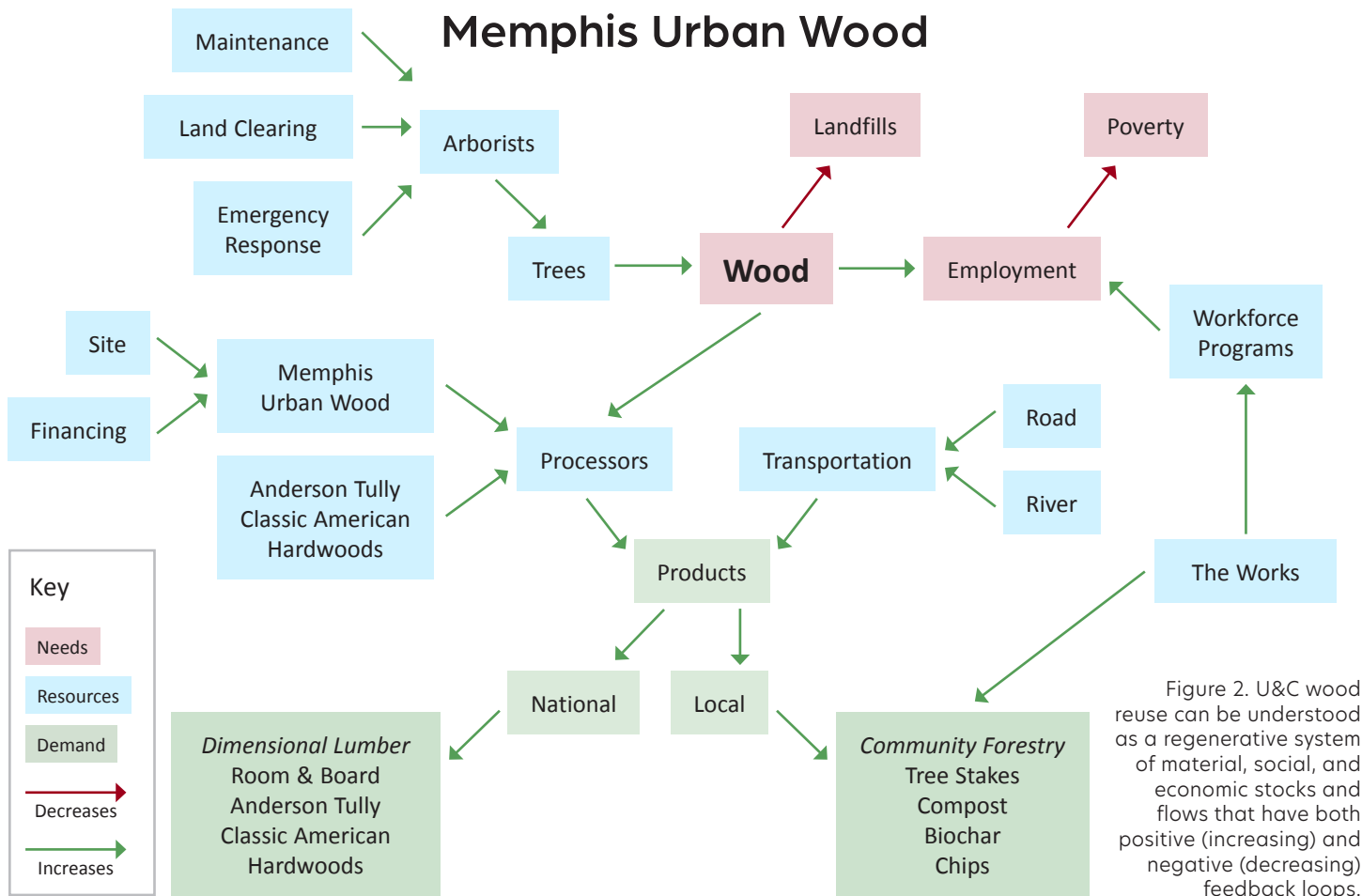
The MUW project is an example of a multi-sectoral partnership that brings together diverse interests and resources to produce dimensional lumber intended for national consumption, while generating community benefits and profit. In this project, a [“team of teams”](#) approach was adopted and co-developed with non-governmental organizations, state and federal government, and the business sector playing significant roles (Table 1).

This [regenerative model](#):

1. Creates mutual benefit and synergies among partners and their sectors;
2. Builds interdependencies, adaptability, and resilience; and
3. Maximizes the “four circles” of U&C wood utilization that could not be achieved by a single entity (Figure 1). >>

Table 1. Roles of MUW team of teams from NGOs, business, and government.

Organization	Role
Non-governmental Organizations	
The Works (local)	Community outreach, engagement, and development.
Urban Wood Economy (national)	Expertise in processing U&C wood; facilitation of partnerships among local, state, and national levels and sectors.
American Forests (national)	Workforce development for local residents from distressed communities.
National Hardwood Lumber Associations (local/national)	Training support for grading U&C wood; promoting reuse in the hardwood industry.
Business	
Woodland Tree Service	Large-scale operations and capacity to maximize the value of wood; securing a 43-acre (17.4 ha) parcel for MUW operations.
Anderson Tully (AT)	Guaranteed markets for both green and dried dimensional lumber and informing MUW operations and providing investor confidence for the project. AT and CAH also have extensive capacity in producing dimensional lumber.
Classic American Hardwood (CAH)	
Room & Board, Inc	
Government	
State Departments of Agriculture and Environment and Conservation	Technical, financial, and social network resources based on understanding of the diverse issues and opportunities for partnership in Tennessee and Memphis.



Why Memphis?

The MUW project was developed in response to a combination of resources, demands, and needs (Figure 2). Memphis is rich in U&C wood utilization resources, including quantities and quality of existing trees (~225,000 tons/204,117 metric tons annually), processors, yarding sites, transportation, and workforce programs (Figure 2: Blue). Memphis has substantial stocks of large diameter hardwoods that are in high demand, including white and red oak, ash, and poplar. Geographically, Memphis has affordable land (yarding sites), where large quantities of logs, branches, and chips can be stored, sorted, inventoried, and processed, and has ideal access to transportation through road and river networks to distribute materials to southern and midwest regions of the U.S.

U&C wood reuse cannot be successful without demand for wood (Figure 2: Green). The MUW project is unique in its focus beyond local consumption to meet demand from national consumers. Room & Board seeks to initially use up to 1 million board feet (2358 cubic meters)

of dimensional lumber and Anderson Tully and Classic American Hardwoods could use an additional 2 million board feet (4720 cubic meters) of lumber annually.

U&C wood utilization can address important needs such as creating jobs and incomes and reducing the flow of wood into landfills (Figure 2: Red). [The Works](#), a local NGO, plays an essential role in recruiting participants in workforce training for both social and technical skills and employment, including community development, vacant lot restoration, and tree planting activities. Critically, financial resources from public and private sectors have been available to support management costs for staff, training, equipment, real estate, and cash flow.

Of note, in Memphis, Shelby County landfills are limiting the quantities of wood waste that can be disposed and increasing tipping fees for disposal, which results in higher operational costs for tree care companies and greater motivation for participating in the MUW project.

Current Status and Lessons Learned

There have been challenges in community engagement and project support. The initial yard site for MUW operations in North Memphis had to be abandoned due to local opposition. The community had a long history of exploitation and environmental injustice, where industries brought economic promise but left behind environmental hazards and health risks that disproportionately affected communities of color. Previous neglect of community needs contributed to resident concerns about how their community would be redeveloped.

Today, a new site has been found and the project goal is to create a zero-waste facility focused on products that can be made from high-volume/low value materials such as biochar and dimensional lumber for thermally modified wood.

Lessons learned related to community partnership, goods, benefits, and services:

1. Engage early with a wide diversity of community leaders and residents.
2. Advocate for inclusive funding guidelines that account for systemic challenges and promote racial and social equity.
3. Diversify funding sources to include impact funds, project-related investments, and philanthropic organizations to build more equitable and sustainable communities. >>



Significant volumes of high-quality urban and community hardwoods are available for re-use in Memphis and elsewhere.



Opportunities are expanding for training and employment in urban and community wood utilization.

Sources of Wood Waste

Nationally, 70.7 million tons (64 megagrams/Mg) of U&C wood waste was generated in the United States in 2010. This included 36.4 million tons (33 Mg) of construction and demolition (C&D) waste from construction, remodeling, or demolition of residential and commercial structures, and 34.3 million tons (31 Mg) from municipal solid waste (MSW) such as wood chips, pallets, and yard waste from tree trimming, removals, and storm damage. Of these 70.7 million tons, the USDA Forest Service estimated that 29 million tons (26 Mg) of wood wasted (41%) was suitable for recovery and reuse rather than landfill disposal.

Looking to the Future

Regionally, there are opportunities for U&C wood waste capture through emergency response and for building networks for wood utilization and circular economies. Regional cooperation among state forestry commissions, such as the [Southern Community Wood Utilization Group](#) will have increasingly important partnership roles to play.

Several insights have emerged from MUW, including the awareness of a diversity of motivations for U&C wood utilization and the need to focus on generating community goods, benefits, and services. Community engagement can create both value and challenges that require investment and sensitivity. Further, a team of teams approach may be required in order to secure the range of capacities, expertise, and experiences needed for a successful project. 🌱

Acknowledgements

Federal funds from a USDA Forest Service Wood Innovation Grant were indispensable in providing start-up funding to establish the MUW project (22-DG-11083150-11). The findings and conclusions of this article are those of the individual authors and do not necessarily represent the views of the Tennessee Department of Agriculture or the U.S. Department of Agriculture.