

# Establishing an URBAN WOOD USE PROGRAM

## An Introduction

### WHAT ARE URBAN WOOD & URBAN WOOD USE PROGRAMS?

- ⇒ Urban wood includes logs and limbs from trees removed in urban areas
- ⇒ Urban wood can come from public and private spaces, including parks, backyards, and street trees
- ⇒ Urban trees are removed for many reasons—death or disease, infrastructure or development projects, homeowner preference, or public space management
- ⇒ Urban Wood Use Programs seek to divert these resources from the waste stream for beneficial use

### WHY ESTABLISH AN URBAN WOOD USE PROGRAM?

- ⇒ Reduce operating costs and generate revenue from urban wood products
- ⇒ Repurposing urban wood products has direct environmental benefits
- ⇒ Your organization's environmental stewardship through urban wood utilization is a marketable trait



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### ECONOMIC BENEFITS:

- Urban wood has traditionally been considered a waste product
- Disposal is often costly due to transportation costs and land-fill tipping fees
- Cost savings can be redirected towards other urban forestry uses
- Tree services may be able to increase profit/reduce the fees charged to customers and add value-added services
- Urban wood, and associated products, can generate revenue or be repurposed for other uses within your organization; mulch, park benches, signs, etc.

### ENVIRONMENTAL BENEFITS:

- Diversion relieves stress on landfills and can lower transportation needs, reducing emissions
- Mulch use enhances plant health and can protect soil during construction or disturbance activities
- Urban wood products, such as lumber or furniture, continue to hold carbon that would otherwise be released into the atmosphere



# DEVELOPING AN URBAN WOOD USE PROGRAM

## A Program is Scalable

Start simple and work your program within your capacity. Through the development process, your program will evolve to it's highest potential.



## Urban Wood Production

First, inventory the volume of raw products you are generating.

Second, are there other producers that you can partner with that will add volume?

*The process continues if you would like to grow your program*



## Inventory Resources & Needs

- Operational
- Equipment
- Personnel
- Administrative



## Set Your Goal

Based on your production volume, available resources, and markets, set your program goal and implement.



## Identify Markets

Identify local and regional partners, demand for products (volume), markets, and end-users.





*Set a Goal—Developing an Urban Wood Use Program can be a step-by-step process and not everything has to be done at once. A tiered approach can provide milestone objectives to arrive at a program that matches your resource capacity and market demand. Consider a three-tiered development approach.*

### TIER 1: BASE UTILIZATION

Goal: Cost reduction and diversion of urban wood and byproducts you generate from landfill for better use.

Using limited resources urban wood products and byproducts are used internally or passed on to vendors or end users for better use.

### TIER 2: DEVELOPING UTILIZATION

Goal: Regional producers, markets, and end users identified and engaged. You have achieved **Base Utilization**.

You are actively researching for markets and partners in your operating region to determine the potential for expanding your program for revenue generation and higher-use products.

### TIER 3: ENTERPRISE UTILIZATION

Goal: Supplying and/or producing mid and high-value products in your regional market or beyond and generating revenue.

This tier will be the culmination of your developing utilization findings and work. You have acquired all needed resources.

## Urban Wood Program Resource Needs

### TIER 1

Operation Yard(s)

- Storage and sorting only

Equipment

- Front end loader – move material and organize yard

Procedures & Administration

- Work crew raw product generation reporting
- Raw product inventory
- Limited operating procedures

Market Information – lists of consumers, vendors, and partners

- Intra-organizational product use
- Firewood and mulch vendors or end users

### TIER 2

Operation Yard(s)

- Storage and processing

Equipment

- Chipper or tub grinder – grind wastewood
- Grapple truck – transport wood and logs
- Firewood processor
- Mulch processor – grinds to various grades and mulch coloring

Procedures & Administration

- Managing sale of products
  - Contracts
  - Point of Sale
- Market Information – lists of consumers, vendors, and partners
- Other producers
- Landscape contractors and nurseries

### TIER 3

Operation Yard(s)

- Multiple locations – minimize travel time and handle volume
- Customer access to products

Equipment

- Portable sawmill
- Dry kiln

Procedures & Administration

- Operating procedures
- Personnel needs
- Staff training
  - Equipment
  - Log grading
  - Identifying quality logs on the stump
  - Cutting wood to retain highest value
  - Sorting

Market Information – lists of consumers, vendors, and partners

- Portable sawmills
- Sawmills
- Industrial applications
- Wood artisans or manufacturers
- Value added services for tree services - yard tree to product of sale
- Marketing
  - Products
  - “Green” services



# Arborists’ Markets for Woody Residues from Urban and Community Trees

This chart addresses the most typical market dynamics and is not meant to be inclusive of all situations. Higher quality wood in columns further to the right may also be used for lower uses in columns to the left.

| <div><div>TIER 1</div><div>Higher percent of production volume,<br/>Less processing complexity and equipment, Lower economic value</div></div> |   |   |  |  |  |   |  |  |  | <div><div>TIER 2 &amp; 3</div><div>Lower percent of production volume,<br/>More processing complexity and equipment, Higher economic value</div></div> |  |  |  |
|--|---|---|--|--|--|---|--|--|--|--|--|--|--|
|  | Lowest Value Products   |   |  |  | Mid-Range Value Products   |   |  | Highest Value Products   |  |  |  |  |  |
| Wood Form  | Chips & Ground Material   |   |  |  | Stumps, branches, & log segments   | Timbers & Whole Trees   | Merchantable Logs (at least 8’ long, 12” diameter—confirm with mill) |  |  |  |  |  |  |
| Log Grades   | All   |   |  |  | All  | All   | Grades 1-3   | Select grades or character wood  | Grades 1 & 2   |  |  |  |  |
| Units of Measure   | Cubic feet, weight  |   |  |  | Cords  | Board feet, weight  |  |  |  |  |  |  |  |
| Species  | All   |   |  |  | Commercial species (i.e. hickory) or other; ash requires special treatment | All   | Hardwoods and commercial species                                     | Most hardwood species and pine where appropriate                                     | Commercial hardwood species  |  |  |  |  |
| Quantity   |   |   |  |  |  |   | High quantity  |  | High quantity  |  |  |  |  |
| End Uses   | Compost   | Chips   | Mulch  |  | Firewood   | Timbers and other uses  | Pallets, crates, packaging, industrial uses                          | Lumber, cabinetry, furniture, millwork, flooring, gifts                              |  |  |  |  |  |
| Markets  | Compost producers, reclamation yards, landscaping firms                                     | Fuel—biomass energy companies<br>Agriculture /livestock yards, construction                 | Mulch producers, reclamation yards, landscaping firms                                |  | Firewood producers   | Combined mulch & milling producers; Mix of forest products producers        | Log buyers, small sawmills, or pallet/container mills                | Small, typically portable, band mills  | Log buyers, industrial saw mills                                     |  |  |  |  |
| End Users  | General public; local school & park districts; businesses, institutions & government        | Fuel—biomass energy companies<br>Agriculture, livestock producers, construction contractors | General public; local school & park districts; businesses, institutions & government |  | General public   | Commercial buyers, hobbyists, artisans/makers                               | Construction contractors, manufacturers                              | General public; local school & park districts; businesses, institutions & government | General public; businesses, institutions & government                |  |  |  |  |
| Marketing/ Services  | “Green Services” Company/Organization   |   |  |  |  |   | Tree removal to end-product  |  |  |  |  |  |  |
| Processing required  | Chipping or grinding<br>(Also, pre-sorting, processing to set dimensions, moisture control) |   |  |  | Sorting by species   | None  | Tree grading, log grading, log manufacturing                         |  |  |  |  |  |  |
|  |   |   |  |  |  |   | Sorting by grade; metal scans; accumulation of semi-loads            | Sorting by grade and species   | Sorting by grade and species; metal scans accumulation of semi-loads |  |  |  |  |
| Processing equipment   | Chipper or grinder, trailer or other hauling equipment                                      |   |  |  | Chain or hand saw, trailer or other hauling equipment                      | Log loader and crane; metal detection equipment, portable sawmill, dry kiln |  |  |  |  |  |  |  |

This chart was first published in Annex E of ANSI A300 (Part 1) - 2017 Pruning Standard and has been reproduced with permission from the Tree Care Industry Association ([tcia.org](http://tcia.org)).  
Transport of removed tree debris needs to be in compliance with quarantine zone requirements and other applicable regulations.



## State Specific Resources

## CONTACT INFORMATION:



## National Resources AND References

For additional information and more detailed instruction regarding urban wood program implementation.

- The [Urban Wood Toolkit](#) and [Urban Wood Webinar Series](#) put forth by the [Urban Wood Network](#), a collaborative, national urban wood organization leading production firms in best practices.
- [Harvesting Urban Timber: The Complete Guide](#) by Sam Sherrill, a book by a leading expert in urban wood production detailing best practices for industry success.
- The [Urban Wood Use Action Guide](#) offered by [Vibrant Cities Lab](#), a resource offered by the U.S. Forest Service, American Forests, and the National Association of Regional Councils.

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