

1

Urban Forestry Best Management Practices for Public Works Managers Budgeting & Funding



Budgeting & Funding

Contents

- Budgeting and Funding 1
- Budget Allocation 2
- Levels of Funding 3
- Funding Guidelines and Statistics 4
- "Levels of Service" Concept 5
- Sources of Funding 6
- Conclusion 12
- For More Information 13
- Thank You 14





Budgeting & Funding

Most communities “want it all”—thriving and safe residential neighborhoods; stable and diverse business districts; and healthy and attractive urban forests. It often falls to public works agencies to build and maintain the infrastructure that can make these goals possible. The proactive and professional management of any public infrastructure component requires a sufficient level of funding to maintain the component to industry and community standards, and the urban forest is no different.

However, the urban forest is often viewed as a luxury and not a vital component of the urban infrastructure. But this view only acknowledges the aesthetic value of trees and ignores the tremendous public health and safety benefits they provide. It discounts public liability and the considerable effort required to keep trees healthy and safe against storms, insects and diseases.

Public tree management often competes with larger community services such as law enforcement and fire protection, and competes within public works with road, sewer, and bridge building and repair. Decreased funding is thought to be one of the greatest challenges facing urban forests today. There is no doubt that the level of funding and the budget allocation of those

resources can determine an urban forestry program’s viability and sustainability within the broader context of all responsibilities of a public works agency. With sufficient financial resources to secure professional services, equipment, and management, an urban forestry program can fulfill its mission, respond to change and challenges, and best serve the public.

To help you understand the financial aspect of managing an urban forestry program, the following sections will describe and recommend budget allocation strategies for various activities, levels of funding, and sources of funding.

Budget Allocation

Given any level of funding, the public works manager must decide annually on the best allocation of funds among all the tasks necessary to plant and maintain the public trees under their management.

Generally across the county, urban forestry budgets are allocated primarily for maintenance (58 percent), followed by planting (14 percent), and then management (8 percent). Figure 1 displays the allocation of municipal budget by urban forest management activity (Source: J. Kielbaso and V. Cotrone, Michigan State University):

Typically, activities that reduce public liability and increase public safety, such as pruning and removal, are performed first and have the highest priority. Immediate safety risks should always be addressed first, but routine and preventive urban forest maintenance should also be part of the maintenance program and budget. Planting should be a significant portion of the total budget, second only to maintenance, and generally does not exceed 50 percent of the operating budget.

- Pruning 30%
- Removal 28%
- Planting 14%
- Management 8%
- Other 12%

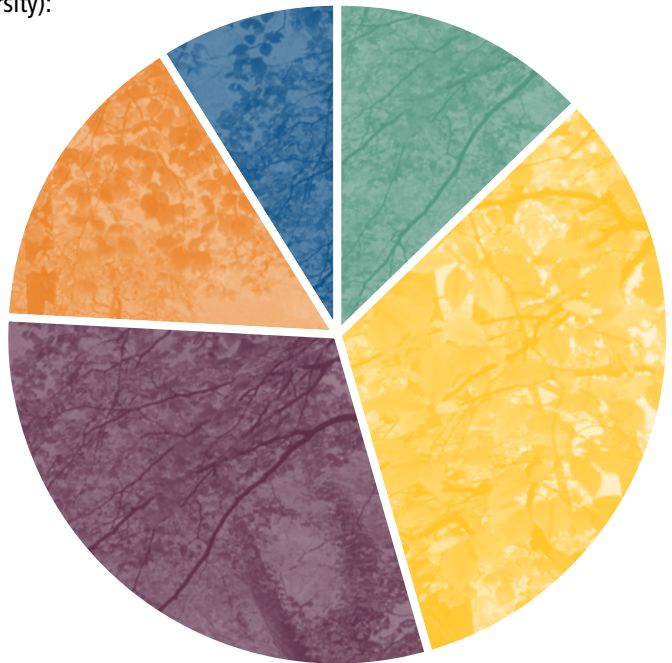


Figure 1. Average National Urban Forest Budget Allocation

Levels of Funding

There is no national standard for the best or most effective urban forest budget allocation. The allocation between activities may always be in flux depending on the condition of the trees, the planting needs, the incidences of severe weather, the presence and types of insect and disease threats, and the desires of the citizens and community leaders at the time the budget is developed.

Again, there is no “magic” formula for determining how much funding is needed for a proactive, sustainable forestry program. Every urban forest is different, and urban forestry programs may be at differing stages of development. The simple answer is that there should be sufficient funding to carry out preventive tree maintenance, perform emergency response, and conduct adequate planting, as well as support management, staff, equipment, and contractual services.

The most obvious basis for developing or determining a sufficient budget is from a public tree inventory. The inventory can reveal exactly how many vacant planting sites exist and how many trees of each size and species require specific maintenance. By applying local in-house or contractual costs for tree planting and maintenance to the inventory data, a public works agency can determine the total budget needed to

accomplish all tasks and can then develop an annual budget based on a multi-year work plan. Additional expenses for administration, personnel, public education, and other related urban forestry program components should also be added to the operational budget for the true, desired annual budget.

However, if an inventory does not exist or is out-of-date, there are some national guidelines and statistics that can be used as a general indicator of whether an urban forestry program is adequately funded. The following information can be used to gauge a local urban forestry program’s level of funding as compared to national averages, statistical research, and general funding guidelines. This information is only provided for qualitative comparisons, and should not be considered in any way as a rule for adequate levels of funding at the local level.

Funding Guidelines and Statistics

- The National Arbor Day Foundation requires that a community forestry program be supported by an annual budget of at least \$2 per capita as one qualification for its Tree City, USA program. The NADF believes this is a minimum amount necessary to provide tree maintenance, planting and management services to the public.
- A common generalization is that a more realistic average is \$5 per capita.
- Based on reports submitted to the NADF for Tree City, USA certification, Table 1 shows the average municipal urban forestry budgets and average per capita expenditure by population level as reported by 3,130 communities in 2006.
- A report published in 1994 revealed that the average percentage of total municipal budget allocated to tree management was 0.31 percent, ranging nationally between 0.09 percent and 0.95 percent.
- Where the US Forest Service has performed cost-benefit analyses and studies in support of i-Tree software, budgets and averages can be obtained for those cities; a partial list includes:

City	Total Expenditures	\$ Per Tree	\$ Per Capita
Pittsburg, PA	\$788.14	\$26.59	\$2.44
Charlotte, NC	\$1819.46	\$21.37	\$3.05
Charleston, SC	\$531.20	\$34.85	\$5.06
Minneapolis, MN	\$9209.04	\$46.36	\$24.07

Population	Annual Budget	Per Capita
0 – 9,999	\$38,635	\$10.58
10,000 – 29,999	\$172,465	\$9.57
30,000 – 49,999	\$336,465	\$8.73
50,000 – 99,999	\$510,800	\$7.50
100,000+	\$1,869,440	\$5.83

Table 1. the average municipal urban forestry budgets and average per capita expenditure by population level as reported by 3,130 communities in 2006

“Level of Service” Concept

Many public works agencies are familiar with using the “level of service” concept when determining annual budgets. Based on the characteristics of the infrastructure components, mandated and desired services, and other public works responsibilities, budget decisions are often made on levels of service delivery. The focus of these budget determinations is on getting results rather than determining a single, fixed budget level.

Multiple budget scenarios can be expressed as the funding amount necessary to provide minimum to adequate to high levels of urban forestry services. This can also be expressed as reactive, routine, and proactive management.

- The minimum service level, or reactive management, is characterized by responding only to emergencies and high priority complaints. At this level, safety risks do get addressed and the financial demands are the lowest, but it is the least efficient means of service delivery in the long run, generates low customer satisfaction, and usually is a result of the lack of a coherently developed urban forestry program.
- An adequate service level, or routine management approach, addresses most emergency and request-driven work, but also has the resources to begin routine tree maintenance and scheduled planting programs.
- A high service level, or proactive management, provides for frequent preventive tree maintenance cycles, a high level of tree planting, comprehensive emergency response and clean-up services, pest and disease treatment programs, and public outreach and education. This level has the highest annual costs but generally results in safer, more sustainable urban forests with less storm damage potential and insect and disease threats, maximum tree benefits, and the greatest level of customer satisfaction.

Sources of Funding

Once the appropriate level of funding is determined based on the needs of the urban forest and the level of service the community desires, the source or combination of sources for that funding can vary. Some of the traditional sources as well as innovative approaches to funding urban forestry services will be briefly described.

It should be noted that many of the funding sources and mechanisms that will be described in this guide may require specific local and state enabling legislation and/or special authorization from city or county managers and councils to implement and access. It is important for the public works manager to be familiar with all of the regulations and restrictions for using the traditional and alternative funding mechanisms described in this guide.

The following funding sources are presented in the order of the most common methods of financing urban forestry programs across the country.

1. General Fund/Departmental Funds

Across the country, the most common and largest single source of urban forest management funds is from the general fund. Whether there is a specific account or line item for urban forest management, the general fund usually supports the bulk of tree

maintenance and planting projects.

To best determine whether funding is adequate to provide the level of service required, urban forestry-related expenses should be accounted for separately. Then, based on annual work accomplished and work needs, public works managers will know when and if, during future budgeting cycles, an increase should be considered to obtain the financial resources needed for urban forestry staff and functions.

"Whether public works managers know it or not, they do have an urban forestry program and budget. If you pick up a limb after a storm or prune a tree for sidewalk clearance—you have an urban forestry program and are spending public funds on tree care!"

- Rachel Barker,

Public Services Director, Columbus, Georgia

2. Federal, State, Local Governmental Grants; Private Foundation Grants

With today's high demand for more services with limited public funds, sustaining an urban forestry program may require supplemental funding from non-local sources. In fact, grants are the second most relied upon source of funds for many urban forestry programs.

Luckily, as a public agency with a nonprofit status and with existing support structures and staff, public works departments are in a good position to apply for and receive grants to support urban forestry activities. These opportunities can be found with the federal, state and local government, nonprofit organizations, large corporate and private business foundations, and private charitable foundations.

Popular sources for grants and information on grants are:

- US Department of Agriculture's Urban & Community Forestry Challenge Cost Share Grants administered by a state's Division of Forestry
- US Department of Transportation's grant program
- US Department of Housing and Urban Development's Community Development Block Grant
- The Foundation Center
- The Alliance for Community Trees (ACT)

3. Taxes, Special Assessments and Special Tax Districts

Many cities throughout the U.S. attain funding for urban forestry through taxes and special assessments. Some states authorize local communities to assess property owners for specific public benefits and services such as stormwater and sewer systems, and public trees. The assessment can be levied as a fee per foot of right-of-way frontage or as a percentage of the property value. The City of Cincinnati, Ohio, has a frontage street tree assessment authorized by state

and city codes that has been in effect for 20 years. State law restricts the use of this tax revenue for anything other than maintenance and planting of trees. St. Louis, Missouri implements a property transfer tax and a sales tax (1/2 cent) to pay for the city's urban forestry program. In Burlingame, California, a portion of a gas tax has provided \$100,000 to the urban forestry's departmental budget in previous years.

Tax Increment Financing, or TIF, is a tool which has been used for redevelopment and community improvement projects throughout the United States for more than half a century. Cities use TIF to finance public infrastructure, demolition, utilities, and planning costs, and other improvements including land acquisition, landscaping and park improvements.

Special Benefit Assessment Districts (AD), like TIFs, are formed for the purpose of financing specific improvements for the benefit of a specific area by levying an annual assessment on all property owners in the district. Each parcel of property within an AD is assessed a portion of the costs of the public improvements to be financed by the AD, based on the proportion of benefit received by that parcel. The amount of the assessment is strictly limited to an amount that recovers the cost of the "special benefit" provided to the property. Traditionally, improvements to be financed using an AD include, but are not limited to, streets and roads, water lines, sewers, flood control facilities, utility lines and landscaping.

4. Capital Improvement Project Budgets

Capital projects have large, comprehensive budgets that have been carefully determined. All aspects and impacts of the project can be accounted for with these kinds of funds. Although restricted to the specific project, often tree maintenance and planting can be included as a valid expenditure.

If trees are viewed and defined as capital assets, then during road and bridge construction and utility projects, funds can be allocated for protection of existing trees, remediation treatment for any trees impacted by construction activities, and planting new trees after the project is complete.

The City of Milwaukee has had success making trees part of its street and road improvement projects. A sample project budget may look something like this, with trees being an essential, but relatively inexpensive, part of the project.

Per Dollar Project Summary

Water main	\$.245
Pavement	\$.223
Storm sewer	\$.167
Sanitary sewer	\$.130
Sidewalk	\$.074
Curb/gutter	\$.059
Lights	\$.043
Turf	\$.037
Trees	\$.022
TOTAL	\$1.00

Source: NADF, 2003

5. Tree Work Permit, Development, and Inspection Fees

Permit, development, and inspection fees are not uncommon funding mechanisms used by public works agencies. These same mechanisms can be used for urban forest management. Examples of using these types of fees, to the extent permitted under state and local codes, include:

Permit and Plan Review and Inspection Fees.

It is not uncommon for public works departments to require private developers and businesses to support the administrative time needed for proper and professional plan review and site inspection tasks. In light of the urban forestry goals of the agency to protect and enhance the urban forest, charging specifically for the time and arboricultural expertise needed to approve permit applications, review plans, and make site inspections might be a viable option to support the salary and benefits of additional full- or part-time urban forestry positions.

Developers Fees. Counties and cities may impose development fees on landowners in a "benefit area" to pay for a proportionate share of the public facilities required to serve a development. Trees can be considered public facilities and the planting and maintenance costs can be supported by these fees. Also, developers could be required to pay a set dollar amount to support a community's overall urban forestry program. In effect, it would be a cost of doing business within the community limits. The fee could be a percentage of the total project cost, based

on the number of housing units built, or based on the area of land being developed.

Utility Company Fees. Non-municipal utility companies perform new construction, maintenance, and repair work on an annual basis in many communities. This work may affect the aboveground and belowground portions of public trees. It is prudent and reasonable to assess a fee to such utility companies when their work affects municipal trees. Utility companies with aerial facilities might be required to provide an anticipated annual work plan and maps with an appropriate fee attached to provide for inspection and monitoring. Any compensation for documented damage to public trees during utility work would be collected separately on a case-by-case basis, and the utility company should be responsible for the costs for any remediation necessary (e.g., pruning, fertilization, or temporary irrigation) above and beyond the fees and compensatory payment. The same conditions would apply for companies installing or maintaining underground utilities.

6. Compensatory Payments and Environmental Fines

Trees on streets, rights-of-way, and other public properties, like municipal buildings, parks, and cemeteries, are often public property, or under the direct control of a public agency. Whether due to an act of vandalism, accident, or negligence, the county or municipality should be compensated for the loss or damage to its property. Trees have value and repair to trees costs money,

just like replacing or repairing street lights or signs. If tree damage or loss occurs due to a development project, vehicular accident, private utility work, etc., then the responsible party should be required to pay for the replacement value or repair costs.

Damage Compensation. This source may not generate a great deal of money, but it is a legitimate and often under-pursued source of funds. When an automobile damages a public tree or when construction equipment destroys a group of public trees, the public works agency should seek compensation for the landscape value of that tree(s). The department can rightly seek compensation for the total damages, including 1) the value of the tree(s); 2) the cost of repair or clean-up; and 3) the cost of the administrative time used to resolve the situation. The receipt of \$500 from a minor car accident to \$5,000 for a major damage claim can add up over time. Generally, the compensation is collected from the insurance company of the person responsible for the damage or directly from the business that caused the damage to public trees. The compensation funds can be used to remediate the specific damage, or be used for other legitimate urban forestry functions throughout the community.

Environmental Fines. Since the enactment of federal and state clean water and air legislation, companies in violation of those laws are often required to pay tremendous sums through environmental court fines. By coordinating with the enforcement agency, all or a portion of those fines can be directed to the local community's tree planting and public education programs.

7. Innovative and Underutilized Funding Mechanisms

There are a number of innovative and underutilized funding mechanisms that may not be appropriate for every community and every public works urban forestry program, but they are valid and potential sources of funds that should be considered.

Utility Bill Donations. If a community bills property owners directly for water and sewer services, these municipal invoices could be a source for needed funds for the urban forestry program. A small fixed amount from \$0.25 to \$1.00 could be automatically added to each bill; the property owner would then have the option to voluntarily include it with their utility payment. Another option is to ask the bill payers to round the invoice amount up to a higher figure of their choice. Using this voluntary funding mechanism can potentially raise thousands of dollars.

Memorial and Honor Trees. A community tree planting program can be partially funded and enhanced by creating and advertising a Memorial and Honor Tree Planting Program. Citizens at times of loss and at times of

celebration often choose to plant a tree to remember special people and mark a special achievement. Cities across the country successfully use this funding technique not only for program support but also for generating good public relations for the urban forestry program. A prudent approach to implementing such a program is to set a level of funding that will not only purchase and plant a tree of a certain size, but that will also collect funds to pay for maintenance for three years.

Promotion of Federal Tax Incentive to Citizens. As a nonprofit, a public agency is in a unique position to encourage citizens to directly pay for desired tree planting and tree maintenance on public property. A public works agency can inform owners of property abutting the public rights-of-way, parks, or other public properties that if they pay for approved, proper public tree planting or tree maintenance, then that effort and any related expenditures may qualify as a charitable deduction on their federal income tax return. Until a community's urban forestry program is fully staffed, equipped, and funded, this mechanism is a good public relations tool as well as a way to accomplish needed work.

Carbon Trading. Carbon dioxide (CO₂) is used during a tree's photosynthesis process to produce the natural building blocks necessary for growth. This process takes carbon dioxide from the atmosphere and holds it as woody and foliar material. One large tree can store hundreds of pounds of carbon. This function is referred to as

carbon sequestration, and now there is the potential to make real money from this natural process. Spurred internationally by the Kyoto Protocol, nationally by the Clean Air Act and the U.S. Conference of Mayors' Climate Protection Agreement, and locally by citizens and businesses alike, a legitimate market is developing for owners of trees and forests to sell the carbon sequestration functions of their urban forest and receive fair market value based on quantity. Computer models, like i-Tree's UFORE and STRATUM can generate and document the quantity of carbon sequestered by a public urban forest, and working with a certified valuator, a local government can sell the carbon to offset the emissions for others.

Sale of Municipal Wood Products. If local policies allow public property to be sold, the wood waste from tree maintenance and storm damage repairs can be a source of funds for the urban forestry program. Other cities have been successful in selling split and unsplit firewood, hardwood timber, rough wood chip mulch, and compost to the general public and commercial businesses. Rather than pay for removal and disposal, cities sell these excess wood products. A new trend is to use the removal of a significant or historic public tree as a source of creative fund raising. The logs and useable wood are given to local craftsmen who then create furniture, sculpture, and other collectibles from the wood. These are sold and all or portions of the proceeds are returned to the urban forestry program.

Fund-Raising Activities. With the support of volunteers, the community can hold various fund-raising events throughout the year to support the public works urban forestry program. Competitive and social runs and walks are popular large events. But, volunteers can also staff food and drink booths at local fairs and festivals. Tree merchandise or other local merchandise can be commissioned and sold. Restaurants can have special "Tree Nights" where a small percentage of the patrons' bills are donated back to the community for tree planting. Even small efforts, such as school and church bake sales and yard sales, can be encouraged to raise funds for trees in the community.

Private Donations/Corporate Sponsorships. Many communities are fortunate to have generous citizens and organizations that care about the quality of life of the community. The public works agency and the local tree commission could solicit citizens and foundations for private donations to support tree planting, tree care, and public education activities. A major source of donations could be from foundations, businesses and corporations that wish to sponsor nonprofit, environmental activities. All potential contributors should be reminded that, if their financial situation allows, any donations might be tax-deductible when they file their federal income tax returns.

Conclusion

Greater funding levels can allow a public works agency's urban forestry program to move from a reactive to a proactive management approach, provide greater services, and increase tree canopy coverage if funds to sustain all activities, programs, and initiatives can be secured.

There are various funding mechanisms and sources to be considered to support increasing staff levels, public education efforts, tree protection, maintenance, planting activities, and other components of a truly progressive, comprehensive urban forest management program.

For More Information

Urban & Community Challenge

Cost Share Grants

(contact your local state coordinator)

www.fs.fed.us/ucf/Related_Links/UCF_State_coordinators.htm

Community Development Block Grants

www.hud.gov/offices/cpd/communitydevelopment/programs/index.cfm

Environmental Protection Agency

www.epa.gov/ogd/grants/information.htm

Department of Transportation

www.dot.gov/ost/m60/grant/grelate.htm

The Foundation Center

www.foundationcenter.org/

Alliance for Community Trees

www.actrees.org/site/index.php

Thank You



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Thank You

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