

GASB 34: Urban Natural Resources as Capital Assets

Dudley R. Hartel
Technology Transfer Specialist
Southern Center for Urban Forestry Research & Information
Southern Research Station, RWU 4901
USDA Forest Service
Athens, Georgia

Abstract

Urban forest managers are continuously seeking support for their work to maintain a healthy, productive urban forest. In the past, we have used modeling tools to calculate the value of benefits in an attempt to leverage this information into support for our programs. An accounting practice may provide a new tool and offer the opportunity to incorporate the value of urban forestry benefits more effectively into our programs. Urban forest managers and researchers must continue to develop and refine practices and models to support this approach.

Introduction

Urban foresters and others have been discussing the idea of "green infrastructure" for many years. We understand and have attempted to enumerate the economic value of trees and other natural components of the urban forest with the goal of improving our local programs. In turn, this increased attention (i.e. investment) should result in an increase in the resource (e.g. more canopy) and/or improved capacity (e.g. healthier canopy with increased leaf area) to provide additional benefits.

The discipline of ecological economics attempts to value nature or natural processes by calculating the equivalent cost of engineered facilities. You may remember the work that Dr. Robert Costanza reported in *Nature*' magazine in 1997. He and his colleagues reported the worldwide value of "nature's services" at \$33 trillion a year.

Prior to Costanza's work, Gretchen Daily had edited, *Nature's Services*ⁱⁱ, containing contributions that attempted to "identify and characterize components of ecosystem value".

In 2000, Hudson reportedⁱⁱⁱ on his attempts to introduce California to the idea of the "Biogenic Public Utility". That is, the service produced by trees that supply the general public with an essential commodity or service such as cooling, clean air, flood control and carbon sequestration and storage. In this study, Hudson outlined the basis for developing a public utility with the ability to either tax residents directly or provide a subsidy to other agencies (e.g. a local Flood Control District for stormwater retention) for the services provided.

The desire to treat the urban forest as functioning infrastructure is understandable. We manage a resource that provides direct benefits and often budgets to manage that resource are limited.

An accounting opportunity for green infrastructure

In 1999, the Government Accounting Standards Board (GASB) placed new accounting standards for local governments into affect. Statement 34, hence GASB 34, deals with accounting practices for infrastructure and capital investments.

State and local governments have traditionally reported their infrastructure assets (roads, bridges, dams, vehicles, etc.) according to the cash accounting method; that is, the cost of the infrastructure investment appears on the agency's financial reports the year in which its cost was incurred. Under this system, the value of existing physical assets is not reported in subsequent years.

But according to the new financial reporting requirements, governments must begin to report such assets using accrual accounting methods. These methods are similar to those used in the private sector and take into account the monetary value of assets throughout their life spans by factoring in depreciation and capital expenses (improvements) in the same way a business would account for the value of the buildings and machinery it owns.

Government agencies will now more accurately reflect expenditures made on assets, monitor maintenance, and report the full cost of providing government services to help analyze their financial performance with a more private-sector-like accountability.

Urban forestry and GASB 34

There may be several potential benefits to urban forestry programs in our communities if included in a GASB 34 implementation:

- If the "value" is on the books, the urban forest becomes more recognizable and appreciated by elected officials & citizens;
- Under one GASB 34 approach, there is a requirement for maintaining the asset in a specified condition, and inventorying the asset on a regular basis;
- This process (and its requirements) may result in a higher level of management;

Given the preceding points, an urban forestry program may enjoy a more favorable position in the local budget process.

The Center for Neighborhood Technology (CNT) provides an additional scenario related to bond ratings, which may be even more appealing to local elected officials.

Beginning in 2003, as the result of new regulations by the Governmental Accounting Standards Board, many local governments will have to inventory and report on their public infrastructure assets – such as bridges, road and stormwater systems.

The requirement is designed to prevent financial problems for governments that may be tempted to overly rely on debt to finance expansion of their systems while maintenance of their existing systems is underfunded. This requirement will demand a major effort, and may be resisted by many governmental bodies

But the requirement also presents opportunities. Those municipalities that can show that they have, and sustainably make use of, unusually valuable natural infrastructure may be able to achieve higher bond ratings. If local governments in the Lower Des Plaines Watershed use this opportunity to compare economic factors for the "business as usual" and "preferred" scenarios, better decisions would be more likely to be made^{iv}.

CNT is describing community driven watershed planning that identifies indicators of stream and ecosystem health and the reliance on natural systems (e.g. streams, wetlands, riparian zones) to maintain that health.

The accounting problem with trees

CNT alludes to an asset value that is measured by the environmental services provided much like Daily and Costanza have championed. This method of asset valuation (i.e. inventory the resource and calculate services provided) is not the same as the current accounting practice where assets are valued at their cost (of installation and maintenance) less depreciation over the expected life of the asset.

When an infrastructure asset (e.g. a bridge) is installed, its capital asset value will be listed as the cost (e.g. \$10,000,000). If the bridge has a 20-year life and is depreciated evenly (i.e. straight line depreciation) throughout its life, the asset value at the end of the first year will be \$9,500,000. At the end of year 10, the value is \$5,000,000. As the city maintains the bridge, capital expenses (e.g. maintaining piers, replacing structural components) would increase the asset value. So, a \$2,000,000 expense to improve the structural integrity of the bridge in year 10 would then place the asset value at \$7,000,000 (Value = cost – depreciation + capital expense).

Three things are apparent when we extend this type of asset analogy to urban forestry. First, the cost of installing the green infrastructure is low (e.g. a 2" caliper tree installed in Atlanta, Georgia may cost \$380). Secondly, our green infrastructure (even without maintenance, but in absence of destructive activities) will appreciate in value. Accountants apparently don't recognize "negative depreciation". It is (fairly) easy to calculate or estimate life cycle for urban trees. But, even with zero depreciation, the asset value of a tree would never exceed its establishment cost! And, finally, even if trees are considered as capital assets, tree maintenance may not be considered as capital expenses.

Consequently, using this standard methodology, "cost, less depreciation", does not result in the "value" that urban forest managers usually envision. The true value of trees (and urban forests) is based on the environmental services that they provide. We frequently calculate this "value" with programs like UFORE or Citygreen®.

At establishment, the environmental system "value" of a single 2" tree is low. Its value appreciates over time, however, as the tree provides shade, watershed protection, and air pollution services. By measuring trees (and the urban forest) periodically, we can calculate this appreciation in value (environmental services provided).

Another GASB 34 approach

GASB has provided an alternative to the historic "cost, less depreciation" reporting method for infrastructure assets, called the modified approach. Agencies utilizing comprehensive asset management systems – which include inventory, condition assessment and predictive maintenance/repair/restoration/replacement components – will be allowed to report their expenses for maintaining and preserving infrastructure assets instead of depreciating those assets. Governments wishing to use this approach will be required to meet certain conditions and to disclose publicly the evidence demonstrating their compliance with the conditions. These include:

- Assess the physical condition of the infrastructure asset.
- Described criteria the government uses to measure and report asset condition.
- Identify the condition level at which the government intends to maintain the asset.
- Compare the annual dollar amount estimated to be required to maintain and preserve the asset at the condition level established by the government with the actual expenses for at least the last five years.

Can trees fit into GASB 34?

There are three ways that trees might fit into GASB 34:

1. As a capital asset (without depreciation, and no appreciation), but with capital expenses,
2. Under the modified approach with requirements for inventory, condition goals and maintenance,
3. Or, as "capitalizable" improvements to another infrastructure asset; e.g. the cost & maintenance of parking lot trees extends the useful life of the asset by shading the pavement, or riparian trees reduce sediment and extend the useful life of a reservoir.

Of the three approaches listed, the third may hold the most promise. This is an approach that Hudson suggests in his "Biogenic Public Utility" concept, and one that may capture some of the value generated by urban forests. Because our "green infrastructure" can support other infrastructure positively, we may be able to treat the urban forestry budget as capital expenses for other assets that easily fit within the GASB 34 framework. By elevating trees to this new supporting role, other government agencies, departments and elected officials would support urban forestry budgets since they will help maintain the condition of infrastructure that is required to be listed as an asset for GASB 34.

The second approach holds some promise, and eliminates the difficulty with "appreciating" assets. While the "value" of the public urban forest is not on the books, this approach requires an intense level of management and reporting to the elected officials and citizens. To elect this option, the government would be required to perform regular condition assessments (tree inventories) of its infrastructure assets at least every three years and disclose information on condition levels (ISA Guide to Plant Appraisal methodology), as well as anticipated and actual maintenance outlays. This sounds like good urban forest management!

In order to accomplish any of these, the urban forestry community must:

- Establish in everyone's mind (this includes municipalities, accountants and engineers) that trees are infrastructure and a capital asset not just amenities,
- Demonstrate that tree care extends the useful life of a tree and can be considered a capitalizable expense,
- Pursue and resolve the depreciation/appreciation aspects of trees (e.g. land is an asset but doesn't depreciate),
- Continue to research and demonstrate that trees can extend the life of other assets,
- Develop or embrace a standard for evaluation of tree condition (e.g. ISA Guide for Plant Appraisal)

- Develop and formalize an asset management program for public urban forests that meets the standards required for GASB 34.

Trees that have experienced GASB 34

Several communities responded to a recent URBNRNET inquiry of GASB 34 implementation. Only one, Norfolk, Virginia, indicated that they had attained GASB implementation:

Norfolk's street tree population has been included in the City's GASB 34 valuation for the past two years. Since this valuation method is based on the deflated installed value over the average life of trees in the population, a \$100 million tree resource makes a very modest GASB 34 contribution of only \$11,000 to Norfolk's infrastructure. It hardly seems worth the effort to report, but we do nevertheless^v.

Most cities reported on the problems they encounter with accountants that cannot conceive of asset appreciation!

Conclusions

Listing trees as assets based on current accounting concepts does not result in a "value" commensurate with their true worth. However, there are at least two opportunities for the treatment of trees and other urban forest resources as capital assets under GASB 34. Opportunities exist for trees to be valued in support of other community infrastructure or managed intensively as an asset without considering depreciation. Under either scenario, continued research and the implementation of those research results in the field are needed to support the concept of urban forests as productive assets.

ⁱ The value of the world's ecosystem services and natural capital. 1997. Costanza, R. et al. Nature 387, 253-260.

ⁱⁱ Nature's Services: Societal Dependence on Natural Ecosystems. 1997. Daily, Gretchen C., Editor. Island Press, Washington, DC. 392 p.

ⁱⁱⁱ Is the Urban Forest a Natural Resource Public Utility? September 2000. Hudson, Bailey O. Final Report, USDA Forest Service Grant No: G-5-98-20-076, Vallejo, CA 94591-7009

^{iv} Visioning and Empowerment in Small Watersheds. August 2000. Center for Neighborhood Technology. Chicago, Illinois.

^v David B. Sivyler, City Forester via e-mail