No Place for Old Trees—Part IV

By Cass Turnbull

or Why We Don't Fund Urban Forest and Green Space Programs

A treatise for urban forestry policy wonks and those who care about trees.

"We value trees as a group,
we cut them down one at a time."—Cass Turnbull

I created a PowerPoint slideshow called *No Place for Old Trees* to be given to Seattle's decision makers. It was for a grant from the Washington State Department of Natural Resources and funded by the USDA Forest Service. I discovered that many of our local legislative types were already pretty well acquainted with the benefits and values of trees. And, some were truly concerned. But they couldn't figure out how to pay for the needed green programs. It was their conviction that the money would have to be taken out of the existing budgets of city departments. That was something the legislators were unwilling to support.

I was at a loss. I knew that supporting green spaces and trees would save, not cost, the city money. But I couldn't explain it in a way that made sense. I have known for a while now that there is some basic mal-function in the current system that prevents green values from showing up in city or even private accounting. The exact nature of this glitch is discussed here.

I was too confused myself to explain what the sources of failure were, but then one day I had an epiphany. Yes! The answer came to me in four, blindingly complex sentences! I share them with you now:

> The benefits of retaining green spaces are multiple, ongoing, and accrue to the public. Conversely, the benefits of getting rid of green spaces tend to be singular, occur one time, and accrue to the individual. Green benefits are preventative, cross-jurisdictional, and cumulative. Because budgets are prepared in departmental 'silos', greenspace/trees always lose in the battle of the budget.

No wonder we can't get anywhere!

Obvious isn't it! No? Well, then, let me explain using some simplified examples.

One person gets a singular benefit, one time.

You may have read about the illegal cutting of 100 trees in a West Seattle greenbelt by four neighbors looking to improve their views. The removal of trees will be a benefit, increasing the appraised value of their homes by virtue of an improved view. That benefit will be realized financially when they sell their houses. Therefore, the tree removals are an *individual benefit* for the homeowners, (not the public) and there is only one, *singular benefit* (the money) that will occur *one time* (when they sell).

In contrast, the benefits of *retaining* the treed hillside accrue to the public; these benefits are *multiple*, and they are *ongoing*.

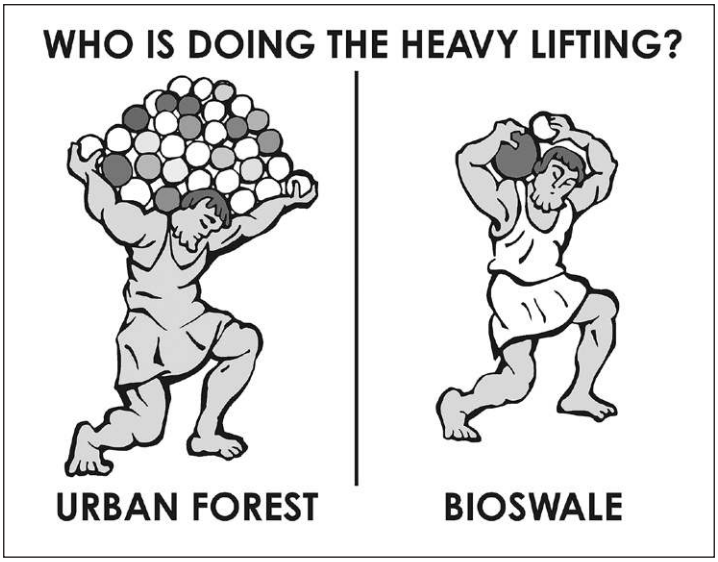
Trees on a hillside maintain its stability and are responsible for rain water absorption. Once these are removed, the homes below may experience basement flooding, which never happened previously. The greenbelt slope could slide, which could cause even more damage to homes and the road below. If this happens, the taxpayers will foot the bill because the Department of Transportation will have to fix the road and possibly put in a retaining wall.

Many other benefits to the public will be reduced by the same tree removal. They include intercepting air pollution, water pollution reduction, higher real estate values attributed to being located in a beautiful city, wildlife habitat, carbon sequestration, and others.

The trees do their work for the public year after year after year, (slowing stormwater, storing carbon, etc.) not just once. The benefits are *multiple* (air pollution, habitat, etc.), *ongoing*, and *accrue to the public* (taxpayers.)

Preventative

The Seattle Department of Transportation (SDOT) budget includes funds for building new infrastructure or fixing existing infrastructure, like dealing with slide damage. The same departmental budget does not allocate funds to prevent slides from happening in the first place (e.g. funds to buy or maintain greenspaces). The greenbelts are in the Parks budget, not SDOT's, and both the Park and SDOT budgets do not track money saved through prevention. How do you determine the value of something



that has not happened? This is comparable to the health care system that pays huge sums to fix disease and injury and relatively little for preventative care. City budgets only reflect that which can be counted and those are the things that *fix* problems, not the things that *prevent* them.

Cross Jurisdictional

The city budget is created by stitching together all of the individual department budgets. This method leaves the true value of trees and greenspaces out of the decision-making process. City departments are often described as working in silos. That means they act alone, not in concert with the other departments. When viewed in a silo, the value of trees and greenspace will be small. Working in silos misses the point that although one parcel of greenspace provides a small benefit to one department, there are many other benefits and they show up in many different departments (silos). It all adds up. The value of trees are cross jurisdictional, accruing to more than one department (silo) of a city. The same benefits can also cross governmental agencies, not just the different departments in one city government.

Take our trees in the greenbelt scenario. The trees have *multiple benefits* (slide prevention, air pollution mitigation, and water pollution prevention.) Those benefits impact the work of three departments (Engineering, Public Health, and Environmental), each with their own separate budgets. They are also spread between three different governmental jurisdictions (City, County, and State), each with their own budget. The fact that green values are *cross-jurisdictional* makes it difficult to incorporate the full value in any one accounting systems. The real value is cumulative but hidden because it is being broken up and accounted for in many separate, siloed budgets.

Within a silo, a green space value looks lower than it is. For example, the Seattle Public Utility (SPU) department requires storm water mitigation measures to be taken when building sites are developed. They certify different mitigation methods and let the developer decide which method to use. Two of those options would be building a 'bioswale' or 'retain landscaping or trees.' It takes a relatively small amount of land to mitigate stormwater with a bioswale when compared to the much larger foot print of the greenspace needed to deal with exact same amount of stormwater. Since the developers compare the two alternatives by the cost per square foot of land, among other things, the bioswale pretty much always wins.

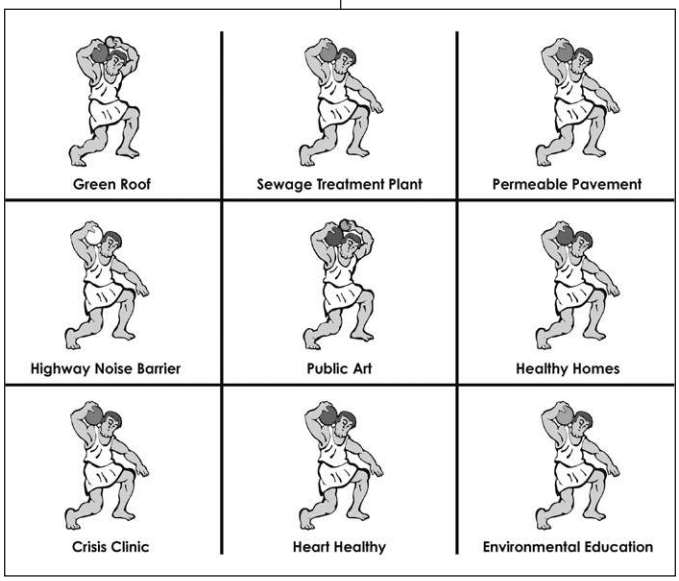
Choosing the bioswale leaves more land available for the developer to add more units. The cost effectiveness of greenspace is quite low when it is judged by one single benefit rather than by its cumulative benefits. So where do you think SPU winds up spending its time and money, bioswales or tree preservation programs? What is missing is the fact that the bioswale has just the one, big benefit (stormwater reduction), whereas the greenspace has many more multiple, small benefits, (habitat, air quality, heat reduction, livable walkable streets, recreation, superior aesthetics, etc.) And that's how greenspaces and urban forests lose the budget battle!

A good way to illustrate the multiple, cross jurisdictional, values of trees is by representing each government program as an Atlas who carries a ball of social good, like the mythological Titan named Atlas, who bore the weight of the world on his shoulders. For example, an Atlas that represents a bioswale carries a ball of stormwater retention public good, (and maybe a little one for habitat). The Urban Forest Atlas carries a much smaller ball of 'stormwater retention' because it does less quantitative good than the bioswale.

A fire department Medic One Atlas would carry a ball of public health good because it responds to calls from people experiencing asthma attacks. The Medic One program Atlas would be compared with the Urban Forest Atlas which carries public health values too. That's because the presence of trees reduces the rate of asthma incidents requiring hospitalization. You can count the number of Medic One calls from people with asthma, and know how much it will cost your budget. But you can't count the number of people who *didn't* have an incident because their home was protected from the diesel fumes by roadside tree cover. That amount 'health services good' is smaller for sure. It is also *preventative*, which should, but doesn't show up as a credit in the budget.

I could repeat this analysis for a great number of government programs and services. See table and illustrations here.

The important point is that the same one Urban Forest Atlas does its work in multiple areas for multiple agencies, but it is purchased only once. The other government programs must each be paid for separately, and that adds up too. If one looks at the entirety of government budgets, you will see which Atlas is really doing the heavy lifting. The Urban Forest and green spaces are the cost-benefit winner because they contribute more to social good in ways that are multiple, cumulative, preventative, and cross jurisdictional.



No Place for Old Trees—future topics:

- Six Common Misperceptions—that keep us stuck in no-wheres-ville.
- How Paradise is Lost.
- Smart Growth and the Urban Forest—are they mutually exclusive?
- Solutions—ways to increase Urban Forest funding, protections, and enforcement. ▲