

Trees: Your ‘Other’ Plants

Assessing Tree Risks In Public Places

Article one in a series of three pertaining to the complex issues associated with tree management.

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What could be worse than to be 10 over par...for each hole? As bad as that may sound (actually, for me that’s a decent game), having a branch drop 20 feet in a wind storm and land on your head would actually be worse! Okay, if not worse, just as bad. Managers of public open spaces have had to learn about hazard tree assessment and managing risks as commonly as managing bentgrass diseases, whether they have a background in this practice or not. Not being aware of problems is not a defense when invited guests are injured due to hazardous conditions, whether they are linked to benches, parking lots or trees. The best defense, legally and ethically, is a well-documented management plan that helps managers of parks, golf courses and campuses pro-actively minimize dangers to their “clients.”

Tree risk assessment has become the most universal practice in urban forestry. Whether the professional is managing trees on private properties or public spaces, the assumption is that everything that can be done to make the experience enjoyable for users of the space has been done. Therefore, the assumed liability to monitor for potentially harmful defects that can create hazards or hazardous conditions extends to everything. Monitoring for dangerous paths, parking lots, benches, or other infrastructure is relatively logical and obvious. It doesn’t take a Mensa membership to recognize broken-down or rotting benches. Pot-holes in paths or parking lots are pretty obvious when all of the cars look like low-riders as they drive through or roller bladers spend more time picking themselves up rather than picking up



No matter how beloved a tree may be, those with significant defects such as the extent of decay in this bur oak, and those located in high use areas such as this college campus are unacceptable risks and must be removed promptly. Photo by Gary Johnson

speed. Assessing tree risks is a different story, though, requiring a new skill-set of evaluation practices and protocol, as well as a basic understanding of tree biology and biomechanics.

A Step-by-Step Protocol

Step One. Know the Language: *Risk*. A level of risk is arrived at after considering how likely damage or injury may occur due to the hazardous tree (or part of the tree) and how severe the damage or injury may be. For instance, a tree may be large, weakened by decay and teetering on the brink of being vertical, yet located in the middle of a wooded area that people rarely frequent, no structures are



Big trees and public spaces don't always spell danger. Trees that are well-maintained reduce tree risks to acceptable levels. Photo by Sue Granger.

nearby, and the only thing that will suffer damage would be the tree next to it. This would be an example of a high risk of failure but a low risk of damage or injury. Therefore, in the perspective of risk assessment for public spaces, this would be considered a low risk.

Target. The relative ranking of risks allows the property manager to prioritize actions, maximize the effectiveness of budgets, whether generous or limited, and create an environment with acceptable risks for the greatest number of visitors or participants. Anything in the park or public area that could be damaged or injured by the hazardous tree is considered a “target.” As opposed to a shooting range, this kind of target is not considered the ultimate recipient of unwanted lead. The more targets that exist near the tree being evaluated, the more valuable the target is, the more consequential the risk. Applying this to the scenario above, if the same tree with the same defects or hazardous condition was located in the middle of a popular

playground, the risk would now rise to the highest level and generally be considered unacceptable.

Defect. A defect is a character trait of a tree that is not just abnormal (e.g., a dead branch), but holds some potential for damaging or injuring targets. If that damage potential is considered benign (a small dead branch on a crab apple tree), then it's of no concern for safety. If however, the defect has a history of leading to failures (e.g., extensive decay in large branches and tree trunks), then the tree defect is considered a hazard.

Hazardous. Finally, if the odds are that the tree defect is likely to cause failure and the failure is likely to result in significant damage or injury, the tree is considered hazardous. When a tree has been evaluated and deemed hazardous, and if that tree is in a situation where there could be significant damage or injury to one or more targets, then action must be taken.

Step Two. Institute a monitoring program.

For your own (legal) protection and for the (ethical) protection of your clients, the next step is the development and implementation of a logical monitoring program that assesses the trees in the park, campus or golf course on a regular and reasonable basis. Since you will be dealing with a living, sometime unpredictable biological system (tree), unpredictable weather events and varying numbers of users, there is no absolutely perfect protocol. However, there are professional standards and examples from other communities that can guide you through the process.

The recently published “Tree Risk Assessment: Best Management Practices,” is a companion publication to the “ANSI A300 Part9: Tree, Shrub, and Other Woody Plant Management – Standard Practices (Tree Risk Assessment a. Tree Structure Assessment.” A lot of words for a recommended tree risk assessment protocol. This Best Management Practices (BMP) perspective offers an industry standard for monitoring techniques and timing as well as guidance on tree

defects and hazards of note. It is available through the International Society of Arboriculture at www.isa-arbor.com, and is worth the investment.

The frequency (aka, *inspection interval*) and the depth of monitoring are functions of budget potential, the levels of assessed risks and the goals of the property managers. In most situations, a public space will have varied levels of risks; therefore, the frequency of monitoring the trees in that area varies with the potential for injury or damage. The higher the potential risk assessment for an area of a park usually means a higher frequency of monitoring and often a more in-depth examination of the trees.

The depth of monitoring examinations ranges from “limited visual assessments” to “basic” to “advanced.” Price tags increase with each higher level of examination due to increased labor costs and equipment required to assess the defects/hazards. Due to those realistic monetary constraints, it will be imperative that a “risk zone map” of the public space or spaces be constructed as a guide for determining which areas warrant the most frequent, most detailed inspections. It should be obvious that open public spaces around heavily-used community parks with extensive infrastructure deserve more attention than meandering informal walking paths that are lightly used.

Accept it as Management

There is often a “push-back” when it involves risk assessment and management, especially with trees. Most of that push-back is due to a lack of knowledge, experience or understanding of the power of prevention. No property manager wants users to be exposed to unnecessary dangers, and that’s an ethical as well as an issue of legal responsibility. Parks and properties that are perceived to be safe are always more likely to be popular and used. The BMPs for Tree Risk Assessment are excellent guides and foundations for a risk management program that is reasonable and attainable for all public spaces.

As with all management programs, documentation is critical. Document

the frequency and level of risk assessment by date and personnel conducting the assessment as well as the assessment notes. If trees are deemed as unacceptable risks, promptly remove or correct the defects and document the dates and actions. For those in-house personnel who may be conducting the assessments, document their level of training and credentials.



When good trees go bad! Defects such as larger, dead branches are hazardous when they are located near areas or people that can be harmed as a result of their failure. Photo by Jeff Hahn.

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Areas of Expertise:

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Stress Disorders: Deicing Salt Damage; Urbanized Soils.

Diseases of Trees and Shrubs.

Risk Assessment and Management.

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Nursery Tree Production.