

## Managing Community Tree Risk

### **Introduction**

Tree risk, especially at the agency level, is managed over time. Short and long-term strategies focus on components within each of the following two general themes: a reactive versus a strategic program and managing appropriately at the individual tree level while developing and implementing policies at the system level.

### **Background**

Most municipal responses to tree risk are reactive in nature. Municipal programs that would be considered highly-managed typically identify high-risk trees as part of the day to day operations of their program. Trained staff visually identify individual trees that may have one or more compounding defects that compromise the structural integrity of the tree observed. Poorly managed programs react to failures or resident pressure. In both cases, the relative numbers of negative consequences from tree part failures are low.

Historically, within the urban forestry and arboriculture profession, our understanding of tree risk is driven by an increased awareness of tree biomechanics and litigation. Two important elements: the potential for striking a target once a tree part failure has occurred and the consequences from that potential event are poorly understood. Very few significant negative incidences occur when compared against the large number of tree part failures a community or region can experience. Our professions reaction to tree risk management has been driven by an over emphasis on the negative consequences rather than a real understanding of quantifiable risk. The primary outcome of this thinking is that far more trees are removed than likely need to be. Trees are viewed as a risk in absolute terms—the tree is either a hazard or not a hazard. Risk is about uncertainty and until the dialogue embraces this concept to a certain degree, the overemphasis on removals rather than corrective measures will continue.

The arboriculture profession, and the communities that benefit from healthy, expanding and safe tree canopies would be well served by a more exact understanding that risk is validated, in part, by the economic costs that have occurred from past tree failures. At its core, tree risk policies must demonstrate that, if implemented, they reduce the number of events that occur. The only way to assure this is to compare the number of current events (in numbers, severity and costs) against the historical record. A municipality then has a baseline to determine the level of acceptable risk and cost to mitigate.

### **Discussion**

The tree population a municipality or park system must contend with today is the culmination of all past policies, good and bad. Risk is managed over time. A community that planted 45% of their tree population fifty years ago with silver maple probably did so with the best of intentions. But, the urban manager today has to contend with the cost and risk burden of this population now.

The goal of the urban forester is maintain a healthy, expanding and safe forest canopy. It is from this type of system that communities receive the most aesthetic, environmental and economic benefit. An understanding of these benefits paired with a better understanding of actual risk associated with trees provides the gateway to a more informed risk management strategy.

*American Planning Association  
Scoping Session: Hazardous Tree Management and Post-Disaster Recovery*

Communities see a reduction in negative consequences from trees when a multitude of policy-level objectives are defined and implemented over years. The policies focus on changing cultural and management practices. Some recommended strategies include:

1. Planting low-maintenance, low-risk and long-lived tree species.
2. Maximizing canopy potential and vigor by maximizing below and above ground growing space (Oak Park study) and minimizing infrastructure conflicts.
3. Implement a structural pruning program to guarantee young, established trees are developed for healthy structural sound canopy into maturity.
4. Implement a cyclic maintenance program that guarantees that every tree receives some form of care or inspection on a regular basis.
5. Inventory and map all public trees to provide a baseline of tree-specific data (species, size, condition and issues) and site-specific data (utilities, sidewalks, etc.)
6. From the inventory, identify risk issues within the population and mitigation strategies to reduce those issues over time.
7. Enhance staff skill sets, hire consultants, or bring in and use the Urban Forest Strike Team protocols following disasters to assess individual trees for risk and to recommend appropriate mitigation.

**Proposed Actions for Planners:**

1. Work with community urban foresters and arborists to position the urban forest as a low risk asset
2. Assist in drafting standards, ordinances and other regulatory tools to ensure the right tree is planted and maintained in the right places over time.
3. Prepare mitigation plans and agreements to ensure that qualified resources are trained and available to assess tree risk before and after natural disasters.