What Kills Trees

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Trees in native undisturbed sites live, on average, to be about 150 years old. Downtown trees have a life expectancy of 7-17 years; suburban trees 30-40 years; and rural trees 60-70 years. Why is there such a difference in life expectancy between trees in native sites than those in disturbed sites? Certainly there are acute factors, like hail, herbicide drift and insect infestations that can kill trees but the chronic issues overwhelmingly pre-dispose trees to shortened lifespans.

While difficult to see, pre-disposing effects are basically unhealthy environments. This leads to unhappy trees with dysfunctional roots. Some common pre-disposing factors include:
▪Trees are planted too deep
▪Grade changes around existing trees
▪Soil compaction
▪Trees are overwatered
▪Exposure to long term drought
▪Live in confined root spaces
▪Have girdling roots
▪Are not winter hardy
▪Are not adapted to growing in soils with a high pH.

Most of us do not recognize a tree in decline until 12-20 years after the tree has been planted. Amazingly enough, unhappy trees will grow but lack the energy to really thrive. Too often, this means conditions are not reversible and the problem cannot be remedied. What tree owners do notice are acute conditions—leaf scorch, chlorosis, early leaf shed, smaller leaves and reduced tree stability—symptomatic of the larger problem of unhappy trees with dysfunctional roots.

Trees have a limited ability to adapt to adverse growing conditions. Those living in adverse conditions are subject to a decline spiral, succumbing to short term "problems" that healthy trees growing in good environments can readily withstand. If we select, plant, and manage trees with the intention that they not only survive but thrive, many tree problems are preventable, resulting in longer lived trees.

Check out Cornell's Woody Plant Database to search for trees and shrubs suited to specific conditions: http://woodyplants.cals.cornell.edu/home .