

## Homeowner vs. Tree: Household Risk Dashboard

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*Does it make a difference if a tree falls, and the risk dashboard doesn't change?*

Inspired by a true story in Topeka, Kansas.

A stone house on a one-acre wooded lot has a dozen trees in the front yard, two tree-service-only trees, nine homeowner-maintenance trees, and one right on that border. The borderline tree has a 20-inch diameter trunk that is merely six feet from the only road into or out of an entire neighborhood behind a "Dead End" sign with nine houses further away toward the end of the road. The tree stands three feet from the driveway. While already too close to road and driveway, it also has a large branch sticking out at a 50-degree angle toward the road. It is an objectively ugly tree, the first tree someone sees when they are driving by the house.

One visitor mentions the tree should be removed so they can pull their car out of the driveway during a party as the tree constrains against driving on the lawn, perhaps it's one slightly positive quality. Full removal is \$2,000 if a tree service can be scheduled as they are frequently busy with downed-tree emergencies that take priority.

Homeowner is an actuary working as an Enterprise Risk Management director during the day and simultaneously managing all the risks in the household. The risk dashboard at work has around 36 risks with stoplight colors. The household is similar to a miniature corporation with a less complicated risk dashboard that has 4-8 risks on it at any given time. The risk dashboard for the exterior/wooded lot/lawn starts as "**Green**".

Homeowner briefly awakens one night to a loud crack at around 3:00am and goes back to sleep. Awakening at the normal time before work, looking out the front window he sees the large leaning branch fallen across the road, blocking it entirely. The risk dashboard changes to "**Red**".

A neighbor pulls up with a truck and a chainsaw to help clear the road. Homeowner rushes out to survey the situation and assist in clearing the road. The large branch is chopped into pieces small enough to drag off the road. The road is cleared 30 minutes later just in time for the school bus to drive through. The bus driver explains if the road isn't clear, he must reverse all the way back to the intersection past the "Dead End" sign that is more than a quarter mile away. He normally uses a turnaround several houses further toward the end of the road. Branches are strewn on the front yard including on the next-door neighbor's yard. The risk dashboard changes to "**Yellow/Red**".

Homeowner goes to work slightly late and, within two days, pulls branches off the neighbor's property. A lot of branches in the yard that can't stay that way for long during mowing season. The risk dashboard changes to "**Yellow**".

The plan is to use a part of the concrete driveway not needed for vehicles to pile up branches and grind them up into the trash bin emptied weekly. While this will take time and effort, there is no incremental cost, and it is good physical exercise for someone normally at a desk all day. Filling a bin to 90%+ (with a little room for regular trash) takes a variable amount of time each week, generally 60-90 minutes total. This is not just throwing a few branches in that are just shorter than the bin like people do when they have a few branches for disposal. This is packing a lot more into the bin each week. Theoretically, the wood debris should go through a woodchipper and turn into chips and mulch. The neighbor who helped with the initial clearing takes some of the larger diameter chunks to heat their house.

Over several weeks the tree debris is off the front yard and in a pile on the driveway with enough room to work on it. Given more weeks the driveway would be clear. The risk dashboard changes to **“Green/Yellow”**.

The remaining standing part has a large hole in it where the large branch broke away from the trunk. It is even uglier now with the black mark of the rot that caused the break and broken-out pieces at the bottom where the branch broke away from the trunk directly facing the road. House curb appeal is drastically reduced compared to when the full tree was standing. The tree will eventually die and potentially fall onto the road. Given the recent random event, this could easily happen in the dead of winter or in stormy conditions and require immediate action. It is hard enough dealing with this in late spring/early summer good weather, much worse in bad weather. Many would call a tree service instead at this point.

Homeowner acquires an electric chainsaw for \$75 and starts planning to cut down the remaining tree. Several approaches might work. For safety reasons, homeowner doesn't want to use a chainsaw while standing on a ladder potentially lopping off branches until a tall stump is all that remains. Being left-handed when all power tools are designed for right-handed people, not being chainsaw proficient, too much balancing involved and no one else in the house at that time are all factors in safety decisions. The cautionary tale of another actuary who tried a project and almost lost their leg in an auger accident is ringing as “Safety first, no cost savings is worth any injury”. Consequently, the decision is to only use the chainsaw when both feet are firmly on the ground, knowing personal limitations. Homeowner wears safety glasses when chain sawing and doesn't wear rings during any manual labor with or without gloves given the preventable 150,000 annual ring-related medical incidents in the US.

With all the notching and cutting into the tree according to proper technique, the tree is to drop alongside the driveway toward the garage where it is easily cut into pieces and be reduced each week by what fits into a trash bin. Early morning Sunday is scheduled when there is good weather and moderate temperature. With no experience felling trees and no rope pulling the top in the desired direction, gravity pulls the tree 180 degrees opposite the desired direction straight across the road. This is at least three times the volume from previously when the large branch fell. The risk dashboard changes to **“Red”**.

This is the lowest point even though this risk has been partially mitigated by picking a low traffic time just in case the tree fell the wrong direction. Homeowner cuts the tree into pieces small enough to drag off the road onto the yard. Two vehicles approach during this time where people want to drive out and there quickly is just enough room to move the electric cord and chainsaw to let the vehicles drive on the yard around the downed tree. By the time either of the two vehicles return the road is clear enough for them to drive through. It takes one hour to clear one lane of the two-lane road and four hours to clear the road entirely. The risk dashboard changes to **“Yellow”**.

Months pass of grinding tree branches into trash bins week by week in all seasons including winter when there are slightly warmer days than usual. Eventually all the remaining branches are on the concrete driveway and the remaining pile is small and declining each week. The risk dashboard changes to **“Green/Yellow”**.

The tree stump can't be left in place for house curb appeal and for everyone eventually forgetting a tree was ever where a tree shouldn't have been. Hiring someone would cost \$200 to grind the stump. A tool rental place is nearby and one of the homeowner vehicles has a tow package capable of pulling a trailer loaded with a rented stump grinder. Most hired commercial grinding would be merely 3-4 inches below ground level when 8-10 inches below ground level better allows planting or grass growing over that area. Another tree stump in the back yard from an earlier homeowner-maintenance tree removal also needs ground. For \$105 and several hours of work both stumps are ground with the front yard one last. Stump-

grinding with what these places will rent out is quite manual and is much more physically jarring than it appears on how to videos. Eventually the driveway is cleared of tree debris. For the first time in two years, the risk dashboard for exterior/wooded lot/lawn changes to **"Green"**.

Homeowner has taken care of what would have cost \$2,000 from the start if it were possible to schedule a tree service for \$180 in tools and tool rental and a huge amount of sweat equity. The house curb appeal is enhanced as a patch of grass now is visible where the ugly tree once stood. Because that tree is gone other trees in the front yard are easier to see, enhancing the view. The removed tree can never fall on the road making the road permanently safer.

Of course, a household risk dashboard is fictional. While there is always an internal dialog between the parts of a person just wanting to live in a place compared to someone managing the risks in the same place, there is no formal published household risk dashboard that is periodically updated. The total time from start to end is two years, when initially the homeowner thought he could "disappear the entire tree" after the first branch broke before the rest of the family returned from visiting another country about 12 weeks later. Totally unrealistic from the start. During this time other issues came up for maintaining various parts of the home interior and exterior, maintaining and adding vehicles, and other location related issues.

The main risk what-ifs are the elementals fire, wind, water, and earth. What if a wildfire came through the neighborhood that is in a Wildland-Urban Interface, could everyone evacuate in vehicles or would burning trees be too close to the road (houses would all be gone, no one in the neighborhood has full "defensible space"). What if a tornado came through damaging or destroying houses and downing a bunch of trees blocking the one road. What if the nearby creek flooded out of its banks, which had happened previously. Earthquake is not much of a risk in this area.

At the beginning the question was does it make a difference if a tree falls, and the risk dashboard doesn't change? The correct answer is it always makes a difference if a tree falls. It may not always change a risk dashboard if the tree falling doesn't fall on a road or trail/footpath, structure, fence or wall, vehicle, watercourse, into overhead lines, or make maintenance tasks more difficult. Not here, though in many places a fallen or dead tree is required to be replaced by planting another tree of one of several approved species, possibly in the exact same location, possibly within a very limited timeframe.