

Technical Standards Recommendations

The Technical Standards Working Group was called to action for two primary reasons: 1) provide guidance for landowners on what trees to plant within the roadside forest of the future; and 2) highlight tree care standards designed to enhance public safety while preserving the ecological and societal benefits that trees provide. Before delving into other recommendations, it is important to envision how we want to manage the roadside forest, and what we would like the future roadside forest to look like.

The Future Roadside Forest

The damage to utility infrastructure caused by roadside trees during the severe storms of 2011 highlighted the benign neglect of our roadside forest and the need to envision what the future roadside forest should be in Connecticut. By the future we mean a long-term time frame – one that represents the span of a tree’s lifetime – sixty to eighty years. This future state is one that we will work toward over the coming decades to reach the goal of roadsides that are beautiful, functional, safe and wildlife-friendly.

We are beginning to recognize that just as we design and manage our roads - we also need to design and manage our roadside forest. Arboricultural research has increased our understanding of structural problems of individual trees and assessing their risk. We now recognize that the roadside forest is an integral part of our infrastructure and there is a need to allocate sufficient resources to balance the roadside forest’s ecological values with societal needs of minimally interrupted power, communication, and vehicular access.

While Connecticut’s residents are asking for a roadside forest compatible with our built infrastructure (e.g., roads, utility poles and wires), the roadside forest must still perform its core environmental and scenic functions. These basic roadside functions were laid out early in The Connecticut Arboretum in Bulletin #11 published in 1959:

1. Adequate visibility for motorists, which necessitates removal of certain woody growth along the roadsides, especially at intersections and the insides of curves.
2. Adequate space for pedestrians and areas where motorists can safely pull off of the travelled pavement.
3. The eradication of plants specifically known to be undesirable in regard to human health and maintenance procedures. Today we would also include invasive, non-native plants in this group.
4. A roadside attractive to motorists, whether on vacation or commuting to and from work.
5. The accomplishment of the foregoing objectives at a minimum cost, figured on a long-range basis.

The Task Force is adding three more needs to this list:

6. A storm-resistant roadside forest managed to minimize the likelihood of infrastructure failures and other forms of storm damage to the greatest extent possible.
7. The roadside forest must also continue to play its role of providing ecosystem services such as reducing storm water runoff into adjacent riparian zones.
8. A good statewide biomass management plan to guide both roadside wood removal work and creative wood product use.

Who Must Be Involved?

The successful future of the roadside forest will require a wide spectrum of participants (state and municipal government, utilities, private owners, businesses) along with a cultural shift toward understanding the complexities of roadside forests. Although there will be variations from community to community, the following are some preconditions for the successful management of our future roadside forests:

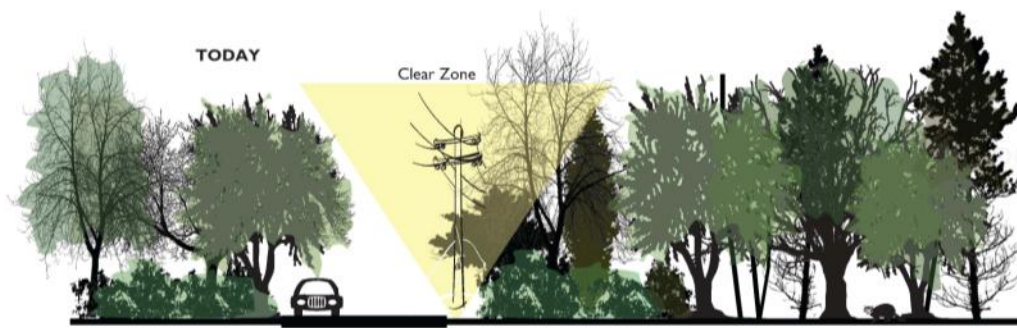
- State agencies, municipalities, homeowners, utility companies, and environmental groups must work together to design and maintain a roadside forest with diverse species that is appropriate for the Connecticut's wide mosaic of urban to rural landscapes, while supporting a range of scenic and ecological values, and infrastructure protection.
- Roadside forest management must be designed to be as economical and sustainable as possible by encouraging site-appropriate vegetation.
- Roadside forest maintenance must be done within the context of "Right Tree, Right Place" and include pruning and invasive control along with planting. Long-term, a multi-pronged program will result in a roadside forest that is healthier, more resistant to storm damage (i.e., less likely to impact utility infrastructure), and retains the scenic appeal of our Connecticut roads.
- Roadside forest management must be partnered with education and outreach for Connecticut residents to enhance the understanding of roadside forest values so that trees on private property adjacent to roads will also be managed to protect our shared infrastructure.
- Roadside forest management provides jobs that are necessary and vital, and that should be filled by skilled professionals.

What Should Our Roadside Forest Look Like?

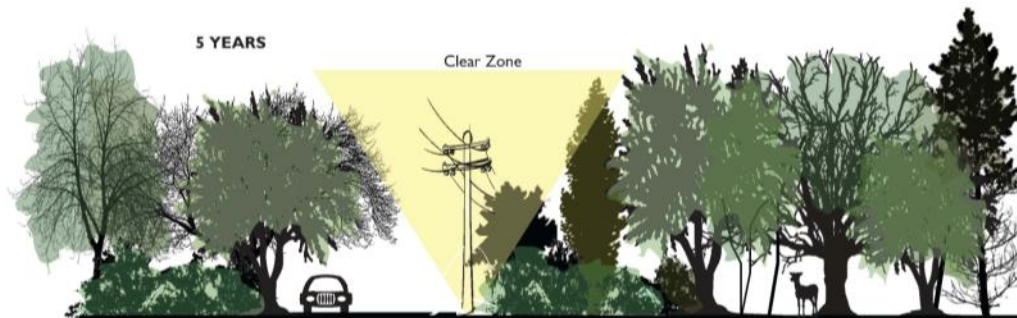
The future roadside forest must include diverse vegetation types and heights that range from stately trees to managed herbaceous plants and low shrubs. These roadsides will be designed and maintained to achieve as many of the aforementioned local, regional, and state objectives as possible.

If we are to manage the roadside forest to both meet our aesthetic goals and reduce future storm impacts, it is important to have some ideas of what it could look like [see Figures 1 and 2 on the following pages]. The following are two graphic depictions of the rural roadside forest where there is a gradual conversion to a “storm resistant” forest of large trees that are wider rather than tall, interspersed with small statured native trees and shrubs. These figures are meant to be examples rather than prescriptive. Visions like this one should be developed at the community-level and will vary widely based upon local preferences, history, specific site characteristics, and community goals.

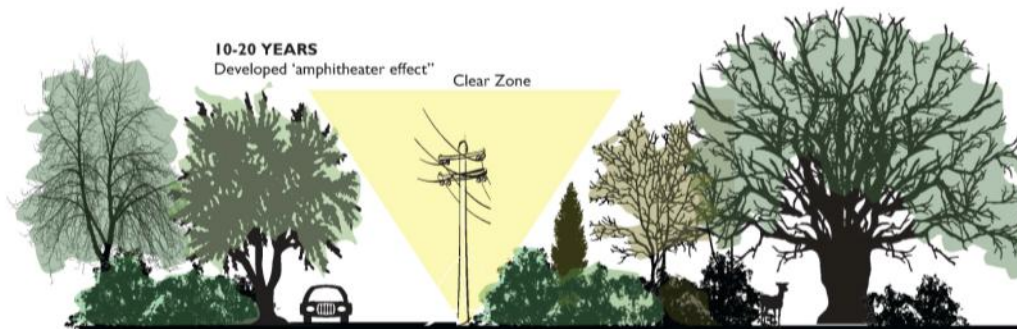
Figure 1. One vision for the suburban/rural roadside forest



A typical road surrounded by forested land—the branches overarch the roadway and interfere with existing utility lines. Trees are crowded and growing together with narrow silhouettes and small root balls—creating unstable trees along the road opening.



That same road with selective clearing around utility lines and overhanging trees. Understory trees and shrubs are permitted to flourish. Trees that have expanded into the Clear Zone are either trimmed or removed/replanted.

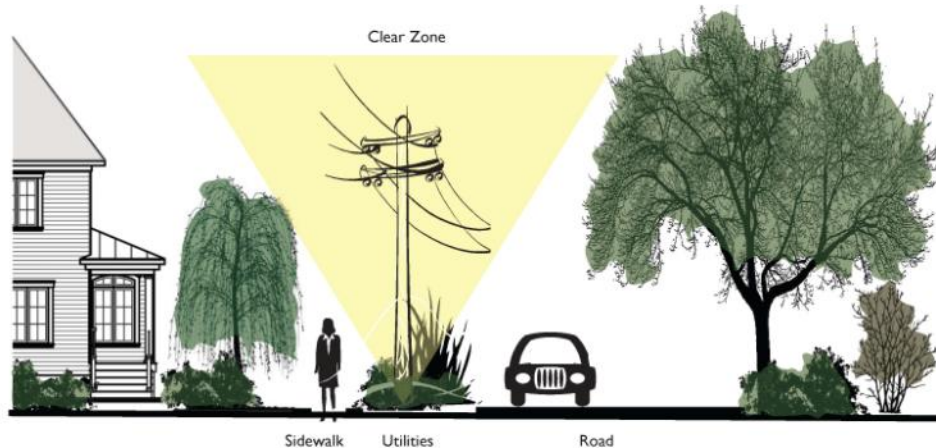


Further selective clearing over time allows large well rooted and larger canopy trees to develop. A hierarchy of shrubs, understory trees and shade trees are permitted to grow surrounding the roadway maintaining an aesthetic and attractive area surrounding the road without posing any threat to property, or services.

THE PROGRESSIVE DEVELOPMENT OF THE FUTURE ROADSIDE FOREST OVER TIME

An illustration of a thin slice of a sample suburban/rural road

Figure 2. One vision for the future suburban/rural roadside forest



A hierarchy of shrubs, understory trees and shade trees are permitted to grow surrounding the roadway maintaining an aesthetic and attractive area surrounding the road without posing any threat to property, or services. The heights of the various plant material create an 'amphitheater effect' surrounding the road and support a human-scale landscape.

THE FUTURE RESIDENTIAL ROADSIDE FOREST

An illustration of a thin slice of a residential road

As Connecticut moves beyond the “Two Storms,” we have two visions of the future – one where it’s simply “business as usual,” and one where we proactively manage our roadside forests. We carry a shared risk with shared responsibility to make our roadside forests a valued, shared resource. The Task Force has made “Right Tree, Right Place” recommendations for appropriate plantings for our future roadside forests (especially in close proximity to utility infrastructure). It will be up to the many parties involved to invest in and maintain an aesthetic and safe future roadside forest for the citizens of Connecticut.

As citizens, we do have a choice. We can continue to manage our roadside forests with the current minimal standards and we can expect that expenses (including damage and resultant loss of power, communications, and road access) will be concentrated after extreme storm events. Or, we can chose to actively manage the roadside forests by spreading maintenance expenses over multiple years and by making that choice, we can expect to minimize damage and loss of emergency services during future storm events.