

Mature forest



Many of Vermont's roads travel through developed forests of multiage trees, understory saplings and shrubs, herbaceous cover, and water features.

Preserving trees, shrubs, or other herbaceous vegetation can reduce soil erosion, demarcate the edge of the road, create visual interest and beauty, and provide privacy for homeowners. In particular, preserved [tree canopy](#)¹ helps intercept rainfall that would otherwise damage road surfaces, provides shade that reduces road dust on hot days, promotes infiltration of rainwater into the soil, and reduces pollutants in stormwater.

Identifying where trees and herbaceous cover should be preserved helps us:

- plan to protect trees during future road construction events, particularly near steep slopes or water bodies.
- reduce disturbance of roadside soil, preserve topsoil, and maintain stable forested environments where tree removals are not needed.
- balance the need to remove trees in some areas with the ability to preserve trees and forests in other roadside locations.
- identify opportunities to promote regeneration of vegetation through reduced mowing width, selective tree removal, or other forestry practices that encourage tree growth.



Softwood trees grow vertically on a roadside slope.

Recommendations

In developed forests with an established understory, **avoid cutting trees that do not pose a risk to travelers.** Note where roadside vegetation, including mature trees, is stabilizing steep slopes. If only the branches of a tree are blocking or obscuring road use, consider pruning instead of whole tree removal.

Have a forester evaluate whether a tree lean occurred recently (and may pose a risk of falling) or if it occurred many years ago and has been self-corrected. Remember that hardwood trees are *phototropic* and can lean naturally to grow toward the light. Softwood trees are *geotropic* and grow straight up, leaning only when tilted at ground level.



ABOVE LEFT *Roadside ditch construction created a bare backslope prone to erosion. Road crews can consider reducing the angle of the backslope, hydroseeding the bare soil, or planting live stakes in the backslope to reduce soil erosion. Outsloping the road so that runoff flows into vegetation downhill will also reduce the need for ditching on the upslope side and help preserve trees.*

ABOVE CENTER *A thin strip of right-of-way vegetation separates this road from a pond, filtering stormwater runoff and delineating the edge of the road. Preserving these trees may ensure bank stabilization.*

ABOVE RIGHT *A sunken roadbed and soil berm prevent stormwater sheet flow runoff. Towns can construct stone turnouts to direct stormwater off the road surface, establish herbaceous vegetation along bare slopes, or raise the roadbed to direct surface water runoff as sheet flow.*



Preserve herbaceous buffer along roads in heavily forested areas. Do not increase the width of the cleared zone without specific reason. Consider hydroseeding or planting [live stakes](#)² on bare soil that borders ditches.

Consider **raising the road surface of inverted roads** (sometimes called “dugways”) where stormwater runoff is blocked by a bare berm or slope that cannot be removed. Roads level with surrounding forest allow for sheet flow of stormwater off the road, reducing the risk of road erosion and slowing road runoff.

Review the best practices of road maintenance through wet areas as outlined in the *Vermont Better Roads Manual*, particularly where [bank stabilization](#)³ is needed between the base of a slope and a wet area.

Retain buffer zones⁴ **between roads and sensitive areas** such as streams, wetlands, and lakes. The [Vermont Rivers Program](#)⁵ recommends a 50-foot-wide buffer of native woody vegetation surrounding streams.

Identify places where a landowner may be open to planting or promoting more vegetation on private land adjacent to the right-of-way. Consult with Vermont Urban & Community Forestry staff for examples of public-private collaboration for roadside planting.

Resources

1. Vermont Urban & Community Forestry, *Trees and Stormwater*, bit.ly/VTUCF_TreesAndStormwater.
2. Vermont Agency of Transportation, *Vermont Better Roads Manual* (January 2019), p. 41, bit.ly/VT_BetterRoadsManual.
- 3 & 4. Ibid, p. 36 and p. 45.
5. “River Corridor Protection,” Vermont Department of Environmental Conservation, bit.ly/VT_RiverCorridors.