Tree health and mechanical damage

Yearly visual examination of the health of overstory trees in the right-of-way is an efficient and low-tech field method to help towns form their roadside forest management priorities.

Trees may decline because of their age, surrounding soil conditions, disease, or pests. However, some roadside trees decline because of repeated damage from strikes by mowers and plows or from acute damage inflicted during ditching, a vehicle collision, or branch clearing with a raised flail mower. Trees in fair or poor condition, particularly those with cankers or damage to the trunk or limbs, may be particularly susceptible to breaking or falling.

Identifying locations that exhibit declining tree health and notable mechanical damage helps us:

- describe sample locations where roadside forest management can be proactive, promoting healthy canopy trees and reducing possible risk posed by dead or dying trees.

- identify locations where road-tree conflicts exist, then determine if road crews should use narrower or alternate road maintenance equipment, or if a tree should be removed.

- identify where trees may be in decline due to environmental stressors such as compacted soil or fungal pathogens, allowing towns to prioritize replanting, interplanting, or forest regeneration.

- determine if future road construction sites should also involve roadside forest management.

Repeated impacts from vehicles or machinery have damaged this roadside tree.

ABOVE *Although standing dead trunks create wildlife habitat, they also pose risk for road users. Trees removed from the right-of-way should be cut to less than four inches in height to eliminate damage to vehicles pulled off the road.*

CENTER *Damaged mature trees line a sunken roadbed that prevents stormwater sheet flow runoff. Reduce mowing beneath mature trees, plant shade-tolerant wildflowers or grasses, plant seedlings between mature trees to establish the next generation of roadside canopy, construct stone turnouts to direct water away from the road, or raise the roadbed to allow for sheet flow to either side of the road.*

FAR RIGHT *A canker weakens a roadside tree, creating risk for road users, particularly if the tree is hit by a vehicle or road machinery.*

Recommendations

Assess the overstory health of trees in the right-of-way using a reference guide such as "Tree Characteristics" in *The Vermont Tree Inventory Guide*.[1] Consider doing this in concert with the yearly evaluation of historic tree health with the tree warden and road foreman (page 1).

Note roads where the road foreman expresses concern about using the plow or grader and locations where trees are wounded. Work with the tree warden, conservation commission, and neighboring landowners to address tree preservation or removal at these locations.

Where roadside trees border lakes and ponds, consult the *Municipal Roads General Permit: A Guide for Lakeshore Roads*[2] to understand best practices for managing vegetation along lakeshores and important exemptions to certain conditions outlined in the Municipal Roads General Permit.

Where road-tree conflicts occur on steep banks, review the "Bank Stabilization" section in the *Vermont Better Roads Manual*.[3]

Resources

1. Vermont Urban & Community Forestry, *The Vermont Tree Inventory Guide* (2014), p. 16–18, **bit.ly/VTUCF_TreeInventoryGuide**.

2. Lake Wise Program, Vermont Department of Environmental Conservation, *Municipal Roads General Permit (MRGP): A Guide for Lakeshore Roads*, **bit.ly/ MRGP_LakeshoreRoads**.

3. Vermont Agency of Transportation, *Vermont Better Roads Manual* (January 2019), p. 36–45, **bit.ly/VT_BetterRoadsManual**.