

Roadside Vegetation and Reforestation Program Research Summary

While there are guidelines and policies for roadside revegetation from state and national DOTs, there do not appear to be other instances of MPO level or regional policies or guidelines. Below is a summary of many of existing policies and guidelines that the research effort found:

- Alabama - The proper management of plant succession can be one of the most enduring assets of land use, whether it is for roadside development, forest, parkland, or wildlife refuge. Plant succession as a continuing natural process is an important part of ALDOT's vegetation management program. Selective spraying to encourage natural regeneration and succession outside designated mowing limits creates climax shrubs and groundcover communities (ALDOT 2018).
- Florida - The T-2 area lies at the outside boundary of the ROW. Except under unique field conditions, T-2 maintenance areas are normally not mowed. This encourages the regeneration of natural growth and allows the areas outside the established mowing limits to return to their native state (Ferrell et al. 2012). Figure 6. Managed succession in urban context (Courtesy TxDOT and WSDOT).¹ 20
- Illinois - ILDOT will only mow 15 feet of right of way beyond the edge of the roadway. Exceptions will be made in certain areas to preserve sightlines for motorists and to prevent the spread of invasive plant species (ILDOT 2017).
- Indiana – Mowing is limited to clear zone only. By limiting mowing to only the clear zone areas, native vegetation and wildflowers can thrive, providing food source and habitat for bees, butterflies, and other pollinators (INDOT 2018).
- Maryland - The Maryland Reforestation Law stipulates minimum sizes for Reforestation Areas, minimum species diversity and planting density, but provides limited direction on the design of Reforestation Areas. The State Highway Administration (SHA) Reforestation Areas exceed the minimum requirements of the law to achieve increased survivability, reduce maintenance needs, provide screening and obtain wildlife and aesthetic benefits. Reforestation and Revegetation Areas are designed to recreate and provide the benefits of natural forest with little maintenance. Reforestation and Revegetation Areas are not usually mowed after the Establishment Phase is completed. However, mowing before installation and during the Establishment Phase promotes the growth of trees and shrubs (SHA 2016).
- Ohio – The Ohio DOT divides the roadside into four zones. Zone 4 adjacent to the outside ROW boundary is designated as undisturbed. The Zone 4 vegetation management can be dictated by surrounding property, such as farmland or wood lots. Zone 4 is managed to ensure that the vegetation present is not detrimental to neighboring land use (OHDOT 2012).
- Oregon - Non-Mow Areas – These are areas not regularly maintained but may need infrequent spot spraying to prevent establishment and spreading of noxious weeds. The intent is to increase the forest canopy by supplemental plantings of trees and/or by managing the environment to allow the natural succession of desirable trees, thereby allowing this landscape to mature as a relatively “wild” landscape (ORDOT 2018).

- Pennsylvania - The objective is to manage roadside vegetation successional development to provide safety, utility, economy, and beauty to the roadside area. Utility includes stabilizing roadside soils, preventing erosion, and growing and encouraging desirable vegetation in place of undesirable vegetation. PennDOT uses an IVMP approach that includes biological/cultural, chemical, and mechanical/ manual methods of control (PADOT 2016).
- Washington - Two basic restoration approaches are used: managed succession and accelerated climax community development. They are based on the principles of plant succession in natural ecosystems. The decision on which approach to use depends on permitting requirements, project goals, and roadside functional objectives. Retaining and restoring large masses of native trees is desirable to intercept rainfall, provide canopy cover to compete against weeds, and minimize mowing and the need for herbicides. Only the roadway edges are mowed to provide operational functions (WSDOT 2015, WSDOT 2003).
- Wisconsin - In 2009, routine maintenance work priorities were further redefined in response to budgetary constraints. Consistent with the natural roadsides philosophy, the mowing policy was curtailed to safety locations such as vision corners when needed and roadside shoulder cuts to once a season. The "natural roadside" is any area outside the "clear zone." The natural roadside allows for vegetation to establish based on natural selection, typically this includes native or low maintenance vegetation (WIDOT 2019).

This research effort also identified several positive benefits of strong roadside vegetation and reforestation efforts including:

- Economic
 - Increased property values (Baldauf, 2017; Dixon and Wolf, 2007)
 - More extensive greening was associated with positive consumer inferences and higher price points (Dixon and Wolf, 2007)
- Safety
 - Trees cut wind and cross-glare and provide relief from the sun for drivers (Dixon and Wolf, 2007; Storey et al., 2020)
- Health/Environmental
 - Reduction in pollutants (Baldauf, 2017; Deshmukh et al., 2019; Dixon and Wolf, 2007; Jones et al., 2007)
 - Improved mental health (Baldauf, 2017; Dixon and Wolf, 2007)
 - Reduction in the rate and magnitude of stormwater runoff (Dixon and Wolf, 2007; Jones et al., 2007; Storey et al., 2020)
 - Shade from vegetation canopies helps reduce temperatures (Dixon and Wolf, 2007; Storey et al., 2020)

NCDOT as well as FHWA and USDOT have guidelines for what revegetation measures are appropriate in any given scenario (FHWA and US DOT, 2007; NC DOT, 2016). Using tree planting or a managed succession as a default option might help us to meet our goals.

Source Documents

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- Storey, Beverly J, et al., 2020. National Cooperative Highway Research Program, *Comparison of Cost, Safety, and Environmental Benefits of Routine Mowing and Managed Succession of Roadside Vegetation*.