

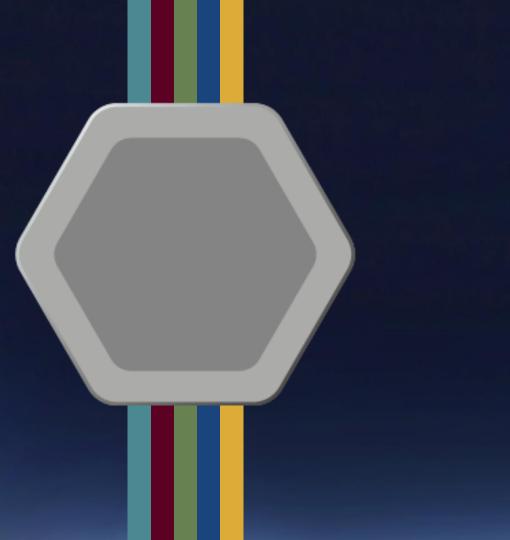
## Interactive Decision Support Tools for Roadside Vegetation Control Products from NCHRP Projects

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Monday, January 13, 2020

# Overview

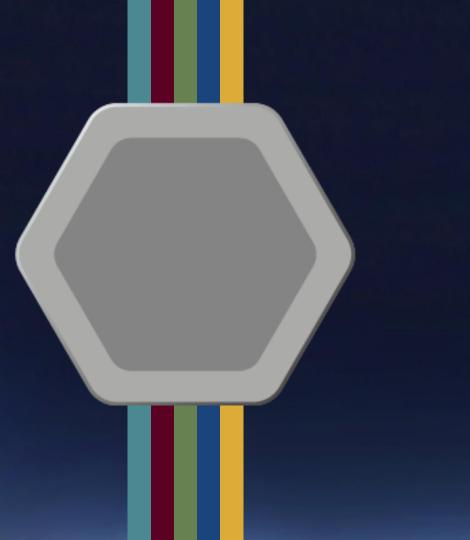




Synopsis

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- Control of vegetation along roadsides is required for fire prevention, aesthetics, and protection of roadside safety treatments.
- There are several ways of vegetation control: 1) managed succession, 2) routine mowing, and 3) permanent vegetation control.
- NCHRP manages two ongoing research projects:
  - NCHRP 14-40: Transforming Roadside Management and Technology Practices for the Benefit of Safety, Ecology, and Economy
    - Principal Investigator: Beverly Storey (TTI)
  - NCHRP 14-41: Permanent Vegetation Control Treatments for Roadsides
    - Principal Investigator: Jett McFalls (TTI)
- Both projects have developed protypes of Interactive Tools.



# NCHRP Projects

# NCHRP 14-40: Transforming Roadside Management and Technology Practices for the Benefit of Safety, Ecology, and Economy

### **Objectives**

To identify and quantify the cost, safety, and environmental impacts of routine mowing compared with managed succession of vegetation for areas outside the clear zone and develop guidelines for recommended roadside vegetation management practices.

# NCHRP 14-41: Permanent Vegetation Control Treatments for Roadsides

### **Objectives**

To produce up-to-date guidance for transportation agencies for selecting appropriate permanent vegetation controls that will be effective in preventing or significantly retarding the growth of unwanted vegetation around roadside appurtenances and along roadsides.



# Comparison of Cost, Safety, and Environmental Benefits of Routine Mowing and Managed Succession of Roadside Vegetation

NCHRP Project No. 14-40

Interactive Tool (Beta Version)

by you evaluate the cost, safety, and environmental impacts of routine mowing succession of vegetation for areas outside the clear zone.

A comprehensive list of references is provided here

Interactive Tool: http://subasish.github.io/pages/NCHRP14 40v4/

#### Roadside Management Tool

	General	Instructions
	Project Ir	nformation
Project Name		Current Approach
Analyst Name		Site Location
Analyst Email		Project Start Date
	Project [	Description

### Selection Criteria For Managed Succession

Is there enough ROW width beyond safety clear zone to eliminate   ○ Yes ○ No	one full mow pass (minimum 15')?			
Is there enough median width beyond safety clear zone to eliminate one full mow pass (minimum 15')?  Yes  No				
- 100 - 110	Will larger/ta			
Will taller vegetation create sight distance issues?	Will larger/taller vegetation interiere with show and ice management?  ○ Yes ● No			
○ Yes ○ No	Will larger/taller vegetation create a greater risk for wildfire within ROW and beyond?  ● Yes ○ No			
Does you site have mower damage on slope?	Can larger/taller vegetation in median provide a barrier for headlight glare?  ● Yes ○ No			
○ Yes ○ No	Recommendation for Managed Succession			
Does your site have drainage structures that may be impeded by p	proximity to larger vegetation?			



#### **Control Treatment Selection Tool**

General Introduction

Tool Instructions



Interactive Tool: http://subasish.github.io/pages/NCHRP14 41v5/

#### Example 1



Sentiar to mitrar concrete treatment. This measure in also applicable at the mediane, gots areas and applicable. This presented can be colored up palement during materials. One of the few disactes tages of this treatment is its high materials on case.

CONTRACTOR PROPERTY.



#### Minor Concrete

Move constraint is seen of the manifests design heathers in his required from control. It is greened to stacked before construction of guardesis and beautiers in the part part area. For state the designed seet installed at sole shapes and stay pasts. Move controls is available on variety of states or makel the control and and seet be startinged with plants for holders.

In the graph their creates, there are fee have contiliant to be checked. These are sering them to be truthed at Schep compression shought for the stock and the thirdness should be in believed 2 inches to 5°0 entries. These mout his a thicknowled manipular resident create and treatments, of around 1% inches to 3 technical

Date we severe benefit and retitation attached in the bedrent, it can be settly installed voly partner expensive and like open on its land. Finished behavior the construction of guarantials and bears between Landstone statefact to mean consiste bearing any formation of temporal works and guarantial system and it is may practicat to install as in existing question done to greatly and extraction.

And the second

#### Asphalt Composite

Applied composition in a regulation commit invalence inference applied amenders to grapped once instituted with Champians schedule. This matched elementaries wered possessation with the appliers. Once of the basis elementages of using the invalence of the performance trainer mixture products. It can be used in solutions where mixture concrete invalence is not feedfor.

This transment is atthewest to supplied, commonly, select and mobile. So provides active exclusion protection, a cost of d'Aube entainter and realest is explaind. Once of the major advantages in intelligence project costs. In addition to their, This bestiment case but enterprise and costally intelligent all accessing gaserbales, early inspected and actives internal select columns parised. The inellecture to the Inestitation to the accession of the inellectual of the inesting and the inellecture of the columns and the inestitation of the inestitation of the inellecture.



#### Example 2



#### Asphalt Concrete Pavement

Standard asphalt concrete.

Find out more



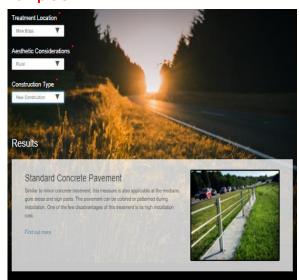
#### Recycled Asphalt Millings

Compacted recycled ashphalt from apshalt milling operations.

ind out more



#### Example 3



#### Minor Concrete

Minar concrete is one of the madiside design treatments for vegetation control. It is generally installed before construction of guardratis and beam barriers. Beyond the gore area, it can also be designed and installed at side slopes and sign posts. Minor concrete is available in variety of colors to match the color of sail and can be stamped with pattern for testure.

To design minor concrete, there are few base conditions to be checked. These are reinforcing fibers to be included, 28-day compressive strength to be tested and its thickness should be in between 2 inches to 3% inches. There must be a biodicult material installed under end treatments, of around 1% inches to 3 inches in thickness.

There are sowered benefits and initiations attached to this treatment. It can be easily installed with standard equipment and file cycle cost is less if installed before the currentuction of guardrates and beam barriers. Limitations attached to minor concrete breatment are formation of leave out section at guardrail system and it is not practical to install at an existing guardrail due to grading and excavation requirements.

First not more



# Questions?







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