



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

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# Overview



Synopsis

NCHRP  
Projects

Tools



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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 prototypes 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.



# Tools



# 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)

This tool will help you evaluate the cost, safety, and environmental impacts of routine mowing compared with managed 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/](http://subasish.github.io/pages/NCHRP14_40v4/)

# Roadside Management Tool

General Instructions

## Project Information

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 one full mow pass (minimum 15')?

☐ Yes ☐ No

Is there enough median width beyond safety clear zone to eliminate one full mow pass (minimum 15')?

☐ Yes ☐ No

Will taller vegetation create sight distance issues?

☐ Yes ☐ No

Does your site have mower damage on slope?

☐ Yes ☐ No

Does your site have drainage structures that may be impeded by proximity to larger vegetation?

☐ Yes ☐ No

The screenshot shows a web form titled "Managed Succession: Not Recommended" with a close button (X). The form contains several questions with radio button options:

- Will larger/taller vegetation interfere with snow and ice management?  
☐ Yes ☒ No
- Will larger/taller vegetation create a greater risk for wildfire within ROW and beyond?  
☒ Yes ☐ No
- Can larger/taller vegetation in median provide a barrier for headlight glare?  
☒ Yes ☐ No

At the bottom of the form is a green button labeled "Recommendation for Managed Succession".



# Permanent Vegetation Control Treatments for Roadsides

NCHRP Project No. 14-41

This tool will provide guidance for the selection of non-herbicide permanent vegetation control treatment for roadsides

Get Started

**Interactive Tool:** [http://subasish.github.io/pages/NCHRP14\\_41v5/](http://subasish.github.io/pages/NCHRP14_41v5/)

# Control Treatment Selection Tool

General Introduction

Tool Instructions

Treatment Location \*

Aesthetic Considerations \*

Construction Type \*

**Interactive Tool:** [http://subasish.github.io/pages/NCHRP14\\_41v5/](http://subasish.github.io/pages/NCHRP14_41v5/)



## Example 1

Treatment Location

Cable Barrier

Aesthetic Considerations

None

Construction Type

New Construction

Results

Standard Concrete Pavement

Similar to minor concrete treatment, this measure is also applicable at the medians, gore areas and sign posts. The pavement can be colored or patterned during installation. One of the few disadvantages of this treatment is its high installation cost.

[Find out more](#)



Minor Concrete

Minor concrete is one of the roadside design treatments for vegetation control. It is generally installed before construction of guardrails 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 soil and can be stamped with pattern for texture.

To design minor concrete, there are few basic 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 3½ inches. There must be a blockout material installed under end treatments, of around 1½ inches to 3 inches in thickness.

There are several benefits and limitations attached to this treatment. It can be easily installed with standard equipment and the cycle cost is less if installed before the construction of guardrails and beam barriers. Limitations attached to minor concrete treatment are formation of heave-out section at guardrail system and it is not practical to install at an existing guardrail due to grading and excavation requirements.

[Find out more](#)



Asphalt Composite

Asphalt composite is a vegetation control treatment wherein asphalt emulsion is sprayed and reinforced with fiberglass strands. This method eliminates weed penetration into the systems. One of the best advantages of using this treatment is its performance under existing guardrails. It can be used in situations where minor concrete treatment is not feasible.

This treatment is adherent to asphalt, concrete, wood and metal. To provide extra erosion protection, a coat of dilute emulsion and water is applied. One of the major advantages is low life cycle cost. In addition to that, this treatment can be simply and quickly installed at existing guardrails, easily repaired and allows minimal lane closure period. The limitation to this treatment is it cannot be installed at freezing climatic environment.

[Find out more](#)



## Example 2

Treatment Location

Cable Barrier

Aesthetic Considerations

Urban

Construction Type

Retrofit


Results

Asphalt Composite

Asphalt composite is a vegetation control treatment wherein asphalt emulsion is sprayed and reinforced with fiberglass strands. This method eliminates weed penetration into the systems. One of the best advantages of using this treatment is its performance under existing guardrails. It can be used in situations where minor concrete treatment is not feasible.

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[Find out more](#)



Asphalt Concrete Pavement

Standard asphalt concrete.


[Find out more](#)



Recycled Asphalt Millings

Compacted recycled asphalt from asphalt milling operations.

[Find out more](#)



## Example 3

Treatment Location

Minor Edge

Aesthetic Considerations

Rural

Construction Type


New Construction

Results

Standard Concrete Pavement

Similar to minor concrete treatment, this measure is also applicable at the medians, gore areas and sign posts. The pavement can be colored or patterned during installation. One of the few disadvantages of this treatment is its high installation cost.

[Find out more](#)




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[Find out more](#)





**Questions?**



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