

## State Planning and Research Program Quarterly Report

**PROJECT TITLE:** *Using Vegetation Management Practices Near Roads to Leverage the Benefits of Solar Radiation*

**OBJECTIVES:** Based on literature and field research, prepare a Vegetation Management Guide with recommendations regarding removal of roadside vegetation to benefit winter maintenance operations.

**PERIOD COVERED:** January 1 to March 31, 2025

**PARTICIPATING AGENCIES:** Minnesota Department of Transportation, Clear Roads Technical Advisory Committee, and Bolton & Menk.

**PROJECT MANAGER:**

Hafiz Munir / Tom Peters

**SP&R PROJECT NO:**

MnDOT Contract No.  
1054113

**PROJECT IS:**

Planning  
 Research & Development

**LEAD AGENCY:** MnDOT

Federal Project Number:  
TPF-5(479)

**PRINCIPAL INVESTIGATOR:**

Carolyn Dindorf, Bolton & Menk

**ANNUAL BUDGET:** \$123,085.93 (budget total)

**PROJECT EXPENDITURES TO DATE:** \$38,011.27

**WORK COMPLETED:**

- Task 1. Project Management, Meetings, and Reporting
  - Held subcommittee meeting to provide update on project progress and early results
  - Meetings with subcontractor (UMN)
  - Submitted quarterly report
- Task 3. Identify, Monitor, and Evaluate Vegetation Removal Sites
  - Continued monitoring at the 3 sites. Data collected includes solar radiation, pavement temperature, air temperature, dewpoint, relative humidity, photos. One station has an ultrasonic distance sensor which will provide depth of snow
  - Replaced cameras that quit working
  - Periodically checked that equipment was functioning correctly and downloaded data
  - Visited site for maintenance- battery charging, download photos
  - Collected albedo measurements at monitoring site
- Task 4. Create Vegetation Management Guide
  - Began work on draft outline for Vegetation Management Guide

**SUMMARY OF ACTIVITIES EXPECTED TO BE PERFORMED NEXT QUARTER:**

- Task 1. Project Management, Meetings, and Reporting
  - Complete quarterly report
  - Budget and schedule management
  - Coordination with UMN
  - Request amendment to move funds from equipment to other tasks.
- Task 3. Identify, Monitor, and Evaluate Vegetation Removal Sites
  - Remove monitoring equipment when the ground is thawed so posts can be removed.
  - Continue to collect data while equipment is deployed, we have had two snow/freezing rain events in April so far
  - Download RWIS station data for nearby station
  - Obtain winter maintenance records from Anoka County
  - Discussed additional data that would be helpful to collect- tree height at sites, canopy data, data from Anoka County on deicer use maintenance practices such as at what scale they adjust rates for shady areas and comparing rates for longer stretches of sunny areas nearby
  - Discuss analysis and coordinate division of work with UMN
  - Continue to accept survey responses of sites for desktop analysis
  - Continue to work on how survey responses will be used in the analysis
  - Reach out to those that responded to vegetation removal site survey and determine what data they are collecting that can be useful for the desktop analysis
- Task 4. Create Vegetation Management Guide
  - Continue work on draft outline for vegetation management guide
  - Review literature search sources for Guide content ideas
  - Begin drafting Guide (draft due 8/31/25)

**STATUS AND COMPLETION DATE:**

The expected completion date is no later than January 31, 2026.