

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: October 1 to December 31, 2024

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

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(353 or 479)

PRINCIPAL INVESTIGATOR:
Carolyn Dindorf, Bolton & Menk

ANNUAL BUDGET: \$37,868.71 FY2
estimated budget

PROJECT EXPENDITURES TO DATE: \$21,170.81 through
11/2/24.

TOTAL BUDGET: \$123,085.93

WORK COMPLETED:

- Task 1. Project Management, Meetings, and Reporting
 - Meetings with subcontractor (UMN), submitted quarterly report
- Task 2. Literature Search
 - Approved by TAC at the meeting.
- Task 3. Identify, Monitor, and Evaluate Vegetation Removal Sites
 - Finalized monitoring equipment needs and obtained equipment
 - Final testing of equipment at the University of MN, SAFL
 - Determined most accurate monitoring equipment set up
 - Finalized monitoring site locations and set up
 - Obtained right-of-way permits from Anoka County
 - Installed equipment on 3 sites, 2 shaded and one sunny
 - Began monitoring at the sites on 12/7/24. 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.
 - Confirmed that Anoka County will share AVL data for plow trucks
 - Set up system so Anoka County can view data collected

SUMMARY OF ACTIVITIES EXPECTED TO BE PERFORMED NEXT QUARTER:

- Task 1. Project Management, Meetings, and Reporting
 - Complete quarterly report
 - Budget and schedule management
 - TAC meeting to provide update
 - Coordination with UMN
- Task 2. Literature Search
 - This task has been completed
- Task 3. Identify, Monitor, and Evaluate Vegetation Removal Sites
 - Continue to collect monitoring data
 - Coordinate with Anoka County to get winter maintenance records
 - Periodically access data remotely and ensure equipment is operating
 - Visit site to check equipment, remove snow if needed, change batteries as needed, and download photos
 - Continue to accept survey responses of sites for desktop analysis
 - 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
 - Work on draft outline for vegetation management guide
 - Hope for some real winter weather to monitor!

STATUS AND COMPLETION DATE:

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