

## 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

**LEAD AGENCY:** MnDOT

**PRINCIPAL INVESTIGATOR:**

Carolyn Dindorf, Bolton & Menk

**SP&R PROJECT NO:**

MnDOT Contract No.

1054113

Federal Project Number:

TPF-5(353 or 479)

**PROJECT IS:**

       Planning

  X   Research & Development

**ANNUAL BUDGET:** \$37,868.71 FY2  
estimated budget

**TOTAL BUDGET:** \$123,085.93

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

**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.