



Wisconsin Department of Transportation

Policy and Safety First Research Programs

Request for Proposals
FFY 2025

Enhanced Light Crosswalk Illumination

Request for Proposals Timeline and Information

March 17, 2025	Issue Date of this Request for Proposal (RFP). This RFP has been posted at: http://wisdotresearch.wi.gov/rfps-and-proposals .
	Please read the Proposal Preparation Instructions as this document has been updated recently and contains important information, including tables and templates, necessary for writing a proposal for submission.
April 8, 2025 4:30 PM (CST)	Questions regarding this RFP are due by this date and time. Questions need to be submitted with the project name to research@dot.wi.gov . Questions submitted after this date and time will not be considered.
April 17, 2025 4:30 PM (CST)	Responses to Questions will be posted on the WisDOT Research and Library website at: http://wisdotresearch.wi.gov/rfps-and-proposals
May 4, 2025 4:30 PM (CST)	Proposals are due by this date and time. Proposals must be submitted in a PDF version to: research@dot.wi.gov . Proposals submitted after this date and time will not be considered. A confirmation email will be sent in response within 2 business days of the due date.
June, 2025	Award and Deny letters will be sent by email to all proposal submitters (only lead investigator will be notified)
	Project Budget and Schedule
\$125,000	Project Budget shall not exceed this amount. Matching funds will not be considered in the proposal evaluation process. Proposals which exceed this amount will be disqualified.
12 Months	Period of Performance / Duration of Project
August 1, 2025	Anticipated Start Date of Project
April 30, 2026	Researcher's Final Report Anticipated due date
July 31, 2026	Anticipated End Date of Project
	For more information regarding this RFP contact the WisDOT Research Program at: research@dot.wi.gov .

NOTICE: Submission of a proposal does not guarantee an award. The Wisconsin Department of Transportation (WisDOT) reserves the right to reject any and all proposals received; however, in the event WisDOT does award a project, such award will be based on uniform evaluation criteria.

**Wisconsin Department of Transportation
Policy and Safety First Research Programs
Request for Proposals**

Enhanced Light Crosswalk Illumination

Definitions

The following definitions are used throughout the Request for Proposal:

- POC - Project Oversight Committee, comprised of WisDOT and/or other representatives to oversee the research
- Proposer - a company, university, team, or individual submitting a proposal in response to this RFP
- Researcher - proposer awarded the contract
- WisDOT - Wisconsin Department of Transportation
- RFP – Request for Proposal
- R&L – WisDOT Research and Library research administration staff
- COP – Close-Out Presentation
- PI – Principal Investigator / lead researcher

I. Background and Problem Statement

In-roadway warning lights may suffer from winter conditions and snowplows. Flashing LED warning signs and Rectangular Rapid Flashing Beacons (RRFB) do not directly illuminate pedestrians or crosswalks but instead draw attention up and to the edge of the road, when the driver's attention should be focused on the crosswalk and the pedestrian.

This research is intended to show how illuminating pedestrians, bicyclists and crosswalk space when occupied with enhanced lighting can significantly improve visibility of the pedestrian and reduce driver reaction time.

II. Research Objectives

- a. Project will research the effectiveness of an enhanced light illuminated crosswalk and pedestrians as compared to existing lighting and warning practices.
- b. Determine optimal lighting patterns and equipment positions to improve visibility and focus attention on pedestrians and bicyclists.
- c. Describe optimal lighting specifications and range, ex. lumens/sq.ft., light spill beyond crosswalk, height and number of devices, light spectrum frequency.
- d. Propose design guidelines for crosswalks for WisDOT consideration.

III. Research Approach - Scope of Work/Work Plan/ Experimental Design

Task 1: Literature Review

Conduct a comprehensive literature review and assessment of current practices of crosswalks and pedestrian illumination standards, policies and best practices.

The Literature Review and brief synthesis will be submitted with a presentation to the POC.

Task 2: Design and build enhanced light systems to improve illumination of the crosswalk area and pedestrians and bicyclists in the crosswalk.

The design of enhanced light systems will be submitted to the POC.

Task 3: Test driver recognition of pedestrian/bicyclists, reaction time and detection distance of enhanced light system with/without streetlights, with/without RRFB in nighttime conditions at various distances. Consider crossing areas with different configurations and visual obstructions.

An interim report of the tests and results will be submitted to the POC.

Task 4: Demonstrate the recommended enhanced lighting systems.

Demonstrate the different lighting options in an enhanced light system will be submitted (e.g., written report and/or video demonstrations) to the Project Oversight Committee (POC).

Task 5: Determine frequency range, optimal lumens/sq.ft. level and positions of lights for driver experience and pedestrian experience.

A chart of the results will be submitted to the POC.

Task 6: Describe design guidelines for pedestrian crosswalks for WisDOT consideration.

An interim report will be submitted to the POC.

Task 7: Researcher Final Report

The research team will prepare and submit a Researcher Final Report three months before the project end date, including background, best practices, recommendations, and interpretation developed during the project.

Task 8: Close-Out Presentation

The research team will create and present a one-hour PowerPoint presentation that includes background, best practices, recommendations, and interpretations developed during the project.

Task 9: Approved Final Report

The researcher will address all questions and comments in a disposition document from the Researcher Final Report and COP and submit a publication-ready Approved Final Report due one month before the project's end date.

Please see the [Proposal Preparation Instructions](#) for more details regarding Final Reports and the Close-Out Presentation.

IV. Required Testing/Equipment/Materials (if required)

a. Required Testing

- i. Test driver recognition of pedestrian, reaction time and detection distance of enhanced light system with/without streetlights, with/without RRFB in nighttime conditions at various distances.
- ii. Test lighting system in at least two different crossing areas with different configurations and visual clutter (foreground and background).

b. Non-WisDOT Equipment and Materials

- i. Focusable enhanced light source with power (2).
- ii. Temporary mounting equipment.
- iii. Video camera, still camera.

V. Required Travel

a. Travel for Tasks and/or Field Work

- i. Travel to do field testing is required.

b. Meetings

- i. A kick-off meeting, periodic progress meetings, and a close-out presentation are required.
- ii. Meetings are anticipated to be virtual.
- iii. At the start of the project the POC Chair, lead PI and R&L will determine points in the project where discussions and decisions are needed. One hour long meetings will be set for the full POC, the researchers, and R&L staff at those times.
- iv. If there are gaps of more than 8 weeks between meetings, check-in meetings of 20-30 minutes will be scheduled for the POC Chair, lead PI and R&L staff.
- v. WisDOT welcomes a virtual Close-Out presentation; however, the researcher may present the results in person, paid by contract funds, if included in the project budget.

c. Conferences

- i. Conference attendance by the researcher is not required for this project.

- d. Notice: **WisDOT will NOT fund travel expenses apart from what is included in the research project proposal budget.**

VI. WisDOT Contribution

WisDOT will provide the following support through the Project Oversight Committee (POC) to support the successful completion of the project.

- a. Work will be conducted with project oversight by WisDOT staff.
- b. The research team may assume that WisDOT staff/POC members can contribute a maximum of 40 hours over the project's duration.
- c. The research team will not assume the availability of WisDOT staff or equipment in the proposal. If WisDOT or another entity donates equipment or staff time, a commitment letter must be included in the proposal.
- d. The POC will also coordinate access to WisDOT databases, if needed, as requested and approved.
- e. Please see the [Proposal Preparation Instructions](#) for more details.

VII. Traffic Control (if needed)

- a. **Traffic Control May Be Required for this Project**
- b. If fieldwork to conduct this research is anticipated on or around in-service facilities the researcher shall specify the nature and extent of traffic control needs. The researcher will make accommodations in their proposal budget for traffic control if it is needed.
- c. Notice: **WisDOT will NOT fund traffic control expenses apart from what is included in the research project proposal budget.**
- d. Please see the [Proposal Preparation Instructions](#) for additional information.

VIII. Research Results and Implementation Plan

WisDOT seeks to fund research with high implementation potential. Implementation potential will be tracked throughout the lifecycle of this research project and may include changes to expected implementation. The research plan must include specific statements describing anticipated research results and an assessment of implementation potential.

a. Research Results

- i. Proposals should detail the research results in terms of a specific deliverable, (i.e. a design/analysis tool, test methods, or change in performance thresholds and specifications) and their impact on current WisDOT practice (including cost savings, cost-benefit analysis, etc.).

b. Implementation Plan

- i. This section must also include an implementation plan to address the planned implementation type(s) indicated in the RFP. While the plan may change as the research progresses, at a minimum the proposal should indicate:
 1. The product expected from the research.
 2. The stakeholder or intended audience that will most likely be impacted by the research results.

3. Potential impediments to implementation.
4. Activities necessary for successful implementation.
5. Implementation deliverables
6. Measures of success
7. Data collection requirements

Please see the [Proposal Preparation Instructions](#) for specific directions related to completing this table.

Implementation Plan

Successful implementation of this research will be achieved through the development, at a minimum, of the following items:

Implementation Type	Description (Manuals, Data Sources, etc.)
<input checked="" type="checkbox"/> Develop a Model:	Develop parametric lighting model for crosswalk configurations.
<input checked="" type="checkbox"/> New Design Method or Guidance:	Describe design guidelines for pedestrian crosswalks for WisDOT to consider lighting parameters, applications, and operational considerations.
<input type="checkbox"/> New Product Implementation:	
<input type="checkbox"/> Recommend Future Studies:	
<input type="checkbox"/> Revise a Specification:	
<input checked="" type="checkbox"/> Inform Policy:	Recommend options to modify WisDOT crosswalk lighting policy.
<input checked="" type="checkbox"/> Other:	Recommend options to modify WisDOT crosswalk lighting specifications.

IX. Deliverables

a. Quarterly Progress Reports (QPRs)

b. Invoices

c. Interim Reports

- i. Literature Review and brief literature synthesis.
- ii. Design of an enhanced light system and recommendation of other light spectrums (if appropriate) from Task 2
- iii. Tests and results of drivers using enhanced light system in Task 3
- iv. A video demonstrating different lighting options from Task 4
- v. A chart of lighting options from Task 5
- vi. A report describing design guidelines from Task 6

d. Implementation Deliverables

- i. Design guidelines for crosswalk lighting: lighting parameters, applications, and operational considerations.

e. Researcher's Final Report

- i. Must be submitted three months before the contract end date to allow time to review and revise before the Close-Out Presentation.

f. Close Out Presentation (COP) for project

- i. The Principal Investigator presents to the POC a summary of the research project's results and recommendations two months before the contract end date.

g. Approved Final Report

- i. The Approved Final Report, addressing comments made on the Researcher's Final Report and during the COP, is due one month before the contract end date.

h. Research Data

- i. All research data will be identified and made available per the Data Management Plan.

X. Data Management Plan

The research team will include a Data Management Plan (DMP) documenting all field/laboratory data and analyses to ensure accessibility and transparency of research data as required by the USDOT per the Public Access Plan (<https://ntl.bts.gov/ntl/public-access/creating-data-management-plans-extramural-research>). See [Proposal Preparation Instructions](#) for details.

XI. Proprietary Information in Proposal

- a. Any restrictions on the use of data contained within a proposal must be clearly stated in the proposal itself. Proprietary information submitted in response to a request will be handled under applicable Wisconsin procurement regulations and the Wisconsin public records law. Proprietary restrictions usually are not accepted. However, when accepted, it is the proposer's responsibility to defend the determination in case of an appeal or litigation.
- b. Any material submitted in response to this request that the proposer considers confidential and proprietary information and which qualifies as a trade secret, as provided in s. 19.36(5), Wis. Stats., or material which can be kept confidential under the Wisconsin public records law, must be identified on a **Designation of Confidential and Proprietary Information form (DOA-3027)** (see attachment) Proposers may request the form if it is not part of the Request for Proposal package. Proposal prices cannot be held confidential.

XII. Public Records

- a. WisDOT intends to maintain an open and public process in the solicitation, submission, review, and approval of procurement activities. Notwithstanding the foregoing, records may not be available for public inspection before issuance of the award of the proposal.
- b. The proposer shall retain all records produced or collected under an awarded contract for five (5) years following final payment under the contract and allow access to such records in accordance with requirements established under 49 Code of Federal Regulations 18.42, subch. II of Chapter 19, Wis. Stats. and Chapter 16, Wis. Stats.

XIII. Evaluation Criteria (See [Proposal Preparation Instructions](#))

Attachment: **Designation of Confidential and Proprietary Information form (DOA-3027)**



DESIGNATION OF CONFIDENTIAL AND PROPRIETARY INFORMATION

The attached material submitted in response to Bid/Proposal # _____ includes proprietary and confidential information which qualifies as a trade secret, as provided in s. 19.36(5), Wis. Stats., or is otherwise material that can be kept confidential under the Wisconsin Open Records Law. As such, we ask that certain pages, as indicated below, of this bid/proposal response be treated as confidential material and not be released without our written approval.

Prices always become public information when bids/proposals are opened, and therefore cannot be kept confidential.

Other information cannot be kept confidential unless it is a trade secret. Trade secret is defined in s. 134.90(1)(c), Wis. Stats. as follows: "Trade secret" means information, including a formula, pattern, compilation, program, device, method, technique or process to which all of the following apply:

1. The information derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use.
2. The information is the subject of efforts to maintain its secrecy that are reasonable under the circumstances.

We request that the following pages not be released.

Section	Page #	Topic

In the event the designation of confidentiality of this information is challenged, the undersigned hereby agrees to provide legal counsel or other necessary assistance to defend the designation of confidentiality and agrees to hold the state harmless for any costs or damages arising out of the state's agreeing to withhold the materials.

Failure to include this form in the bid/proposal response may mean that all information provided as part of the bid/proposal response will be open to examination and copying. The state considers other markings of confidential in the bid/proposal document to be insufficient. The undersigned agrees to hold the state harmless for any damages arising out of the release of any materials unless they are specifically identified above.

Company Name	
Authorized Representative	
	Signature
Authorized Representative	
	Type or Print
Date	