**Wisconsin Department of Transportation**
**Policy Research Program**

## Request for Proposal

# Maintaining Knowledge and Investing in Talent for Next-Generation Transportation Engineering

Project Duration: 12 months, starting August 2024
Project Budget Limit: $95,000

Questions submitted to research@dot.wi.gov regarding the content of this Request for Proposal are due no later than 04:30 PM (CST) on April 11, 2024

Responses to questions will be posted to the WisDOT Research and Library website https://wisconsindot.gov/Pages/about-wisdot/research/researchers.aspx by 04:30 PM (CST) on April 25, 2024

## Proposal Deadline

Proposers must submit a PDF version of their proposal no later than 4:30 PM (CST) on May 9, 2024, to research@dot.wi.gov.

## I. Definitions

The following definitions are used throughout the RFP:

- WisDOT - Wisconsin Department of Transportation
- DTSD – Division of Transportation System Development
- POC – Project Oversight Committee
- NHTSA – National Highway Transportation Safety Administration
- RFP – Request for Proposal
- Proposer - A company or individual submitting a proposal in response to this RFP
- Researcher - The party (from the field of proposers) who is awarded the contract

## II. Overview

The research proposal aims to investigate the age gap within state transportation engineering jobs and its implications on hiring, employee satisfaction and institutional knowledge retention.

- Analyzing the number and percentage of transportation engineers nearing retirement across various specialties within Wisconsin, the upper Midwest and beyond.
- Identifying types of institutional knowledge that are challenging to maintain and evaluating potential consequences of losing or slowing down the transfer of this critical information.
- Exploring expectations and preferences of recent engineering graduates in comparison to older generations regarding employment in state transportation agencies.

The research will be used to develop recommendations and inform strategy under a broader goal of ongoing sustainability in the state transportation engineering workforce, including but not fully limited to civil engineers, transportation specialists and other technical staff involved in the planning, design and execution of transportation infrastructure projects.

## III. Objectives

- Analyze the extent of the age gap in state transportation engineering jobs and the potential impact on institutional knowledge retention. Quantify the number and percentage of engineers nearing retirement across different specialties. Assess types of institutional knowledge, and determine, if possible, which has been most challenging to maintain. Evaluate the potential consequences of losing or slowing the transfer of institutional knowledge. To the extent practicable, recommend strategies to overcome loss of institutional knowledge with examples that include determining methods to identify the key knowledge and processes that need to be documented.
- Investigate the expectations and preferences of recent engineering graduates regarding employment in state transportation agencies. Compare preferences of younger engineers (college-age up to age 25) with older generations in terms of work-life balance, career development, compensation and benefits. Identify specific policy areas that appear outdated or unattractive to younger candidates. Also, look at where current policy does appear to match up with younger generational expectations.

- Develop recommendations for adjusting recruiting and onboarding procedures to be more attractive and supportive of younger (college-age up to age 25) engineers. Recommend adjustments to existing policies with consideration to factors such as relocation assistance, loan repayment or remote work options. This may include pilot-testing or proposing changes to recruitment strategies, training programs, work arrangements and career advancement opportunities.

## IV. Scope of work

While the full research approach will be negotiated with the selected researcher, the WisDOT project managers, the Project Oversight Committee (POC) and the Policy Research Program, proposers should base their submissions on the following general tasks:

**Task 1 – Data collection and analysis**

- Review and examine other literature or studies in publication relative to the state transportation engineering workforce.
- Conduct a literature review that addresses best practices for training and onboarding technical staff.
- Gather demographic data on state transportation program staff and conduct an analysis to quantify the number and percentage of engineers and technical staff nearing retirement.
- Review other relevant efforts performed in other states.

**Task 2 – Institutional knowledge assessment**

- Identify and assess various types of institutional knowledge related to state highway and bridge improvement and maintenance programs to determine which are most critical and challenging to maintain.
    - Within WisDOT
    - Examples from neighboring DOTs
- Evaluate potential consequences to highway and bridge programs of losing or slowing down transfer of institutional knowledge.
- Identify generally acceptable and best practices within large organizations to maintain institutional knowledge.

**Task 3 – Evaluate workforce attitudes**

- Develop an understanding of attitudes among longer-term employees serving the WisDOT highway and bridge improvement and maintenance programs. Try to determine motivations for career advancement among those with 10-plus and 20-plus years of service.
- Develop an understanding of expectations and preferences of recent engineering graduates regarding employment.
    - Evaluations should include questions about how younger people envision a successful career, both in entry stages as well as 10 to 20 years out.
    - Include questions regarding work-life balance, pay and benefits, personal satisfaction in work and making a positive impact.

- This task may involve surveys, focus groups or whatever method would be considered most effective by the researcher.

**Task 4 – Evaluate hiring challenges**

- Examine data related to application and interviewing candidates for civil engineering, transportation specialist and other roles closely related to the delivery of WisDOT transportation projects.
- Analyze data regarding trends in enrollment in university engineering programs/courses related to transportation (e.g., civil, geotechnical) at Wisconsin universities.
- Collect and analyze data regarding internships for engineering majors and the frequency with which interns take full-time positions at their internship placement.
- Analyze post-graduation career placement and outcome data from Wisconsin universities for transportation-related programs (e.g., engineering).
- Identify opportunities to increase student and recent graduate interest in WisDOT and further substantiate WisDOT's role as an employer of choice.
- Review existing policies within transportation agencies to identify areas that may be outdated or unattractive to younger engineering candidates.
- Determine where current policies align with the expectations of younger generations to ensure retention of valuable talent. This should include, but is not limited to, relocation assistance, loan repayment and remote work options.

**Task 5 – Comparative analysis**

Analyze information gained through all previous tasks to:

- Compare preferences and expectations between younger engineers (college-age up to age 25) and older generations regarding work-life balance, career development, compensation and benefits.
    - Identify specific policy areas that appear outdated or unattractive to younger candidates.
    - Identify specific challenges related to the transfer of institutional knowledge.

**Task 6 – Develop recommendations**

- Develop recommendations for adjusting recruiting, onboarding, training and career advancement programs to attract and support younger engineers.
- Develop recommendations on improvement of institutional knowledge management among employees of all ages serving the WisDOT highway and bridge programs.

**Task 7 – Preparation of final report and presentation**

- Compile a final report summarizing all tasks and results from the project and present the findings to the department.

## V. Proposal requirements

The proposer should list any relevant experience and qualifications for the principal investigator(s) and all other key project team members, including subcontractors, with a focus on how the experience and qualifications relate to the project.

## VI. Deliverables and review points

Although final details will be negotiated between the department and the selected contractor, any proposals should, at a minimum, account for these deliverables and points of review. Proposals should identify likely methods (meetings, conference calls) needed for these steps.

## VII. Schedule and budget

Project duration – The contract shall be effective on the date indicated and shall continue for twelve (12) months from that date. Proposers should include a detailed schedule showing the placement of the tasks, meetings and expected review periods. Based on the date of this request for proposal, WisDOT expects that the start date of this contract to be effective on or after August 2, 2024.

Project budget – Proposals cannot exceed **$95,000.** Any proposal that exceeds this amount will be considered non-responsive to the RFP requirements and will not be accepted. All proposed budgets should detail the activities of research personnel as well as other direct cost factors (e.g., survey mailing costs).

## VIII. Proposal submission deadlines and guidelines

The issue date for this RFP is March 27, 2024. Proposers may direct any questions, noted errors, discrepancies, ambiguities or deficiencies concerning this proposal via e-mail to research@dot.wi.gov by 4:30 PM Central time on April 11, 2024. WisDOT will collectively post all questions and answers to http://wisconsindot.gov/Pages/about-wisdot/research/researchers.aspx by 4:30 PM Central time on April 25, 2024. Proposers must direct questions, etc. about this RFP only to this designated e-mail and not to any other staff or agent of WisDOT.

Proposal Preparation Guidelines can be found at the Proposal Preparation Guidelines at https://wisconsindot.gov/Pages/about-wisdot/research/researchers.aspx For more information regarding this RFP, contact the WisDOT Research & Library Services Unit at research@dot.wi.gov.

**Proposers must submit an electronic version of a proposal (Adobe PDF preferred) by 4:30 PM Central time on May 9, 2024 via e-mail to research@dot.wi.gov.** Proposals submitted after the deadline will not be accepted for evaluation. Proposers will be notified no later than June 28, 2024.