



New Jersey Department of Transportation
Bureau of Research
RESEARCH PROJECT
Request for Proposal
2022 – 2023 SPR Program

Project Title: New Jersey Trail Crossing Design Guidebook
Posting No.: 2022-10
Date of RFP Announcement: 09/08/2022
Closing Date: 10/27/2022

Proposals must be prepared in accordance with NJDOT's *Supplemental and Proposals guidelines*. Please visit <https://www.state.nj.us/transportation/business/research/guidelines.shtm> for the most current version.

All proposals must also have a corresponding online PreAward Risk Assessment form completed and submitted by the Principal Investigator (PIs) prior to the RFP closing date and time. This online form can be found at:

https://www.state.nj.us/transportation/business/research/risk_assessment_forms.shtm

1 - RESEARCH PROBLEM STATEMENT AND OBJECTIVES

1.1 Problem Statement

A current, comprehensive, all-inclusive guidebook for trail crossing design does not currently exist for planners and engineers at state, county, or local agencies in New Jersey. In the absence of such guidance, there is no database or inventory of existing trail crossings and their design features. Such a database or inventory would assist the state, counties, and municipalities in planning for improvements.

Referencing federal and state design specifications, and through a review of existing recommended design standard publications, a guidance compilation of both **required** and **recommended** crossing design standards for a variety of conditions will be developed in a user-friendly, limited narrative guidebook.

With the recent publication of statewide trail data, an analysis of current trail crossing conditions at known intersections and a recommendation of crossing design improvements as based on the guidebook would facilitate systemic safety improvement efforts statewide. A pilot analysis will include design recommendations for specific locations, proposing appropriate safety countermeasures for each selected trail crossing as based on the new guidebook.

Components of the pilot analysis should include current conditions of the following at each crossing: physical engineering roadway characteristics (pavement markings, signage, ramps, and other ancillary safety installations such as rectangular rapid flashing beacons, curve advance warnings, etc.) as well as trail surface, trail user type, and the collection of other data such as those found on page 8 of FHWA's "STEP: Improving Visibility at Trail Crossings" resource document found here: https://safety.fhwa.dot.gov/ped_bike/step/resources/docs/step_improving_visibilty_at_trail_crossin_gs.pdf .



**New Jersey Department of Transportation
Bureau of Research
RESEARCH PROJECT
Request for Proposal
2022 – 2023 SPR Program**

1.2 Research Objectives

Conduct a review of existing trail crossing design standards. Determine best practices in intersection design to maximize safety for road and trail users and recommend treatments for various roadway characteristics. Consolidate both **required** design standards and **recommended** design standards into a simple, limited narrative guidebook for state, county, and local agency use. A pilot trail crossing safety analysis will then be conducted for a selection of known trail crossings in New Jersey.

Phase 1 - Trail Crossing Design Guidebook

Meet with NJDOT to discuss preliminary work plan via online or in person. The research team shall submit monthly progress reports, make presentations at quarterly progress meetings, and make possible adjustment of work plans if necessary.

Task 1: Literature Review

- Deliverable: Technical memo #1 analyzing existing trail crossing standards and best practices

Task 2: Create Trail Classifications (based on analysis of existing standards)

- Deliverable: Technical memo #2 documenting what roadway characteristics are associated with each trail classification

Task 3: Develop Trail Crossing Design Guidebook

- Deliverable: Trail crossing design guidebook for engineers and planners that explains what is required versus recommended for each trail classification.

Task 4: Technical Advisory Committee (TAC)

- Deliverable 1: Hold TAC meeting #1 to explain rationale and secure concurrence on the identified trail classifications. Prepare meeting minutes.
- Deliverable 2: Hold TAC meeting #2 to present proposed design standards and secure concurrence. Prepare meeting minutes.

The proposed trail classifications and design standards must be approved by the TAC, the Customer, and the Research Project Manager (RPM) prior to proceeding to Phase 2. With the permission of the RPM and customer, the proposed research team shall proceed to Phase 2.

Phase 2 – Pilot Trail Crossing Inventory *vendor will be provided a point layer as base file*

Task 1: Identify Pilot Locations

- Deliverable: List of locations

Task 2: Collection of Roadway Characteristics at Pilot Locations

- Deliverable: Add the field/column “trail classification” to provided base file of trail and road intersection locations. Use the collected roadway characteristics to classify each pilot crossing according to the classification system developed in Phase 1-Task 2.



**New Jersey Department of Transportation
Bureau of Research
RESEARCH PROJECT
Request for Proposal
2022 – 2023 SPR Program**

Task 3: Compare New Standards to Actual Conditions

- Deliverable: Technical memo #3 evaluating each pilot location according to the guidebook. Include information as to whether evaluation could occur through a desktop review or if field visits were required. Include design recommendations (using the reference manual) for each location.

The pilot project deliverables must be reviewed by the TAC, the Customer, and the Research Project Manager (RPM) prior to proceeding to Phase 3. With the permission of the RPM and customer, the proposed research team shall proceed to Phase 3.

Phase 3 – Final Report

Task 1: Final Meeting with NJDOT and TAP

- Deliverable: Hold a meeting with NJDOT and the TAP. Discuss results and recommendations.

Task 2: Final Report

- Deliverable: Submit final report using provided template and include a proposed implementation component as described below:

Implementation Plan:

1. Name of research project
2. Link to the final report
3. FHWA #, Completion Date, PI email/phone, Research Bureau email/phone
4. Introduction and purpose: 4 sentences or less
5. Implementation summary
 - a. Useable elements
 - b. Approach summary
 - c. Implementation timeline or plan
 - d. Barriers, if any or not
6. Implementation Recommendations
 - a. Number recommendations
 - b. Provide feedback from technical advisory panel regarding each recommendation
7. Disclaimer statement:

“To report implementation efforts, this document is disseminated by the NJDOT. The State of NJ assumes no liability for the use or misuse of its contents. The State of NJ does not endorse products of manufacturers. This document does not constitute a standard, specification, policy, or regulation.”



**New Jersey Department of Transportation
Bureau of Research
RESEARCH PROJECT
Request for Proposal
2022 – 2023 SPR Program**

Resources:

Manual on Uniform Traffic Control Devices (“MUTCD”): [Manual on Uniform Traffic Control Devices \(MUTCD\) - FHWA \(dot.gov\)](#)

NJDOT Roadway Design Manual: <https://www.nj.gov/transportation/eng/#Manuals>

NJDOT Engineering Specs: <https://www.nj.gov/transportation/eng/#Policy>

1.3 Type of Contract

It is proposed that if the Issuing Office enters into a contract because of this Request for Proposal (RFP), it will be a **Cost Reimbursement, Deliverable-Based** contract containing the Standard Contract Terms and Conditions.

2 - BUDGET and CONTRACT TIME

The **TOTAL** project budget shall not exceed **\$300,000 US Dollars**. Budgets will be evaluated separately, and only after a selection has been made as to which proposal is the most qualified based on technical merit.

The PI must provide the anticipated research study duration based on the proposed tasks. Consideration should be given to potential impediments so that adjustments are incorporated into the schedule minimizing the need for time extensions. Contract time shall include sufficient time for the procurement of subcontractors, as well as no less than three months for Final Report review and acceptance. Please be advised that going forward, new task orders having permissible justification will be allowed no more than a one-time extension with the advent of 2 CFR 200.

A 24-month total project duration is preferred.

Please provide a Gantt Chart schedule, by month number (e.g., 1-24), showing tasks start/end, and deliverables. List corresponding deliverables below the chart.

3 - Oral Presentations

Oral online presentations may be requested as part of this RFP. If required, you will be notified by the Bureau of Research to schedule your oral presentation. They will be held at NJDOT headquarters in Trenton, NJ, attended by the Technical Advisory Panel (TAP), and be limited to no more than an hour, including time for questions and answers.

4 – Deadline

Proposals (no hard copies required) are due at the NJDOT Bureau of Research no later than **4:00 p.m. on October 27, 2022**. Electronic proposal documents (preferred pdf) shall be emailed to Research.Bureau@dot.nj.gov with the subject: *RFP-2022-10 University – PI’s name*.



**New Jersey Department of Transportation
Bureau of Research
RESEARCH PROJECT
Request for Proposal
2022 – 2023 SPR Program**

Approximate Start Date: 01/19/2023. The official start date is the date that the Bureau of Research obtains a signature from the Assistant Commissioner.

5 – CONTACTS

Interested parties shall send all questions related to this RFP to the Research Bureau Manager by sending an e-mail to Amanda.Gendek@dot.nj.gov or by phone (609-963-2242). Questions on this topic **shall not** be directed to any Research Project Manager, Research Customer, or any other NJDOT person. All questions must be received **on or before 09/26/2022 to be answered.**

PROPOSAL DELIVERY INSTRUCTIONS:

Electronic proposal documents (preferred pdf) shall be emailed to Research.Bureau@dot.nj.gov with the subject: *RFP-2022-10 University – PI's name.*
A confirmation of receipt will be sent via email.