



New Jersey Department of Transportation  
Bureau of Research, Innovation & Information  
Transfer (BRIIT)  
**RESEARCH PROJECT**  
**Request for Proposal**  
**2023-2024 SPR Program**

**Project Title: Research and Pilot Study on Robot Security Guards for NJDOT Yards Surveillance**  
**Posting No.: 2024-03**  
**Date of RFP Announcement: 11/15/2024**  
**Closing Date: 12/24/2024**

**NOTE:** Due to P.L. 2019, c. 196, the New Jersey Department of Transportation cannot award research grants to PRIVATE and/or OUT OF STATE institutes of higher education.

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

## **1 - RESEARCH PROBLEM STATEMENT AND OBJECTIVES**

### **1.1 Problem Statement**

The New Jersey Department of Transportation (NJDOT) seeks to enhance surveillance at its equipment yards, to prevent break-ins and thefts which can lead to significant financial losses and safety risks. This research evaluates the feasibility of deploying mobile robot security guards to strengthen security measures at these facilities. By reviewing commercially available robotic systems, the study will assist NJDOT in making informed decisions and implementing solutions that meet specific operational needs. This initiative aims not only to reduce property loss but also to enhance collaboration with law enforcement through improved incident reporting and evidence collection.

### **1.2 Research Objectives**

The primary objectives are to evaluate the physical and technical attributes of the robots, focusing on aspects like mobility, surveillance quality, and their compatibility with current security systems. The research will also involve conducting pilot tests in NJDOT yards using a chosen robotic security guard system, along with a comprehensive cost-benefit analysis to assess the system's effectiveness in reducing theft and improving personnel safety. Challenges such as environmental conditions and potential equipment damage will be addressed, with strategies in place for additional testing and optimization of response procedures.



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### 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 **\$450,000 US Dollars**. The overhead rate for this RFP proposal shall not exceed **15%**. Proposals with an overhead rate higher than this threshold will not be considered for review.

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 note that new task orders with valid justification will be permitted only a one-time extension under 2 CFR 200.

#### **A 24–30-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 BRIIT to schedule your oral presentation.

### 4 – Deadline

Proposals (no hard copies required) are due at the NJDOT BRIIT no later than **4:00 p.m. on December 23, 2024**. Electronic proposal documents (preferred pdf) shall be emailed to [DOT-Research.Proposals@dot.nj.gov](mailto:DOT-Research.Proposals@dot.nj.gov) with the subject: **RFP-2024-03 University – PI's name**.

**Approximate Start Date: 04/01/2025**. 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 BRIIT Acting Manager by sending an e-mail to [Pragna.Shah@dot.nj.gov](mailto:Pragna.Shah@dot.nj.gov) or by phone (609-963-2232). Questions on this topic **shall**



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**not** be directed to any Research Project Manager, Research Customer, or any other NJDOT person. All questions must be received **on or before 11/22/2024 in order to be answered.**

**PROPOSAL DELIVERY INSTRUCTIONS:**

Electronic proposal documents (preferred pdf) shall be emailed to [DOT-Research.Proposals@dot.nj.gov](mailto:DOT-Research.Proposals@dot.nj.gov) with the subject: **RFP-2024-03 University – PI's name.**  
A confirmation of receipt will be sent via email.