

**Request for Proposals**  
**Auburn University Low and No Emissions Buses**  
**Directed Research Program 2023**

**Overview**

Auburn University hosts a competitively awarded, low and no emission transit bus component assessment program (Lo-No CAP), which has conducted testing in support of transit vehicle manufacturers (TVMs), suppliers, and transit agencies. Recently, Auburn's Lo-No CAP has been awarded Federal Transit Administration (FTA) funding to conduct directed research supporting both the Lo-No CAP and the FTA's mission, values, and goals [1]. Solicitation of internal directed research proposals is tentatively scheduled annually. However, this schedule is subject to change based on the selected project quantity and respective budget requests.

TVMs, transit agencies, academic partners, and component suppliers have collectively expressed several areas of low and no emissions bus research needs. This request for proposals seeks submissions responding to the targeted technological needs of the LoNo transit vehicle community, which include:

- a) enhancing or enabling bus cabin heating ventilation and air conditioning systems in electrified buses
- b) addressing battery aging, charging/discharging, and the interplay of environmental conditions on batteries
- c) developing/validating bus driver assistance and automation systems
- d) elucidating and mitigating cybersecurity issues
- e) promoting health, safety, and wellness of bus operators and occupants.

The 2023 Lo-No CAP Directed Research Program will consider proposals of up to a three year maximum duration (ending by December 31, 2026). Applicants shall adhere to the proposal requirements section for their submission. Note that all approved projects will be required to provide a quarterly update for submission in the Transit Award Management System (TrAMS). Senior personnel are expected to participate in transit industry-serving dissemination events (conferences, working group meetings, etc.).

**Principle Investigator Eligibility**

Eligibility follows the [University's Statement of Principal Investigator Eligibility](#). Collaborative proposals with multiple investigators and departments are encouraged.

**Proposal Requirements**

Applicants should email their full proposal as a single pdf document to [FTALoNo@auburn.edu](mailto:FTALoNo@auburn.edu). A flattened pdf is preferred. The file name should indicate the FTA Direct Research Program and the Principal Investigator's name.

**Format Requirements**

- All margins shall be set to 1"
- Proposal submissions shall utilize 12 point Times New Roman font
- Proposals shall be single-spaced on 8.5 x 11-inch pages
- All pages must be numbered

***Proposal Title***

Utilize a title geared toward a sophisticated lay audience. Members of the transit community (FTA, TVMs, transit agencies, component suppliers, etc.) have a wide-ranging background.

***Applicant Details***

Name, position, and department of all key personnel

***Project Abstract***

A 250-word maximum description of the project suitable for a sophisticated lay audience will be required for inclusion on the FTA TrAMS and public dissemination. The abstract should briefly describe the project's significance to the transit industry, the crucial activities and intended outcomes.

***Proposal Narrative*** (10 pages maximum)

The project narrative should enable review of the proposed project's merit and importance to the transit community. Proposals should address one of the identified areas of need (a-e). The narrative should clearly indicate the project goals, method/approach to obtain those goals, roles of all project personnel, and project timeline. The narrative page limitation does not include biosketches, budget worksheet, budget justification, current and pending proposals, and references/citations.

***References/Citations:*** (does not count toward the narrative page limit)

Include relevant citations to published work, especially published works from key personnel that relate to the project.

***Budget:***

Project teams may request funds for all standard budgetary categories: faculty support, graduate and undergraduate student support, supplies, equipment, and travel. Proposals will utilize Auburn University fringe, tuition, and indirect rates. Please use the accompanying template.

***Budget Justification:*** (two-page limit)

The budget justification should address the proposed expenditures, such as personnel, travel, supplies, equipment, etc. Proposals should clearly justify how requested funds will be used to best align the project for success.

***Biosketches/CVs:*** (two pages per key personnel)

Key personnel members will submit a two-page, NSF-format biosketch/CV outlining their educational background, research activity, relevant publications, etc.

***Current and Pending Grants/Contracts:*** (no page limit)

Report all current and pending internal and external grants/contracts and other sources of major support of all key personnel involved in the project. The listing should include the supporting grant title, award amount, funding agency, period of performance, and effort allocation. Indicate whether any grants/contracts are related to the proposed project. If so, briefly describe that relationship.

### **Proposal Review and Selection Process**

Submitted proposals will be reviewed by the Lo-No CAP project management team in conjunction with the Samuel Ginn College of Engineering. Selected proposals will be communicated to the FTA for feedback prior to project initiation.

Proposal reviewers will utilize a (1-5) scoring system for each of the categories below, where 1 is ‘excellent’ and 5 is ‘poor’.

#### **1. Technical Merit of the Project**

Submitted proposals will be reviewed for their congruence with the transit industry’s technological needs (a – e) and the FTA’s mission, values, and goals. Project goals, intellectual question(s), and/or problem(s) to be solved must be clearly articulated. The proposal must clearly describe how the PI intends to reach objectives, and anticipated implications of the project’s findings on the transit industry. Reviewers will be asked to include specific comments on the strengths or weaknesses of the stated project goals.

#### **2. Appropriateness of the Proposed Method or Approach**

The proposal must describe the planned method/approach that will successfully achieve the project goals and objectives. Reviewers will assess the appropriateness, relevance, and effectiveness of this suggested method/approach.

#### **3. Personnel Competency and Budget Appropriateness**

The project team member(s) must be clearly identified, including their relevant experience. Reviewers will assess whether the project team possesses skills uniquely qualifying them to complete the proposed scope of work. Reviewers will also consider the proposed budget to determine its appropriateness in obtaining the project goals.

#### **4. Broader Impact**

Projects must explicitly define the impacts on the transit industry and Auburn University. It is anticipated that funded projects will foster internal teams that may propose future research based on this preliminary funding. The proposal must convey the potential for future funding. It is understood that the extramural funding may not be fully realized within the performance period of this project.

### **References**

1. Federal Transit Administration “Mission, Vision, Values and Goals”,  
<https://www.transit.dot.gov/about/mission-vision-values-and-goals>