



## Guide for Developing a CAPRI-Funded Research Project or Implementation Activity

### Background

The purpose of CAPRI is to serve as a forum that engages all stakeholders to advance asphalt pavement technologies through the development of national research needs and implementation strategies for asphalt pavements that will meet current and future transportation needs. The goals of CAPRI are to:

- Develop national asphalt pavement research needs
- Provide technical guidance on current and evolving issues
- Facilitate small-scale studies to address research gaps and explore new topics
- Foster implementation of practical research findings from any source

### Proposal Guidelines

CAPRI Subcommittees may make recommendations to the Executive Committee on research needs statements, research priorities, small-scale research studies, implementation activities, and/or technical advisories.

The proposed need should align with CAPRI priority areas identified by the Critical Issues Subcommittee

No more than 1/3 of the available funds for research and training activities may be used for a single project or activity.

Research projects may include, but are not limited to, literature reviews, additions to the CAPRI research database, research syntheses, laboratory experiments, interlaboratory studies, technology evaluations, exploratory studies, and supplemental studies to research funded by other organizations.

Implementation activities may include, but are not limited to, preparation of technical briefs, videos, best practice guides, webinars, workshops, training classes, and demonstration projects.

The attached form may be used to prepare proposals.

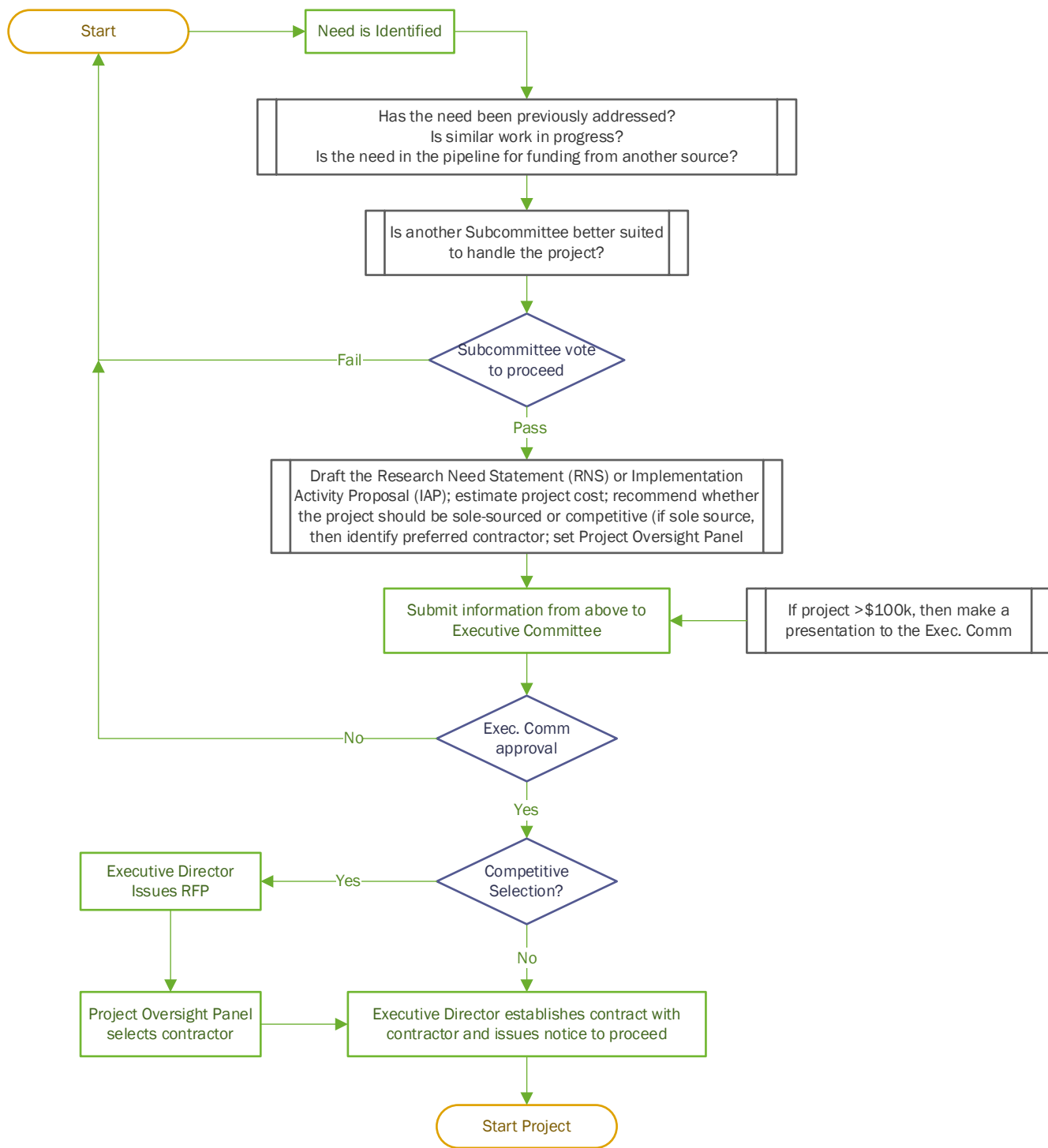
### Process

1. The originating Subcommittee will determine if related projects have been completed, are in progress, or are in the pipeline to be funded by other sources. The new research project or implementation activity should avoid replicating previously completed or ongoing studies/activities, or not overlap with proposed new studies being considered by other funding organizations. If CAPRI is believed to be a better funding organization to address the need, then the originating Subcommittee must ask the Executive Committee for guidance on how to proceed.

2. The originating Subcommittee should determine if another CAPRI Subcommittee is better suited to handle the project. If so, then the need and background information from Step 1 should be sent to the appropriate SC to develop the need into a research need statement (RNS) or implementation activity proposal (IAP).
3. All recommended projects must be approved by a majority of the Subcommittee members. The Subcommittee Chair is responsible for taking the vote.
4. The Subcommittee drafts the RNS or IAP using the attached form, estimates its cost, determines if the project is best handled as a negotiated sole-source contract or open to competition (if sole-source, then identifies the preferred contractor), and sets Project Oversight Panel (POP).
5. The Subcommittee Chair submits the information from Step 4 to the Executive Committee Chair and Executive Director and requests approval.
  - i. If the estimated cost of the project exceeds \$100,000, a representative of the Subcommittee or the proposed contractor shall make a 15 to 20-minute presentation to the Executive Committee prior to the EC's vote for approval.
  - ii. Proposals may be submitted at any time of the year.
6. If the project is to be open for competition, the Subcommittee will develop the Request for Proposals.
7. The CAPRI Executive Director will announce the RFP.
8. The Project Oversight Panel will select the proposal(s) for the project.
9. The CAPRI Executive Director will establish the contract terms with the selected contractor and notify them that they may proceed with the project.

**See the flow chart on the next page.**

Contact CAPRI Executive Director Randy West, 334-750-6336, [randy.west@auburn.edu](mailto:randy.west@auburn.edu) for any questions.





## Proposed Research Project or Implementation Activity

**Title:**

**Contact:**

**Originating Subcommittee:**

**Proposed Budget:**

**Submission Date:**

**Type of Submission:**

- ☐ Research Project
- ☐ Research Synthesis
- ☐ Database Addition
- ☐ Implementation Activity
- ☐ Other

**Explanation of Research/Implementation Need:**

**Objective and Scope of the Project or Activity:**

**Tasks and Deliverable(s):**

**Schedule** [Recommended start date and duration]:

**Budget Explanation:**

**Recommended Organization(s) to Do the Work:**

**Project Oversight Panel:**

**Additional Information:**



## Proposed Research Project or Implementation Activity

### Example

**Title:** Expanded Lag and Dwell Time Experiment – Request for Quotes

**Contact:** Randy West

**Originating Subcommittee:** Technology Evaluation Subcommittee

**Proposed Budget:** \$125,000

**Submission Date:** February X, 2024

**Type of Submission:**

- ☒ Research Project
- ☐ Research Synthesis
- ☐ Database Addition
- ☐ Implementation Activity
- ☐ Other

**Explanation of Research/Implementation Need:**

Lag Time is defined as the time between when a plant-produced asphalt mixture is sampled and when specimens are compacted for BMD tests. Dwell Time is defined as the time between when BMD specimens are compacted and when the specimens are tested. Lag and dwell time have been identified as one of the possible causes of lab-to-lab variability for BMD test results. It is critical that the effects of lag and dwell time be quantified and mitigated as necessary if BMD tests are to be used in Quality Assurance where the results of agency and contractor tests are often compared for mix acceptance decisions. Lag and dwell time experiments have already been conducted by FHWA and NCAT and the findings indicate that the effects of lag time up to two months and dwell time up to one week were not statistically significant for the mixtures studied.

**Objective and Scope of the Project or Activity:**

The objective of this project is to expand the lag and dwell time experiments to include mixtures from other parts of the USA containing different binders, aggregates, and additives. The project is an open call for labs to provide a price quote to conduct the Lag and Dwell Time Experimental Plan and detailed instructions provided in the attached document. It is desirable to have three to five more labs in different parts of the USA conduct the experiment and provide the results to CAPRI for a comprehensive report on the effects of lag and dwell time and how to deal with those effects in QA practices.

**Tasks and Deliverable(s):**

Each lab that is selected for the Lag and Dwell Time Experiment will execute the work according to the instructions. The work will include four elements: (1) sample an asphalt mixture according to its state DOT's procedure including sample containers approved by the state DOT. The estimated quantity of mix to be sampled is 1300 pounds. (2) compaction of specimens after the designated lag times (including no lag time) at the correct air void range for the IDEAL-CT and IDEAL-RT specimens. A total of 108 specimens are compacted and tested over the entire experiment for each mix. (3) conditioning and testing the specimens according to

the IDEAL-CT and IDEAL-RT procedures. (4) inputting the results of the IDEAL-CT and IDEAL-RT into a spreadsheet template that will be provided for the analysis.

**Schedule** [Recommended start date and duration]:

Start in spring 2024; complete by September 2024.

**Budget Explanation:**

Based on NCAT's cost, it is estimated that other labs will provide quotes in the range of \$15,00 to \$25,000. If four labs are selected, the total cost could be in the range of \$60,000 to \$100,000. Five labs would be \$75,000 to \$125,000.

**Recommended Organization(s) to Do the Work:**

Preference would be given to CAPRI member organizations. The selected labs must be able to demonstrate proficiency in compacting and testing IDEAL-CT specimens from previous published work or participation in a round-robin.

**Project Oversight Panel:**

Derek Nener-Plant (FHWA), Adam Taylor (NCAT), others

**Additional Information:**

Request a letter of interest from prospective labs. Conduct a mandatory pre-submission web meeting in April to have Derek, Adam, and Nathan explain the experiment, the desired mix characteristics, discuss challenges (e.g. timing, manpower, proximity of plant and lab), information to be collected, and answer questions.