

# Online Research Idea Instructions



**RESEARCH &  
DEVELOPMENT**



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## Guidelines for Developing a Research Idea

**Introduction:** The Research and Development Unit works with NCDOT business units to initiate contract research that addresses issues facing North Carolina's transportation system and community. Ideas are accepted from university and business partners as they may have novel insight or approaches to transportation related issues. The majority of NCDOT's research is *applied research*: Research that is intended to solve a specific problem or set of problems. Potential projects include but are not limited to new or revised specifications, new or revised design guides, new or updated performance or traffic models, safety studies, material testing, economic impact studies, environmental studies and revised policies.

➔ ***Most operational, policy and design areas of NCDOT are eligible for research funding.***

The Research Idea Form serves as the framework on which researchers build proposals. While preparing a Research Idea, university partners interested in submitting ideas are strongly encouraged to communicate with NCDOT research staff and key business units at NCDOT in order to better define the topic and proposed research. **No commitment for funding can be made or should be implied from the acceptance of a Research Idea.** Research Ideas submitted by NCDOT personnel will be advertised in a Request for Proposals (RFP) and distributed to all eligible researchers.

- ➔ ***Research Ideas submitted by external researchers will not be included in a general RFP. Direct notification to the researcher will be made if a full proposal is requested.***
- ➔ ***Research ideas from external partners will only be considered if a verified NCDOT Champion is identified.***

Research proposals are selected on a competitive basis based on Departmental need, urgency and available funding.

**Project Duration:** Research projects typically vary in length between six (6) months and three (3) years, with two (2) years being the most common project length. Proposals generated from selected research ideas will include a researcher's best estimate of a schedule based on the complexity and needs of the proposed project. **Synthesis projects**, for which a researcher compiles knowledge and best practices to produce a guidance document typically have a maximum one (1) year duration.

## Accessing the Idea Submittal Form

Research ideas are only accepted via the online form. **This form requires external users to log-in.** The online form provides the advantage of submitters being able to create and edit their ideas and makes provision for the inclusion of attachments. An NCID is required and instructions for registering are provided at the link below for outside entities not affiliated with NCDOT. Notification is sent by email upon successful submittal.

NCDOT personnel are assigned an NCID upon employment and will have immediate access to the online form.



External users that have submitted ideas or proposals previously should still have access, but please do not wait until the submittal deadline to check. It can take several days to grant access.

The web form for requesting access and submitting a new Research Idea (and later a proposal) can be found at the link below, also available on [NCDOT R&D Website](https://connect.ncdot.gov/projects/research/Pages/research-dev-ideas.aspx)

<https://connect.ncdot.gov/projects/research/Pages/research-dev-ideas.aspx>

**Idea Submission Form**

Click the button below to submit your new idea.

**Submit New Idea**

**Research Idea Instructions**

**Review Your Submitted Ideas**

Click the button below to access the Research & Development site and review your submitted idea.

**Login**

Once on the Idea and Proposal page, be sure to choose the *Submit New Idea* link to submit an idea. If you have already submitted an idea for the current research cycle, you may also Login to review and edit.

As noted above, external partners will need to request access to the system. Instructions and links for obtaining a user ID and the [requesting access are detailed on the entire left side](#) of the Idea and Proposal page. It is important that external partners use and/or create a [BUSINESS NCID using the provided links](#). **Personal NCIDs will not work with NCDOT's verification system.** You may choose any ID format (initial plus last name for example)

### Research & Development Ideas and NCDOT Proposals

Connect NCDOT > Projects > Research > Research & Development

#### External Users - Get Access

New External Users will need a **BUSINESS** NCID to sign in. An individual NCID will not work properly for access to NCDOT Connect websites. Follow these steps to get your NCID and access to the Research and Development Research Idea and Proposal Submission Site. *Internal*

Individual	Request access to the State of North Carolina service
Business	Choose BUSINESS
State Employee	Currently employed or assigned to work for an agency
Local Government Employee	Currently employed or assigned to work for a North Carolina local government

This process is not automated. It may take up to two business days to completely process your request. Any errors with the NCID process will delay access to the idea form.

You will receive a notification email that your request has been received and another notification email once access has been granted or if additional information is required.

Required \*

\*Email:

\*Name:

\*Company:

\*NCID UserID:

**Before submitting an access request to the Research Unit, make sure you have logged in with your new ID and completed all security questions!** Once a BUSINESS NCID has been established and obtained, outside partners may request access to the system. This may take several days, and a notification email will be provided when access is granted.



### Completing the Form

Please be concise and clear when filling out each portion of the web form. A **screenshot of the form** is provided below for reference. Idea submitters will be notified by email upon successful submittal of an idea.

**Form Type:** Please select whether you are an internal (NCDOT personnel) or an external customer (includes researchers and NCDOT business partners)

**Idea Submitter Information:** Please submit your Name, Affiliation, Phone Number, and Email Address. This information will be entered into the Research and Development (R&D) database and will provide a mechanism for R&D or an NCDOT business unit to contact you.

**Title:** The title of the Research Idea should describe the idea in a few words. Concise is best but be specific.

**Problem or Issue Needing Investigation:** This field should be used to broadly outline the scope of the problem. Example questions to consider when preparing an idea: Is a new specification needed? Does a new intersection design require investigation for safety and efficiency before being placed in wide use? Is material durability in question for certain applications? Is increased knowledge in an area needed? Does a policy need revision?

When preparing the Research Idea, submitters should identify the specific problem to be addressed by the research and think about the questions of How? What? and Why?

Idea submitters should conduct a preliminary research or literature review on the topic in current periodicals and journals to examine previously conducted research. A brief reference to a literature review is appropriate in the Research Idea form. One of the best sources of existing transportation research is the TRB Database, TRID: <http://trid.trb.org/>

**Background:** Please provide a brief background statement describing events, procedures, experiences and/or processes leading up to your idea. Providing sufficient background in non-technical language will help reviewers understand the importance of the problem.

**Research Tasks:** This should be a basic list of what is *likely* to be required as part of this research. This does not have to be detailed but will help any reviewers and proposal responders understand the context behind the problem.

**Products of the Research:** Research products are deliverables associated with the research that will be used for implementation and integration of the results into departmental processes, policies, standards, and practices. This is not simply a final report document. **Examples may include:** manuals, protocols, improved processes, new products, new procedures, increased general practice knowledge, improved current practices, validated or improved models, developed guidelines, developed methodologies, updated design criteria, project prioritization methods, inputs for analysis systems, identification of additional resources needed, training manuals and courses, cost-benefit analyses, improved testing methods, etc.



**Benefit to the Department / Explain Anticipated Benefits:** This section includes a set of check boxes to capture the potential benefit to NCDOT. In the explanation box, please provide additional details pertaining to the anticipated benefits of the research. Each customer of the research program has a different set of needs, and for this reason, each end-user and stakeholder may have a different way of evaluating the benefits of a research project. Examples of benefits may include cost or time savings for the agency or the public, efficiency improvements, improved accuracy of models or design methods, validation of a design, material or technique, etc.

**Possible IT Components:** If the suggested research has any type of IT component related to it, please describe that component here. If the research requires coordination with NCDOT's IT Department, its imperative IT is involved in project development from the onset.

**Implementation:** Implementation is a key component of the NCDOT research program. By describing potential implementation measures, NCDOT personnel can advance research from the lab and computer screen to the field and design office. *It is not expected that a detailed implementation plan be developed at this early stage in the research process, but research ideas should be developed with a tangible and usable identifier of success in mind.* Please describe any general concepts for implementation and designate the unit, position title and name that will oversee advancing this research into practice in the Sponsor/Champion fields. Be sure to include any potential issues/barriers to project implementation.

**NCDOT Project Sponsor:** A NCDOT project Sponsor/Champion is REQUIRED for all submissions. For NCDOT ideas, the Project Sponsor/Champion information may be the same as the idea submitter, but this may not always be the case. Please list the person most likely to guide project results into implementation. It is recommended that idea submitters have the project Sponsor / Champion review their Research Idea to ensure that they concur. **External (university or other partner) ideas will not be considered without a sponsor.** All external ideas submitted will be confirmed by NCDOT Sponsor/Champion.

**NCDOT Research Subcommittee Review Recommendations:** Research Ideas are reviewed by five NCDOT Research Technical Subcommittees. The Subcommittees will determine which ideas will move forward for proposal development. The technical subcommittees are as follows: Planning, Programming, Policy & Multimodal; Pavement, Operation & Maintenance, and Materials; Structures, Construction & Geotechnical; Environment & Hydraulics; and Traffic, Safety & Roadway Design. There are several disciplines under each of the subcommittees. Idea submitters should check each Research Technical Subcommittee should review the idea (this will not be the final determination for which subcommittees review which ideas, however it will provide a starting point for assignment). Research subcommittee members are assigned by NCDOT management (for a list of Research Technical Subcommittee members please see the [NCDOT R&D Operations Manual](#)).

**Technical Discipline Checklist:** The Technical Discipline Checklist will open when the idea submitter selects the Technical Subcommittee Recommendation. Idea submitters should check each technical discipline the idea relates to. There are a variety of technical disciplines listed under each Technical Subcommittee recommendation. Idea submitters should check all disciplines that apply. This information will provide the Department with needed data on discipline concentrations and continue to evolve better idea reviews.

**NCDOT Strategic Goals & Mission:** Idea submitters should check each goal and/or mission statement the Research Idea will support. NCDOT uses strategic planning to identify priorities and clearly document and



communicate how it plans to achieve its goals. It is important to recognize that a strategic plan does not fully describe all the work activities an agency performs, but the critical strategic objectives to achieve its long-term vision and daily mission. NCDOT's divisions and business units ensure daily operations and efforts align with the overall priorities and strategies of the Department. NCDOT's Agency Mission Statement is: *Connecting people, products, and places safely and efficiently with customer focus, accountability, and environmental sensitivity to enhance the economy and vitality of North Carolina.* NCDOT's Strategic Plan includes the following:

- Make transportation safer/Vision Zero
- Improve the reliability and connectivity of the transportation system
- Deliver and maintain our infrastructure effectively and efficiently
- Provide great customer service
- Be a great place to work
- Be a transparent and accountable organization
- Be a diverse and inclusive organization
- Be an innovative organization

Please consider strategic goals and mission when formulating research ideas.

**Describe how the Research Idea supports NCDOT's Strategic Goals & Mission.** Ideas submitters should briefly describe how the idea supports NCDOT's Strategic Goals & Mission. For more information please visit: [NCDOT Goals & Vision](#)

**Additional Comments and Information:** Include any additional information relevant to the Research Idea. Key information could include units and personnel consulted during the development of the idea and any additional business units that may be involved in implementation.

**NCDOT Sponsor/Champion Confirmation:** Each *external research idea submitter* is required to have an NCDOT Sponsor/Champion. NCDOT Sponsors/Champions will be notified if they are listed as such. NCDOT Sponsors/Champions MUST CONFIRM they are supporting the external research idea. If an external research idea is submitted without NCDOT Sponsor/Champion support the idea will not be considered for proposal development.

**A Note on Researcher Contact with NCDOT Personnel:**

Prospective researchers are encouraged to contact NCDOT technical and business experts when developing a Research Idea. Phone calls, emails, and in-person meetings are all appropriate to better understand departmental needs, define the scope of work and gain support for a topic. *NCDOT cannot make any statement regarding awarding of work.* Discussions should focus on technical and practical issues. Proposals will be requested only after received ideas are reviewed by research technical subcommittees.

**Assistance:**

For additional information or clarification, contact any of the Research and Development staff listed below.



**For questions or comments, please contact any of the following:**

***Table 1 - Research & Development Unit Contact Information***

Curtis T. Bradley	Research Manager	919-707-6661	<a href="mailto:cbradley8@ncdot.gov">cbradley8@ncdot.gov</a>
John Kirby	Environment and Hydraulics	919-707-6662	<a href="mailto:jwkirby@ncdot.gov">jwkirby@ncdot.gov</a>
Mustan Kadibhai	Pavement, Materials, Maintenance, Structures, Construction, Geotech	919-707-6667	<a href="mailto:mkadibhai@ncdot.gov">mkadibhai@ncdot.gov</a>
Catherine Bryant	Planning, Programming, Policy and Multimodal	919-707-6664	<a href="mailto:cbryant6@ncdot.gov">cbryant6@ncdot.gov</a>
Jaehoon Kim	Mobility, Safety, Roadway Design	919-707-0974	<a href="mailto:jkim@ncdot.gov">jkim@ncdot.gov</a>
Lamara Williams-Jones	Research Librarian	919-707-6665	<a href="mailto:lcwilliams2@ncdot.gov">lcwilliams2@ncdot.gov</a>
Simone Baily	Administrative Specialist	919-707-6668	<a href="mailto:sobaily@ncdot.gov">sobaily@ncdot.gov</a>
Research Office		919-707-6660	<a href="mailto:research@ncdot.gov">research@ncdot.gov</a>

**Research Home Page:** <https://connect.ncdot.gov/projects/research/Pages/default.aspx>



**Online Form Screenshot for Reference – ALL SUBMITTALS MUST OCCUR VIA WEBSITE**

### Research Idea Instructions

Select Form Type

Select Internal for NCDOT employees and External for University and others.

Date

Submission Date

Submitter Name \*

Affiliation/Division/Unit \*

Phone \*

Enter only one phone number.  
Ex. (919) 123-4567

Email \*

Enter only one email address

Research Idea Title \*

What is the problem or issue needing investigation? \*

Be specific and detailed.

Background \*

Provide supporting information about the business unit, processes and tools

Research Tasks \*

Describe specific activities that are anticipated (gathering data, structural testing, traffic analysis, etc.)

**Figure 1 - Online Research Idea - Basic Information, Research Title, Description**



Products of the Research *	<div></div> <p>Examples of products could include models, specifications, policies, general guidance...etc.</p>
Benefit or Knowledge Gain for NCDOT *	<div><input type="checkbox"/> Increase Operational Efficiency/Time Savings</div> <div><input type="checkbox"/> Cost Savings</div> <div><input type="checkbox"/> Improved Material Structure/Pavement/Performance</div> <div><input type="checkbox"/> Improved Models Performance/Traffic/Financial etc.</div> <div><input type="checkbox"/> New or Improved Specifications</div> <div><input type="checkbox"/> Improved Worker or Public Safety</div> <div><input type="checkbox"/> Permitting or Regulatory Compliance</div> <div><input type="checkbox"/> Other (Specify below)</div> <p>Benefit or Knowledge Gain for NCDOT. Check all that apply.</p>
Explain Anticipated Benefits *	<div></div> <p>Provide details for the benefits checked above.</p>
Possible IT Components *	<div></div> <p>Describe any IT products or components</p>
Implementation *	<div></div> <p>Discuss Implementation Ideas</p>

**Figure 2 - Online Research Idea Form - Research Products, Benefits, IT, & Implementation**



Sponsor/Champion Name *	<input type="text"/>
Enter only one full name	
Sponsor/Champion Title *	<input type="text"/>
Provide Sponsor/Champion Position Title	
Sponsor/Champion Unit *	<input type="text"/>
Provide Sponsor/Champion Unit Name	
Sponsor/Champion Phone *	<input type="text"/>
Enter only one phone number. Ex. (919) 123-4567	
Sponsor/Champion Email *	<input type="text"/>
Enter only one email address	
NCDOT Research Subcommittee Review Recommendation	<input type="checkbox"/> Planning, Programming, Policy & Multimodal <input type="checkbox"/> Pavement, Maintenance & Materials <input type="checkbox"/> Structures, Construction & Geotechnical <input type="checkbox"/> Environment & Hydraulics <input type="checkbox"/> Traffic, Safety & Roadway Design
Check all that apply. Additional checkboxes will appear below.	
NCDOT Strategic Goals & Mission *	<input type="checkbox"/> Make transportation safer/Vision Zero <input type="checkbox"/> Improve the reliability and connectivity of the transportation system <input type="checkbox"/> Deliver and maintain our infrastructure effectively and efficiency <input type="checkbox"/> Provide great customer service <input type="checkbox"/> Be a great place to work <input type="checkbox"/> Be a transparent and accountable organization <input type="checkbox"/> Be a diverse and inclusive organization <input type="checkbox"/> Be an innovative organization
Check all that apply	
Please describe how idea supports Strategic Goals & Mission *	<input type="text"/>
Additional Comments and Information	<input type="text"/>

**Figure 3 - Online Research Idea Form Champion, Subcommittee Review, Strategic Goals**