



NATIONAL ACADEMY OF SCIENCES

## **REQUEST FOR QUALIFICATIONS (RFQ)**

**Number: TRB-CRP-01-2017**

### **Business Process Review of the Transportation Research Board's (TRB) Cooperative Research Programs (CRP)**

ISSUANCE DATE: June 13, 2017

CLOSING DATE: July 26, 2017

The National Academy of Sciences (“NAS”) is issuing this RFQ to identify qualified research teams with appropriate experience and expertise to undertake a Business Process Review (“BPR”) to map the Transportation Research Board’s (“TRB”) Cooperative Research Programs (“CRP”) essential processes, evaluate and recommend process refinements and improvements, and identify functional requirements for potential technology solutions.

Qualifications must be presented in accordance with this RFQ and be submitted as a pdf email attachment to [Chedges@nas.edu](mailto:Chedges@nas.edu).

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Issuance of this RFQ does not constitute an award commitment by NAS nor does it obligate NAS to pay for costs incurred in the preparation and submission of qualifications. Any award resulting from this RFQ shall be construed under the laws of the District of Columbia.

## **CONTENTS OF THIS RFQ**

This RFQ consists of a cover letter and the following sections:

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| I.   | Instructions and Conditions |
| II.  | Statement of Work           |
| III. | TRB-CRP Organization Chart  |

Any questions concerning this RFQ shall be submitted to:

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## **ORGANIZATIONAL OVERVIEW**

Established in 1920, Transportation Research Board (TRB) is one of seven program units of The Academies which provides independent, objective analysis and advice to the nation and conducts other activities to solve complex problems and inform public policy decisions. The Academies also encourage education and research, recognize outstanding contributions to knowledge, and increase public understanding in matters of science, engineering, and medicine.

TRB's varied activities—described below—annually engage more than 7,000 engineers, scientists, and other transportation researchers and practitioners from the public and private sectors and academia, all of whom contribute their expertise in the public interest by participating on TRB committees, panels, and task forces. The program is supported by state transportation departments, federal agencies including the component administrations of the U.S. Department of Transportation, and other organizations and individuals interested in the development of transportation.

TRB's mission is to promote innovation and progress in transportation through research. In an objective and interdisciplinary setting, TRB facilitates the sharing of information on transportation practice and policy by researchers and practitioners; stimulates research and offers research management services that promote technical excellence; provides expert advice on transportation policy and programs; and disseminates research results broadly and encourages their implementation.

## SECTION I

### INSTRUCTIONS AND CONDITIONS

#### Procurement Method

This project will use a procurement process that involves prequalifying and selecting potential qualified contractors that can respond quickly and competitively. Responses to this request for statement of interest, qualifications, and availability will be used to establish a short list (up to five) of qualified research teams that will be invited to submit proposals to conduct the business process review. If selected for the short list, a proposal will require a detailed discussion on the objectives and scope of work described above.

A request for proposals (RFP) will be requested from the short-listed teams and will include a detailed project understanding, project approach, staffing plan, budget, and tasks. Additionally, each selected team will be required to submit the necessary documentation required for the contracting process. NAS anticipates a Time & Materials (T&M) professional services agreement resulting from the RFP.

Proposers are invited to submit qualifications by submitting the following information – as a pdf file -

1. Cover and summary pages including (a) prime contractor name; (b) persons responsible for preparation and submittal of the qualifications package; (c) phone number; (d) email; and (e) corporate mailing address, (f) Tax Id Number (TIN); (g) Data Universal Numbering System (DUNS) Number.
2. Table of contents
3. Technical Approach - Discussion of proposer understanding of the issues to be addressed and approach to conducting the Business Process Review (BPR) described above. This section should comprise the majority of the submission.
4. Staffing Plan - Names, qualifications, and anticipated roles and levels of commitment of the proposed principal investigator(s) and other key individual team members.
5. Current commitments of the research team members named in item 4, considering the estimated project initiation and duration. The anticipated project period will be November 2017 to May 2018.
6. Budget recommendations. Submitters shall provide an approximate estimate of the budget required to complete the business process review. The budget estimate should include labor, travel, and other direct and indirect costs. This estimate will be taken into account when developing the budget for the full RFP.
7. Qualifications - Relevant accomplishments of the research team

Please note that the work plan/approach, time requirements, and itemized budget are not required at this time. After the detailed objective(s) have been developed, selected firms will be invited to submit the work plan/approach, staffing plan, time requirements, and an itemized budget. Proposers should anticipate that invitations to selected proposers will be sent in early August with a submission deadline of the detailed work plan anticipated for mid-October.

**The entire submittal should be no greater than 10 pages in minimum 12 pt. type.**

## **SPECIAL NOTES**

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- A. Proposers should provide a list of at least three references for similar work they have done for non-profit organizations of a similar size and scope to TRB.

### **REQUIREMENT FOR PAST PERFORMANCE REFERENCES**

Offeror is required to submit, as part of its Qualifications, at least three (3) references in respect to previous contracts involving the provision of similar or related services within the past three years. The information supplied must include the following:

- Name and address of the organization for which the work was performed;
- Current telephone number and email address of a responsible technical representative of that organization;
- Brief description of the services provided, including the period during which the services were provided.

## SUBMISSION OF QUALIFICATIONS

The qualifications shall be submitted electronically to [CHedges@nas.edu](mailto:CHedges@nas.edu) no later than July 26, 2017 at 4:30 pm Eastern time and the text of the message should indicate the name and address of the Offeror and RFQ Number: **TRB-CRP-01-2017**.

## RESTRICTION ON DISCLOSURE AND USE OF DATA

Information contained in the Qualifications that the Offeror does not want disclosed to the public for any purpose or used by NAS except for evaluation purposes shall:

- Mark the title page with the following legend: “These qualifications include data that shall not be disclosed outside NAS and shall not be duplicated, used or disclosed — in whole or in part — for any purpose other than to evaluate these qualifications. If however, a contract is awarded to this Offeror as a result of, or in connection with, the submission of this data, NAS shall have the right to duplicate, use or disclose the data to the extent provided in the resulting contract. This restriction does not limit NAS’ right to use information contained in this data if it is obtained from another source without restriction. The data subject to this restriction are contained in pages [*insert numbers or other identification of pages*].”
- Mark each page of data it wishes to restrict with the following legend: “Use or disclosure of data contained on this page is subject to the restriction on the title page of these qualifications.”

NAS will not disclose data so marked to the extent consistent with NAS’ public access policies.

## SECTION II

### STATEMENT OF WORK

#### Background

The TRB mission is to increase the benefits that transportation contributes to society by providing leadership in transportation innovation and progress through research and information exchange, conducted within a setting that is objective, interdisciplinary, and multimodal.

The TRB portfolio of services relies heavily on its volunteer contributors. TRB annually engages more than 7,000 engineers, scientists, and other transportation researchers and practitioners from the public and private sectors and academia, all of whom contribute their expertise as volunteers by participating on TRB committees, panels, and task forces. (See [WWW.TRB.ORG](http://WWW.TRB.ORG) for additional information.) TRB's core services include the following:

- Providing a forum for information exchange
- Developing policy analysis based on objective data and research
- Disseminating transportation research results
- Managing cooperative research programs

The cooperative research programs are the focus of this business process review.

TRB manages six cooperative research programs although, as noted below, only three are actively receiving funding with expectations of continued funding into the foreseeable future.

- National Cooperative Highway Research Program - Active
- Airport Cooperative Research Program - Active
- Transit Cooperative Research Program - Active
- National Cooperative Rail Research Program – Inactive, but completing existing projects
- National Cooperative Freight Research Program – Inactive, but completing existing projects
- Hazardous Materials Cooperative Research Program – Inactive, but completing existing projects

While the tasks vary somewhat among programs, the key process elements are virtually the same among them. CRP processes have evolved gradually over the past 55 years, and new technology has been incorporated in the process as the technology became available. Today, the three active CRPs (NCHRP, ACRP, and TCRP) use a variety of custom and off-the-shelf software to accomplish their work. Between them, the three current CRPs have more than 400 research contracts active at any one time. The programs are managed by a staff of 48 (18 program managers and 30 support staff - see attached organizational chart). More than 100 research products are published each year.



Each of the three active CRPs also involve one or more “sub-programs” that use slightly different processes, including the Innovations Deserving Exploratory Analysis (IDEA) programs, Synthesis of Practice series, Legal Research Digests, and a variety of smaller “quick response” projects..

## **Objective**

The objective of a **Business Process Review (“BPR”)** is to create a process map of existing business processes and confirm or recommend process changes to achieve the goals list below. Process changes can include changes to software tools, but the focus of Phase 1 is to design an efficient and effective business process for managing and implementing TRB’s Cooperative Research Programs.

The recommended processes should achieve the following goals (not listed in any particular priority).

- Optimize the use of staff resources
- Enable business agility and flexibility
- Be resilient and minimize risk
- Produce a high quality experience for volunteers, stakeholders, and customers.
- Produce high quality research products.
- Manage customer, stakeholder, and customer relationships
- Enable effective and timely communication with our customers
- Comply with internal and external requirements
- Maximize employee productivity
- Maximize employee job satisfaction
- Provide for interoperability and compatibility with internal and external customers’ technology infrastructure

## **Potential Phase Two Follow-Up**

The Business Process Review is the first phase of an anticipated two-stage initiative. When the results and recommendations of the business process review have been analyzed, a second phase may be initiated to upgrade and/or add information technology systems to fully implement the recommended business processes developed in Phase 1.

*Note: While it is impossible to entirely separate the tasks we do from the software we use to do them, the primary emphasis of this project is to evaluate the efficiency and effectiveness of our business processes and procedures. Only when we have optimized our processes and procedures will we explore software solutions to facilitate their implementation.*

## **Proposed BPR Activities and Deliverables**

1. Conduct interviews with staff and customers, e.g., volunteers and research contractors, to comprehensively document the current work processes.
2. Analyze the efficiency and effectiveness of our current work process flow
3. Develop and present recommendations for business process changes.
4. Develop a workplan for implementation of the proposed changes, including identification of the functional requirements for software solutions, that take into account leveraging of the Academy's current software license portfolio.

Qualifications should include details on suggested strategies to conduct the activities. Offerors will also suggest and recommend deliverables summarizing each activity.

## **Key Elements in the CRP Process**

While there are variations in the process for each of the three CRPs, and for certain types of projects within each CRP, the steps below are the essential elements. Each element in the process involves a number of distinct procedures.

For individual research projects:

1. Solicit Research Problem Statements from external groups
2. Receive Research Problem Statements and categorize them into subject categories.
3. Review and Prioritize Problem Statements internally and externally.
4. Select Research Problem Statements to be funded as projects.
5. Form an external volunteer advisory panel for each project. Coordinate travel arrangements for volunteers to attend meetings on- and off-site.
6. Develop a Request for Proposals for each project in consultation with volunteer panel members.
7. Issue an RFP for each project.
8. Receive proposals from potential contractors and distribute to panel members for review.
9. Panel members review proposals independently and then meet to discuss their reviews and select a contractor.

10. Draft, negotiate, and execute a contract in accordance with federal regulations including 2 CFR Part 200 and additional sponsor requirements. This requires interaction with The Academies' Office of Contracts and Grants.
11. Conduct ongoing project management activities – monitor and manage the schedule, deliverables, and budget of each project, working with the research team and voluntary panel members.
12. Review interim and final deliverables for technical quality as well as for compliance with contract requirements (both staff and external panel members)
13. Evaluate final products for quality and for conformity to requirements of The Academies.
14. Publish the results in one or more formats (printed report, software products, websites, videos, etc.).
15. Pursue activities to facilitate and expedite implementation of the research results.
16. Collect, analyze, and report data on product and program performance over time.
17. Engage in outreach and communication activities with our volunteers, sponsors and other interested parties on a continuing basis

In addition, program-level management activities are performed for each program related to financial and budget management as well as performance management.

### **Current Business Management Information Technology**

Over time, CRP has created and developed in-house systems for the following activities:

- People management (contact information and panel memberships of our volunteers and staff)
- Project management (scheduling and tracking of project milestones and deliverables)
- Program management (providing overall statistics and information on program status)
- Financial management (tracking and managing budgets, invoices, and payments)
- Publication management (scheduling and monitoring stages in the process)
- Website content management (making project and program information available in a user-friendly format on the web)

In addition, staff use various programs for surveys (Survey Monkey, Survey Gizmo), calendar ballots (When is Good, Doodle polls), web conferencing (GoToMeeting, WebEx), web development (various content management systems) and web hosting platforms (internal and cloud-based) that are not standardized across The Academies, TRB, or – in some cases - across or within the three CRPs).

*Note: Other divisions of TRB use an Association Management System Aptify for various business activities. Any system adopted by CRP should leverage the use of existing resources in TRB.*

## **Issues and Concerns with the Current CRP Management Practices**

- As a 21<sup>st</sup> Century organization, TRB needs to be as nimble as possible in responding to the research needs of our stakeholder communities. At the same time, as a private, non-profit organization, we are encouraged to keep our administrative and staff costs as low as possible. There is a need to make sure our processes are meeting our desired outcomes, but are as efficient and cost-effective as possible. Some of the areas that could benefit from improvements are:
- Management of volunteer contact information is currently maintained in three databases across TRB. New contact information and revisions must be manually entered in all three to avoid inconsistencies and inaccuracies that can cause confusion for both staff and customers.
- The project management component is limited (e.g. it does not generate robust reports for project and program management, or integrate with Outlook calendars or financial software) and is written in code that is difficult to update or modify.
- Project panels meet in person at least three times over the duration of the contract. Significant administrative effort is required to manage the logistics of these meetings.
- Currently, most of the proposals we receive in response to RFPs are on paper; some proposals are received electronically.
- The internal contract documents for each project are currently on paper and require significant manual effort.
- Two different systems are used for project management and web content management.
- Project managers use a wide variety of project management tools and methods to manage their projects.
- During the course of a research project, there are many documents (and in some cases, versions of documents) that need to be distributed to and reviewed by volunteer panels. These are challenging to organize, track, and reference throughout the duration of the contract.
- Current software tools use out-of-date code and cannot be easily modified.
- Communication with potential volunteer panel members is done through a variety of media, including paper, email, listservs, and social media, e.g. Twitter, Facebook, and

LinkedIn. Panel member nominations and supporting documentation are submitted using a mix of paper forms, emailed attachments, and survey software.

## **Section III**

### **TRB Cooperative Research Programs**

#### **Organizational Chart**

