

## Request for Proposals

**Project Title: Support Project for the Future Interstate Study**

**Posted Dated:** June 30, 2016

**Contract Time:** 16 months

**Funds:** \$1,838,000

**Staff:** Monica A. Starnes

**Staff Phone:** 202/334-1894

**Staff Email:** [mstarnes@nas.edu](mailto:mstarnes@nas.edu)

**RFP Close Date:** August 12, 2016

### **FUTURE INTERSTATE STUDY BACKGROUND**

As required in Section 6021 of the FAST Act of 2016, the Future Interstate Study will address the actions needed to upgrade and restore the Interstate Highway System (IHS) as a premier system that meets the demands of the 21st century. The FAST Act specifies that the Future Interstate Study “shall determine the need for reconstruction and improvement of the Interstate System by considering--(1) future demands on transportation infrastructure determined for national planning purposes, including commercial and private traffic flows to serve future economic activity and growth; (2) the expected condition of the current Interstate System over the period of 50 years...including long-term deterioration and reconstruction needs; (3) features that would take advantage of technological capabilities to address modern standards of construction, maintenance, and operations, for purposes of safety, and system management, taking into further consideration system performance and cost; (4) those National Highway System routes that should be added to the existing Interstate System to more efficiently serve national traffic flows; and (5) the resources necessary to maintain and improve the Interstate System, including the resources required to upgrade the National Highway System routes [identified above] to Interstate standards.”

### **FUTURE INTERSTATE STUDY SUPPORT PROJECT**

To accomplish the requirements of the FAST Act, the Future Interstate Study will “build on the methodologies examined and recommended in the report prepared for the American Association of State Highway and Transportation Officials titled “National Cooperative Highway Research Program (NCHRP) Project 20-24(79): Specifications for a National Study of the Future 3R, 4R, and Capacity Needs of the Interstate System”, dated December 2013.”

Work assigned under the Support Project is intended to assist the Transportation Research Board (TRB) study committee and staff in information gathering, case study evaluations, and modeling. The TRB study committee, in consultation with staff, will determine the specific work assignments for the Support Project.

It is anticipated that these assignments will consist largely of:

- Case studies: As recommended in the 2013 NCHRP Specifications report, the case studies might consist of cost estimates of sample segments of the interstate system with a focus on rehabilitation and replacement costs. Some case studies, however, might evaluate how the planning processes for interstate projects consider impacts on broader topics (e.g., the environment and access to employment and education).
- Comprehensive modeling and data analysis—including use of the Highway Economic Requirements System (HERS) and National Bridge Investment Analysis System (NBIAS)—to estimate future IHS investment needs required to reconstruct the IHS and upgrade existing freeways to Interstate standards.

Support Project activities will consist of a series of work assignments requested by the TRB study committee and staff. The timing of assignments will be variable and often require rapid responses by the contractor. Fulfillment of the assignments will require the services of a highly qualified contractor team of strategic thinkers and analysts experienced in the conduct of case studies, gathering and evaluating long-range transportation plans, and running and analyzing the results of models to inform its estimates of future highway investment needs, including the aforementioned HERS and NBIAS.

## **PROJECT OBJECTIVE**

The objective of the Support Project is to provide—in a flexible, ongoing, and quick-response manner—the study committee with expert data gathering and analysis using methods such as case studies and modeling.

## **STATEMENT OF WORK**

A brief description of anticipated tasks to be performed for the Support Project is provided in this Statement of Work. For purposes of proposing a staffing plan and budget, the contractor should expect to spend the percent of the contract funds indicated for each task. The percentage that actually spent on each task will depend on the study committee's specific work assignments and priorities.

## **TASKS**

### **Task 1: Develop a Work Plan (5%)**

It is anticipated that after its first or second meeting, the committee will agree upon an initial work plan for the Support Project. The leaders of the contractor team will meet with TRB staff to define the work assignments and schedules for their commencement and completion. The contractor will identify any additional expertise that may need to be added to the contractor team to fulfill the work assignments. The contractor will produce a detailed plan for carrying out the assignments along with a budget for TRB staff review. The work plan and budget will be treated

as preliminary in anticipation that assignments may change as specific needs are identified during the course of the contract.

**Deliverable:** An amplified work plan of support activities, schedules, personnel involved, and preliminary cost estimates.

## **Task 2: Conduct Case Studies (30%)**

It is anticipated that case studies of highway projects and development plans will constitute a major set of work assignments. Case studies will likely entail the review and documentation of project costs, both incurred and estimated by project engineering studies, from actual Interstate highway reconstruction and widening projects drawn from different regions of the country and from a mix of urban, suburban, and rural settings. The kinds of cost items to be documented are likely to include those associated with upgrading existing highways to Interstate standards; maintenance of traffic during reconstruction; upgrading and replacing interchanges; and environmental mitigation. One of the purposes of the case studies will be to compare actual project costs with those predicted by HERS and NBIAS.

Some of the case studies will likely entail reviews of the long-range plans for Interstate system additions and improvements by state departments of transportation (DOTs) and metropolitan planning organizations (MPOs). Some may focus on specific issues such as how consideration was given in planning processes to the impact of projects on the environment, disadvantaged populations, and access to employment and education.

For proposal development, it is reasonable to expect this task to involve approximately 40 case studies, approximately half involving the review actual Interstate projects and half involving the review of state DOT and MPO long-range plans.

**Deliverable:** For each case study, a technical memorandum explaining and documenting the selection process, assumptions, input data, analytic process, and findings. Technical memoranda must follow a standard format for all the case studies.

## **Task 3: Modeling (65%)**

It is expected that early in its deliberations the TRB study committee will seek in-depth information from the contractor on HERS, NBIAS, and other relevant models, including details on model structure, outputs, applications, strengths, weaknesses, and improvement plans. Once informed in this manner, the committee may request initial model runs to understand how model outputs vary with differing assumptions about changes in factors such as the amount and mix of vehicles using the system, maintenance levels, vehicle technology (such as technology that affects vehicle headways and required lane widths), the role of other modes in transporting passengers and freight, construction costs, and interest in upgrading highways for purposes such as adding resilience. The assumptions employed will be informed in part by the preliminary results of case studies (Task 1) and papers commissioned from other sources.

Once familiar with model capabilities and output, the committee may ask the contractor to use the models, employing specific assumptions and parameters, for the purpose of estimating a

plausible range of future, long-range investment requirements for IHS maintenance, reconstruction, and expansion.

**Deliverable:** For each modeling assignment, a technical memorandum detailing the assumptions, input data, analyses and findings for the model, including documentation of the versions of the modelling software used. Technical memoranda must follow a standard format for all the models.

**Funds Available:** \$1,838,000

**Contract time:** 16 months

**Responsible Staff:** Monica A. Starnes, [mstarnes@nas.edu](mailto:mstarnes@nas.edu), 202-334-1894

**Proposal Due Date:** August 12, 2016

Proposals (20 single-bound copies) are due at the address below by  
4:30 p.m. on August 12, 2016

This is a firm deadline and extensions are not granted. To be considered, all 20 copies of the agencies' proposal accompanied by the executed, unmodified Liability Statement must be in TRB's offices no later than the deadline shown or they will be rejected.

**Delivery Address:**

Transportation Research Board  
ATTN: Monica Starnes  
500 Fifth Street, NW  
K468  
Washington DC 20001  
Phone: 202-334-1894

**GENERAL NOTES**

- A. The Future Interstate Study Support Project may be conducted by consultants, academic institutions, industry, research institutions, foundations, or others who possess extensive, demonstrated capability coupled with a proven experience record in the problem area. Non-U.S. agencies may submit proposals. Although they may be able to document that they possess sufficient depth of knowledge of U.S. practice, the complicated logistics involved in

surveillance and administration of contracts overseas might make it less likely that such agencies would be selected. Joint ventures or collaborations among U.S. and non-domestic research entities are also permissible.

- B. TRB procedures do not provide for pre-proposal briefings or for meetings with staff and/or proposal reviewers during proposal evaluation or agency selection. The proposal, therefore, constitutes the one-and-only opportunity for the agency to state its case.
- C. TRB will not acknowledge receipt of an accepted proposal unless a self-addressed, stamped postcard is included by the sender in the proposal package. TRB will advise agencies as quickly as possible of proposals rejected from consideration, conveying the reason(s) for rejection.
- D. Acceptable proposals are forwarded to the appropriate experts for review and evaluation. Recommendation for selection of an agency will be based on the following factors: (1) the proposer's demonstrated understanding of the subject matter; (2) the merit of the proposed research approach and methodology; (3) qualifications and objectivity of the research team in the same or closely related topic area and proven experience with key analysis tools and modeling software, (4) team resources available to respond to work assignments within the contract and history of delivering on time and within budget.
- E. The NRC will award a contract to the responsible proposer whose proposal conforms to the RFP and is most advantageous to TRB. The NRC may award a contract on the basis of the initial proposals received, without discussions. Therefore, each initial offer should contain the proposer's best terms from a cost and technical standpoint. The NRC may (1) reject any or all offers if such action is in the NRC's best interest, (2) accept other than the lowest cost proposal, and (3) waive minor irregularities in proposals received.
- F. The agencies with unsuccessful proposals are so notified, and the proposals are disposed of according to TRB policies. The policy of TRB is to provide a debriefing to unsuccessful proposers. The initiative for obtaining a debriefing lies with the proposers. The debriefing is intended to indicate to the proposers the technical areas in which their proposals were judged deficient and how the deficiencies were factors in their not having been selected. All debriefings will be conducted in a scrupulously fair, objective, and impartial manner, and the information given to the unsuccessful proposers will be factual and consistent with the evaluations. The factors constituting the basis for selection of the successful agency will be identified, but the debriefing will not include a point-by-point comparison of all the elements considered in the evaluation criteria. Neither will there be any revelation of confidential business information, trade secrets, techniques, or processes of the other proposers, nor will there be any indication of the relative merits or technical standing of the unsuccessful proposers.
- G. Once agency selection has been made, the proposal review comments will be submitted to the selected agency, and a response is required. Some minor modifications to the proposal may be indicated. Concurrently, the agency is requested to complete a representations-and-certifications form, provide documentation to support proposed individual costs, rates, and

forward information concerning its travel policy, indirect cost rates, and salary and wage schedules.

- H. Contractors are required to comply with pertinent Regulations of the U.S. Department of Transportation (U.S. DOT) relative to nondiscrimination in federally assisted programs of the U.S. DOT and shall not discriminate against any worker because of race, color, religion, sex, or national origin. In the fulfillment of this provision, the contractor is required to provide all information and reports required by the Regulations, or orders and instructions issued pursuant thereto, and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the National Academies or of the U.S. DOT to be pertinent to ascertain compliance with such Regulations, orders, and instructions.

### **SPECIAL NOTES**

- A. Proposers are cautioned to be concise and straightforward in their single-volume proposals. Material that is extraneous and not germane to the research project under consideration will detract from the quality of the proposal. In the interest of saving paper, reduced mailing costs, and ease of handling, proposal pages should be printed on both sides, using the lightest bond weight permitting such practice, and maintaining margins of 0.5 to 1 inch. All pages of the proposal shall be numbered; use 10-, 11-, or 12-point type.
- B. All proposal information shall be presented in a single-bound volume that has been checked sufficiently to ensure completeness and accuracy of detail. Proposals that do not comply with the instructions in this manual will not be accepted. It is mandatory that proposals contain the following information and that it be presented in the order shown below:
1. Cover
  2. Summary Page
  3. Proposal Budget Summary
  4. Table of Contents
  5. Research Plan
  6. Qualifications of the Research Team
  7. Accomplishments of the Research Team
  8. Other Commitments of the Research Team
  9. Equipment and Facilities
  10. Time Requirements
  11. Itemized Budget
  12. Cooperative Features (if appropriate)
  13. Appendixes (if appropriate)

For the convenience of the reviewers, items 4 through 12 should be separated with either color-coded or tab-type dividers so that information may be located quickly.

- C. It is expected that proposers will have studied the following instructions and will complied fully with them. Failure to do so, if not warranting outright rejection, will certainly raise serious questions as to how well the agency would handle a complex research project and would, therefore, seriously jeopardize the chances of being selected to conduct the work. In matters that require further clarification, proposers should contact the TRB Study Director with technical questions regarding the project statement and the NRC Office of Contracts and Grants with contractual questions. The name and telephone number of the staff member assigned to each project is noted on the RFP.

Details of essential content in the proposal:

1. *Cover*—The outermost covering of the proposal shall be either paper or cardboard and must be non-glossy, light-colored material capable of accepting rubber stamp ink without smearing. The cover shall contain the project title, the title of the project, the name of the submitting agency, and a “Limited Use Document” clause.
2. *Summary Page*—The summary page shall contain the project title; the name, address, and telephone number of the agency submitting; the name and address of the agency with which a joint venture is proposed, if such is the case; the name and title of the person formally submitting the proposal; the name(s) and title(s) of the person(s) who actually wrote the proposal; the name(s), address(es), telephone number(s), and e-mail address(es) of the PI(s) assigned to the project; the name, address, telephone number, and e-mail address of the responsible administrative officer having cognizance of the project (this should be the individual authorized to bind the agency contractually and to approve the expenditure of project funds); the amount of time proposed to complete the research; and the total amount of the budget contained in the proposal.
3. *Budget Summary*—The proposal Budget Summary page will summarize all costs detailed in the itemized budget. It is supplemental to the contractor’s detailed proposal budget, and should be prepared in accordance with the proposed project phases, tasks, and performance period to provide an overall estimate of project costs.
4. *Table of Contents*—Self-explanatory.
5. *Research Plan*—The research plan shall detail the anticipated implementation and execution of the support activities for the project. The plan ultimately becomes a part of the contract by reference of the proposal; therefore, it should describe in a specific and straightforward manner the approach to address the project statement. The anticipated methodology and expertise shall be described in sufficient detail to permit evaluation of the probability of success in achieving the objectives. Unless otherwise indicated in the RFP, TRB procedures do not provide for pre-proposal briefings or for meetings with staff and panels in the course of proposal evaluation or agency selection. The proposal, therefore, constitutes the one-and-only opportunity for the agency to state its case. The support plan shall be subdivided into the following sections:

(a) *Introduction.* The introduction to the research plan should provide a concise overview of the proposer's approach to conducting the work. It should describe the manner in which the expertise and experience of the proposed team will be used in the project, and the application of special data, facilities, contacts, or equipment should be presented. The introduction should highlight the linkages of the proposed team's capabilities to the project tasks and the manner by which the proposed plan will satisfy the objectives.

(b) *Research Approach.* This section should describe how the objectives will be achieved through a logical, innovative, and rational plan. The plan shall describe how the proposer plans to undertake each task.

6. *Qualifications of the Research Team*—Name, address, telephone number, and pertinent background information must be provided for the PI bearing primary responsibility for the project. The same information is required for other research team members participating to a significant degree. The proposal must describe how the academic, industrial, and/or research experiences of each research team member relates to the project to be undertaken.

**Note:** Item 6 in the proposal must include a section labeled "Disclosure." Information relevant to TRB's need to ensure objectivity and to be aware of possible sources of significant financial or organizational conflict of interest in conducting the research must be presented in this section of the proposal. For example, under certain conditions, ownership of the proposing agency, other organizational relationships, or proprietary rights and interests could be perceived as jeopardizing an objective approach to the research effort, and proposers are asked to disclose any such circumstances. If there are none, this should be stated.

7. *Accomplishments of the Research Team*—Proposals shall contain a summary of the past accomplishments ("track record") of the support team in the same or closely related problem area of the project to be undertaken. This summary is to include full particulars concerning all known instances of application to practice of the agency's research results. If no such knowledge exists, it should be so stated.

8. *Other Commitments of the Research Team*—Proposals shall contain a listing of current organization and personnel commitments to other work in sufficient detail to indicate that the organization and all of the individuals assigned to the proposed project will be able to meet the commitments of the proposal. Staff-hour commitments and percentage of time committed to other work for each member of the proposed research team shall be specified.

9. *Equipment and Facilities*—This section shall include a description of the facilities available to undertake the research and an itemization of the equipment on hand considered necessary to complete the research. In the event that use of the facilities or equipment is conditional, the conditions should be described. In the event that certain facilities or equipment are considered necessary to undertake the research but are not on hand, that fact should be presented. The proposer should identify any arrangements that will be made to borrow or rent necessary equipment. Letters of commitment should be included to indicate the availability of equipment. Rental rates should be included in the budget. In the case where it is contemplated that additional equipment will be purchased under project funds, be certain that the budget item "capital equipment" indicates this.



10. *Time Requirements*—The time required to complete the research project shall be clearly stated in the proposal. Proposals must adhere to the time requirements specified in the RFP. A schedule shall be included that shows each phase or task of the work, when that phase or task will begin, how long it will continue, and when it should end. The timetable should clearly delineate the points in time where project deliverables and reports are planned.

11. *Itemized Budget*—The estimated cost for the project should be based on the proposed performance period. The budget shall reflect phase and/or task costs. Proposals will not be accepted where budgets are in excess of the amount shown on the project statement. Also, see Section II, *Proposals*, regarding cost sharing. Lump sum estimates are not acceptable; budgets shall be itemized in accordance with the following cost categories where appropriate:

(a) *Salaries and Wages*. Each employee to participate in the performance of the project shall be identified by name, with role, level of effort, and cost presented. It is recognized that the internal policies of some agencies prevent strict conformance with this requirement. In all such cases and prior to submitting a proposal, contact with the NRC Office of Contracts and Grants should be made to determine the possibility of waivers. The table must include hourly breakdowns by task for **every principal member of the support team, including consultants and subcontractors**. Actual hours should be shown rather than months or dollars. In addition, it is preferred that only one table be submitted rather than separate tables by task. The table should be located immediately behind the *Itemized Budget*.

(b) *Borrowed Personnel*. Reimbursement to other employers for salaries and wages paid by them to their employees released for, and directly engaged in, the performance of the subject research, plus federal and state payroll taxes and related employee benefit plan costs.

(c) *Consultants*. Costs for services of independent consultants deemed necessary for accomplishment of the research.

(d) *Subcontracts*. Costs for services of subcontractors deemed necessary for performance of a portion of the research.

(e) *Capital Equipment*. Items with a value in excess of an amount specified in the contract per article or assembly required for the conduct of the research. Any article or assembly costing more than an amount specified in the contract is subject to approval in advance of purchase.

(f) *Materials and Services*. Materials, supplies, and other articles, including the cost of processing; testing; rental of apparatus and equipment from others; preparing, editing, and reproducing reports; and services not provided for in Items a, b, c, and d above.

(g) *Communications and Shipping*. Long-distance telephone calls, telegrams, cablegrams, radiograms, postage, freight, express, drayage, etc.

(h) *Travel*. Transportation costs plus reasonable actual subsistence expenses (or an allowance in lieu of actual subsistence costs) of persons working directly on the subject research. While all travel shall be conducted in accordance with the research agency's stated travel policies, travel expenses shall not exceed the prevailing NRC

rates/guidelines for such travel. Approval of individual trips is not required except for costs of travel to scientific and technical meetings.

(i) *Employee Benefit Plan Costs and Payroll Taxes.* Costs of group insurance and employees' pension and retirement plans and federal and state payroll taxes for employees working directly on the subject research.

(j) *Overhead.* An allowance for overhead costs determined in accordance with the research agency's usual method of accounting and generally accepted accounting principles. The current overhead rate should be extrapolated on the basis of previous years' trends to provide the best estimate possible for the anticipated contract period. Specify the rate (a fixed rate may be proposed, if the agency so chooses) and the base on which the overhead is applicable and include a statement supporting this rate. A negotiation agreement or statement from a Federal Government agency is acceptable for this purpose.

12. *Cooperative Features*—If assistance in the form of personnel, data, or equipment is required from other agencies, public or private, describe the plans for obtaining such help or information. Such cooperative features could include paid sub-contractors, unpaid volunteer participants, donations or loans of equipment or data, or agreements to provide access to roads or other facilities. A letter of intent from agencies or individuals agreeing to provide these cooperative arrangements should be included in the proposal. Proposers should not contact transportation agencies when preparing proposals to obtain commitments for cooperation during the research.

13. *Appendixes*—The appendixes may include such things as statements concerning previous work on this problem or related problems, abstracts of related projects, a bibliography or list of references, or descriptive brochures or materials describing the agency's organization and capabilities in general terms. Any other material not specifically mentioned previously and believed to be relevant for purposes of the proposal may be included as an appendix.

D. The contract mechanism for the Support Project will be *Cost-Reimbursement (CR)* which provides for payment to the contractor of allowable costs incurred in the performance of the contract, to the extent prescribed in the contract, or *Cost-Plus-Fixed-Fee (CPFF)*, which is a cost-reimbursement contract providing for payment of a fixed fee to the contractor. The fixed fee, once negotiated, does not vary with actual costs, but may be adjusted as a result of a subsequent change in the work or services to be performed under the contract. *For this contract, a limit has been established of seven (7) percent of contract costs, exclusive of the fixed fees for the subcontractor, if any.* Generally, this form of contract will be used where a cost-reimbursement type of contract is determined to be necessary and there is agreement that the contract should be fee-bearing.