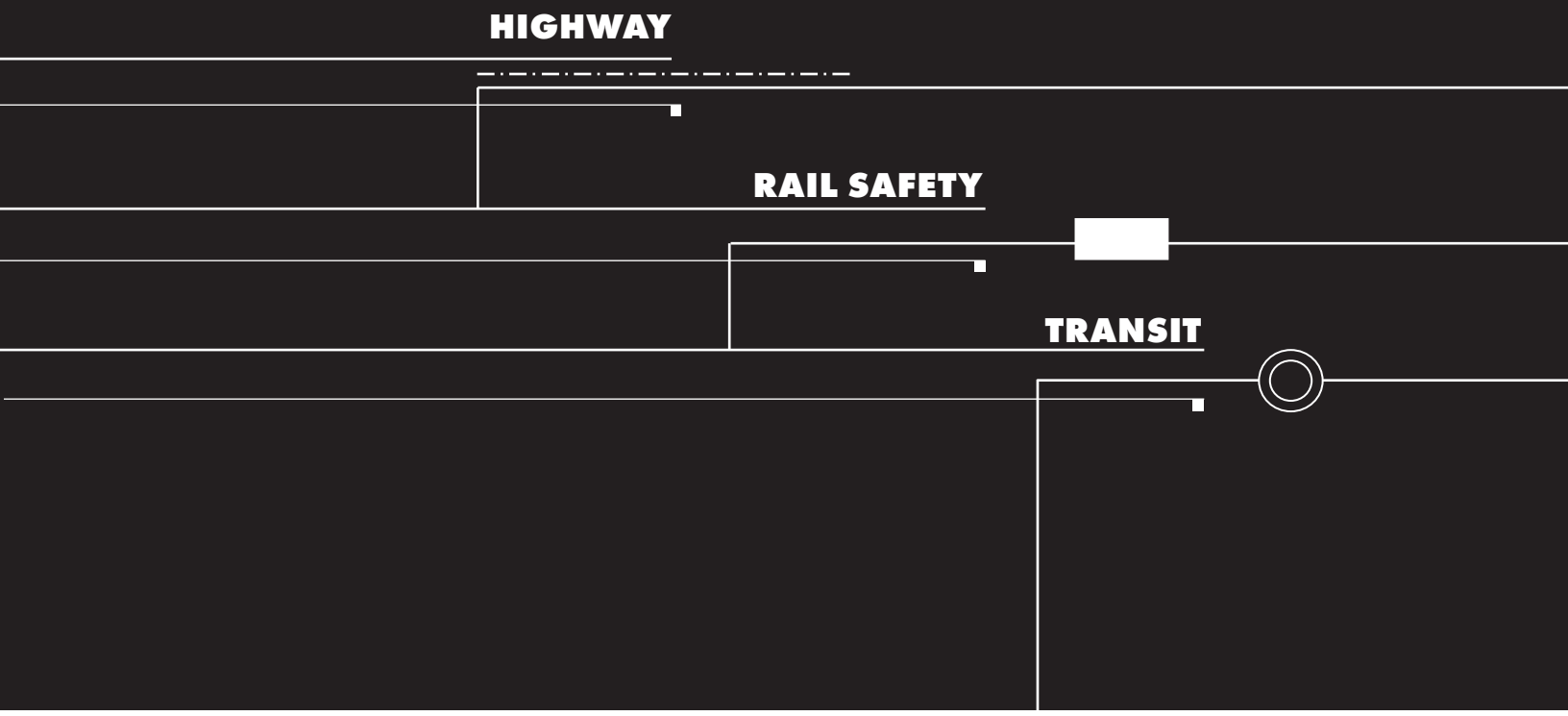
IDEA

Innovations Deserving Exploratory Analysis Programs



Program Announcement
2024

The National Academies of
SCIENCES • ENGINEERING • MEDICINE

TRB
TRANSPORTATION RESEARCH BOARD

TRANSPORTATION RESEARCH BOARD 2023 EXECUTIVE COMMITTEE*

Publications of the IDEA Programs are available on the internet at trb.org/IDEAProgram/IDEAProgram.aspx.

Innovations Deserving Exploratory Analysis

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2024

NATIONAL ACADEMIES Sciences Engineering Medicine

TRB TRANSPORTATION RESEARCH BOARD

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This Program Announcement describes the IDEA programs and how they are administered, provides instructions and documents for submitting proposals for funding, and lists general research topics derived from program goals.

IDEA PROGRAM SPONSORS

On behalf of sponsors, the Transportation Research Board (TRB) administers three programs that invest in the potential of innovations: Innovations Deserving of Exploratory Analysis (IDEA).

- Through the National Cooperative Highway Research Program (NCHRP), state departments of transportation (DOTs) fund the Highway IDEA program in search of advances in design, construction, safety, maintenance, operations, and management of highway systems.
- FRA funds the Rail Safety IDEA program, which looks for innovative approaches to improve railroad safety or performance.
- Through the Transit Cooperative Research Program (TCRP), FTA funds the Transit IDEA program to support innovations to improve the efficiency, safety, security, and ridership of transit systems.

IDEA programs differ from traditional research programs: IDEA projects are initiated by researchers rather than by a request for proposals, and funding can support initial testing of unproven concepts. Each of the sponsoring agencies supports programmed, fundamental research through other means. Their investment in the IDEA programs is meant to capture the unexpected concept that challenges conventional thinking.

IDEA programs are open to all, including foreign nationals living and working outside the United States (U.S.). However, please note that private sector investigators submitting proposals should register their business with the federal government at the System for Award Management (SAM) website: https://www.sam.gov/SAM/. If their proposal is selected, the award cannot be processed without this registration. Also, federal policies may not allow the IDEA programs to fund research at a federal agency. Researchers from federal agencies or national laboratories that are managed by non-federal organizations should check with their contracting and legal authorities on whether they may receive funding from IDEA programs.

PROGRAM ADMINISTRATION

TRB administers the IDEA programs on behalf of their sponsoring agencies. A senior staff officer supports the work of panels of unpaid experts who volunteer their time to review proposals, select projects for funding, and offer guidance on the conduct of investigations.

There are two project types: Type 1 projects are concept explorations that demonstrate the validity of unproven concepts, and Type 2 projects develop and test prototypes of proven concepts. Funding varies by program and project type.

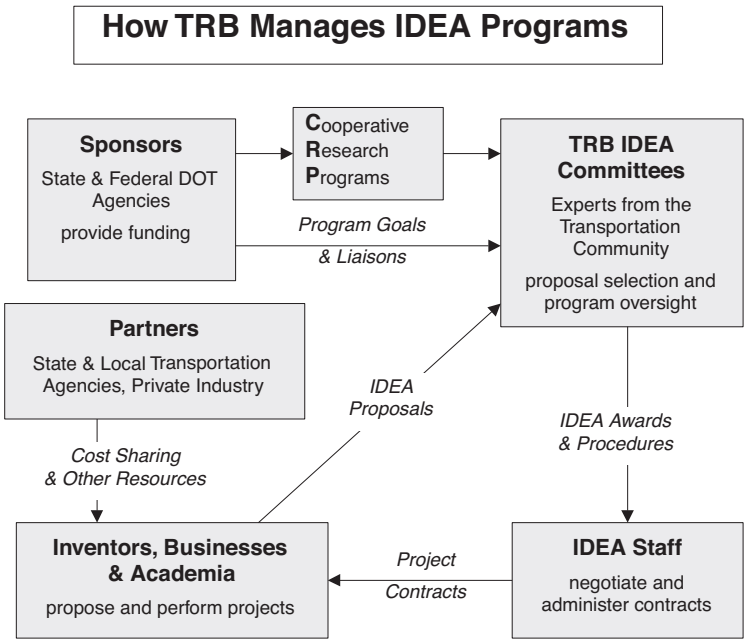
The IDEA website lists updated information on:

- *Current and completed projects*
- *Panel members*
- *Proposal submission deadlines*
- *Contact information*

www.trb.org/IDEAProgram/IDEAProgram.aspx

Contact the IDEA office:

E-mail: ideaprogram@nas.edu



Program Funding

Transit IDEA Program: For both Type 1 and Type 2 proposals, the Transit IDEA program will provide up to $150,000 in IDEA costs, not including the cost sharing. Cost sharing is not mandatory for Type 1 proposals but is a prerequisite (at least 20% of the requested IDEA funds) for Type 2 proposals.

Rail Safety IDEA Program: For both Type 1 and Type 2 proposals, the Rail Safety IDEA program will provide up to $100,000 in IDEA costs, not including the cost sharing. Cost sharing is not mandatory for Type 1 proposals but is a required (at least 20% of the requested IDEA funds) for Type 2 proposals.

Highway IDEA Program: Funding for a Type 1 Highway IDEA project will be in the $125,000–$150,000 range, depending on the amount of funds available and the number of proposals selected for the particular review cycle under consideration. Cost sharing is encouraged but not mandatory for a Type 1 project. Funding for a Type 2 project is limited to a maximum of $100,000 and requires at least a 25% match to the proposed Highway IDEA budget.

The duration of an IDEA project is generally one to two years. This can be adjusted if warranted by the specific situation and is mutually agreed upon. Please note that the IDEA contracts are fixed-price contracts, and so, if the work is completed and final deliverables are received earlier than scheduled, the contractor will still be paid the full contracted amount.

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Proposal Submitting Deadlines

The Highway IDEA program conducts two review cycles each year with proposal due dates of March 1 and September 1. The Transit IDEA and the Rail Safety IDEA programs will have one review cycle each in 2024. Transit IDEA proposals will be due May 1 and Rail Safety IDEA proposals will be due December 15. Please keep checking the IDEA website (www.trb.org/IDEAProgram/IDEAProgram.aspx) for the most updated information.

The cut-off time for receiving proposals is 12:00 midnight Pacific Time of the due date. So, for example, if the due date is March 1 at 12:00 midnight Pacific Time, the next day after that midnight will be March 2 (it will already be 3:00 a.m. Eastern Time on March 2).

If the proposal submission due date for any IDEA program falls during a weekend or on a federal holiday, the due date automatically moves to the next business day.

Protections

Proposals received by the IDEA programs are held in confidence. The information they contain is used only for evaluation during the review process by panel members who are instructed not to disclose it. Proposal reviews conducted by panel members are also confidential.

Investigators selected for IDEA funding retain intellectual property rights to their ideas and are encouraged to obtain patents or find other ways to secure their rights.

EVALUATION CRITERIA

Proposals are reviewed by technical experts in the program area who are selected from industry, academia, and state and federal transportation agencies to serve on IDEA panels. In evaluating proposals, panel members require that proposals present clear and concise information and be written in a way that will be understandable to a transportation generalist. Reviewers will, as a minimum, expect responses to the following general questions:

Quality of Innovation—Is this a credible technical concept, and would it produce a significant advancement for the state of the art or the practice?
Potential Payoff—Is this an important problem that the IDEA program should investigate, and would the product have potential for implementation or commercialization?
Research Approach—Would the proposed investigative approach rigorously assess the concept and the application?

Complete proposals that follow the Instructions for Preparing IDEA Proposals (see pp. 9-13) will be further evaluated according to their strength in the following areas:

1. Expected benefits to transportation agencies.
2. Scientific and technical merit of the concept.
3. Sound research plan and realistic scope.

4. Qualifications of the investigating team and adequacy of the facilities available to them.
5. Practical, clearly explained plans for implementation or commercialization of a completed product, including discussion of estimated development and production costs, and potential market size.
6. Participation in the project of potential users of the ultimate product.

Cost sharing can leverage an agency's investment in research as well as spread the risk inherent in early-stage concept development. For those reasons, all other things being equal, proposals that include cost sharing from the proposing organization and other sources may be given some preference in the evaluations.

TRB may recommend technical or budget modifications to the project after a proposal has been selected for funding but before a contract is awarded. For example, investigators may be asked to clarify project details, revise the work plan, or reestimate the cost to perform the project. Note that evaluation scoring information for Highway, Transit, and Rail Safety IDEA proposals is shown in Attachment 4.

INFORMATION RESOURCES

The Transportation Research Information Database (TRID), which provides free abstracts of thousands of reports on transportation topics in virtually every area, is accessible online through the Bureau of Transportation Statistics at https://www.bts.gov/ and through the TRB website at www.trb.org. A TRID search will help avoid duplicating earlier efforts.

The IDEA website (www.trb.org/IDEAProgram/IDEAProgram.aspx) provides links to annual progress reports for each program. These reports describe projects that have been funded and may be useful in evaluating whether a proposed project is an appropriate fit with the IDEA programs and in developing the scope of a project. Look for these links under the section labeled "IDEA Resources."

Transportation agencies, most likely the ultimate users of the proposed product, are also valuable resources. Input from agencies can clarify implementation issues and sometimes results in agreements for testing facilities or trial implementation. Letters of participation from partnering organizations strengthen proposals.

Investigators are encouraged to ask questions early in the process of developing proposals. Both technical and procedural questions can be directed to the IDEA program office by e-mail or telephone call to the appropriate staff officer. Contact information is listed on page 16.

SUGGESTED FOCUS AREAS

IDEA projects are initiated by investigators whose innovative concepts have potential to advance the general goals of improving the safety and efficiency of the nation's surface transportation network. While specific research problems are

not defined by the sponsoring transportation agencies, the following topics are illustrative of areas in which proposals may be submitted.

Highway IDEA Topics for Investigation

The Highway IDEA program is managed by the NCHRP and is sponsored by state DOTs. The program seeks advances in the construction, safety, maintenance, and management of highway systems. Suggested topics warranting investigation in areas of interest to the program are listed below. Projects addressing safety on the roadway are particularly encouraged.

Highway Operations

- Deployment of improved or advanced technologies for systems operations;
- Incorporation of reliability estimation into planning and operations modeling tools;
- Means for reducing inappropriate driver response to adverse weather, roadside distractions, traffic incident scenes, and queues;
- Driver behavior and informed drivers, including ITS solutions;
- Data gathering and processing technologies;
- Real-time data fusion to support traveler information systems; and
- Advanced queue and incident scene management techniques.

Highway and Worker Safety

- New concepts for automated identification and warning of hazardous conditions;
- Advanced technology to reduce highway workers' exposure to hazardous conditions and to warn them of impending hazards;
- New concepts for highway infrastructure systems and vehicles, including ITS advances to improve highway safety; and
- Worker safety in night construction.

Security of Highway Facilities and Services

- New technologies and concepts for security warnings and assessments,
- Advanced materials and techniques for hardening the infrastructure, and
- New information technology for crisis response and evacuation procedures.

Highway Design, Construction, and Quality Control

- Innovative concepts for incorporating initial and life-cycle design features, constructability, durability, and maintainability;
- Low-cost design concepts for enhancing the dynamic damage resistance of bridges, pavements, and structures to natural hazards, such as earthquakes, wind, and floods;
- Design concepts using advanced composites, steel, and hybrid materials in pavement and bridge constructions;
- Automated systems for monitoring and controlling the construction quality of highway pavements, earthworks, and structures; and
- Accelerated construction methods and techniques.

Maintenance and Renewal of Service Life

- Advanced diagnostic technologies to enhance early detection of deterioration and repair technologies that reduce the time between repair and resumption of service;
- Modern materials and composites to improve the service life of pavements and bridges with reduced maintenance; and
- Advanced coating materials and corrosion protection processes to increase the service life of highway structures, including steel and reinforced concrete structures.

Pavement and Bridge Performance and Management

- Innovative systems for pavement and bridge management, including advanced application of remote sensing, communication, and information processing technologies, to enhance the collection, analysis, and data management processes; and
- Innovative methods to manage and analyze data from long-term pavement performance studies.

Environment and Resource Conservation

- Advanced monitoring methods to rapidly measure the environmental impacts of highway construction and operation,
- Advanced technologies for recycling and reusing materials and waste products, and
- Advanced and alternative methods for conformance with environmental requirements in highway construction.

Transit IDEA Topics for Investigation

The Transit IDEA program, which is funded by FTA as part of the TCRP, seeks innovations to improve the efficiency, safety, security, maintenance, and ridership of transit systems. Proposers are encouraged to work with transit agencies in developing IDEA proposals and to include participation from transit agencies in proposals, such as in testing innovative methods. Evidence from transit agencies that they would want to use the proposed concepts and products and participate in testing prototypes strengthens proposals. Any letters from transit agencies confirming their participation in Transit IDEA proposals should be addressed to the proposer and should briefly describe what that participation would be. Possible areas of investigation are described on the next pages.

High-Priority Innovation Areas

The panel that reviews Transit IDEA proposals is encouraging proposals for innovative methods that address one of the following five high-priority focus areas. The panel developed these focus areas in cooperation with FTA and APTA:

1. Improving transit relevance in the context of mobility management;
2. Satisfying current and anticipated customer needs;
3. Improving transit safety, security, and viability;
4. Delivering equitable, accessible, and environmentally responsible services; and
5. Improving transit patron and employee environment for health and safety.

Other Possible Areas of Investigation
Transit IDEA proposals may also be submitted in other areas with application to transit practice, including—but not limited to—the examples identified below.

Capital Assets
- Cost-effective concepts for design, construction, maintenance, and restoration of physical infrastructure, such as terminals, transfer facilities, maintenance facilities, and stations, to improve operations of transit systems;
- Design implementation;
- Maintenance, restoration, and replacement;
- Big data, cloud computing, data interfaces, communications, data gathering, data processing, data dissemination, and information technologies;
- Track stations; and
- Train control.

Capital assets refer to the following: fixed facilities, operating infrastructure, vehicles, and systems.

Mobility
- Methods for improving customer experience and environment (e.g., reduce trip times and enhance access to amenities);
- Methods for helping the industry transform and adapt innovative mobility solutions;
- Methods for improving the transportation agency's ability to satisfy transportation demand;
- Methods for improving smart community partnerships with transit agencies incorporating new technologies; and
- Mode integrations and managing multiple modes.

Service Configuration
- Innovative concepts for advancement in planning, marketing, and service delivery, and
- Methods and concepts that integrate urban development and travel patterns, level of travel abilities and disabilities, neighborhood demographics, and intermodal systems connections.

Transit Operations
- Asset management, state of good repair, and continuity of operations;
- Cybersecurity;
- Improved safety and security;
- Innovative methods for collecting and analyzing operations data, including methods that are currently unavailable or inaccessible;
- More reliable service;
- New tools to educate and train transit personnel to enhance productivity and performance;
- Quick delivery of timely information; and
- Safety management systems and crew resource management.

Transit Vehicles and Equipment

- Automated vehicles;
- Vehicle and equipment improvements to enhance passenger safety, comfort, and mobility, including essential services;
- Innovative elements of the vehicle platform; and
- Integration of autonomous operations into transit.

Transit Vehicle Maintenance

- Improved methods for repairing and maintaining transit vehicles and equipment, and
- Innovative concepts to address critical problem areas, such as vehicle maintenance, inspection, equipment failure diagnostics, and maintenance management.

Transit IDEA proposals with a potential path to early implementation of results are particularly encouraged.

Rail Safety IDEA Topics for Investigation

The Rail Safety IDEA program is funded by FRA. This program accepts new proposals for innovative approaches to improve railroad safety or performance.

Rail Safety IDEA proposals can be considered for promising but unproven innovations to advance railroad practice. Such proposals can apply to any type of railroad, including high-speed railroads, intercity passenger rail, or freight railroads.

Proposers are encouraged to get the participation of railroads in Rail Safety IDEA proposals, such as participation in the testing of innovative methods or prototypes in appropriate proposals. Letters to proposers from railroads confirming their participation strengthen proposals. Any letters from railroads confirming their participation in Rail Safety IDEA proposals should be addressed to the proposer and should briefly describe what that participation would be.

Rail Safety IDEA proposals with a potential path to early implementation of results are also particularly encouraged.

FRA is interested in proposals that will improve safety and performance in railroad systems, including in the following areas: security, environmental impact, human factors, rolling stock and components, track and structures, track/train interaction, grade crossings, hazardous materials transportation, train occupant protection, trespass prevention, signaling and train control systems, and employee safety.

INSTRUCTIONS FOR PREPARING IDEA PROPOSALS

The following sections provide instructions on how to prepare a proposal for funding consideration from the IDEA programs. The most valuable advice, however, may be this: make it easy for reviewers to quickly grasp the intended benefits of the project. **Develop a clear statement of what can potentially change as a result of the project; include it on the cover sheet, except for the Highway IDEA program; and begin the proposal with it.**

Important Notification Regarding Proposal Submission Eligibility

The National Academies of Sciences, Engineering, and Medicine's new Conflict-of-Interest policy regarding the proposal review process does not allow the IDEA programs to accept proposals from an institution if an individual from that institution serves on the respective IDEA committee/ panel. So, please make sure to check the respective committee/panel roster before planning to prepare an IDEA proposal. The rosters of all three currently active IDEA programs can be accessed via the link below:

http://onlinepubs.trb.org/onlinepubs/IDEA/IDEAPanelRosters.pdf

Please contact Dr. Inam Jawed at ijawed@nas.edu if you have any questions.

This program announcement contains three attachments that must accompany all proposals: Attachments 1 (cover sheet), 2 (budget summary), and 3 (liability statement). These attachments can be accessed as Microsoft Word documents using the link below for entering the needed information:

http://onlinepubs.trb.org/onlinepubs/IDEA/IDEA_ProposalAttachments.docx

Attachments 2 and 3 **must be signed** by the authorized representative and should appear at the end of the proposal.

IDEA proposals must be submitted in a single, complete PDF document (do not submit multiple independent files). A complete IDEA proposal will contain the following sections:

1. Pitch Deck slides (for Highway and Transit IDEA Proposals only—not for the Rail Safety IDEA proposals)

   Each Highway or Transit IDEA proposal will also incorporate a pitch deck, which is a set of slides providing a quick overview of the proposal. The following link provides a sample pitch deck illustrating how it is to be prepared:

   http://onlinepubs.trb.org/onlinepubs/IDEA/IDEASamplePitchDeck.pptx

The pitch deck must follow the example of the sample pitch deck. It must contain the same number of slides (11 in total) and use the same captions or headings as the sample pitch deck. Proposals with pitch decks exceeding this slide limit will not be accepted. No changes shall be made to the slides' captions or headings. Following the example of the sample pitch deck, each slide will describe a particular item in the proposal, which will not be carried over to the next slide. The proposers may find the notes below the sample slides helpful in preparing their pitch decks. The pitch deck will not count against the proposal page limit (10 pages for the Highway IDEA and 15 pages for the Transit IDEA) for proposals.

Pitch deck slides should be prepared as a PowerPoint presentation. The slides should not appear congested or crowded with too much text. Use bullets to show your points in no more than two or three short phrases or sentences. Do not write paragraphs under each bullet. The font size should be large enough so that if it were a PowerPoint presentation, the slide is easily readable by the audience in the last row of a lecture hall.

Both the pitch deck and the full proposal will be submitted as one PDF file in which the pitch deck will be followed by the full proposal. The pitch deck, prepared as a PowerPoint presentation, and the proposal, prepared using Microsoft Word, should be converted into a PDF and combined as a single document. Separate files, one for the pitch deck and the other for the proposal, will not be accepted.

The full proposal, which follows the pitch deck, will contain the items described below. The order in which these items should appear is described in the section titled **Required Formatting for Proposals.**

2. Cover Sheet
Attachment 1 should be page 1 of the proposal. In the summary section for the Rail Safety IDEA and Transit IDEA programs, clearly state the intended benefits of the innovation, along with the problem it addresses. Summarize the research approach, indicate any cost-sharing arrangements, and briefly address potential impact on practice. For Highway IDEA proposals, this summary section is not required. Instead, answers to the three specific questions listed on the cover page should be provided on a page following the cover page.

3. Concept and Application for Practice
Starting on page 2 of the proposal (page 3 for Highway IDEA proposals), provide a clear explanation of the following:

(a) Concept and Application: Define the problem the concept addresses and describe the innovative approach to the problem.
(b) Potential Payoff for Practice: Describe the potential benefits of implementing the innovation. Discuss how you envision the product will be used by transportation agencies or other transportation stakeholders.

(c) Transfer to Practice: Describe the approach to implementation, considering partnerships (e.g., with transportation agencies, industry, and others) and customer base. Publishing in professional journals and making presentations at professional conferences are not really the implementation or tech transfer activities. The effective implementing strategy is one that will engage those who will actually use the innovation. A meaningful implementation plan will address the following questions:

- Who are the targeted audiences? Who are the adopters? Who will benefit from this technology or product?
- What are the barriers (perceived and/or actual) to adoption?
- What would be the initial setup costs (and ongoing maintenance costs) associated with implementing the technology or the product? When can an agency expect to recoup the costs associated with the initial adoption of the technology?
- What additional equipment will be needed to implement the technology or product?
- What type of training or education is needed to use the technology or product? Who will be providing the training?
- Have the state DOTs or other stakeholders been sought and identified that are willing to pilot the innovation?
- For Type 2 projects where the IDEA product involves/requires an AASHTO specification update, has the relevant AASHTO committee been identified?

(d) Investigative Approach: Describe the planned investigative approach. Provide a proposed work plan that describes the work required for each numbered task. Divide the plan into two or three stages and include a specific plan for evaluating research results at the completion of each stage. Include a summary of the results of a literature search to show that the concept is not similar to or duplicative of other investigations. (See the section titled **Information Resources** on Page 4.) Literature search/reviews or surveys should not be a task in the IDEA research plan. This may be fine for a traditional NCHRP or TCRP research project, but not for an IDEA research project. The proposers should have done these things before writing their IDEA proposals to find out what has not been done on their particular topic/issue and to have a clear idea of what specifically they will do to address the problem.

(e) Key Personnel and Facilities: Identify the key investigators and include summary information on their background and technical expertise. Describe resources of the research facility that are available for performing the project. Indicate liaison or cooperative work arrangements, if any, with states, other research organizations, producers, or potential product users.

(f) Other Related Proposals: Provide information on other proposals in the same or related technical areas that have been submitted by the investigator(s) to other agencies or programs, are planned to be submitted in the current year, or have been funded previously. Indicate “not applicable” if no such proposals have been submitted or awards received. Provide a brief synopsis of other ongoing or completed work related to the proposal.

4. Budget and Cost Sharing
Complete the Budget Summary in Attachment 2 and provide information showing how the requested funds will be used. Follow the instructions under the section titled **Contract and Budget Guidelines**. Leave blank any items that are not applicable. At least half of the research must be performed directly by the proposing firm, individuals, or institution. Only critically needed hardware and equipment specifically required for the project will be considered for funding. The appropriate disposition of capital equipment purchased with project funds will be determined on completion of the project. Proposed purchasing of such equipment with IDEA funds is discouraged. Any travel budget items must be directly related to the performance of the project work. Include potential travel for at least one project briefing to the IDEA committee. The budget should reflect the proposer's best terms from a cost and technical standpoint. In case of a joint proposal presented by two or more institutions, only one budget sheet needs to be provided, prepared by one of the partnering institutions (acting as the prime contractor) with the other partners shown as subcontractors.

Cost sharing includes direct cash contributions and/or indirect contributions and payment in kind. However, the time of the research team, if proposed as cost share, should not exceed 25% of the amount of cost share proposed. University professors who offer their time as cost share should attach an official letter from their university's financial authority, who signed the budget sheet in their proposal, stating that the university will pay for their cost-shared time.

Cost sharing is encouraged for all proposals but is a prerequisite for Type 2 proposals and is taken as an indication that the proposers and/or their partners also have put some faith in the proposed innovation and are willing to risk their own money on it. Cost sharing can come from the proposers, users, industry participants, state agencies, and other sources available to the proposers. Any cost sharing should be discussed in the proposal. Specific arrangements, if proposed, must be completed before an award is made.

5. Liability
The proposal must include the liability statement (see Attachment 3) duly signed by an authorized official. Under no circumstances will a proposal without this liability statement be accepted. Also, there shall be no alteration or modification of the liability statement. (Proposals with altered liability statements will not be accepted.)

Contract and Budget Guidelines

IDEA awards are firm fixed-price contracts. Payments will be made at specified stages contingent on approved progress toward contract completion. The Budget Summary (Attachment 2) should provide the estimated costs for the project with information on each cost element, consistent with the proposer's cost accounting system.

1. Personnel
List individually all personnel and include for each the requested person-hours to be funded and the respective rates of pay.

2. Materials and Equipment
Itemize materials required and include costs for each (indicate only materials and supplies required for the performance of the investigation). Equipment purchasing, other than the parts or components for the test set up or the prototype, is discouraged. Any equipment, if purchased, will need to be returned to the federal government upon the completion of the project. The purchase of computers and phones is not permitted. If the proposers want to buy computers or phones for the project, they should do so from the cost-sharing portion of their project budget.

3. Other Direct Costs
List all direct costs that are not included in other categories. For travel, address the type and the duration of travel and its relation to the project.

4. Consultants and Subcontractors
List the names of consultants and/or subcontractors and describe the activities to be performed, the duration of the service, the compensation involved, and the total cost of all subcontracts, which should be below 50 percent of total project cost, excluding any costs for specialized equipment or services. The IDEA programs deal only with the prime contractor on contractual matters and are not involved in the subcontract between the partner institutions. The National Academy of Sciences (NAS) Office of Contracts and Grants (OCG), however, will need to review the subcontract if it is $25,000 or more.

5. Overhead Costs
Specify current rate(s) and base(s). Use current rate(s) negotiated with the cognizant federal government agency, if available. If no rate(s) has (have) been negotiated, a reasonable indirect cost (overhead) rate may be requested, in accordance with the existing accounting systems.

6. General and Administrative Costs
Specify the current rate and base. Use the current rate negotiated with the cognizant federal negotiating agency, if available. If no rate has been negotiated, a reasonable and justifiable indirect cost rate may be requested.

Note: A cost analysis will be made to determine the reasonableness of the proposed itemized budget. A pre-award audit for financial accountability may also be made by NAS OCG. Institutions of higher education and other nonprofit organizations receiving IDEA awards are subject to the federal government's Office of Management and Budget (OMB) audit requirements (refer to OMB Uniform Guidance 2CFR 200 – Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards).

Intellectual Property Rights

Individuals or institutions retain copyright to written materials, data, and software derived from the IDEA projects and are encouraged to obtain patents on any resulting inventions. The U.S. government holds a nonexclusive license to use the results of research for certain purposes. NAS retains the right to print and distribute material from project reports submitted to IDEA programs.

Project Negotiations

The project scope, work plans, and budget may be revised based on the evaluation of the proposal. Guidelines for preparing project revisions for an IDEA project will be provided for proposals selected for IDEA awards before a contract is awarded.

Liability Requirements

A completed, signed original Liability Statement (Attachment 3) must be submitted with the proposal. Proposals submitted without this statement will not be considered for an award. Also, no alteration or modification of the liability statement is permitted.

Important:

NAS will transmit a contract to the proposer. This contract must be either (1) signed and returned to the NAS OCG within two weeks of transmittal or (2) within two weeks of transmittal, the proposer must return to the NAS OCG in writing any questions or exceptions to the contract terms. For situation #2, NAS will respond in writing and the proposer will have one week to sign and return the contract to OCG with only such revisions as are explicitly approved by NAS. Failure to respond to either the first or second option will result in the contract offer being withdrawn.

REQUIRED FORMATTING FOR PROPOSALS

The proposal should be organized in the order described below. Proposals that deviate from this order or use a different format will not be accepted.

- Pitch Deck slides (for Highway and Transit IDEA programs only)
- Cover Page
- Page with answers to the three specific questions (for Highway IDEA proposals only)
- Summary of Concept and Application for Practice
- Investigative Approach
- Key Personnel and Facilities
- Other Related Proposals (if any)
- Budget Summary Sheet (It is suggested that this sheet not include budgetary or investment explanations, as this will be counted toward page limits.)
- Liability Statement (only unaltered statement accepted)
- Letters of Support/Endorsement

For all programs, the minimum font size is 12 point and margins are 1 inch on each side. The type is left-justified and page numbers are centered at the bottom. Digital images must be a minimum of 300 dpi.

Proposals for the Transit and Rail Safety IDEA programs **should not exceed 15 single-spaced pages** (including all enclosures). Proposals for the Highway IDEA program **should not exceed 10 pages** (including all enclosures) typed single-spaced. Proposals exceeding the allowed page limit will not be accepted. The IDEA program's committees and panels are very strict about the page limit.

Again, this is a reminder: resubmitted IDEA proposals must include a detailed response to review comments on the previous submission, which should be placed in the resubmitted proposal just after the cover sheet. So, if you plan to resubmit, make sure to ask the IDEA program for review comments on your previous submission. The response pages are not counted in the proposal page limit.

Please note that the following are also counted toward the page limit for proposals for all three IDEA programs:

- Cover, budget, and liability statement sheets
- Bibliography
- Resumes of researchers
- Brochures, description of facility/company, appendices, etc.

The following are not counted toward the page limit for the three IDEA program proposals:

- Letters of support/endorsement, regardless of the number of such letters. (The letters worth attaching are those that make some meaningful commitment rather than mere expression of interest.)
- Response to committee's comments on the previously submitted proposal. This should be attached at the beginning of the proposal, following the cover sheet.
- For Highway IDEA proposals, the page with answers to the three specific questions immediately following the cover sheet. For resubmitted proposals, this page should be placed after the response to the comments on the previous submission.

SUBMITTING PROPOSALS

The IDEA programs accept proposals only electronically (no paper copies). The proposal and all attachments (budget summary and liability statement sheets, letters of support, etc.) should be compiled into one **single package in PDF format** and submitted via the links listed below. Please do not lock the PDF document or send any material relevant to the proposal (such as support letters) later or separately. These cannot be added to the proposal.

Reminder: Please make sure that the proposal PDF being submitted is unlocked. The IDEA staff cannot add a proposal number to a locked proposal.

Highway IDEA	NCHRP IDEA Proposal Portal
Transit IDEA	Transit IDEA Proposal Portal
Rail Safety IDEA	Rail Safety IDEA Proposal Portal

Contact Information

Contact the IDEA office by e-mail at ideaprogram@nas.edu if there are any questions. You can also call or write to the IDEA program staff:

IDEA Program Manager: Dr. Inam Jawed, ijawed@nas.edu, 202-334-1461
Senior Program Assistant: Mireya Kuskie, mkuskie@nas.edu, 202-334-1952

REPORTS AND BRIEFINGS

The contractor must submit quarterly and stage reports and a final report as specified in the contract document. Link to the IDEA Reports Guidelines for preparing various reports will be provided in the contract document. Following these guidelines may prevent delays in contract completion. Also, during the contract period, the contractor may be required to present updates on the progress and results of the investigation to TRB IDEA committees, panels, or staff.

ANSWERS TO FREQUENTLY ASKED QUESTIONS

Q: Are IDEA programs open only to researchers in the U.S.? Can researchers from other countries also submit proposals?
A: IDEA programs are open to all, including foreign nationals living and working outside the U.S. It would, however, be an easier and less complicated contracting process if the foreign submitters find a U.S. partner. Please note that private sector investigators submitting proposals should register their business with the federal government at System for Award Management (SAM); website: https://www.sam.gov/SAM/. If their proposal is selected, the award cannot be processed without this registration. Registering a business with the federal government could take several weeks and so it is advisable to be already registered when submitting a proposal.

Q: Is anyone not eligible to submit an IDEA proposal?
A: Yes. Anyone listed in the Specially Designated Nationals and Blocked Persons (SDN) list is ineligible. Please see the website: https://www.treasury.gov/resource-center/sanctions/SDN-List/Pages/default.aspx.

Q: Can someone from a state DOT submit an IDEA proposal?
A: Yes.

Q: Will IDEA programs accept a proposal from someone from a federal agency or national laboratory?
A: IDEA programs are open to all, including foreign nationals living and working outside the United States. However, federal policies may not allow the IDEA programs to fund research at a federal agency. Researchers from federal agencies or national laboratories that are managed by non-federal organizations should check with their contracting and legal authorities on whether they may receive funding from IDEA programs.

Q: Are the IDEA programs essentially to support junior faculty members?
A: IDEA programs are open to all faculty and non-faculty members at an educational institution as well as those outside academia and in private business, regardless of the qualifications, experience, and seniority. The only requirement is a breakthrough innovative idea.

Q: What is the duration of an IDEA project? Is there any flexibility in this time?
A: The duration of an IDEA project is generally one to two years. This may be adjusted if specific circumstances warrant.

Q: What is the cut-off time for receiving proposal?
A: The proposals are submitted electronically and are accepted until 12:00 midnight Pacific Time of the deadline date.

Q: What do you mean by 'indirect cost?' Is it the same thing as overhead cost?
A: Indirect costs include overhead, leave, fringe, general administrative costs, etc. Indirect costs are costs that are not directly associated with a single activity, event, or other cost object. Such costs are frequently aggregated into an overhead cost pool and allocated to various activities based on an allocation method that has a perceived or actual linkage between the indirect cost and the activity.

Q: We are cost sharing salary and tuition for a student and the unrecovered indirects associated with the student's salary. From our previous experiences, different sponsors have had different interpretations as to whether these are direct or in-kind contributions. Would this fall under direct or in-kind, or both at the IDEA program?
A: The IDEA Program Announcement states that "cost sharing includes direct cash contributions or indirect contributions and payment in kind." Other than this statement from the Program Announcement, we leave it to the recipients to determine the cost sharing.

Q: Are F&A costs indirect costs? Can they be cost shared?
A: Yes, F&A costs are indirect costs and can be cost shared.

Q: We are a new small start-up company and we do not have enough information to compute "Overhead Costs" and "General and Administrative cost". Is there a "safe rate" that we could use for our IDEA proposal?
A: Whatever rate is acceptable to the federal government for small businesses will be acceptable to the IDEA programs. Also, please note that the IDEA budget would include all indirect costs as well as general administrative costs.

Q: We are a small business. In the IDEA budget summary sheet, we do not see a line item for fee/profit. Is it not allowed?
A: It is not allowed. In fact, it is on purpose that there is no line item for fee or profit in the IDEA budget summary sheet. The IDEA funding is being provided to assist innovators in furthering their innovative concepts. It would not seem reasonable for them to make a profit from funding that is being provided to assist them in developing their concepts.

Q: The maximum funding for an IDEA project (except for a Type 1 Highway IDEA project) is $100,000. Does this amount include the cost sharing? In other words, if I provide $25,000 cost sharing, would the IDEA program provide only $75,000?
A: The IDEA funds are not impacted in any way by cost sharing amounts. In other words IDEA funds are not reduced if you show cost sharing.

Q: For joint proposals, the primary contractor should have at least 50% of what – is it the amount of work or the budget? The Program Announcement says that "at least half of the research must be performed directly by the proposing firm, individual or institution." Does this mean half in terms of personnel costs or personnel work hours, or something else?
A: The budget share should be at least 50% for the primary contractor. The amount of work and budget generally go together.

Q: The budget guidelines state that a subcontract's cost must be below 50% of the total project cost. Am I correct in assuming that this total project cost includes any cost sharing? Does the form of cost sharing (cash contribution vs in-kind contribution) affect this?
A: This 50% condition applies to the IDEA amount. It does not apply to the cost sharing amount. The form of cost sharing does not affect this, although cash contribution is considered more credible.

Q: The proposal guidelines state that subcontracts of $25,000 or more are required to be reviewed by the National Academies. Are such contracts submitted after a grant has been awarded?
A: Yes, subcontracts of $25,000 or more must be reviewed and approved by the National Academies. You can submit them after the IDEA award has been made.

Q: My proposed project requires a subcontract with a software developer. Do I have to have this subcontract in place when the proposal is submitted, or can it be finalized after the grant is made?
A: The subcontract can be finalized after the IDEA award is made. Please note that the award will be a contract, not a grant.

Q: Are the funds for the IDEA programs federal based or state based? If they are federal based, then it would allow states to cost share, but if they are state based, then states generally cannot cost share.
A: IDEA funds are essentially federal-based. Funds for the Rail Safety IDEA program come directly from the Federal Railroad Administration. Funds for the Highway IDEA program come from the Federal Highway Administration through the state departments of transportation. Funds for the Transit IDEA program come from the Federal Transit Administration.

Q: While discussing intellectual property rights, the Program Announcement says that the U.S. government holds a non-exclusive license to use the results of research for certain purposes. What are those 'certain purposes?'
A: Those certain purposes would be defined by the U.S. government if and when it determines it wants to exercise its rights.

Q: Does an IDEA contract compromise my ability to get a patent?
A: No. IDEA does not retain any rights on your invention. Researchers should independently secure their intellectual property rights.

Q: Does IDEA ensure the confidentiality of my proposal?
A: We treat proposals as confidential material and do not release them in whole or part. Our review process involves committee members who are instructed not to disclose information from proposals.

Q: What do reviewers consider the most important part of a proposal?
A: The innovation. Effective proposals clearly identify what is being done differently.

Q: What can I do to make my proposal better?
A: Research. A proposal that shows an awareness of what has been done in the past makes a positive impression on reviewers. Similarity to existing or past work is one of the reasons proposals are not selected.

Q: What else can I do to improve my chances for selection?
A: Talk to potential users of your concept. Ask them if they might be able to help you develop or test the concept as part of the work plan. Sometimes a letter of commitment from a potential user to participate in your project can add strength to your proposal. Also, follow the guidelines for preparing a proposal. Reviewers do not want to miss a good idea because they could not understand it in a poorly prepared proposal. Proposed deliverable/product should be implementable and cost-effective for transportation agencies.

Q: Is there any outline to prepare the proposal? How many pages? How to prepare budgets?
A: Please see the section Instructions for Preparing IDEA Proposals in this IDEA Program Announcement for all the details. The Program Announcement can also be accessed at trb.org/IDEAProgram/IDEAProgram.aspx.

Q: For a proposal being submitted jointly by two or more institutions, should there be a separate budget sheet and a separate liability statement for each institution?
A: The proposal should contain only one budget sheet and one signed liability statement from one of the partner institutions acting as the prime contractor. The IDEA programs deal only with the prime contractor on all contractual matters. The prime contractor deals with the subcontractors.

Q: What deliverables are expected in a Type 1 or Type 2 project?
A: For IDEA projects, a report is not a product but rather a means to describe the developed product. For Type 1 projects, the deliverable may be a prototype of a new device, a new testing, inspection or detection method, a new material, or a new soft- ware program to address a transportation problem. The final report should provide all this information as applicable. Type 2 projects are expected to provide a refined/improved prototype or product along with all the results on testing, evaluation as well as implementation efforts.

Q: Is there a listserv or distribution list to receive IDEA Program Announcements? If so, how does one get on this listserv or distribution list?
A: Yes, there is a listserv at TRB's Cooperative Research Programs (CRP) Division for communicating announcement for proposals to those interested. To get your name on the list, please contact Joseph Snell (202-334-3502; jsnell@nas.edu) at TRB. The IDEA Program Announcement is also publicized through the TRB e-newsletter.

Q: How can proposers receive feedback on whether a project was funded or not and any comments related to why it wasn't funded?
A: Proposers are informed after the IDEA committee meeting whether or not their proposals were selected for funding. Those whose proposals were not selected can request review comments on their proposals. The comments can be provided verbally or in writing.

Q: How can one keep in touch with project progress?
A: The Highway and Transit IDEA programs provide quarterly progress reports to TRB's CRP Division that contain an updated paragraph on each active project. For completed projects, the Highway, Rail Safety and Transit IDEA final reports are posted on the IDEA website. Also, every year each IDEA program publishes its annual progress report that provides annual updates on active projects as well as a one-page summary for each of the completed projects. These reports are also posted on the IDEA website. Another way to learn about IDEA projects is to attend the TRB Annual Meeting where selected active or recently completed IDEA projects are displayed at the IDEA poster session.

Q: What happens after IDEA research is completed?
A: It is essentially up to the researchers what they want to do with their developed products. They are encouraged by the IDEA program to find collaborators and partners among state DOTs and in private industry to carry their work forward toward implementation and commercialization. The project final reports are also provided to relevant TRB technical committees as well as AASHTO committees and councils to see if they have any interest in the developed products. Some projects generate sufficient interest among states to start a pooled fund study for further evaluation and implementation of the IDEA product. Programs under FHWA's Center for Accelerating Innovation may also be pursued to assist with implementation (https://www.fhwa.dot.gov/innovation/stic/funding.cfm). The U.S. DOT's Small Business Innovation Research program is also available to domestic small businesses to pursue research to develop innovative solutions to transportation problems.

Q: Will cost sharing increase chances of my proposal being funded? Is in-kind cost sharing acceptable?
A: Cost sharing is desirable but not mandatory for Type 1 projects. Cost sharing makes no difference if the concept is not innovative. Innovativeness of the concept and its practicality are the most important factors for selecting Type 1 projects.

Q: How important are the support letters for an IDEA proposal? Is support from a state DOT more important than private industry?
A: Support letters show that the researchers have discussed their concepts with the state DOTs and that DOTs like the ideas to the extent that they are willing to make some commitments. There is no preference regarding support letters from a DOT or private industry. The important thing is how meaningful the support is.

Q: Will submitting a proposal in the program's focus area increase my chances of being funded?
A: Only if the concept is really innovative and addresses high priority need of state or local transportation agencies.

Q: Can I submit more than one proposal? If yes, will the program still fund only one of those proposals even though they are all rated high?
A: Yes, you can.

Q: My concept is proprietary. How can I be sure that it will remain confidential during and after review of my proposal?
A: The IDEA proposal review process is strictly confidential. We continue to stress upon our reviewers to observe this confidentiality all the time. You can also write on every page 'confidential and proprietary information' to serve as a reminder.

Q: I already have a patent on my invention. Can I still submit a proposal based on my invention?
A: Yes, you can as long as you can show that your patented product offers a new solution to a highway-related problem.

Q: Will you be willing to review and provide feedback on my proposal before I submit it to the IDEA program?
A: No. It will not be fair to other proposers. The IDEA staff can tell you if your proposal is suitable for the IDEA program but should not advise you on what areas or sections of your proposals need to be strengthened or what questions your proposal has not answered or not answered adequately.

Q: Will you allow me to come to your review committee meeting to explain my concept before selection is made?
A: No. For fairness to all, we will have to ask all other proposers to do the same. Considering the large number of proposals we receive, this is not feasible.

Q: Can I resubmit a proposal if it is rejected the first time? Do you provide review comments on rejected proposals?
A: Yes, you can resubmit a revised proposal. Review comments on declined proposals are provided if requested. The revised proposal must contain your responses to the review comments on your previous proposal.

PROPOSAL COVER SHEET - NCHRP IDEA PROGRAM

****(Note: Proposals for the NCHRP IDEA program should not exceed 10 pages. This page limit includes the cover, budget summary, and liability statement sheets, but not the letters of support/endorsement and the additional page following the cover sheet providing answers to the three questions below)*

<table>
<tr><td>For Use by TRB</td><td>Date Received</td><td colspan="2">Proposal Number</td></tr>
<tr><td colspan="2">Title of Project</td><td colspan="2">[ ] Concept Exploration (Type 1)
[ ] Product Application (Type 2)
Project Duration _____ months</td></tr>
<tr><td colspan="2">Submission Date:
Resubmission Yes [ ] No [ ]</td><td colspan="2">Signed, unaltered, NRC liability certification enclosed with the proposal [ ] Yes [ ] No</td></tr>
<tr><td colspan="2" rowspan="2">Name/Address of Organization and
Name of Official to be Contacted</td><td>Telephone and Fax Nos.</td><td>E-mail</td></tr>
<tr><td colspan="2">IDEA Budget $_____ + Cost Sharing $_____
= Total Project Cost $_____</td></tr>
<tr><td colspan="2">Business Type
[ ] Academic [ ] Profit [ ] Non-Profit</td><td colspan="2">Size (Number of Employees)
[ ] <10 [ ] <100 [ ] <200 [ ] >200</td></tr>
<tr><td colspan="2">Name/Address of Principal Investigator</td><td>Telephone and Fax Nos.</td><td>E-mail</td></tr>
<tr><td colspan="4">Names of other Key Investigators</td></tr>
</table>

NCHRP IDEA Proposers:

Please do not delete or write in this box. On a page following this cover page, please provide separate answers to each of the following three questions. Please do not rephrase or combine the questions and be clear and concise in your answers (**one page maximum**):

1. What is the specific innovation? Does it address a high priority need of state highway agencies?
2. How could this innovation affect the current state of practice? What will it do that the current practice cannot do?
3. Compared with current practice, is the proposed innovative solution economically feasible and easy to use?

Note: The page with answers to the above questions will not be counted in the 10-page limit for the full proposal.

PROPOSAL COVER SHEET - RAIL SAFETY AND TRANSIT IDEA PROGRAMS

(Note: Proposals for the Rail Safety IDEA and Transit IDEA program will not exceed 15 pages, including the cover, budget summary, and liability statement sheets and all other enclosures, but not the letters of support/endorsement.)

<table>
<tr><td colspan="4">Proposal Submitted to: [ ] Rail Safety-IDEA [ ] Transit-IDEA</td></tr>
<tr><td>For Use by TRB</td><td colspan="2">Date Received</td><td>Proposal Number</td></tr>
<tr><td colspan="2">Title of Project</td><td colspan="2">[ ] Concept Exploration (Type 1)
[ ] Product Application (Type 2)
Project Duration _____ months</td></tr>
<tr><td colspan="2">Submission Date:</td><td colspan="2">Signed, unaltered, NRC liability certification enclosed with the proposal [ ] Yes [ ] No</td></tr>
<tr><td colspan="2" rowspan="2">Name/Address of Submitting Organization and Business Contact</td><td>Telephone and Fax Nos.</td><td>E-Mail</td></tr>
<tr><td colspan="2">IDEA Budget $_____ +Cost Sharing $_____
= Total Project Cost $_____</td></tr>
<tr><td colspan="2">Business Type
[ ] Academic [ ] Profit [ ] Non-Profit</td><td colspan="2">Size (Number of Employees)
[ ] <10 [ ] <100 [ ] <200 [ ] >200</td></tr>
<tr><td colspan="2">Name/Address of Principal Investigator</td><td>Telephone and Fax Nos.</td><td>E-Mail</td></tr>
<tr><td colspan="4">Names of other Key Investigators</td></tr>
<tr><td colspan="4">Brief Summary of Concept and Potential Impact on Practice</td></tr>
</table>

IDEA BUDGET SUMMARY

Project Title:_____

Principal Investigator: _____

Organization: _____

Phone: _____ Project Duration (Months): _____

FUNDING REQUESTED FROM IDEA PROGRAM

PERSONNEL:	# hours x $/hour	IDEA Costs	Cost Sharing
Principal Investigator:……	_____ x $_____	.....= $_____	$_____
_____:	_____	x $_____ .....= $_____	$_____
Other staff _____:	_____	x $_____ .....= $_____	$_____
	Subtotal.....	$_____	$_____
CONSULTANTS AND SUBCONTRACTORS: (specify)			
	Subtotal.....	$_____	$_____
MATERIALS & EQUIPMENT: (indicate items exceeding $1,000)			
	Subtotal.....	$_____	$_____
OTHER DIRECT COSTS: (specify)			
	Subtotal.....	$_____	$_____
OVERHEAD COSTS: (%)		$_____	$_____
GENERAL AND ADMINISTRATIVE: (%)		$_____	$_____
Total Cost:		**$_____**	**$_____**

PROPOSED COST SHARING (if any)

Direct (cash) contribution from proposing organization:	$_____
In-kind contribution from proposing organization:	$_____
Direct funding from other sources (specify):	$_____
Value of staff, etc., contributed by other sources:	$_____
Total Project Budget:	**$_____**

Signature:_____ Date:_____

TRB IDEA PROGRAMS Liability Statement

Proposal Title: _____

This signature of an authorized representative of the proposing agency is required on the following unaltered statement in order for the IDEA Program to accept the agency's proposal for consideration. **Proposals submitted without this executed and unaltered statement by the proposal deadline will be summarily rejected.** An executed, unaltered statement indicates the agency's intent and ability to execute a contract that includes the provisions below.

Proposing Agency: _____

Name _____ Title _____

Signature _____ Date _____

CONTRACTOR LIABILITY

(a) The parties agree that the contractor and its employees and agents ("Contractor") will be primarily responsible for performing the work required under the contract, and shall therefore be legally responsible for, and shall indemnify and hold the Academy harmless for all claims asserted against the Academy, its committee members, officers, employees, and agents, by any third parties, whether or not represented by a final judgment, if such claims arise out of or result from Contractor's negligent or wrongful acts in performing such work, including all claims for bodily injury (including death), personal injury, property damage, and other losses, liabilities, costs, and expenses (including but not limited to attorneys fees).

(b) With respect to entities of State government that are subject to State law restrictions on their ability to indemnify and hold harmless third parties ("Restricted State Entities"), the obligation to indemnify and hold harmless the Academy in Paragraph (a) shall apply to the full extent permitted by applicable State law. In addition, each Restricted State Entity executing this contract represents and warrants that no part of any research product or other material delivered by such Restricted State Entity to the Academy ("Work Product") shall include anything of an obscene, libelous, defamatory, disparaging, or injurious nature; that neither the Work Product nor the title to the Work Product will infringe upon any copyright, patent, property right, personal right, or other right; and that all statements in the Contractor's proposal to the Academy and in the Work Product are true to the Contractor's actual knowledge and belief, or based upon reasonable research for accuracy.

(c) The term "wrongful act" as used herein shall include any tortious act or omission, willful misconduct, failure to comply with Federal or state governmental requirements, copyright or patent infringement, libel, slander or other defamatory or disparaging statement in any written deliverable required under the contract, or any false or negligent statement or omission made by Contractor in its proposal to the Academy.

(d) The obligations in paragraph (a) of this clause to indemnify and hold harmless the Academy shall not extend to claims, damages, losses, liabilities, costs, and expenses to the extent they arise out of the negligent or wrongful acts or omissions of the Academy, its committee members, officers, employees, and agents.

(e) Both the Academy and Contractor shall give prompt notice to each other upon learning of the assertion of any claim, or the commencement of any action or proceeding, in respect of which a claim under this paragraph may be sought, specifying, if known, the facts pertaining thereto and an estimate of the amount of the liability arising therefrom, but no failure to give such notice shall relieve the Academy or Contractor of any liability hereunder except to the extent actual prejudice is suffered thereby.

(f) The Academy and Contractor agree to cooperate with each other in the defense of any claim, action, or legal proceeding arising out of or resulting from Contractor's performance of the work required under this contract, but each party shall control its own defense. The Academy shall also have the option in its sole discretion to permit Contractor or its insurance carrier to assume the defense of any such claims against the Academy.

(g) The obligations under this clause survive the termination, expiration, or completion of performance under this contract.

NCHRP-IDEA PROPOSAL EVALUATION

Rev. 2016-12-01

The reviewer's identity will be kept confidential and will not be released outside of the IDEA program. However, the IDEA program may provide the proposal's principal investigator with a summary of these comments. The reviewer agrees not to disclose any proprietary information contained in this proposal.

Proposal No.	Proposal Type	Principal Investigator	Institution

Proposal Title

Duplication
Does this research duplicate any similar research or development that you are aware of? If yes, please explain: :

Evaluation	Score
Innovation: Is the concept new and innovative? Is there scientific/technical merit? Is there a potential to produce a breakthrough or a major advancement? (For Type 2: Is the product or prototype based on an innovative concept? Does it represent a major advance over current technology?) **(Maximum points: 50)**	
Research Approach: Is the approach reasonable and sound? Is the approach informed by knowledge of related work? Are technical issues to be addressed clearly identified? **(Maximum points: 15)**	
Potential Benefits: Does the concept solve an important problem? If successful, could the product be effectively put into practice? Could it significantly improve or potentially replace current practice? **(Maximum points: 20)**	
Implementation/commercialization: Does the implementation plan appear practical and effective? Is the product economically feasible? Is there meaningful support from industry and/or transportation agencies? (For Type 2: Does the proposal describe specific steps for product implementation/ commercialization? Is there a commitment from state DOTs and/or private manufacturers for the developed product?) **(Maximum points: 15)**	
TOTAL SCORE **Max 100**; Select field and press F9 to calculate ➔	

Comments
Note to the Reviewer: If you decide not to review this proposal, then you need to state your reasons. If you make statements such as **"nothing new"** or **"not innovative enough"**, then you need to support them with **specific evidence** or **examples** (such as similar specific products, similar applications, similar previous research, etc.). **Reviewer's Name:**

ATTACHMENT 4

TRANSIT-IDEA PROPOSAL EVALUATION

Rev. 2018-12-01

The reviewer's identity will be kept confidential and will not be released outside of the IDEA program. However, the IDEA program may provide the proposal's principal investigator with a summary of these comments. The reviewer agrees not to disclose any proprietary information contained in this proposal.

Proposal No.	Proposal Type	Principal Investigator	Institution
Proposal Title			

Duplication
Does this research duplicate any similar research or development that you are aware of? If yes, please explain:
:

Evaluation	Score
Innovation: Is the concept new and innovative? Is there scientific/technical merit? Is there a potential to produce a breakthrough or a major advancement? (For Type 2: Is the product or prototype based on an innovative concept? Does it represent a major advance over current technology? Is the product an innovative application of an existing technology?) **(Maximum points: 35)**	
Research Approach: Is the approach reasonable and sound? Is the approach informed by knowledge of related work? Are technical issues to be addressed clearly identified? **(Maximum points: 20)**	
Potential Benefits: Does the concept solve an important problem? If successful, could the product be effectively put into practice? Could it significantly improve or potentially replace current practice? **(Maximum points: 25)**	
Implementation/commercialization: Does the implementation plan appear practical and effective? Is the product economically feasible? Is there meaningful support from industry and/or transportation agencies? (Type 1: Is there clear evidence that the new concept is applicable in appropriate transportation organizations? Does the outcome of the study of the concept include how to apply the innovation? Type 2: Does the proposal describe specific steps for product implementation/ commercialization? Is there a commitment from agencies and/or private manufacturers for the developed product?) **(Maximum points: 20)**	
TOTAL SCORE **Max 100**; Select field and press F9 to calculate ➔	

Comments
Reviewer's Name:

ATTACHMENT 4

Rail Safety IDEA Committee BALLOT

Please rate each proposal using a scale of 3 = high, 2 = medium, 1 = low, 0 = poor or unacceptable, for each of the 3 criteria.
E-mail an electronic copy of your completed ballot to *mkuskie@nas.edu* with a cc: to *ijawed@nas.edu*.

Proposal	*Proposal Title* Institution – Principal Investigator	Quality of Innovation	Potential Payoff	Research Approach	Total	Comments

SELECTION CRITERIA FOR RAIL SAFETY IDEA PROPOSALS

QUALITY OF INNOVATION: Is there a potential to produce a railroad innovation or advance in the state of the art or practice?
POTENTIAL PAYOFF: Is this a relevant problem for the IDEA program to investigate to benefit railroad practice, and would the result be potentially practical for railroad applications?
RESEARCH APPROACH: Is the proposed approach reasonable and sound?

Reviewer Name: _____ **Date:**_____

ATTACHMENT 4

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