

**Innovations Deserving Exploratory Analysis**  
**IDEA**  
**Program Announcement**

TRANSPORTATION RESEARCH BOARD  
*OF THE NATIONAL ACADEMIES*

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## SEEKING SOLUTIONS

The Innovations Deserving Exploratory Analysis (IDEA) programs provide start-up funding for promising, but unproven, innovations in surface transportation systems. The programs' goals are to seek out and support new transportation solutions that are unlikely to be funded through traditional programs. IDEA programs differ from the more traditional research programs in other ways as well:

- They offer an arena for innovation. Good ideas that support the general goals of safe and efficient surface transportation and are within the sponsors' broad focus areas are eligible.
- Their impact is timely. Fledgling ideas take flight only when their development is nurtured. The IDEA programs foster good ideas at a critical early stage in the hope that they soon will take off on their own.
- Advice from topic area experts and potential users who serve as committee and panel members and project mentors is available during the contract period.
- The proposal process is simple and accessible. Proposals are accepted at any time and awards are made twice each year. There are no prerequisites for submitting proposals; good ideas are welcome from anyone.

This Announcement explains the IDEA programs, describes the two types of eligible projects and their funding structures, suggests general areas for which IDEA proposals are solicited, and provides guidelines and forms for submitting proposals. Information about the programs, annual reports, and specific projects is also available on the IDEA web site at: [www.national-academies.org/trb/idea](http://www.national-academies.org/trb/idea).

## THE PROGRAMS

Managed by the Transportation Research Board, IDEA programs are supported by the Federal Transit Administration (FTA), the Federal Railroad Administration (FRA), and the Federal Motor Carrier Safety Administration (FMCSA). The Transit IDEA program receives funding from FTA as part of the Transit Cooperative Research Program (TCRP). The High-Speed Rail IDEA Program receives funding from FRA as part of its next generation high-speed rail research program. The NCHRP-IDEA Program is supported by the member state departments of transportation of the American Association of State Highway and Transportation Officials (AASHTO), through the National Cooperative Highway Research Program (NCHRP). The Safety IDEA Program is funded jointly by FMCSA and FRA. IDEA projects typically generate innovative solutions to critical issues in four transportation areas:

- High-Speed Rail (HSR-IDEA)
- Highway (NCHRP-IDEA)
- Transit (Transit IDEA)
- Transportation Safety Technology (Safety IDEA).

The IDEA programs supporting these four areas are closely integrated to encourage cross-cutting technological developments. Proposals may be submitted in any or all of the program areas.

*THE IDEA WEB SITE LISTS  
UPDATED INFORMATION ON:*

- *Current and completed projects*
- *Committee Members*
- *Proposal Submission Deadlines*
- *Contact Information*

[www.national-academies.org/trb/idea](http://www.national-academies.org/trb/idea)

*Contact the IDEA office:*

*Phone: 202.334.3310*

*E-mail: [ideaprogram@nas.edu](mailto:ideaprogram@nas.edu)*

The four IDEA programs are open to all entrepreneurs and investigators, whether from small or large businesses, for-profit or not-for-profit organizations, public or private universities and colleges, research institutions, public transportation agencies, or state and local governments. Prior experience in transportation research is not a prerequisite to submitting proposals. Although funding for the programs aims at improving the U.S. surface transportation system, proposals from outside the United States will be considered for concepts or products that advance technologies with applications in U.S. highway, motor carrier, or transit practice.

## THE PROCESS

The process is simple. Proposals should be prepared following the Guidelines provided, including the three attachments appended to this document. Although proposals are accepted at any time, the deadlines for consideration are March 1 and September 1. Committees of experts who serve as volunteers without compensation on governing committees and review panels select projects for funding. Reviewers are guided in their selection of proposals by four questions:

1. Is this an innovative solution likely to be used in practice?
2. Is the concept technically credible and of realistic scope?
3. Is this a potentially valuable contribution that otherwise might not be funded?
4. Does the investigator have a reasonable plan for implementation or commercialization of the results?

## RESOURCES

Proposers will want to consider these four questions and address the relevant technical issues in their proposal. The IDEA web site is a resource for documents that explain the technical issues important to each IDEA program. A check of the IDEA program awards and products listed on the web site will help avoid duplicating earlier work. TRIS, the Transportation Research Information Service, which provides abstracts of thousands of reports on transportation topics in virtually every area, is accessible from the TRB web site ([national-academies.org/trb](http://national-academies.org/trb)). A TRIS literature search will help determine if an idea has been researched before.

Transportation agencies, perhaps the ultimate users of the proposed product, are also valuable resources in shaping a proposal for success. Input from agencies can clarify application issues and sometimes results in an agreement for trial implementation. IDEA staff encourage proposers to ask questions early in the process. Both technical and procedural questions can be directed to the IDEA program office.

## CONCEPTS AND PRODUCTS— TWO TYPES OF IDEA PROJECTS

IDEA proposals are considered in two project categories: Type 1—Concept explorations demonstrate the validity of unproven concepts for potential transportation applications and Type 2—Product applications investigate new applications of proven concepts, products, or technologies through prototype development and testing.

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## FUNDING IDEA PROJECTS

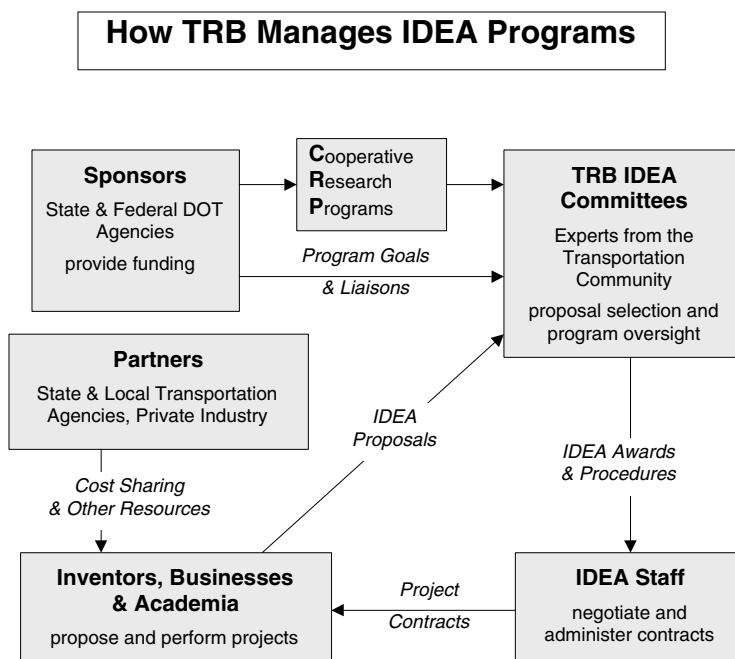
### Type 1—Concept Exploration Projects

IDEA funding for a concept exploration project typically ranges from \$25,000 to \$100,000. The duration of the project may range from 3 to 18 months. Cost sharing is strongly recommended but not required. Proposers are encouraged to attract cooperative involvement from product users, including private- and public-sector organizations and transportation agencies and from potential manufacturers or distributors.

Products and results from a concept exploration project might require additional research before they are ready for application to practice. A highly successful concept exploration project may be considered for supplemental IDEA project funding to investigate transfer of the result to users and application to practice.

### Type 2—Product Application Projects

Funding for a product application investigation is limited to \$100,000 and typically ranges from \$50,000 to \$100,000. The duration of a product application project may range from 6 to 24 months. Cost sharing is a requirement on all product application investigations and can be a direct cost contribution or cost equivalent of indirect contributions in support of the IDEA project. The amount of cost sharing is negotiable. Review panels consider the degree of cost share to be an indicator of potential for continued development and deployment should the research prove successful.



## **SUGGESTED FOCUS AREAS**

Proposals are not restricted to targeted problems; all concepts that advance the general goals of improving the safety and efficiency of the nation's transportation network are sought through the IDEA programs. The following information is provided to suggest areas in which transportation improvements are needed.

### **NCHRP (HIGHWAY) IDEA**

Part of the National Cooperative Highway Research Program (NCHRP) managed by TRB, the NCHRP IDEA program is supported by the member states of AASHTO. The program seeks advances in the construction, safety, maintenance, and management of highway systems. Suggested topics warranting investigation are outlined below.

#### **Highway Design, Construction, and Quality Control**

- Innovative concepts for incorporating initial and life-cycle design features, constructibility, durability, and maintainability
- Low-cost design concepts to enhance 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 construction quality of highway pavements, earthworks, and structures

#### **Highway 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
- Advanced coating materials and corrosion protection processes to increase the service life of highway structures, including steel and reinforced concrete structures

#### **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 highway workers of impending hazards
- New concepts for highway infrastructure systems, including ITS advances to improve highway safety





## **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 collection, analysis, and data management processes
- 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 reuse of materials and waste products
- Advanced and alternative methods for conformance with environmental requirements in highway construction

## **HIGH-SPEED RAIL**

Funded by the Federal Railroad Administration (FRA), U.S. Department of Transportation, HSR-IDEA projects are selected for their potential role in upgrading the existing U.S. rail system to accommodate operations up to 125 mph and beyond in support of FRA's next-generation HSR technology development program. Specific areas of interest include those described below.

### **Operations, Communications, and Train Control**

- Low-cost locomotive navigation systems for precise train location, separation, and navigation at high speeds
- Advanced systems and concepts for communication links between adjacent trains and track work vehicles and for integrating train location information with highway traffic management systems
- Advanced concepts for closer tracking of train movements to increase capacity and prevent collisions
- Track obstacle detection systems for remote real-time detection of landslides, rock falls, snow slides, mud slides, and washouts
- Train approach warning systems for track workers
- Alternatives to conventional track circuits for rail break and track buckling detection
- Human/machine interface considerations related to high-speed train operations, including train crew comfort and safety, improved alertness, reducing fatigue, and ergonomic criteria for the design, operation, maintenance, and training for advanced train control systems

## **Railroad Crossing Safety**

- Advanced on-board or wayside monitoring and warning systems to ensure that crossings are clear and warning lights, gates, and barriers are activated and in place for safe high-speed train passage
- Integrated warning systems and low-cost, in-vehicle alert systems to warn drivers of proximity to railroad crossings and to provide train position status specifically for emergency vehicles, hazardous materials carriers, school buses, and transit vehicles
- Alternatives to conventional track circuits for detecting train presence and predicting train arrival time to reliably activate grade crossing warning systems
- Concepts for automated collection of data and information on intrusions and near misses that will lead to improved design and operation of grade crossing warning systems
- Improved design and operation of grade crossing warning or barrier systems for high-speed train operations to prevent vehicle and trespasser intrusion into the railroad right-of-way

## **Track, Bridge, and Tunnel Infrastructure Upgrades**

- Automated sensing and alert systems to monitor the condition of railroad infrastructure and to provide advance warning of functional or physical failure such as weakened bridges and tunnel linings, broken rails, washouts, obstacles, misaligned switches, defective wayside detectors, and defective railroad crossing warning systems
- Structural hardening technologies, including advanced material technologies for retrofitting existing track, bridge, and tunnel systems for train operations at 125 mph and beyond
- Advanced technologies for automated rail flaw detection and track geometry and track bed integrity inspection
- Advanced techniques for field welding of rail

## **Rolling Stock Improvements**

- Lightweight, high-strength material technologies to increase the life-cycle performance and safety of rolling stock
- Advanced design concepts for train trucks and suspension systems, brakes, and other components to improve ride quality and safety
- Concepts to enhance the motive power and traction of high-speed train systems
- Advanced and cost-effective methods for inspecting rolling stock equipment such as wheel sets, bearings, and traction motors, including wayside and onboard performance-monitoring systems
- Automated performance-monitoring systems for rail vehicle components such as suspensions, couplers, and brakes

- Human/technology interface considerations related to the design and maintenance of high-speed rolling stock
- Improved methods for the maintenance of high-speed rail vehicles that address such areas as vehicle servicing, inspection, health monitoring and diagnostics, maintenance management, maintenance training, and related human/technology interface conditions

### **Fixed High-Speed Rail Facilities**

- Technology to improve the human/technology interface including such areas as train boarding and deboarding, and improved access for the disabled
- Management and operations of stations and maintenance shops

### **Reducing Environmental and Operational Impact**

- Passenger comfort and safety
- Wheel-rail noise abatement and control
- Reduced dynamic structural and aerodynamic impact on adjacent facilities and structures
- Improved ergonomic considerations for passengers

Investigators should provide an assessment of the adverse impact addressed in their proposal and the qualitative potential for improvements by the IDEA product.

## **TRANSIT IDEA**

The Transit IDEA program, part of the Transit Cooperative Research Program and supported by the Federal Transit Administration (FTA), 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 by transit agencies in testing innovative methods. Evidence from transit agencies that they would want to use the proposed concepts and products and to participate in testing prototypes strengthens proposals. Possible areas of investigation are described below.

The panel that reviews Transit IDEA proposals is encouraging proposals that address two high-priority focus areas: transit security and bus rapid transit. The panel developed these focus areas or strategic initiatives in cooperation with FTA, the American Public Transit Administration (APTA), and transit agencies.

### **Transit Security Focus Area**

Transit IDEA proposals in the transit security focus area may address needs regarding security of transit passengers, drivers, vehicles, or facilities. For example, this could include:

- Assessment tools and devices to detect chemical or biological contaminants or explosives,
- Facial recognition technology,
- Devices to increase security on transit vehicles, or
- Measures to improve security of transit facilities, such as monitoring, detection, or warning of intrusion.

### **Bus Rapid Transit Focus Area**

The panel for the Transit IDEA program has endorsed a Bus Rapid Transit (BRT) strategic initiative as a focus area of the Transit IDEA program. Transit agencies that are BRT consortium members, the FTA, and the panel have assigned high priority to two particular research needs: precision docking and wheelchair accommodations. Other proposals that serve the objective of speeding the flow of buses on BRT facilities are also encouraged. An example would be improved signalization. Proposers are encouraged to seek the participation of BRT consortium agencies in developing Transit IDEA proposals and testing prototypes on BRT demonstration projects. A paper with further information on the BRT strategic initiative is available on TRB's IDEA web site at: [www.national-academies.org/trb/idea](http://www.national-academies.org/trb/idea)

- Precision docking is intended to make boarding and alighting easier and faster for all passengers and contribute to shorter dwell times. This would help all passengers, including those using wheelchairs, passengers with baby strollers or shopping carts, and senior citizens having difficulty with steps.
- For improved wheelchair accommodations, BRT consortium members have expressed an interest in alternatives to current wheelchair securement systems on buses. An objective is to develop and test appropriate methods for accommodating passengers using wheelchairs on BRT buses, that minimize driver intervention, and result in faster loading time and more efficient operation, while assuring the safety and convenience of wheelchair users.

Transit IDEA proposals may also be submitted in other areas identified below with applications to transit practice.

### **Transit Operations**

- Quick delivery of timely information
- More reliable service
- Improved safety

### **Service Configuration**

- Methods and concepts that integrate urban development and travel patterns, level of traveler abilities and disabilities, neighborhood demographics, and intermodal system connections

- 
- Concepts based on a modern understanding of planning, marketing, and service delivery

### **Transit Vehicles and Equipment**

- Vehicle and equipment improvements to enhance passenger safety, comfort, and mobility
- Advances that reduce costs and improve operational reliability
- Automated monitoring of transit vehicle locations and operations

### **Engineering of Fixed Transit Facilities**

- Cost-effective concepts for design, construction, maintenance, and rehabilitation of tracks, terminals, and stations to improve operations of transit systems

### **Maintenance**

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

### **Human Resources**

- Human resource management systems
- New tools to educate and train transit personnel to enhance productivity and performance

### **Administration**

- Innovative approaches for improving decision making and resource management

### **Policy and Planning**

- Methods for increasing ridership on transit systems and developing creative public policies

### **SAFETY IDEA**

The Safety IDEA program is jointly funded by the Federal Motor Carrier Safety Administration (FMCSA) and the Federal Railroad Administration. The U.S. Department of Transportation has set aggressive goals for reducing fatalities and injuries by the year 2010. Achieving these goals will save thousands of lives every year and will have major economic benefits. To this end, FMCSA and FRA have provided funding to the Safety IDEA program for projects that promote innovative approaches to improving motor carrier safety and railroad safety.

Many safety improvement technologies and techniques developed for one transportation mode will have application to other modes, hence the multimodal sponsorship of this program. This is particularly true where human factors are concerned or where modes interface or intersect. The Safety IDEA program currently focuses on innovations with applications to railroad, inter-city bus, or truck safety. Possible areas of investigation are described below.

### **Commercial Vehicle Improvements**

- A majority of crashes involving light vehicles and large trucks involve “proximity” errors by car drivers (such as tailgating and unsafe lane changes) and truck drivers (visibility-related errors during lane change, turning, merging, and backing maneuvers). Improved technology is needed for better visibility and awareness of light vehicles around trucks.
- Development and deployment of advanced sensors to continuously monitor the status of safety systems such as brakes and tires is needed.
- Devices that reduce damage to smaller vehicles in collisions with large trucks by preventing side underride, creating better bumper-level compatibility, and providing better absorption of collision forces.

### **Inspection and Enforcement**

- Use of advanced sensors currently being incorporated into new vehicle designs to enable reliable at-speed or stationary safety inspections of brakes and other vehicle safety components
- Development and pilot testing of technologies to expedite roadside inspections through better inspection methods and better prioritization of operators/vehicles for roadside inspection and other enforcement actions

### **Operator Performance and Training**

- Technologies for monitoring and mitigating hazardous situations caused by reckless or inattentive driving
- Identification, assessment, and deployment of fatigue-related technologies to monitor sleep, performance, and alertness and help drivers manage their rest periods and work habits to obtain more sleep and perform better
- Health/medical-related innovations such as monitoring or screening systems, to improve driver safety and performance
- Improved methods for training both novice and experienced operators, including advanced technologies such as simulators, computer-based training, and on-board performance monitoring and feedback mechanisms

### **Railroad and Commercial Motor Vehicle Security**

- Assessment tools that identify risk factors and predict security risks for commercial drivers, railroad train operators, vehicles, and cargo

- Devices to increase security of commercial drivers/railroad train operators, commercial motor vehicles/railroad cars and/or their cargo; particularly those commercial vehicles and railroad cars hauling hazardous materials
- Tracking and warning systems to alert motor carriers or railroads of safety breaches

The Federal Railroad Administration is interested in a variety of safety-related areas in railroad systems issues: safety, security, and environment; human factors; rolling stock and components; track and structures; track/train interaction; grade crossings; hazardous materials transportation; and train occupant protection. Several possible areas of Safety IDEA investigation are described below.

### **Railroad Systems Issues**

- Ways in which weather data can be collected on railroads and moved to forecasters, and ways that forecasts and current weather information can be collected and used by railroad control centers and train and maintenance crews to avoid accident situations
- New applications of existing technology to improve railroad physical security
- Innovative active suspension and steering systems for high-speed railroad passenger cars and locomotives to improve safety

### **Railroad Rolling Stock and Components**

- New materials to improve rolling stock and components safety

### **Railroad Grade Crossings**

- Safety improvements to passive highway-railroad grade crossings
- Improved warning systems to alert highway vehicle operators of approaching trains in limited sight areas

## **GUIDELINES FOR PREPARING IDEA PROPOSALS**

### **TECHNICAL PROPOSAL GUIDELINES**

IDEA proposals should be direct and concise, not exceeding 25 single-spaced standard typewritten pages, including the cover sheet and all enclosures. IDEA proposals should identify the transportation issues that will be addressed and estimate the potential impact of products or results on current practice. Information included in proposals will be used for evaluation purposes only and will otherwise be held in confidence. Proposers may indicate a preference for review in one of the four IDEA programs. IDEA staff may consider proposals for programs other than those indicated by the proposers.

All IDEA award amounts will be based on the extent of investigation required for the project. Proposals should be prepared in the following format:

**1. Cover Sheet:**

Use the format shown on the enclosed proposal cover sheet (Attachment 1). Provide a brief summary of the concept, specific problems addressed, potential impact, and payoffs for practice. Attachments 1, 2, and 3 can be printed from the IDEA website by clicking on: IDEA Proposal Submission Forms (DOC).

**2. Summary of Concept and Impact on Practice:**

The second and third pages should provide a brief technical synopsis of the proposed concept and potential application. The synopsis should specifically address and explain the technical application to transportation practice, the estimated payoff, and the steps necessary for transferring IDEA results to practice as follows:

- (a) Concept and Innovation: Provide a brief description of the concept and explain why it is innovative, how it will be applied to transportation practice, and how it differs in its application from other methods or products currently used in transportation systems.
- (b) Potential Impact and Payoff for Practice: Describe the extent of the problem addressed by the IDEA concept and the potential impact and payoff of the IDEA result or product, if successful.
- (c) Product Transfer and Implementation: Address the approach and outline options for deployment of the IDEA product or result to transportation practice.

**3. Investigative Approach:**

Beginning on the fourth page, describe the planned investigative approach by addressing potential technical issues and by providing a proposed work plan. Divide the project work plan and budget into two or more stages. Present specific plans for evaluating research results at the completion of each stage. A literature review to investigate the possibility that the concept is similar to or duplicative of other investigations, applications, or products is required.

**4. Key Personnel and Facility:**

Identify 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.

**5. Other Related Proposals:**

Provide information on other proposals in the same or related technical areas that have been prepared and submitted by the investigator(s) to other agencies or programs, that are planned to be submitted in the current year, or that have been funded previously. Indicate 'not applicable' if no such awards or proposals have been received or submitted. The proposer should provide a brief synopsis of his or her other ongoing or completed work related to the proposal.



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## **6. Budget:**

Complete the budget proposal shown in Attachment 2 and provide information showing how the requested funds will be used. Follow the instructions provided under 'Budget and Contract 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. Any travel budget items must be directly related to the performance of the project work. The investigator should include potential travel for at least one project briefing to the IDEA staff or committee. The budget should reflect the proposer's best terms from a cost and technical standpoint to perform the work.

## **7. Cost Sharing, In-House Contributions, and Joint Ventures:**

Cost sharing includes direct cash contributions or indirect contributions and payment in kind. Cost sharing is encouraged for all proposers, especially from users, industry sponsors, and state agencies, and is a prerequisite for submitting a Type 2 proposal. Any cost-sharing should be discussed in proposals. Specific arrangements, if proposed, must be completed after the IDEA project is selected for award and before an award is made.

## **8. Reports and Briefings:**

The contractor must submit periodic progress reports and a final report as specified at the time of the IDEA award. During the contract period, the contractor may be required to present reports on the progress and results of the investigation to TRB IDEA Committees, panels, or staff.

## **BUDGET AND CONTRACT GUIDELINES**

IDEA awards are firm fixed-price contracts. Payments will be made at specified stages contingent on approved progress toward contract completion. The budget proposal should provide the estimated costs for the project with detailed information on each cost element, consistent with the proposer's cost accounting system. The amounts requested should be justified in each category or, as appropriate, on a budget explanation page immediately following the budget proposal.

### **1. Personnel:**

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

### **2. Materials:**

Itemize materials required and include costs for each (indicate only materials and supplies required for the performance of the investigation).

### **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 not exceed 50 percent of total project cost, excluding any costs for specialized equipment or services.

### **5. Overhead Costs:**

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

### **6. General and Administrative (G&A) Costs:**

Specify current rate and base. Use current rate negotiated with the cognizant federal negotiating agency, if available. If no rate has been negotiated, a reasonable and justifiable indirect cost (G&A) 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 the National Research Council (NRC). Institutions of higher education and other nonprofit organizations receiving IDEA awards are subject to the Office of Management and Budget audit requirements (refer to OMB Circular A-133: Audit Requirements for Institutions of Higher Education and Other Non-Profit Organizations).

## **INTELLECTUAL PROPERTY RIGHTS**

Individuals or institutions retain copyright to written materials, data, and software derived from their IDEA projects and are free to obtain patents on any resulting inventions. The National Academy of Sciences and the U.S. Government hold a nonexclusive license to use the results for certain purposes. This includes the right to print and distribute material from project reports submitted to IDEA.

## **PROJECT NEGOTIATIONS**

The project scope, work plans, and budget may be revised based on 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 award.**

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## PROPOSAL EVALUATION

TRB will screen IDEA proposals for completion and relevance before proceeding with the evaluation process. Panels of volunteer technical experts use the following criteria to evaluate proposals for competitive awards:

1. Is this an innovation likely to be used in practice?
  - (a) Scientific and technical merit
  - (b) Potential to solve a significant transportation problem
  - (c) Ease of implementation
  
2. Is it technically credible and of realistic scope?
  - (a) Technical approach and completeness of investigative plans
  - (b) Qualifications of the investigating team and facilities available to perform proposed investigation
  - (c) Cooperation from users, including partnerships with transportation agencies or other transportation organizations
  
3. Would an IDEA award foster a potentially valuable contribution that otherwise would not be funded?
  - (a) Level of technical or market risk that discourages alternate funding sources
  - (b) Cost-sharing contributions proposed or committed to

Proposals that demonstrate a particularly good plan for implementation or commercialization of project results are also given some preference. This could be considered a fourth criterion, though of somewhat lesser weight than the three above.

TRB may recommend technical or budget modifications to the project after a proposal has been recommended for funding by one of the IDEA program committees and before a contract is awarded. Investigators may be asked to clarify project details, revise the work plan, or reestimate the cost to perform the project before an award is made.

## PROPOSAL SUBMISSION

Investigators are encouraged to submit IDEA proposals as soon as they are ready. Review cycles typically begin March 1 and September 1. These dates are subject to change; visit the IDEA web site or contact the IDEA Office for current dates. Information on the proposal status will not be available before the evaluation process is completed.

Proposals must be single-sided, unbound and stapled only. Exhibits and photographs should be black and white originals suitable for camera copy. Color and digital images do not reproduce successfully.

Attachments 1, 2, and 3 to this document provide forms (also available on the IDEA web site) that must accompany proposals. Complete the forms and submit the appropriate number of copies of proposals in the recommended format to the address

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shown below. The NCHRP Highway IDEA Program requires 18 copies of proposals. High-Speed Rail IDEA, Safety IDEA, and Transit IDEA each require 6 copies.

IDEA Programs

Transportation Research Board NA 401  
500 Fifth Street, N.W.  
Washington, DC 20001-2721

# PROPOSAL COVER SHEET - IDEA PROGRAMS

(Note: The total length of IDEA proposals shall not exceed 25 pages, including the cover sheet and all enclosures)

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

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# IDEA BUDGET SUMMARY

Project Title: \_\_\_\_\_  
 Principal Investigator: \_\_\_\_\_  
 Organization: \_\_\_\_\_  
 Phone: \_\_\_\_\_ Project Duration (Months): \_\_\_\_\_  
 (Please attach additional explanation as needed)

## FUNDING REQUESTED FROM IDEA PROGRAM

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

## 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 facilities, staff, etc., contributed by other sources:	\$_____

<b>Total Project Budget:</b>	<b>\$_____</b>
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Signature: \_\_\_\_\_ Date: \_\_\_\_\_

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# LIABILITY STATEMENT—REVISED

## AUGUST 1997

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.

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## ANSWERS TO FREQUENTLY ASKED QUESTIONS

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Q: What can I do to improve my proposal?

A: Research. A proposal that shows an awareness of what has been done in the past and offers an innovation makes a positive impression on reviewers. Similarity to existing work is one the reasons proposals are not selected.

Q: Does an IDEA contract compromise my ability to get a patent?

A: No. IDEA does not retain any rights to your invention. Researchers should independently secure their intellectual property rights.

Q: Where can I find information on preparing proposals?

A: In the IDEA Program Announcement, which is on the IDEA web site:  
[www.national-academies.org/trb/idea](http://www.national-academies.org/trb/idea).

Q: Is it OK to contact the program directly with questions?

A: Yes. Call us to discuss proposal preparation or your concept. The number is 202-334-3310.

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