BACKGROUND

Air cargo services are part of a complex network of diverse economic production and distribution activities carried out across a wide spectrum of airport configurations. In response to this diversity, approaches employed by airports must account for differing operational roles with a variety of facilities located in many locales.

Adding to the complexity, the air cargo industry is under continuing pressure to implement additional oversight measures (e.g., security) for moving cargo on passenger aircraft and, to a lesser extent, on freighter aircraft. There is every indication that demand for these measures will continue to evolve and grow over time with increased costs to the industry and to the nation’s economy as a result. The principal industry stakeholders concerned with and affected by these measures include the following: (1) airports, (2) airlines, (3) cargo forwarders, (4) air cargo truckers, (5) independent ground handlers, and (6) commercial shippers and consignees.

The economic contribution of air cargo to airports and the communities they serve is significant. Therefore, it is important to provide effective tools and techniques to measure and value the contribution of air cargo activity to local, regional, and national economies, allowing improved response to changing global market conditions.

OBJECTIVE

The objective of this research is to develop a guidebook for use by airport operators and other air cargo industry stakeholders that provides tools and techniques for measuring existing and future economic impacts of air cargo activities at a national, regional, and local airport level in the context of changing market, financial, security, and other conditions. Critical issues in measuring economic impacts of air cargo activity at a given airport should include but not be limited to the following: (1) size of the air cargo market, (2) source and purpose of air cargo activity, (3) effect of changing fuel prices, (4) understanding complex linkages to changing economic conditions, (5) effect of increasing security requirements, and (6) availability and comparative cost of alternate cargo shipment modes.

Accomplishment of the project objective will require at least the following tasks.
TASKS

Task descriptions are intended to provide a framework for conducting the research. The ACRP is seeking the insights of proposers on how best to achieve the research objective. Proposers are expected to describe research plans that can realistically be accomplished within the constraints of available funds and contract time. Proposals must present the proposers' current thinking in sufficient detail to demonstrate their understanding of the issues and the soundness of their approach to meeting the research objective.

Phase I

Task 1. Define the air cargo industry and its role in the supply chain. Describe how air cargo activities relate overall to the supply chain and identify the linkages that have to be measured in order to understand the economic and cost implications of changing market demand for air cargo services.

Task 2. Conduct a thorough review of relevant literature, existing research, published practical guidance, published case studies, and other appropriate material to determine the state of the art in measuring economic impacts of air cargo activity at a national, regional, and local airport level. In addition, identify key regulatory requirements that have been or are anticipated to be implemented that impact air cargo activity including, but not limited to, security.

Task 3. Evaluate existing economic impact measurement tools and techniques applicable to the air cargo industry, including an assessment of potential difficulties in accessing necessary data. Identify data gaps and recommend alternative sources and procedures for filling those gaps. Evaluate how any remaining gaps might affect the determination of cargo-related economic impacts. Recommend a set of available tools and techniques that compose an economic impact methodology. Prepare a technical memorandum summarizing the results of Tasks 1 through 3 for review by the ACRP panel.

Note: Task 3 should be completed within 6 months of notice to proceed. The panel and the contractor will participate in a teleconference to review and approve the technical memorandum.

Task 4. Prepare an analytical framework for testing the economic impact methodology and associated tools and techniques described in Task 3. This analytical framework should include a plan to collect additional information, where necessary, through a survey of selected airports and tenants to determine and define economic parameters linked to air cargo activity. Security-related issues, oversight requirements, and associated costs should be an integral component of the information-gathering process. In support of the analytical framework preparation, propose a list of airports to survey and a survey instrument for review and approval by the project panel. The survey should also include contact with representatives of affected stakeholders, including FAA, TSA, associations, and others. The analytical framework will provide a basis for testing the recommended economic impact methodology and associated tools and techniques in Task 7. Possible measures of air cargo activity could include, but not be limited to, the number of operations, cargo tonnage, industry employment, or other relevant factors.

Note: The panel will review and comment on the selected airports and the survey instrument within 2 weeks of receipt from the contractor.

Task 5. Following approval of the selected airports and the survey instrument, carry out the survey at the selected airports. Based on the information collected, refine the proposed analytical framework for measuring economic impacts of air cargo activity.

Task 6. Prepare an interim report documenting the results of Tasks 1 through 5, including the proposed impact methodology. Recommend specific airports for test application of the proposed economic impact methodology. These airports may be selected from those already surveyed in Task 5, or they may be different based on the specific needs of a proposed testing program.
Provide an updated work plan for the remaining tasks, including selection of the specific set of airports to be studied in detail in Phase II and the rationale for the selection.

*Note:* The interim report, including the list of selected case-study airports, the rationale for selection, and revised work plan are due within 10 months of notice to proceed. A meeting with the ACRP panel will be held 1 month after receipt of the interim report. The contractor shall not proceed with subsequent tasks of this project without ACRP approval.

**Phase II**

**Task 7.** Test the proposed economic impact methodology and associated tools and techniques through a series of case studies at the selected airports. Case-study applications will require data input from individual airports to carry out the measurement and to compare the results to the same application using baseline data collected in Task 5. Evaluate the case-study applications and further modify the economic impact methodology and associated tools and techniques. Prepare a technical memorandum summarizing the results of the case studies for review and comment by the ACRP panel.

*Note:* The panel will review and comment on the technical memorandum within 2 weeks of receipt.

**Task 8.** Prepare a draft guidebook that provides the final economic impact methodology and associated tools and techniques for measuring existing and future economic impacts of air cargo activities at a national, regional, and local airport level in the context of changing market, financial, and security conditions. The guidebook will also include instructions on use of the recommended tools and techniques for airport operators; air carriers; freight forwarders; and others actively involved in planning, implementing, securing, and managing air cargo services.

*Note:* The panel will review and comment on the draft guidebook within 3 weeks of receipt.

**Task 9.** Prepare a final report presenting the findings of the research and a revised guidebook. The final report will document the formulation and test application of the recommended tools and techniques, evaluate the case-study results, and recommend areas for additional research required to improve the long-term application of the analytical procedures proposed. It will also include an executive summary. The guidebook, including user instructions, will be incorporated into the final report as a stand-alone component.

**SPECIAL NOTES**

A. Proposals are evaluated by the ACRP staff and project panels consisting of individuals collectively very knowledgeable in the problem area. Selection of an agency is made by the project panel considering the following factors: (1) the proposer's demonstrated understanding of the problem; (2) the merit of the proposed research approach and experiment design; (3) the experience, qualifications, and objectivity of the research team in the same or closely related problem area; (4) the plan for ensuring application of results; (5) the proposer's plan for participation by Disadvantaged Business Enterprises--small firms owned and controlled by minorities or women; and (6) the adequacy of the facilities.

*Note:* The proposer's plan for participation by Disadvantaged Business Enterprises should be incorporated in Item 5 of the proposal.

B. Proposals should include a task-by-task breakdown of labor hours for each staff member as shown in Figure 4 in the brochure, "Information and Instructions for Preparing Proposals" ([http://www.trb.org/NotesDocs/ProposalPrep.pdf](http://www.trb.org/NotesDocs/ProposalPrep.pdf)). Proposals also should include a breakdown of all costs (e.g., wages, indirect costs, travel, materials, and total) for each task.

C. ACRP projects are intended to produce results that will be applied in practice, and proposals and the project final report must contain implementation plans for moving the results of the research into practice. Item 4(c), "Anticipated Research Results," in each proposal must include an Implementation Plan that describes activities to promote application of the product of this research.
research. It is expected that the implementation plan will evolve during the project; however, proposals must describe, as a minimum, the following: (a) the "product" expected from the research, (b) the audience or "market" for this product, (c) a realistic assessment of impediments to successful implementation, (d) the institutions and individuals who might take leadership in applying the research product, (e) the activities necessary for successful implementation, and (f) the criteria for judging the progress and consequences of implementation.

D. Item 5 in the proposal, "Qualifications of the Research Team," must include a section labeled "Disclosure." Information relevant to the ACRP's need to ensure objectivity and to be aware of possible sources of significant financial or organizational conflict of interest in conducting the research must be presented in this section of the proposal. For example, under certain conditions, ownership of the proposing agency, other organizational relationships, or proprietary rights and interests could be perceived as jeopardizing an objective approach to the research effort, and proposers are asked to disclose any such circumstances and to explain how they will be accounted for in this study. If there are no issues related to objectivity, this should be stated.
3. The total funds available are made known in the project statement, and line items of the budget are examined to determine the reasonableness of the allocation of funds to the various tasks. If the proposed total cost exceeds the funds available, the proposal is rejected.

4. All proposals become the property of the Transportation Research Board. Final disposition will be made according to the policies thereof, including the right to reject all proposals.

5. Potential proposers should understand that follow-on activities for this project may be carried out through either a contract amendment modifying the scope of work with additional time and funds, or through a new contract (via sole source, full, or restrictive competition).