



C F I R E
NATIONAL CENTER FOR
FREIGHT & INFRASTRUCTURE
RESEARCH & EDUCATION

Multimodal Planning and Optimization STAR: Grant Year 4 RFP

PROJECT AREA: Strategies for Sustainable Freight Transportation System

PROBLEM STATEMENT: Enhancing the overall sustainability of the intermodal freight transportation system is, without a doubt, a focal goal and a major challenge for the freight planning process. To date, a critical part of the challenge lies in our partial understanding of the full impacts of freight-oriented strategies on the multiple and overlapping domains (e.g. social, economic, and environmental) of sustainability. The National Center for Freight and Infrastructure Research and Education (CFIRE) is soliciting the research community for freight sustainability models, optimal design of freight sustainability-enhancing strategies, and improved understanding of freight sustainability impacts.

POTENTIAL RESEARCH AREAS: The Request for Proposals is developed intentionally to solicit a broad range of potential approaches to enhance the freight sustainability planning capability. Some potential areas of interest include (this list is not exhaustive and proposals on other topics are welcome):

- Objective measures and models for assessing freight sustainability
- Identification and benefit assessment of freight-oriented Green House Gas reduction / Climate change mitigation strategies
- Social benefits of commodity-based pricing of freight transport
- Effects of carbon tax on supply chain operations
- Optimal locations and impact analysis of new ports in the Midwest region
- Sustainability evaluation of rail line consolidation in Superior
- Innovative data collection methods to support freight sustainability evaluation
- Other topics...

The potential research areas listed above focus more on the interaction and trade-offs among the multiple factors contributing to sustainability. Proposals that focus solely on the environment and/or energy should respond to the RFP from the Energy and Environment STAR.

A single proposal may address multiple research areas. However, not all of these topics will be selected for funding.

INSTRUCTIONS TO RESEARCHERS: Studies proposed in this area must provide decision makers with a better understanding of, and improved ability to quantify, the sustainability benefits attainable from freight-oriented strategies. Proposals can focus on development of concepts, analysis tools, or case studies. Case studies should be limited to the states of the Midwest region of the United States, including the states of the Mississippi Valley Conference of the American Association of State Highway and Transportation Officials (AASHTO). Researchers may look to other states and countries for development of best practices.



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ESTIMATED PROJECT DURATION AND COST: Proposed projects are expected to have a 1 or 2 year duration with annual budgets not exceeding \$75,000. Proposals must clearly justify the suggested time frame and required budget. Non-Federal matching funding is strongly suggested.