

Request for Research Funding for FY 2019-2020

Requesting Office	Forecasting and Trends Office	Priority	6 of 7
Proposed Title	Life Cycle Costs and Benefits Analysis of Freight Transportation Projects --An Extension to the Florida Freight Transportation Economic Impact Kit (FTEIK)		
Justification	Florida Freight Transportation Economic Impact Kit (FTEIK) is based on the FreightSIM output. FreightSIM, however, only provides freight traffic forecasts with limited options, that is, it only predicts traffic for next 10, 15, and 20 years. FTEIK was originally designed to maximize its compatibility with FreightSIM and therefore, it only predicts the investment benefits in specific years which are consistent with FreightSIM output. This consideration yet allows less flexibility to the use of FreightSIM. To overcome this limitation, a new procedure will be developed to forecast the traffic over the life of a freight transportation project and for any given year. Then, costs and benefits analysis will be conducted to estimate the total and annual costs of the project, and the direct, indirect and induced impacts of the project investment.		
Impact	The proposed work will develop several add-on functions including life cycle benefit cost analysis to the Florida Freight Transportation Economic Impact Kit (FTEIK). These new functions will enable the FTEIK to estimate the total costs and benefits of the entire life of a freight transportation project as well as detailed costs and benefits at any given year.		
Affected Offices	Forecasting and Trends Office		
Existing Work	<p>FTEIK is an economic analysis program that is based on a regional input-output model and Florida Freight Supply-Chain Intermodal Model (FreightSIM). It is intended to facilitate Florida Department of Transportation in its freight investment decision making process.</p> <p>FTEIK has a FreightSIM and economic analysis module. First, users should run different scenarios based on freight transportation investment in the FreightSIM model. Second, the tool automatically calculates the vehicle hours traveled (VHT) for freight traffic in a defined study area. Third, the tool translates the VHT savings in regional economic input-output models to derive a number of economic benefits such as total production, income, and employment impacts based on user input in value of travel time and net present value ratio, and it predicts on the project benefit in future years.</p>		
Keywords Used In Existing Work Search (Cannot leave blank)	Florida Freight Transportation Economic Impact Kit (FTEIK); Freight Transportation; Urban and Regional economic development, economic impacts		
Related Contracts (Give contract numbers)			
Funding Request	\$49,885	Anticipated Duration	6 months
Project Manager	Frank Tabatabaee	Contracting Method	Direct contract with University
Urgency	5		
Implementability	5		

Project Benefits (Succinct, complete explanation)

By working closely with engineers, economists and staff from Florida DOT, and in consultation to the Highway Economic Requirements System (HERS), the project will develop the following new functions to FTEIK:

- It will allow users to calculate project benefits and costs over the life of the project.
- It will also allow users to calculate costs and benefits at any given year.

Project Benefits (Select all that apply and explain)	Quantifiable Benefits (units, dollars, etc...if applicable)	Methodology or Data Sources Used to Determine Quantifiable Benefits. If not applicable, please give justification of project benefits
<input type="checkbox"/> Materials Enhancement		
<input type="checkbox"/> Materials Savings		
<input type="checkbox"/> Time Savings		
<input type="checkbox"/> Lives Saved/Injuries Prevented		
<input type="checkbox"/> Other (Explain)		

*Comments should explain and support urgency, financial benefit, and implementability scores