

TRB Committee on Transportation and Economic Development

Research Need Statement

Best Practices Guide for Department of Transportation and Economic Development Collaboration Projects.

Description: This research needs statement describes a project to develop a best practices guide for collaborative efforts between economic development organizations and departments of transportation, specifically in terms of improving supply chain competitiveness and efficiency. This guide will be developed based on the experiences and perspectives of site selection consultants. Studies have shown that freight and transportation infrastructure and supply chain efficiency are increasingly important factors in attracting and retaining industry. In response to this need, EDOs and DOTs have searched for ways to improve transportation efficiency, in particular by working together to develop decision making models, and marketing tools to gauge or showcase relative supply chain strength. However due to these types of collaborations being relatively recent phenomenon, there is a need to research the best ways to carry out said collaborations, by examining what has been successful and what has been problematic in the past. The findings would be developed into a guide that could be useful in engaging in future collaborations.

Problem: How do Economic Development Organization's and Departments of Transportation work together to attract and retain jobs? The relatively new development of economic development organizations and departments of transportation working together to cultivate products or models that enhance a region's competitive advantage has thus far yielded no standard or best practices guide for such efforts. So while it is apparent that the product of these partnerships have value, there is currently a gap in knowledge regarding the practical aspects of successful collaboration. Currently when EDOs and DOTs engage in partnerships they are doing so without a proven framework for success.

Objective and Methods: The proposed research has four phases. Phase 1 consists of the development of a questionnaire to assess the preferred transportation and logistics capabilities and practices from the perspective of site selecting consultants. The questionnaire should be capable of identifying both positive and negative transportation and logistics characteristics. The questionnaire should also provide background information regarding the subject of the questionnaire to establish credibility. Phase 2 should consist of determining a minimum of ten qualified sources to complete the questionnaire; as well as, the administration of said questionnaires. In determining whether a subject is a qualified source the following conditions should be satisfied:

1. The individual should be an employee of a site selection firm who has actively participated in multiple selection projects.
2. The individual should have at least two years of relevant experience.

Phase 3 of the research will consist of the researcher(s) reviewing the results of the questionnaires to identify best practices, and compiling findings into a practice ready guide for

EDOs and DOTs. Phase 4 should consist of the researcher(s) presenting a report on their findings and the guide itself to the TRB for further discussion.

Key Words: Supply chain efficiency, site selection, infrastructure assessment, economic development collaboration, transportation collaboration

Related Work: There are many examples of economic development practitioners engaging in freight and supply chain research. Recent efforts such as the paper “Analyses Considering Partner Selection and Joint Decision making: Investigation of Freight Demand with Spatial Matching Models” by Zhang and Wang; for example, highlights the importance of transportation efficiency and supply chain optimization for economic development agencies and even propose a model for supply chain partner selection (Zhang & Wang, 2016). However while many of these researchers use data from transportation officials, there are few truly collaborative efforts to produce freight and supply chain decision making guides and models.

The absence of many truly collaborative efforts to create supply chain transportation efficiency models or guides does not suggest a lack of need for such products. In their article “Transport, Logistics and the Supply Chain: How Changes Reshape the Research Agenda” Vanelslander and Musso acknowledge that there is an increased demand for supply chain decision making models and software (Vanelslander & Musso, 2015). Additionally there is a significant amount of recent and ongoing research that outlines the dangers an inefficient supply chain and freight transportation infrastructure pose to communities worldwide (Hensher, Zhang, & Rose, 2016). These finding represent a clear need for collaborative efforts to produce models and guides oriented towards improving supply chain functionality (Kearns, 2015).

Though there have only been limited recent efforts by department of transportation personnel and economic development practitioners to produce supply chain/freight decision-making tools, the products of such collaborations appear to provide tremendous value to the regions in question. The Defense Manufacturing Assistance Program, hereafter referred to as DMAP is an ongoing program that helps businesses and communities who may have been negatively impacted by reduced defense spending; however the organization also works to ensure that the defense supply chain remains operational and proficient. DMAP has created a map showing the supply chain for the defense industry in Michigan, Indiana, and Ohio (Defense Manufacturing Assistance Program, 2015). The map highlights the varying strength of contractors and manufacturers for the military and defense agencies.

Similarly, the Iowa Department of Transportation under the leadership of Paul Trombino recently partnered with Quetica Consulting to create a decision making methodology that uses a demand-based supply chain network design to identify optimal facility locations (Bi-State Regional Commission , 2016). Their method allows Iowa based businesses to analyze constraints and opportunities to make more informed site selection decisions. Early results from utilizing this resource appear to be positive.

In many ways the decision makers for what companies locate in a given communities are the site selecting consultants who suggest communities to industry leaders. Therefore, the values of these consultants should be considered by EDO's and DOT's wishing to improve the competitiveness of their community. One of these values is transportation and logistics capabilities (Myers, 2016). According to Lindsey M. Myer's report, "Transportation and Logistics Impact on Site Selection" transportation and logistics capabilities are one of the most important aspects of the site selection process and are projected to continue increasing in importance in the future. Freight, logistics, and transportation infrastructure all play a role as drivers in manufacturing, headquarters, and distribution location decisions (Myers, 2016).

Importance & Benefits: Documented collaborations between DOTs and EDOs have already yielded valuable marketing tools for communities. With current trends in site selection emphasizing transportation capabilities and supply chain efficiency both parties have the opportunity for a mutualistic relationship. The unique expertise of both DOTs and EDOs can be harnessed to produce products such as those created by Paul Trombino and the Iowa Department of Transportation, which benefit all parties through increased recruitment capabilities; as well as, opportunities to improve existing transportation capabilities thus increasing the likelihood of business retention. The best practices guide produced by this research would allow future collaborative efforts to maximize their potential, and avoid mistakes that may have hampered these types of partnerships in the past.

Cost: TBD

Funding: TBD

User Community: Department of transportation officials, economic development practitioners, site selectors, policy makers.

Committee Point-of-Contact: TBD

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