The Impact of Transportation Projects in the Community

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Abstract

When making decisions about where to allocate the resources for transportation maintenance projects, engineers gather a wide range of performance indicators such as PSI (Pavement Serviceability Index), and/or IRI (International Roughness Index). These indicators attempt to measure the physical conditions of the assets. The Iowa DOT desires to transition its asset management program from one that prioritizes projects by “worst first” to one that understands the project’s impact on economic, social and safety requirements, some DOTs also measure Average Daily Traffic, accident rates, speed, visibility, and life cycle cost, among others. This presentation will discuss the various options under consideration for providing a reliable and justifiable method to make infrastructure asset management decisions in Iowa.

Many states like Georgia emphasize traffic volume to make resource allocation decisions. Hence, roads with low traffic volumes are unable to get a fair share of available funding. In Iowa, the economy is based on agriculture and the transportation network’s ability to transport those commodities to market. Thus, equitable distribution of funds becomes more complex. If low volume roads are not funded to cover adequate maintenance a negative impact on the State’s agricultural economy occurs. Therefore it is important to identify a comprehensive way to measure the impact of the assets on the community and in this way to add this indicators to the decision making process.

Non-profit organizations such as the World Bank have developed algorithms to integrate the social value of improved infrastructure to growth and equity in developing countries with agricultural economies. Other private and public entities are also interested in how to value social outcomes in monetary terms. Some methodologies like Social Return on Investment (SROI) provide a structured approach to evaluating social, economic and environmental outcomes of capital infrastructure investments. The presentation furnishes the results of comparative analysis of the different available methodologies and finds that it is possible to develop a model that accommodates a project’s impact on all stakeholders not just ones in urban, high ADT areas and increases the fair distribution of available resources for the Iowa transportation asset management program.

Keywords: Transportation Assets Management—Social Return on Investment—Social Impact—Rural Roads—Agriculture

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