INTEGRATION OF SAFETY IN THE PROJECT DEVELOPMENT PROCESS AND BEYOND: A CONTEXT SENSITIVE APPROACH

An ITE Informational Report

The following is a summary of an informational report of the Institute of Transportation Engineers (ITE) prepared by the Federal Highway Administration (FHWA), ITE, and CH2M HILL. The full report focuses on the consideration of safety in the project development process and its relationship to highway design elements.

This informational report builds upon work related to the recently published ITE/FHWA Designing Walkable Urban Thoroughfares: A Context Sensitive Approach recommended practice and the dialog that was initiated with ITE members in support of advancing the implementation of context sensitive solution (CSS). This report focuses on the consideration of safety in the project development process and its relationship to highway design elements considering project context from a quantitative, substantive, analytical, and technical perspective. There are many challenges to successfully completing projects, particularly those in urban areas with multiple modes of transportation, where space is limited, and stakeholder desires are many and varied. Transportation project development is now widely understood to involve the weighing of trade-offs between cost (both initial and life-cycle), user mobility, socioeconomic and environmental effects (for example, air and noise quality, wetlands, cultural resources, visual effects, and environmental justice communities), rights of way, adjacent land use, and safety. Project development includes consideration of context and the community and environment in which a project may be developed.

For any project, a multitude of solutions may be possible, each with its own unique set of costs and benefits. The relative importance of all identified costs and benefits can vary widely based on the community values, context, and project specifics. Implementing such a process and making a good decision among the choices requires full knowledge of the quantitative and qualitative effects of the many identified values and issues, including safety. Only with quantitative and objective information, combined with a transparent decision process, can project decision-makers arrive at a consensus “best value” solution that reflects both the objective information and the unique, project-specific value of all key considerations.

With respect to safety, often the default measure of safety performance has been nominal safety rather than substantive safety. Nominal safety measures safety by assessing whether a roadway, design alternative, or design element meets minimum design practices, standards, and/or warrants. Substantive safety, on the other hand, defines safety in terms of actual (or expected) performance as defined by the frequency and severity of crashes. The American Association of State Highway and Transportation Officials (AASHTO) Highway Safety Manual (HSM) and other publications now offer transportation professionals many tools to assess the effects of their actions on safety performance. Such publications are filling the gap in knowledge associated with geometric design and traffic operational effects on safety performance. A logical next step in the evolution of the context sensitive solution (CSS) process is the identification of resources and tools to be used by the transportation profession for effectively integrating safety into the project development process. By isolating the safety consequences of applying context sensitive and flexible design principles the highway designer, safety engineer, planning team, and the general public can make the best possible decisions for their community.

New analytical tools developed over the past five years are available for designers, planners, traffic engineers, and maintenance/construction engineers to quantify safety in project development to a level of detail that had not been possible in the past. With these tools, the expected safety performance of a transportation project can be evaluated and the safety implications of incremental changes in design elements can be quantified.

Included in the report is information on how to implement these tools and best practices for design professionals so they can apply the most appropriate technical knowledge on quantitative safety performance—crashes and their outcomes—to develop projects for a range of contexts. Best practices incorporate the basic technical knowledge on safety effects, as well as analysis processes tailored to project size, scope, and context. With such input, professionals can compare safety data with other measurable data on the environment, costs, traffic operations, etc., to make an informed decision.
LETTER TO THE EDITOR

Creating Great Communities through Transportation: A Perspective on Becoming more Relevant to the Public

To the Editor:

I just wanted to write a letter of appreciation for the article, “Creating Great Communities through Transportation: A Perspective on Becoming more Relevant to the Public” (ITE Journal, February 2015). Anyone working in a senior position in transportation planning or engineering should share this (and discuss it) with their junior staff. Transportation professionals can and should take leadership roles in developing and shaping their communities. Kudos to Zaki Mustafa and Bryan Jones for articulating this so well.

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A Winning Idea to Improve Mobility Safety for Pedestrians

Correction:

Page 22 of the April 2015 ITE Journal interview with Sakib Khan should state that he grew up in Bangladesh. itej