

## ABSTRACT

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The asset management process adopted by the Indiana Department of Transportation (INDOT) takes into account several criteria related to cross-section, alignment and safety to evaluate various road improvement projects. The current process uses an intuitive point allocation method to score these individual categories. This study proposes an enhanced methodology that considers the safety and mobility impacts of the improvements included in the scope of the project. This methodology can be used to screen roads based on existing geometry compared to a desirable design standard. The road screening process and the project evaluation process form the two steps of the proposed asset management process. The road screening process helps in initial evaluation of road segments to identify the least adequate road segments. Projects may be further developed with estimated improvements to be carried out on such segments. The project evaluation process helps select the most promising projects for implementation using more detailed information about the anticipated geometry changes and their safety and speed impacts.

The asset management process discussed here relies on the prediction of crashes saved and speeds increased. The Crash Modification Factors and the Speed Adjustments developed in other studies are extensively used to predict the potential benefits. In addition, the safety performance functions used in this method have been calibrated based on the latest crash data available for 2009-2011.