INDIANA TOLL ROAD (ITR) SPEED STUDY
Indiana Toll Road Concession Company (ITRCC)
Indiana

The purpose of this project was to evaluate raising the truck speed limit on the ITR from 65 mph to 70 mph. AES conducted a comprehensive engineering study to establish the ITR truck speed limit based on the prevailing speed of free-flow traffic, as well as the safety evaluation utilizing the Indiana Department of Transportation (INDOT) crash data.

Key Features:

- Field data collection at 30 locations along the entire 157.0 miles of ITR using a Stalker Digital Radar Gun.
- Developed a data collection plan and conducted a pilot study to ensure recording of unbiased data, safety of personnel and the traveling public, maintenance-of-traffic (MOT) needs, and local agency coordination.
- Coordinated with local agencies to obtain permits for station data collection equipment and obtained approval of MOT plans.
- Created spreadsheet templates for speed data collection and data processing.
- Speed and safety analyses were performed using INDOT methodology as well as FHWA's USLIMITS2 online tool. The crash data was analyzed per FHWA's Highway Safety Manual guidelines (2010).
- Conducted statistical analysis of speed data including location, directional, and system-wide trends for different vehicle types, graphical illustrations of underlying distributions, and computation of parameters to determine appropriate speeds for cars and trucks.
- Performed a comprehensive analysis of crash data extracted from the Indiana State Police Automated Reporting Information Exchange System (ARIES).
- A rigorous data reduction exercise was undertaken to obtain a crash data set free of coding and reporting errors.
- Created automated spreadsheet templates to process crash data which included error-checking features in order to increase the efficiency of the process while maintaining the data quality.

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- A comparison of statewide crash statistics was done to determine the safety performance of the ITR with other interstates in Indiana.
- Computed crash rates and statistics by location, vehicle type, and the entire system using several analytical approaches to increase confidence in the results.
- Determined the most prevalent crash contributing factors, injury and fatal crash frequencies, work zone crashes, speed-related crashes, and temporal and spatial variations in these variables.
- Provided recommendations for speed limits for trucks based on a combined analysis of speed and crash data.
- Provided recommendations for crash data analysis that would help identify system deficiencies in terms of geometrics and traffic control devices, which in tum can be utilized for targeted remediation for improvements in the overall safety, location-specific safety, work zone safety, safety at on- and off-ramps, safety at mainline toll plazas, and night-time safety.