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Sommario/riassunto	This report presents an algorithm for predicting the safety performance of a rural two-lane highway. The accident prediction algorithm consists of base models and accident modification factors for both roadway segments and at-grade intersections on rural two-lane highways. The base models provide an estimate of the safety performance of a roadway or intersection for a set of assumed nominal or base conditions. The accident modification factors adjust the base model predictions to account for the effects on safety for roadway segments of lane width, shoulder width, shoulder type, horizontal curves, grades, driveway density, two-way left-turn lanes, passing lanes, roadside design and the effects on safety for at-grade intersections of skew angle, traffic control, exclusive left- and right-turn lanes, sight

distance, and driveways. The accident prediction algorithm is intended for application by highway agencies to estimate the safety performance of an existing or proposed roadway. The algorithm can be used to compare the anticipated safety performance of two or more geometric alternatives for a proposed highway improvement. The accident prediction algorithm includes a calibration procedure that can be used to adapt the predicted results to the safety conditions encountered by any particular highway agency on rural two-lane highways. The algorithm also includes an Empirical Bayes procedure that can be applied to utilize the safety predictions provided by the algorithm together with actual site-specific accident history data.

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