عنوان مقاله:

Cluster-Based Modeling of Crash Frequency

محل انتشار:

هشتمین کنگره ملی مهندسی عمران (سال: 1393)

تعداد صفحات اصل مقاله: 7

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خلاصه مقاله:

Several recent studies have tried to use new techniques to increase the accuracy of crash frequency models. The objective of this manuscript is to evaluate interpretability and predictive ability of Cluster-based Negative Binomial Regression (CNBR) in comparison with basic conventional Negative Binomial Regression (NBR) model. First, thecrash data is clustered into different homogenous categories using Two-Step Cluster Analysis (TSCA) and thenNBR is developed separately for each category. The results from comparison of the modeling procedures indicate that CNBR has higher fitting ability, more predictive accuracy, and better interpretability. In addition, TSCA generates homogeneous categories which facilitate the interpretation of effective factors across each category. It can be helpful for operators to consider significant factors in each category separately. However, the combination of TSCA and NBR makes it a time consuming procedure. On the other hand, NBR model for the entire database is quick and easy to develop, but has a lower predictive ability

کلمات کلیدی:

Crash Frequency, Two-step Cluster Analysis, Cluster-Based Negative Binomial Regression

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