KNOWLEDGE DISCOVERY AND DATA MINING FROM

FREEWAY SECTION TRAFFIC DATA

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ABSTRACT

Archived traffic-generated data (traffic flow, accident, work-zone, and weather data) from PR-18 in San Juan was examined by means of association mining and the KDD process. A total of six studies were developed and studied using the IBM Intelligent Miner for Data.

The objective was to gain knowledge from the data about interrelationship between the variables. The approach was found to be a source of valuable information that allowed the identification of: red flags during work-zone operations; similar patterns in LOS between Tuesdays and Wednesdays and similar patterns in LOS between Mondays, Thursdays, and Fridays; and allowed the analysis of LOS over time. The approach also allowed the identification of temporary traffic control devices impacted by vehicles, common accidents, and day of the week with worst LOS. New regulations could arise from the information learned that could be used to improve work-zone operations for the safety of drivers and construction workers.