

Characteristics of Speed Dispersion in Urban Expressway

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Abstract : Speed dispersion has tight relation to traffic safety. In this paper, several kinds of indicating parameters (the standard speed deviation, the coefficient of variation, the deviation of V85 and V15, the mean speed deviations, and the difference between adjacent car speeds) are applied to investigate the characteristics of speed dispersion, where V85 and V15 are 85th and 15th percentile speed, respectively. Their relationships are into full investigations and the results show that: there exists a positive relation (linear) between mean speed and the deviation of V85 and V15; while a negative relation (quadratic) between traffic flow and standard speed deviation. The mean speed deviation grows exponentially with mean speed while the absolute speed deviation between adjacent cars grows linearly with the headway. The results provide some basic information for traffic management.

Keywords : headway, indicating parameters, speed dispersion, urban expressway

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