

## Speed Characteristics of Mixed Traffic Flow on Urban Arterials

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**Abstract :** Speed and traffic volume data are collected on different sections of four lane and six lane roads in three metropolitan cities in India. Speed data are analyzed to fit the statistical distribution to individual vehicle speed data and all vehicles speed data. It is noted that speed data of individual vehicle generally follows a normal distribution but speed data of all vehicle combined at a section of urban road may or may not follow the normal distribution depending upon the composition of traffic stream. A new term Speed Spread Ratio (SSR) is introduced in this paper which is the ratio of difference in 85<sup>th</sup> and 50<sup>th</sup> percentile speed to the difference in 50<sup>th</sup> and 15<sup>th</sup> percentile speed. If SSR is unity then speed data are truly normally distributed. It is noted that on six lane urban roads, speed data follow a normal distribution only when SSR is in the range of 0.86 - 1.11. The range of SSR is validated on four lane roads also.

**Keywords :** normal distribution, percentile speed, speed spread ratio, traffic volume

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