

A STUDY ON CLARIFYING COMFORTABLE ROAD CONDITIONS FOR SLOW VEHICLES

Ch. Tetsuya Manabe (Assistant Professor, Saitama University)

[SYNOPSIS]

The objective of this research subject is to clarify comfortable road conditions for slow vehicles (SV) in order to obtain knowledge about SV for spreading and establishing in society. We have taken two approaches as follows: probe data-based analysis and subjective evaluation-based analysis.

At first, we have analyzed the comfortable road conditions using our tool called "SV probe data collection and analysis platform". This approach is based on travel records. As a result, the following knowledge have been obtained: (1) On road section of uninterrupted flow, minor street (limiting speed is slow, road width is narrow, number of lanes is small, no sidewalk) is preferable. (2) When right turn, the road of the same condition is better. (3) When left turn, increasing values of conditions (limiting speed, road width, number of lanes, presence of sidewalk) is accepted.

Next, we have done the subjective evaluation for SV drivers about bus routes, bicycle lanes, and one-way streets. The probe data-based approach is based on the travel records; however, this approach as mentioned above is based on the subjective view of SV drivers. As a result, the following knowledge have been obtained: (1) Light traffic volume or very heavy traffic volume is preferable. (2) On the bus routes, wide road width is needed. (3) No bicycle lane or slow vehicle lanes instead of the bicycle lane is better. (4) On one-way streets, only forward direction is better even if SV is no-regulated vehicle.

The comfortable road conditions obtained by this research subject can be used as the knowledge about SV for spreading and establishing in society in near future, that is, traffic planning and urban design by governments, and link-weight calculation of slow vehicle navigation systems.