

[Technologies for Safe and Sustainable Road Traffic Society]

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Traffic Management & Control

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The studies in the laboratory are related to traffic engineering from various aspects such as fundamental theoretical studies, analyses of data collected by different types of sensors, and the effect evaluation of traffic management methods/policies based on traffic simulation models. They are expected to resolve the traffic safety, congestion and environmental impact issues, and to lead to innovative road traffic.

Scientific Approach for Traffic Flow

The goals are to develop policy-assessment tools for safe, efficient and environmentally sustainable traffic society.

Innovative policy

Studies on various traffic policies to safely and efficiently manage urban traffic flow:

- *Effects of offset control: Revisited*
- *Comparison of different midblock crosswalk treatments*
- *Ramp metering method for complex networks*
- *Network control based on spatial congestion patterns*

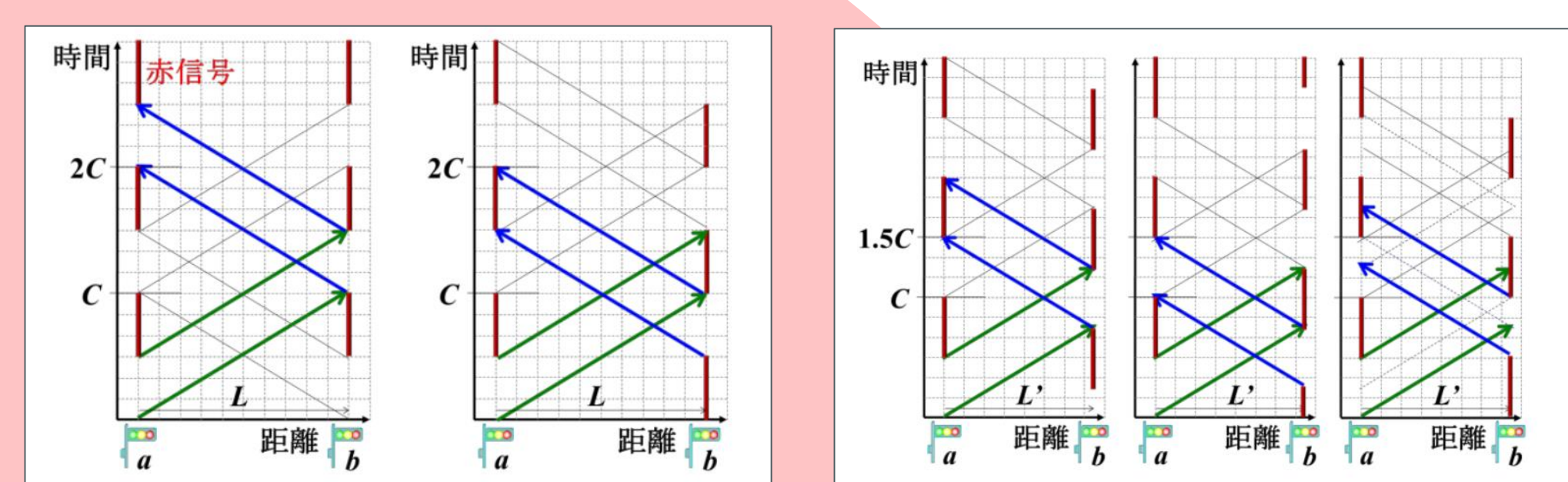


Fig. Effects of offset control



ITS Intelligent Transport Systems

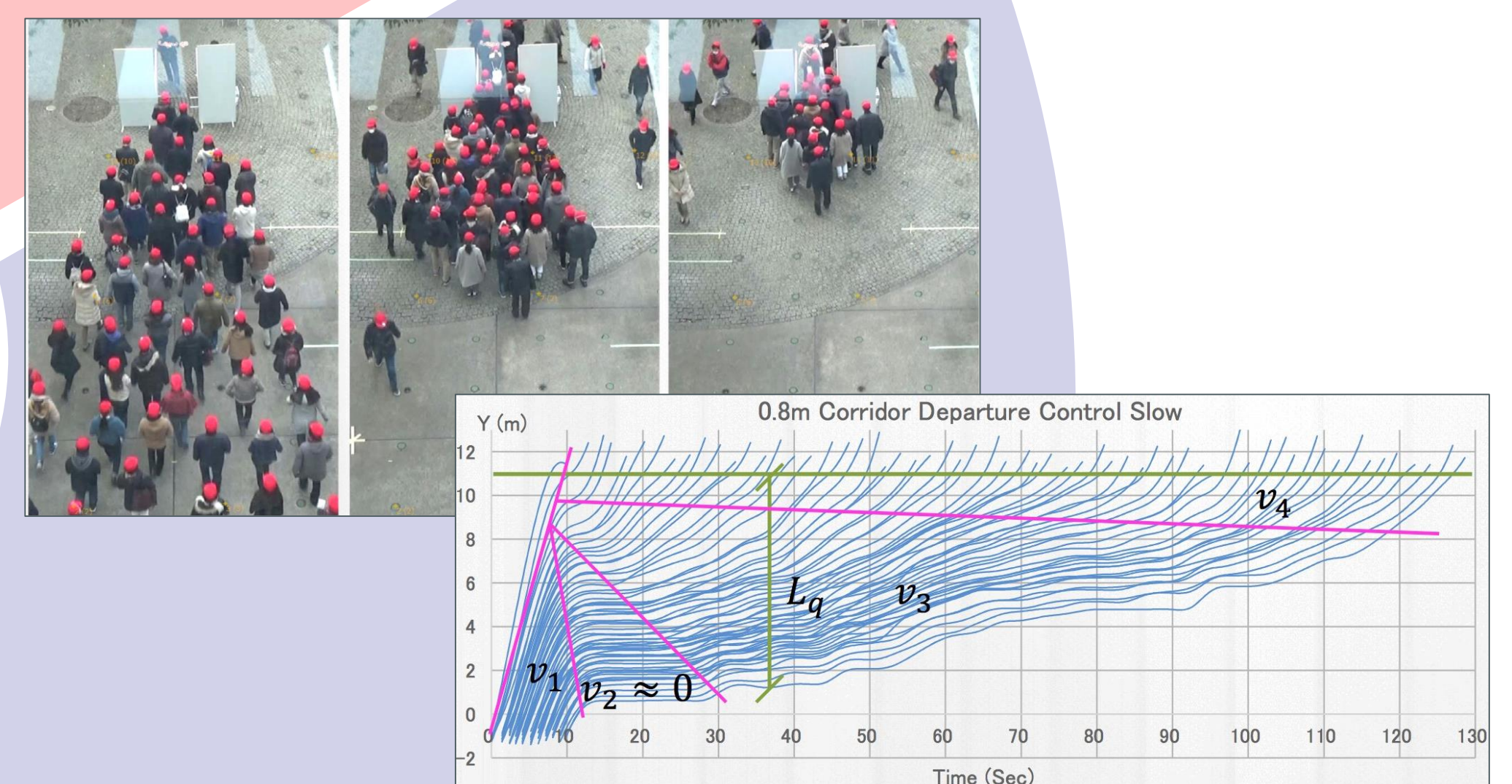


Fig. Pedestrian experiment and its analysis

Development of traffic simulation models and its application to policy evaluations

- *AVENUE (Street-level traffic simulator)*
- *SOUND (Regionwide-level traffic simulator)*
- *Operational evaluation system for 3 ring roads in Tokyo metro area*
- *Development of simulation models for various mobilities (PMV etc.)*

Technology

Basic theories and empirical studies of traffic flow

- *Investigate system of traffic rules*
- *Analysis of DTA algorithm for finding Nash equilibrium*
- *Pedestrian queue formation characteristics at bottlenecks*
- *Travel time estimation in mixed traffic*

Science