



## [Traffic space for pedestrians and vehicles]

International Center for Urban Safety Engineering

<http://www.iis.u-tokyo.ac.jp/~m-iryoy/>

Traffic Space Analysis and Design

Department of Civil Engineering

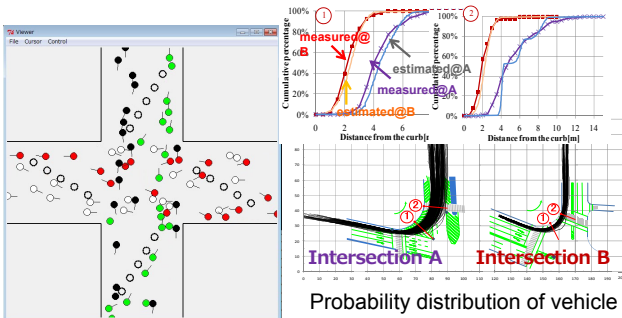
### Traffic space design and control considering user reactions

Pedestrians, non-motorized vehicles and personal mobility vehicles attract a high level of interest as important traffic modes these days. As these modes need to share limited road spaces with ordinary vehicles, we need to effectively design the spaces for such mixed traffic considering their movement characteristics.

The aim of our research is to propose better layout and control of road/walking spaces to achieve efficient, safety and comfortable traffic for pedestrians and vehicles.

#### ◆ Pedestrian-vehicle traffic simulation

Modeling non-lane-based pedestrian / vehicle maneuver in order to evaluate impact of layout and traffic control on traffic flow.

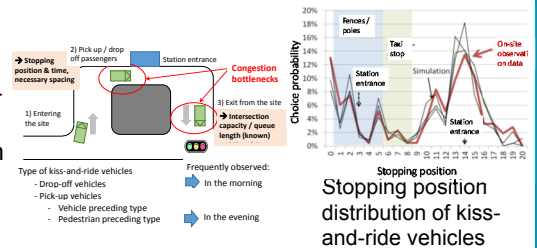


Pedestrian simulation

Probability distribution of vehicle path

#### ◆ Facility allocation considering vehicle stop choice behavior at station sites

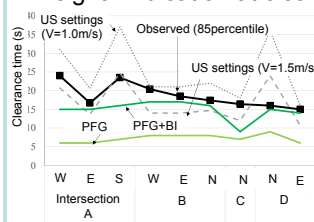
Modeling stopping position choice behavior of kiss-and-ride vehicles to represent congestion



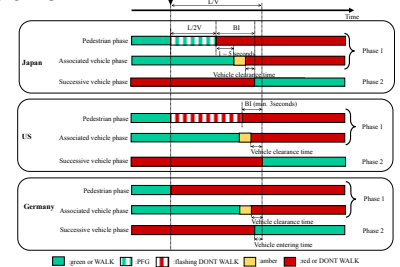
Stopping position distribution of kiss-and-ride vehicles

#### ◆ Pedestrian traffic signal indication to reduce illegal crossing

Analysis of pedestrian crossing behavior depending on signal indication at clearance time



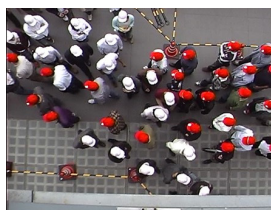
Necessary clearance time and current settings



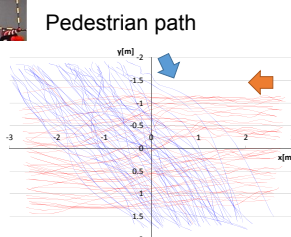
International comparison of pedestrian signal indications

#### ◆ Throughput characteristics of pedestrian flow

Capacity and travel time characteristics of multidirectional pedestrian flow

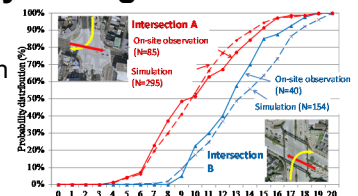


Pedestrian flow experiment



#### ◆ Safety evaluation by surrogate measures at intersections

Evaluating safety of intersection with different layouts and traffic signal settings using surrogate measures obtained by user maneuvers



Representing conflict indicator (Post Encroachment Time) distributions at each intersection by simulation