

# SEKIMOTO LAB.

[Urban Computing– Science for Human and Urban System–]

Department of Human and Social Systems

Human Centered Urban Informatics

Center for Spatial Information Science  
Department of Civil Engineering  
Department of Advanced Interdisciplinary Studies

<http://sekiilab.iis.u-tokyo.ac.jp>

By acquiring, integrating, and analyzing the big and heterogeneous spatial data of people, things, and events, we aim to comprehend the past, now and future of urban system to discover and tackle the major issues that cities face.

## ➤ Estimating People Flow by Sensing and Modeling Human Behavior

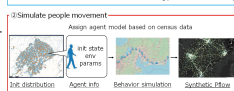
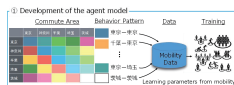
### People Flow Dataset Reconstruction

Develop minute-to-minute people mass movement location data and provide the public datasets to society.



### Human Mobility Modeling

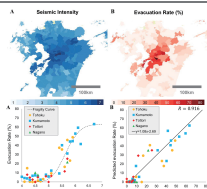
Develop reinforcement learning-based approach for modeling and simulation of people mass movement using the GPS data



## ➤ Unravelling People Movement in Various Contexts

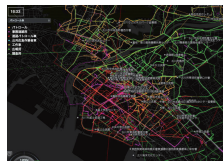
### Human Mobility Analysis in Disasters

Measure the anomaly of people flow in cities to disasters using GPS Data collected from smartphones.



### Public Vehicle Analysis

Analysis public vehicle use with GPS data and the possibility of use optimization.



## ➤ Prompt and Low Cost Urban Infrastructure Monitoring System

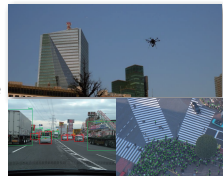
### Road Monitoring

Monitor road damage by image processing using smartphone and deep learning at low cost.



### Urban Sky Monitoring

Monitoring aircraft above the city and measuring traffic volume by image processing techniques.



## ➤ Operating Cities by Designing and Establishing Information Distribution

### Urban Planning

Simulate future urban structure and visualize the results with familiar indicators.



<https://mycityforecast.net>

### Digital City

Build a digital twin platform by utilizing dynamic real-time geospatial big data.



<https://www.digitalsmartcity.jp/>

