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
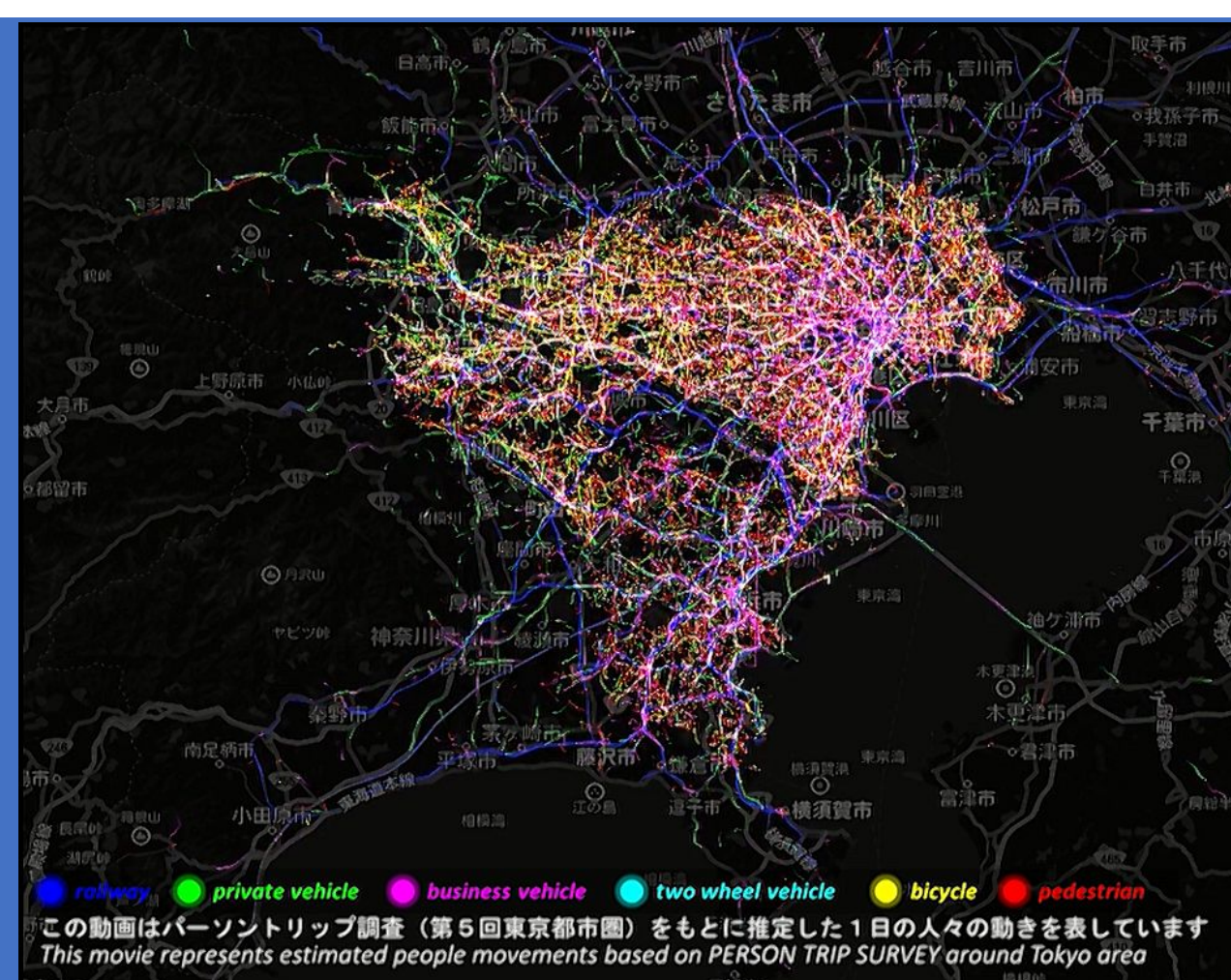
http://sekilab.iis.u-tokyo.ac.jp

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.

この動画についてはパーソントリップ調査（第5回東京都市圏）をもとに推定した1日の人々の動きを示しています
This movie represents estimated people movements based on PERSON TRIP SURVEY around Tokyo area

Human Mobility Modeling

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

① Development of the agent model

② Simulate people movement
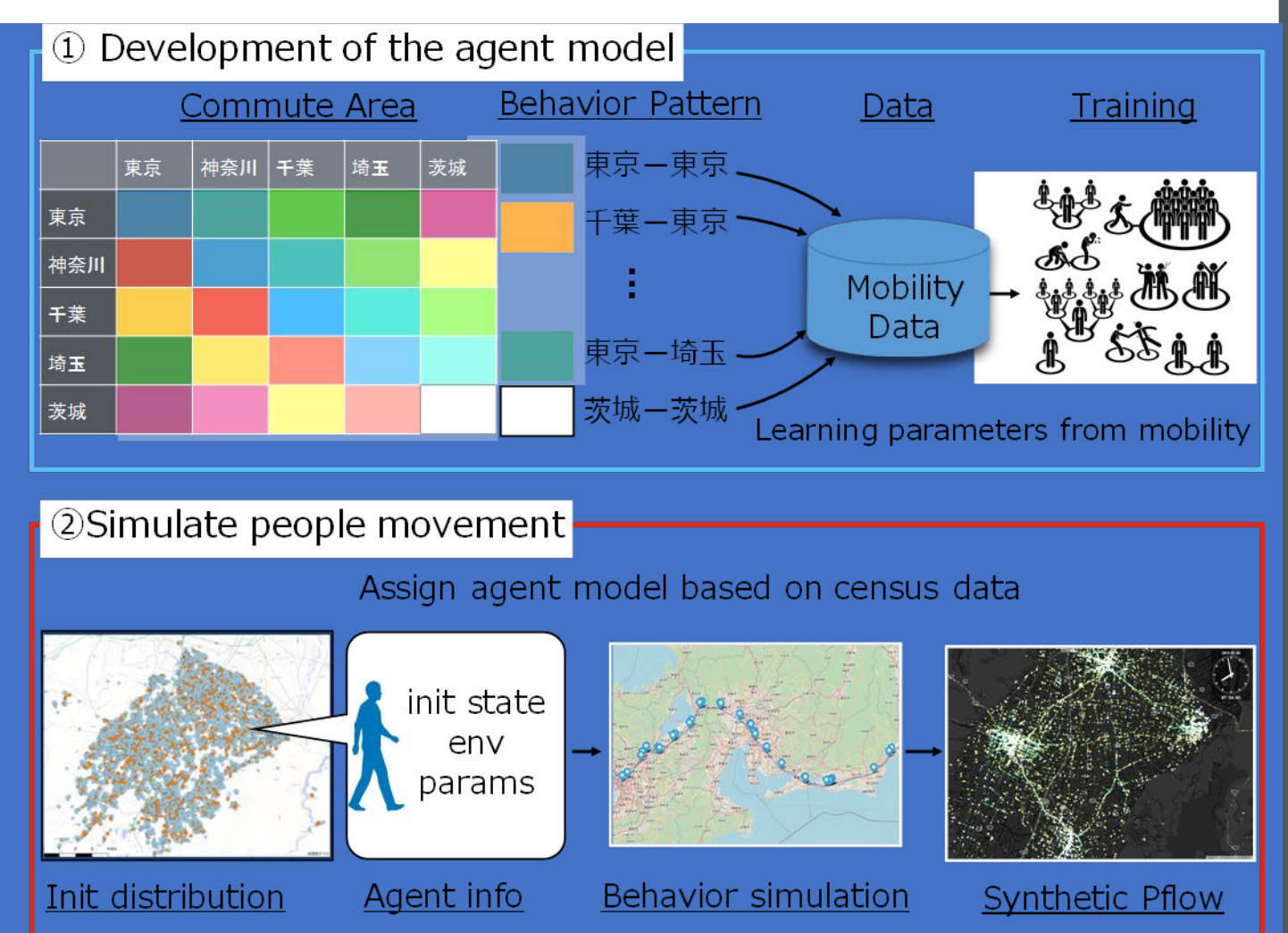
Unravelling People Movement in Various Contexts
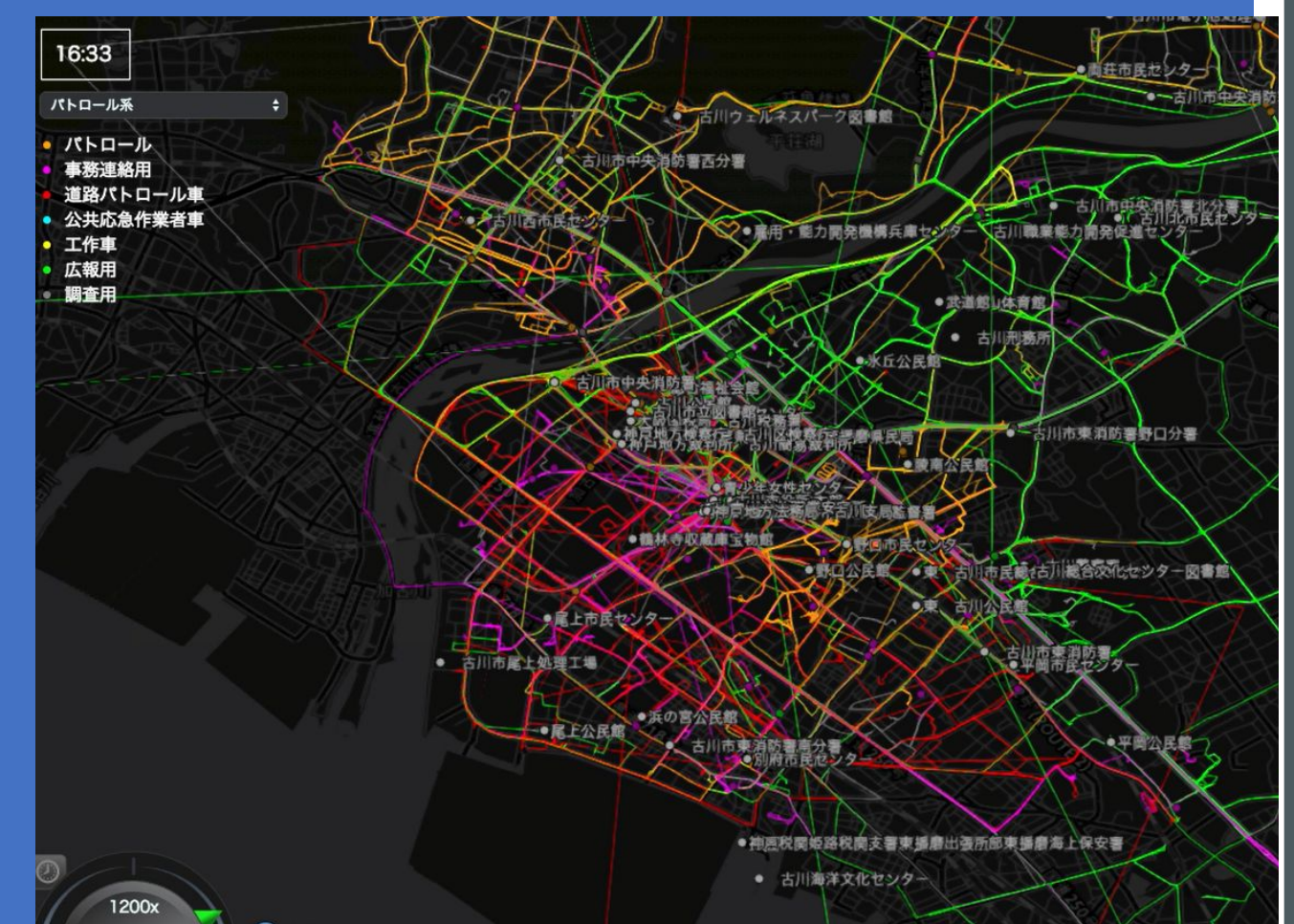
Human Mobility Analysis in Disasters

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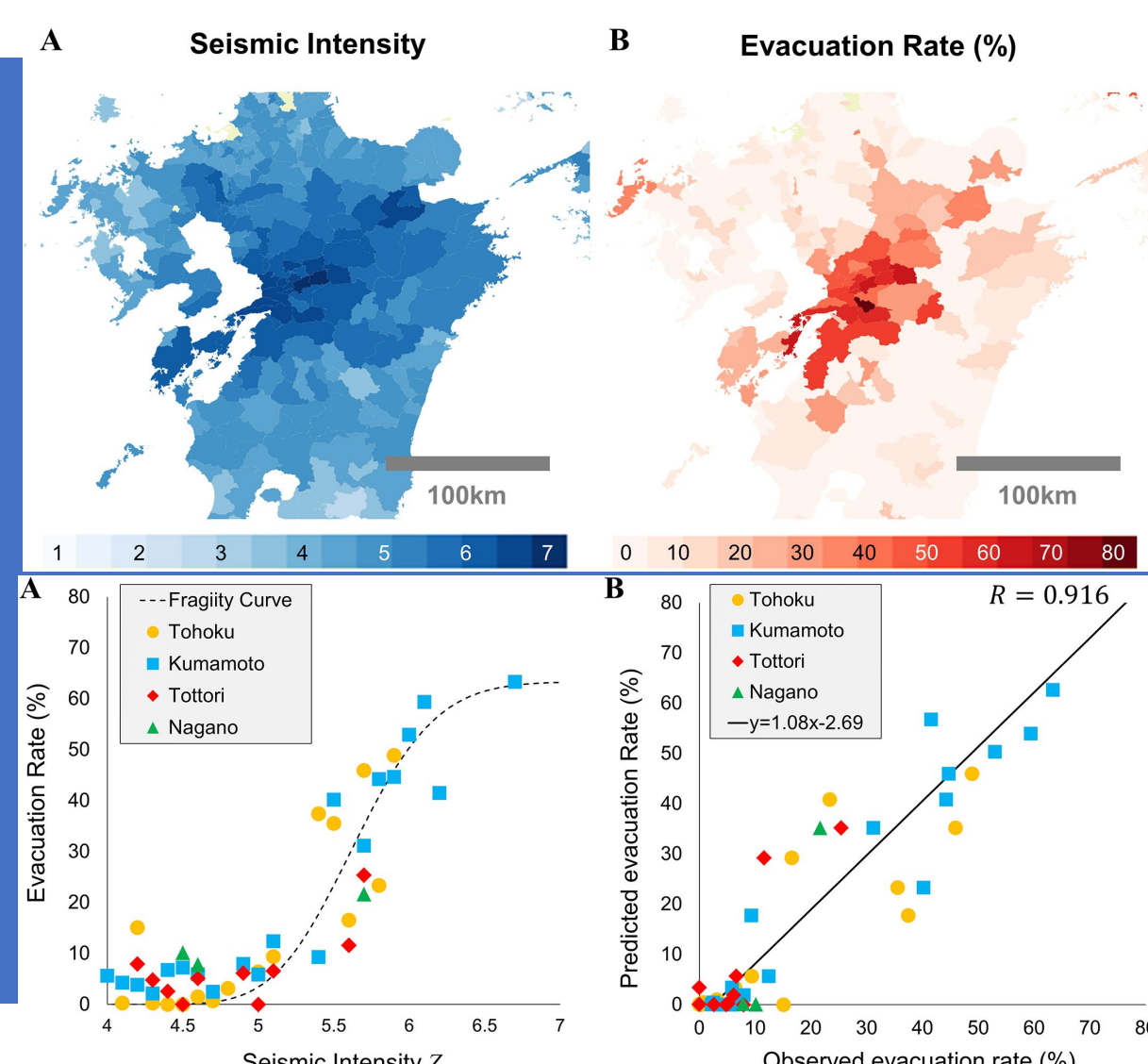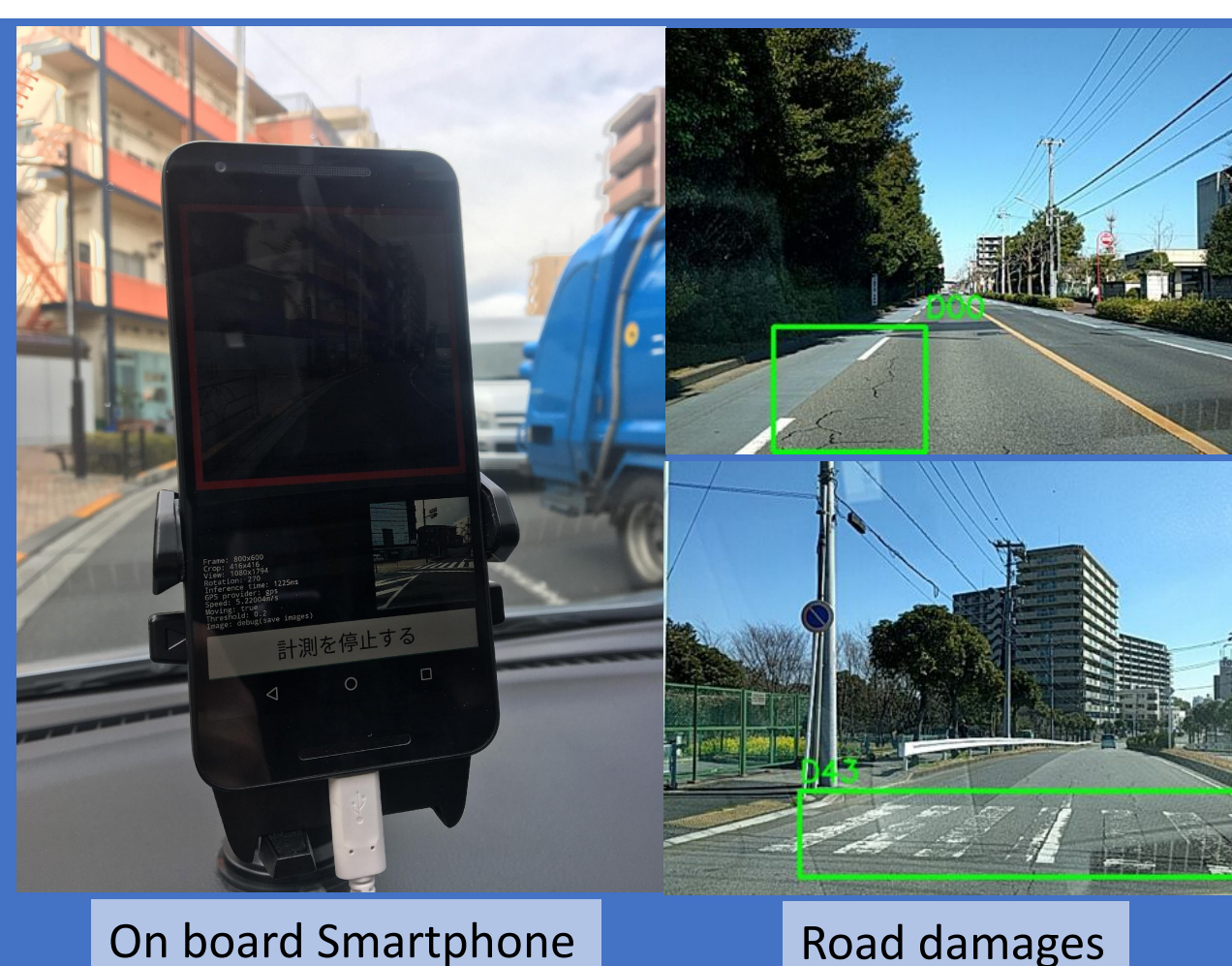

Public Vehicle Analysis

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

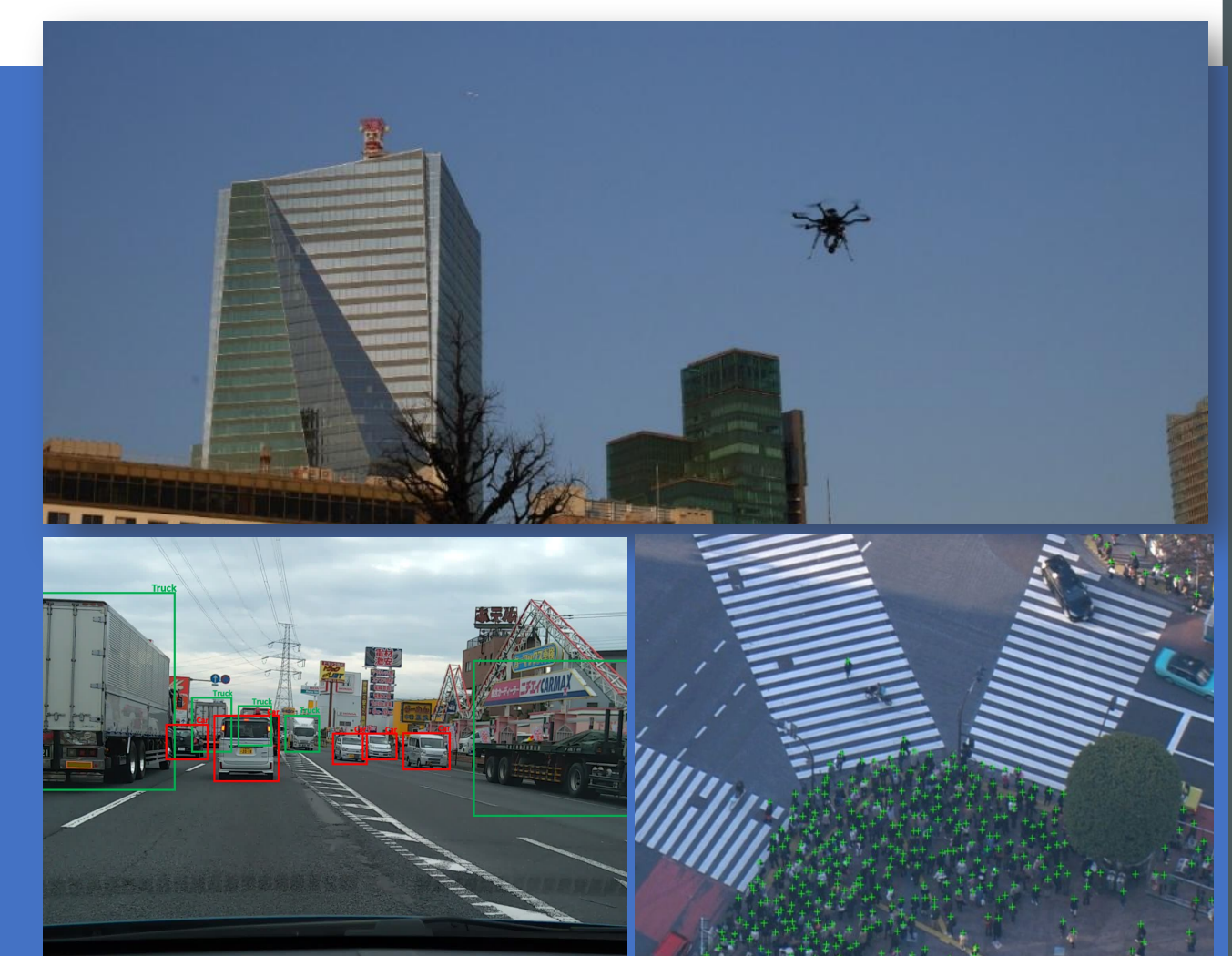## Prompt and Low Cost Urban Infrastructure Monitoring System

Road Monitoring

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

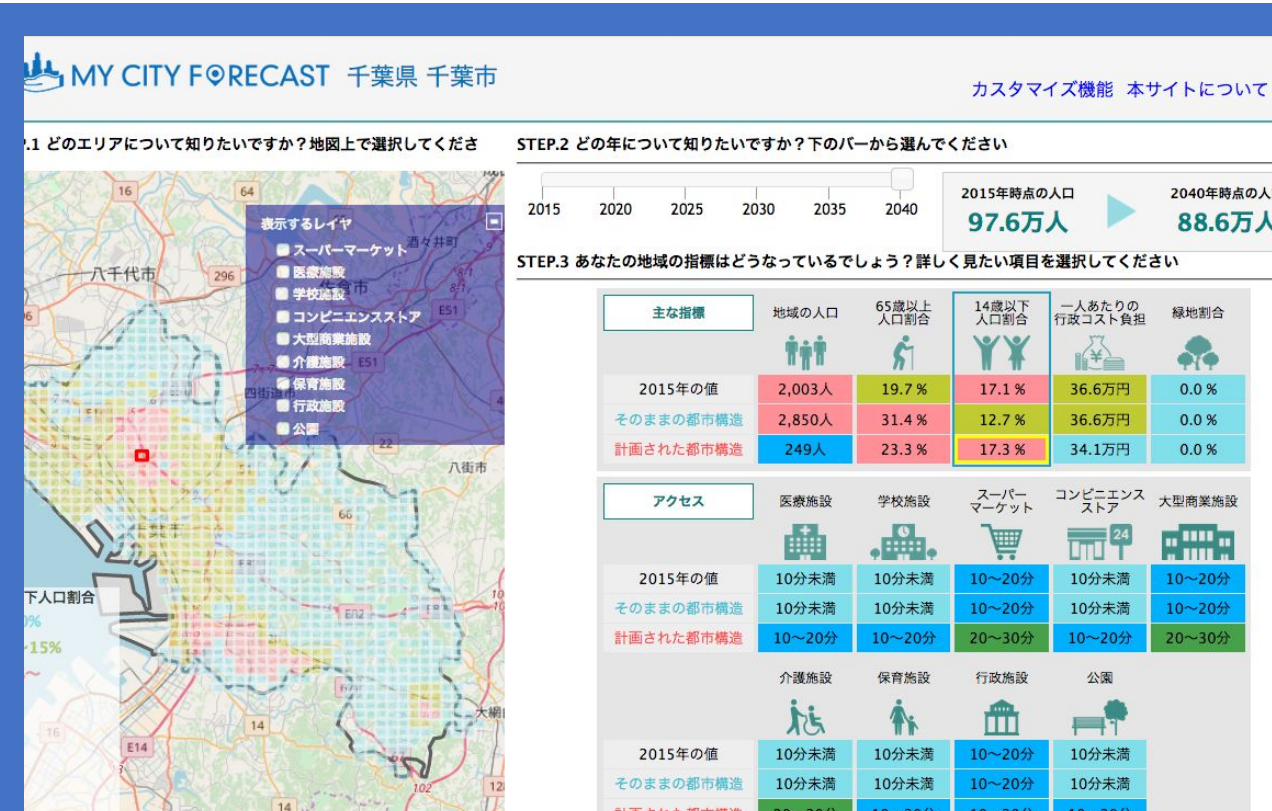On board Smartphone   Road damages

Urban Sky Monitoring

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

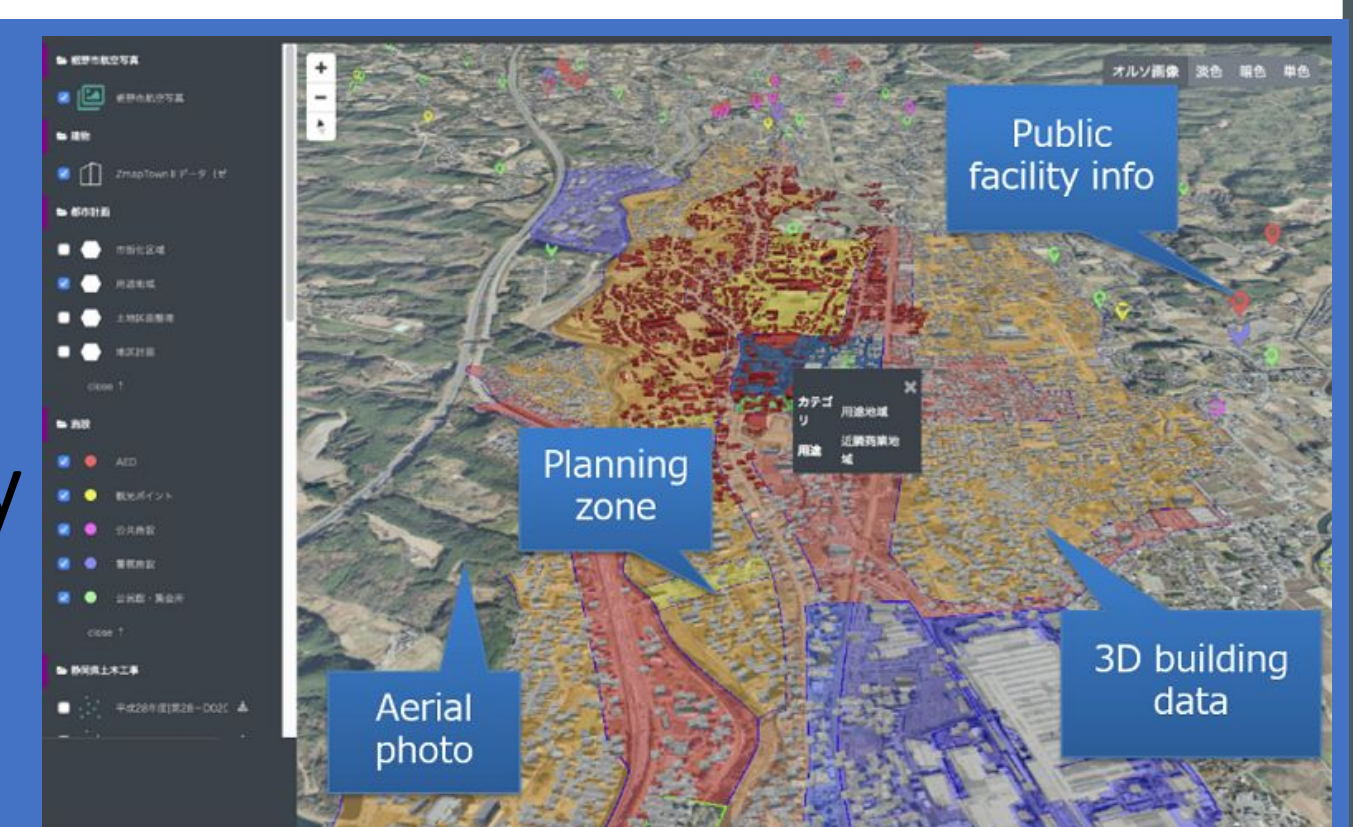## Operating Cities by Designing and Establishing Information Distribution

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/

東京大学生産技術研究所