

SEKIMOTO LAB.

Urban Computing- Science for Human and Urban System



Department of Human and Social Systems

Center for Spatial Information Science

Department of Civil Engineering, Graduate School of Frontier Sciences

Department of Socio-Cultural Environmental Studies

Human Centered Urban Informatics

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

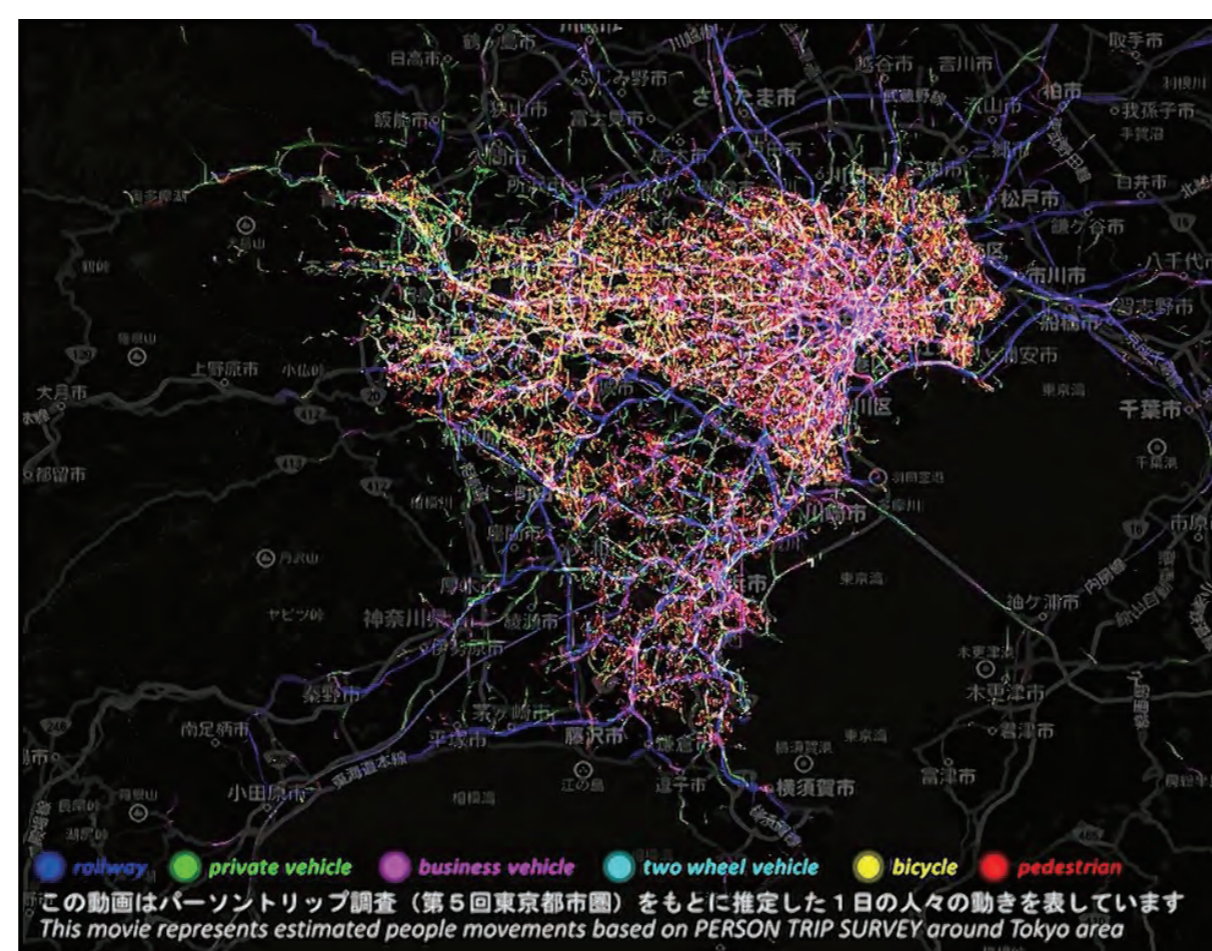
Solving the challenges of people, things, and events through digital twins of cities

In recent years, the challenges faced by dynamically changing cities have become complex and diverse and cannot be easily solved by specific powers or money alone. In such a context, the power of information is needed to bring together and connect the diverse strengths and aspirations of various people. In other words, with the effective use of information technology, anyone can gradually move society forward. I would like to explore the information technology of cities, which focuses on people and forms the foundation of society.

Modeling and Understanding Human Mobility

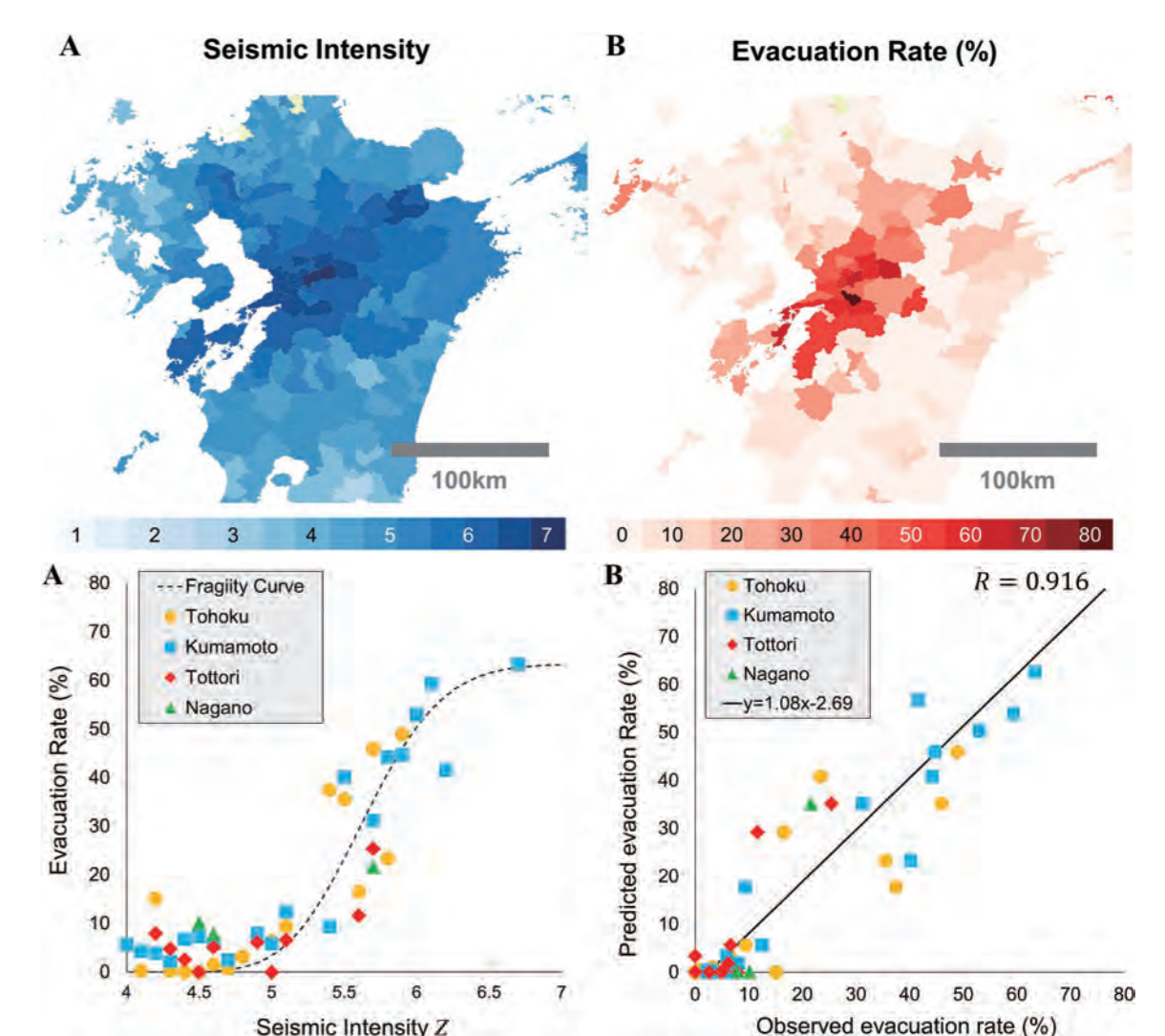
Pseudo People Flow

Synthesize people flow from urban data as an open alternative to mobile GPS data.



Mobility Anomalies

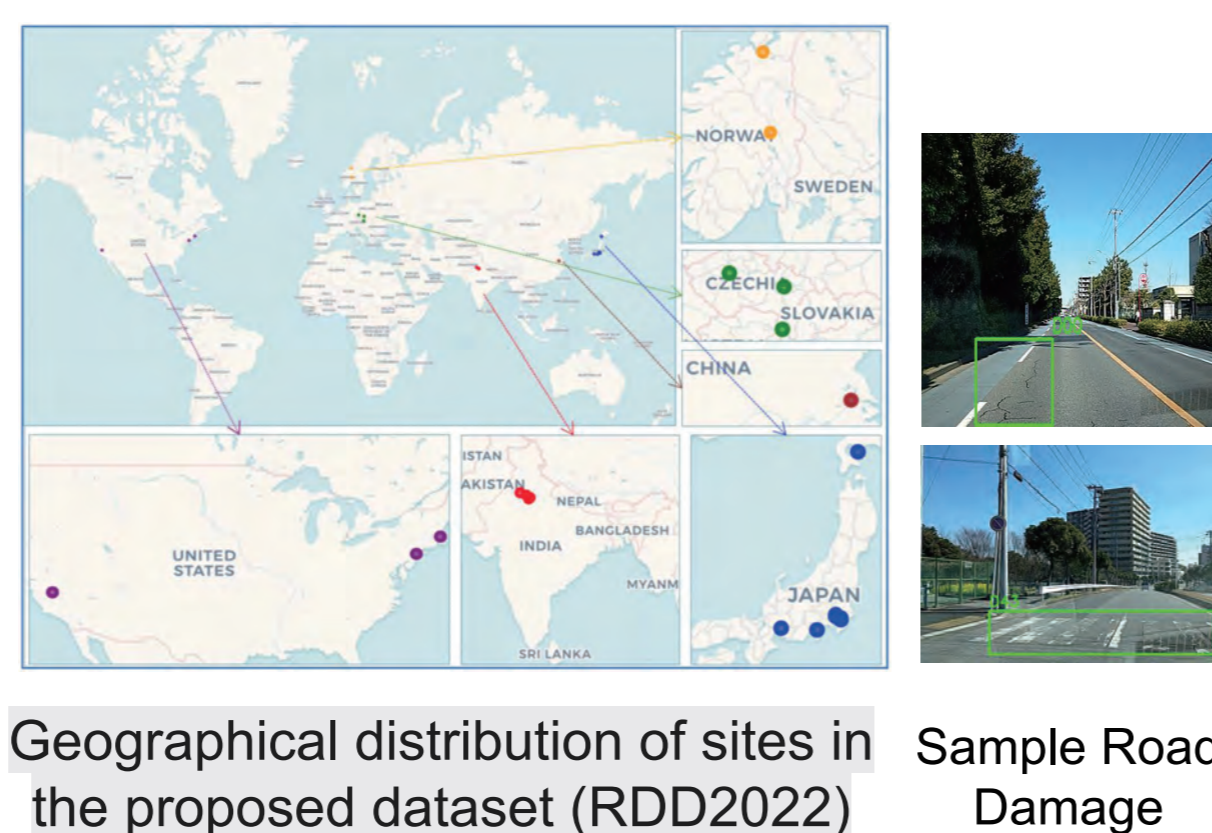
Analyze mobility anomalies from GPS data to understand disasters, events, and urban dynamics.



Prompt and Low Cost Urban Infrastructure Monitoring System

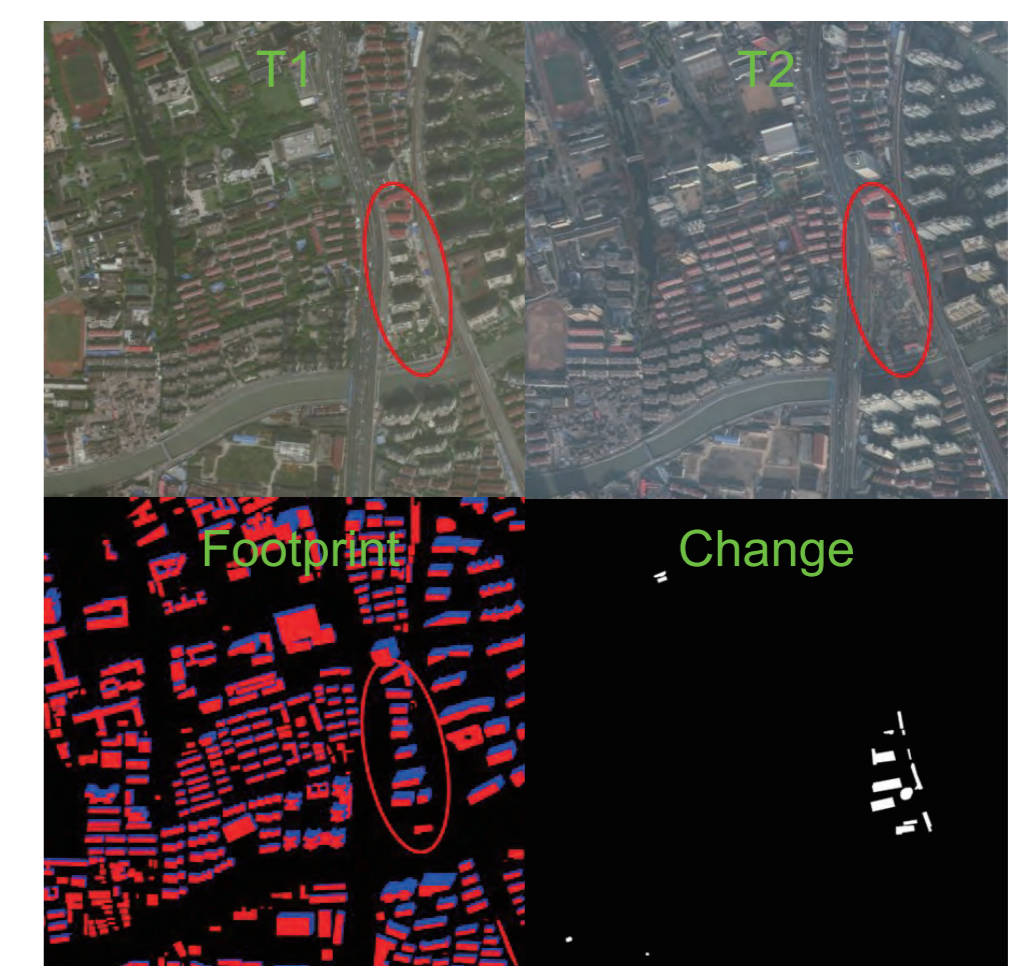
Global Road Monitoring

Building a global model by unifying cross-country road datasets for road damage detection at scale.



Wide Area Building Change Detection

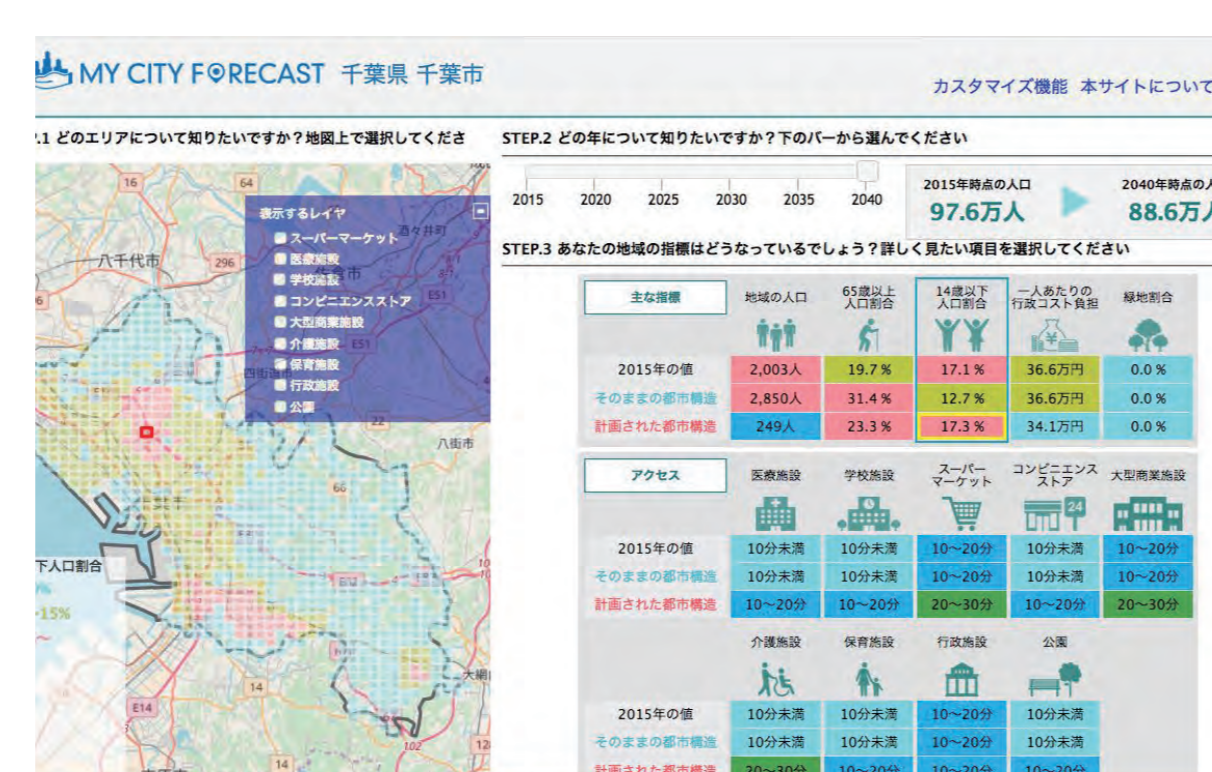
Automatic building change detection from multi-temporal remote sensing imagery using deep learning algorithms.



Operating Cities by Designing and Establishing Information Distribution

Urban Planning

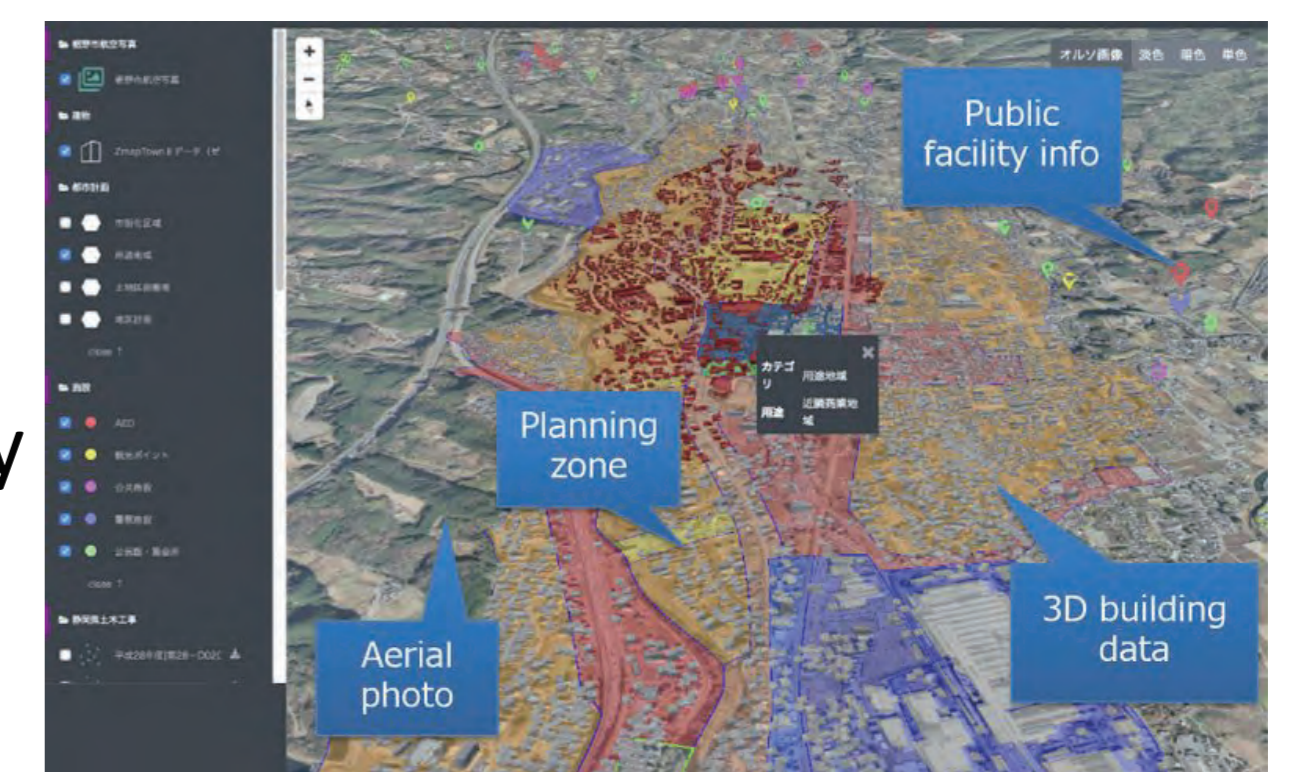
Simulate future urban structure and visualize the results with familiar indicators.



<https://mycityforecast.net>

Digital City

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



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