

Attachment

Disaster-Prevention Planning Joint Research Project

- Period: November 22, 2010 – March 31, 2011
- Survey Area: Metropolitan Tokyo
- Research Partners: NTT DOCOMO, INC.
Department of Urban Design and Planning, School of Architecture, Kogakuin University
- Observer: Disaster Prevention Division, Bureau of General Affairs, Tokyo Metropolitan Government
- Tasks: DOCOMO: Utilize mobile spatial statistics to estimate the distribution of people in a given time period who would have difficulties returning home on foot if a major earthquake centered on Tokyo were ever to occur.
Kogakuin University: Analyze the above data to assess conditions in specific geographic areas and identify associated issues.
- Results: 1) Estimated the numbers of people who would have difficulties returning home on a weekday or weekend, as well as by time of day, age, gender and residential area.
Example: If an earthquake occurred at 3 pm, people who would experience difficulties returning home would number 4.25 million throughout Tokyo and 340,000 in Shinjuku Ward.
- 2) Estimated the number of people walking home through certain wards along Route 20 after a major earthquake.
Example: 3.81 million people would pass through Shinjuku Ward.
- 3) Estimated the numbers of residents who would have difficulties returning home.
Example: 4,000 people living in Shinjuku Ward would have difficulties returning home from locations in Tokyo.

Urban Planning Joint Research Project

- Period: November 1, 2010 – March 31, 2011
- Research Partners: NTT DOCOMO, INC.
Tsuyoshi Seike, Ph.D. Associate Professor, Department of Socio-Cultural Environmental Studies, Institute of Environmental Studies, Graduate School of Frontier Sciences,

The University of Tokyo

Tasks:

DOCOMO: Use mobile spatial statistics to estimate population changes.

The University of Tokyo: Analyze the above data to identify the correlation between population changes and area use, and suggest how this could be used for efficient urban planning.

Results:

1) Estimated the numbers of people by residential area who commute to city centers and identified needs for public busing in areas where buses or bus stops are limited.

2) Estimated the numbers of people in specific commercial, residential and rural zones each day, and also the population changes in these zones, and suggested how the data could be used for more effective urban planning.

3) Estimated the number of women with children who tend to use parks during the day and the optimal per-capita amount of park space, and suggested how the data could be used to plan improvements.

4) Estimated, by age and residential area, the numbers of visitors to a certain city center, and suggested how the data could be used to plan local revitalization programs.

How mobile spatial statistics can be used in planning efficient public busing

