ICUS

HONMA LAB.

[Engineering for “Blood Flow” of Information Society]

International Center for Urban Safety Engineering

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

Urban Environmental Mathematical Engineering

Department of Architecture

Mathematical Engineering for Information Society and Social Systems

Information system in present society has become large and complicated. Though, such upgrading of social systems improves our standard of living, lots of intractable problems are also pointed out.
To tackle such problems in information society, In our laboratory, we have proposed to solve the above problem and grasp the basic structures using the “mathematical model”. Our research object seems vague because information society is a very large scale system, but we try to “visualize the essential characteristics of system” and show the future path for sustainable society.

◆Clarification of Spatial Interaction in Information Society

- ◆Estimating the traveler's trip-chaining behavior
- ◆Basic Theory for spatial Interaction with respect to routing choice on networks

◆System Design for Sustainable Society

- ◆A Mathematical model for required number of EV stations
- ◆Urban concentrations with respect to the advance of Japanese railway networks

◆New Network Algorisms for Next Generation Information System

- ◆A new multi-path routing methodology based on Logit- type assignment
- ◆Proposal of power consumption optimization with respect to On/Off router switching

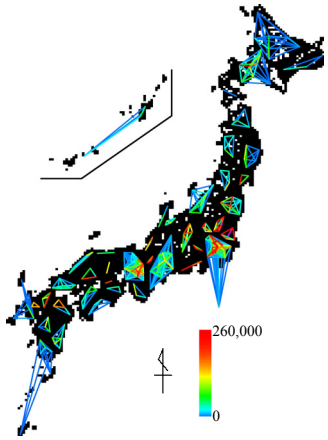

Fig.1 Estimation of Tourist Flow

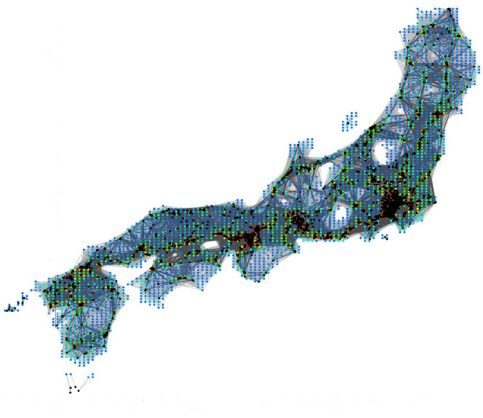

Fig.2 EV Routing Network in Japan Island

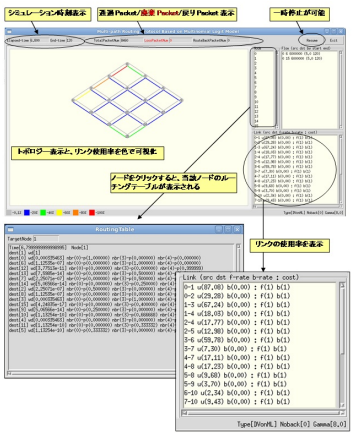

Fig.3 Simulation of our new Routing Algorisms