2002B

Title of Research Subject	Research on Safety Improvement through Observation and Control of Crowd Behavior in Public Spaces and Pedestrian Areas
Background and Objective	In large Asian cities with high population density and many narrow roads, crowding of plazas and pedestrian spaces by pedestrian crowds has become an unavoidable problem. In particular, congestion frequently occurs around roads where large-scale events are being held or around public transportation nodes (such as railway stations). These congestions are related to such matters as the safety and comfort of pedestrians, the impact on traffic in the surrounding areas, and the occurrence of crimes. Until now, countermeasures based on past experience have been implemented, but not much knowledge has been acquired on the development of mobile communications and grasping the state of crowds and guiding them based on this, and furthermore, the designing of space based on these. In this research, we will work together with experts from both Japan and overseas over a period of three years to aim at studying the latest knowledge related to the observation and control of crowd behavior in plazas and pedestrian spaces, as well as measures to utilize such knowledge for traffic flow control, security activities, and spatial designing.
Expected results (including foresight and practicality)	With regard to past research on crowd behavior and its control, evacuation simulations during events held in facilities and disasters have been performed, but research applying these to plazas, road spaces, and their pedestrian networks has hardly been seen. In addition, through the first year's research review and collection of case examples, we were able to sort out related information on trends in the development of pedestrian-related spaces and plazas in the world, accuracy of mobile data, case examples of grasping of crowds, crowd grasp cases, comparisons of observations and surveys during the Shibuya Halloween and the Kobe Luminarie in Japan with mobile data, hearings (interviews) with the Metropolitan Police Department, and information on the relationship between crowds and crime. In particular, the use of mobile data has shown the possibility of grasping crowds and congestion. Therefore, in the future, we would like to provide new knowledge that can be executed regarding more detailed analysis and methods of managing and controlling crowd conditions in pedestrian spaces where demand is expected to increase during large-scale events such as the Olympics as well as in disaster response