

# For comfortable movement in cities

## Urban Planning Department

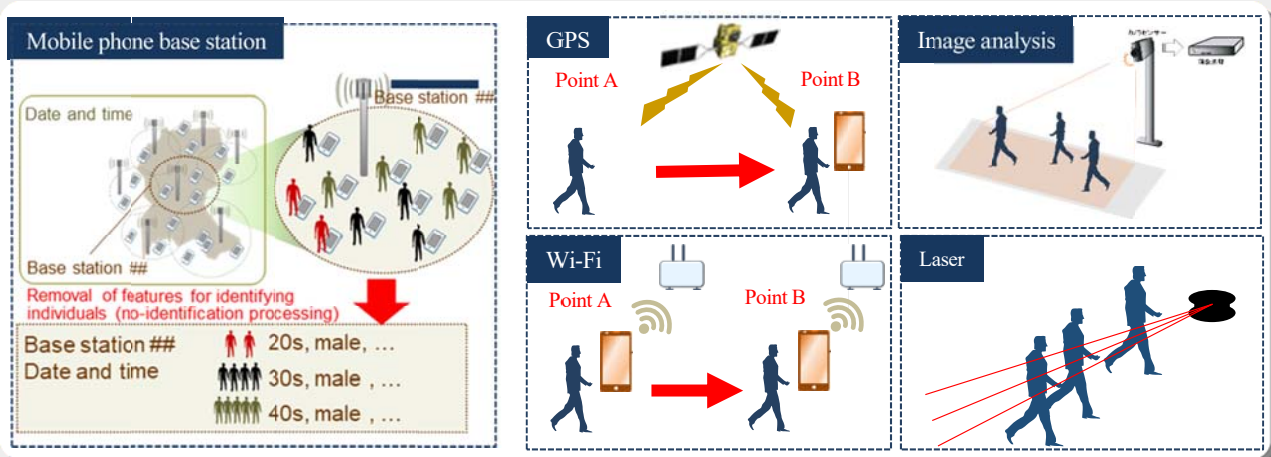
Research is being conducted to identify when, where, and how many pedestrians are present in cities and how they are behaving in order to create attractive and energetic urban spaces where people gather and walk around comfortably.

### Social background and challenges

- Questionnaire-based surveys have conventionally been used to identify pedestrian flows. In recent years, however, the questionnaire response rate has been decreasing as people's awareness of privacy has changed. Although the cost has increased, statistical reliability of questionnaire-based surveys has been decreasing.
- In recent years, traffic-related big data, such as mobile phone base station operation data and GPS data, are being provided. Use of these big data has enabled the efficient identification of pedestrian flows.
- The conditions of pedestrian spaces are being reevaluated as pedestrian attributes have become diversified along with the aging of the society and the promotion of tourism.

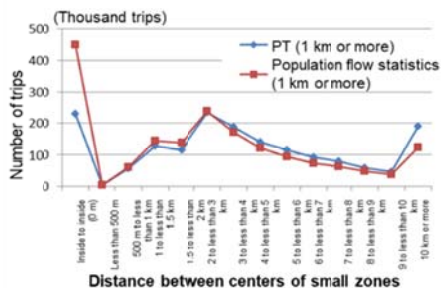
### Contents of research

#### Method to observe pedestrian flows using new technologies

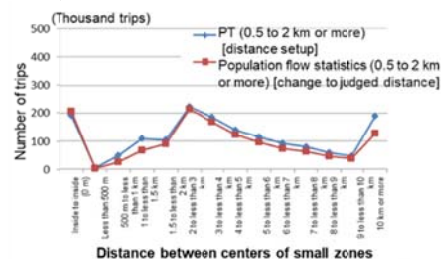


#### Study on the applicability of traffic-related big data on person trip survey

Movement Statistics Information generated from the operation data of mobile phone base station, which is one of traffic-related big data, consists of the number of data that is the same as the number of mobile phones operating under the carriers providing the data. This means that the advantage is that data concerning the movement of people can be obtained 24 hours, 365 days throughout Japan. Yet, the current data processing method generates errors in the number of trips and other aspects compared to the results of conventional person trip data. Therefore, research is being conducted on improvement methods, such as changing methods to judge "movement" and "staying." In addition, traffic-related big data have different characteristics depending on data types. Thus, researches are conducted to apply traffic-related big data on person trip survey such as making comparisons to clarify characteristics of different data.



Application of improvement measures



By identifying actual conditions of pedestrian movement and analyzing the conditions of their movement,

#### Relevant articles

- Research of the improvement of the efficiency and advancement of methods to investigate, analyze, and plan urban traffic using new technologies
- Pedestrian movement characteristics at tourist attractions