

Executive summary

Public infrastructures built during the period of high economic growth in Japan are expected to deteriorate rapidly, and it has become a pressing issue to strategically maintain and renew them under a severe financial constraint.

This research focuses on two main subjects: “prioritization of the maintenance and renewal of public infrastructures” and “introduction of new methods for procurement and contracting through integrated partnerships among various players”, and aims to investigate the strategic measures for maintenance and renewal of public infrastructures especially undertaken by municipal governments which are faced with three serious issues: insufficient budget, personnel, and technical skill. The optimal allocation of roles and partnerships between the national government, local governments, private companies, NPOs and local citizens is examined through the research.

Domestic and overseas case studies, as well as discussions with experts were conducted throughout the research. In chapter 3, on-site research and interviews were conducted on the advanced cases in Aomori Prefecture, Hiroshima Prefecture and Toyama City, and studies of other advanced cases in Japan were conducted, in order to understand the current situation and challenges of prioritization, and new methods for procurement and contracting.

In Chapter 4, on-site research was conducted in NSW, Australia where national, state and local government organizations as well as private organizations were interviewed for studying the overseas advanced cases of prioritization and new methods for procurement and contracting. The advanced cases in the United States and the United Kingdom were studied through existing sources and interviews of experts.

In Chapter 5, based on the findings in Chapter 3 and 4, challenges and future direction for efficient and effective maintenance and renewal of public infrastructures were investigated, according to the above two main subjects. Three proposals were made regarding “prioritization of the maintenance and renewal of public infrastructures”.

The first proposal is the need for cross-sectoral prioritization and the need for developing such a method. The second proposal is the development of “Infrastructure Hazard Map” and calculation of “Social Damage Impact”, as a means to promote public information disclosure which underlies the social consensus for prioritizing decisions. The third proposal is the “Infrastructure Doctor” system and “Maintenance School” system that educates, trains and ensures the recruitment of skilled personnel capable of prioritizing decision-making.

Regarding “introduction of new methods for procurement and contracting through integrated partnerships among various players”, classification of public infrastructures into “G-model infrastructures (which are profitable)” and “L-model infrastructures (which are locally based)” was proposed in discussion. According to this classification, the future direction of L-model infrastructures was mainly investigated as follows.

The first point is the possibility of introducing an efficient “bundling” method in addition to existing contracting methods, as well as the possibility of having an in-house maintenance workforce inside the government. The second point is the segmentation of respective work flow regarding maintenance and renewal, such as inspection/diagnosis, planning, acting (maintaining, renewing or discontinuing), and allocation of roles between various players depending on required skill levels. In conclusion, the establishment of “L-model” that creates a positive cycle aimed for building up Jobs, People and Towns that lie at the core of Vitalizing Local Economy Policy which is one of the main Government policies, is also proposed in this research.