

Research Trends and Results

Improvement in the Quality of Space by Road Reconstruction in Urban Districts

NISHIMURA Akihiko (Ph.D (Civil Engineering)), Researcher

KURIHARA Masao, Head

Landscape and Ecology Division, Research Center for Land and Construction Management

(Key words) Road reconstruction, landscape formation, urban redevelopment, public space, urban districts and suburbs

1. Introduction

In recent years, it has become necessary for the role of roads as public space to be improved together with roadside facilities and public transportation services in order to further landscape formation and area redevelopment. In response to these requirements, a variety of services and local activities have been introduced to road spaces as a result of interventions such as remodeling of road surfaces and/or renovation of roadside buildings.

Accordingly, specific studies are needed to establish a planning method that facilitates the collaboration between multiple projects under different jurisdictions, as well as a project framework that effectively utilizes local activities to form landscapes. In addition, it is necessary to investigate the effects which a road reconstruction project can have on landscape formation, environmental improvement and area redevelopment. Therefore we have worked on the analysis of methods and effects of road reconstruction projects according to the diversified needs for present road space.

2. Collection and Classification of Case Studies

In FY2014, we selected 80 projects throughout Japan and gathered information about each one. To select the projects, we sought recent projects including some at the planning/construction stage (60 out of 80 projects were completed less than 10 years ago). We also tried to find good examples which are not yet widely known, rather than projects which have already earned public approval. According to the characteristics of urban road spaces, we classified the case studies into the following groups: a) landmarks of tourist sites, b) catalysis of urban regeneration, c) axis of urban structure, d) pedestrian and/or cycle network, e) basis of new transportation systems, f) incubator of greenery and waterside and g) main streets of redevelopment areas.

As the result of the analysis, we have learned that the effective use of urban road spaces had been enabled due to innovative methods such as land-use conversion of railway lines, road replacement/abolishment by alteration of land-use registrations, and vertical use of space led by construction of underground passages and/or pedestrian decks.

As for design, we found new inventions such as pillar-like installation for utility pole removal, innovative

use of paving materials/patterns to demarcate footpaths and traffic lanes, and temporary installation and roof structures that can transform road spaces into public squares. We also analyzed various public-private cooperative initiatives to promote urban regeneration and environmental improvement through road reconstruction projects, including management of open-air cafes and events under the exceptional application of the Act on Special Measures concerning Urban Reconstruction or the special agreements between distinct authorities, as well as construction of large roadside complex facilities.

3. Future Development

We are now preparing for the publication of a Case Study Collection which explains the outlines of the 80 projects that we selected. It will be released on the NILIM web site in order for it to be widely used by authorities, research institutes and consultants.

Figure: Sample Pages of the Case Study Collection (Example: Shinmon Street in Izumo)

