

Support for the introduction of green infrastructure in road space- by using road greening as an example-

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1. Introduction

Green infrastructure that utilizes the functions of nature is efforts to promote the making of national land, cities and areas that are sustainable and attractive, and its introduction can be seen in various fields. In the road sector, efforts that have been made conventionally such as road greening are re-evaluated as green infrastructure. In particular, it is expected that road greening that contributes to the formation of space integrated with facilities along the road and surrounding areas will form comfortable time-spending space, thereby contributing to the realization of human-centered road space that is crowded with people. It is expected that the utilization of road space by residents and businesses along the road will lead to the improvement of the environment and attraction of the road space as well as surrounding areas.

At the time of implementation of road greening that contributes to the formation of space integrated with facilities along the road and surrounding areas, it is important that the road administrator devises a plan and carries out maintenance and management in collaboration with relevant parties along the road, etc., on the basis of the needs of the areas.

Therefore, we have conducted a survey of measures concerning collaboration with relevant parties along the road, from the examples of the formation of space integrated with facilities along the road and surrounding areas by the greening of road space, etc., and have summarized the points to be noted that will serve a reference for the road administrator.

2. Survey of examples of greening that contribute to the formation of space integrated with surrounding space

We have conducted a survey of about 20 examples where the formation of space integrated with facilities along the road and surrounding areas by the greening of road space, etc. (for example, Saitama City (Photo 1), Asaka City (Photo 2), and Kawasaki City (Photo 3)), and have summarized the measures related to efforts made by the road administrator in collaboration with the relevant parties along the road from the stage of devising the plan. Examples are presented below for reference purposes.

In the OMIYA STREET PLANTS PROJECT (Saitama City), which is one of the examples surveyed, private businesses exclusively use the planting portion



Photo 1: Road greening in road space assuming its utilization integrated with surrounding areas (Saitama City)

of the road space, and install the planting and sell the installed planting to road users (reposted: Photo 1). Private businesses are engaged in planting improvement according to the needs, based on the situation of sale and the situation of stay of road users, etc. The road administrator shares the duties in the districts with private businesses and carries out maintenance and management in collaboration with the private businesses. By the collaborative efforts in road greening, the formation of green shade in the road space and the improvement of landscape in the entire areas are pursued. In addition, the open terrace such as shops along the road and the road space can integrally be utilized, comfortable time-spending space is formed, and crowded space is created. In this example, at the time of implementation of road greening, measures are taken such that the planting space will be improved based on the needs of the areas, and that the road administrator will be engage in maintenance and management by shares the duties with private businesses.

3. Points to be noted in road greening that contributes to the formation of space integrated with facilities along the road and surrounding area

From the measures related to efforts that have been obtained from the survey of examples, the points to be noted by the road administrator have been summarized when implementing road greening that contributes to the formation of space integrated with the facilities along the road and the areas. Examples of such points are presented below.

Firstly, the points to be noted when devising a plan are the arrangement of trees and the selection of tree types, it is important for the road administrator to examine a plan in collaboration with citizens and private businesses, etc., and to devise an improvement plan by assuming that maintenance and management will be done by the road administrator in collaboration with the relevant parties along the road such as residents after improvement by the road administrator (Asaka City, Kawasaki City, etc.), and to devise a plan assuming that improvement, maintenance and management of the greening portion such as planting will be done by private businesses by exclusively using the road, etc. (Saitama City). By noting the points such as these, it is expected that the planting improvement will reflect the needs of the areas and will contribute to the improvement of space integrated with the areas along the road.

Secondly, the points to be noted when preparing a maintenance and management plan are those when the road administrator carries out maintenance and management by sharing the duties with relevant parties. The basic practice of ordinary road greening is the maintenance and management done by the road administrator. Whereas, when implementing road greening that contributes to the formation of space integrated with the facilities along the road and the surrounding areas including the improvement of landscape and the improvement of road functions such as traffic safety as well as the improvement of attraction of the surrounding areas, the road administrator is required to share the roles with the areas and the relevant parties along the road such as private businesses. It is important that the framework of cooperative systems between the road administrator and the relevant parties along the road for the maintenance and management cost and for the implementation of maintenance and management will be established beforehand (Saitama City, Kawasaki City, etc.). It is expected that, by noting the points such as these, a system will be built in the stage of devising the plan, and that smooth and sustainable maintenance and management will be in place in the stage of maintenance and management after the improvement.

The points to be noted as described above have been summarized by referring to the basic flow of the planting plan in the Road Greening Standard and Its Explanations (March 2016) (Fig. 1).

4. Conclusion

We plan to provide support for the smooth introduction of green infrastructure such as road greening, by creating detailed explanations in which specific examples, etc. have been added to the points to be noted that have been summarized in this paper, as a material that serves as a reference for the road administrator, and by familiarizing the relevant parties with such material.



Photo 2: Creation of crowded space and space for rest, by improving the road space and surrounding areas integrally by road greening (Asaka City)



Photo 3: Space created by planting installed along the road (operation as well as maintenance and management implemented by residents, etc. in the surrounding areas) (Kawasaki City)

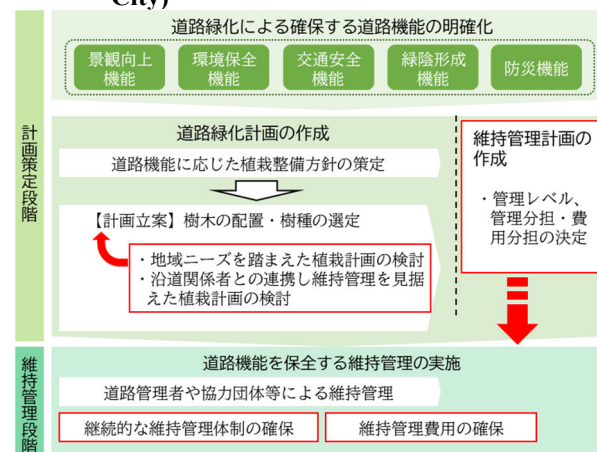


Fig. 1: Summary of the points to be noted (in red frames) that have been presented in this paper in each of the stages of road greening

☞ For detailed information, refer to the following:

- 1) Website of the Road Environment Division
<https://www.nilim.go.jp/lab/dcg/kadai10-greeninfo.html>