

Research Trends and Results

Creating Pleasanter Road Space by Restoring Street Trees

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(Key words) Street trees, conservation, redevelopment, road revegetation

1. Introduction

Street trees have been planted aggressively in road space in order to improve road scenery, conserve street environments, and ensure pleasant and safe road traffic. Although this has raised the total number throughout Japan to about 6.74 million trees (2012), looking at trends in recent years (past 10 years beginning in 2002) shows that the increase has halted and large diameter trees that have matured from newly planted young trees over the years have increased in numbers. Under such circumstances, street trees that have grown to become large diameter trees obstruct visibility, cause unevenness of pavement, topple weakened street trees and produce fallen branches.

To resolve these problems, it is essential to take measures to narrow the shapes of street trees, restore their vigor, and to counter lodging and exposure or roots. It is also important to consider the emotional attachment to Street trees of neighborhood residents when taking such measures.

The NILIM has verified a street tree restoration method that permits reaching an agreement with surrounding residences while maintaining pleasant road space by surveying methods of surveying the state of Street trees, greening technologies for street tree conservation or redevelopment, and methods of cooperating with residents in cases where conservation and redevelopment projects were done to counter problems with street trees.

2. Street tree restoration procedure and method

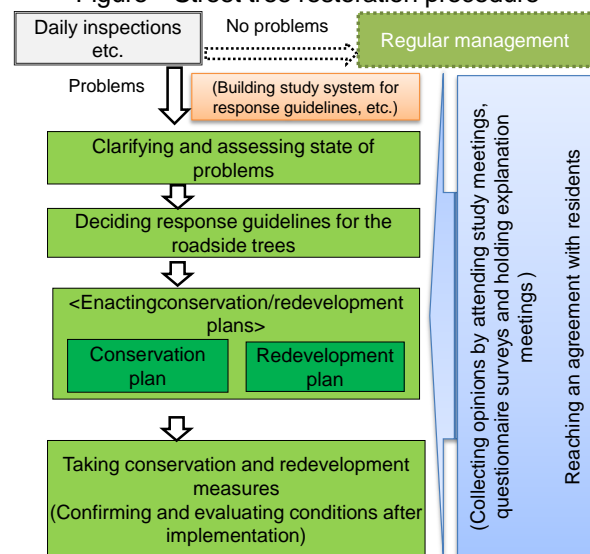
The figure shows desirable street tree restoration methods compiled based on the survey results. First, accurately clarifying and evaluating the problem, then deciding response guidelines and proposed plan while, as necessary, gaining the agreement of the residents. When the study prioritizes conservation in order to save street trees considering local residents emotional attachment to them so it is difficult to resolve the problems, cutting them down and replanting new trees as necessary is studied.

Countermeasures should be taken by expert technologists according to the contents of the measures, then later, the site should be checked until its effects are manifest. Whenever possible, it is necessary to build a system based on cooperation with local residents.

Effective restoration methods include conserving the trees by restoring their shapes by pruning and

thinning, improving the tree planting infrastructure, or taking pest countermeasures. If these measures cannot resolve the problems, redevelopment is done by felling the trees then replanting the same species or a new species (Photo).

Figure Street tree restoration procedure



Conservation case (symbolic street trees (large and denser))



Redevelopment case (street trees obstruct traffic (danger of exposed roots or fallen trees))



Photo Examples of Restoration of Street Tree

3. In Conclusion

The achievements of this research will be summarized in "Technical Documents Concerning Methods of Restoring Street Trees", that can be used by local managers.