

Systematic Organization of the Effects of Removal of Roadside Utility Poles

Ryuji Inoue, Head
Hitomi Oguri, Senior Researcher
Road Environment Division, Road Traffic Department

Nodoka Oshiro, Senior Researcher
Tomoki Mitsutani, Researcher

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1. Introduction

The Ministry of Land, Infrastructure, Transport and Tourism is working to remove roadside utility poles from the perspective of improving the disaster-prevention capability of roads, securing safe and comfortable traffic spaces, forming good landscapes, and vitalizing tourism, etc. However, the roadside utility pole free rate is low in Japan compared to major cities in Europe and Asia where removal of roadside utility poles has already been completed. In December 2016, the Act to Boost the Disappearance of Utility Poles was promulgated and enforced, which raised the expectations for removal of roadside utility poles. In order to promote the removal of roadside utility poles, a resolution of technical issues and an understanding and appropriate evaluation of project effects according to policy purposes are required.

NILIM carries out an investigation for organizing and considering the project effect of the removal of roadside utility poles and for an understanding of the foreign policy and technology trends for further promotion of the removal of roadside utility poles.

2. Effects of Removal of Roadside Utility Poles According to Policy Purposes

We organize the project effects in accordance with three purposes of roadside utility pole removal measures (disaster prevention, safety and comfort, and landscape and sightseeing) and collect case examples for reference. In addition, we are going to quantify some effects. The outline of our consideration is as follows.

(1) Effect on disaster prevention

As the effect on disaster prevention, we are considering methods for evaluating the impacts on evacuation time, as well as evacuation and rescue routes, focusing attention on the impact of the collapse of roadside utility poles due to an earthquake on evacuation and rescue.

(2) Effect on safety and comfort

As the effect on safety and comfort, we are considering the enhancement of safety by an increase in effective road width resulting from the removal of roadside utility poles, focusing attention on the offset distance between pedestrians, as well as bicycles and cars on roads without sidewalks dedicated for pedestrians.

(3) Effect on landscapes and sightseeing

As the effect on landscapes and sightseeing, we are considering the impact of the removal of roadside utility poles on land prices of residential properties, as well as that on the number of visitors to commercial and sightseeing areas.

3. Overseas Research on the Technologies and Policies for Cost Reduction

Since the cost for maintaining utility tunnels that have been used in Japan is as high as approximately 530 million yen/km (including the costs required for electric and communication facilities), it is necessary to reduce such costs in order to promote the removal of roadside utility poles. Foreign countries use a method for burying cables directly in the ground. Therefore, we are investigating the current state of efforts and technologies that lead to cost reductions, such as electric cable burying standards (including direct burying and burying depth) and burying technologies (including boring, laying, and back-filling) in such cities.



Figure 1: Laying of communication lines utilizing street gutter (Taiwan)

4. Future Plan

We will continue to make efforts to establish technologies that contribute to cost reductions and methods for evaluating project effects for the promotion of the removal of roadside utility poles.