

# Manual of the countermeasures for tree failure of street trees

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## 1. Introduction

Street trees, which can be lodged by typhoons or other strong winds, may block traffic or obstruct pedestrians and in the past, have caused accidents including personal injuries.

The Manual proposes diagnostic methods to clarify structural tree trunk infirmities and treatment measures to reduce danger in order to minimize the danger posed by lodging of street trees.

## 2. Outline of the Manual on Lodging Countermeasures for Street trees

Lodging countermeasures for street trees are implemented by the following procedure (Fig. 1).

### (1) Preliminary diagnosis

The preliminary diagnosis is done to easily visually clarify any problems with the shape or vitality of trees, tree trunk infirmities, etc. in order to identify dangerous trees which require tree soundness inspections or planting environment inspections from among the many trees along roadsides.

### (2) Tree soundness inspections

Tree soundness inspections are performed to clarify: [1] defective root system elongation resulting from poor growth of trees, [2] and the decline of supporting strength caused by structural infirmities such as hollows or decay caused by wood-rotting fungi intruding from breaks in the bark on the tree trunk, which are the major causes of lodging during typhoons or other strong winds.

### (3) Planting environment inspections

Planting environment inspections include inspections of growing conditions performed to clarify the planting ground, weather conditions, and state of support poles or other supporting materials, and obstruction inspections which predict obstructions which will be caused when a street tree has actually lodged.

### (4) Improvement measures

Improvement measures are measures

necessary to eliminate or mitigate danger from trees shown by a soundness inspection to be extremely dangerous, considering their functions as street trees.

### (5) Lodging verification inspection

When a street tree has caused an obstruction by lodging etc., after determining the cause of the lodging, the suitability of tree soundness inspection or improvement measures is verified.

## 3. Public announcement of results

The achievements have been announced in Technical Note of the National Institute for Land and Infrastructure Management, No. 669.

The Manual is counted on to maintain healthy street trees to contribute to the conservation of abundant green living environments.

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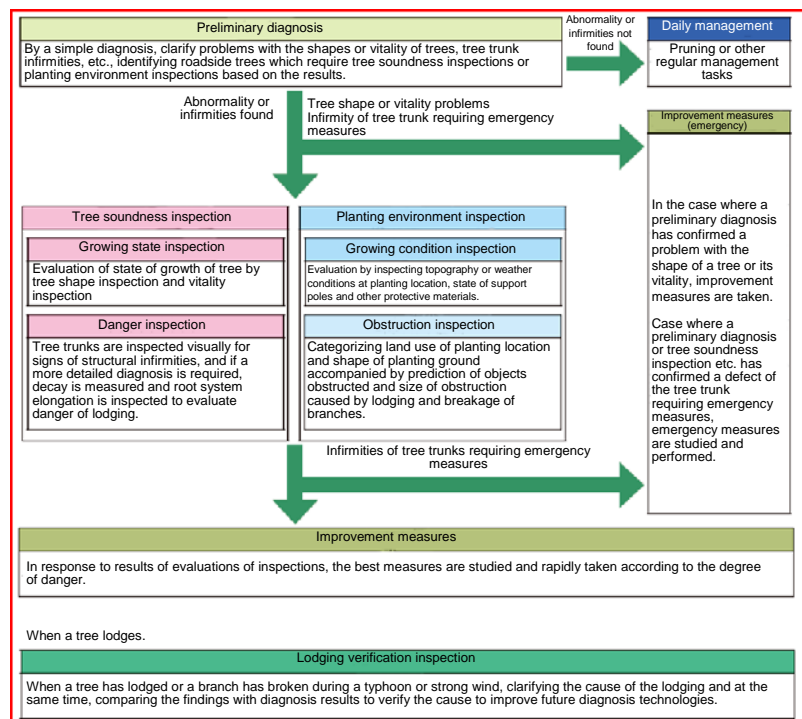


Figure 1. Street Tree Lodging Countermeasure Flow Chart