

## Chapter 3 Outline of the Guideline

### 3.1 Characteristics of the Guideline

The Guideline was prepared by analyzing accidents and collecting countermeasure cases as part of the Emergency Countermeasure for Hazardous Spots Project<sup>2)</sup> conducted in 1996, analyzing causes of accidents and countermeasures taken in response to each cause for various road characteristics and accident types, and summarizing these results. The process from the analysis of causes of accidents to the countermeasure proposal was clarified to summarize the major countermeasures that have been studied and other countermeasures considered to be effective for each road characteristic and cause of accidents. This was done in order that managers who actually take countermeasures in the field can refer to this document to conduct studies of countermeasures in conformity with conditions in the field in order that they can reduce traffic accidents by implementing future countermeasures more effectively according to the causes of accidents.

One characteristic of the Guideline is that it was prepared based on the analysis of the causes of accidents at hazardous spots. It clarifies causes of accidents and countermeasures linked primarily to road and traffic environments so that road managers who implement countermeasures can use it easily.

It includes the Table of Causes of Accidents that can be used as a check list by managers implementing countermeasures to efficiently perform on-site diagnosis work.

**Table 3.1.1 Characteristics of the Guideline**

- Prepared based on cases at 557 hazardous spots throughout Japan
- Mainly clarifies causes of accidents and countermeasures from the perspective of the road traffic environment
- Provides the Table of Causes of Accidents useful for diagnosis work by managers implementing countermeasures

Because at this stage, the Guideline is an interim version prepared based on extremely limited data, there will probably be cases where it cannot be applied to actual accident sites. In the future, therefore, many more data will be collected and accumulated at the same time as the contents of the Guideline are expanded with reference to the views and criticisms of people who actually use it.

(Note 2) The Emergency Countermeasure for Hazardous Spots Project was performed by implementing priority countermeasures by selecting approximately 3,200 hazardous spots with a high degree of urgency on arterial roads throughout Japan.

### **3.2 Guideline preparation procedure**

The Guideline was prepared as explained below (see Fig. 3.2.1).

#### **(1) Clarifying existing study documents**

Documents describing the analysis of causes of accidents and the study of the planning of countermeasures at 3,196 hazardous locations throughout Japan were organized to clearly record the causes of accidents, and 557 locations where charts of the state of accident occurrence were completed were selected to clarify the following information about each location.

- [1] Road characteristics (uninterrupted flow or intersection, number of lanes, roadside environment etc.)
- [2] Types of accidents (rear-end collisions, intersection collisions, head-on collisions etc.)
- [3] Causes of accidents (causes of accidents in study documents prepared by managers implementing countermeasures)

#### **(2) Deciding the road characteristics and accident types to be included**

The road characteristics and types of roads to be included in the Guideline were decided as follows.

Because the Guideline was prepared using limited data, there are cases of rare road characteristics and infrequent types of accidents that are not included because it is impossible to perform a complete analysis of them.

##### **A. Road characteristics included in the Guideline**

Based on the results of the clarification of road characteristics mentioned in (1) above, it is hypothesized that the causes of accidents differ according to whether the location is uninterrupted flow or an intersection, its number of lanes, and roadside environment, and whether it is signaled or non-signaled, and 14 kinds for which data can be collected were included.

##### **B. Types of accidents included in the Guideline**

In the Guideline, types of accidents with common causes are clarified and unified based on the types of accidents defined in Accident Statistics Reports, and 9 types of accidents were finally included by removing those types whose causes are difficult to clarify.

#### **(3) Preparing the Table of Causes of Accidents (Document 1)**

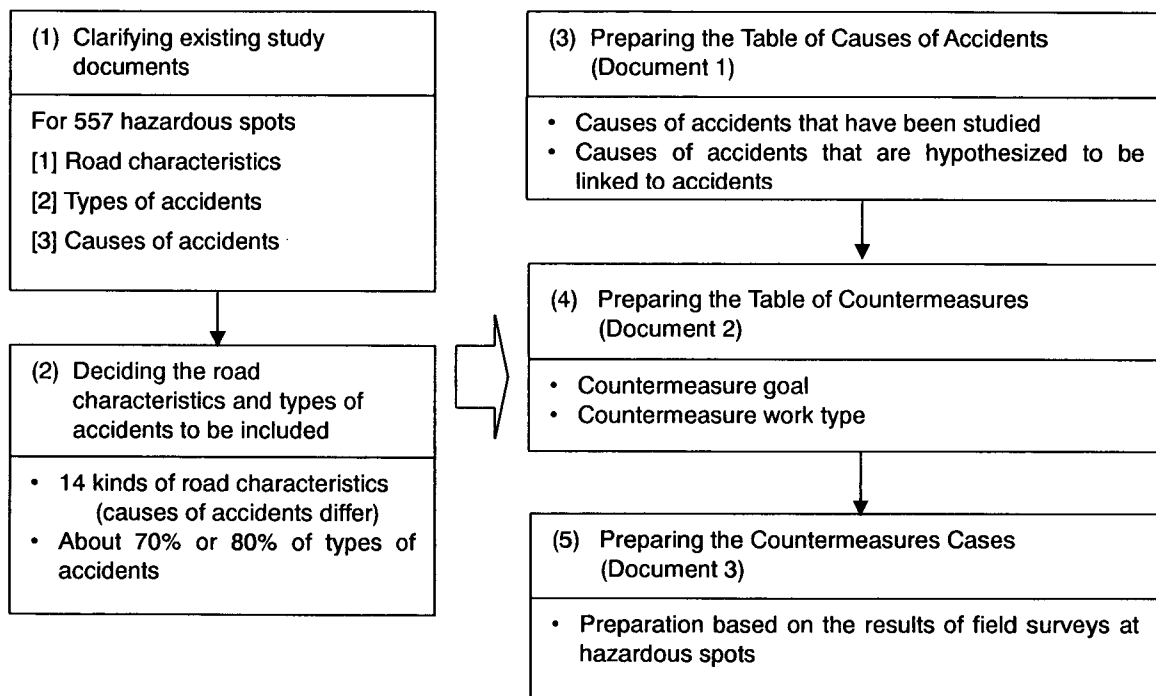
The causes of accidents were organized by type of accident according to each road characteristic as explained in (2) above. Because it is impossible to fully analyze cases where there are few examples, causes of accidents that have been studied at hazardous spots were clarified based on data for the top 3 to 5 accident types so that the object of the study would be those accidents that account for between 70% and 80% of all accidents that occur for each road characteristic. Analyses of causes of accidents that have not been studied but are assumed to be linked to accidents were added.

**(4) Preparing the Table of Countermeasures (Document 2)**

The countermeasure goals and countermeasure work types corresponding to the causes of accidents in (3) above were clarified. The countermeasure goals and countermeasure work types to be included are those that have been studied and those that have not been studied but are considered to be effective.

**(5) Preparing the Countermeasure Cases (Document 3)**

From among the countermeasures in (4) above, “countermeasures that are difficult to interpret using only documents” and “important countermeasures” etc. were organized as specific cases based on the results of field surveys carried out at hazardous spots.



**Figure 3.2.1 The Guideline Preparation Procedure Chart**