Planning Process for Traffic Accident Data and Countermeasures in Japan

- To form a unified database from traffic accident statistics of National Police Agency (NPA) and road census data of Ministry of Land, Infrastructure and Transport (MLIT)
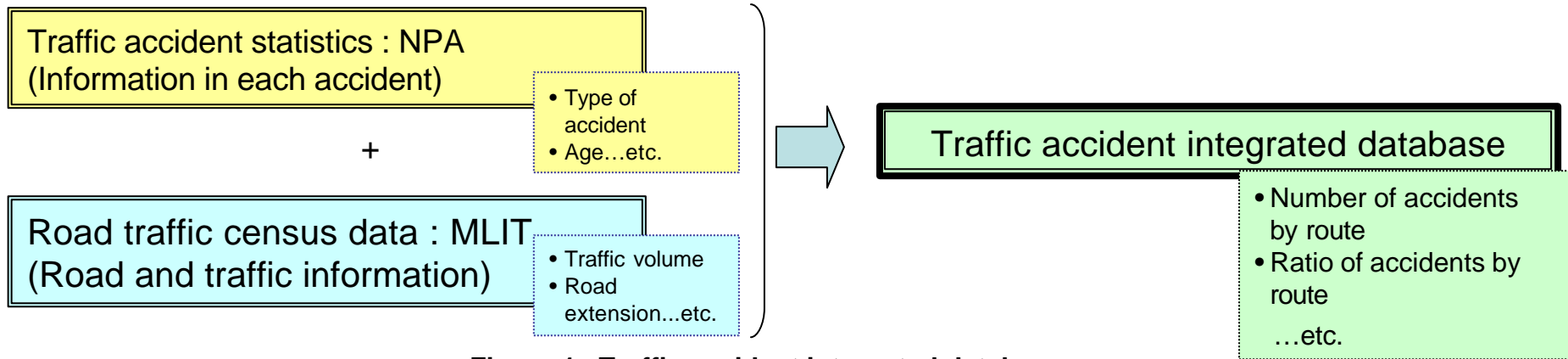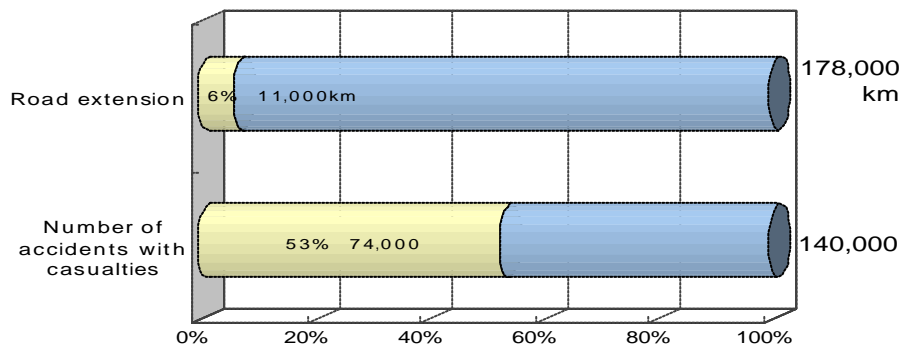
Traffic accident statistics : NPA
(Information in each accident)

- Type of accident
- Age…etc.

Traffic accident integrated database

- Number of accidents by route
- Ratio of accidents by route
  …etc.

Road traffic census data : MLIT
(Road and traffic information)

- Traffic volume
- Road extension...etc.

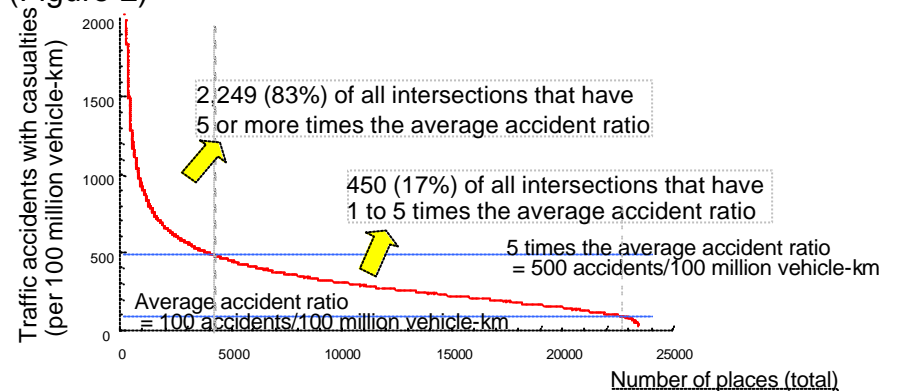**Figure-1. Traffic accident integrated database**

Using the above database provides:
1. An understanding of the tendency for traffic accidents to be concentrated at particular places on the highway (Figure-1)
2. The ability to extract accident-prone places (black spots) rationally (Figure-2)

Road extension 6% 11,000km 178,000 km

Number of accidents with casualties 53% 74,000 140,000

0%   20%   40%   60%   80%   100%

* Average accidents with casualties 1996-1998

Figure-2. Road extension and numbers of accidents with casualties on single-lane highway sections

Traffic accidents with casualties (per 100 million vehicle-km)

2,249 (83%) of all intersections that have 5 or more times the average accident ratio

450 (17%) of all intersections that have 1 to 5 times the average accident ratio

5 times the average accident ratio = 500 accidents/100 million vehicle-km

Average accident ratio = 100 accidents/100 million vehicle-km

Number of places (total)

- Percentages shown in the diagram represent the proportion of 2,717 intersections where countermeasures will be implemented in Black Spots.
- This graph ranks intersections with 8 or more accidents with casualties in 4 years according as accident rate.
- Unknown accident ratio: 18

Figure-3. Ratio of accidents with casualties at accident-prone places (intersections)

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- To systematize the procedure from planning to evaluation of countermeasures and to construct an arrangement to feed back information relating to accident countermeasures for effective and efficient accident restraint.

Prefectural Police and Road Administrators

Extraction of accident-prone places(Black Spots)

Procedure (3)

Planning Countermeasures
- Arrange current status before countermeasures
- Select places for targeting
- Analyze accident causes
- Plan countermeasures
- Advice on countermeasures
- Preliminary survey for evaluation

Implement Countermeasures

Evaluate Countermeasures
- Arrange current status after countermeasures
- Subsequent survey for evaluation
- Implement evaluation

Prefectural Advisor Meetings

Reports・Suggestions

Budget Requests

Ministry・Agencies

If additional measures are necessary

Procedure (1)
Traffic accident countermeasure evaluation manual

Procedure (2)
Collate examples of traffic accident countermeasures

Feedback
Knowledge relating to study of countermeasures

Accumulate in Accident Countermeasures Database

Traffic Accident Integration and Analysis Center

(1) Development of Traffic Accident Countermeasure Evaluation Manual

study procedures and arrangements for planning accident countermeasures

(2) Development of collated examples of traffic accident countermeasures

enhance countermeasure plans with technical assistance

(3) Building of accident countermeasures database (provisional title)

accumulate knowledge and expertise relating to accident countermeasures