



XIII
INTERNATIONAL
WINTER ROAD
CONGRESS

QUÉBEC, FEBRUARY 8 TO 11, 2010



Québec 

SUSTAINABLE WINTER SERVICE FOR ROAD USERS

*COOPERATIVE INITIATIVES TO PROTECT
WINTER ROAD TRANSPORTATION IN NIIGATA
CITY*

Naoki IMAMORI

Niigata National Highway Office of the Hokuriku
Regional Development Bureau, Ministry of Land,
Infrastructure, Transport and Tourism, Japan

Technical Official

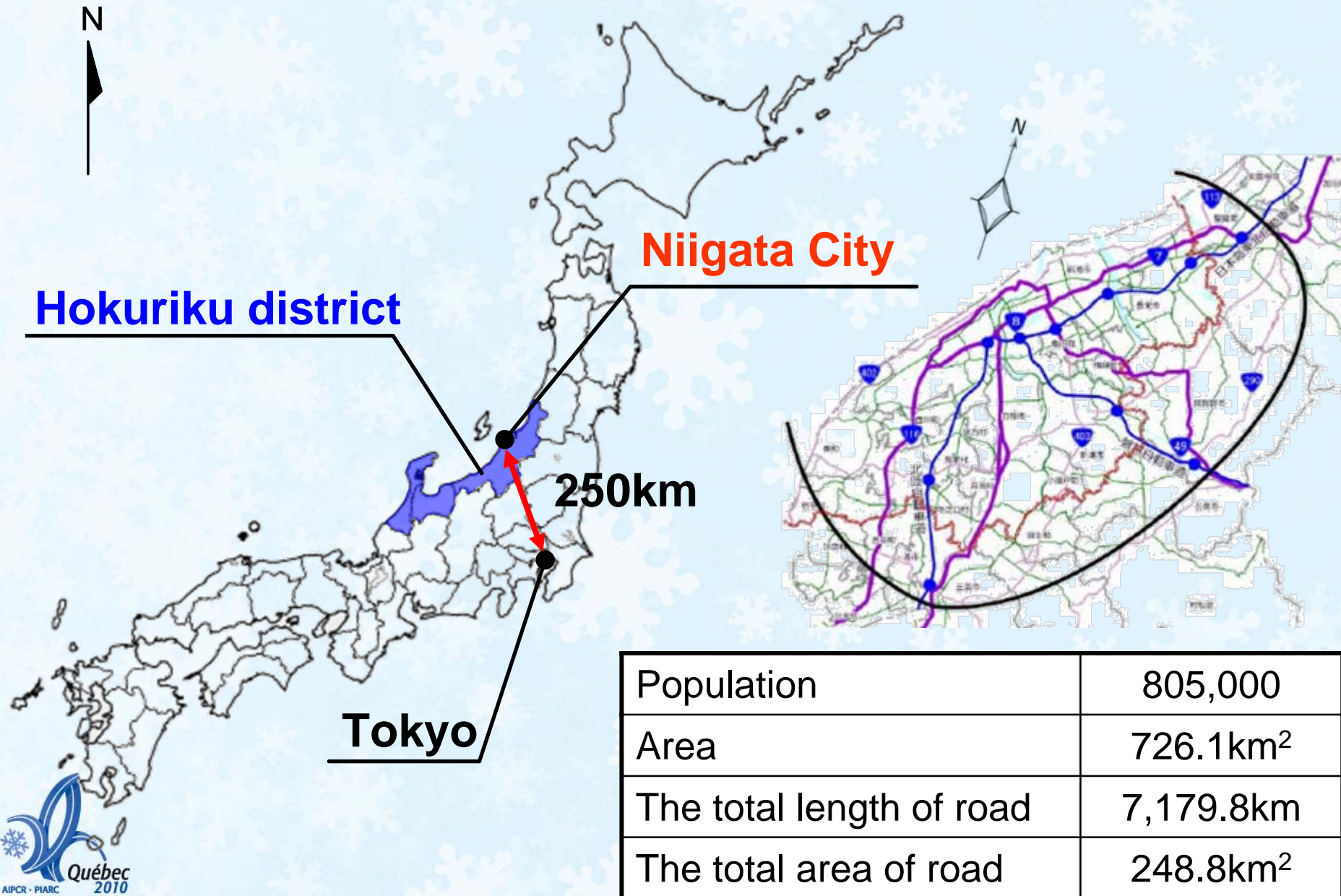
imamori-n84bq@hrr.mlit.go.jp



Location of Hokuriku district and Niigata city



Range of introduction of this approach



Culture and geography of Niigata



Purpose of this presentation

The road management for **avoiding traffic congestion** by **Information Shearing** and **Information Provision** when **unusual heavy snowfall** happen in **Niigata City**



Reason of traffic confusion
(by view of information confusion)

Incompleteness of information shearing

Road managers may not grip information of traffic accident or road closures **outside their jurisdiction.**



Incompleteness of information provision

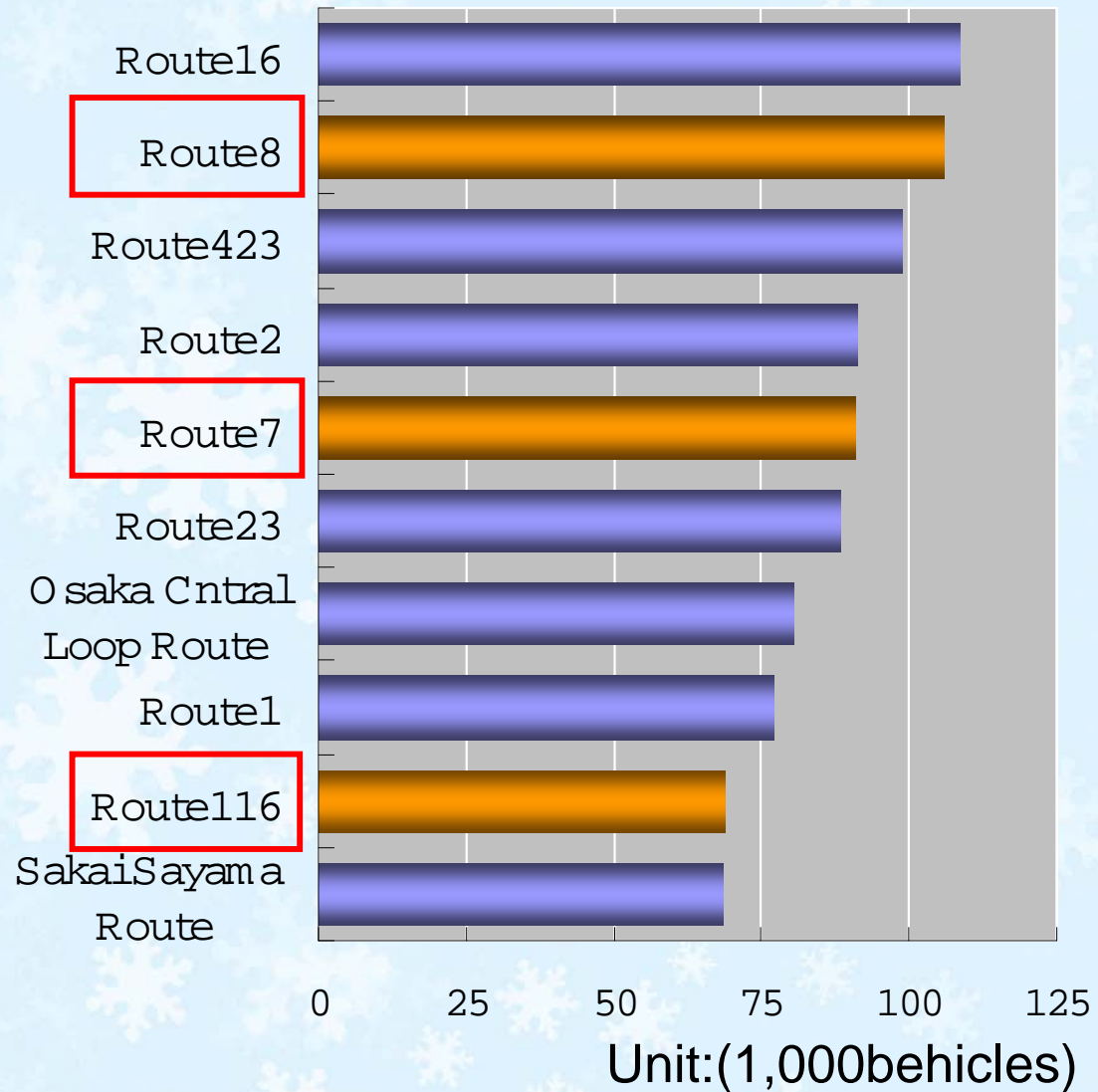
If road managers can't provide information of **traffic accident, traffic jam** or **detour** for road users, the traffic may concentrate specific route like the **national highway.**

Road Categories and Managers in Niigata City

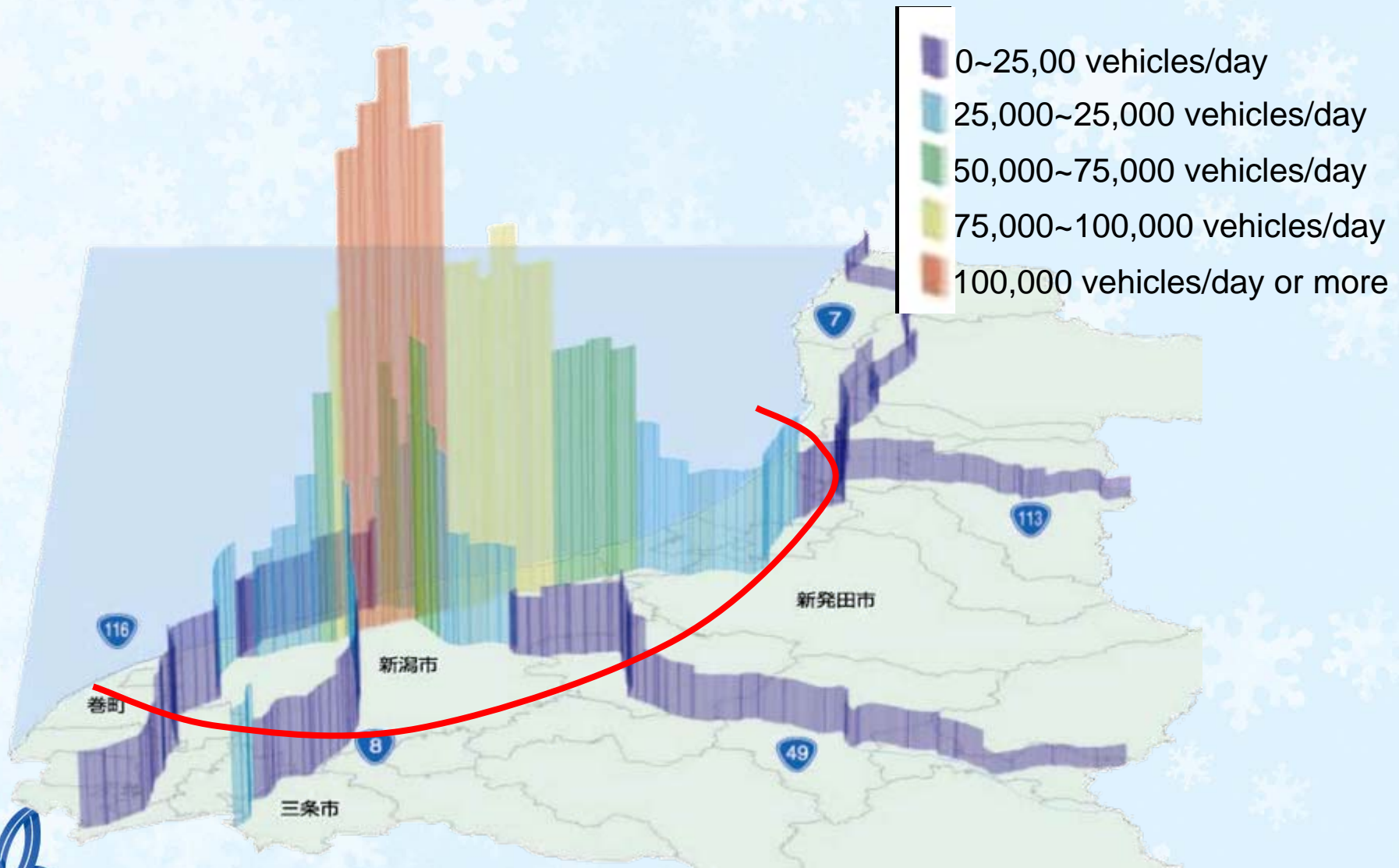
Road category	Road manager
National Expressway	East Nippon Expressway Co., Ltd.
National highway (managed by national government)	Niigata National Highway Office of the Hokuriku Regional Development Bureau, Ministry of Land, Infrastructure, Transport and Tourism
National highway (managed by prefectural government)	Niigata City
Major regional roads	Niigata City

Characteristics of the traffic in Niigata City

105,000 vehicles/12h



Characteristics of the traffic in Niigata City



Characteristics of the traffic in Niigata City

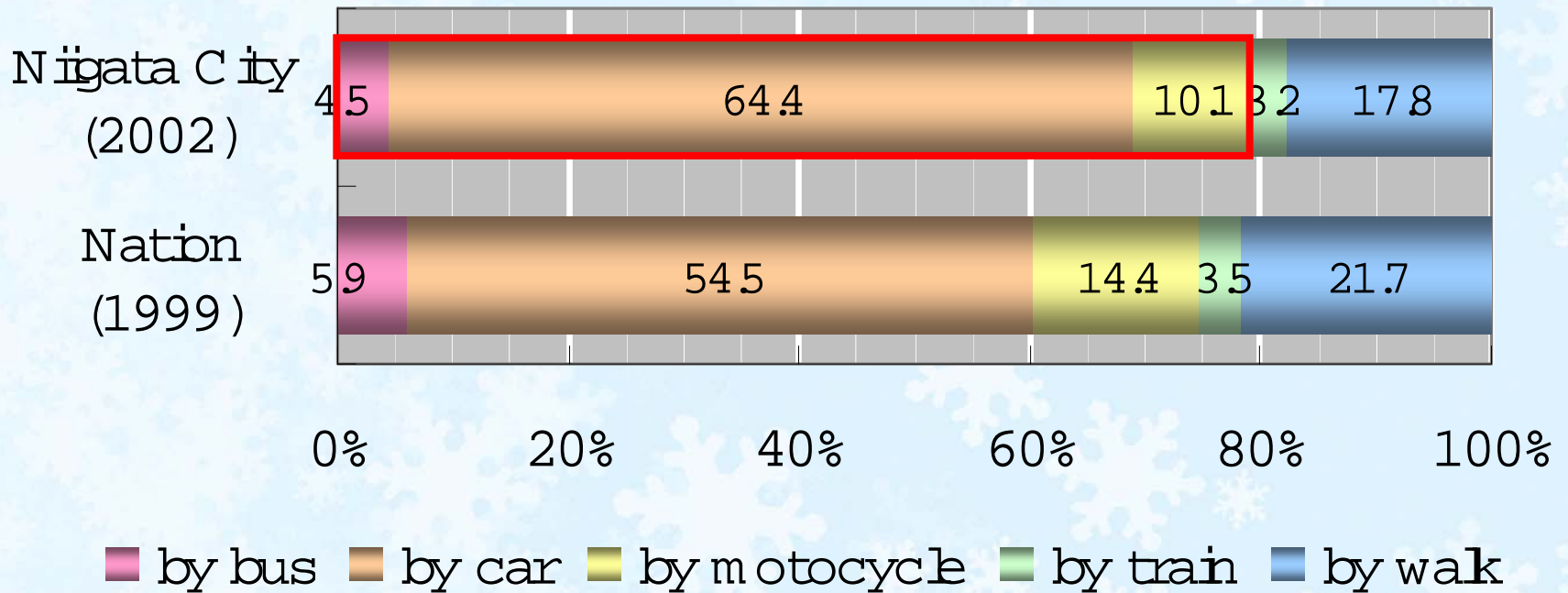
USA



Route 116 (national highway)



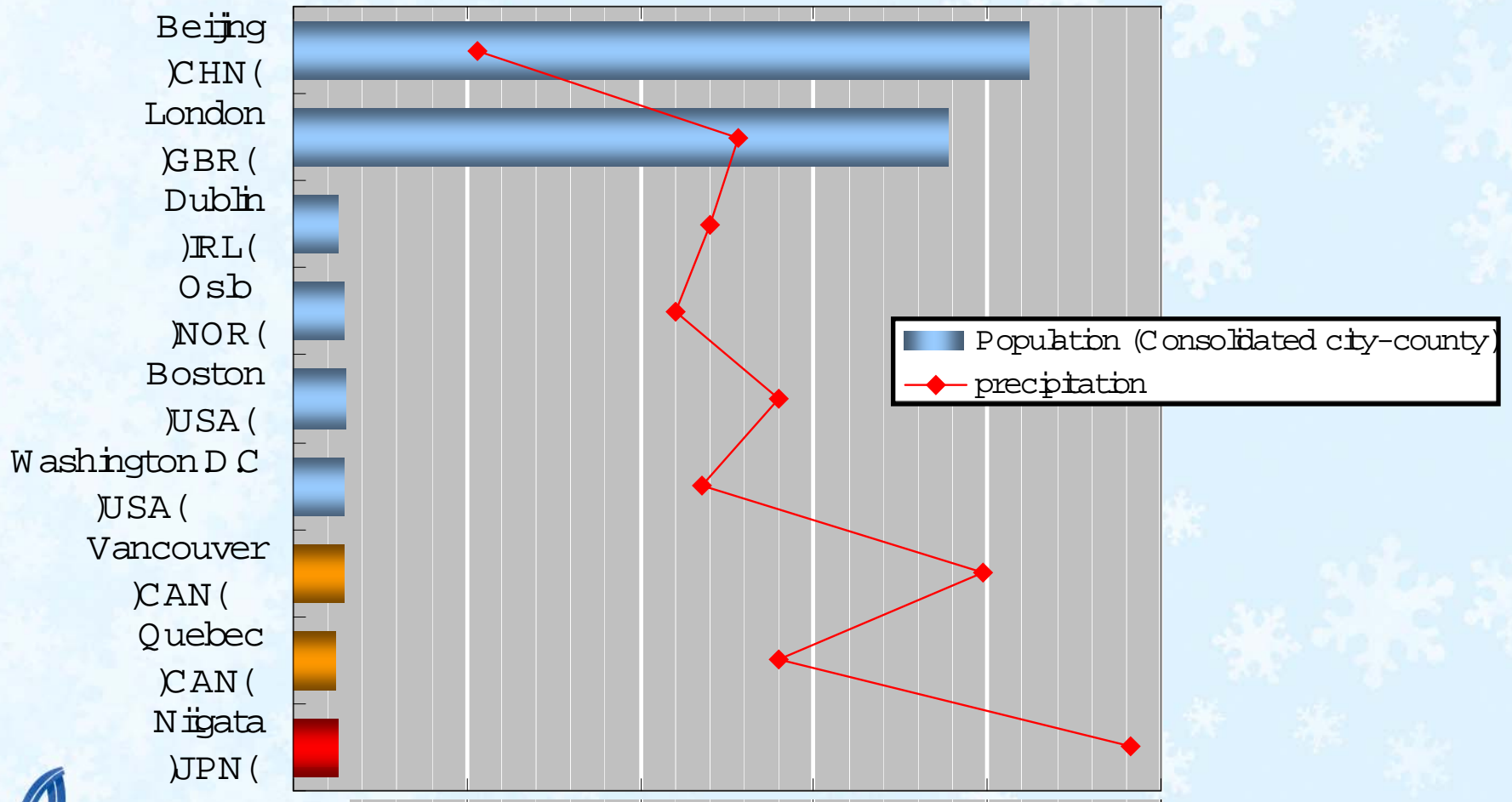
Characteristics of the traffic in Niigata City



Climate of Niigata City in winter

Population (**Consolidated city-county**)(unit:1,000)

0 2,000 4,000 6,000 8,000 10,000



0 50 100 150 200

precipitation (mm) in **January**

Method of this approach

- **Information Exchange Headquarters**
- **Setting of priority route**
- **Information Provision**



Information Exchange Headquarters

step1

National expressway

Information

National highway

Information

Main district way

Information

Traffic accidents

Information

step2

*Information
Exchange
Headquarters*



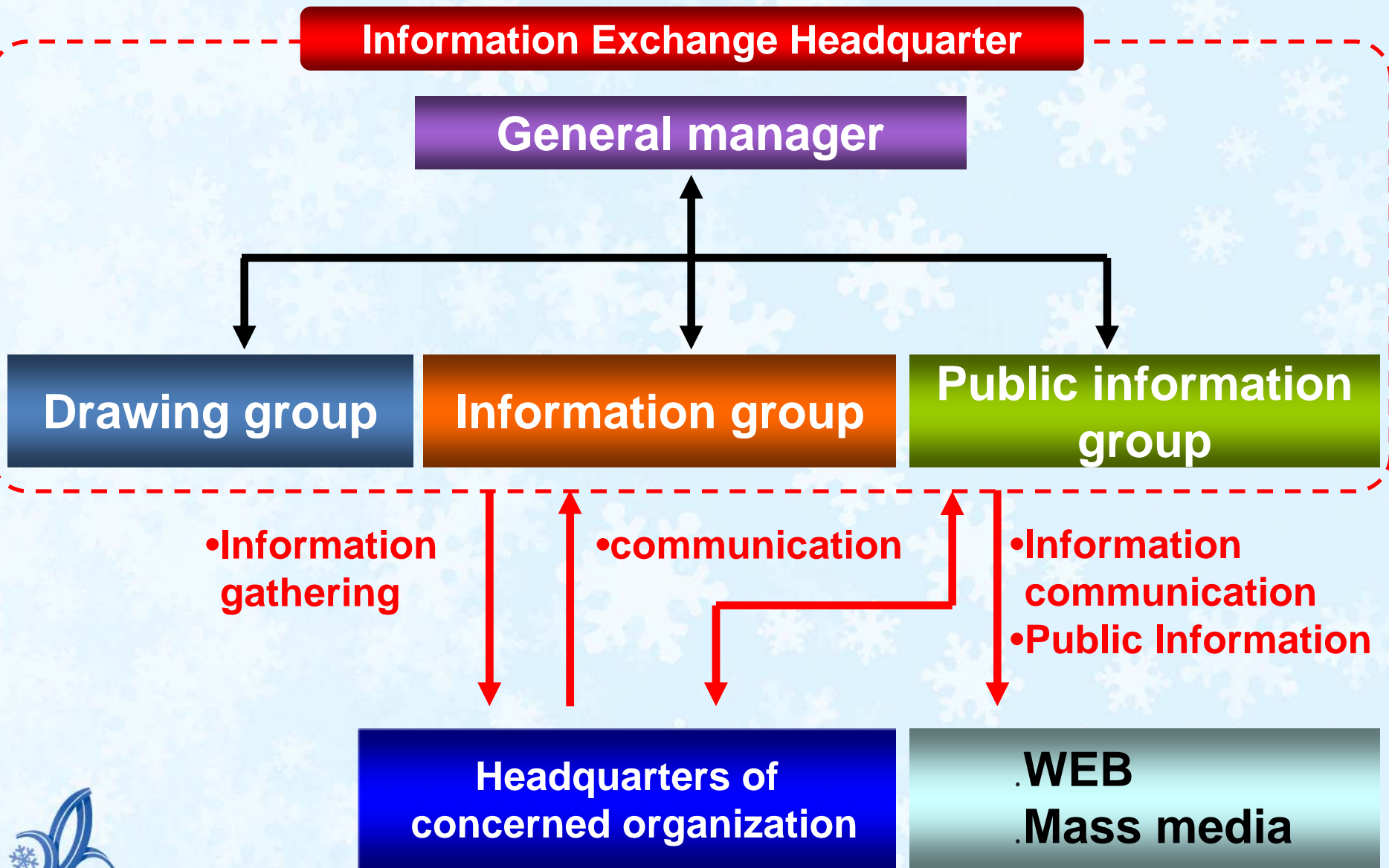
step3

- Road User
- Residents
- Communication

*Unitary
Information*



Organization of Information Exchange Headquarters



Joint Training

Information gathering



Arrangement and shearing of information



Conference for information provision



Preparation for press release



Method of this approach

雪みち ネットワークマップ

• Information Exchange Headquarters

• Setting of priority route

• Information Provision



“Yuki Michi” Network

雪みち ネットワークマップ

凡 例

- ネットワーク路線 (国道)
- ネットワーク路線 (県道)
- ネットワーク路線 (市道)
- 高速道路 ※有料道路
- 市役所
- 区役所
- 道の駅
- ⊗ 警察署
- ⊗ 消防署
- ⊕ 病院
- キロポスト



View of setting the network

1. National highway: managed by national government and National Expressway
2. Route: parallel to National highway or National Expressway
3. Route: connected National highway to route like "3."
4. Access route of interchange for national expressway or national highway
5. Access route with medical facilities
6. Route: all type vehicles can pass



Method of this approach

• Information Exchange Headquarters

• Setting of priority route

• Information Provision

The collage consists of three main elements:

- Top Left:** A computer monitor displaying a traffic information website. The map shows a network of roads with color-coded segments (red for congestion, green for clear) and highlighted priority routes in blue and orange.
- Top Right:** A printed document with Japanese text. It includes a table with columns for 'Route' (経路) and 'Status' (状況). The text provides details about road conditions and emergency services. At the bottom, there is a list of URLs for various transportation authorities.

経路	状況
① 国道7号 南ノ木バイパス-朝石通	14時から 運搬作業および低層降雪を順次行います。 -降雪作業により車線閉鎖が行われる場合があります。運送の遅延、運送の中止に依つての対応。

【路面・降雪状況】
-新潟県道事務所管内の路面状況および、降雪状況は、下記URLにて最新の情報がご覧いただけます。

【路面状況】・新潟LIVEカメラ <http://www.livemap.pref.niigata.jp/>
【降雪状況】・みちナビ新潟 <http://www.2150.co.jp/michinavi/f.html>

※状況が変更中、または対応に遅延がある場合があります。予めご了承ください。
- Bottom:** A close-up photograph of a car's infotainment system. The screen displays '1620 kHz' and a signal strength icon. A hand is visible interacting with the system's controls.

Problems and Future Purpose

Information Exchange Headquarters

- **It is necessary that the system development that can be displayed by inputting consolidated information on the map.**
- **It is necessary to prepare a brief manual.**

Problems and Future Purpose

Information provision

- Improving a **Web site** to expand added information
- Make a publication of “Yuki-Michi network”
- Examination of **present information provision**

Indoor



Outdoor



Future purpose

- Information shearing and provision
- Cooperative initiative to protect winter road transportation



- **Not Information shearing and provision but coordination with snow removal**
- **Applying other road disaster**

Thank you very much for your attention.