The Cross-ministerial Strategic Innovation Promotion Program (SIP)

Development of Smart Mobility Platform

【Subtheme Ⅰ】Redesigning Mobility Services

Practical Mobility Redesign

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IBS Consortium

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JTTRI Japan Transport and Tourism Research Institute

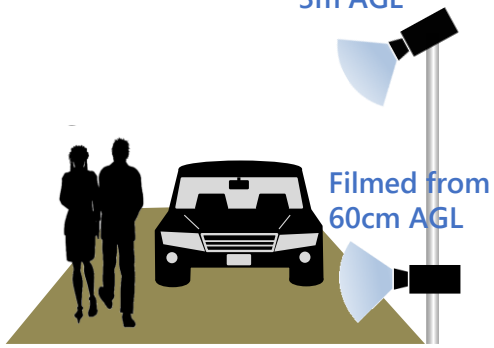
JTPA

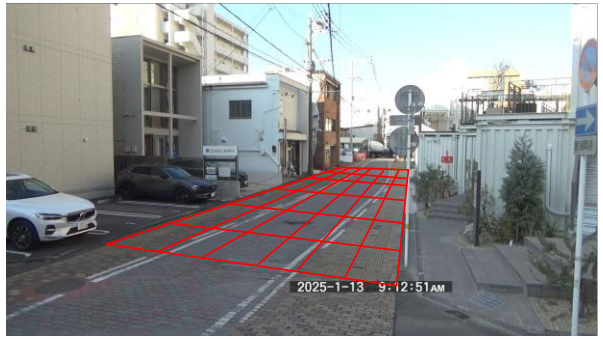
YACHIYO Engineering

Progress: Understanding the actual conditions of local mobility resources

- Preliminary verification of the automatic vehicle recognition method (automatic determination of vehicle types and companies such as buses, taxis, courtesy vehicles and delivery vehicles) using AI technology has been completed for the Kozoji area, and in FY24, a technical verification of automatic vehicle recognition and development of a standard model for the measurement method of supply volume is ongoing for the Miyazaki City (measured from 13 to 26 January 2025).
- The current understanding of transport issues and transport policy planning does not sufficiently take into account the volume of supply (including surplus capacity), and by Stage Gate, a standard model for measuring the volume of supply will be proposed so that local administrative staff can proactively implement truly mobilized planning (Methods and technologies for ascertaining the volume of supply have not yet been established in Japan and do not exist).
- Interviews with key persons of key major stakeholders regarding obstacles related to mobility were completed.

□Video survey in the Miyazaki City





Number plate reading with AI

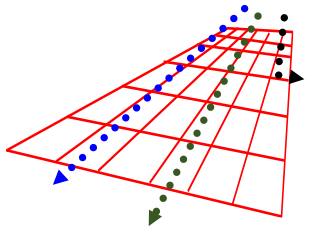
aggregate

Vehicle inspection information

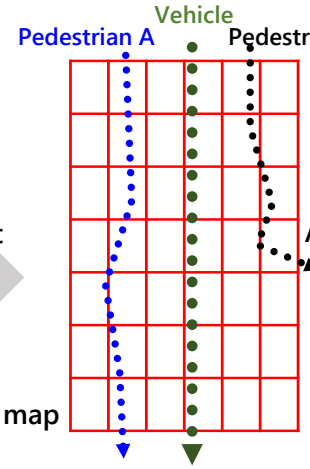
Aggregate

Traffic volume
- Vehicle type
- Identification of business or general vehicles
- Petrol/ECO
- Vehicle size
- Special vehicles such as wheelchairs

Extract



Convert



Movement locus map

Aggregate

■Organization of indicators of bustle
■Measurement
【Pedestrians】
・Direction
・Grouping
・Passage trajectory
・Walking speed
・Density
【Pedestrians/stayers】
・Number of people staying
・Detailed behavior
【Vehicles】
・Traffic speed
・Trajectory, crossing

Aim to develop a prototype for efficient measurement and evaluation with AI

Progress: Development of guidelines for mobility diagnostics.

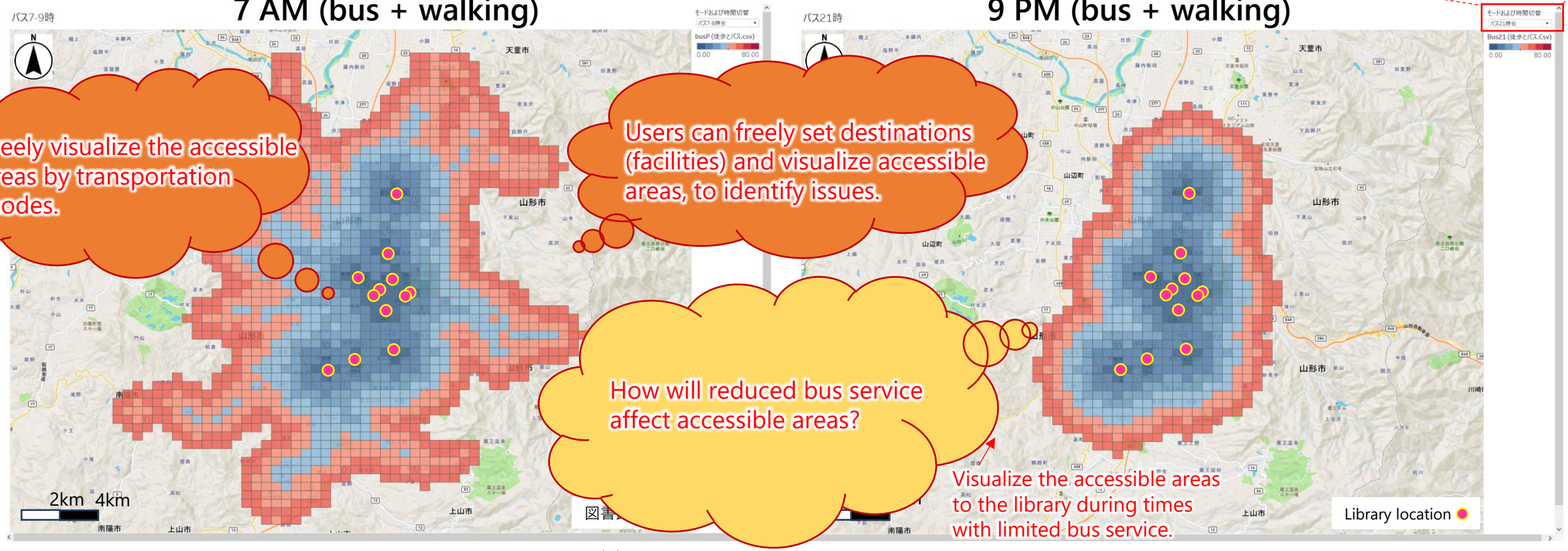
- A prototype of The Mobility Diagnosis Dashboard has been completed to enable administrative staff to understand urban mobility (demand, supply and services) instantly. As a case study, the prototype version has been updated with the dashboard and an environment that enables the visualization of diagnostic results in Yamagata City, where the digitization of supply data is the most advanced in Japan.
- The version will be upgraded in the future through exchanges of views with local government officials and others.

facility switchover

■Prototype version of the mobility resource dashboard developed this year.

7 AM (bus + walking)

9 PM (bus + walking)



※Display access range of 60 minutes or less

Progress: Creation of ‘Total Mobilization Tips’ to contribute to regional development.

- In the second year, 22 domestic and 38 overseas cases of ‘Mobilization Tips’ have been collected and organized to be used as reference for planning guidelines and re-design practices of mobility services, and the results are published in the SIP's ‘Mobility Chiebukuro (provisional)’ as a collection of tips.

- The collection of tips has received a high level of interest from the Ministry of Economy, Trade and Industry (METI), the Ministry of Land, Infrastructure and Transport (MLIT), universities and private companies, and we are progressing with discussions with the relevant ministries (including reflection in the next year's project strategy).

出典）Mobility Chiebukuro (JPN)（https://mobility-chiebukuro.jp/category/%e7%b7%8f%e5%8b%95%e5%93%a1%e3%83%81%e3%83%83%e3%83%97%e3%82%b9%ef%bc%88%e5%9b%bd%e5%a4%96%e7%b7%a8%ef%bc%89/）

Progress: Re-design report (planning guidelines) for mobility services and Japan's first re-design indicators.

- Through a comprehensive review of national and international planning guidelines on urban transport policy, and a framework for planning guidelines has been developed based on previous findings.
- In particular, it focused on three points that are lacking in the existing guidelines in Japan: ①Integration of mobility services, ②Data sharing, and ③Human resource development.

Part I: Planning

Chapter 1: What is Mobility Redesign?

1. Diversifying Mobility Services
2. The Vision Aimed Through Mobility Redesign
3. The Significance of Mobility Redesign

Chapter 2: Principles of Mobility Redesign

1. Connecting Services to Build an Integrated Transportation Network
2. Sharing Data to Accelerate Digital Transformation
3. Creating an Ecosystem that Supports Growth

Chapter 3: Approaches to Mobility Redesign

1. Key Considerations in Mobility Redesign
2. How to Build an Integrated Transportation Network
3. Multifaceted Use of Data in Planning and Evaluation
4. Developing Systems for Human Resource Growth

Chapter 4: Data Governance

1. What is Data Governance?
2. Rule-Making and Management
3. Utilizing Data Platforms and Tools

Part II: Practice

Chapter 1: Case Study 1 – Central Urban Areas

1. Current Situation
2. Vision
3. Designing the Experiment
4. Implementation
5. Results and Challenges

Chapter 2: Case Study 2 – Urban Districts

1. Current Situation
2. Vision
3. Designing the Experiment
4. Implementation
5. Results and Challenges

Chapter 3: Case Study 3 – Suburban Areas

1. Current Situation
2. Vision
3. Designing the Experiment
4. Implementation
5. Results and Challenges

※The content is under consideration at the present time and the results may change in the future.

Progress: Practice of Tactical Mobility Re-Design

Use case: Miyazaki City, Miyazaki Prefecture

Social experiment to reduce vehicle speed

Validation of a zone de rencontre (20 km/h symbiotic street for people and mobility)

Before

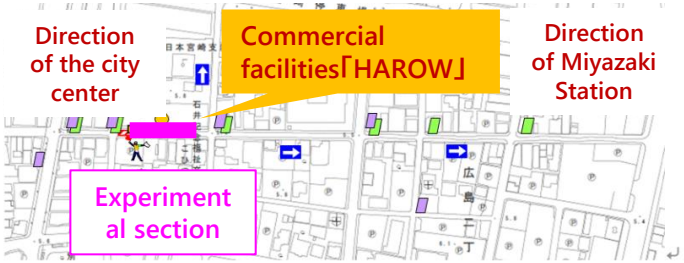
During the experimental period

A lot of bustle is created

①Demonstration of tools (e.g. street furniture) that reduce speed and contribute to liveliness

②Installation of speed control signs in conjunction with the Guruppi design

Coming to terms with people and low-speed mobility on carriageway sections



③Implementation of notices to traffic entering the area from surrounding roads

Foster opportunities for voluntary initiatives by local organizations along the roadside that are in charge.

The roadside development entity carries out improvements with a focus on mobility design.

The roadside and the roadway are designed with mutual awareness, creating a unified and vibrant streetscape.

【Barriers to the implementation of a zone de rencontre】
Speed regulations on Japanese roads do not allow for a speed limit of 20 km/h, making it impossible to set a speed that can be reconciled with pedestrians and other mobility.