



公益財団法人 国際交通安全学会
International Association of Traffic and Safety Sciences

April 11, 2025
2024 Research Report

【Administrative and Organizational Collaboration】
2409B Research Project

Research on Accelerating the Adoption of Japanese-Style Roundabouts

Project Leader: Hideki Nakamura
(Nagoya University)



➤ IATSS Members

- PL Hideki Nakamura (Professor, Graduate School of Environmental Studies, Nagoya University)
- Miho Iryo (Associate Professor, Graduate School of Environmental Studies, Nagoya University)
- Koji Suzuki (Professor, Faculty of Engineering, Nagoya Institute of Technology)
- Junko Nagata (Professor, Urban Management Research Institute, Osaka Metropolitan University)
- Hidekatsu Hamaoka (Professor, Faculty of Science and Engineering, Akita University)

➤ Special Researchers

- Yoshinori Abe (General Manager, Road Planning, Kokusai Kogyo Co., Ltd.)
- Katsumi Uesaka (Senior Managing Director, Katahira & Engineers Inc.)
- Sachiko Ohashi (Head of Road Traffic Safety Research Division, National Institute for Land and Infrastructure Management)
- Kai Ogasawara (Assistant Manager, Traffic Regulation Section 2, Traffic Regulation Division, Traffic Bureau, National Police Agency)
- Hiroshi Okushiro (Senior Chief Engineer, Tohoku Branch, Central Consultant Inc.)
- Nan Kang (Associate Professor, School of Transportation and Transportation Engineering, Nanjing Tech University)
- Nobuto Kanbe (Deputy Director, Transportation Division, Oriental Consultants Co., Ltd.)
- Naoki Kusaka (Manager, Technology Division, Transportation Infrastructure Division, Chubu Branch, Pacific Consultants Co., Ltd.)
- Sumio Shimokawa (Visiting Professor, College of Science and Technology, Nihon University)
- Daiken Suzuki (Planning Specialist, Road Bureau, Ministry of Land, Infrastructure, Transport and Tourism)
- Takashi Sekiguchi (Manager, Road & Traffic Department, Chubu Branch, Construction Engineering Research Institute)
- Tatsuo Takase (Associate Professor, Faculty of Engineering, Shinshu University)
- Kenichi Takahashi (General Manager, Road Department 1, Mitsui Joint Construction Co., Ltd.)
- Yumi Takemoto (Senior Chief Researcher, Japan Institute of Construction Engineering)

- Yasunori Tatsuta (Assistant Director, Planning Division, Road Bureau, Ministry of Land, Infrastructure, Transport and Tourism)
- Koji Tanaka (Assistant Director, Traffic Regulation Section, Traffic Regulation Division, Traffic Bureau, National Police Agency)
- Xin Zhang (Lecturer, Graduate School of Environmental Studies, Nagoya University)
- Yoshihiko Miyasaka (Chief Engineer, Tokyo Head Office, Construction Engineering Research Institute)
- Kazunori Munehiro (Senior Researcher, Cold Region Traffic Team, Cold Region Civil Engineering Research Institute)
- Keisuke Yoshioka (Associate Professor, College of Science and Technology, Nihon University)
- Yoshiyuki Yoneyama (General Manager, Social Infrastructure Division, Chodai Co., Ltd.)
- Kazuki Watanabe (Deputy General Manager, Traffic Policy Department, Kanto Branch, Oriental Consultants Co., Ltd.)

➤ Research Collaborators

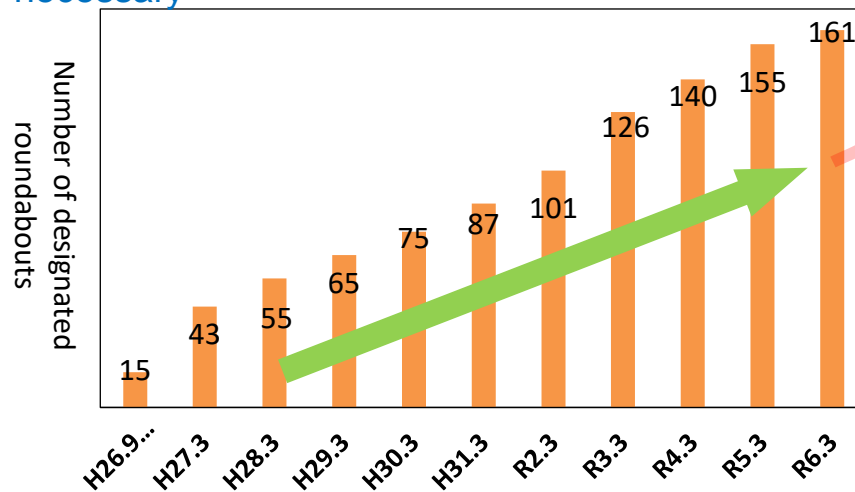
- Genta Ueda (Master's Program, Graduate School of Environmental Studies, Nagoya University)

➤ Observers

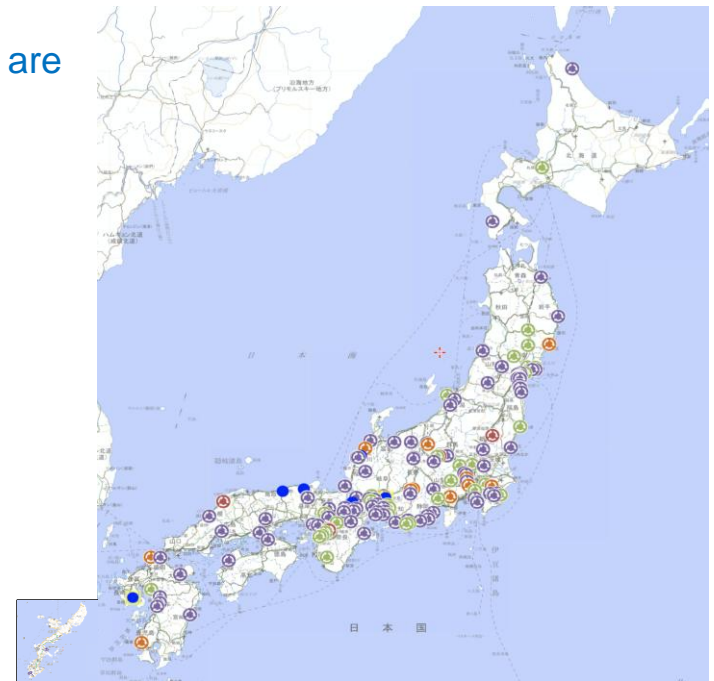
- Kazushi Makiuchi (Director, Regional Planning Division, Construction Department, Iida City)
- Hirofumi Matsudaira (Assistant Director, Regional Planning Division, Construction Department, Iida City)
- Shinji Yotsuya (Manager, Road Maintenance Division, Urban Green and Public Works Bureau, Nagoya City)
- Takashi Kitagawa (Assistant Manager, Road Maintenance Division, Urban Green and Public Works Bureau, Nagoya City)
- Takatomo Nakayama (Manager, Technology Department, Road Planning Co., Ltd.)
- Jin Tada (Researcher, Japan Institute of Construction Engineering)
- Michiko Matsumura (Representative, Town Creator / IATSS Advisor)

Background and Awareness of the Issue: The Need for Accelerated Dissemination

- Since initiating a project on roundabouts (RAB) at IATSS in 2009, continuous research has been conducted
 - ➔ Introduction studies to social experiments, social implementation, and full-scale development following legal amendments.
- At present, there are over 160 RABs nationwide, but the level of dissemination is still only beginning compared to advanced countries.
 - A few locations in each prefecture are far from being a familiar presence.
 - In other countries, dissemination has been exponential (e.g., approximately 10,000 locations in the United States over 20 years).
- In the face of ongoing tragic accidents at at-grade intersections and the expected introduction of automated vehicles, it is necessary to disseminate RABs suitable for Japan from an international perspective.
- Aiming to make RABs a familiar presence for urban and regional development
- Identification and resolution of issues hindering dissemination are necessary



警察庁「環状交差点の導入状況」より作成



Objectives of the Research Study

Purpose of the Research Project

To contribute to accelerating the dissemination of roundabouts (RAB) in Japan by examining specifications and methodologies unique to our country for addressing issues such as space-saving, cost-effectiveness, simplified design, diverse user considerations, and consensus-building processes, which are considered particularly important in Japan, and actively disseminating these findings.

➤ Identify and eliminate factors hindering dissemination

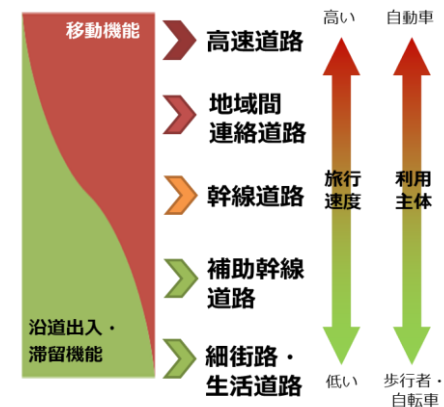
1. Promote awareness

- Awareness survey and factor analysis
- Conduct seminars in regions with low awareness
- Enhance the RAB database (DB)

2. Space-saving and cost-effective small roundabouts

- Demonstration and data collection through **social experiments** on auxiliary arterial roads and local roads
- Presentation of specifications for small roundabouts

Functional hierarchy of roads



Research Plan (3 Years)

➤ 2023 2309A Project:

- 1) Survey of **administrative needs** on issues related to RAB implementation in Japan
- 2) **Overseas trends survey** related to these issues
- 3) Organization of issues and **specification study** of Japanese-style RABs
- 4) Database update and seminar preparation



➤ 2024 2409B Project:

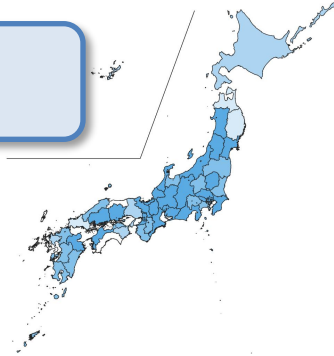
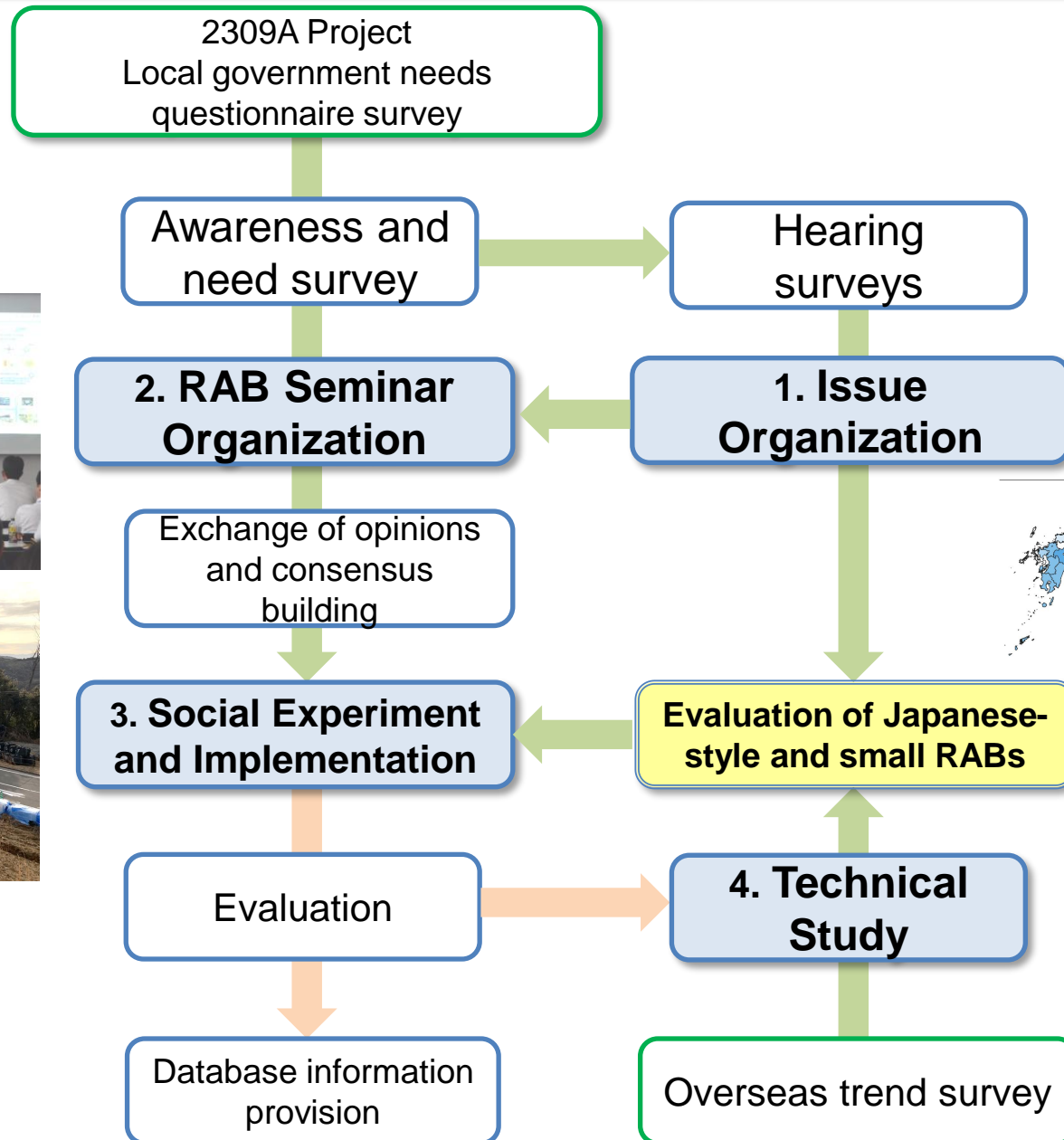
- 1) **Organization of issues** and specification study of Japanese-style RABs
- 2) Exchange of opinions through **seminar organization**
- 3) Coordination of candidate locations for cost-effective RAB **social experiments**
- 4) **Social experiment** preparation and implementation
- 5) Database update



➤ 2025

- 1) Demonstration through continuous social experiment implementation, data collection, and analysis
- 2) Social experiment evaluation and exchange of opinions through seminar organization
- 3) Study of Japanese-style roundabouts based on social experiment results
- 4) Database update
- 5) Summary of Japanese-style RABs

Main Items of the 2409B Project



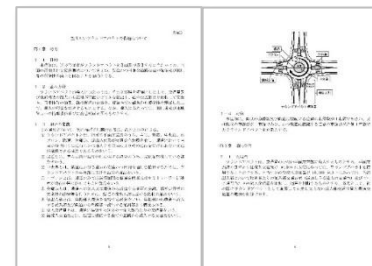


1. Issue organization based on hearings

Nationwide local government survey (November 2023)

- Questions tailored to the status of RAB consideration and implementation (A, B, C) of each administrative agency

【A】 Implemented	【B】 Considered but not implemented	【C】 Not considered
<ul style="list-style-type: none">• Awareness of "roundabouts" (RAB)• Browsing experience of reference material I• Browsing experience of reference material II• RAB travel experience		
Effects expected from RAB implementation	Effects that can be expected from RAB implementation	
Requirements for RAB utilization and development		
	Stage and reasons for abandoning implementation	



Reference Material I:
"Concerning Desirable Roundabout Structures"
(August 2014, Notification from the Director of the Road Bureau, Ministry of Land, Infrastructure, Transport and Tourism)

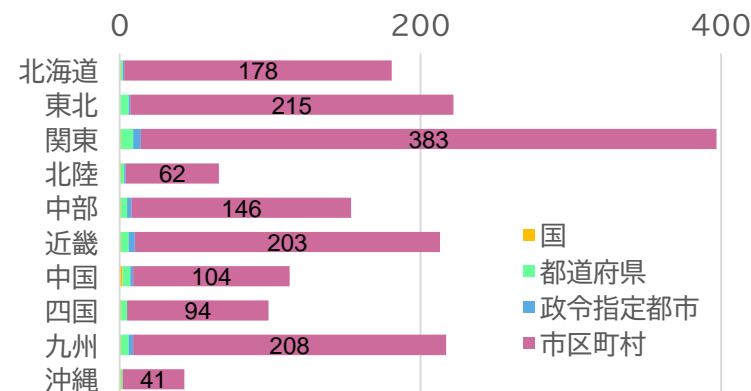


Reference Material II:
"Recommendations for Roundabouts"
(October 2022, Road Bureau, Ministry of Land, Infrastructure, Transport and Tourism & Traffic Bureau, National Police Agency)

- Number of responses received: 1,728 (1,705 valid)

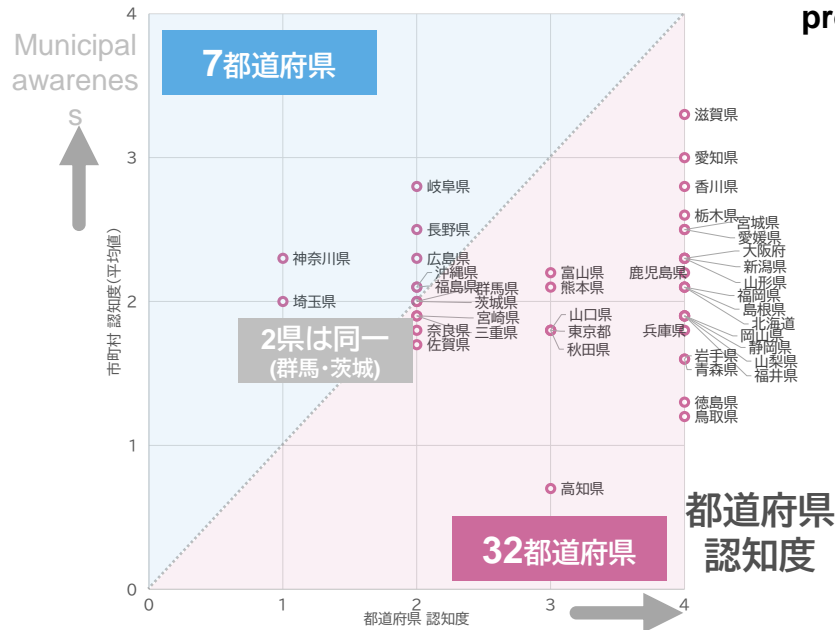
- Breakdown of valid responses by organization • By region

Type	Number	Percentage
National Government (Regional Development Bureau, National Highway Office)	10	1%
Prefectural Governments	41	2%
Designated Cities	20	1%
Municipalities (Cities, Towns, Villages)	1,634	96%
Total	1,705	100%



Basic Data for Selecting Hearing Target Locations

▼ Difference in awareness between prefectural governments and municipalities (Analysis results from the 2309A)



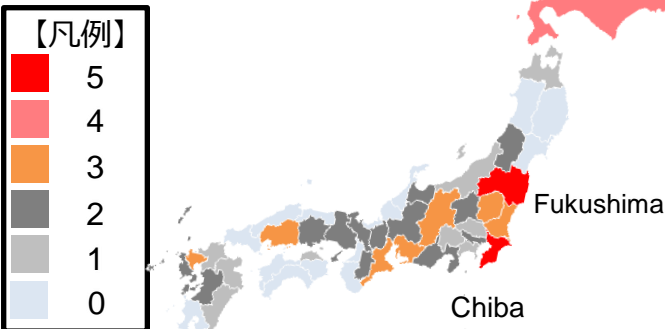
認知度の差 (市町村 - 都道府県)	都道府県名
-2.8	Tottori
-2.7	Tokushima
-2.4	Aomori
-2.4	Iwate
-2.3	Kochi
-2.2	Hyogo
-2.1	Fukui
-2.1	Yamanashi
-2.1	Shizuoka
-2.1	Okayama

Note: Tokushima Prefecture had the second-highest difference in awareness between the prefecture and municipalities nationwide, but was excluded from the survey as the RAB seminar was held in Kochi in July 2024.

【Legend】

Local Governments that Conducted Hearings

▼ Number of local governments (prefectures) that abandoned RAB implementation



▼ Stage at which RAB implementation was abandoned (Target: Hokkaido, Fukushima, Chiba Prefectures)

Stage	Hokkaido	Fukushima	Chiba
Planning drafting stage (concept stage)	<ul style="list-style-type: none"> Sapporo Wakkanai Biei 	<ul style="list-style-type: none"> Koriyama Kitaka Minamisoma Tadami 	Narashino
Survey / Planning stage (study stage)	Mori	Yabuki	<ul style="list-style-type: none"> Kisarazu Minamibosatsu Tako
Design Stage			Kimitsu
Construction Stage			

【Legend】

Local Governments that Conducted Hearings

Note: Abandoned as there were no staff who understood the content at the time and there were no materials from the implementation study

Local Government Hearing Results

Questions	Survey Purpose		
	1. Review of awareness improvement measures (information dissemination methods)	2. Considerations for implementation and dissemination (response to local governments that abandoned implementation)	Other (private businesses)
Information dissemination methods to municipalities, awareness of director notifications and leaflets	<input type="radio"/>		
Reasons why RAB implementation is not progressing within prefectures	<input type="radio"/>		
Basic information on intersections where implementation was studied (background, objectives, traffic volume, etc.)		<input type="radio"/>	<input type="radio"/>
Circumstances and reasons for abandoning implementation , and other relevant information		<input type="radio"/>	
Incentives for RAB implementation and installation (promotion, etc.)			<input type="radio"/>
Difficulties and issues experienced during RAB implementation and installation		<input type="radio"/>	<input type="radio"/>
Future policies for promoting RAB implementation (issues, initiatives, necessary support, etc.)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Effects (expectations) regarding small RABs under consideration	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Local Government Hearing Results

Items	Issues	Future Initiatives
Public Relations, Human Resource Development	<ul style="list-style-type: none"> Shortage of civil engineers, low awareness Financial difficulties, hindering training-related business trips Knowledge resets with each personnel transfer Lack of RABs in the surrounding area, unfamiliar to residents 	<ul style="list-style-type: none"> Awareness improvement Provision of information on issues at implementing local governments Examples of other municipalities that implemented RABs using the Comprehensive Social Capital Development Grant Presentations on RABs at prefectural training sessions Increase in RAB implementation examples on national and prefectural roads
Study Process	<ul style="list-style-type: none"> Lack of information on study content, processes, and timelines Insufficient basis for making RAB studies mandatory in manuals, etc 	<ul style="list-style-type: none"> Descriptions in prefectural design guidelines, cost estimation standards, etc Organization of extraction conditions for suitable implementation locations
Cost	<ul style="list-style-type: none"> Difficulties with land acquisition and house compensation 	<ul style="list-style-type: none"> RABs that can be installed within existing intersection land
Technology · Safety	<ul style="list-style-type: none"> Concerns about reverse driving and anxieties regarding elderly adaptation 	<ul style="list-style-type: none"> Forums for dialogue related to RABs, such as seminars Consultation points are necessary as many consultants lack design experience
Challenges in Snowy and Cold Regions	<ul style="list-style-type: none"> Difficulties in snow removal in snowy and cold regions Road markings invisible during winter 	<ul style="list-style-type: none"> Information dissemination of solutions to issues expected in winter (snow removal, road markings, etc.) Design manuals tailored to snowy and cold regions
Maintenance and Management	<ul style="list-style-type: none"> Management of plantings and weeds 	

→ Reconfirmation of the project's needs

Draft Action Plan Based on Hearings

Items	Short-Term Initiatives (Draft)	Mid- to Long-Term Initiatives (Draft)
Public Relations, Human Resource Development	<ul style="list-style-type: none"> • Seminar Planning • Collection and organization of issues related to introductory studies and operation 	<ul style="list-style-type: none"> • Exploring public relations strategies targeting the general public (using video distribution, information dissemination via SNS, etc.) • Creation and distribution of materials detailing the process from planning to implementation
Study Process	<ul style="list-style-type: none"> • Compilation of Introduction History, etc. (e.g., 2014 H2645 Project Report) 	<ul style="list-style-type: none"> • Creation of guidelines specifically describing the comparative study, selection, etc., of intersection control methods
Cost	<ul style="list-style-type: none"> • Organization and dissemination of information on small roundabout cases, social experiments, and research results 	<ul style="list-style-type: none"> • Creation of collections of implementation examples utilizing subsidies
Technology • Safety	<ul style="list-style-type: none"> • Organization of extraction methods for suitable introduction areas 	<ul style="list-style-type: none"> • Preparation of readily available contact points for inquiries (primarily targeting local governments, etc.)
Cold Regions	<ul style="list-style-type: none"> • Collection and compilation of solutions (FAQs) for anticipated issues during winter periods • Information dissemination utilizing websites, etc. 	<ul style="list-style-type: none"> • Creation of a manual that goes in line with cold regions • Conducting seminars, etc., targeting local governments in snow/cold regions

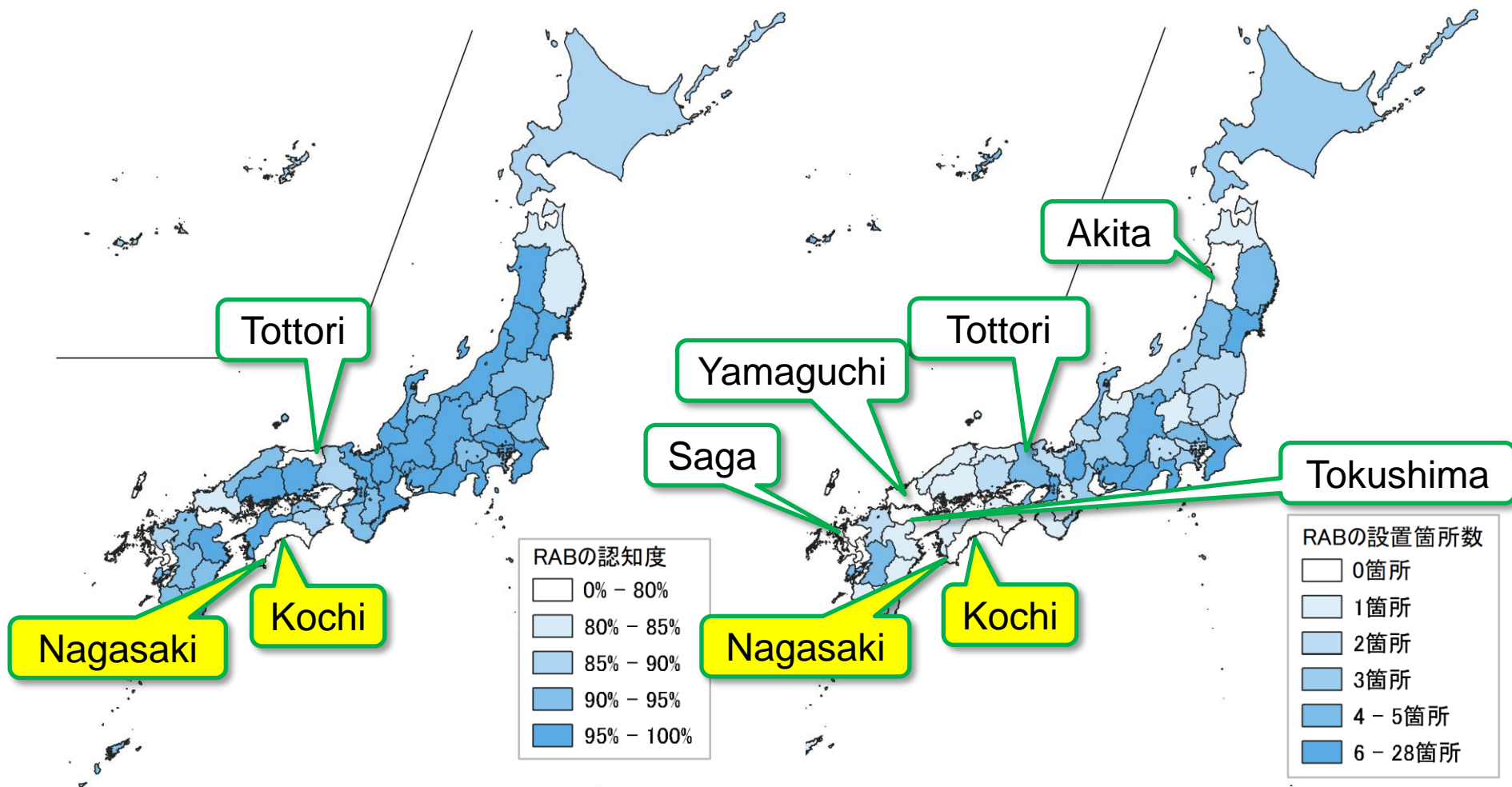
- It is desirable that the implementing entities for these initiatives (draft) be organized and specified in the future.
- Implementing entities: Academic societies, road-related associations, national government, prefectural governments, municipalities, police, construction consultant associations, etc



2. Promotion of Awareness and Exchange of Opinions through Roundabout Seminars

➤ Prefectural Distribution of Awareness

➤ Number of RAB Installation Locations by Prefecture



- Participants: Road administrators and police from the Shikoku region, 70 people

ラウンドアバウトセミナー
四国地方セミナー

2024年 7月19日 金

時間 セミナー 13:30~15:35 (13:00開場)
意見交換会 15:50~17:00 (高知県行政関係者)
会場 高知工科大学永国寺キャンパス 教育研究棟1F A104会議室

参加費 無料

セミナープログラム

13:30 開会挨拶	国土交通省 四国地方整備局 土佐国道事務所 事務所長 森山 崇
13:35 趣旨説明	(公財)国際交通安全学会(IATSS) 2409Bプロジェクトリーダー 名古屋大学大学院 環境学研究科 教授 中村 英樹
13:40~14:00 国からの情報提供	「ラウンドアバウトとは?」 国土交通省 道路局 環境安全・防災課 道路交通安全対策室 企画専門官 鈴木 大健 警察庁 交通局 交通規制課 課長補佐 田中 耕司
14:00~14:20 基調講演	「四国における道路交通とラウンドアバウトのすすめ」 高知工科大学 システム工学群 教授 西内 裕晶
14:20~15:20 ラウンドアバウトの解説	「ラウンドアバウトはどんな箇所への導入がよいか」 2409Bプロジェクトリーダー 中村 英樹 「設計のポイント」 2409Bプロジェクト 特別研究員 高橋 健一 「交通運用上のポイント」 2409Bプロジェクト 特別研究員 神戸 信人
15:20 質疑応答	
15:30 閉会挨拶	高知県 土木部 道路課 課長 中村 征彦

■主催: (公財)国際交通安全学会(IATSS)2409Bプロジェクト
■後援: 国土交通省、警察庁、(一社)交通工学研究会、ラウンドアバウト普及促進協議会

1. Information provided by the National Government

(1)MLIT

- Introduced the expected effects of RAB and nationwide implementation examples from "Recommendations for Roundabouts."

(2)National Police Agency

- Introduced traffic methods for roundabouts, trends in the number of nationwide installation locations, reduction effects in accident occurrence rates, and introduction examples of small RABs, etc.



2. Keynote Speech (Professor Nishiuchi, Kochi University of Technology)

- Explained the potential and significance of RAB implementation in Kochi Prefecture, based on roundabout implementation examples and characteristics in Shikoku and overseas.



3. Explanation of Roundabouts

- Explained the role of roundabouts in road networks based on domestic and international implementation examples, the role of RAB in improving performance in WISENET 2050, and planning/design and traffic operation points



4. Exchange of Opinions (Round Table Meeting)

➤ Comparison Before and After Roundabout Introduction

- Accident numbers reduced by approximately 65% (Incidents)

	Before Introduction**				After introduction***			
	Overall	Death	Severe Injury	Minor Injury	Overall	Death	Severe Injury	Minor Injury
Overall* (119)	26	0	1	25	9	0	0	9

* Target: 119 locations with available comparisons before and after introduction

** Before Introduction: Accident occurrence numbers in the year before roundabout introduction

*** After Introduction: Accident occurrence numbers in the year following roundabout introduction

➤ Annual Accident Occurance

- Roundabouts experience fewer major accidents (Incidents)

Year		2015	2016	2017	2018	2019	2020	2021	2022	2023
Accident Injury	Fatal Accident	0	0	0	0	0	0	0	0	0
	Severe Accident	0	0	2	0	0	0	0	0	1
	Minor Accident	3	4	6	9	10	6	7	14	6
Total		3	4	8	9	10	6	7	14	7
(Reference) Total Locations		55	65	75	87	101	126	140	155	161

Exchange of Opinions (Kochi)

- Round Table Meeting Format
 - Participants divided into 3 groups, exchanging opinions based on actual examples.
 - Project members facilitated.

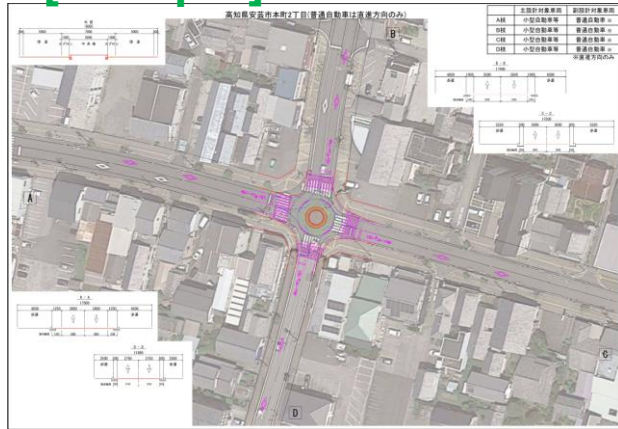


Exchange of Opinions (Kochi)

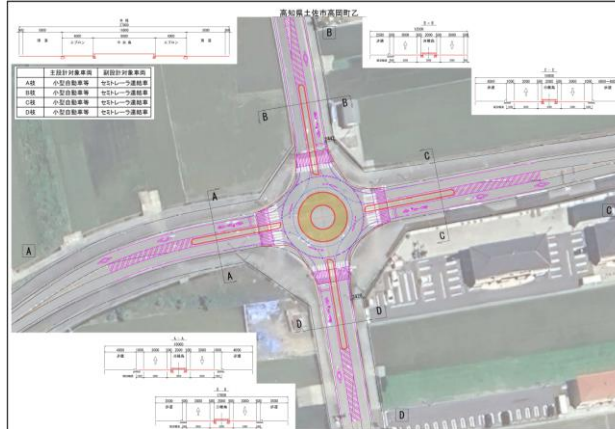
- Each group presented planning diagrams of 2 candidate introduction locations
 - While deepening the explanation contents of the seminar, participants exchanged opinions on points to consider during introduction

- Main Opinions/Discussion Points
 - Issues related to the characteristics of roadside facilities at each candidate location, traffic flow management methods, etc., and solutions.
 - Methods for consensus building with residents/users through social experiments.

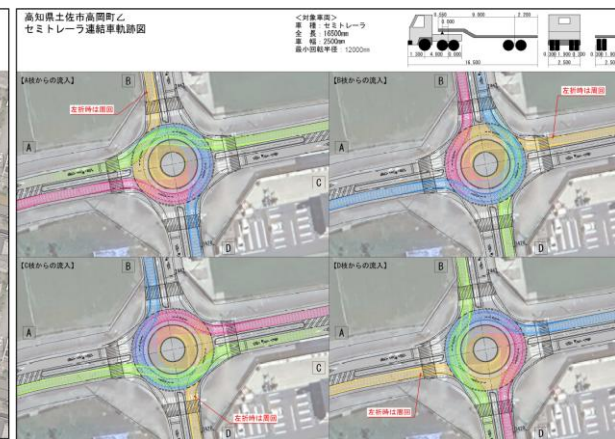
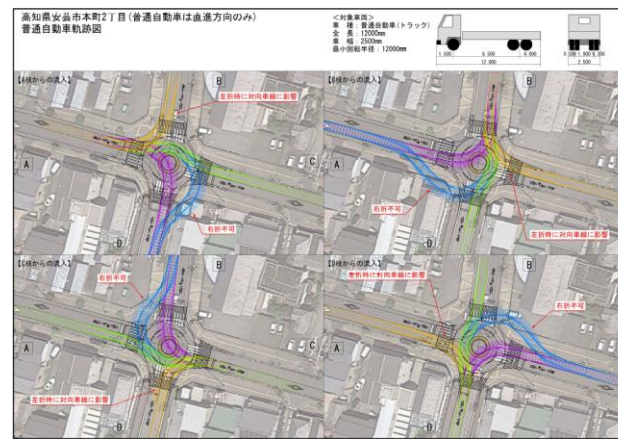
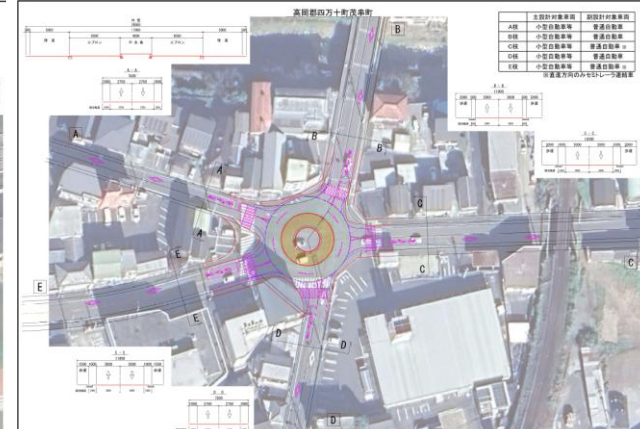
[Group A]



[Group B]



[Group C]



- Participants: Road administrators and police from Nagasaki Prefecture, 61 people
- Following the seminar, a round table meeting was held
 - Shared recognition and direction of related road administrators/prefectural police regarding 3 candidate introduction locations, and consensus building

ラウンドアバウトセミナー
長崎県セミナー

2024年
7月26日 金

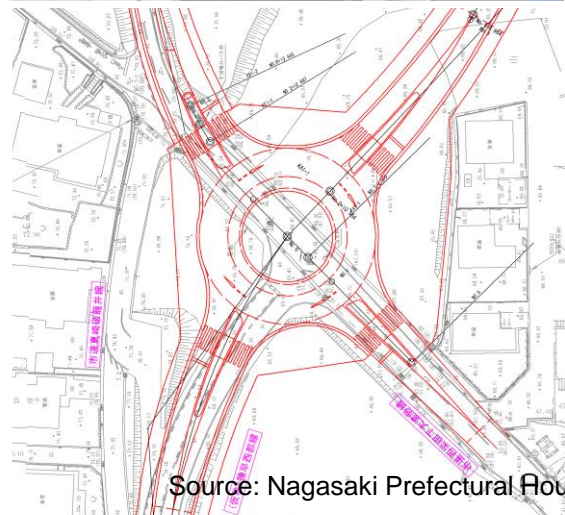
時間 13:30~15:20 (13:00開場)
会場 諫早市役所 本館5F 大会議室

プログラム

- 13:30 開会挨拶 諫早市市長 大久保 潔重
- 13:35 趣旨説明 (公財)国際交通安全学会(IATSS) 2409Bプロジェクトリーダー 名古屋大学大学院 環境学研究科 教授 中村 英樹
「ラウンドアバウトとは？」 国土交通省 道路局 環境安全・防災課 道路交通安全対策室 企画専門官 鈴木 大健
警察庁 交通局 交通規制課 課長補佐 田中 耕司
- 13:40~14:00 国からの情報提供
- 14:00~15:00 ラウンドアバウトの解説
「ラウンドアバウトはどんな箇所への導入がよいか」 2409Bプロジェクトリーダー 中村 英樹
「設計のポイント」 2409Bプロジェクト 特別研究員 阿部 義典
「交通運用上のポイント」 2409Bプロジェクト 特別研究員 神戸 信人
- 15:00 質疑応答
- 15:15 閉会挨拶 長崎県土木部 部長 中尾 吉宏

■主催: (公財)国際交通安全学会(IATSS)2409Bプロジェクト
■後援: 国土交通省、警察庁、(一社)交通工学研究会、ラウンドアバウト普及促進協議会

●お問い合わせ●
(公財)国際交通安全学会 担当: 今泉浩子 TEL: 03-3273-7884 <https://www.iatss.or.jp/contact.html>



Source: Nagasaki Prefectural Housing Corporation

- Voluntary questionnaire surveys were conducted targeting participants of roundabout seminars held in Kochi and Nagasaki

▼ Questionnaire forms (paper-based)

(公財)国際交通安全学会

アンケートへのご協力のお願い

本日は、『ラウンドアバウトセミナー ～長崎県セミナー～』にご参加いただき、誠にありがとうございます。今後の普及促進活動の参考とさせていただきます。お手数ではございますが、アンケートにご協力をお願いいたします。ご記入後は、受付にお渡しください。

※ ウェブから回答可能な方は、本票での回答ではなく、別紙「二次元コード」または「URL(<https://forms.gle/oFckUGyx99Vds5bt7>)」からのご回答をお願いいたします。

＜個人情報取り扱いについて＞
当学会のプライバシーポリシー(右記 URL)をご覧ください。 <https://www.iatss.or.jp/privacy/>

Q1. お名前【ご記入は任意です】()

Q2. ご所属 (該当する番号 1 つに○を付けてください)
① 道路管理者 (国土交通省) ② 道路管理者 (県) ③ 道路管理者 (市町村)
④ 警察 ⑤ その他公的機関 ⑥ 民間事業者 ⑦ その他

Q3. ご所属【ご記入は任意です。できれば、団体名称だけでもご記入いただければ幸いです。】
団体名称 ()
部・課・係など () 役職 ()

Q4. ご連絡先【ご記入は任意です】
電話番号 () E-mail アドレス ()

Q5. セミナーの内容はいかがでしたか？ (該当する番号 1 つに○を付けてください。)

a) 全体の感想
① 非常に有意義であった ② 有意義であった ③ どちらでもない
④ あまり有意義でなかった ⑤ 全く有意義でなかった

b) 国土交通省・警察庁からの情報提供「ラウンドアバウトとは？」の感想
① 非常に有意義であった ② 有意義であった ③ どちらでもない
④ あまり有意義でなかった ⑤ 全く有意義でなかった

c) ラウンドアバウトの解説*の感想 (*:「ラウンドアバウトはどんな箇所への導入がよいのか」、「設計のポイント」、「交通運用上のポイント」)
① 非常に有意義であった ② 有意義であった ③ どちらでもない
④ あまり有意義でなかった ⑤ 全く有意義でなかった

※ 裏面に続きます。

▼ Leaflets requesting participation in web questionnaire

アンケート調査へのご協力をお願いいたします IATSS

本日は、『ラウンドアバウトセミナー ～長崎県セミナー～』にご参加いただき、誠にありがとうございます。

今後の普及促進活動の参考とさせていただきます、お手数ではございますが、アンケートにご協力をお願いいたします。



↑上記の二次元コードよりご回答ください。
【URL】 <https://forms.gle/oFckUGyx99Vds5bt7>

＜個人情報取り扱いについて＞
当学会のプライバシーポリシー(下記URL)をご覧ください。
<https://www.iatss.or.jp/privacy/>

＜アンケートに関する問合せ先＞
(E-mail) imatsumi@iatss.or.jp
(TEL) 03-3273-7884 (FAX) 03-3272-7054

IATSS 国際交通安全学会
International Association of Traffic and Transport Sciences

▼ Web questionnaire format



国際交通安全学会(IATSS) ラウンドアバウトセミナー ～長崎県セミナー～ アンケートへのご協力のお願い

この度はお忙しいところ、ラウンドアバウトセミナーにご参加いただき、誠にありがとうございます。国際交通安全学会で実施しているラウンドアバウトの普及促進に関する調査・研究の基礎資料としての活用を目的にアンケート調査を行っております。ご協力の程何卒よろしくお願いいたします。

＜個人情報取り扱いについて＞
当学会のプライバシーポリシー(下記URL)をご覧ください。
<https://www.iatss.or.jp/privacy/>

＜アンケートに関する問合せ先＞
(E-mail) imatsumi@iatss.or.jp
(TEL) 03-3273-7884 (FAX) 03-3272-7054

[j.tada@jice.or.jp](#) アカウントを切り替える

* 必須の質問です

メール *

☐ 返信に表示するメールアドレスとして j.tada@jice.or.jp を記録する。

お名前 *

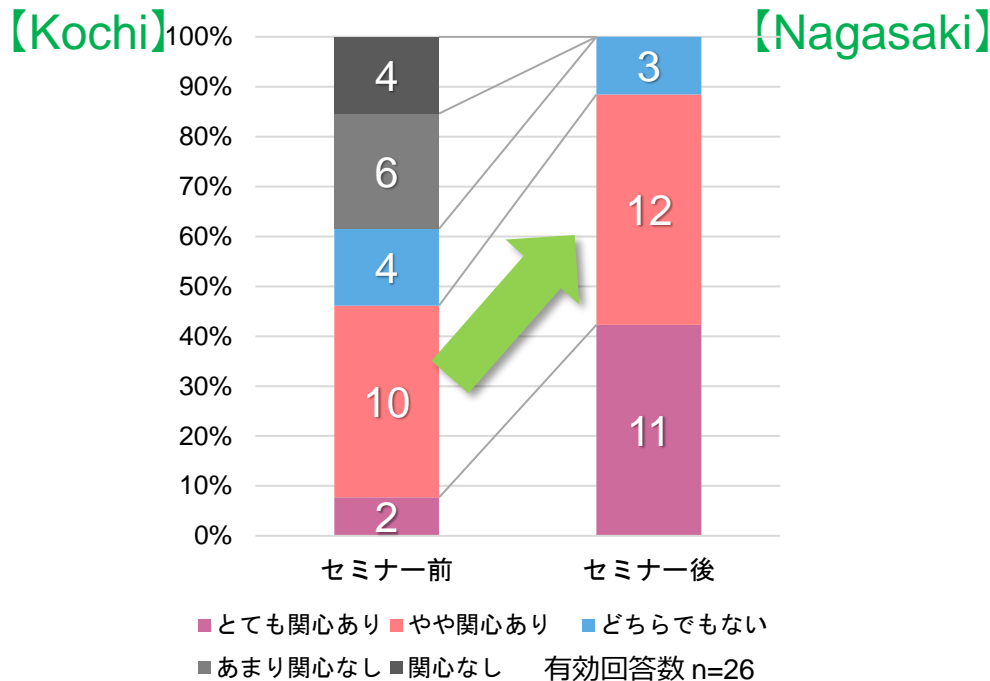
回答を入力

ご所属 *

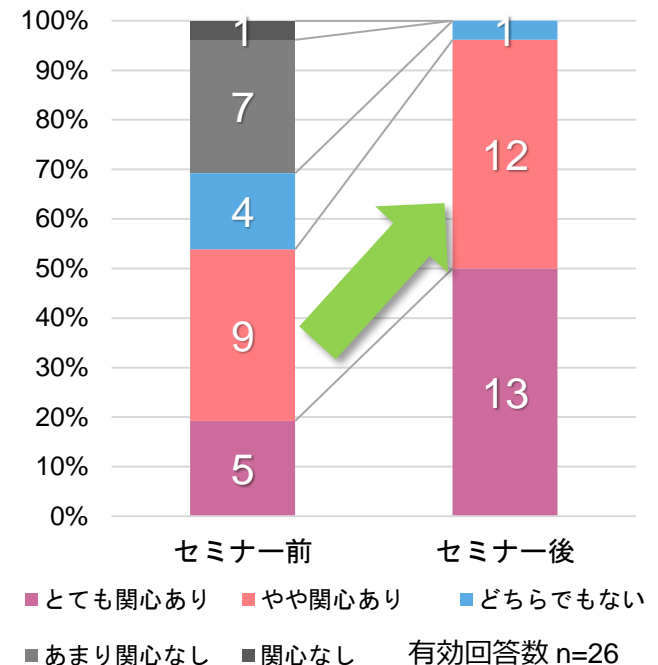
☐ 道路管理者(国土交通省)
☐ 道路管理者(都道府県)
☐ 道路管理者(市町村)
☐ 警察
☐ その他公的機関

Effects of Roundabout Seminars

- Degree of Interest in RAB (Comparison before and after seminar participation)
 - Interest increased in both Kochi and Nagasaki after the seminar



【Nagasaki】



➤ Effect

- Kochi: **Feasibility Study (FS)** for roundabout conversion started at one of the candidate introduction locations discussed in the exchange of opinions.
- Nagasaki: **Social experiment** of small RAB implementation conducted in Isahaya City.

3. Implementation and Deployment of Small RAB Social Experiment

Decision to Implement Japanese-Style Small RAB (Roundabout) Social Experiment in Isahaya City

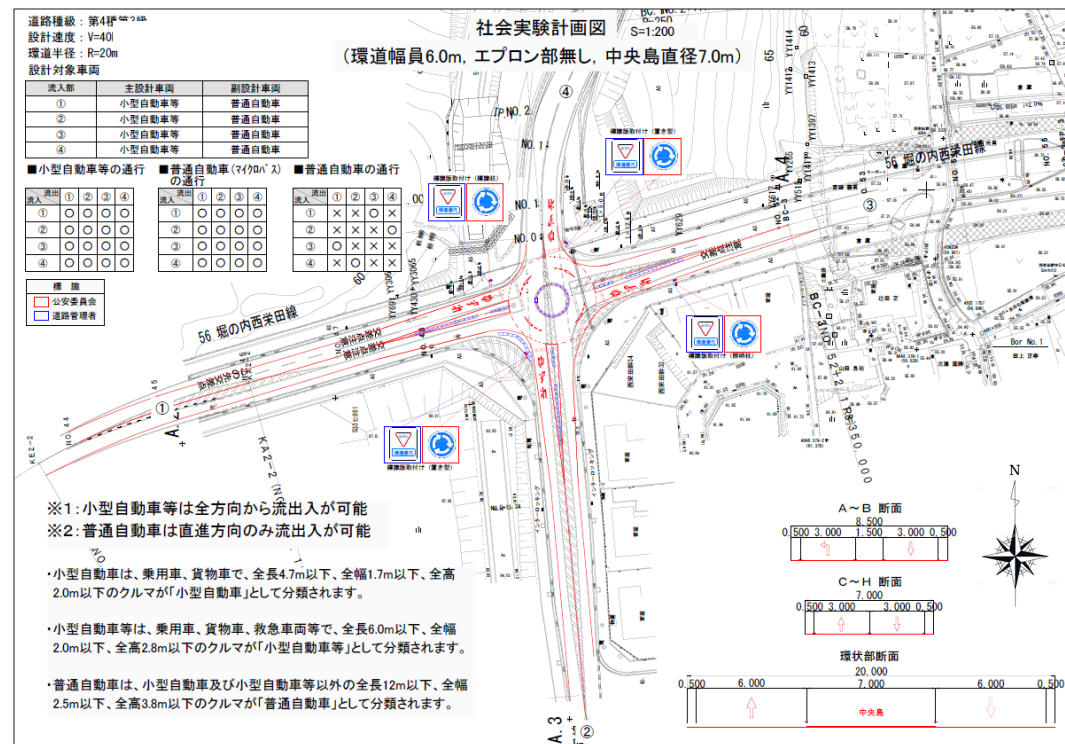
➤ Current Situation

- Within the Seibu-dai residential area in Isahaya City
 - (developed by Nagasaki Prefectural Housing Supply Corporation)
- An unsignalized four-way intersection on a city road



➤ Social Experiment

- Small RAB on a local residential street
- 20-meter outer diameter (maximum within road right-of-way)
- Friday, February 14, 2025, 12:00 PM



Preparation activities for Isahaya City small RAB social experiment

- Collaboration between Isahaya City, Nagasaki Prefectural Police, and 2409B research project
 - Press releases by Isahaya City and Nagasaki Prefectural Police (Outline of roundabout social experiment)
 - Distribution of flyers on Isahaya City and Nagasaki Prefectural Police websites, etc. (Outline of roundabout social experiment, traffic rules)
 - Publication of social experiment outline in Isahaya City public relations magazine.
 - Isahaya City and Nagasaki Prefectural Police Resident Briefing (RAB Social Experiment Overview and Traffic Rules)



ラウンドアバウト の社会実験を開始!

令和7年2月14日(金)12:00~

ラウンドアバウトとは

ラウンドアバウトとは、交差点の中心に円形地帯(中央島)が設けられた円形交差点の一種です。車両は中央島に沿った環状の道路(環道)を時計回りで走行し、行先の道路へ流出します。環道を走行する車両に優先権があり、環道の交通流は信号機や一時停止などに中断されません。

場所



阿蘇宮神社
明峰中学校前交差点
諫早市立明峰中
諫西学院大学

この交差点です



優先
環道内の車両が優先

エプロン
環道内では通行できない車(大型車等)が通過するために利用できるスペース

【一般的ラウンドアバウトの特徴】

現在



ラウンドアバウトの導入効果

安全性	交通事故(特に重大事故)の減少 ・走行速度の抑制 ・車両同士の交差ポイントの減少
円滑性	混雑待ち時間の解消 ・赤信号による無駄な停止の解消 ・特殊な交差点での処理能力の向上
環境性	環境負荷の軽減 ・赤信号待ちによるCO ₂ 排出の削減 ・信号制御による電力消費の削減
防災性	災害に強い ・災害時にも電力に頼らず自律的に機能し、平時と同様の運用が期待
地域性	景観形成・ランドマーク形成 ・地域のシンボルとして景観形成に寄与

社会実験中のイメージ





【お問い合わせ】 諫早市役所 建設部 道路課
諫早警察署 交通課

TEL: 0957-22-1500
TEL: 0957-22-0110

『ラウンドアバウトの通行方法』

日本での『ラウンドアバウトの通行方法』については、道路交通法の一部を改正する法律(平成25年法律第43号)が平成26年9月1日から施行され、『環状交差点の通行方法』として定められています。

環状交差点を通行する時は？

あらかじめできる限り道路の左端に寄り、徐行して進入してください。環状交差点内は、右回り(時計回り)に通行し、できる限り環状交差点の側端に沿って徐行しなければなりません。

歩行者に注意！

環状交差点に入ろうとするときや、環状交差点内を通行するときは、その環状交差点または直進で道路を横断する歩行者などに特に注意し、できる限り安全な速度と方法で進行しなければなりません。

車両の優先関係は？

環状交差点においては、環状交差点内を通行している車両等が優先ですので、交差点内を通行する車両等の進行を妨げてはいけません。

環状交差点を出る時は？

出ようとする地点の直前の出口の側方を通過したとき(環状交差点に入った直後の出口を出る場合)は、その環状交差点に入ったときに、左側の方向指示器を操作し、交差点を出るまで合図を継続しなければなりません。

資料：諫早市・長崎県警

●より詳しいことについては、下記URLよりご覧ください。

環状交差点の通行方法

<https://www.police.pref.nagasaki.jp/police/kotsu-anzen/kotsu-kisei/kanjyoukousaten/>

February 14, 2025 (Friday) Morning: Preparation for social experiment start



Progress in Warigoi Town, Isahaya City on February 14 (Friday)

9:37 AM Before central island installation



10:05 AM Central island installation



11:23 AM Traffic guidance by Isahaya Police Station



4:35 PM Route bus and driving school vehicle



- Confirmation that D=20m functions adequately
 - This is sufficient for residential areas
- Traffic guidance for right-turning vehicles from the former priority side
 - Installation of a left-turn arrow sign at the inflow section's front
- Control of straight-ahead trajectory and speed in the former priority side, south to north direction, is needed
 - Due to the RAB center's eastward eccentricity
- Thorough enforcement of roundabout vehicle priority
 - Installation of signs at the inflow section
- Thorough enforcement of exiting vehicle left-turn signal indication.
 - Installation of signs at locations where exiting vehicles can be observed.
- Future Plans
 - Post-experiment survey on March 24, with speed and trajectory data collection
 - Comparative analysis of pre- and post-experiment data in the 2025 project
 - Geometric structure modification and main design planning



4. Technical Analysis of Compact RABs and the RAB Database

Consideration of structural requirements (specifications) for Japanese-style RABs IATSS

➤ Outer diameter: 26m or less

- Differentiate between auxiliary arterial roads and residential roads

➤ Central island

- Principally install (do not consider foreign "mini-RABs")
- Make it smaller, considering turning radius
- Consider the central island's landscaping

➤ Apron

- Do not install, especially if the outer diameter is small.

➤ Separation island

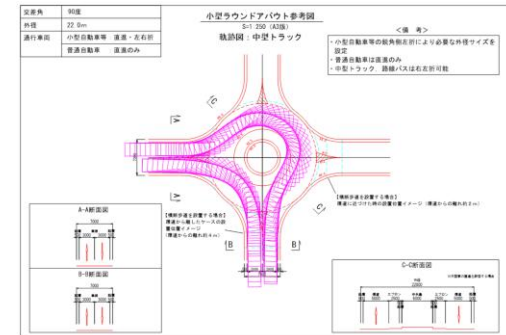
- Omit if connecting road width is small, considering low approach speeds
- Devices (road studs, zebra markings, etc.) replacing separation islands are acceptable due to inflow/outflow land constraints

➤ Pedestrian crossing

- Individual consideration based on pedestrian flow and demand
- May not be needed in residential areas
- Do not install if there is no sidewalk in the single road section

➤ Passing vehicles:

- Confirm the presence of large vehicle restrictions on roads near the RAB
- If there are no restrictions, design a structure that allows large vehicles to travel straight
- When considering large vehicle turning, design based on the large vehicles expected to pass through the RAB, and do not make vehicle restriction regulations (12m vehicle length) an absolute condition.



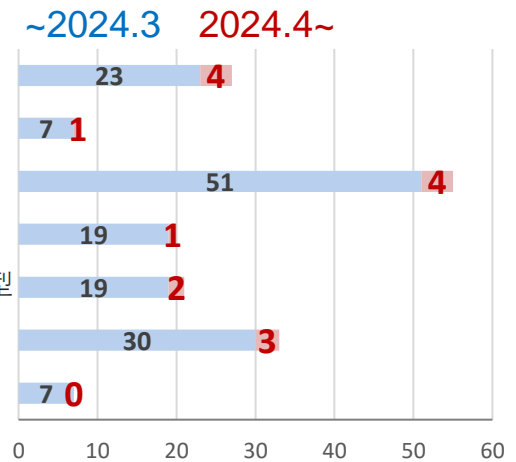
Domestic Distribution Status of RABs by Location Characteristic Classification

➤ Total of 171 locations (as of March 2025)

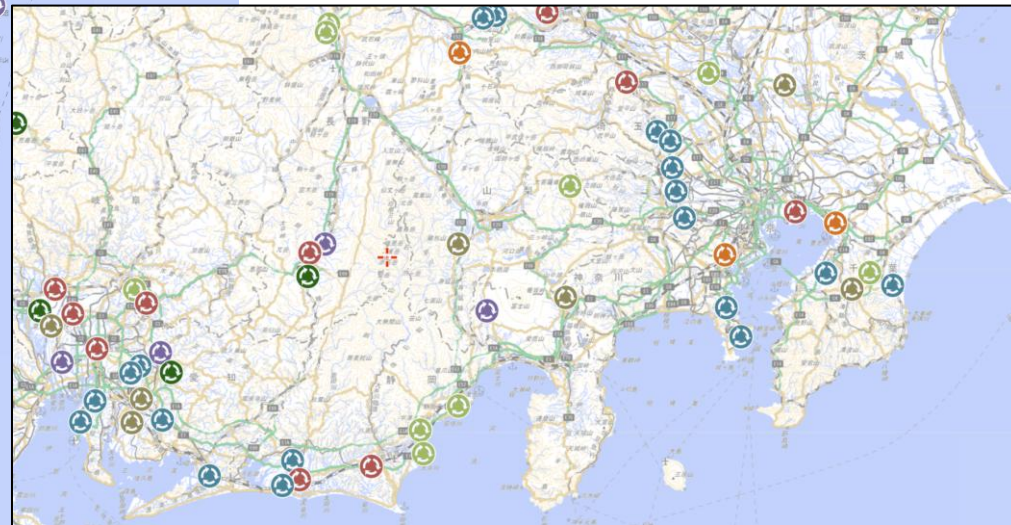
15 new locations added to the web system since April 2024



-  A:市街中心型
-  B:文教地区型
-  C:住宅地区型
-  D:郊外幹線道路型
-  E:郊外非幹線道路型
-  F:田園地区型
-  G:IC直結型



Expansion in Kanto to Tokai regions



➤ Please visit the website



<https://www.iatss.or.jp/research/roundabout.html>

<https://rabmap.trpt.cst.nihon-u.ac.jp>

- **Needs survey on issues related to RAB implementation**
 - Based on the results of the 2023 local government needs questionnaire, conducted studies on measures to improve RAB awareness, conducted hearing surveys, and organized issues
 - **Confirmed the need for small, cost-effective structures and awareness promotion activities**
- **Seminar organization and its outcomes**
 - Held RAB seminars in Kochi City (July 19) and Isahaya City (July 26). At round table meetings with participating government officials and engineers, discussions were held on candidate locations within each prefecture
 - In Kochi Prefecture, a feasibility study for roundabout conversion of an existing signalized intersection was started
 - In Isahaya City, a small RAB social experiment (February 14, 2025-) was realized through the project's proposal
- **Study on specifications for Japanese-style RABs**
 - Conducted a survey on cost-effective RABs in the revised technical guidelines of the US and South Korea
 - Examined the possibility of introducing cost-effective RABs (social experiment) (2 locations), and structural requirements (specifications) for Japanese-style RABs
 - Started implementing small RABs as a social experiment and prepared for data collection.
- **2025 Policy:**
 - Japanese-style RAB specification verification through social experiment follow-up, opinion collection, and data collection analysis.
 - Awareness improvement through seminar organization.
 - Organization for accelerating the spread of Japanese-style RABs.



公益財団法人 国際交通安全学会

International Association of Traffic and Safety Sciences