

3rd ASEAN-Japan Smart Cities Network High Level Meeting

October 18, 2021

Odakyu's activities in MaaS

Overview of Odakyu Line

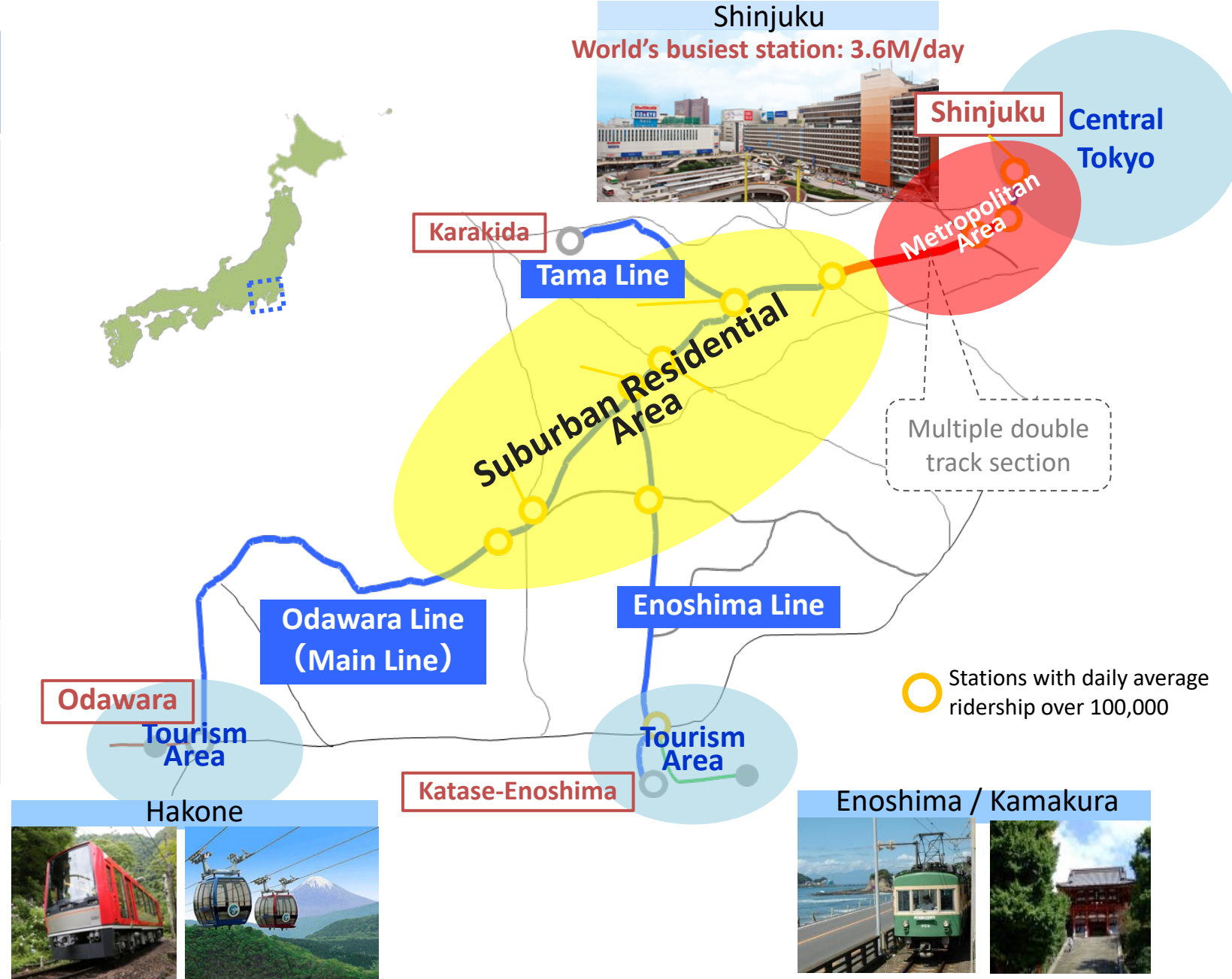
	Odakyu (FY2019)
Group revenue (railway revenue)	534.1 billion JPY (121.1 billion JPY)
Operating Profit / EBIT	41.1 billion JPY
Operating kilometres	120.5 km
Population along our network	5.16 M
Daily average rail passengers	2.1 M
Number of bus vehicles	3,500
Number of taxi vehicles	1,400



Commuter train



Limited Express Romance Car



- Declining Population (especially working-age)
- Decreasing rate of out-bounding (both young and senior generations over 75 years)
- Changes in life style, review of "moving"
 - E-commerce, delivery services, tele-work

With the COVID-pandemic, the reduction of moving, which we had assumed was "the future to come," became "the reality in front of our eyes."

- **Negativity on privately-owned cars**
 - Elderly generations voluntarily returning driver license
 - Decreasing rate of car ownership
- **Mission of transport companies to support mobility vulnerables**

Major trend remains the same pre/post COVID-pandemic

Our goal is to provide mobility services through seamless coordination of various transportation modes and we aim to realize "**Mobility as a Service (MaaS)**".

Odakyu Group Carbon Neutral 2050



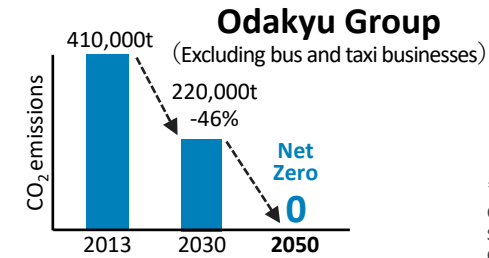
Odakyu Group's mission is to pass on a beautiful global environment and a friendly society to future generations. Through our business activities, we will actively address environmental issues such as the reduction of CO₂ emissions, resource recycling, and the conservation and use of natural resources.

Long-term environmental objectives

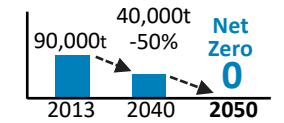
Odakyu Group aims to achieve net-zero CO₂ emissions by 2050

As a first step, we aim to reduce our CO₂ emissions by 46% in 2030 (compared to 2013)

Actions: Risk as a climate change issue / Opportunity as a growth strategy



Bus and taxi businesses



*The bus and taxi businesses aim to reduce emissions by 50% by 2040, in line with the spread of EVs and FCVs and the development of charging and hydrogen stations.

UPDATE 1 Realizing a decarbonised society

Carbon Neutral

Action 1

Odakyu Group's CO₂ emissions reduced to net "0"

Reducing the environmental impact of the operation of railway, real estate, buses...

Energy saving

Change of power supply / EV introduction, etc.



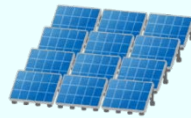
Renewable energy



Action 2

Resolving local issues for a decarbonized society

Local cycle of renewable energies



Emergence of renewable energy

Local renewable energy cycle

Action 3

Shift to eco-friendly public transport

Improving convenience and promoting the use of railways and buses



Promotion of MaaS



Promotion of a low environmental impact

UPDATE 2 Realizing a resource recycling society Circular City

UPDATE 3 Nature conservation and use With Nature

Action 1

Promotion of the 5Rs by Odakyu Group

Using resources efficiently and reducing waste

- Reduce** the amount of waste produced
- Reuse** things repeatedly
- Recycle** as a resource
- Refuse** what just becomes trash
- Repair** and use things

Action 2

Resolving local issues for a resource recycling society

Local circulation of various resources



Action 1

Conservation of forests, villages, rivers and seas

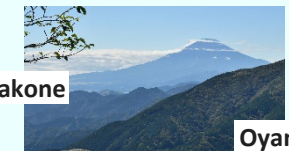
Conservation activities with the local communities



Action 2

Harnessing natural resources

Tourism to enjoy nature



Odakyu is an official partner of the National Parks

Integrated Model

Seamless and integrated transportation services:
MaaS business

Next Generation Service Model

New transportation services utilizing technology

Provision of new experiences and values,
and aiming to establish a seamless integration service between
transportation and destination.

- ✓ **Development of MaaS app**
- ✓ **Integration of various services**



“Updating” secondary transportation to correspond to driver
shortage and to provide alternative transportation
to private cars

- ✓ **Autonomous driving vehicles**
- ✓ **On-demand transportation**



Main activities of Next Generation Mobility

Evolution of Secondary Transportation

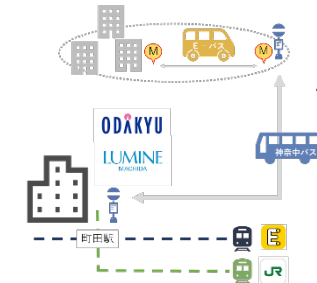
Sept. 2018 / Aug. 2019
Autonomous Driving Project PoC



Feb. 2020
On Demand Shuttle PoC



Nov.-Dec. 2020
On Demand Shuttle
PoC in Machida City



Jan.-Mar. 2021
On-demand
transport & real
time route search
in Machida City

Feb. 2021
Autonomous
Driving PoC



Feb.-May 2021
On-demand Shuttle
in Shin-Yurigaoka

MaaS



Dec. 2018
Inter-company alliance
on Odakyu MaaS



Apr. 2019
Development of MaaS Japan



Oct. 2019
Launch of EMot app
+ Start of MaaS PoC



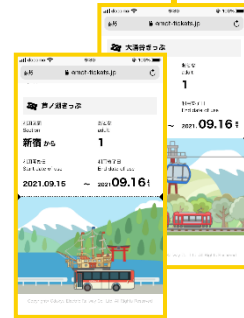
Aug. 2020
Development of new
function Tour Planning



Nov. 2020
EMot UI update
(Release of EMot 2.0 ver.)



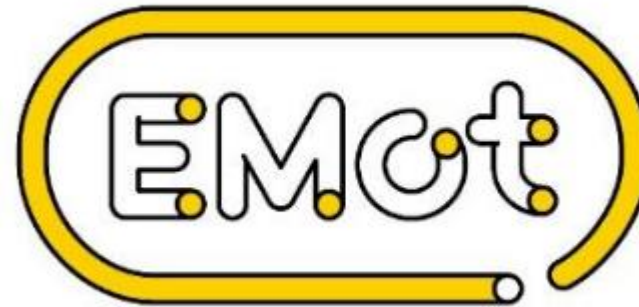
Sept. 2021
Booking and purchase
of Limited Express
Romance Car tickets



Sept. 2021
EMot Online
Tickets

English summaries of press releases
available on <https://www.maasjapan.net/>

もっといい「いきかた」



Mobility with Emotion



Multi-modal route search



Digital tickets



Real-time information



Congestion forecast



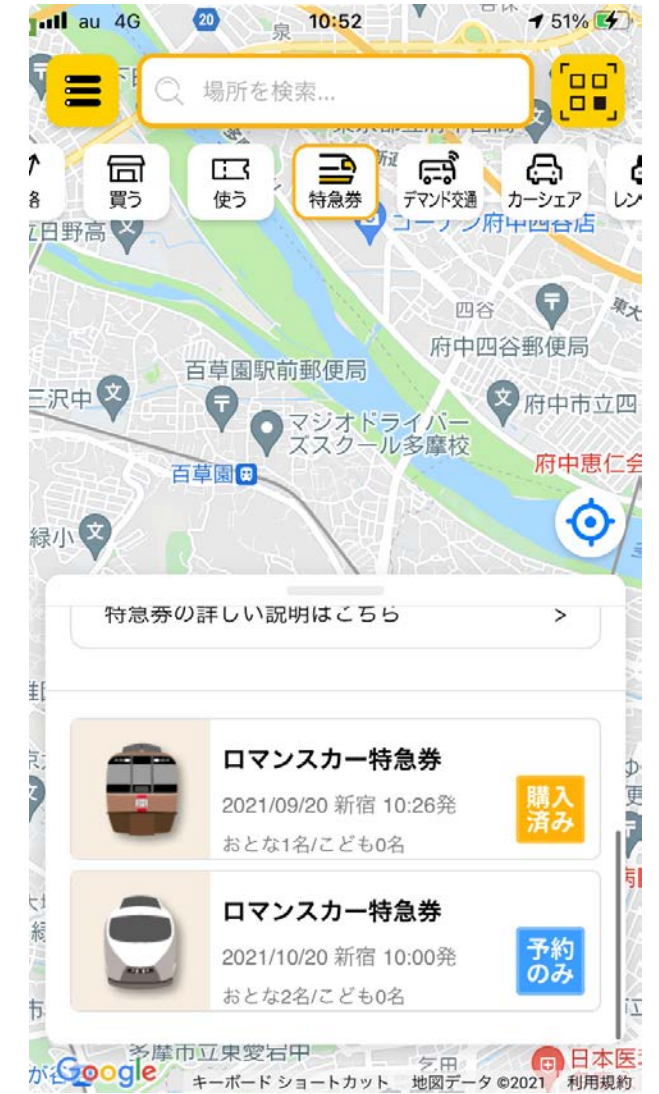
On-demand transportation



Tour planning



Achievement #1: MaaS app EMot



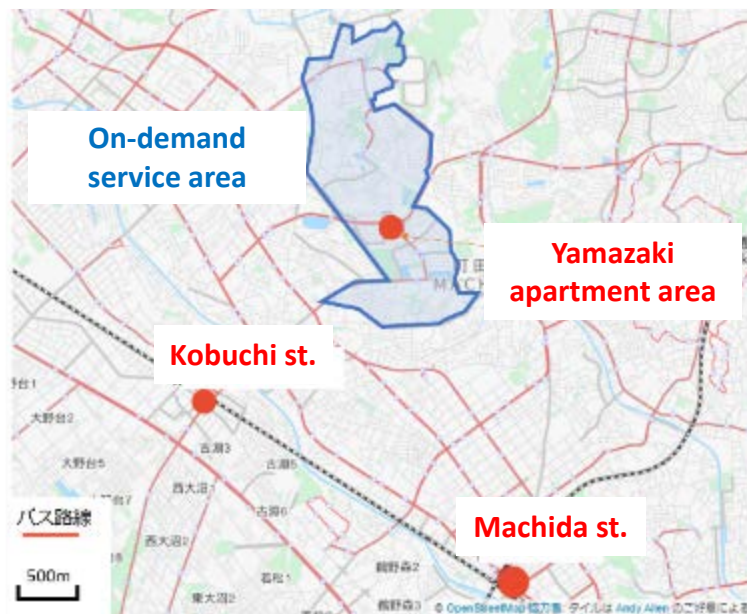


1st Phase : November - December 2020

2nd Phase : January - March 2021

Machida City, Tokyo (Yamazaki apartment area)

- Housing-complex build in 1960s (3,500 households)
- 20 min distance by bus from Machida Station



1st Phase : February - April 2020

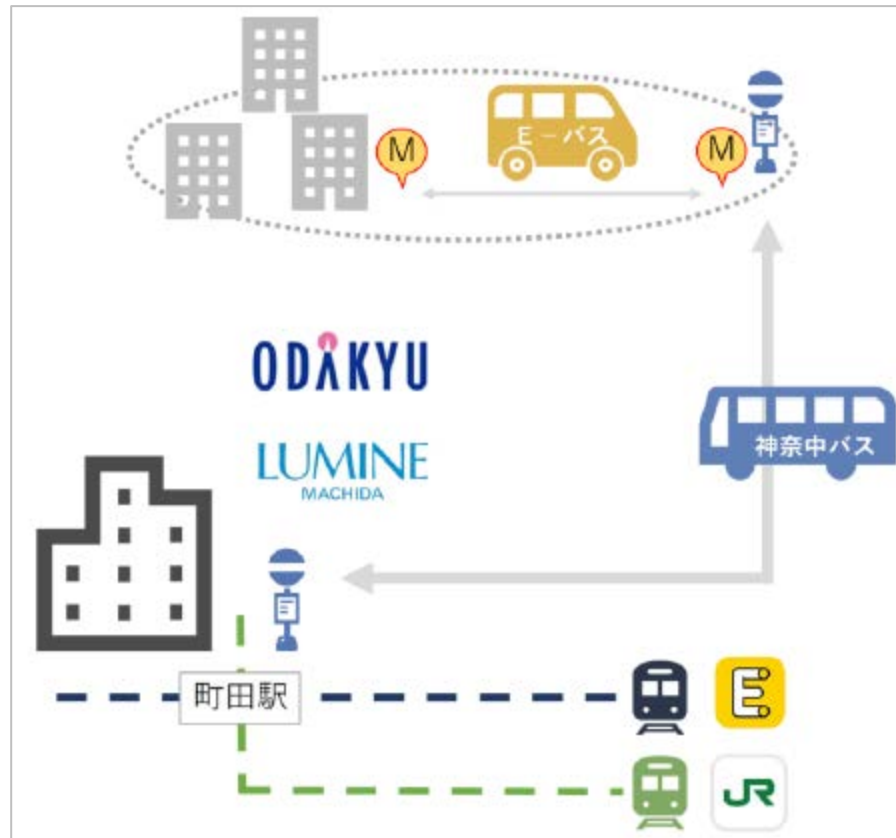
2nd Phase : February - May 2021

Kawasaki City, Kanagawa pref. (Shin-Yurigaoka area)

- Area around a station with 130,000 passengers/day
- Commercial facilities close to station and surrounded by many apartments/detached houses



Outline of the demonstration in Machida City



On-demand transport operation ("E-Bus")

2nd period : 2021/1/18~3/12

26 virtual bus stops

100 yen per ride



Commercial facilities × Public transport

Free round-trip tickets for the "E-Bus" and local buses with purchases over a certain amount at either Odakyu Department Store Machida or Lumine Machida

Collaboration with JR East on MaaS infrastructure

Real-time route search results with real-time train information provided by the official apps of Odakyu and JR East.

Tourism

Value-for-money electronic ticketing that integrates several transport services

- The "Digital Hakone Freepass" allows users to buy tickets and travel around the town only with their smartphone, without going through a station or travel agency.



Lifestyle

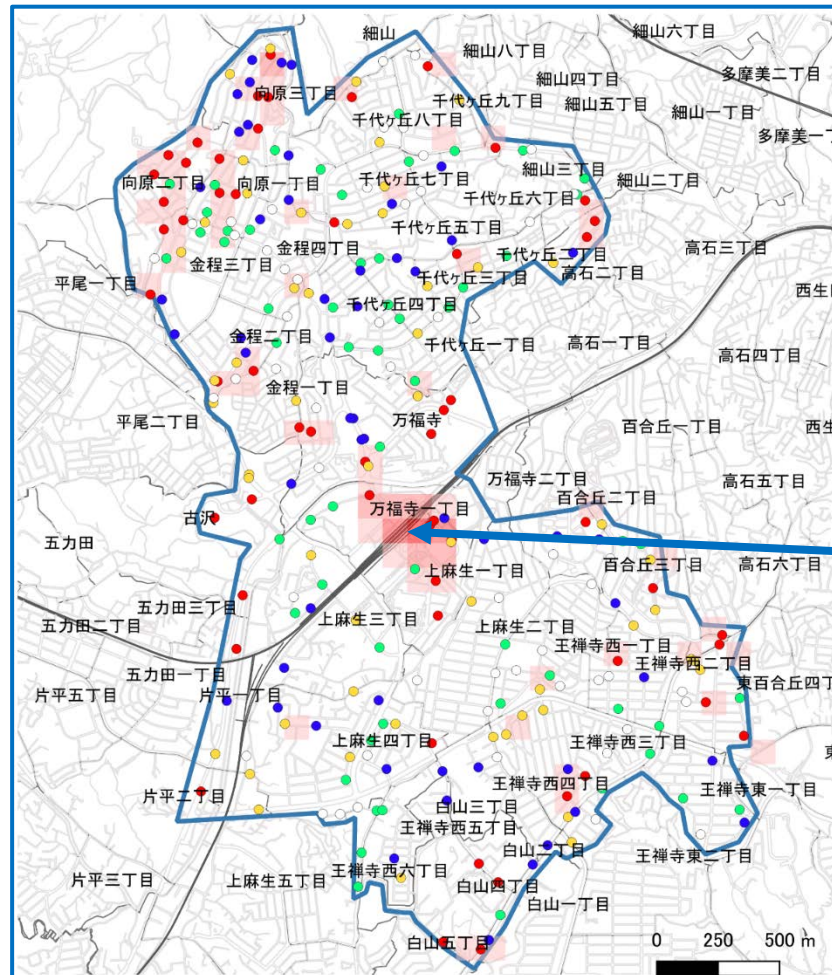
Food, beverage and flower subscription "EMot Passport" to enjoy station facilities

- A single service worth 500 yens can be used simply by presenting the screen of a smartphone.

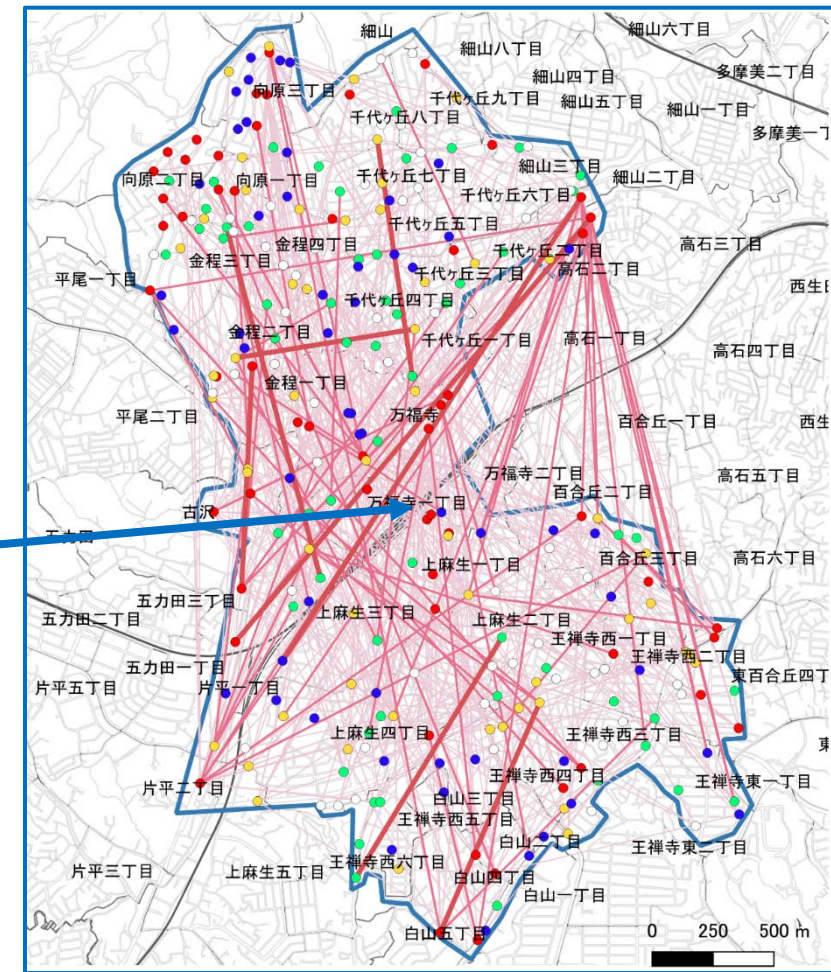


- Data can show places where On-demand transportation (ODT) is most used.

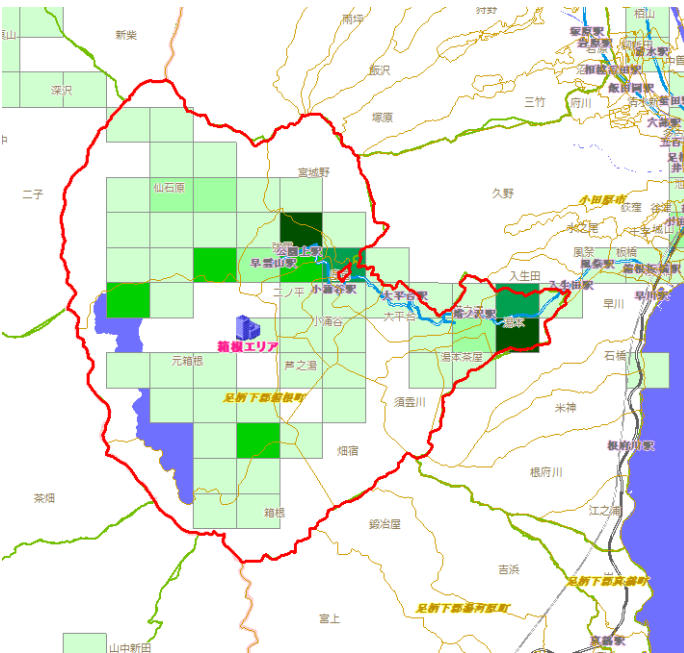
- ODT can not only be a feeder for the railway, but also a new mobility option within an area.



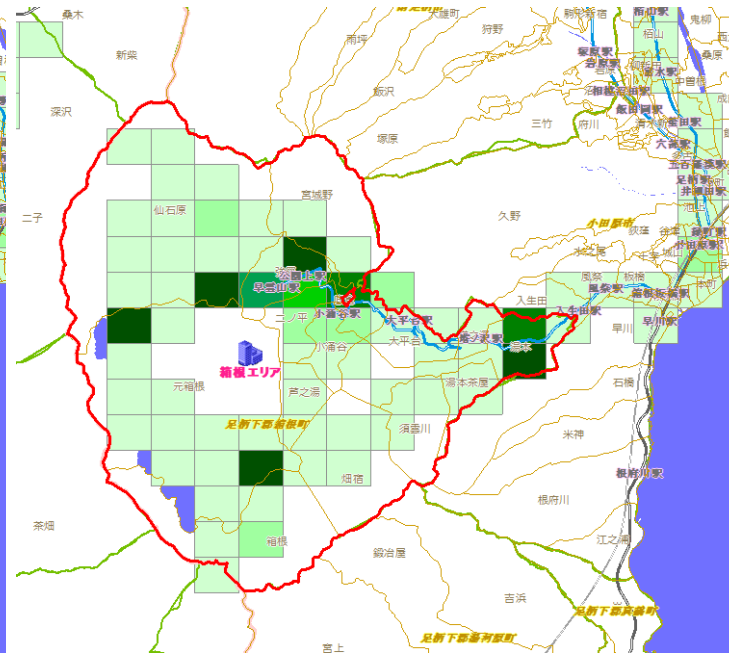
Station



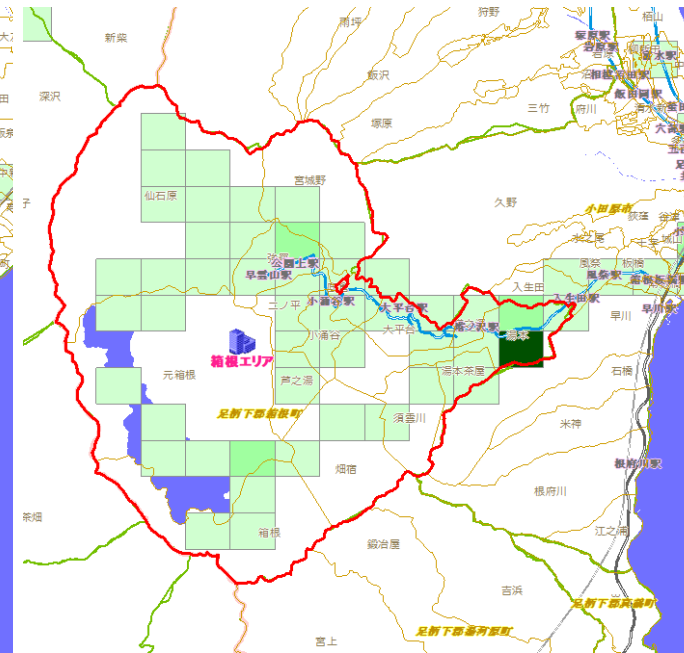
- Anonymous hourly GPS data of freepasses users shows the most frequented locations depending on the time of the day.
⇒ Local transport offer can be more accurately adapted to the demand.



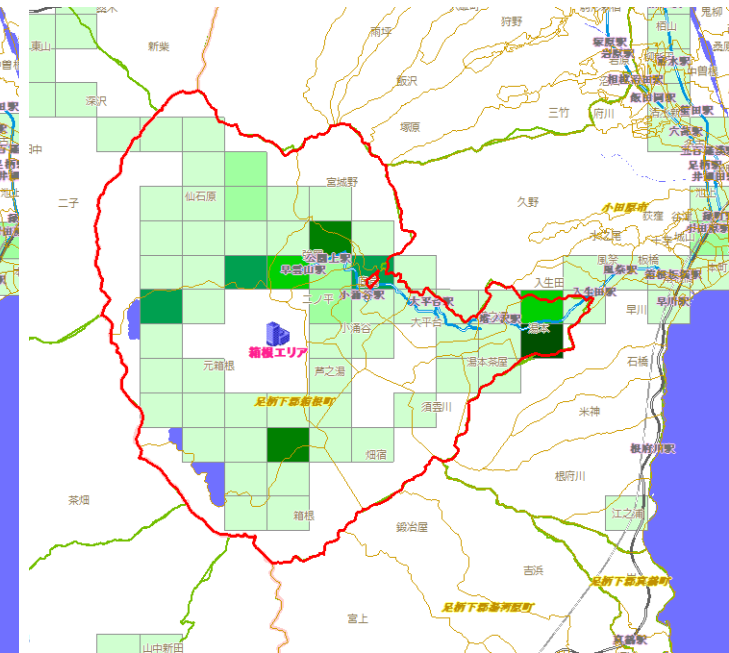
9:00 to 11:00



12:00 to 14:00

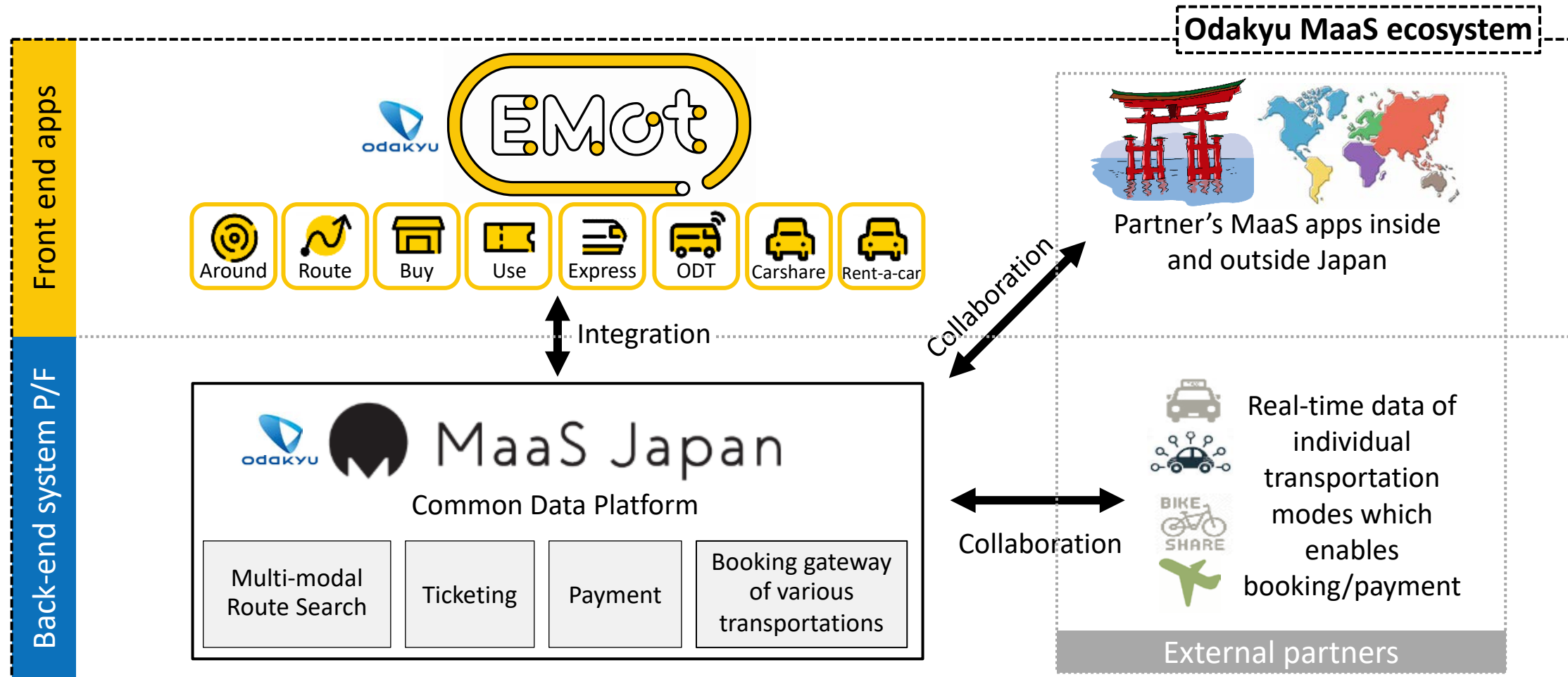


15:00 to 17:00



18:00 to 20:00

Odakyu has developed MaaS Japan as a proprietary data platform opened to collaboration with partners

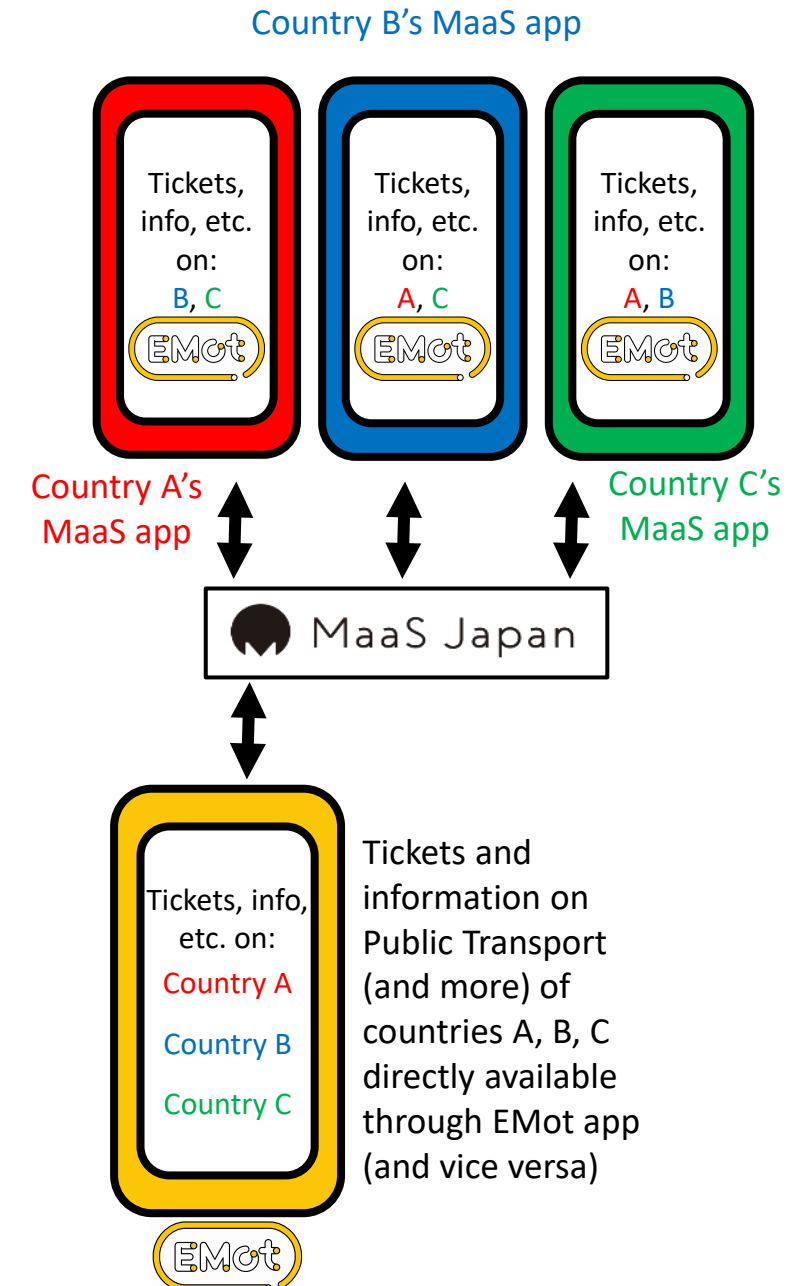


Odakyu MaaS ecosystem allows full collaboration:

- with mobility and other services partners
- with other MaaS apps in and outside Japan for travelers to move seamlessly from an area to another.

Enhancing international travel experience through MaaS apps collaboration

- There is a need to demystify foreign transportation systems by making them accessible from the app of one's own country/city he/she is accustomed to use every day
- For that purpose, the following functions could be shared:
 - Sale of digital tickets
 - Provision of information on transportation (route search, real-time info, secondary mobility...)
 - Functionalities to support travelers (tour planning, food subscription...)
- The ultimate goal could be mobility app roaming, just like phone roaming.



We want to contribute to the realization of the
next generation of "Mobility Life",
and will promote the development of an environment that will
enable various players to accelerate their MaaS initiatives.



<Contact info>

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