

SIP-adus Workshop 2020



Automated driving services in rural areas

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*** roadside service station**

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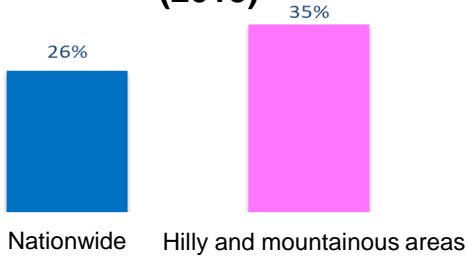
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Challenges facing rural areas

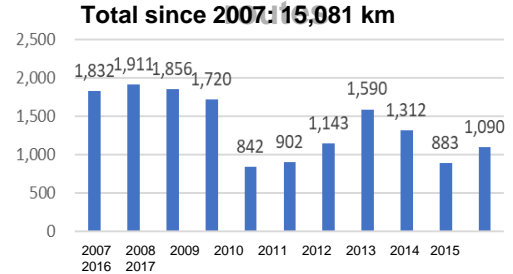


Challenges facing rural areas

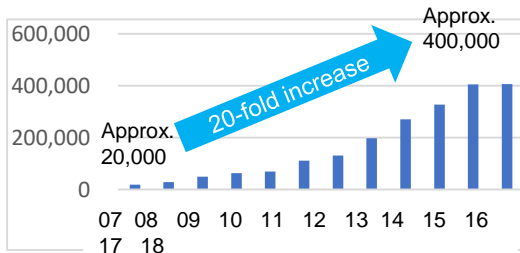
Comparison of aged population (2015)



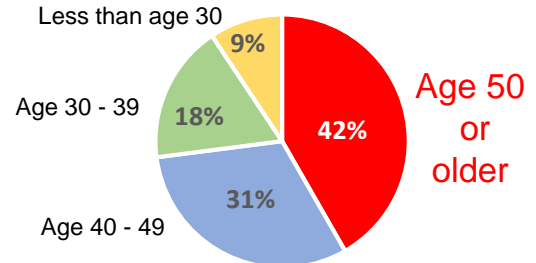
Total length of discontinued regular bus



Rapid increase in senior citizens who cannot drive



Lack of home deliveries due to truck driver shortage



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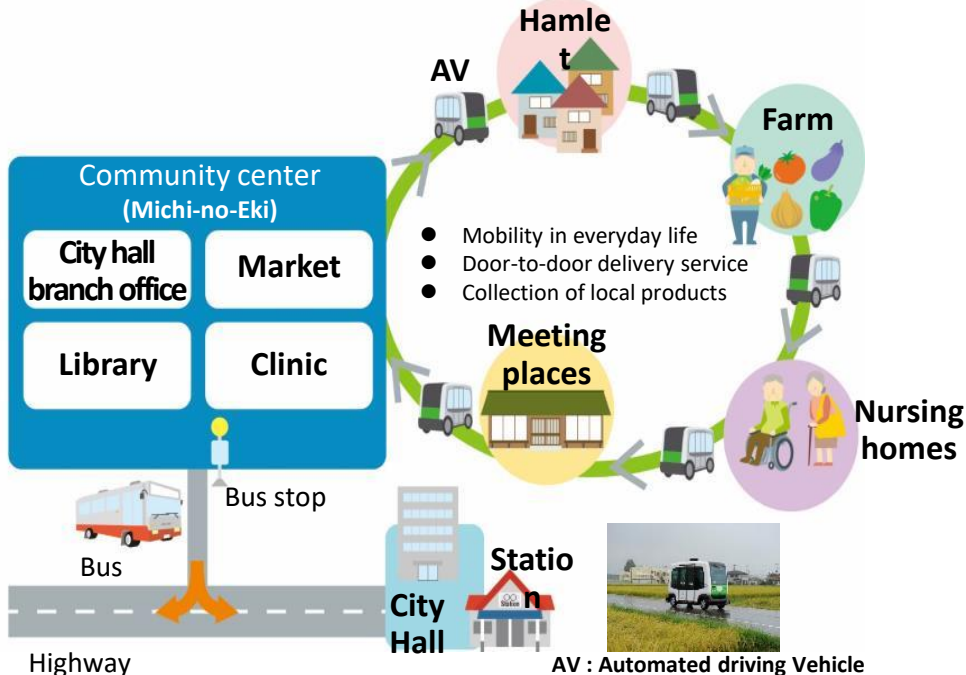
2

**Automated driving
services in rural areas**

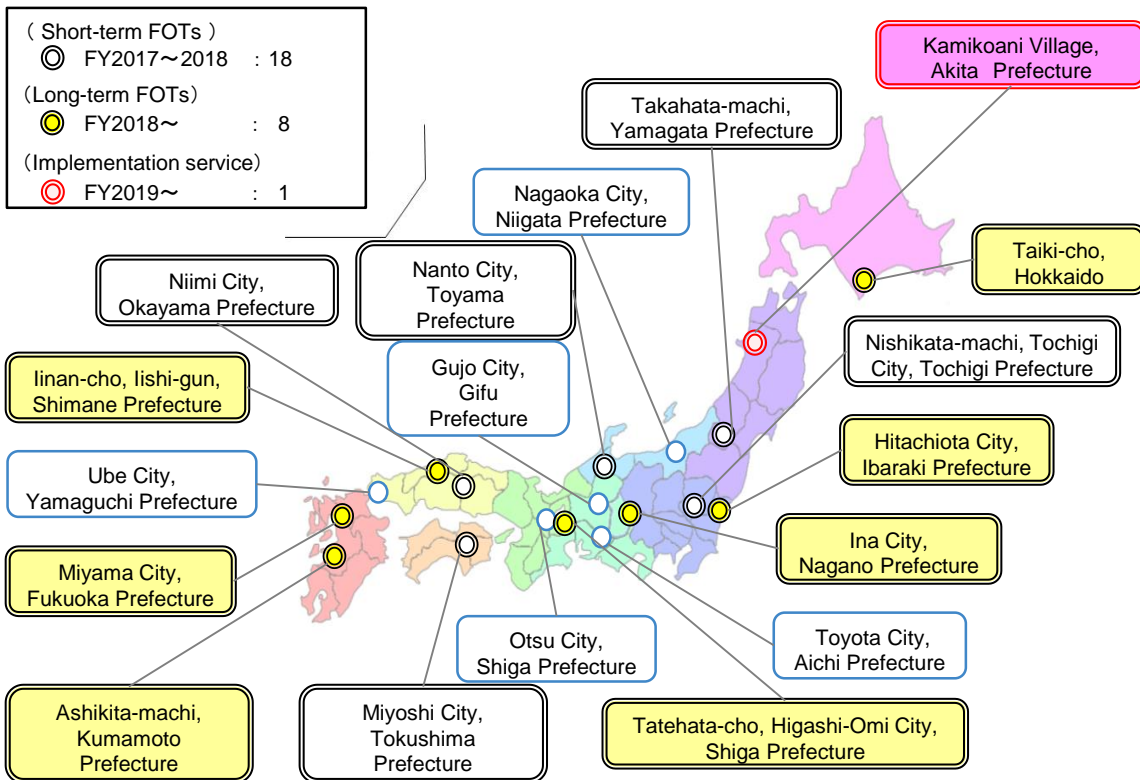


Automated driving services in rural areas

- Expected to support transport of both people and goods, and further local revitalization.
- A series of pilot projects with automated vehicles were initiated in 2017.



Eighteen FOTs have been implemented in rural areas



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3

Deployment of
automated driving services
based at
Michi-no-Eki “Kamikoani”



Deployment of automated driving services based at Michi-no-Eki “Kamikoani”



Deployment of automated driving services based at Michi-no-Eki “Kamikoani”

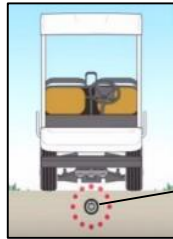


■ AVs

<Vehicle>



<Automated driving mechanism>



Electromagnetic induction lines

Electromagnetic induction lines are embedded in the road to guide vehicles.

- **Developed by:** Yamaha Motor Co., Ltd.
- **Capacity:** Max. 7 occupants
- **Speed:** Approx. 12km/h
- **No. of vehicles introduced:** 1
- **Drivers:** Local paid volunteers
- Drivers are in vehicle during operation, but they only monitor operation and do not operate the vehicle.

■ Driving routes

Operating entity

Kamikoani Mobility Service Association (NPO)

Operating entity

Pickup and drop-off of citizens
Delivery of agricultural products, sundries and other products.* etc.

Fare and delivery fee

Fare: JPY 200 / trip
Delivery fee: JPY 200/delivery*

Routes

3 routes

Schedule

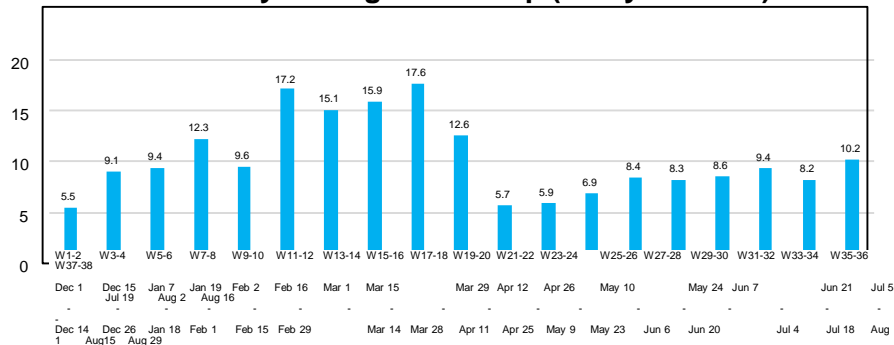
Regular service:
AM : 1 trip , PM : 1 trip
On-demand service:
Periods between regular service and on Saturdays and Sundays

* Start of product deliveries is currently being coordinated.

Analysis of usage from the start of full-scale operation through coronavirus crisis

○ Ridership had been increasing until week 17 before the state of emergency on Covid-19 was declared.

<Daily Average Ridership (Every 2 weeks) >



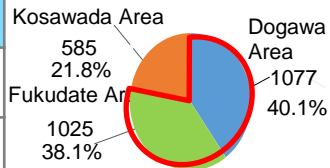
■ <Analysis>

① Affected by weather

Weather	No. of users
Good	11 people/day
Bad	9 people/day

※Survey Period:Dec,1-July 4

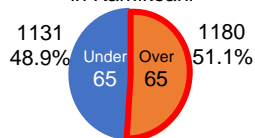
② High demand for long-haul use



※Survey Period:Dec,1-Aug,29

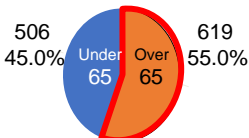
③ Share of senior riders surpassed that of village's senior citizen.

Share of senior citizen in Kamikoani



Source: Kamikoani Village (As of Dec.31, 2018)

Share of elderly riders



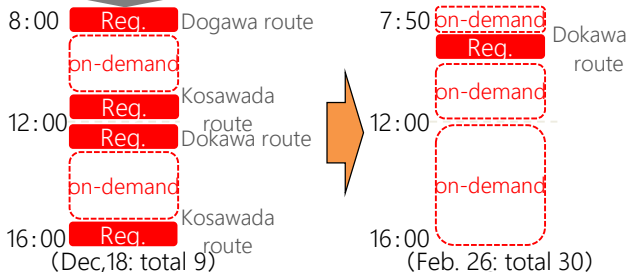
※Survey Period:Dec,1-Aug,29

Efforts to boost ridership

- Continuous improvement of service such as fare, timetable and route is under way to attract more passengers.

Increase of on-demand service

【Before】2 regular services per day



【After】Except 1 regular service in the morning, operated as on-demand service for flexible response.

New route to meet local needs



▲ Extended the existing route to the village's sole convenience store to boost citizen's convenience.

Cooperation with community



◀ Tie-up with Michi-no-Eki (Free ticket for purchase of JPY 1,000)



◀ Local people gave nickname and created original sticker.

Cooperation with Michi-no-Eki



◀ Car barn and plug-in stand exclusive for this vehicle were prepared in the building next to Michi no Eki for efficient charging during standby.

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Thank you

