



Smart City Initiatives in Banyuwangi

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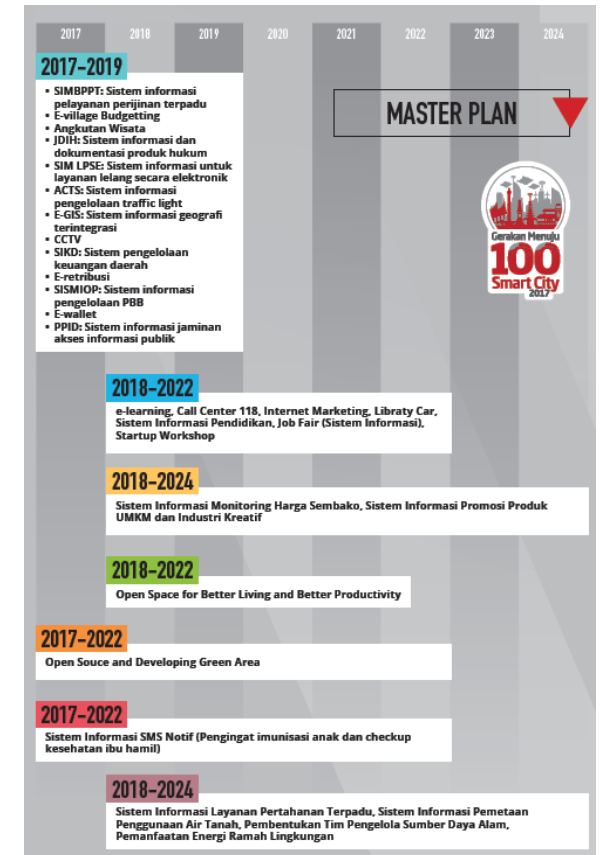
1. Overview of Banyuwangi Regency

- ◆ Located on the eastern tip of Java, it is a city with an area of about 5,782 km² and a population of about 1.7 million.
- ◆ Due to its large area, the development of public services and the economy is a challenge in the rural areas of the province.
- ◆ The city is promoting the revitalization of the local economy, centering on the tourism industry, and is promoting various measures, including the development of a smart city.



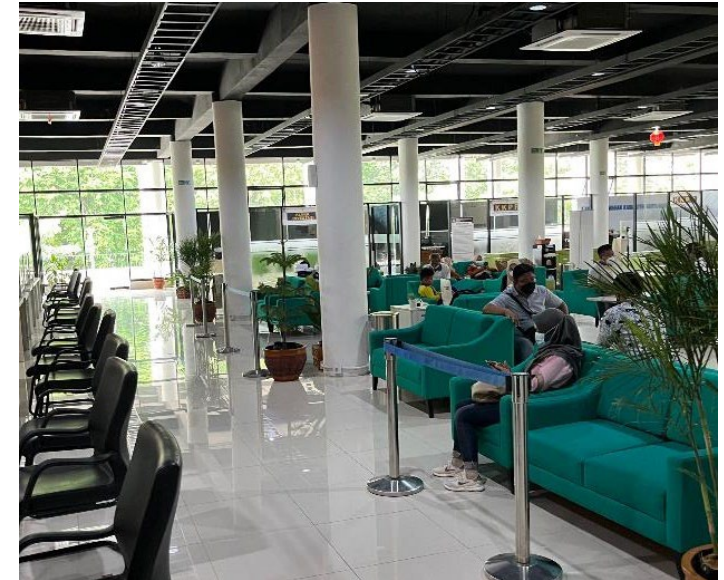
2. Smart City Initiatives

- ◆ The city has been working on a master plan since the launch of the Smart City 100 initiative in Indonesia in 2017, and Banyuwangi has been taking advanced steps to implement the plan.
- ◆ Banyuwangi has been awarded by the government as a city with advanced initiatives.



2. Smart City Initiatives (Administrative Services)

- ◆ Focus on upgrading administrative services by installing fiber optic throughout the regency access to public services.
- ◆ This has resulted in increased efficiency for residents in rural areas.
- ◆ In urban areas, efforts are being made to centralize administrative service points of contact throughout the prefecture.



2. Smart City Initiatives (SMSE)

- ◆ Related to the revitalization of small and medium-sized enterprises, efforts are being made to process and sell coffee, a specialty product, and to add value through the branding of this product.
- ◆ In the area of crafts and other products, efforts are being made to form independent tourist destinations and establish local brands rather than subcontracting work from Bali.



2. Smart City Initiatives (Tourism)

- ◆ Efforts are underway to make the most of the diverse topography, brand potential tourism resources from Mt. Ijen to marine resources, develop new tourist attractions, and promote PR in order to attract more visitors.



2. Smart City Initiatives (Agriculture)

- ◆ In the agricultural sector, the company promotes greenhouse cultivation, smart agriculture, processing and marketing of farm products, and other initiatives to revitalize agriculture and the local economy.



3. Cooperation with Japan (Smart JAMP)

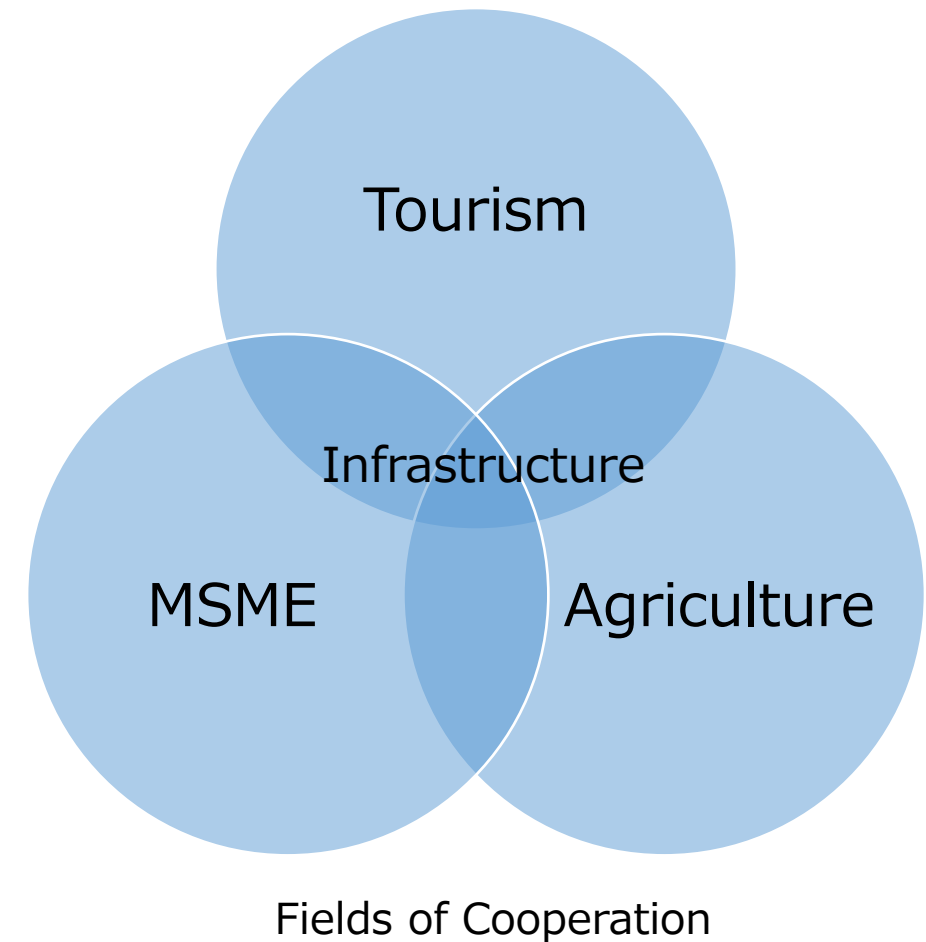
- ◆ As a pilot city of the “ASEAN Smart Cities Network,” Banyuwangi is also a target city for support and promotes collaborative efforts.



URL: <https://asean.org/our-communities/asean-smart-cities-network/>

Basic Rules for Consideration

1. Programs must be based on problem-solving solutions.
2. The program must have added value in the short term.
3. Programs must be replicable and affordable (in terms of budgeting);
4. The program must be on a village scale and pilot project.



5. Identification of Collaborative Projects

| Category | # | Program | Items from program | | | | | | |
|------------------------|---|---|--------------------|--------|-----------------------------|------------|---------------------|----------------|----------|
| | | | Short term | Budget | Village-level pilot project | High needs | Japanese Technology | Support scheme | Priority |
| Administrative service | 1 | Introducing excellent cases in Japan and mutual training | ○ | ○ | ○ | ◎ | ○ | ○ a | ○ |
| | 2 | Developing a place for regional education and promoting the process of programs | × A | ○ | ○ | ○ | ○ | ○ a | |
| | 3 | Install garbage separation / collection system, etc. | × A | △ | ○ | ○ | ○ | ○ b | |
| Agriculture | 4 | Guidance and mutual training on production, processing for 6th industrialization, promotion, market development, etc., and development of training related facilities (Coffee, horticulture / hydroponics, organic farming, etc.) | ○ | ○ | ○ | ◎ | ○ | ○ a | ○ |
| | 5 | Assistance in carrying out branding activity (Rule making for the entire region, assistance in building consensus, etc.) | × B | ○ | △ Pref. | ○ | ○ | ○ a | |
| | 6 | Experimental implementation of smart agriculture | ○ | ○ | ○ | ○ | ○ | ◎ c | |
| | 7 | Construction of integrated agricultural database (DB / system that can be used not only for farmer registration but also for products and yields, and can be used from the viewpoint of tax collection and marketing that leads to farmer transactions) | △ C | △ | △ Pref. | ◎ | △ (partial ○) | △ d | |
| | 8 | Financial support (Especially coffee farmers) | (○) | - | × Priv. | ○ | ○ | × e | |

| Category | # | Program | Items from program | | | | | | |
|----------|----|---|--------------------|--------|-----------------------------|------------|---------------------|----------------|----------|
| | | | Short term | Budget | Village-level pilot project | High needs | Japanese Technology | Support scheme | Priority |
| MSME | 9 | Guidance and mutual training on promotion, market development, etc., and maintenance of training facilities related to them (agricultural products, crafts, etc.) | ○ | ○ | ○ | ◎ | ○ | ○ a | ○ |
| | 10 | Branding activity support | × B | ○ | △ Pref. | ○ | ○ | ○ a | |
| | 11 | Building a small business database (DB / system that can be used not only for business registration but also for manufacturing / sales, products / services, etc., and can be used from the viewpoint of tax collection and marketing that leads to transactions) | △ C | △ | △ Pref. | ◎ | △ (If partial ○) | △ d | |
| Tourism | 12 | Support for the introduction of advanced processing facilities (grinders, roasting machines, dryers, etc.) | (○) | - | × Priv. | ○ | ○ | × e | |
| | 13 | Construction of tourism database/Application (DB / system that can grasp the services of tourism-related facilities and can be used from the viewpoint of tax collection and marketing that leads to transactions) | △ C | △ | △ Pref. | ◎ | △ (If partial ○) | △ d | |
| | 14 | Guidance and mutual training on tourism creation efforts that make use of local culture, and development of training facilities related to them | ○ | ○ | ○ | ◎ | ○ | ○ a | ○ |
| | 15 | Support for maintenance and attractiveness improvement of tourist base facilities along the road | ○ | ○ | ○ | ◎ | ○ | ○ a | ○ |
| | 16 | Support for improving the attractiveness of tourist destinations (accepting facilities) (especially for foreigners) | ○ | ○ | ○ | ○ | ○ | ○ a | |
| | 17 | Support for disaster countermeasures for tourists (especially eruptions, gas, landslides, etc.) Demonstration experiments, etc. | ○ | ○ | ○ | ○ | ○ | ◎ c | ○ |
| | 18 | Support for garbage control in tourist areas | ○ | ○ | ○ | ○ | ○ | ○ a | |

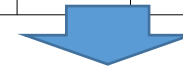
LEGEND

A : Time is needed to change consciousness
 B : Time is needed to get realization and effectiveness
 C : Time is needed to build

Pref. : Prefectural unit
 Priv. : Private level

a : Capacity building/advisory
 b : System and equipment installation
 c : Introduction of experimental systems and equipment, infrastructure
 d : System construction/support
 e : Support through business

| Category | # | Program | Items from program | | | | | | |
|----------------|----|---|--------------------|--------|-----------------------------|------------|---------------------|----------------|----------|
| | | | Short term | Budget | Village-level pilot project | High needs | Japanese Technology | Support scheme | Priority |
| Infrastructure | 19 | Introducing an efficient road maintenance system (Early detection of damage, etc. and prompt / appropriate response) | ○ | ○ | ○ | ◎ | ○ | ◎ c | ◎ |
| | 20 | Introduced an efficient streetlight maintenance system (Early detection of damage and prompt and appropriate response) | ○ | ○ | ○ | ◎ | ○ | ◎ c | ◎ |
| | 21 | Support for raising awareness of maintenance management such as maintenance and preventive maintenance | ○ | ○ | ○ | ◎ | ○ | ○ a | ○ |
| | 22 | Introduction of environmental load reduction system, etc. to improve the quality of RTH (urban green space) RTH | ○ | ○ | △ By park | ◎ | ○ | ◎ c + a | ○ |
| | 23 | Improved access to inconvenient areas in national parks | ○ | ○ | ○ | ◎ | ○ | ◎ c | ◎ |
| ICT | 24 | Improving the attractiveness of tourist destinations using bicycles | ○ | ○ | ○ | ◎ | ○ | ◎ c | ◎ |
| | 25 | Introduction and mutual training of advanced cases of Japanese administrative services utilizing ICT | ○ | ○ | △ Pref. | ◎ | ○ | ○ a | |
| | 26 | Introducing and training about Japanese administrative DB / system (Family register system, land registration system, family register system, land use / urban planning, information about disaster prevention map, infrastructure related such as road ledgers, company / business DB, etc.) | △ C | △ | △ Pref. | ◎ | △ (If partial ○) | △ d | |
| | 27 | Training on advanced facility and the maintenance system (BIM/CIM) | ○ | ○ | ○ | ○ | ○ | ◎ c + a | ○ |



- 1 : Programs to improve the convenience of tourism by incorporating **bike sharing**
- 2 : **Efficient maintenance and management system** for roads and street lights **with the participation of residents**
- 3 : **Smartphone-based road surface repair and maintenance management system**

5. Identification of Collaborative Projects

- ◆ The road surface damage detection system that is currently under consideration for introduction, and an image of the program to improve tourist convenience.

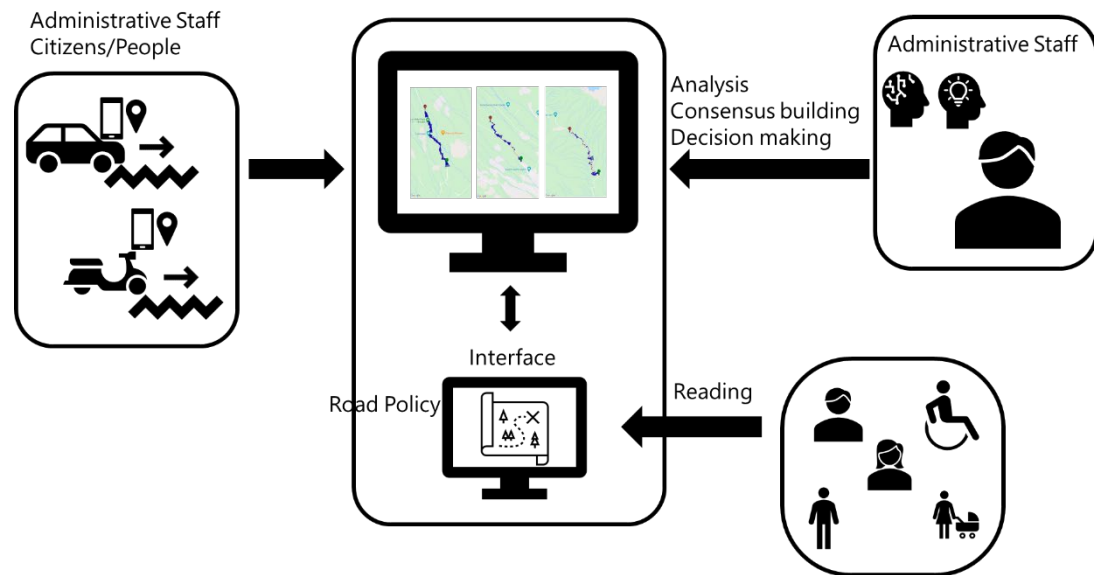


Image of Road Surface Damage Detection System

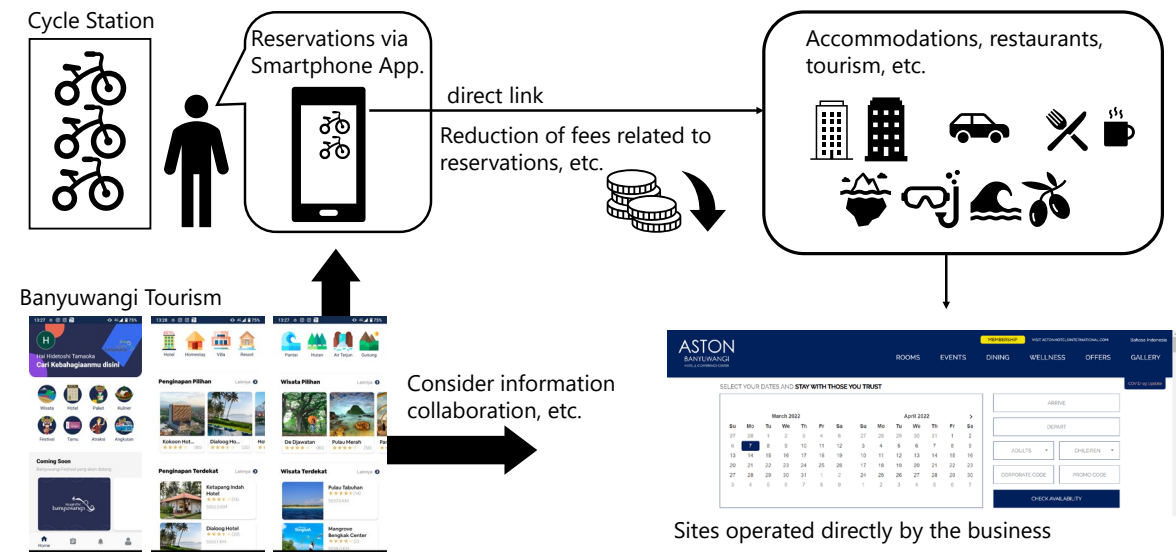


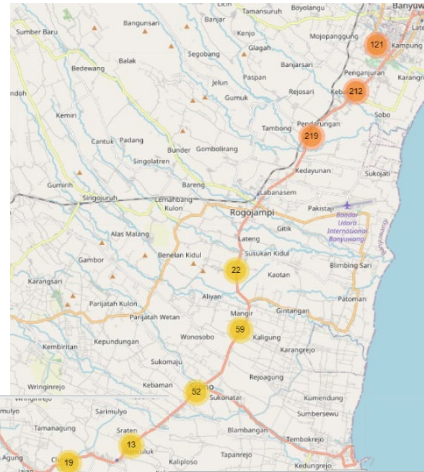
Image of Program to Improve Tourist Convenience

Based on data from the Ministry of Land, Infrastructure, Transport and Tourism

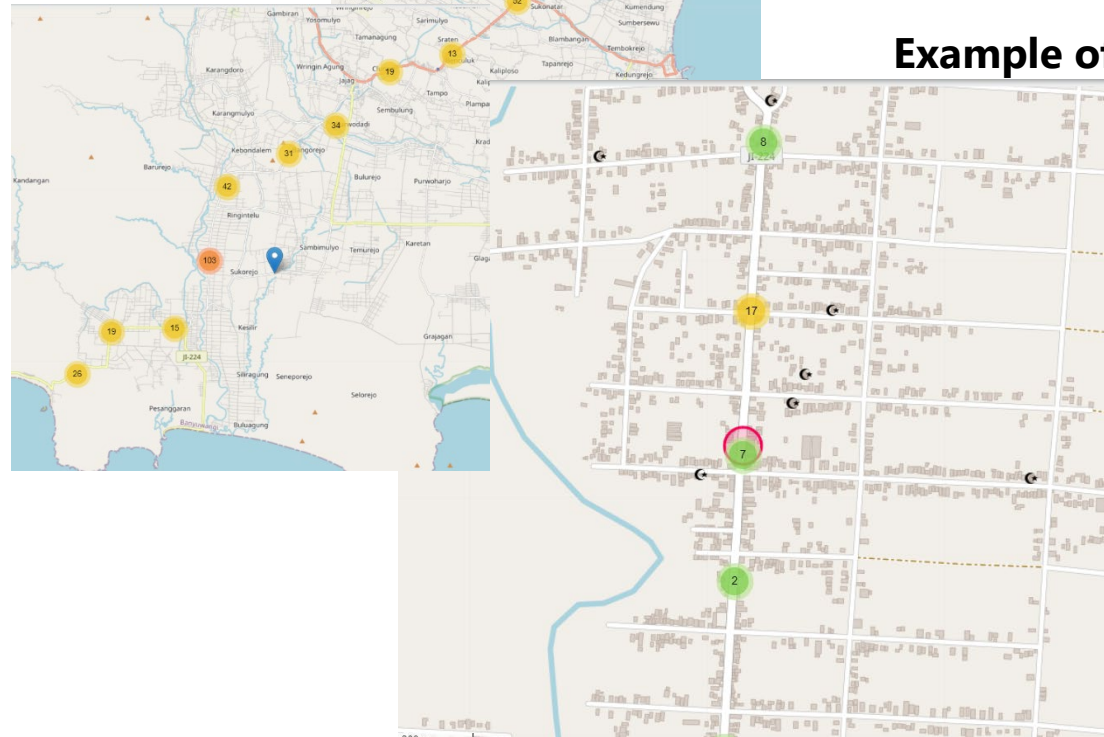
6. Study for Introduction (Road Damage Detection System)

- ◆ Road damage detection using smartphone cameras, the number of damaged areas detected, and the state of damage.

Driving Route and Detection Points/Number



Example of Pot-hole Detection



損傷メモを追加

チェック済みフェーズ

タイムスタンプ

対応状況

損傷種類

2022/11/29 13:54

未対応

ポットホール

Based on data from the Ministry of Land, Infrastructure, Transport and Tourism

6. Study for Introduction (Road Damage Detection System)

| | | 2022 | Currently Working on | Next Step |
|-----------------------------|-----------------|---|---|--|
| Japan Side (MLIT • PCKK) | Content | <ul style="list-style-type: none"> • Examination and arrangement of introduction programs • Improvement of the actual usage environment for • Usage support • Confirm improvement requests • Examination of improvement method | <ul style="list-style-type: none"> • RM customization (AI engine localization + output format adjustment, etc.) | <ul style="list-style-type: none"> • Provision of RM services |
| | Role/ Budget | <ul style="list-style-type: none"> • Investigation budget • Overall management | <ul style="list-style-type: none"> • Investigation budget preparation (planned) • Overall management (planned) | <ul style="list-style-type: none"> • Post-installation support |
| Banyuwangi Side | Content | <ul style="list-style-type: none"> • Actual use • Explanation of the current situation regarding local road maintenance • Evaluation of • Organization of improvement request items | <ul style="list-style-type: none"> • Support for RM customization (information provision, advice, etc.) • Evaluation of new RM and organization of improvement requests • Preparation for introduction | <ul style="list-style-type: none"> • Introduction of new RM |
| | Role/ Budget | <ul style="list-style-type: none"> • Personnel support, information provision, etc. | <ul style="list-style-type: none"> • Personnel support, information provision, etc. | <ul style="list-style-type: none"> • Secure introduction budget |

Based on data from the Ministry of Land, Infrastructure, Transport and Tourism

6. Study for Introduction (Tourism Promotion System)

- ◆ Route development and map creation through actual runs and workshops

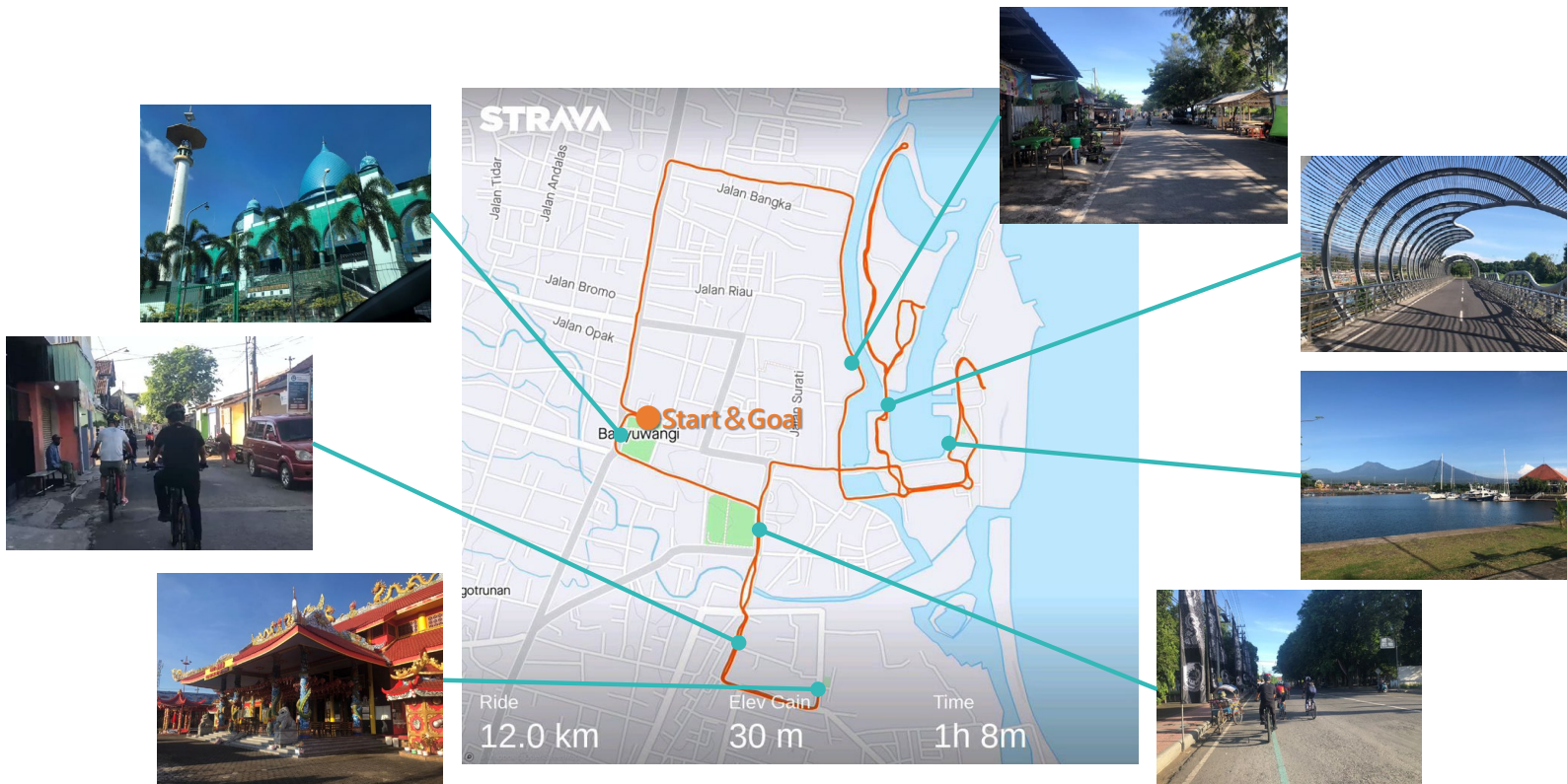


Image of Cycling Map



Based on data from the Ministry of Land, Infrastructure, Transport and Tourism

6. Study for Introduction (Tourism Promotion System)

| | | 2022 | Currently Working on | Next Step |
|-----------------------------|-----------------|--|---|--|
| Japan side (MLIT • PCKK) | Content | <ul style="list-style-type: none"> • Examination and arrangement of introduction programs • Explanation of how to introduce • Setting cycling road proposals • Creation of cycle map (paper-based) | <ul style="list-style-type: none"> • Installation of Apps for riding routes • Additional route setting and map creation • Construction of base for collaboration with Banyuwangi tourism app | <ul style="list-style-type: none"> • Map development support • Support for applications after introduction |
| | Role/ Budget | <ul style="list-style-type: none"> • Investigation budget • Overall management | <ul style="list-style-type: none"> • Investigation budget preparation (planned) • Overall management (planned) | <ul style="list-style-type: none"> • Support for the introduction of bike sharing and the establishment of research groups |
| Banyuwangi side | Content | <ul style="list-style-type: none"> • Provision of route information, etc. • Introduction and adjustment of related parties | <ul style="list-style-type: none"> • Provision of route information, etc. • Introduction and adjustment of related parties • Link to Banyuwangi Tourism App | <ul style="list-style-type: none"> • Linking maps and apps • Additional route settings, etc. |
| | Role/ Budget | <ul style="list-style-type: none"> • Personnel support, information provision, stakeholder coordination, etc. | <ul style="list-style-type: none"> • Personnel support, information provision, etc. • App linkage adjustment | <ul style="list-style-type: none"> • Map creation support • Personnel support for application introduction support • budget support |

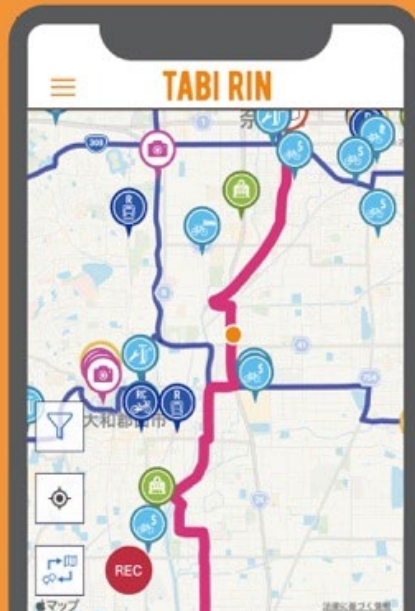
Based on data from the Ministry of Land, Infrastructure, Transport and Tourism

6. Study for Introduction (Tourism Promotion System)

Ref : Image of Cycling Support App : TABIRIN

Special for "Cycling x Traveling" Travel plans, recreation, to history, complete in TABI RIN

- Maps of all cities in Japan with over 700 routes
- Easy-to-understand cycling facilities and related spots
- Customization of original routes and spots



Original Route

Cycling the original route displayed



Complete information

ranging from cycling facilities, culinary, tourist spots etc.



Created with reference to
TABIRIN
URL: <https://tabi-rin.com/>

Thank you so much for
allowing us to make a presentation.



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