

The 149th Transport Policy Colloquium Bangkok Report ~Startup Series Part 4~

# Supplements and Comments Regarding Presentation by MINAMI Yusuke, Research Fellow

## “New Stage of Urban Transportation in Asia

~Current Status and Future Trends on Rail and Bus Linkage Functions in  
Bangkok~”

FUKUDA Atsushi,  
Nihon University



# Points of Research Fellow MINAMI's Presentation



01

Development of urban railways in Bangkok (including the latest information on **legal and organizational development**)

02

It is necessary to **share roles with bus transportation**, which has been the center of public transportation.

03

Furthermore, it is necessary to **promote multimodal transportation** in cooperation with other means of transportation.

04

To achieve the above, **development of spaces** with railway stations as **transportation hubs** is required.

# Supplements and Comments Regarding Presentation



01

Issues related to urban railway development in Bangkok

03

What is **access traffic** based on the assumption of multimodal transportation?

04

Development of **transportation hubs**

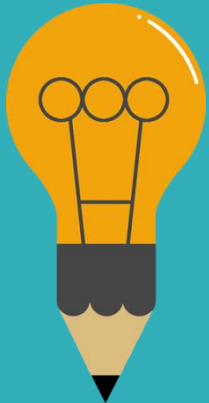
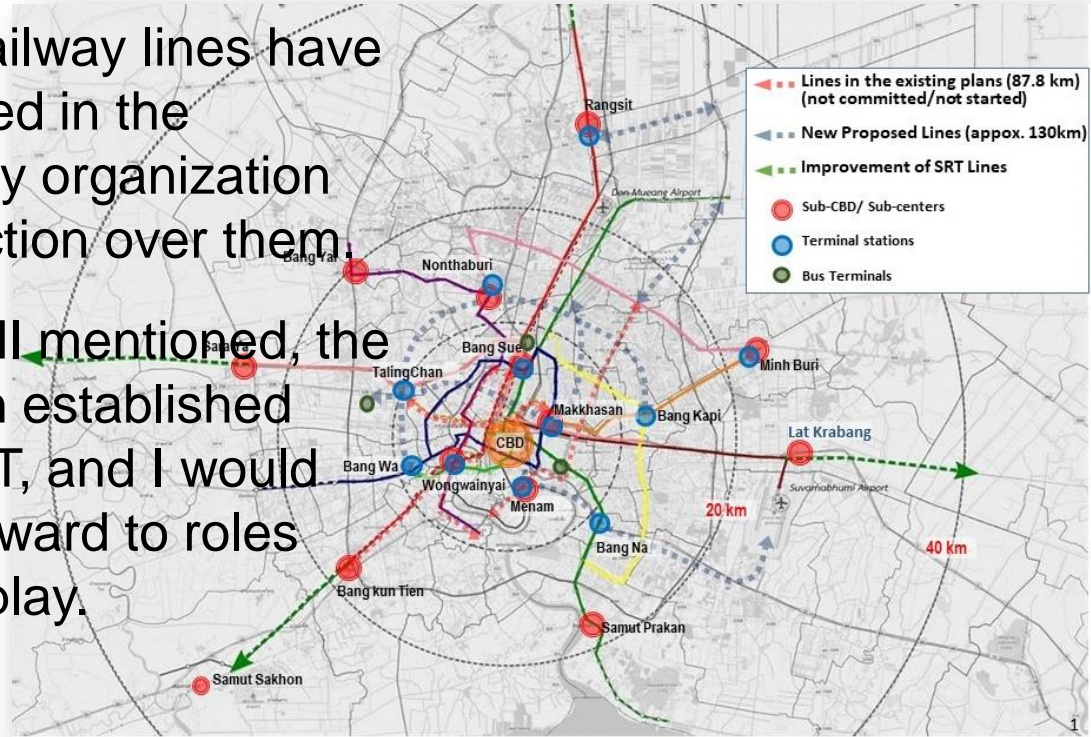
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02

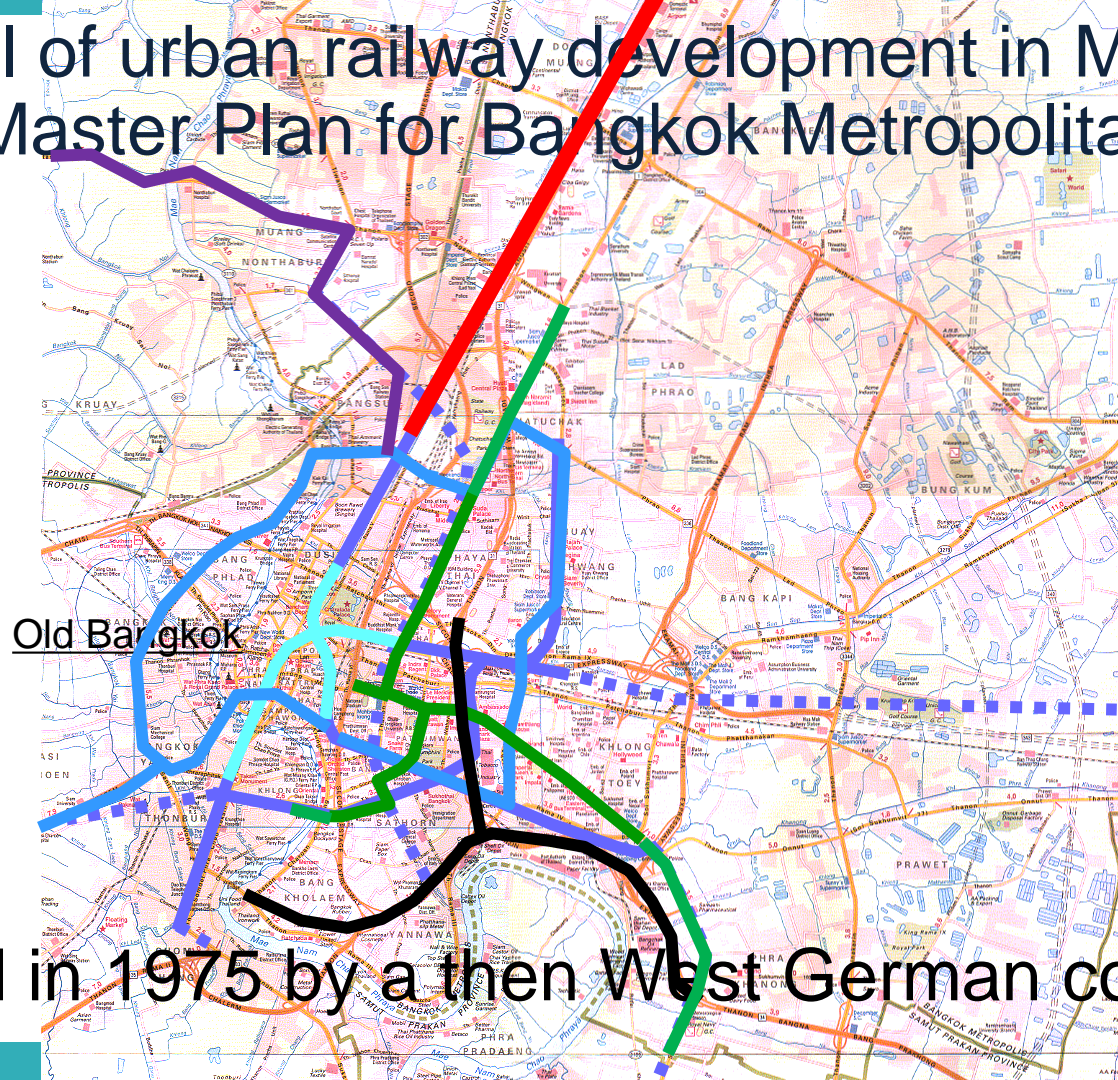
Actual conditions of **bus traffic** and the concept of **bus route reorganization**

# Issues related to urban railway development in Bangkok

- Many urban railway lines have been developed in the absence of any organization having jurisdiction over them.
- As Mr. MINAMI mentioned, the DRT has been established under the MOT, and I would like to look forward to roles that DRT will play.



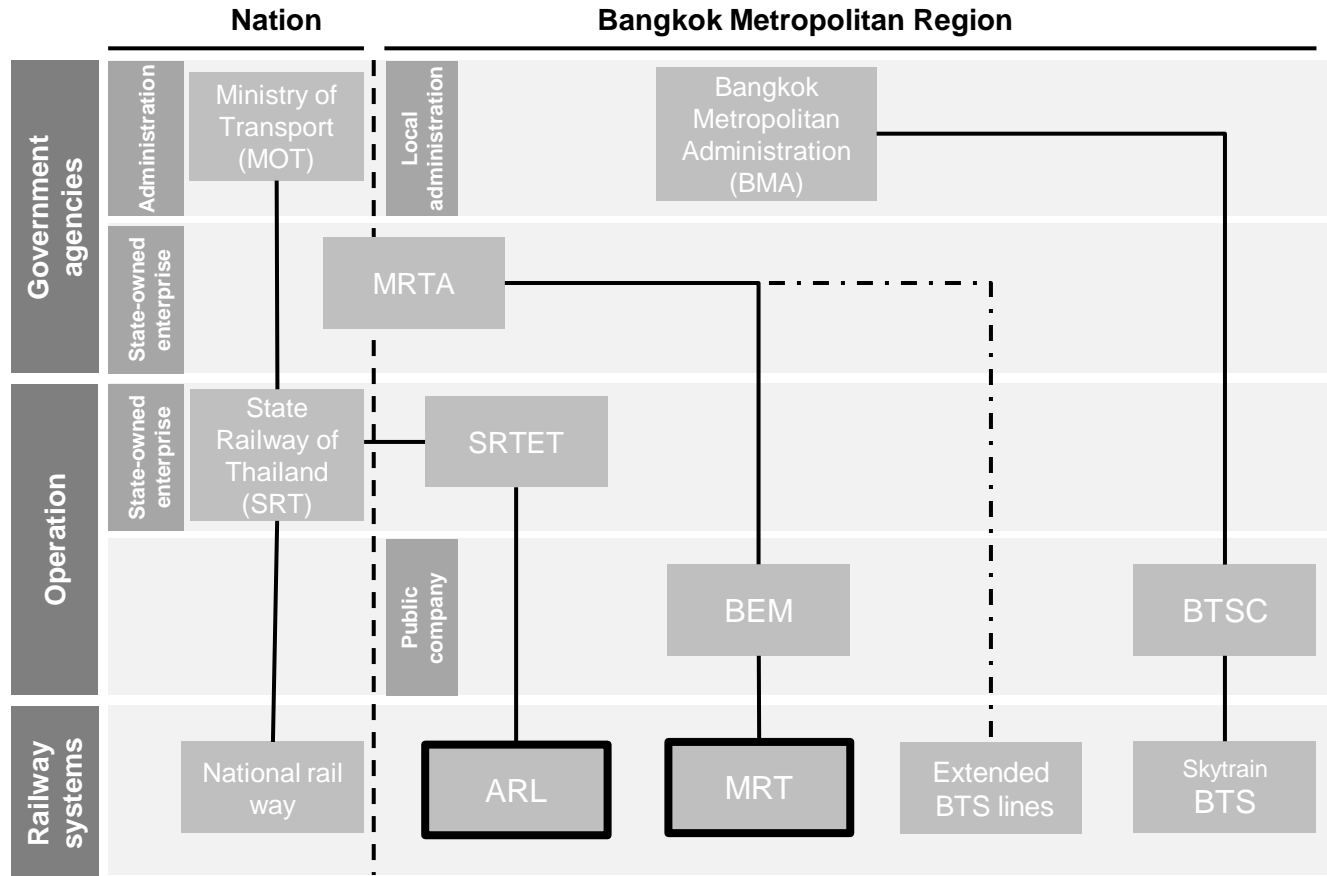
# Proposal of urban railway development in Mass Rapid Transit Master Plan for Bangkok Metropolitan Region



Old Bangkok

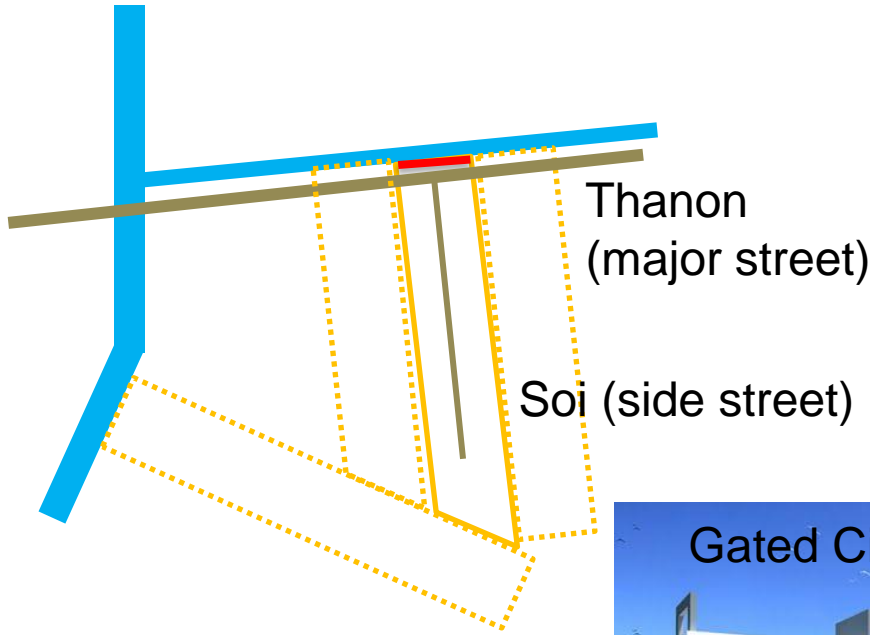
Created in 1975 by a then West German consultant.

# Expectations for roles of DRT in the future

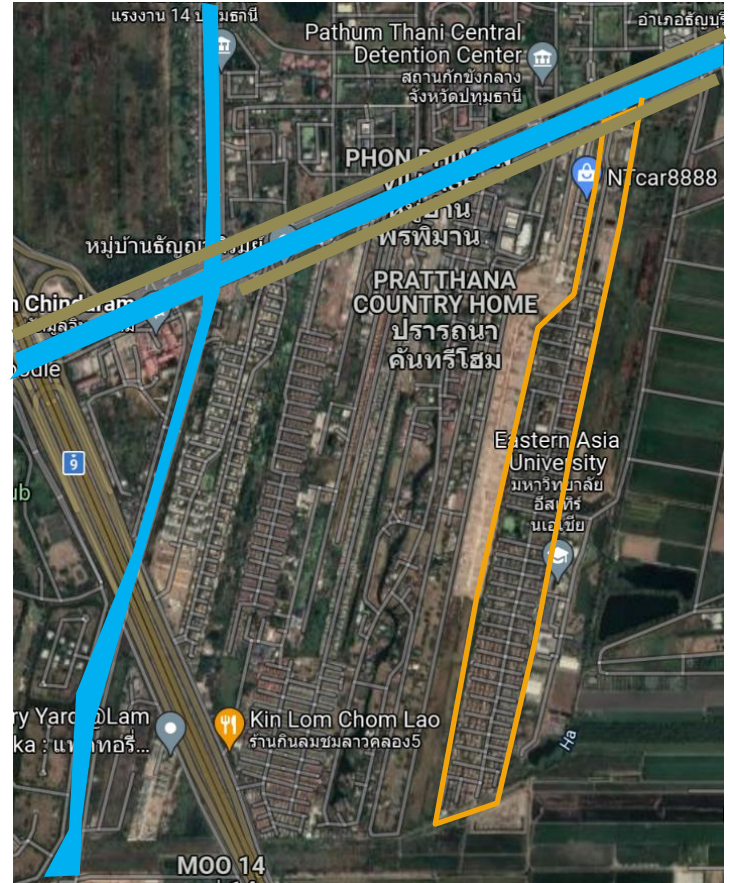




# City formation of Bangkok

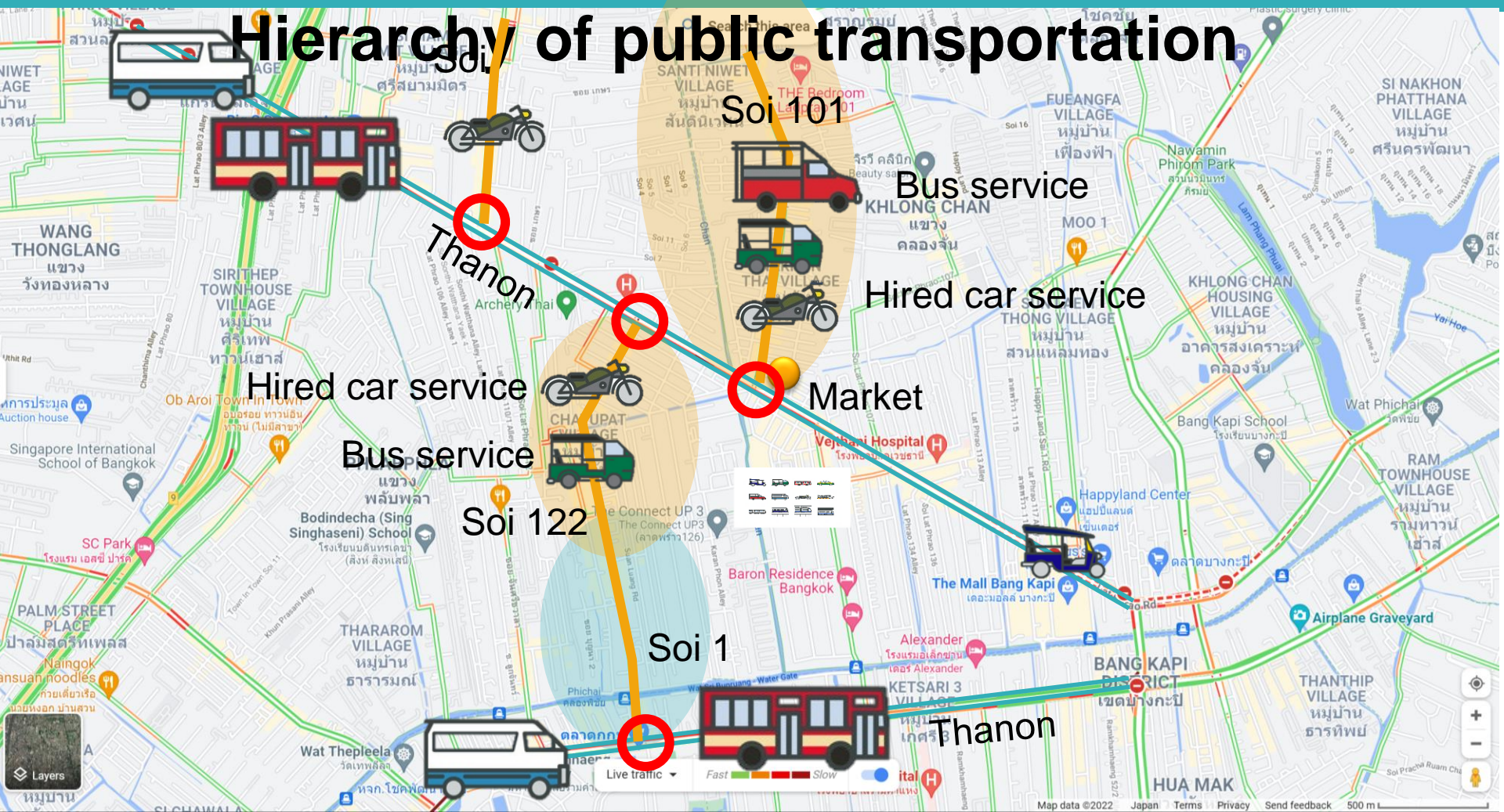


Thai cities are formed in a “fishbone” pattern.  
Japanese cities are formed in a “grid” pattern.





# Hierarchy of public transportation

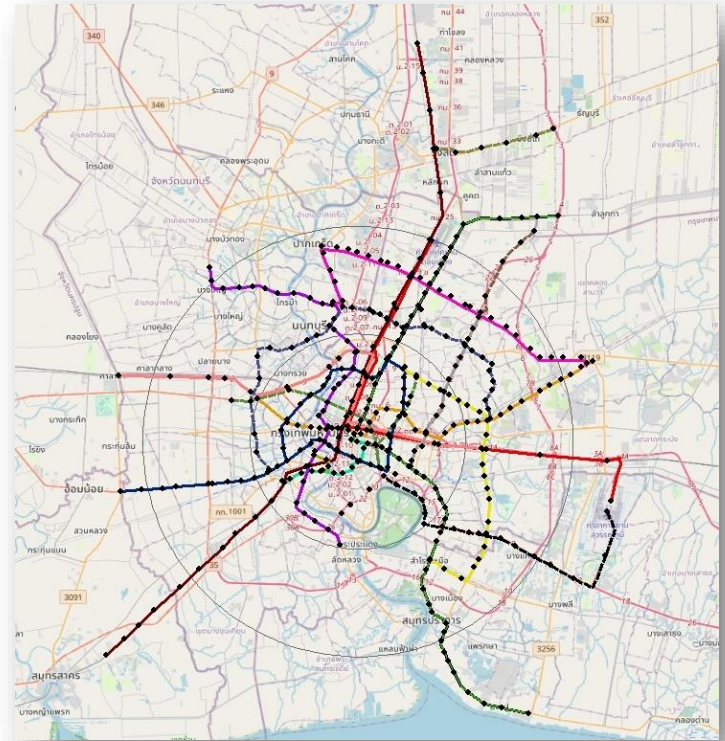


# Transportation system before the introduction of urban railways

- Streetcars developed before the war, but were removed in 1970s.
- With the development of buses, a hierarchical transportation system was established in which the functions of Thanon and Soi were divided.
  - Thanon: Fixed-route buses, and mini vans
  - Soi: Songthaew, Silorlek, and motorcycle taxis
- Therefore, the transportation hubs in Bangkok are the exits of Soi.
- Buses are integrated into BMTA. Private buses are operated under the concession system.
- However, vested rights before the merger still exist, and some bus routes go beyond other bus offices. ⇒ To be explained later
- For the paratransit operation in Soi, operation methods and fare systems are set according to the intensity of demand.

# Access to and egress from railway stations

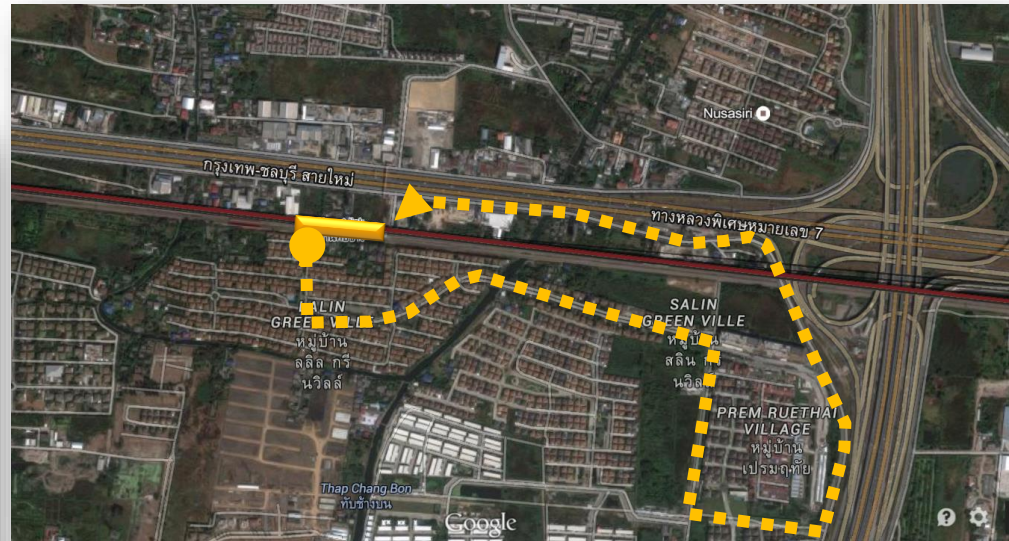
- When all the lines proposed in M-MAP and M-MAP2 are opened, **about 330 urban railway stations will be established.**
- In Bangkok, where the urban area have developed centering on road transportation, **ensuring accessibility to railway stations** will be the key to the future.
- The actual conditions are...



# Access around suburban railway stations



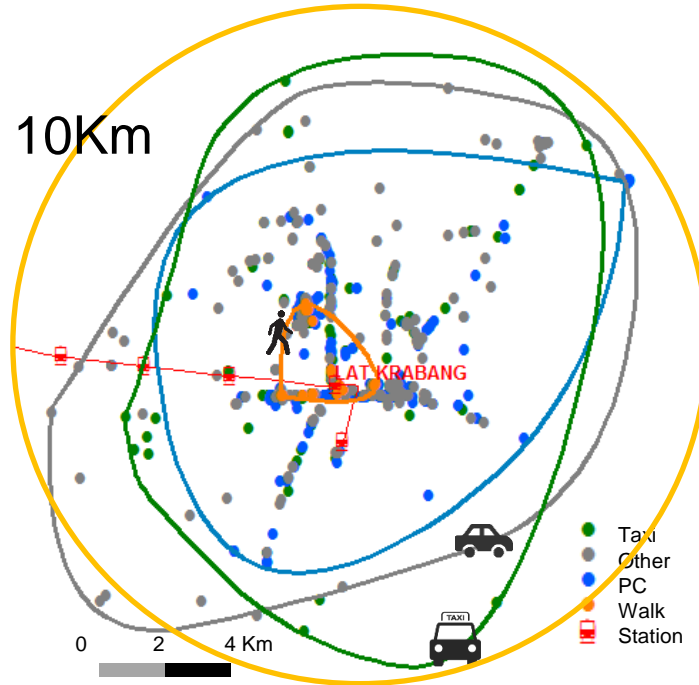
Residential areas around railway stations have been developed, but the access is inconvenient because development centered around the stations has not been implemented.



# Access around suburban railway stations



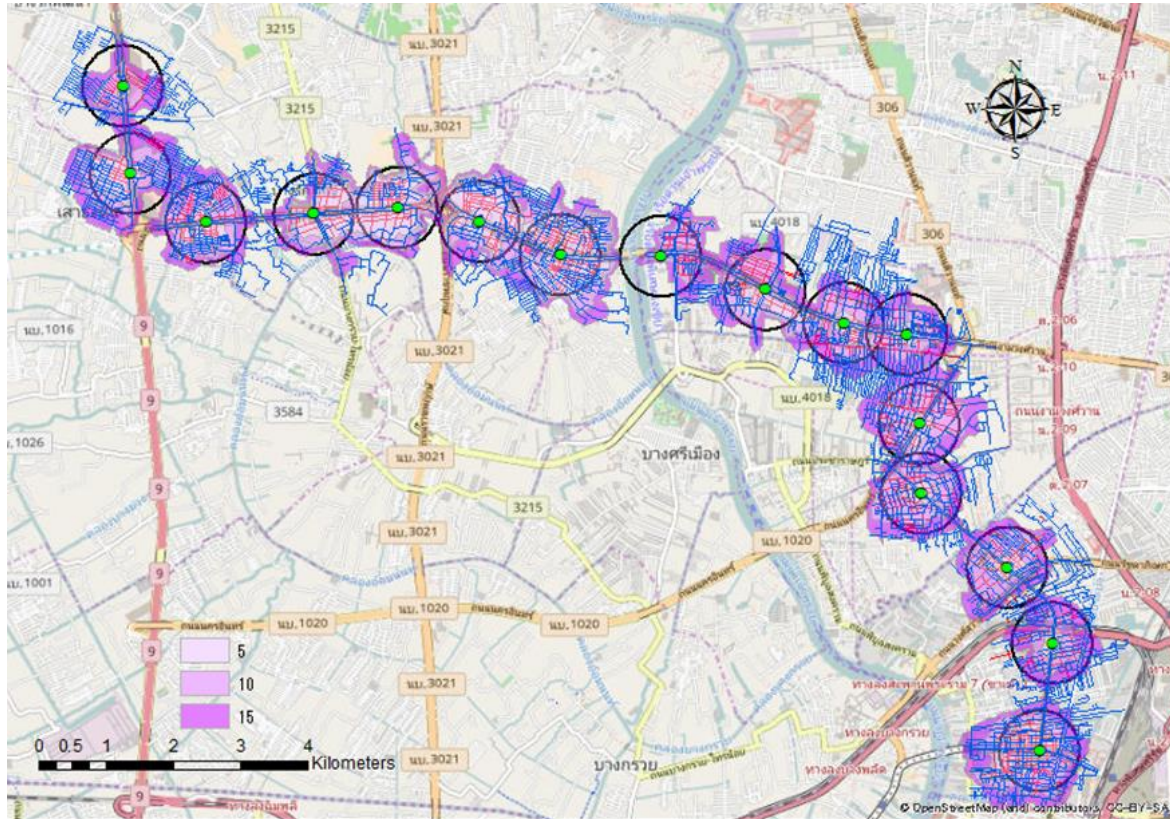
Access by trip end modes is taking place, although not in a planned way.



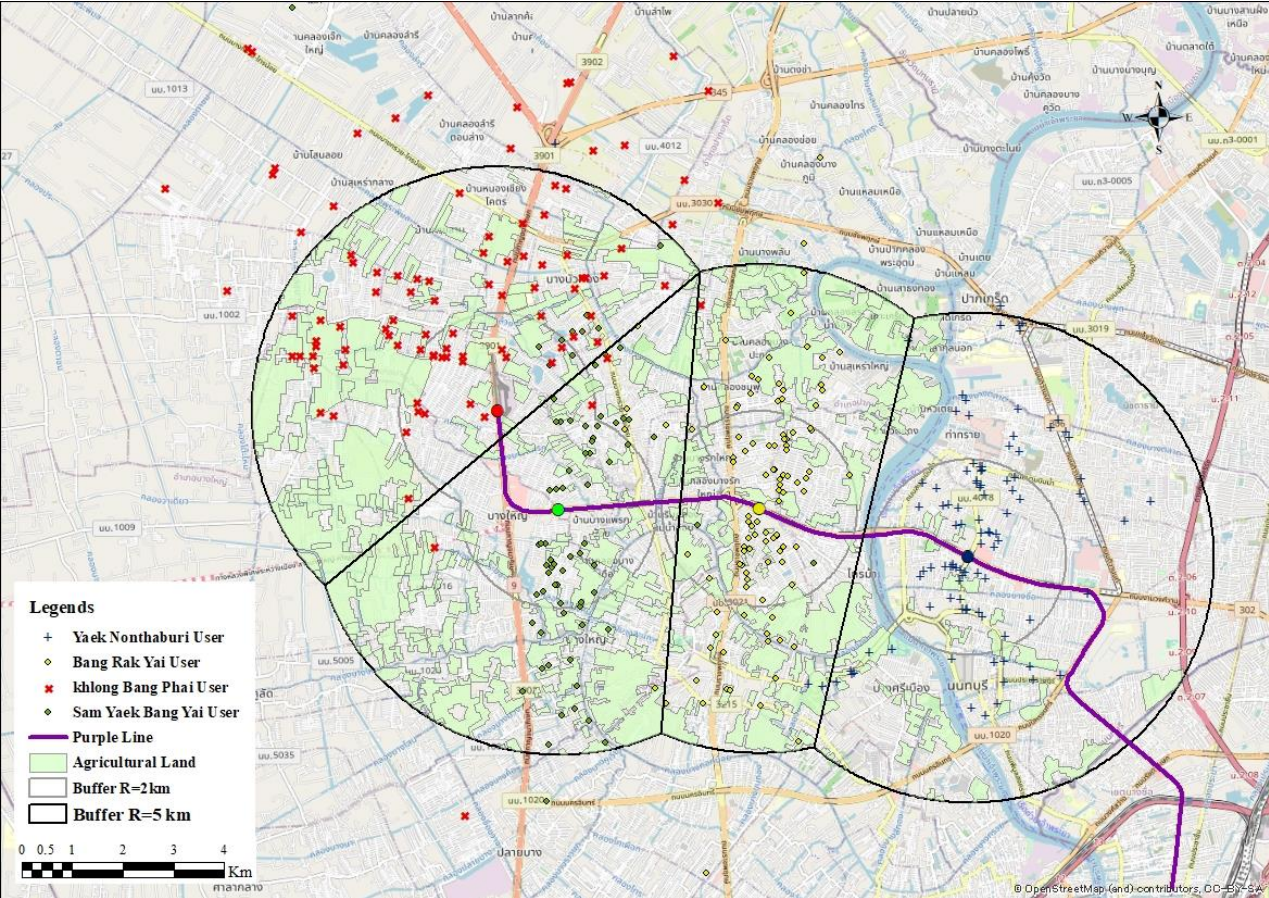
Prepared by Dr. Varameth Vichiensan's group at Kasetsart University based on the results of a (commissioned) study conducted by ATRANS as part of 2012 "MRV Model Demonstration Study for Bilateral Offset Credit Mechanism 'Modal Shift Through Development of Mass Rapid Transit (MRT)'" by Japan Weat her Association and ALMEC (commissioned by Global Environment Center Foundation).



# Access around suburban railway stations (Walk; Improved)

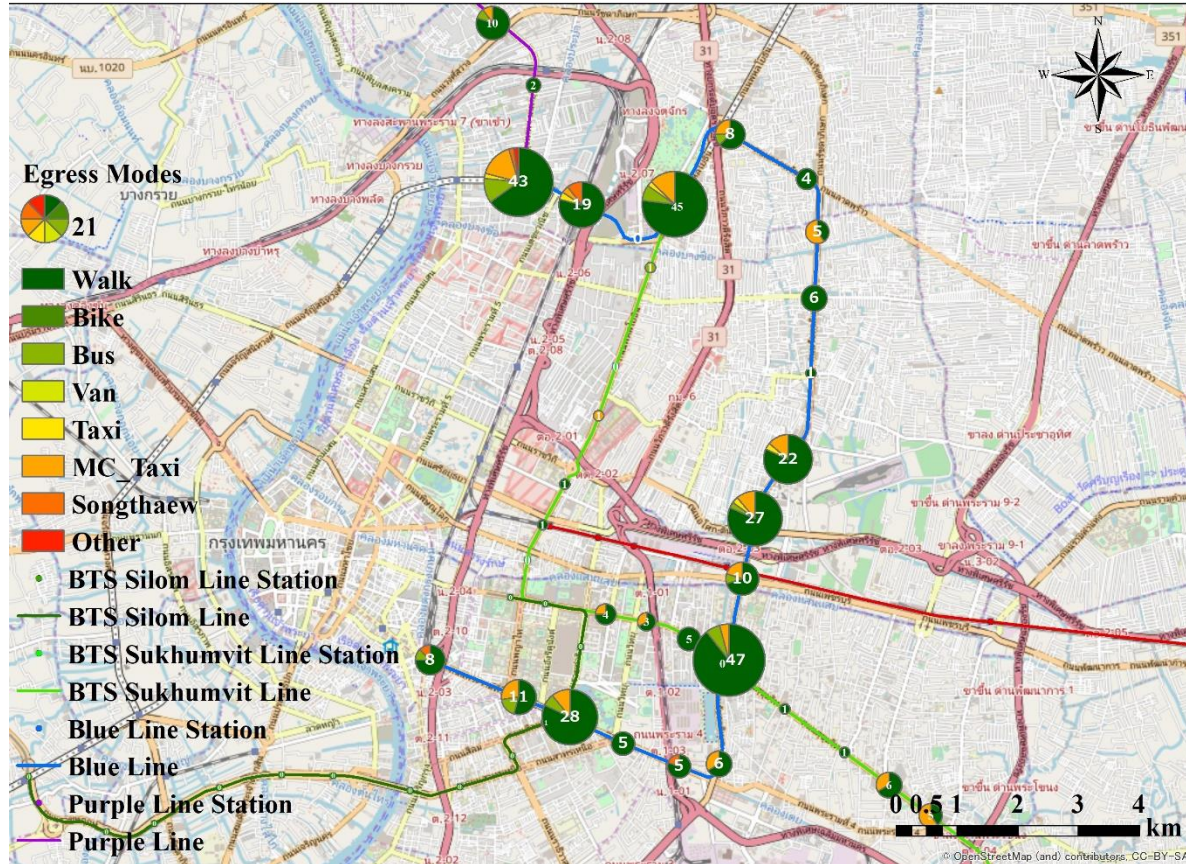


# Access around suburban railway stations (P&R)





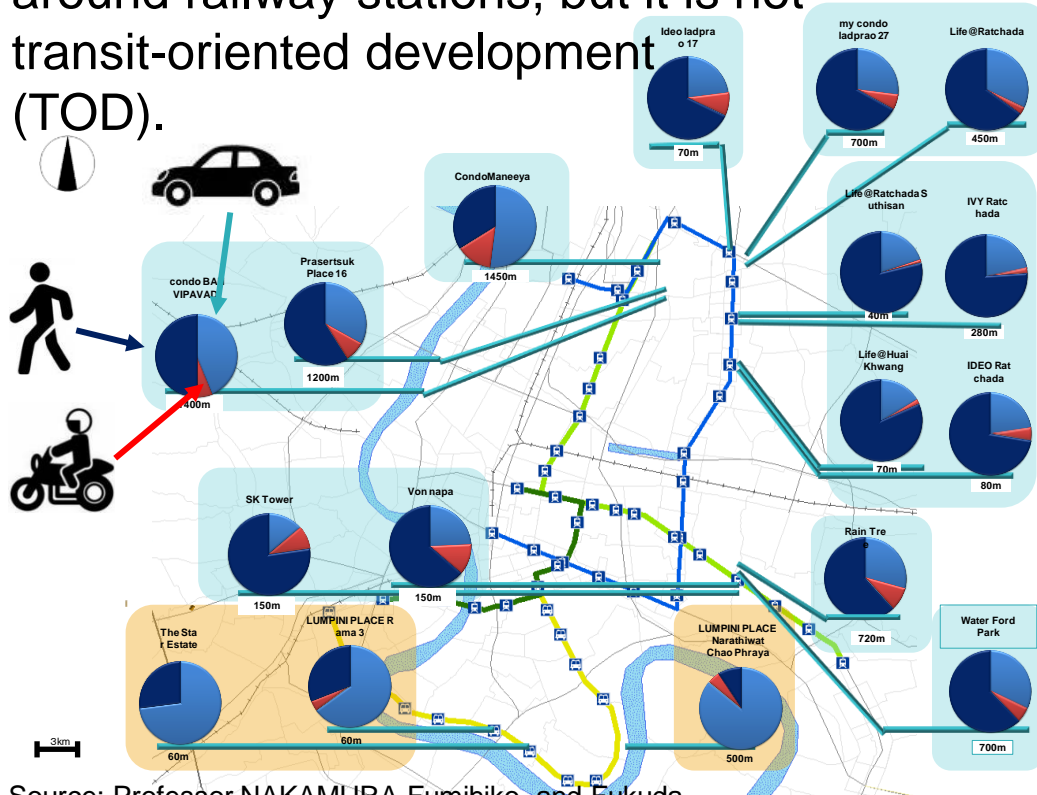
# Egress around urban railway stations



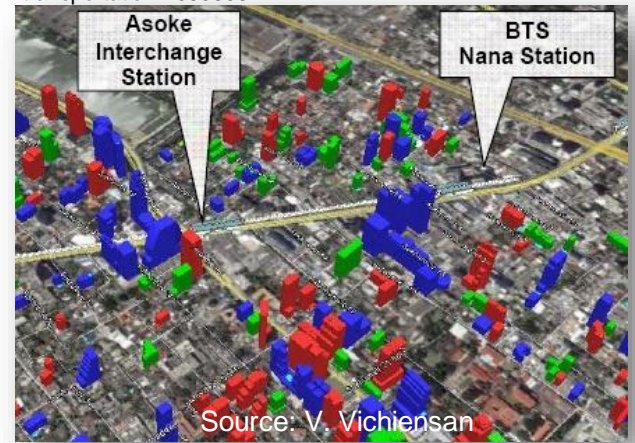
# Access around urban railway stations



Condominiums are being developed around railway stations, but it is not transit-oriented development (TOD).



<https://www.tripsavvy.com/getting-around-bangkok-public-transportation-4689858>



Source: Professor NAKAMURA Fumihiko, and Fukuda

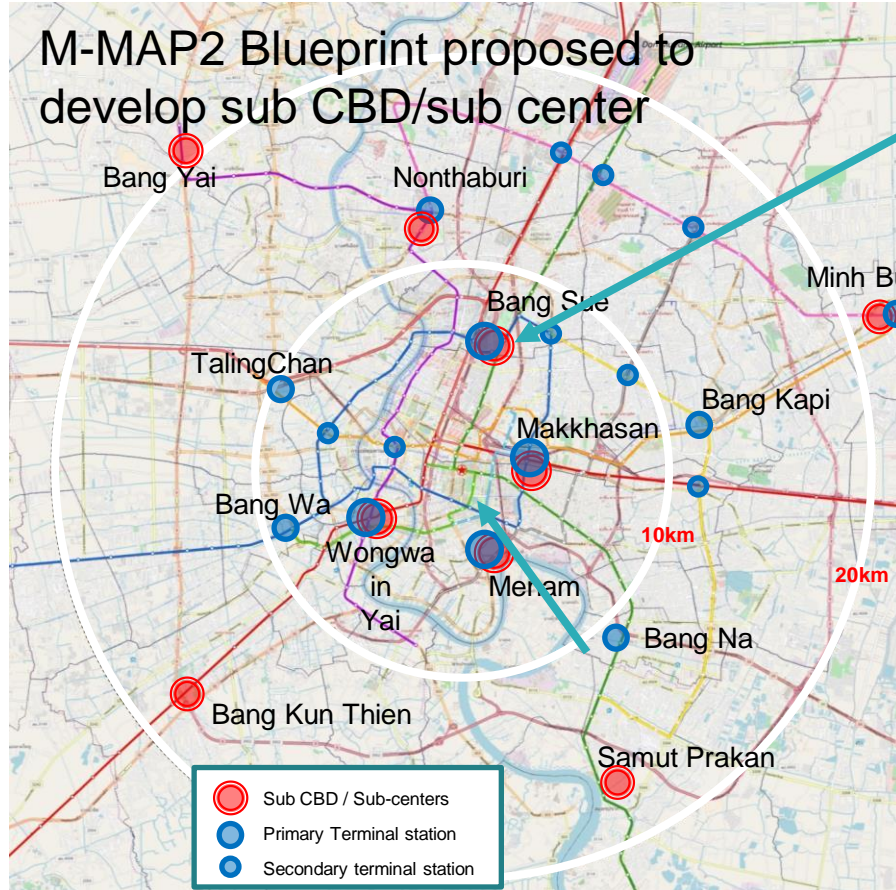
Source: V. Vichiensan

## Development of transportation hubs

- Getting on and off at bus stops, especially near railway stations, causes traffic congestion.
- In line with the railway development, establishment of transportation terminals assuming P&R is also underway.



# Proposal of transportation terminals



Source: M-Map2 Blueprint Study



Source: ht  
g-sue-gra  
-southeas



Source: <https://www.nationthailand.com/business/30382097>



Source: M-Map2 Blueprint Study

# Proposal for improvement of bus stops and terminals

- Modernization of bus stops is being promoted by BMA and others.
- The DLT study also suggests improvement of bus stops and terminals.



# Proposal for installation of motorcycle taxi stands

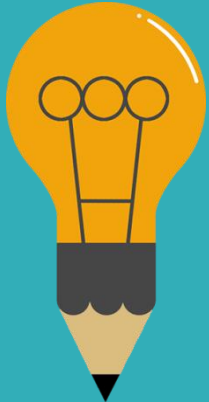
Motorcycle taxis wait for customers at the entrances of Soi. It is necessary to secure spaces for them as motorcycle taxi stands (IATSS research project).





# Actual conditions of bus traffic and the concept of bus route restructuring

- Since the BMTA was established by merging bus companies, bus routes before the merger have continued to be used for bus operation.
- The routes are long and there are many overlapping routes. The service area does not cover the growing urban area.
- It is necessary to restructure bus routes in line with the development of urban railways. A survey by DLT will be conducted...



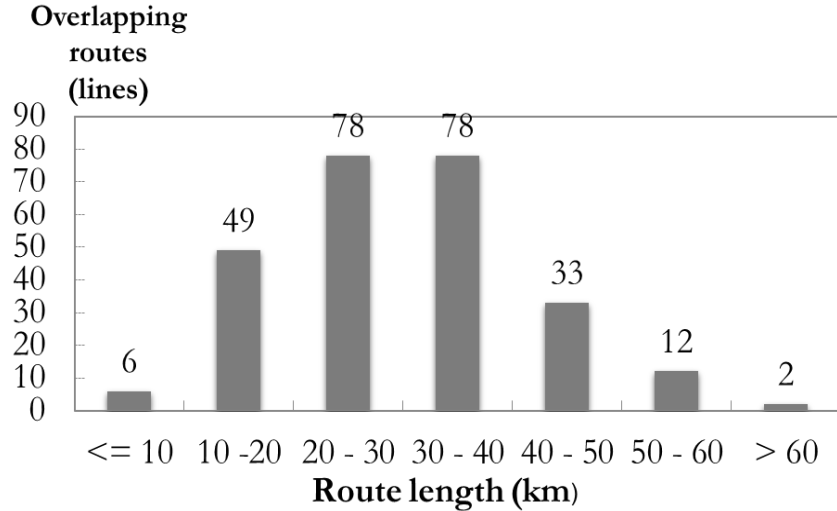


# Bus route length and profitability

Of the 202 routes (total length: 6,002 km), 156 routes (77%) have **route lengths of 20-40 km** and there are many **overlapping routes**. (2016).

(\*Average route length of Toei Bus: 8.3 km)

Routes longer than **40 km** are **unprofitable**.

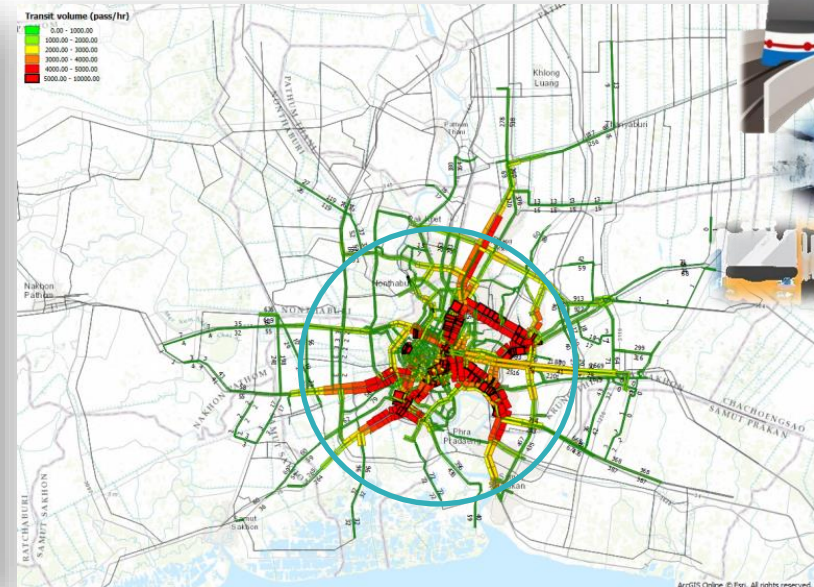


# Service area of public transportation including buses

As the urban area is expanding, the service area of public transportation is limited to the city center (within a 20-km radius).



Automobile network

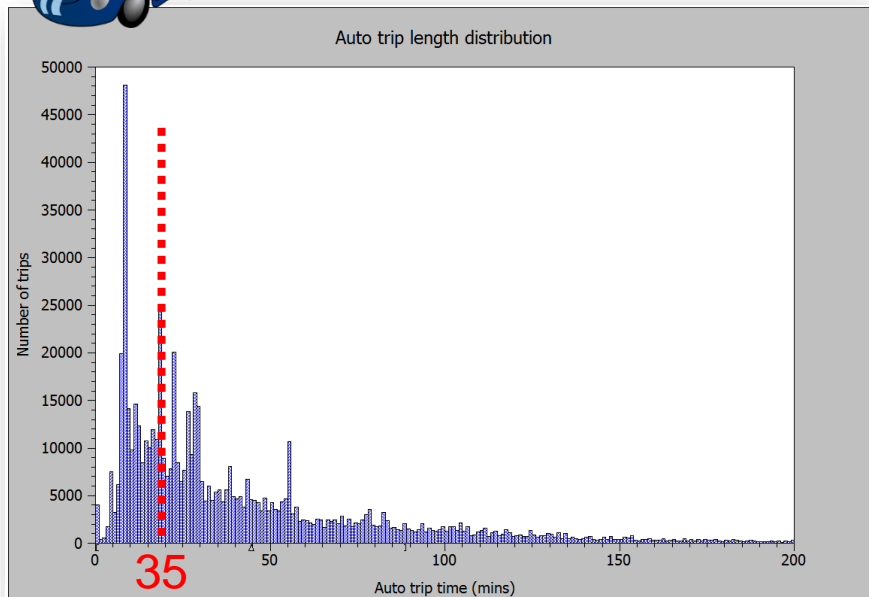


Public transportation network

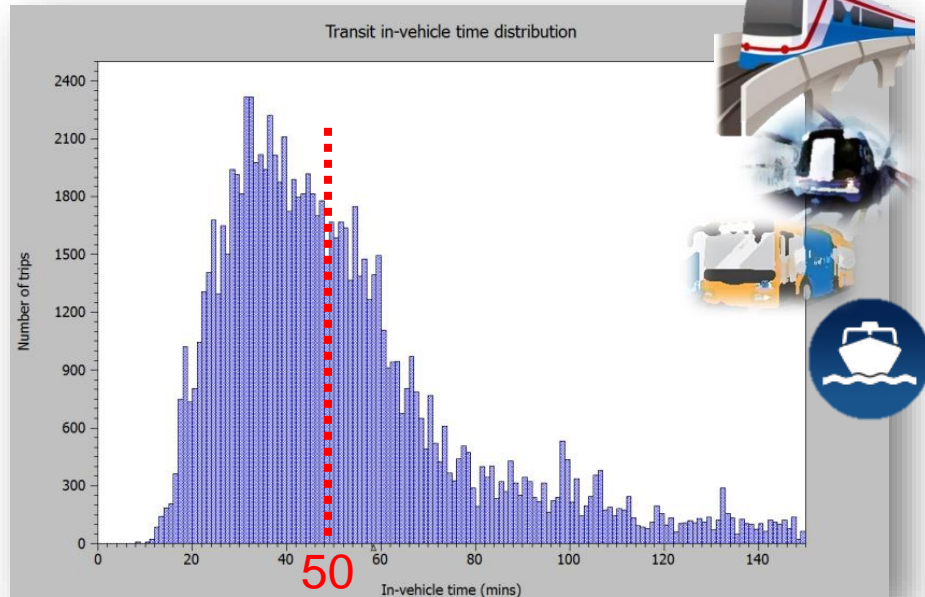


# Trip time of public transportation including buses

On the other hand, the average trip time by automobile is 35 minutes, while that by public transportation is longer, being 50 minutes.



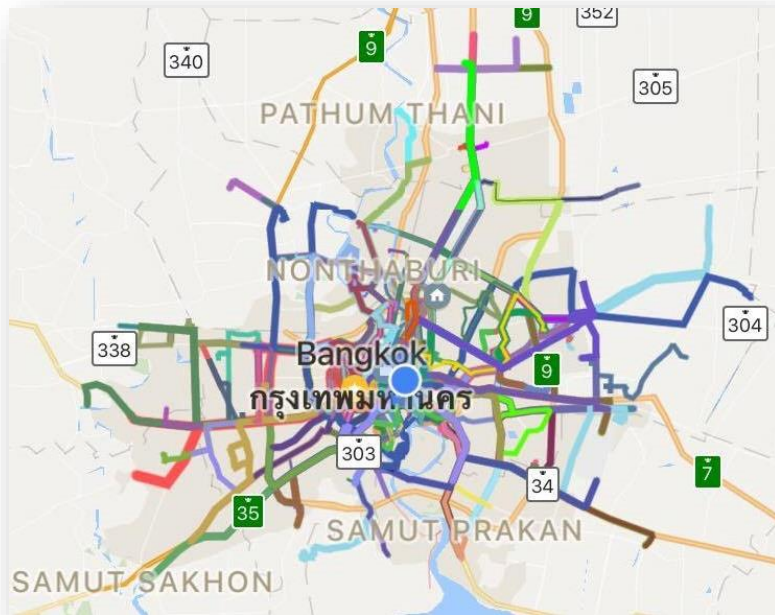
Automobile network



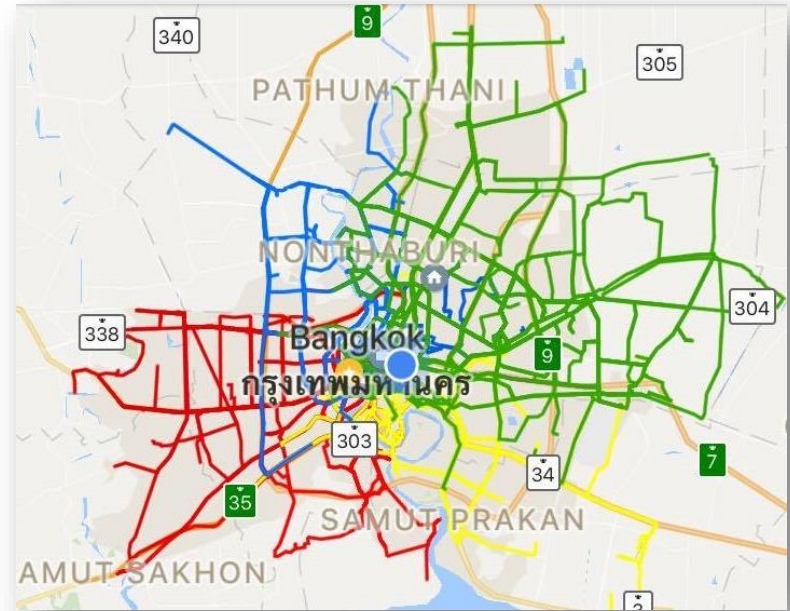
Public transportation network

# Bus reformation study by DLT

Reduce overlapping routes, shorten the average route length by 10%, and expand the service area.



**Current bus routes**

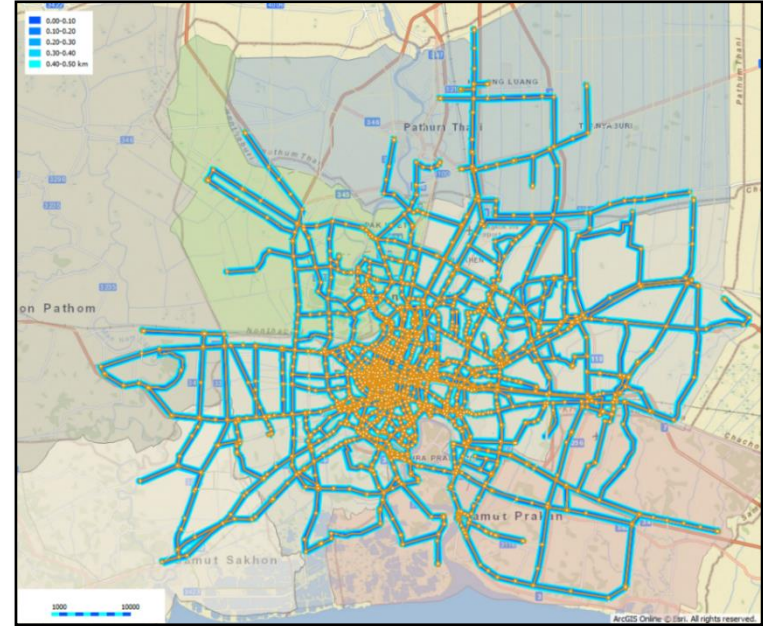
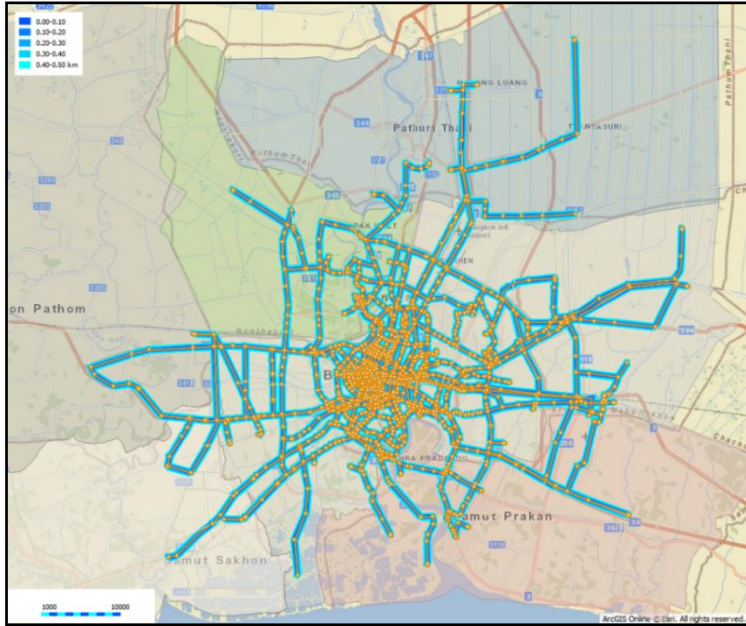


**Proposal for reorganization of bus routes**

# Bus reformation study by DLT



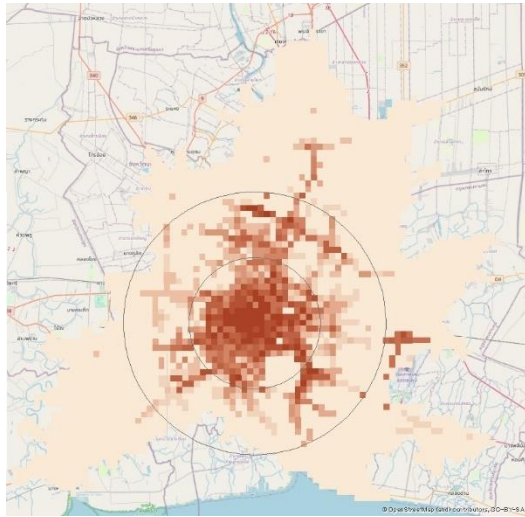
The bus service area can be expanded by 52% through the restructuring of bus routes.



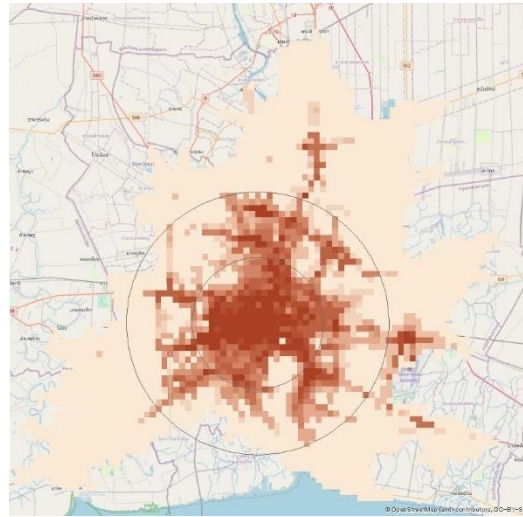
In addition to the reorganization of bus routes, organizational reforms are also proposed.

# Improvement in accessibility by public transportation

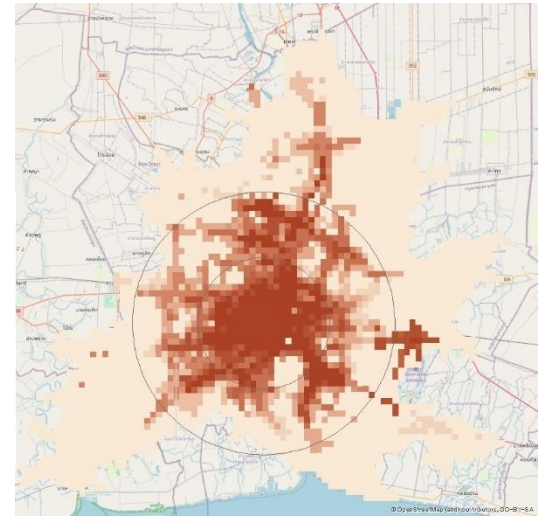
Accessibility is expected to be greatly improved with the development of public transportation (railways and buses) (current routes for buses).



Current status



M-MAP



M-MAP2

Study: OECD/ITD Study

# Points to be discussed regarding the presentation of **Research Fellow MINAMI**

01

If Japan supports the development of transportation hubs you are proposing, what kind of experience in Japan do you think we can make use of?

02

If the above is implemented as a JICA's technical cooperation project, what kind of support do you think of specifically? (including the latest information on **legal and organizational development**)



Thank you for your attention!