

Roundtable on integrated and sustainable urban transport

# Bike share deployment and strategies in Japan

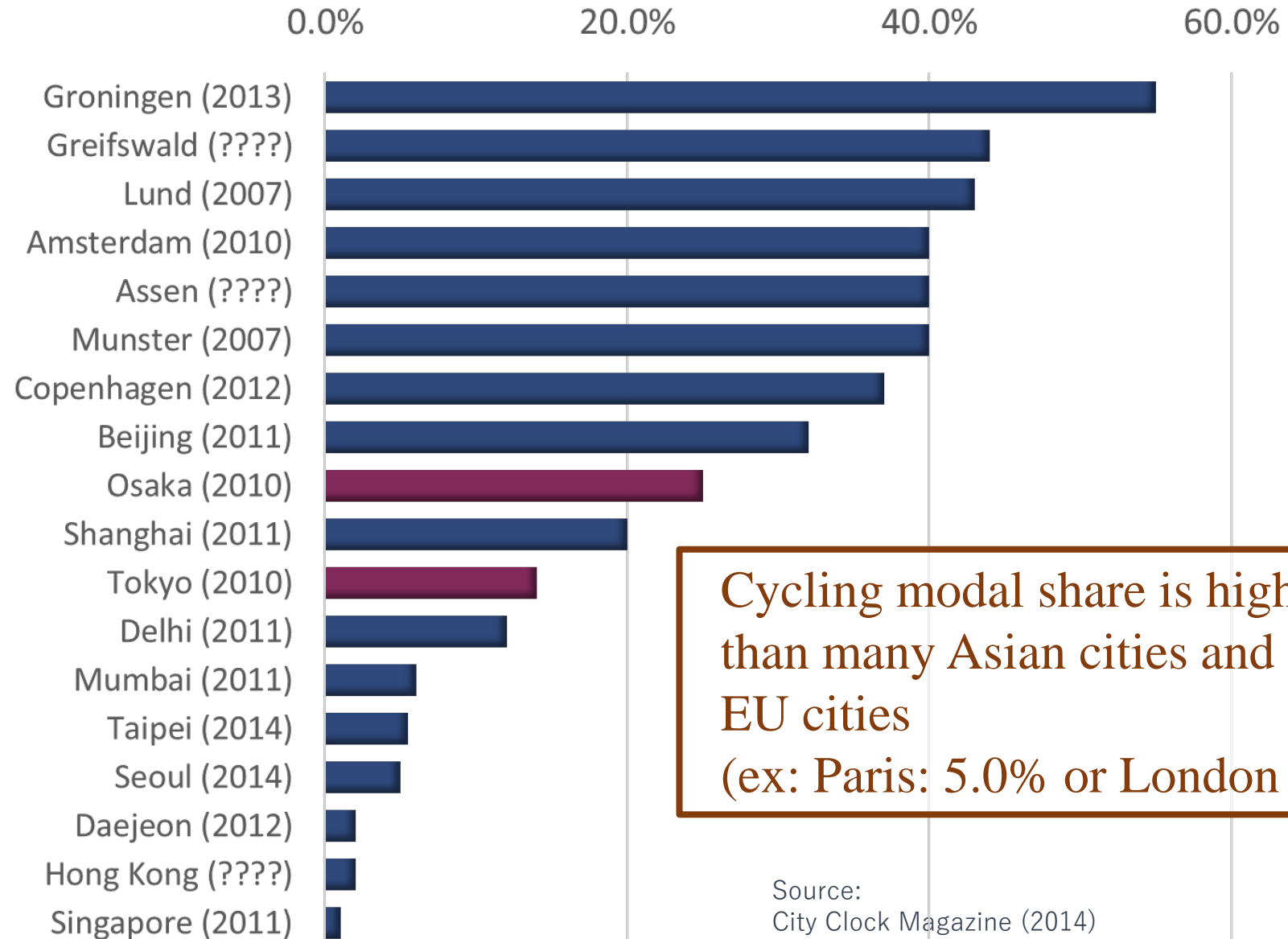
Mio Suzuki (University of Tokyo)

Hiroki Nakamura (Chuo University)

- Current situation of cycling in Japan
- Public bike system in Japan
  - Example of Small City: Kita-kyusyu
  - Example of Large City: Tokyo
- Potential of integration

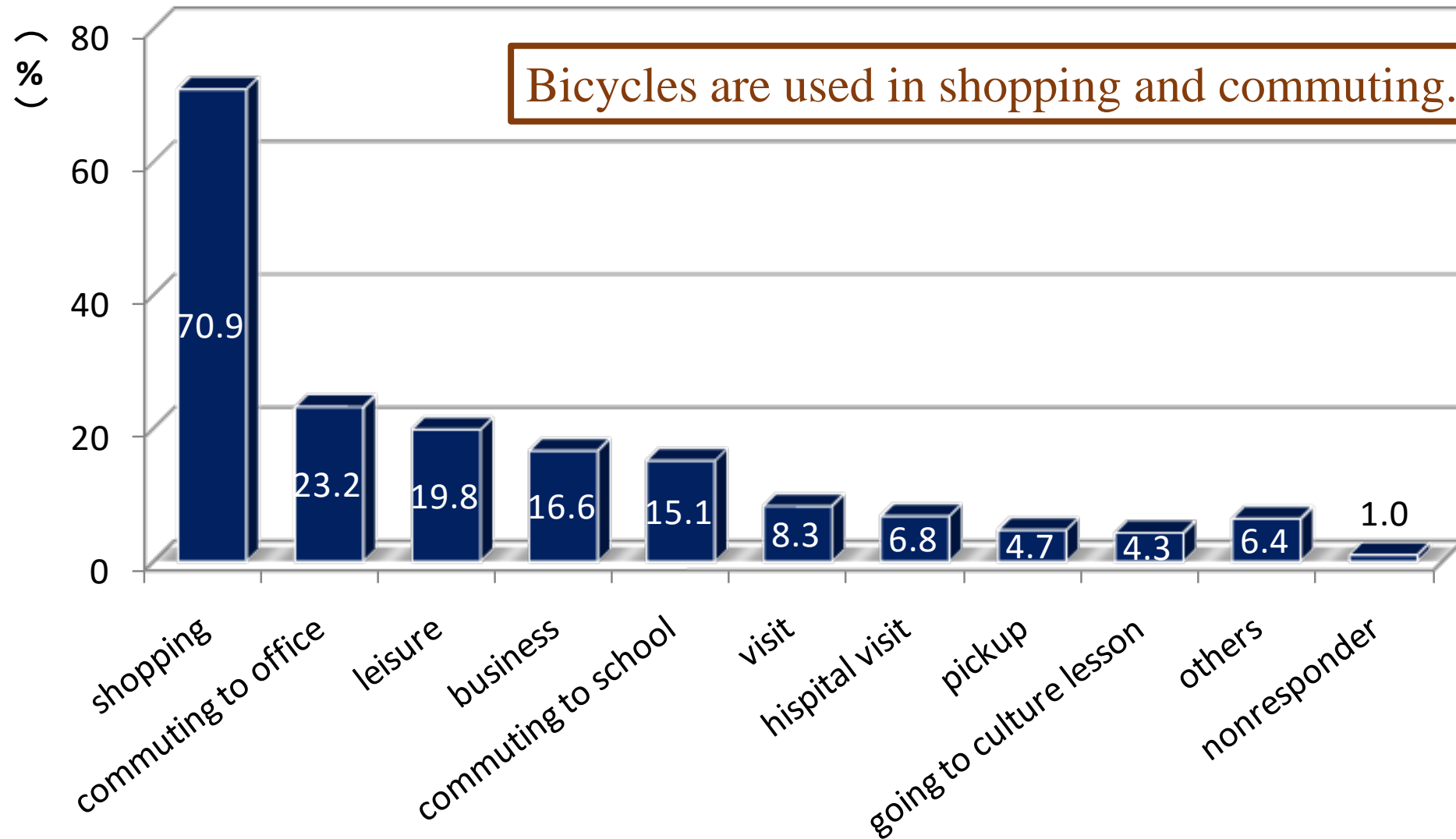


# International Comparison of Cycling Modal Share



Source:  
City Clock Magazine (2014)  
Passenger Transport Mode Shares in World Cities (2011,2014)

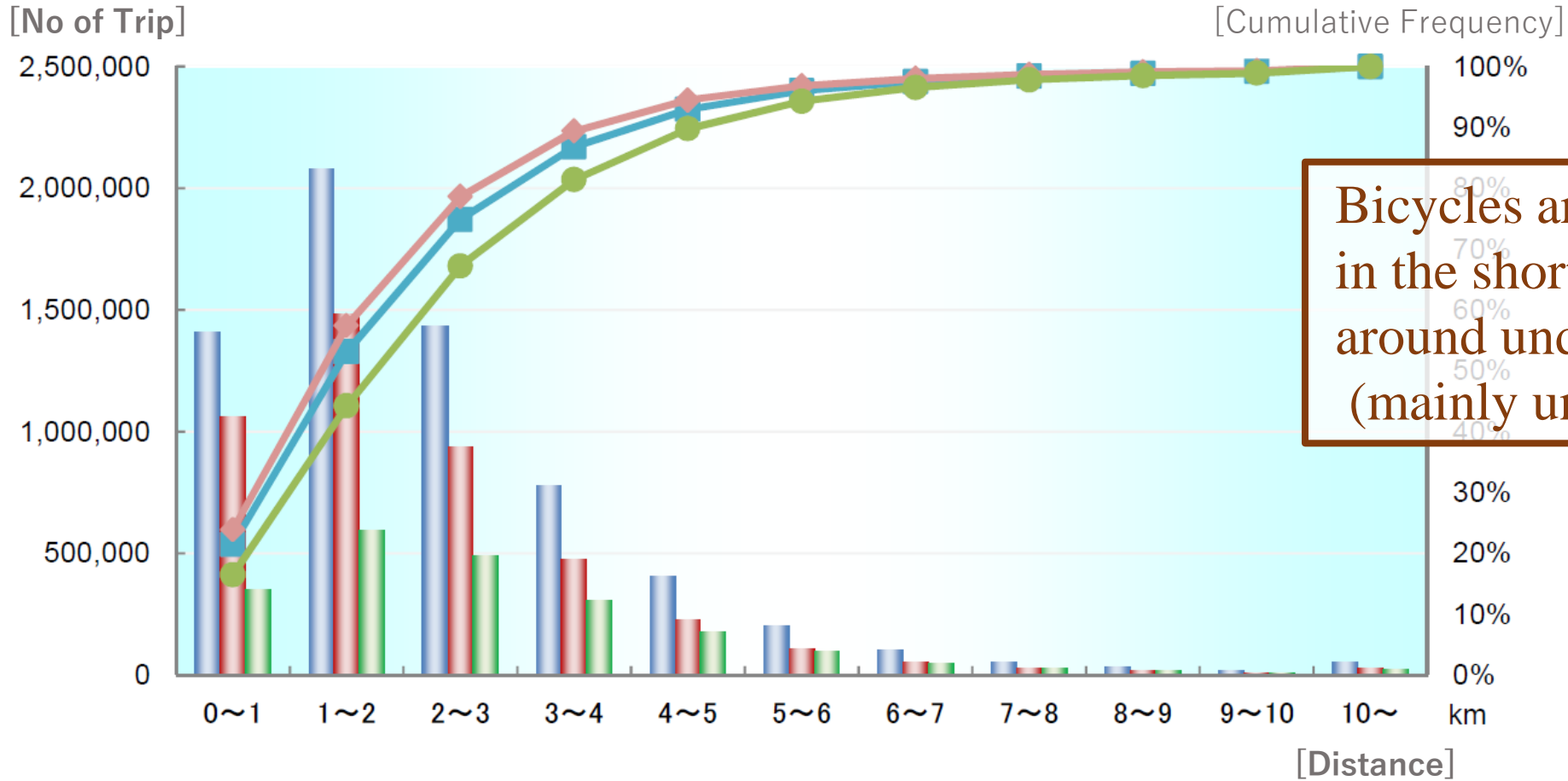
# Purpose of Bicycle Use in Japan



Bicycles are used in shopping and commuting.



# Travel Distance by Bicycles in Tokyo



Bicycles are used in the short distance around under 5km. (mainly under 3km)

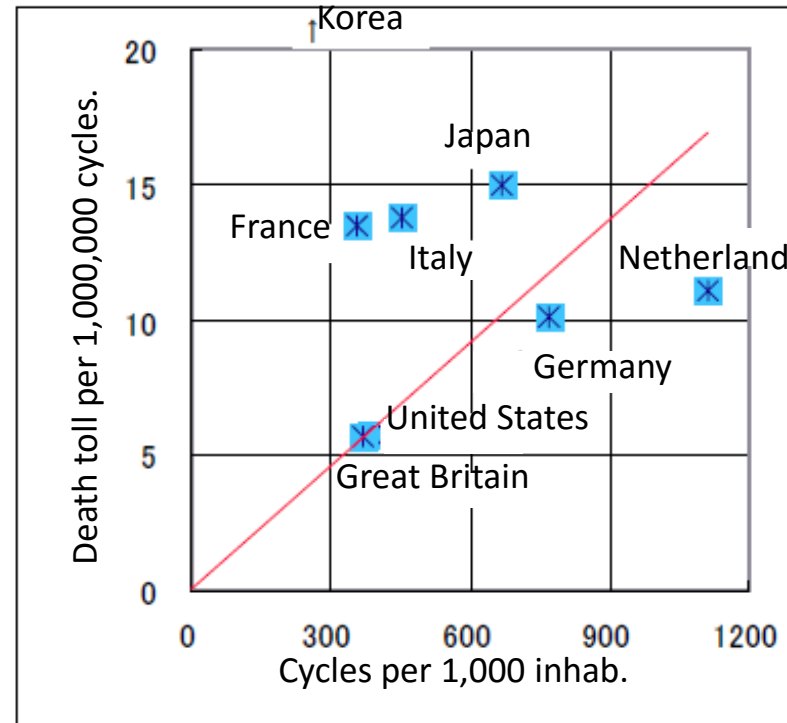
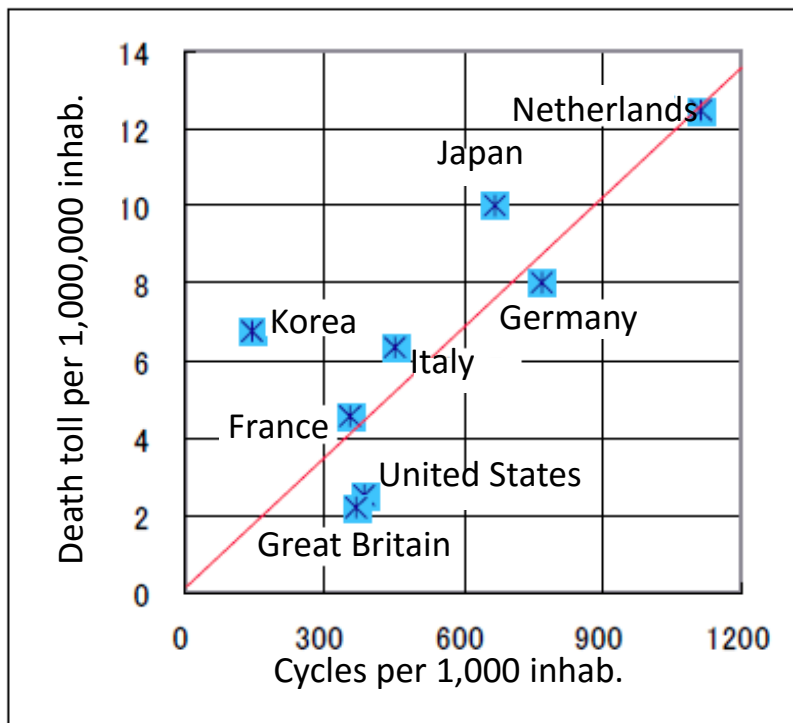
No of Trip  
 Cumulative Frequency

■ Whole Tokyo  
■ 23 Wards (Central Area)  
■ Tama (Suburban Area)  
■ (Unlabeled)

Source: Tokyo Person Trip Census (2008)

# Accidents between Bicycles and Vehicles

International Comparison of Death Toll by Accident during Bicycling per Number of Cycles possession and Inhabitants.



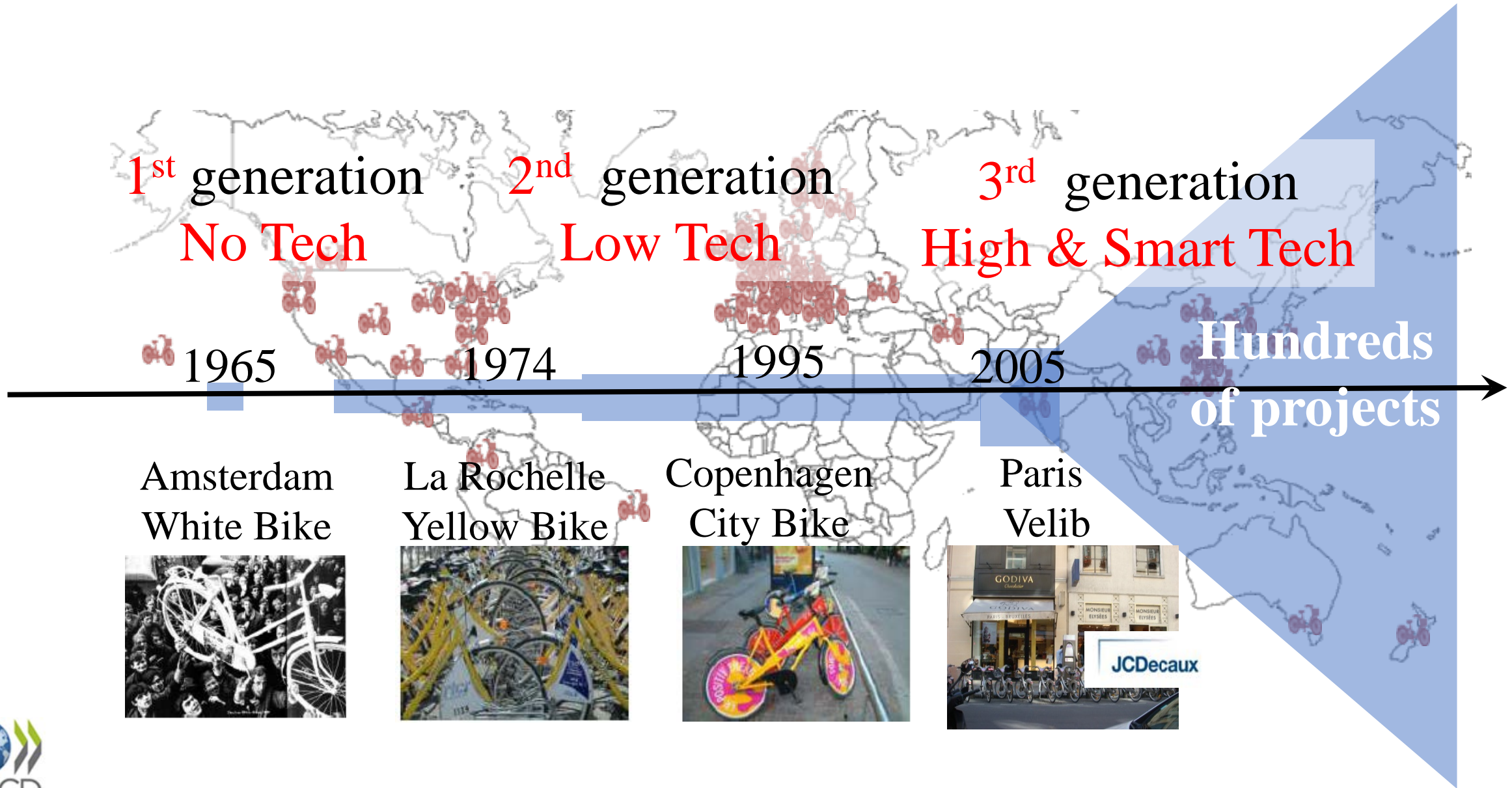
Source: JSTE Handbook (2008)

More accidents (especially side crashes) between bicycles and vehicles has also occurred than the US and EU countries because of invisibility from vehicle drivers.

# Trend of Policies for Bicycle Traffic in Japan

Nov.	2006	Recommendations for Promotion to Cycling Safety (MLITT)
Oct.	2007	Guidebook of Environment for Bicycle Usage (MLITT)
	2008	Pilot Program for 98 Districts
Jul.	2009	Amendment of the Road Traffic Act
Oct.	2011	Circular Notice (NPA)
Apr.	2012	Recommendations for Development of Safe and Comfortable Bicycle Facilities Network (NPA and MLITT)
Nov.	2012	Guideline for Development of Safe and Comfortable Bicycle Facilities Network (NPA and MLITT)
Jun.	2013	Amendment of the Road Traffic Act
Jun.	2017	Act on Promotion to Bicycle Use





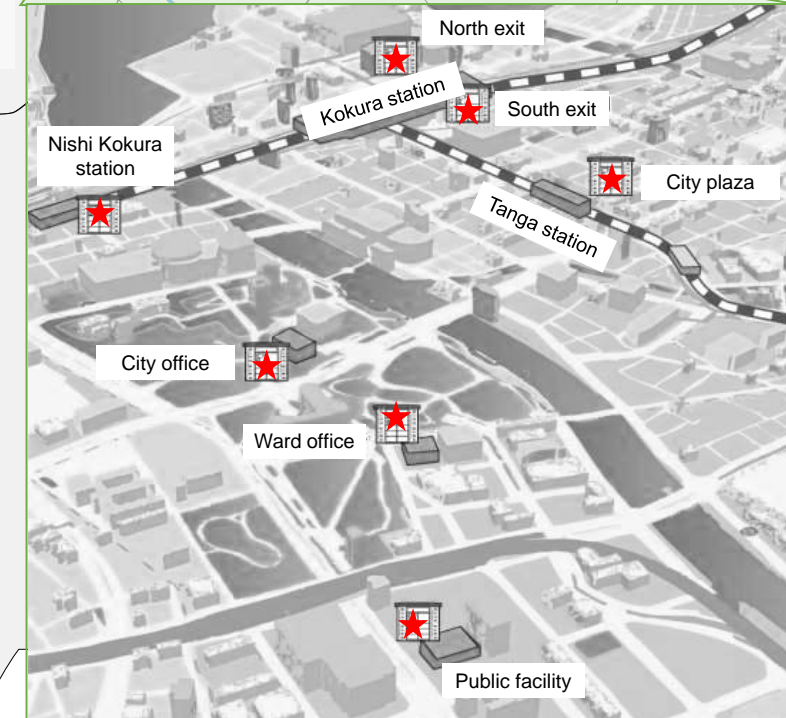
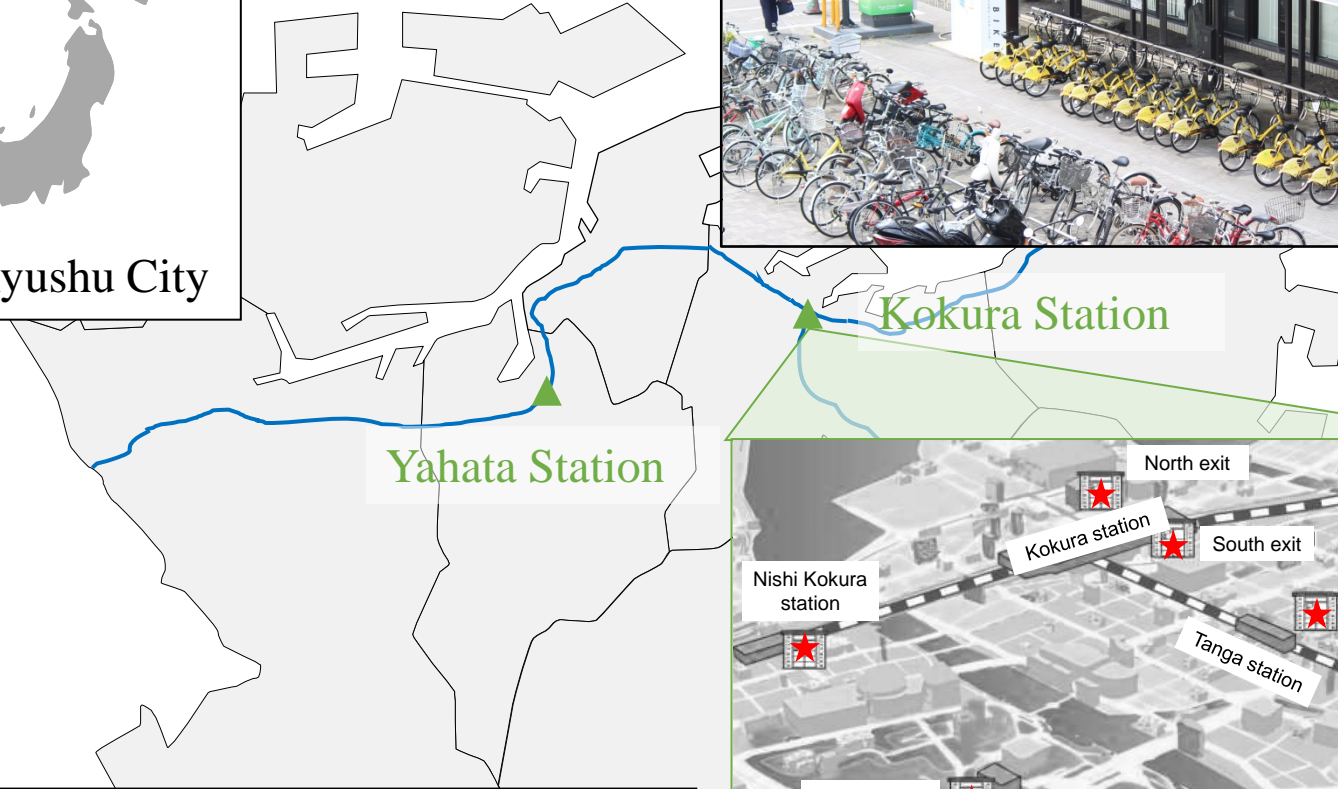


# Management & Operator

Provider	Standard Operating Model	Program Example
Local Government /Public Authority	Directly design and operate a BS program for the well being of cities or a local gov't purchases BS services provided by others	<ul style="list-style-type: none"> <li>•City Bikes (Denmark)</li> <li>•Bicincittà (Italy)</li> <li>•Nubija (South Korea)</li> <li>•YouBike (Taiwan)</li> <li>•Shanghai Public Bicycle(China)</li> </ul>
Non-Profit	Provide BS services with the support of public agencies or local councils	<ul style="list-style-type: none"> <li>• BIXI (Canada)</li> <li>• Hourbike (UK)</li> <li>• Wuhan Public Bicycle (China)</li> <li>•City Bike (Kitakyushu)</li> </ul>
Advertising Company	Advertising funding from city street furniture, billboards, bikes, and BS stations	<ul style="list-style-type: none"> <li>• SmartBike (U.S.)</li> <li>• Cyclocity (France)</li> </ul>
Public Transport Agencies	Ads on bikes and BS stations	<ul style="list-style-type: none"> <li>• Hangzhou Public Bicycle (China)</li> <li>• Call a Bike (Germany)</li> </ul>



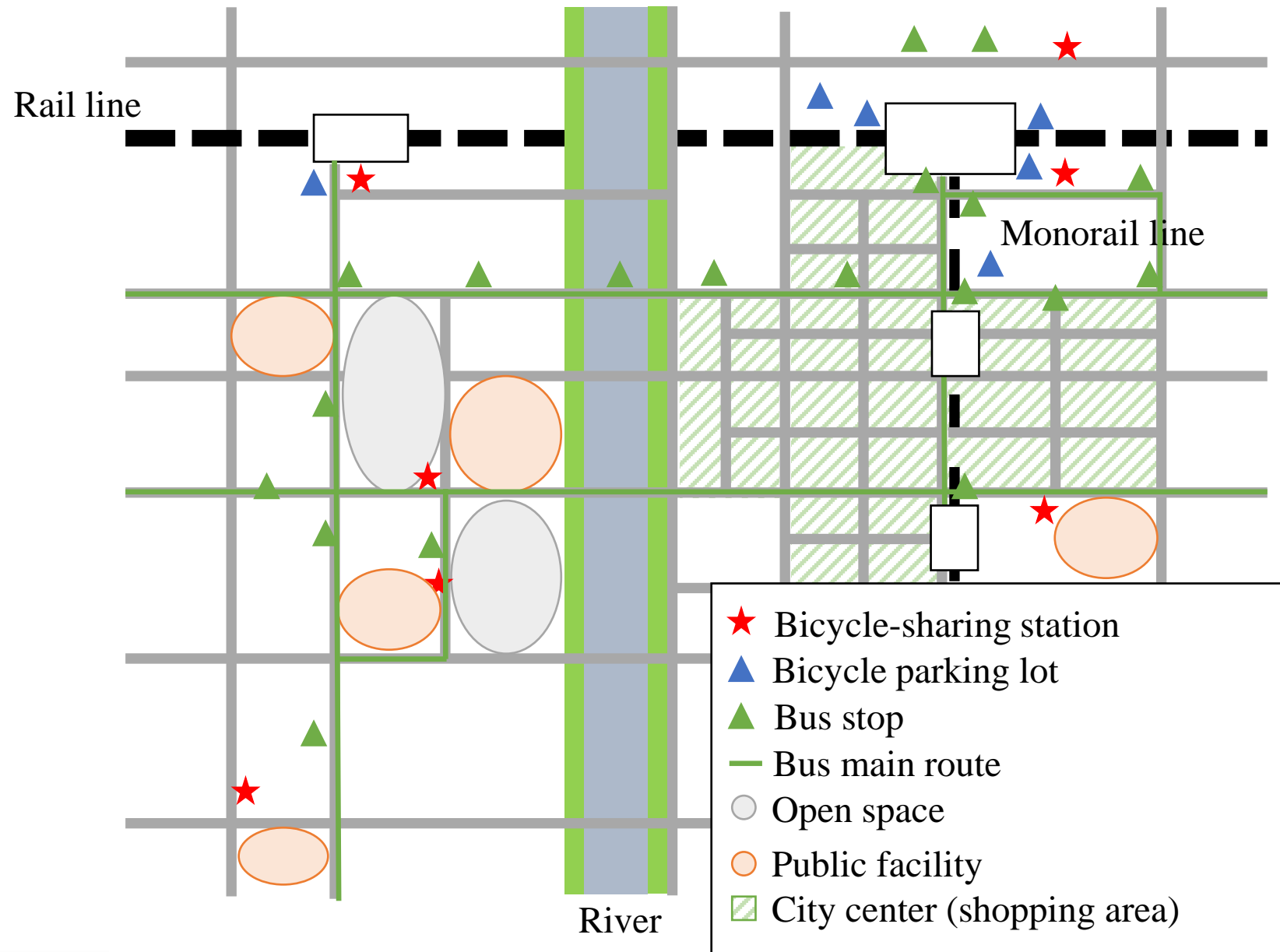
# Map of Interest Area



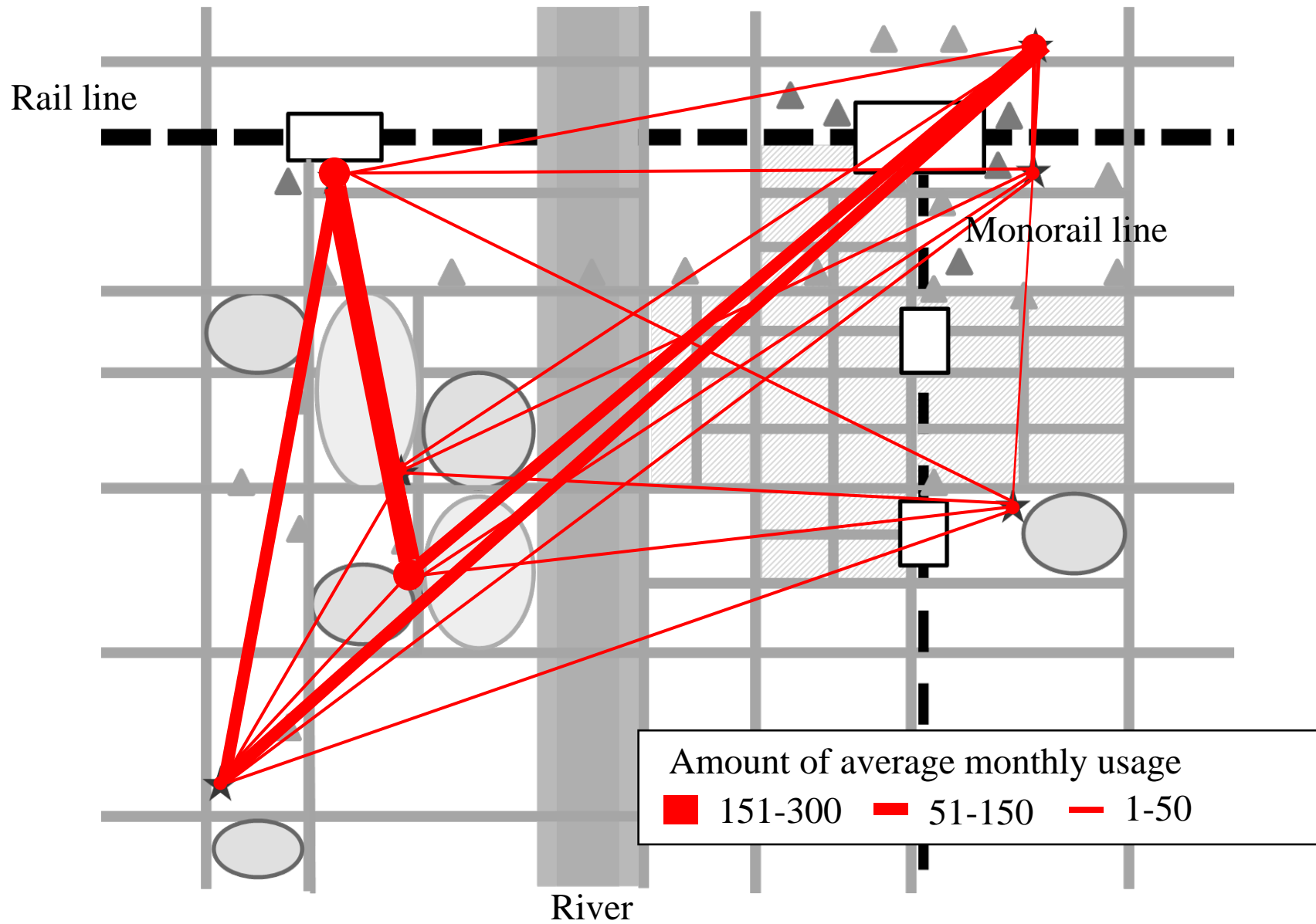
Public bicycle-sharing service area	Public bicycle-sharing station
Rail line	Kitakyushu City

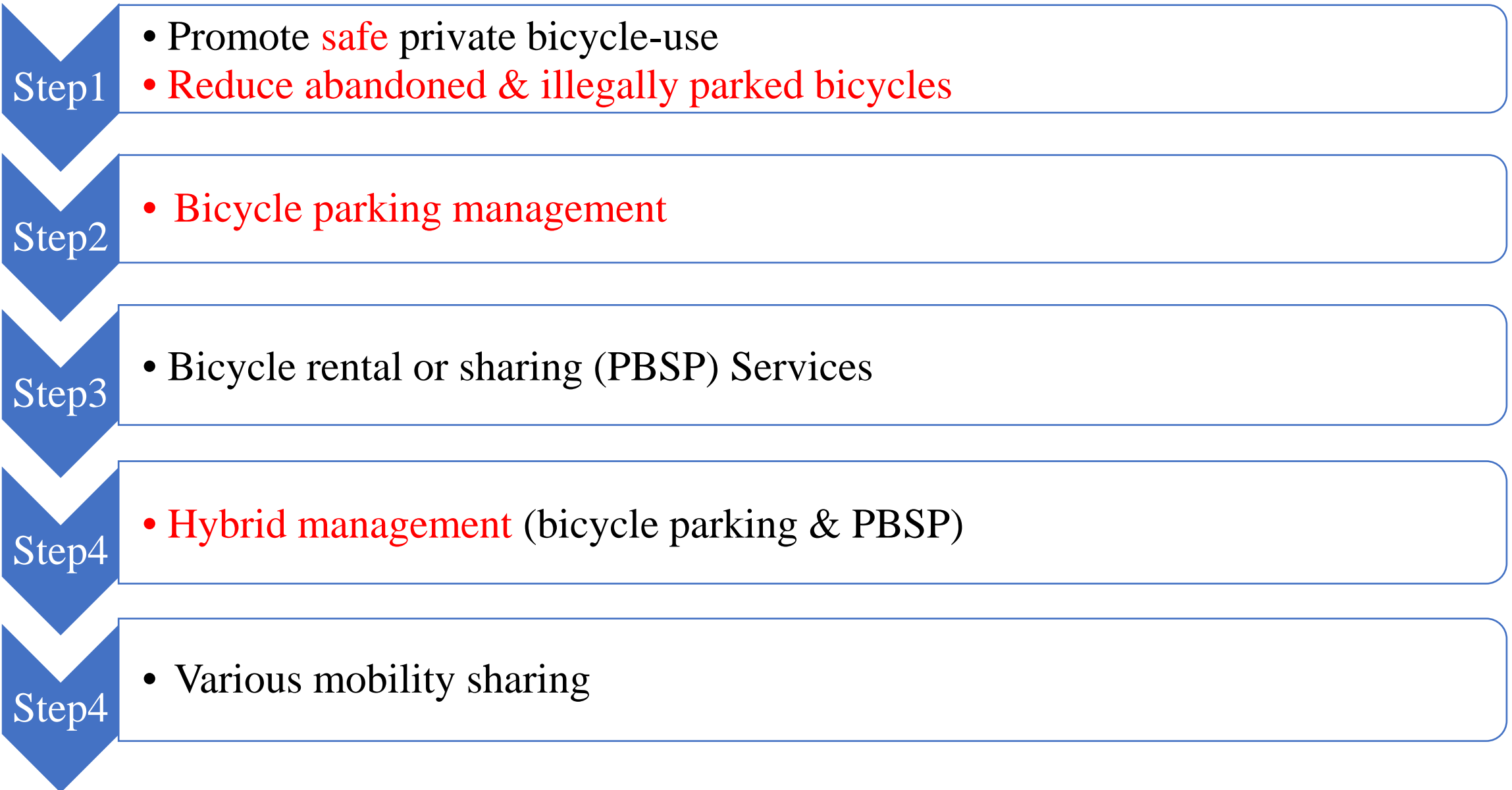
10 km

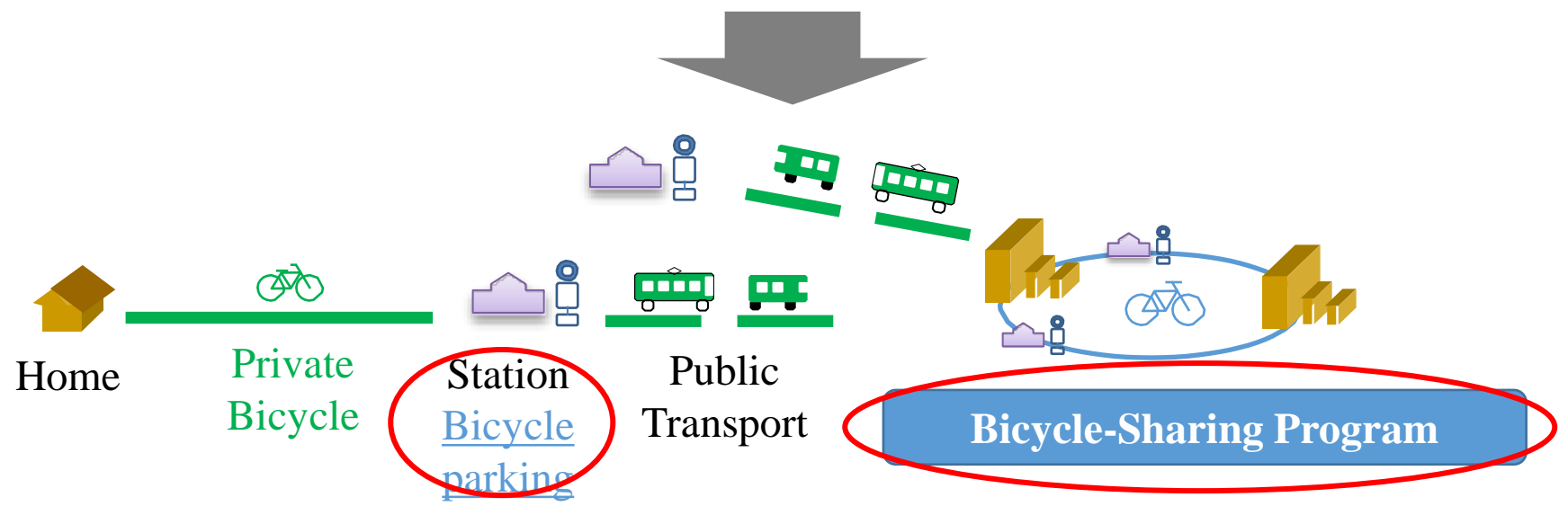
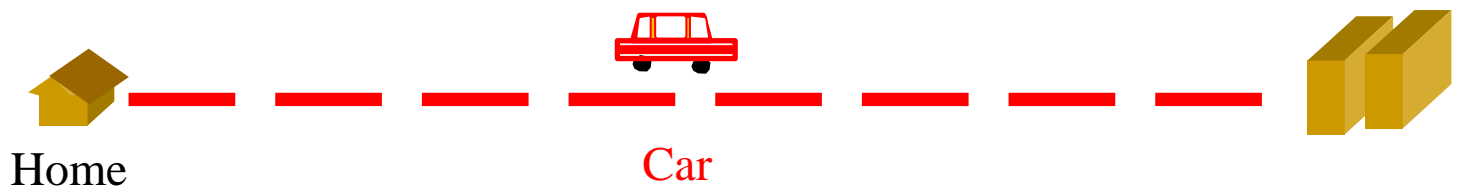
# Spatial Concept for the Kitakyushu “City Bike” Service



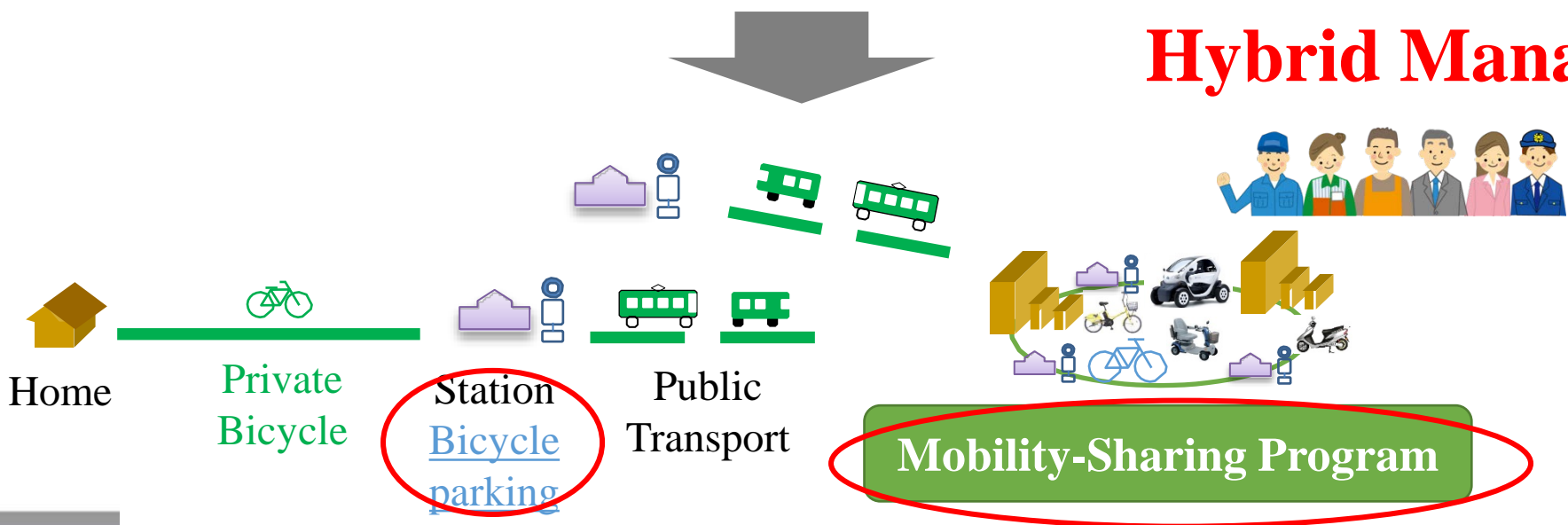
# The Spatial Amount of Average Monthly Usage

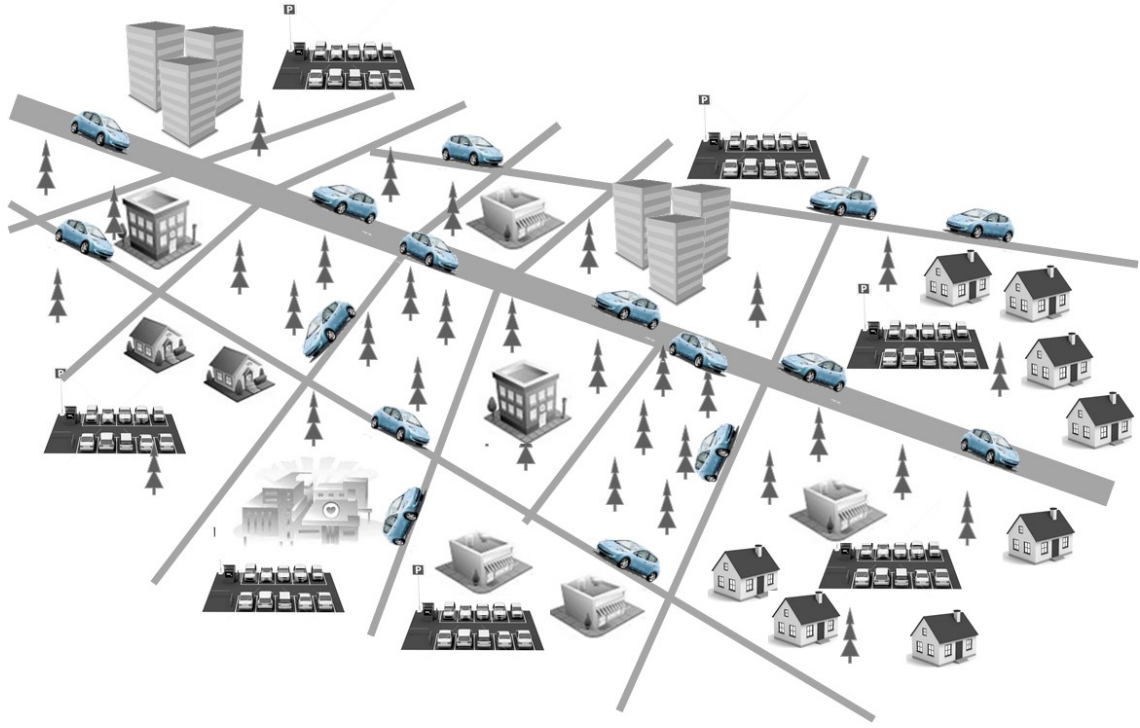






# Hybrid Management







# Various Mobility Sharing System



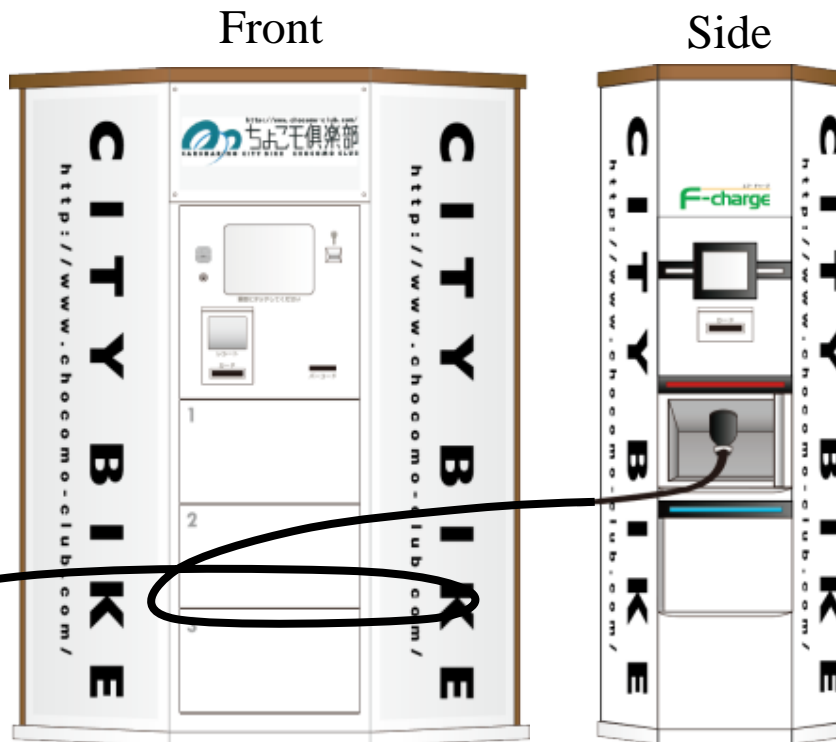
Shopping EV Cart



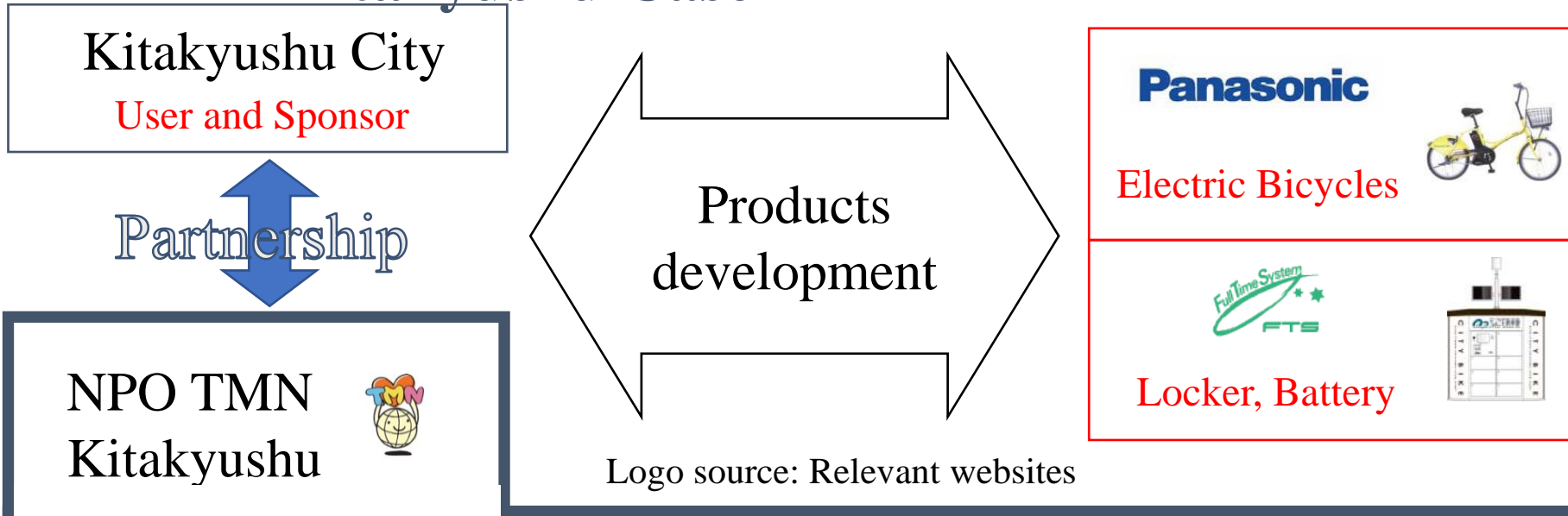
EV Community Vehicle



City Bike



# Partnership and Integration for Various Projects: Kitakyushu Case



NPO TMN  
Kitakyushu



PBSB



Eco Points



Community development



Car-sharing



Parking

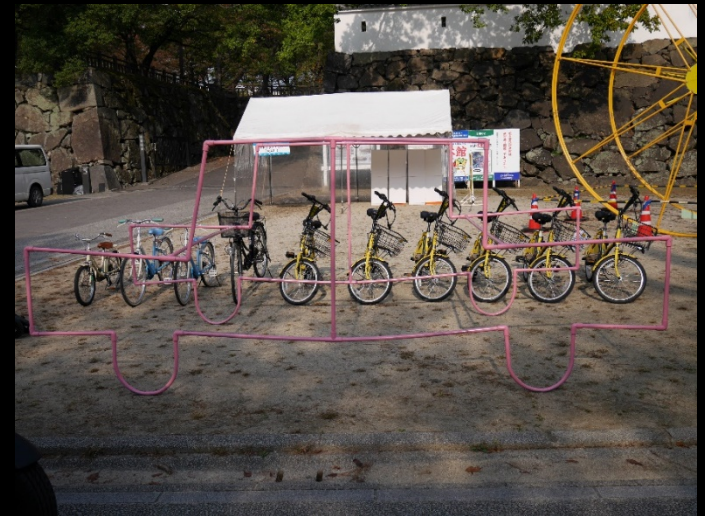


Traffic education



Cycle tour

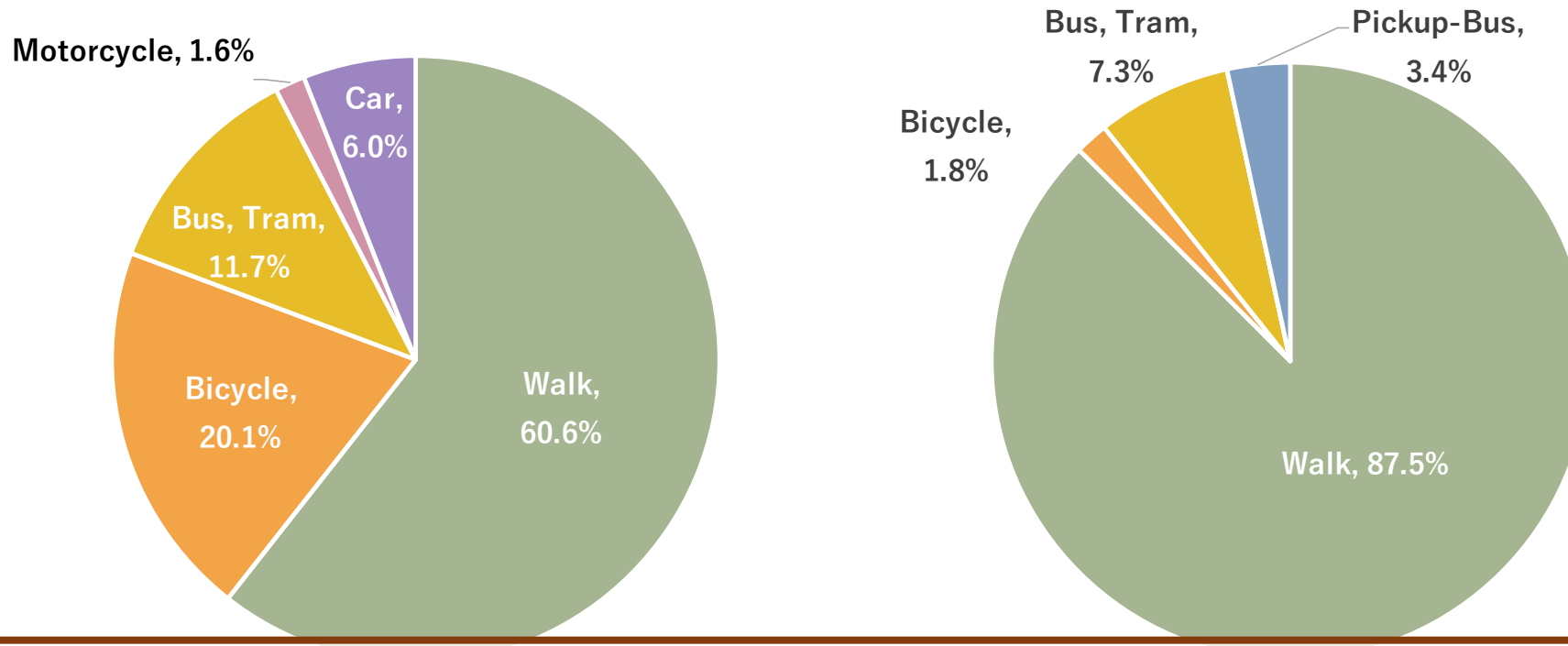






## Case in Tokyo

### - Access and Egress Modal Share in Tokyo



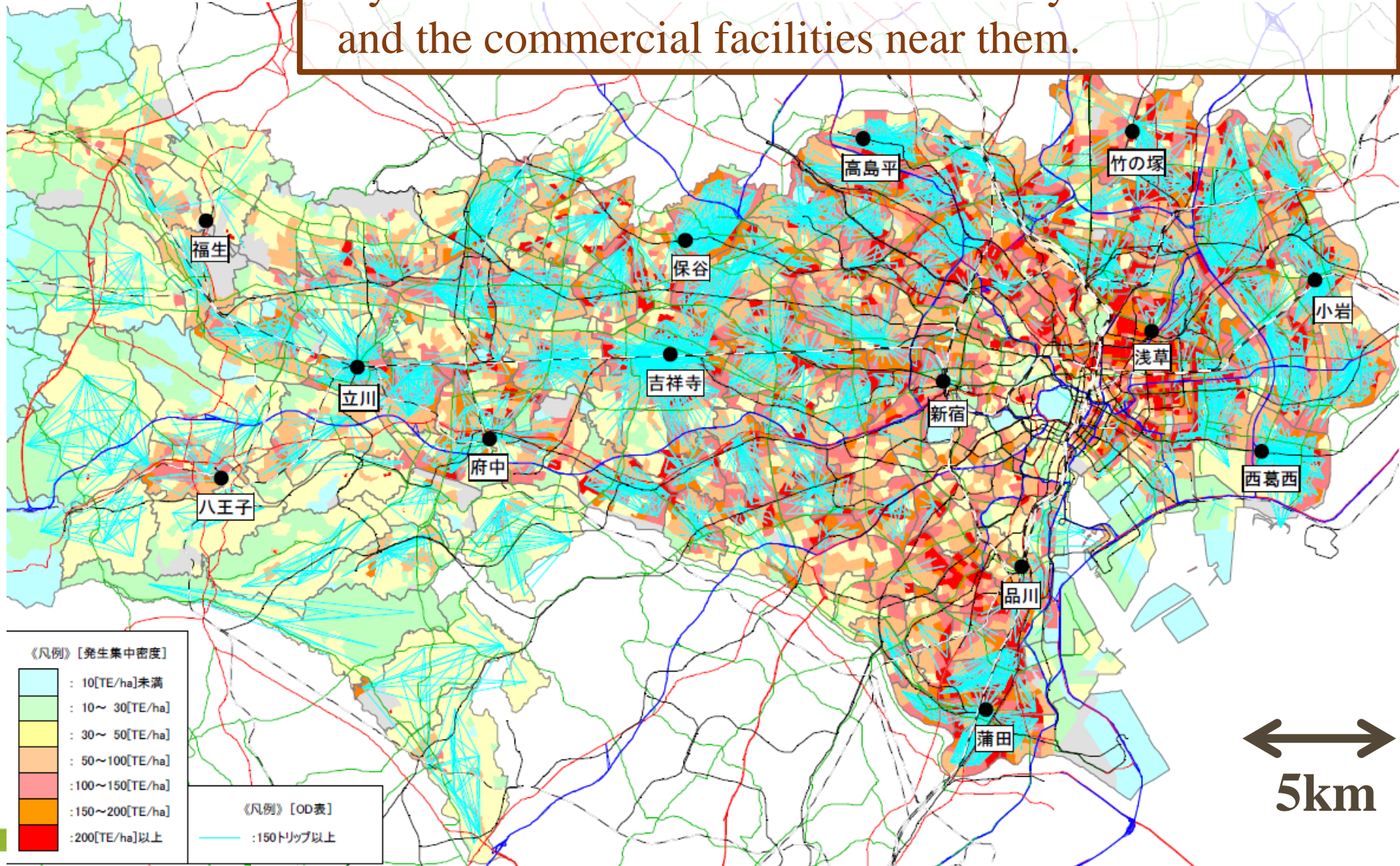
Bicycles are used especially as an access mode (under 5km), therefore bicycles are near the railway stations almost whole of working hours.

Shoppers come around the stations in the afternoon, they can't find the parking space.

Source:  
Policy Research Institute for Land, Infrastructure (2012)

# Bicycle Congested Traffic Density and Trips

Cyclists are concentrated to the railway stations and the commercial facilities near them.



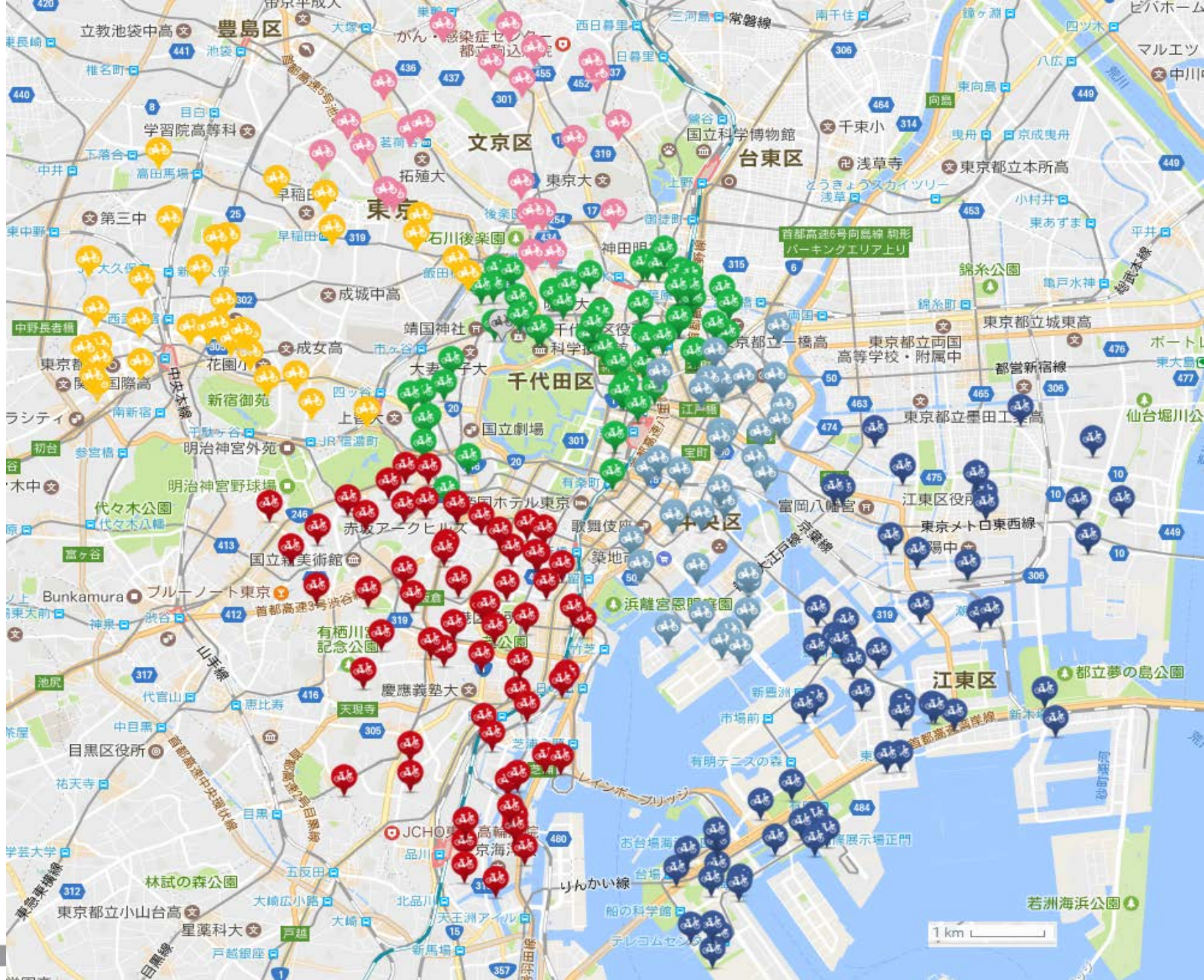
5km

# Underground Parking Space for Bicycles



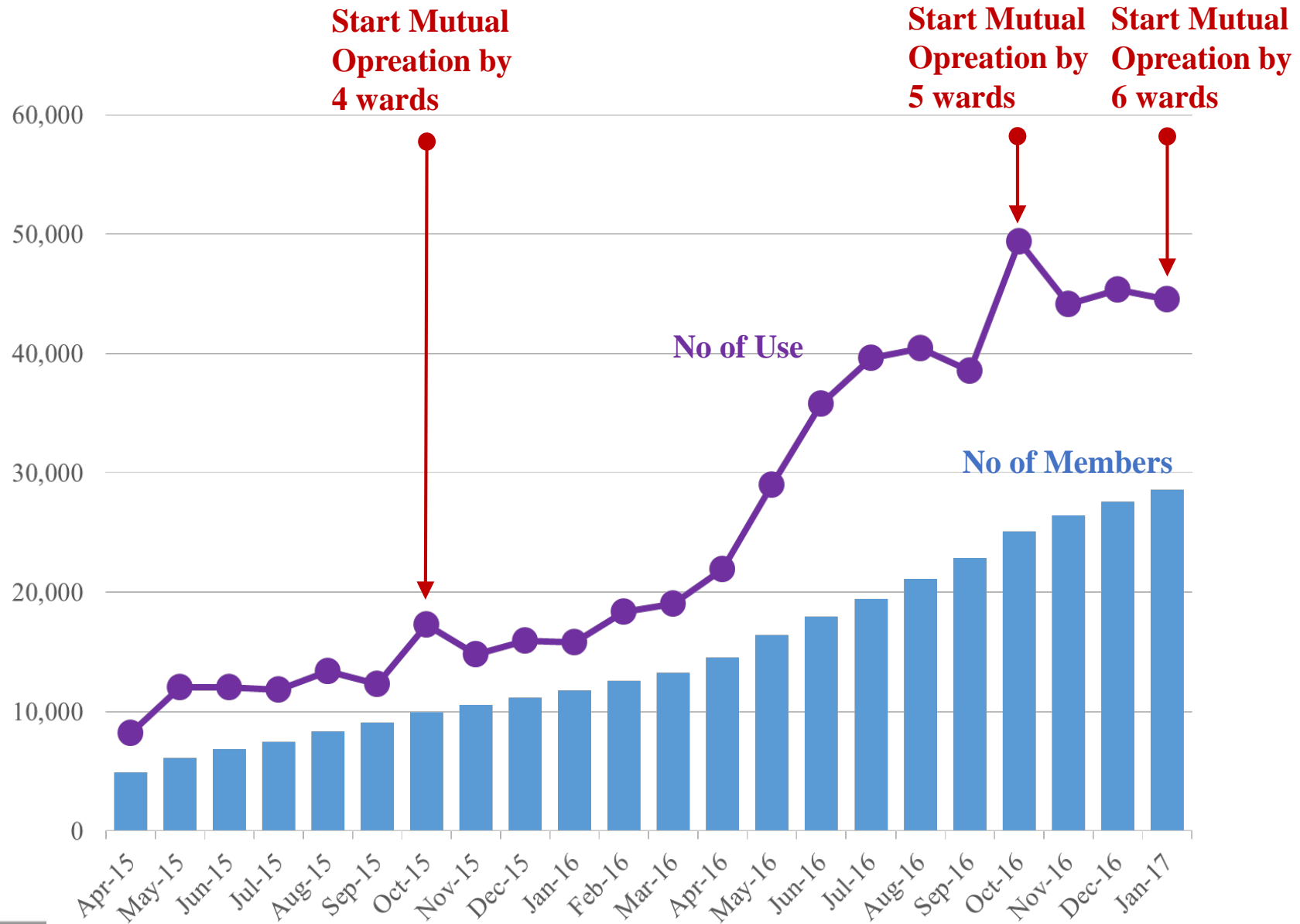
Save of parking lots is one of strong motivation to promote public bikes for local governments in Tokyo

The municipalities try to put the both of them in the large parking facilities in front of (or underground) the railway stations. That's why we're lacking the parking lots.





# Time trend of members and use in Tokyo



# Effect of Mutual Operation in Tokyo

- In the case of Minato-Ward, commuters who used their own bicycles changed to public bikes
- In the case of Chiyoda-Ward, “to provide parking lots certainly” motivates strongly to use public bicycles.
- Route between apartments and railway stations are used heavily.
- Some users choose other railway stations when they use public bike system for saving transfer.

Ports with the highest use are:



Apartment ↔ Railway Station





Bicycles make 2 Lines.

(Because they're operated by the beacon devices, the users don't need to put bikes at racks.)

1. **Dense of bicycle and ports** are more important
2. Integration means “**accessibility**” and “**discoverability**”
3. **Management models** differ by venue and **large-scaled model** is globally well-known and **small-scaled model** needs careful concept
4. **Hybrid management model and integrated strategies** are important
5. **Cooperation** between several organizations is necessary for the hybrid management and integrated strategies



Thank you for your kind attention!

