



# Avenue for Increased Revenues and Cost Cutting Methods - Land Value Capture Mechanisms in Japan

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Kyoto State Guest House

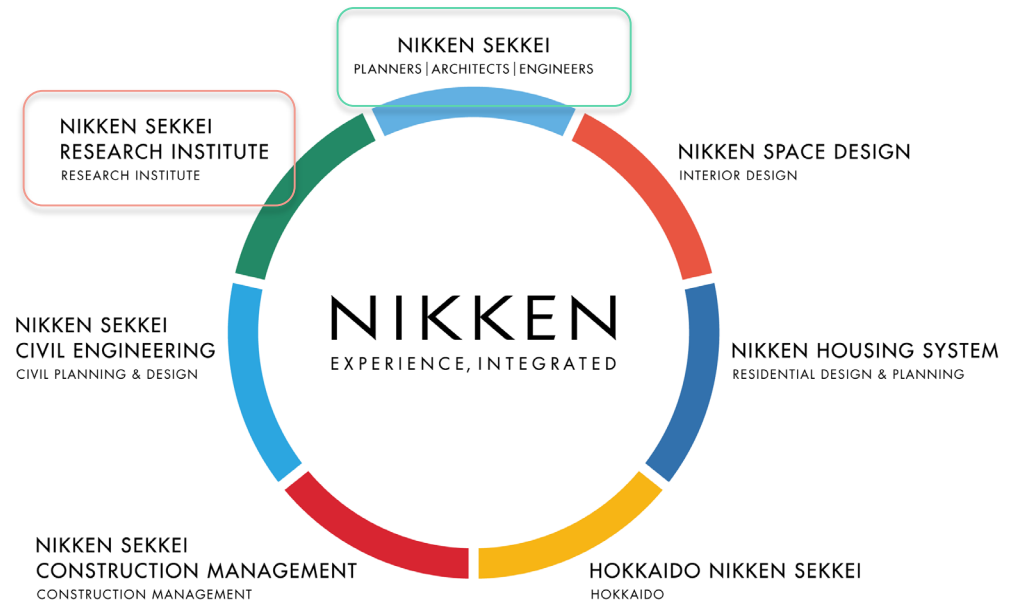
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- More than 100 years old Legacy

- Multi-Disciplinary Design Consultancy Firm, Established in 1900
- Over 25,000 projects in more than 50 countries
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TOD books published by Nikken Group



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2. TOD/LVC by the Public Sector: Urban Development along Tsukuba Expressway (TX)

# 1. TOD/LVC by the Private Sector: Tama Garden City by Tokyu Corporation



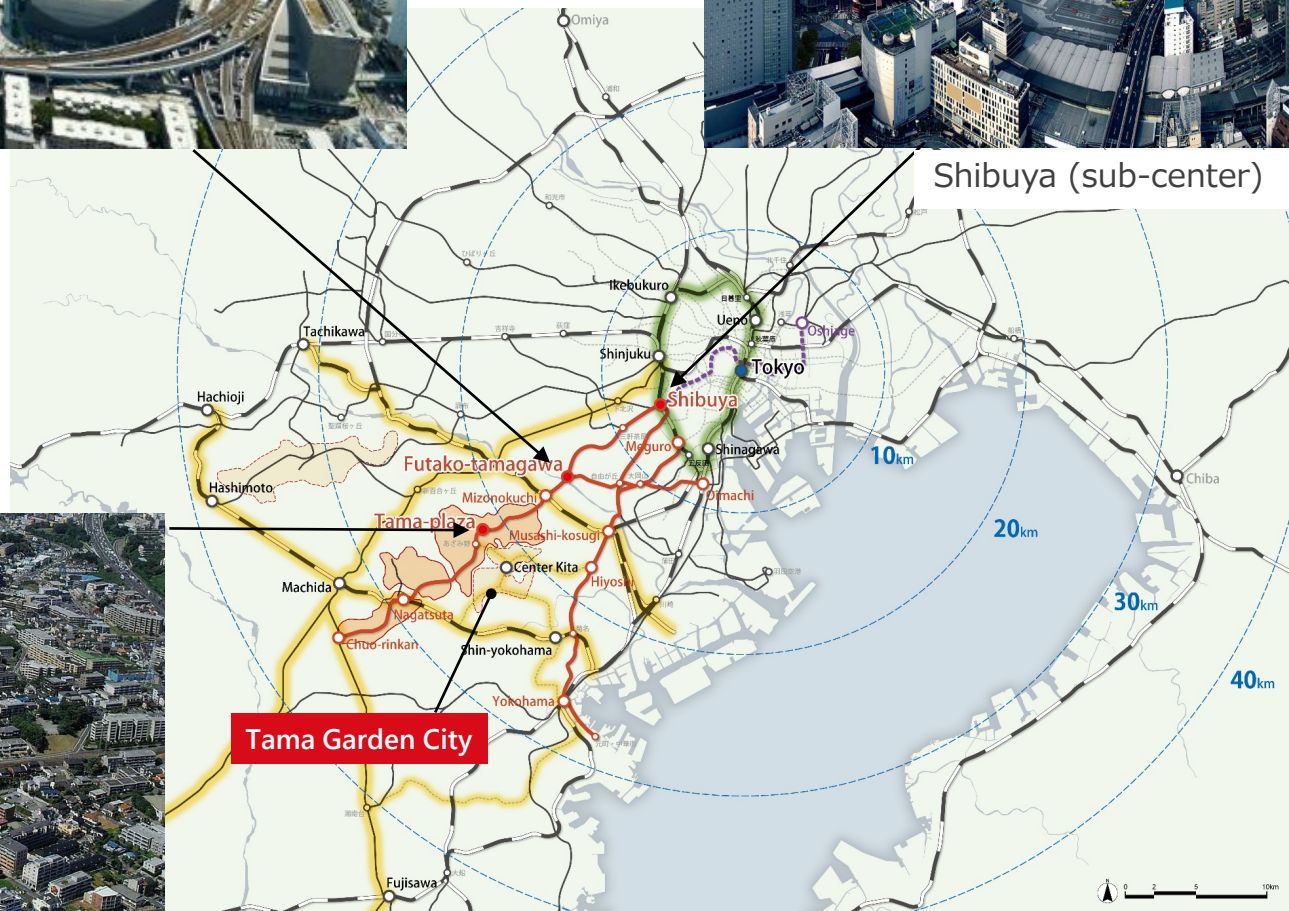


Futako-Tamagawa



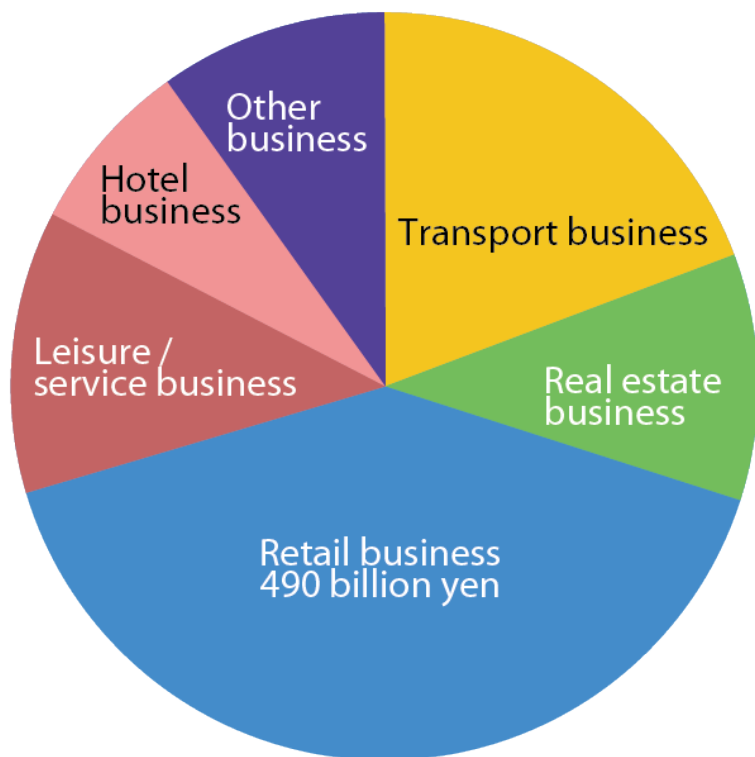
Shibuya (sub-center)

Tama-Plaza

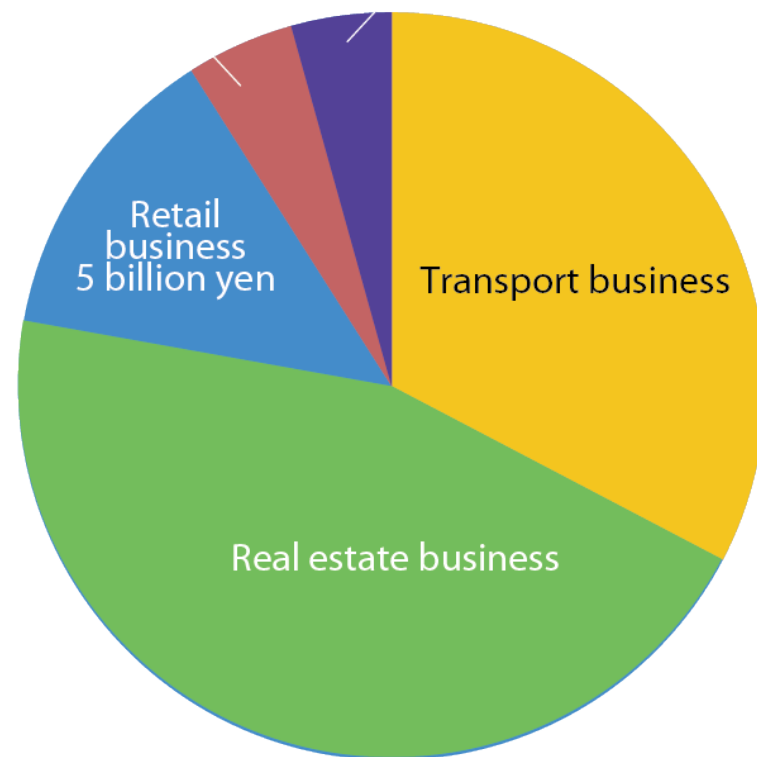


Tokyu Den-en-toshi Line/ Tama Garden City

# Financial Status of Tokyu Corporation



Revenue



Profit



## 1. TOD/LVC by the Private Sector: Tama Garden City

## 1) Overview and Main Features of Urban Development along Tokyu Den-en-toshi Line/ Tama Garden City

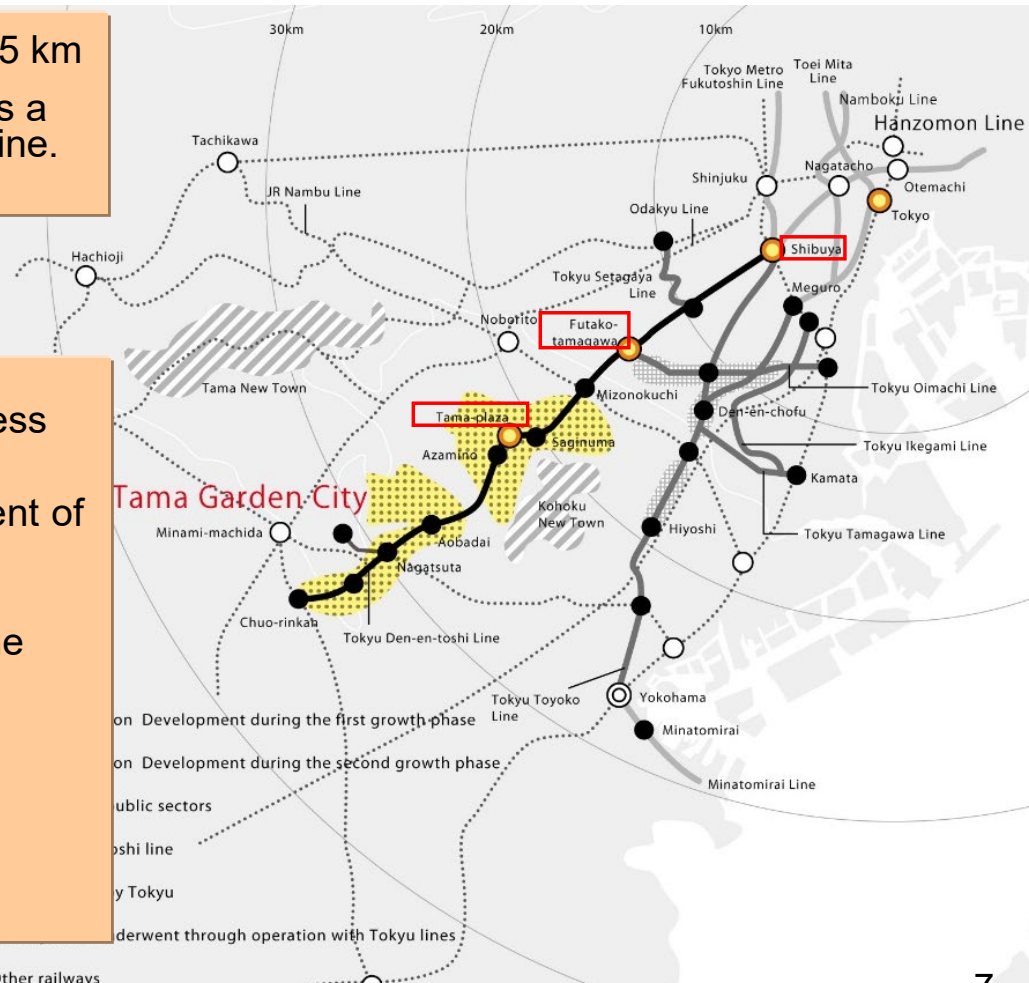
**【Route map of Tokyu Den-en-toshi Line and Tama Garden City】**

## ■ Overview

- A private railroad by Tokyu Co. covering 31.5 km
- From the beginning, the line was planned as a mutual through-line service with the metro line.

## ■ Main Features

- Use of land readjustment projects as business development methods
- Acquisition of land by Tokyu and development of the project
- Systematic construction of railroads and development along railways at the same time
- Development of core areas along railways and downtown
- Expansion of areas along railways through bus networks



# 1. TOD/LVC by the Private Sector: Tama Garden City

## 2) Development through Land Readjustment System by the railway company (Tokyu Cop.)

### ■ Land readjustment projects

In the development of Tama Garden City, it was:

- (1) Difficult to purchase the full area of land and
- (2) Necessary to control funding demands to purchase land

The land readjustment system was used because of these issues.

### ■ Integrated business agency system

- Tokyu Cop. purchased land and initiated Land Readjustment Projects with other land owners.
- Tokyu could consolidate the lands near the stations in which the values were increased a lot.
- Landowners could enjoy convenience through the construction of a railroad with improvement of basic infrastructure without a financial burden.

【In front of Tama Plaza Station (1974)】



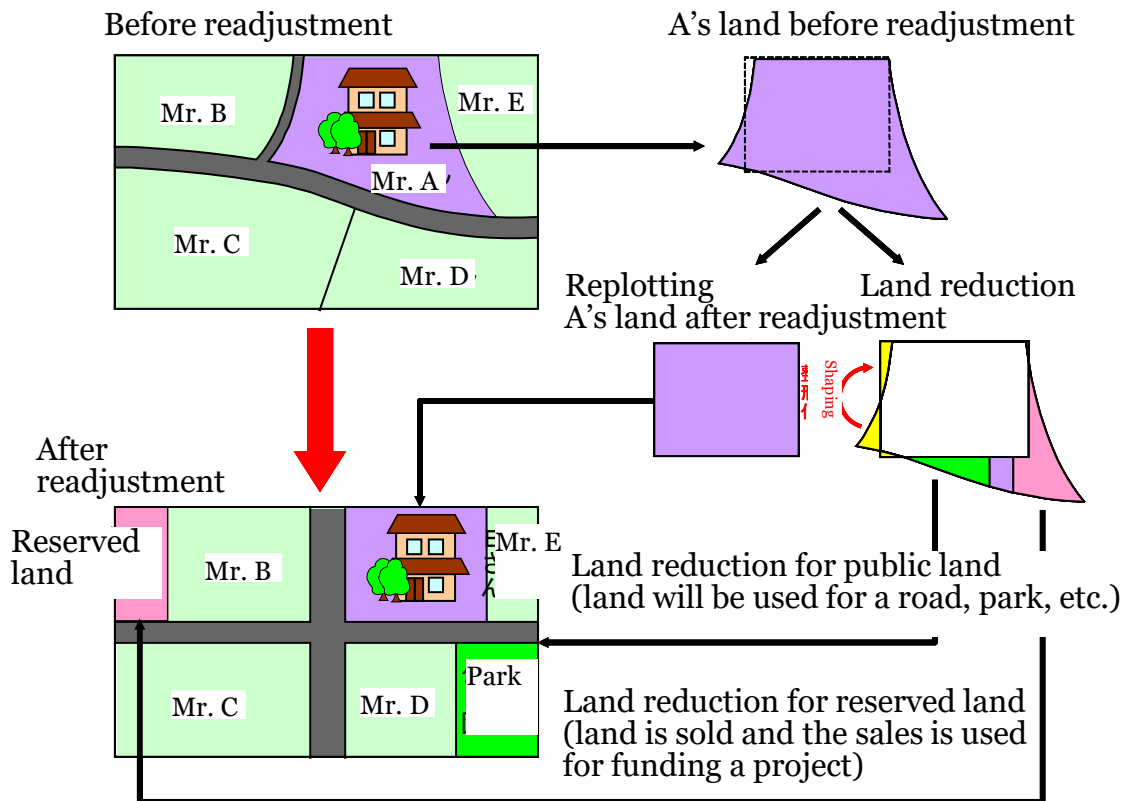
【City landscape of area around Tama Plaza (2005)】





# Land Readjustment System

- Through readjustment/improvement of public facilities (e.g., roads, parks), land divisions are organized for enhanced uses of residential land.
- In areas with insufficient public facilities, obtain a portion of land from land owners depending on their rights. The acquired lands are used for enlargement of public facilities or partially sold to provide funding for projects.



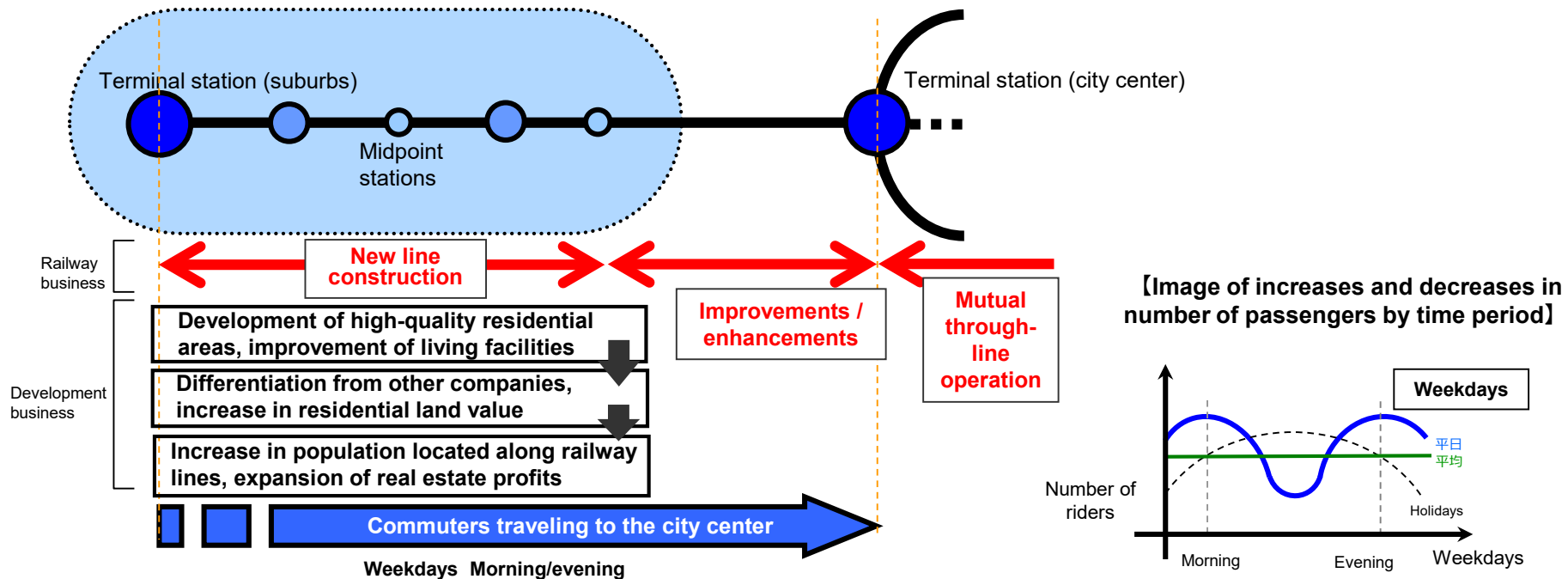
# 1. TOD/LVC by the Private Sector: Tama Garden City

## 3) Simultaneous promotion of railroad construction and operation and urban development along the railway

### 1<sup>st</sup> Features

Systematically promote railway construction and operation and development along the railway at the same time.

With this, it was possible to secure profits for real estate ventures and guarantee the number of passengers using the railway line, as well as generate stable earnings and profits in the operation.

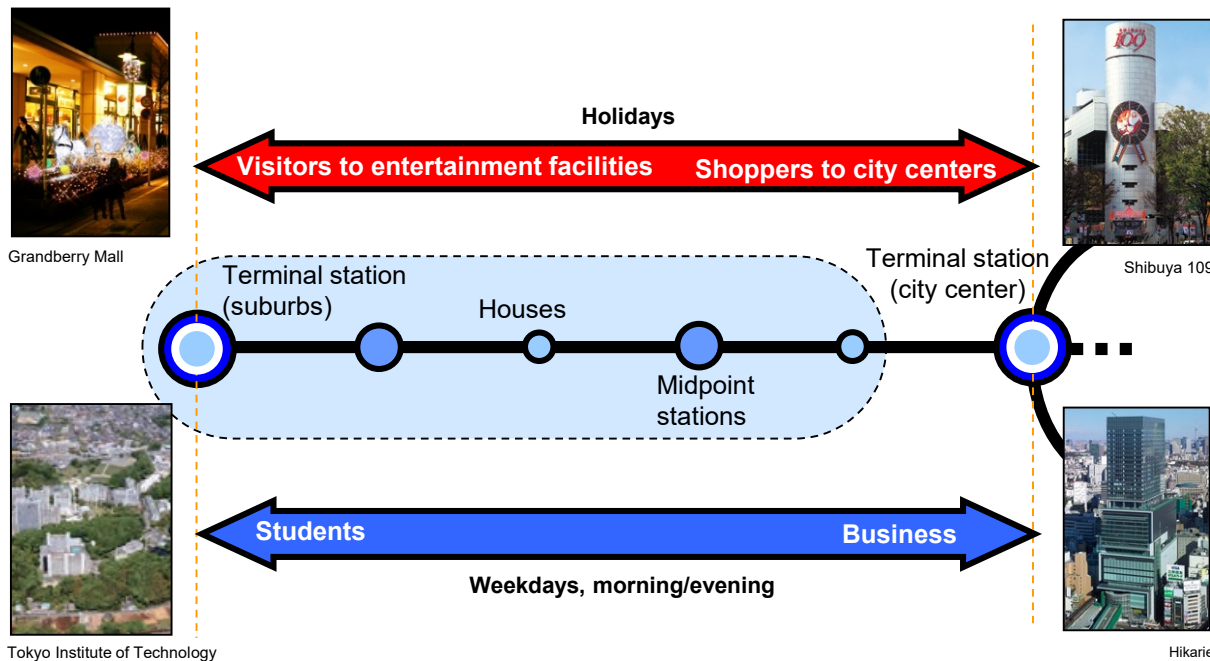


# 1. TOD/LVC by the Private Sector: Tama Garden City

## 2<sup>nd</sup> Features

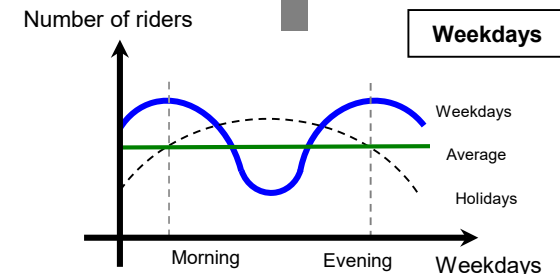
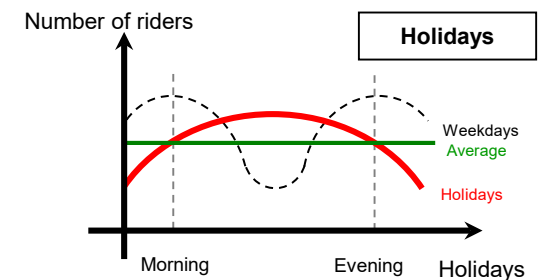
High-quality facilities were planned for each of the development cores in the suburbs, along the railway line, and in the city center.

Tokyu Corp. is building its brand along with those development and raising real estate value by increasing the value along the railway line to maximize development profits.



Source: Created by Nikken Sekkei Research Institute, photos from each facility website

[Image of increases and decreases in number of passengers by time period]



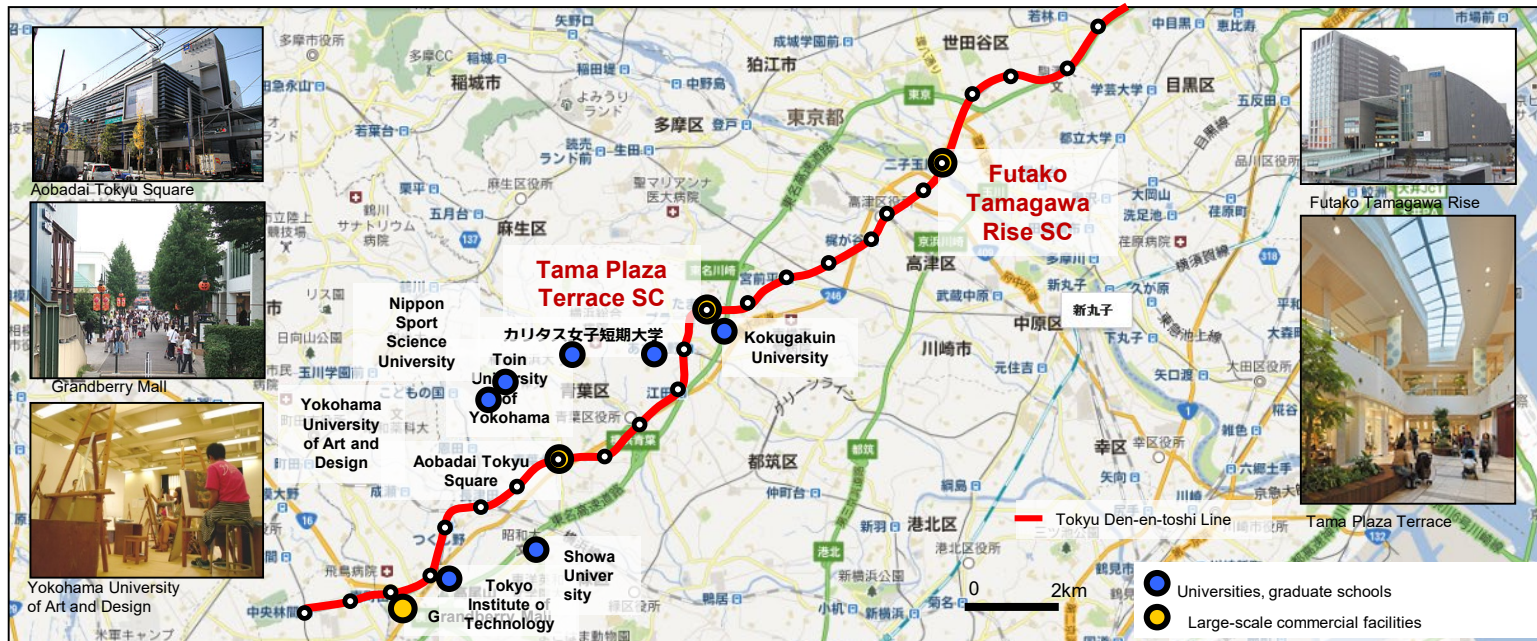
Source: Created by Nikken Sekkei Research Institute

# 1. TOD/LVC by the Private Sector: Tama Garden City

## 4) Development of urban cores and creation of the Tokyu Brand

In addition, by attracting famous universities, as well as large-scale facilities, and establishing various types of mechanisms to facilitate the flow of people to the suburbs, a stable number of passengers can be secured to improve railway operation efficiency and encourage the use of the railway in the reverse direction.

### 【Major universities and commercial facilities located along the Tokyu Den-en-toshi Line】



Source: Google Maps, photos of Aobadai Tokyu Square and Grandberry Mall are from Wikipedia, other photos are from the websites of each facility





Futako Tamagawa Rise SC





Tama Plaza Terrace SC

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# 1. TOD/LVC by the Private Sector: Tama Garden City

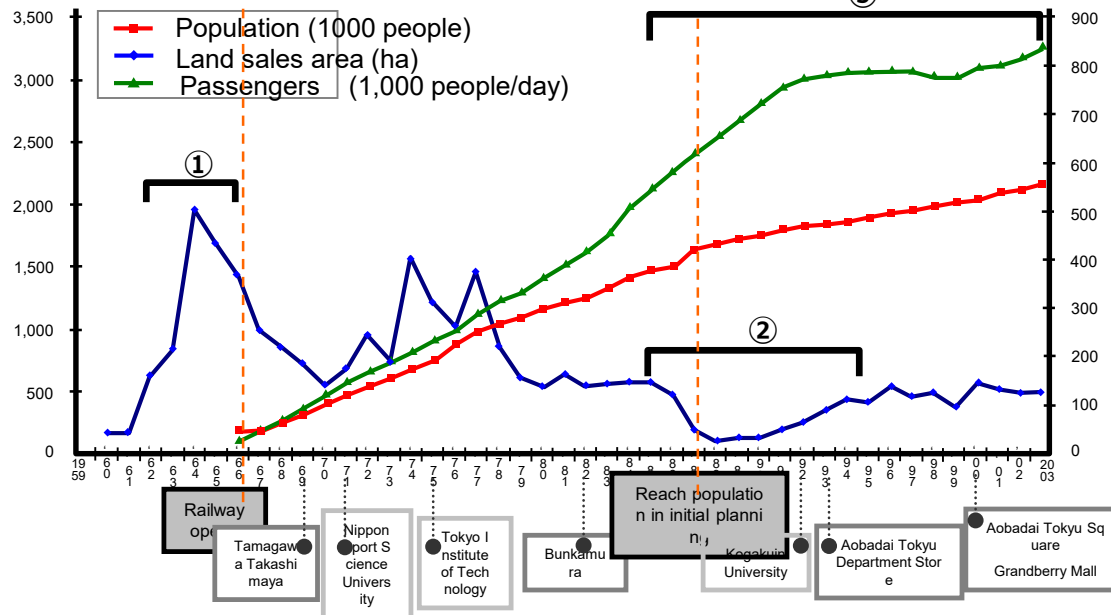
## 5) Business-theoretical features in private development

(1) Large-scale supply of land early in the development stage

(2) Improvement in the brand value of the city

(3) Additional increase in the number of railway passengers

【Changes in transportation personnel】



Source: Created by Nikken Sekkei Research institute from Tokyo Corporation's 50 Year History and the websites of each facility

# 1. TOD/LVC by the Private Sector: Tama Garden City

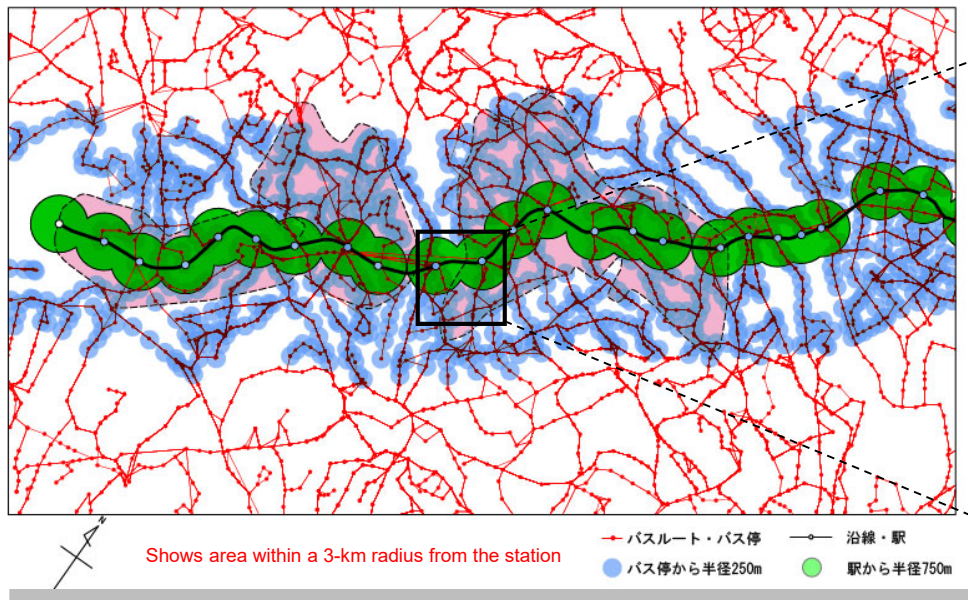
## 6) Expansion of area along railway line with feeder-bus network

The distance between stations is set at a distance where the walking area is continuous.

For the development of Tama Garden City, buses are used to support transportation in the area.

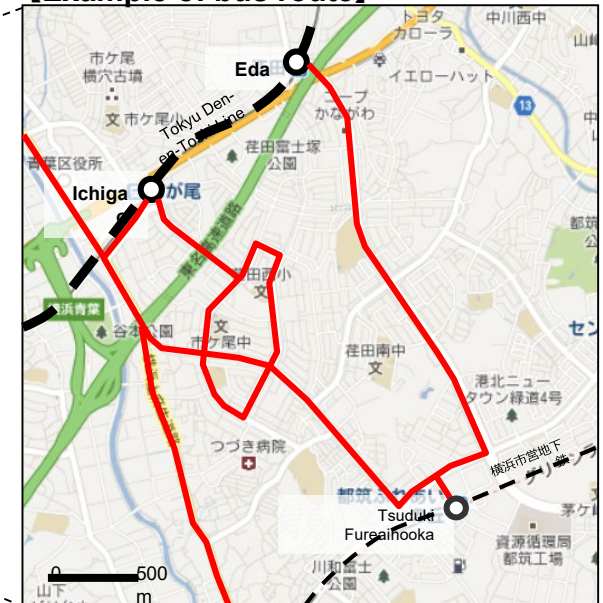
Development of a feeder-bus route network makes the residential areas highly convenient even in areas that are outside of the station walking area.

【Bus network comprised mainly of the Tokyu Den-en-toshi Line】



Source: Created by Nikken Sekkei Research Institute

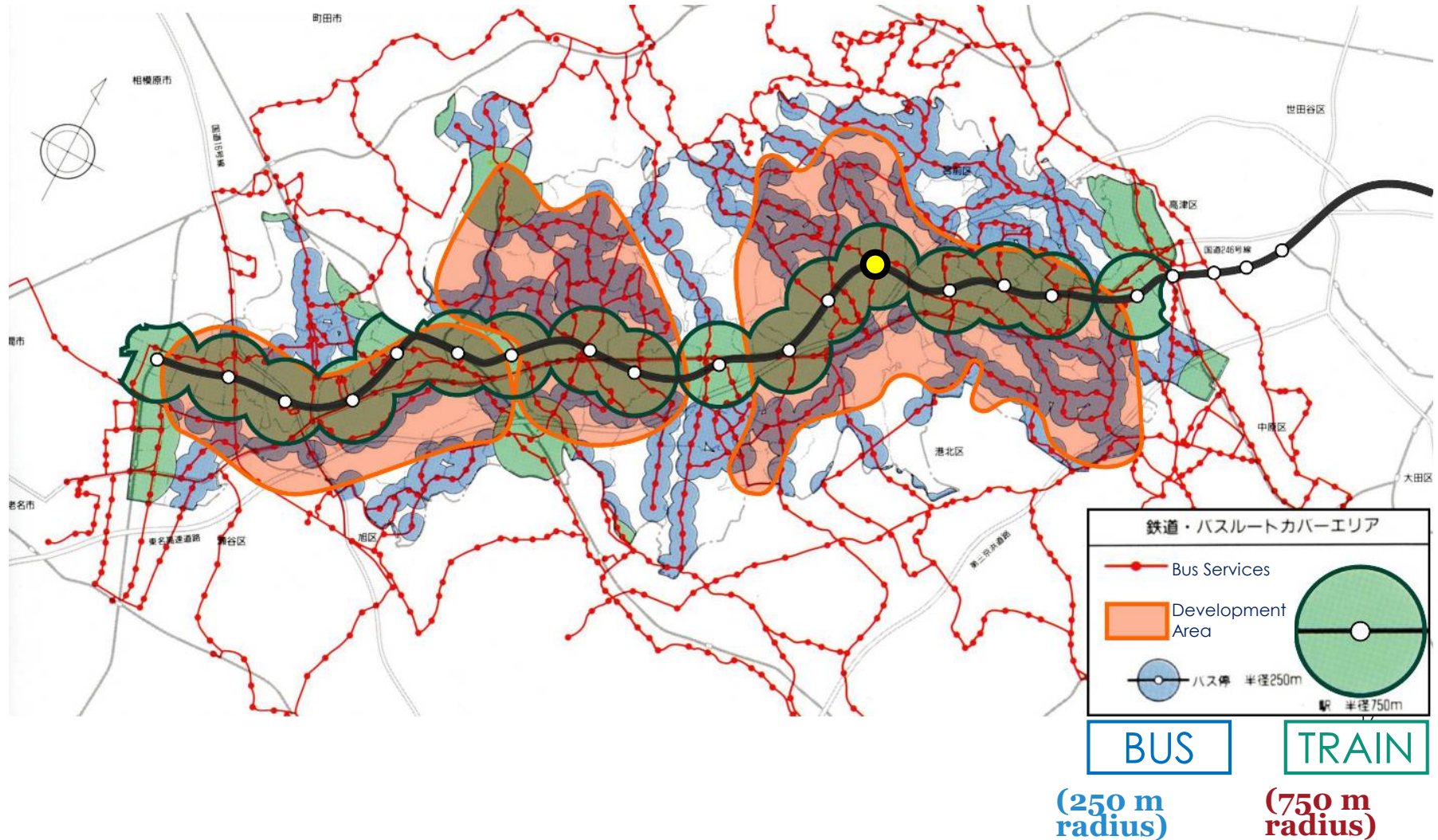
【Example of bus route】



Source: Created by Nikken Sekkei Research Institute from network line maps of the Tokyu Bus Aobadai sales office

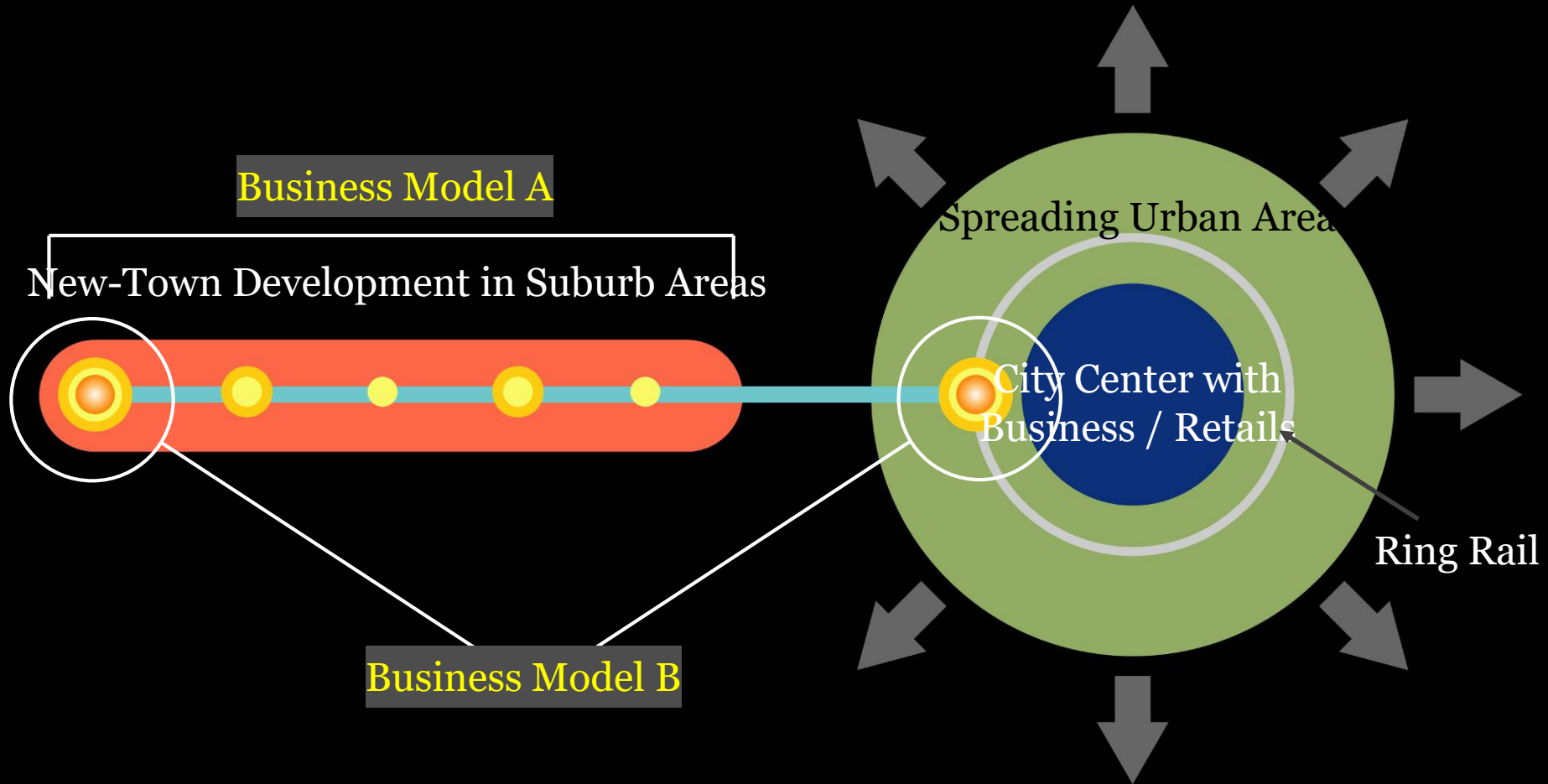


# Coverage area by train and feeder-bus network



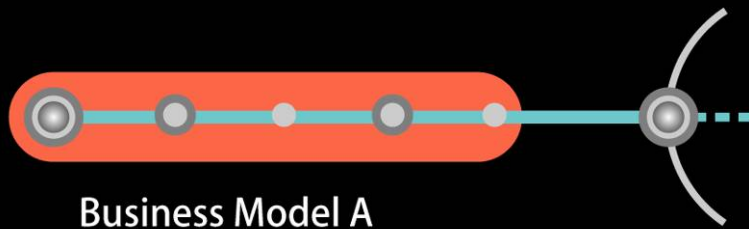
# Business Models for Suburban Development in Japan -1

## Growth Model of Tokyo Metropolitan Area



# Business Models for Suburban Development in Japan -2

## – Integration of Urban Development and Railway Construction –

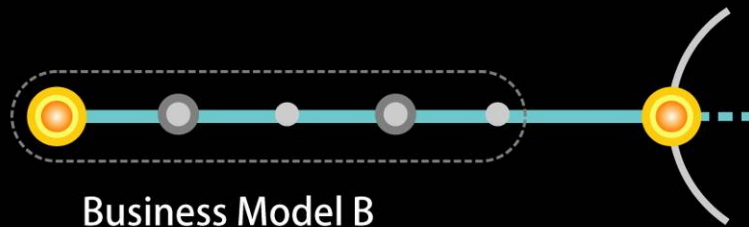


### Business Model A

- Constant Income for Rail Sectors from Population Increase in Rail Areas

#### Commuter Pass Profits

- Real Estate Profits by Land Value Increase in Residential Areas



### Business Model B

- Encourage brand image of Rail Line and Areas through Terminal Development

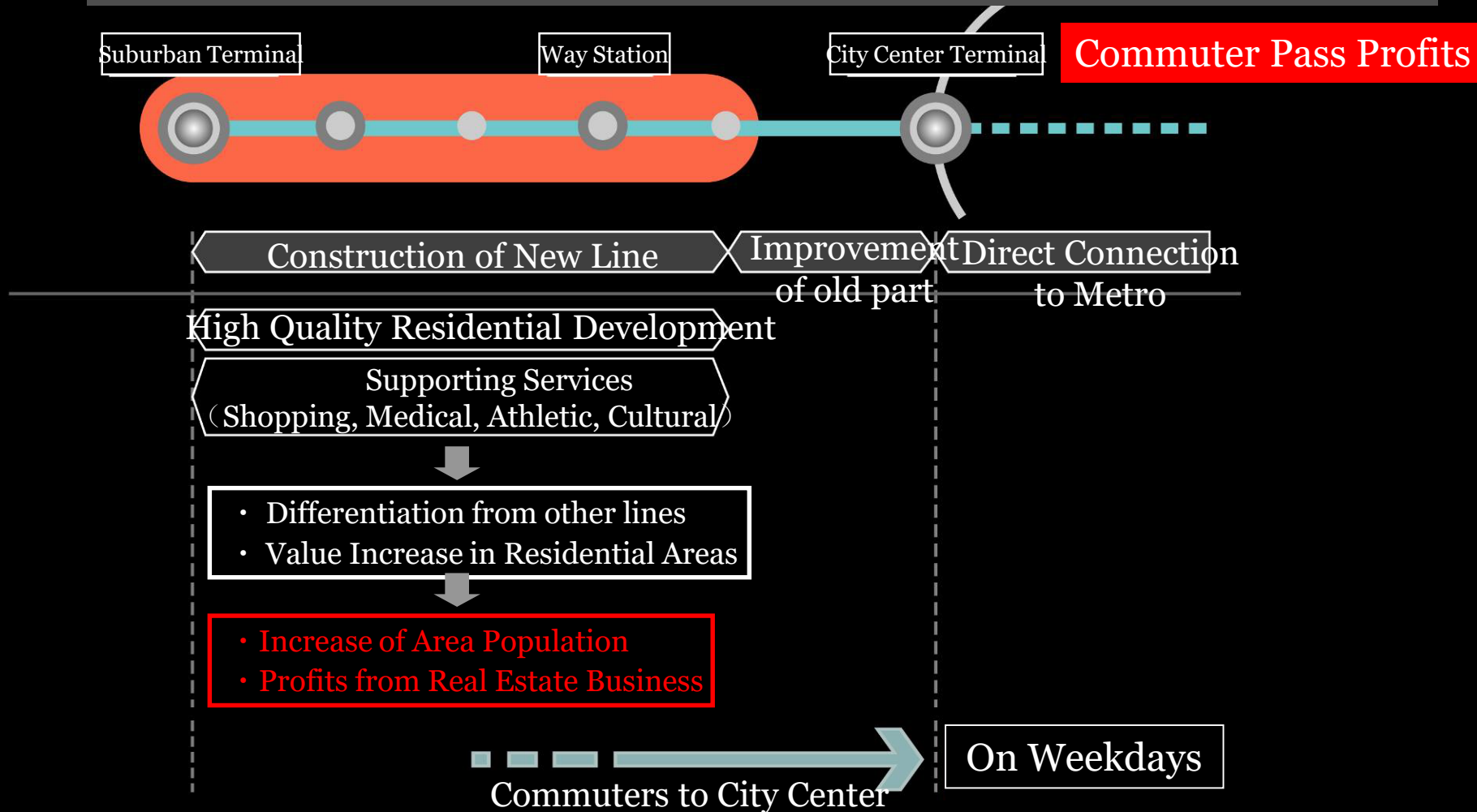
#### Normal Ticket Sales Profits

- Population Fluidity with Development of Attractive Function in Stations brings Rail Profits

# Business Models for Suburban Development in Japan -3

## – Integration of Urban Development and Railway Construction –

**Business Model A:** Constant Income for Rail Sectors from Population Increase in Rail Areas + Real Estate Profits by Land Value Increase in Residential Areas

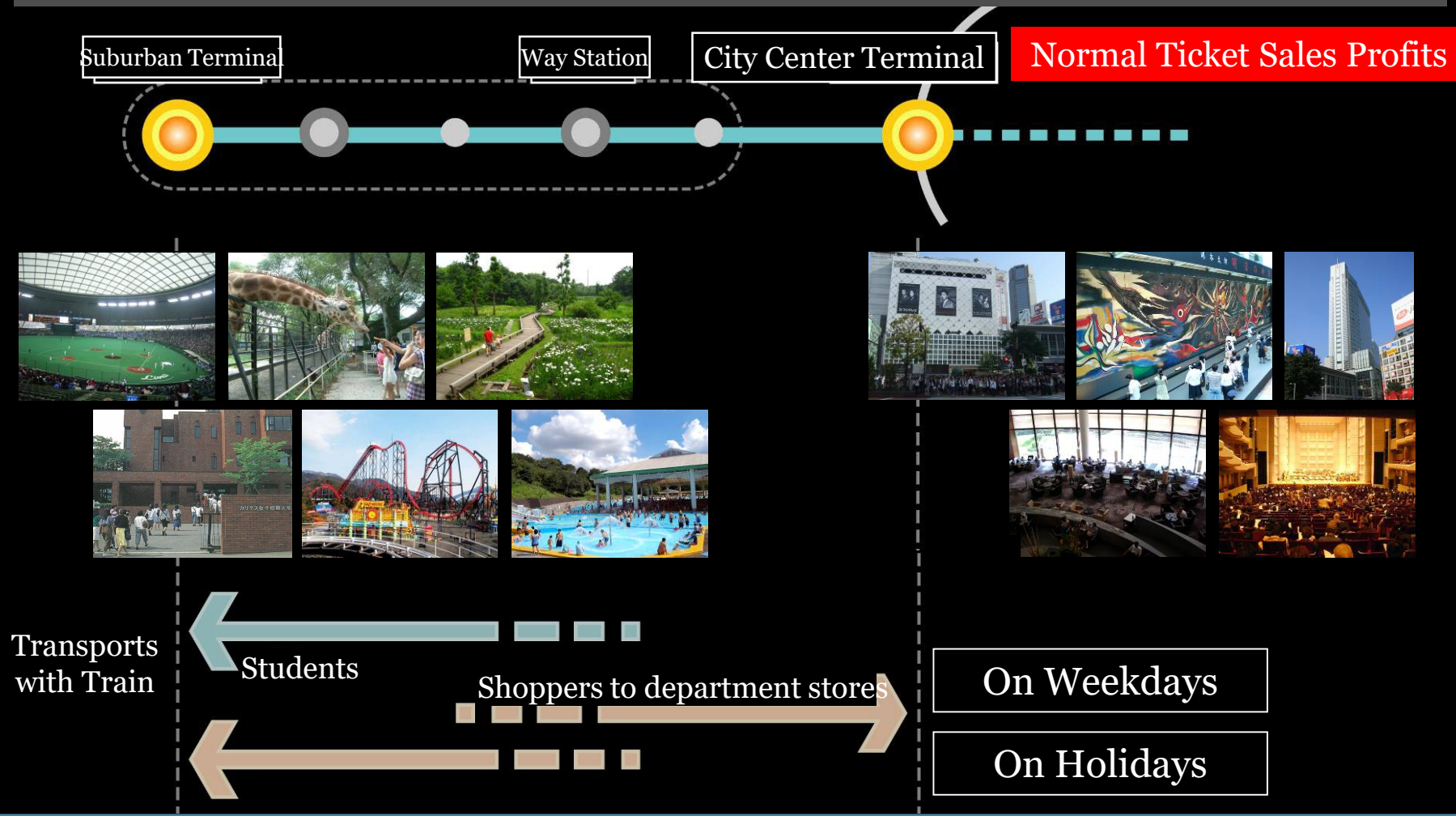




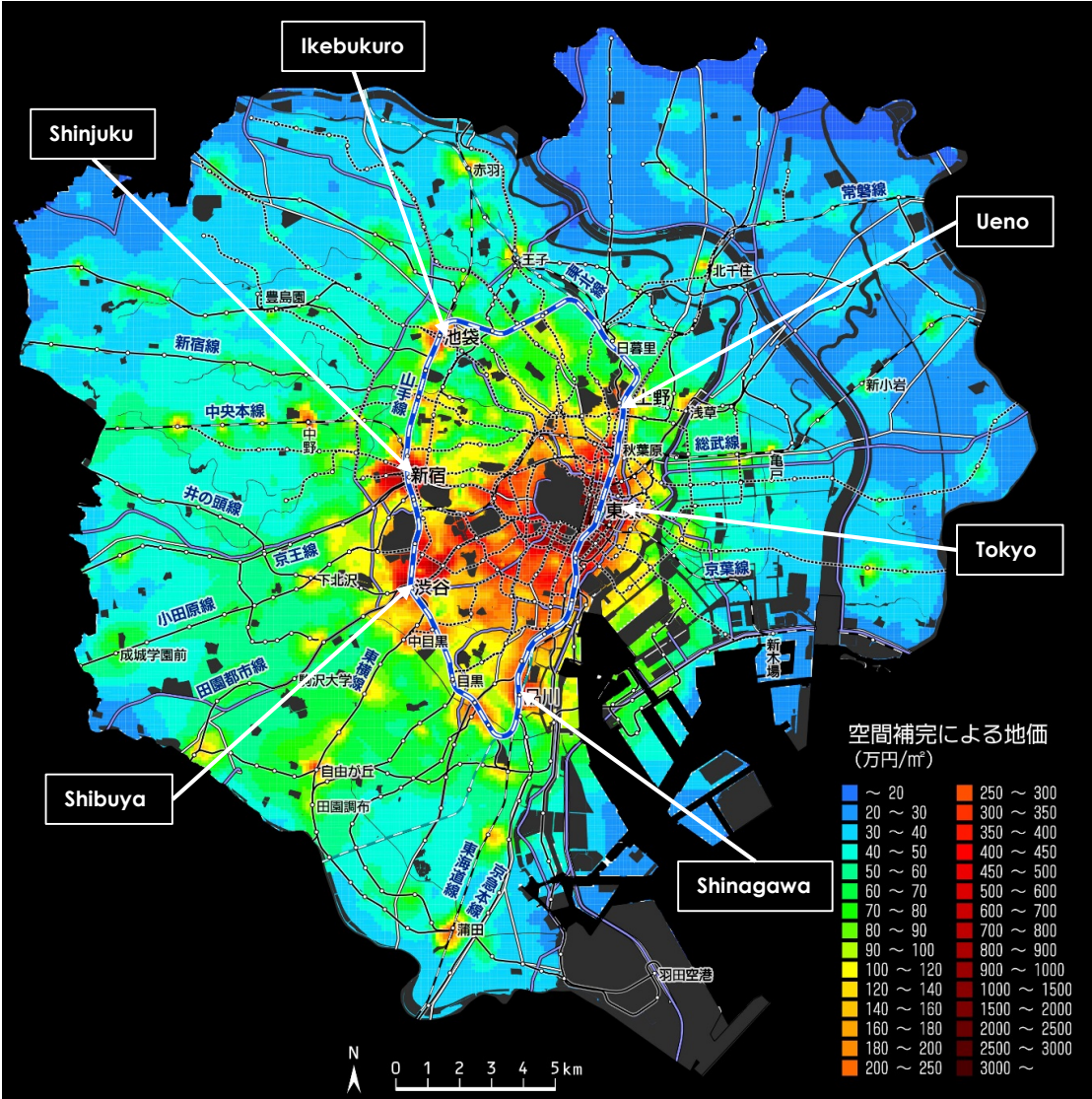
# Business Models for Suburban Development in Japan -4

## – Integration of Urban Development and Railway Construction –

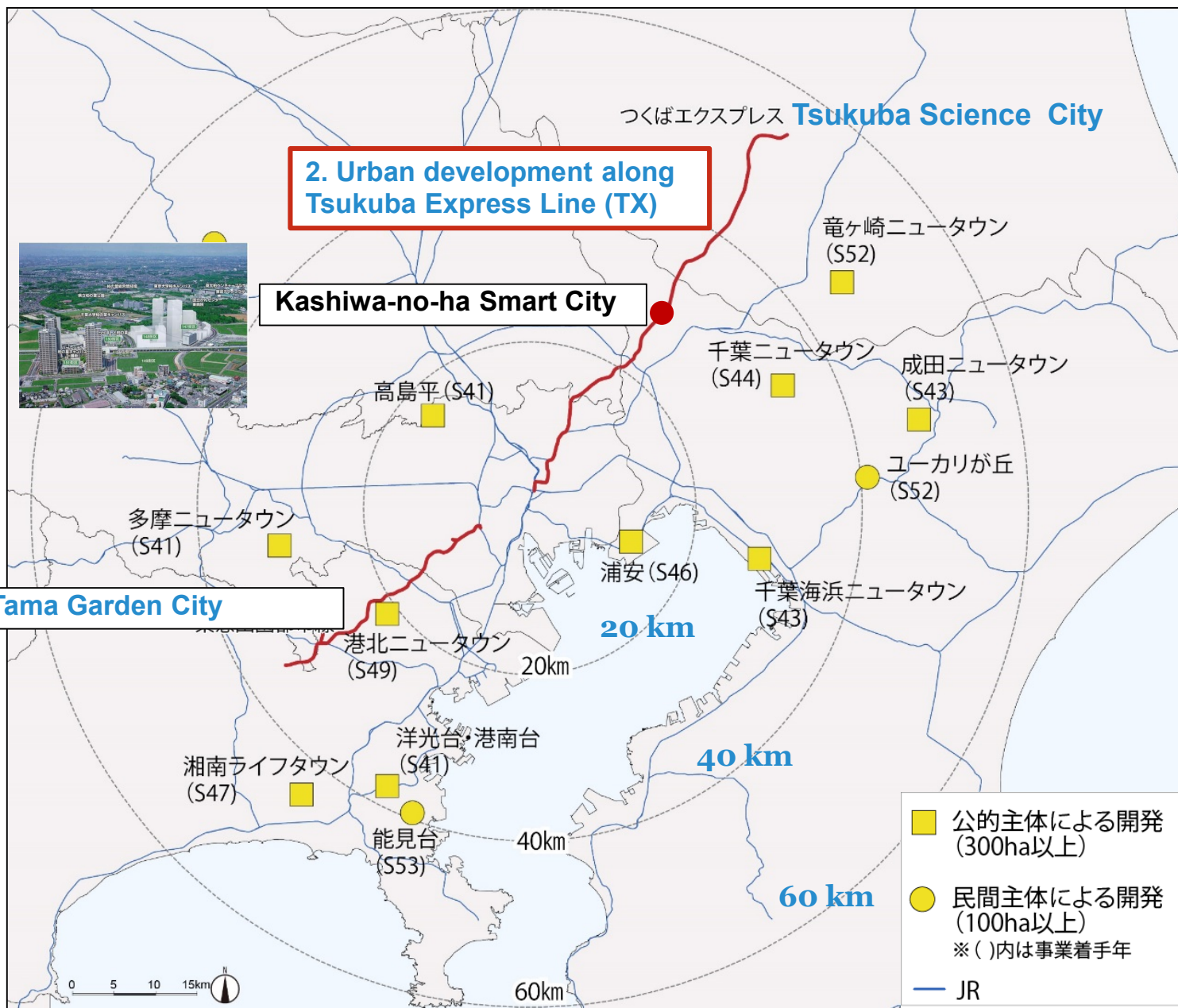
**Business Model B:** Encourage brand image of Rail Line and Areas through Terminal Development + Population Fluidity with Development of Attractive Function in Stations brings Rail Profits



# Land-prices(2015) are high around Main Terminals



## 2. TOD/LVC by the Public Sector: Urban Development along Tsukuba Expressway (TX)





## 2. TOD/LVC by the Public Sector: Urban Development along TX

### Urban Development along Tsukuba Express (TX)

#### 1) Overview and Key Features

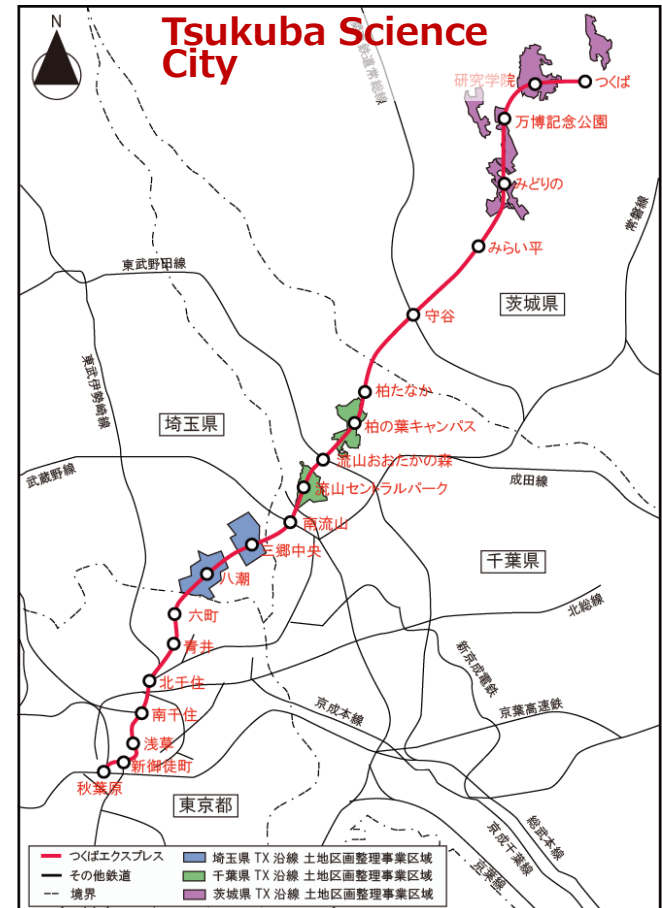
##### ■ Overview

- A new urban high-speed railway extending to **Tsukuba Science City**. The objectives of TX were to:
  - (1) improve transportation / railway network,
  - (2) promote mass housing, and
  - (3) improve industrial bases along the railway.

##### ■ Key features

- Development by **Third Sector (semi-public sector)**
- Development along the railway through:  
**"Housing Development and Railway Construction Act"**

【TX Line and Project Areas】



Source: Created by Nikken Sekkei Research Institute based on materials from each prefecture

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## 2. TOD/LVC by the Public Sector: Urban Development along TX

### Urban Development along Tsukuba Express (TX)

#### 2) Development by the Public Sector (third/semi-public sector)

The project started in 1991 after the establishment of **Metropolitan Intercity Railway Company (Third Sector/ Semi-public sector)** with main funding from the followings:

- 4 prefecture governments
- Local municipal governments along the railway

#### 【Financing of railway】

about ¥810 billion

Entity	Percentage	Financing Type
Japan Railway Construction, Transport and Technology Agency	40%	Interest-free loan
Regional local governments (Tokyo, Saitama Prefecture, Chiba Prefecture, Ibaraki Prefecture, other)	40%	Interest-free loan
	14%	Investment
Fiscal investment and loans	6%	Loans
Total	100%	

## 2. TOD/LVC by the Public Sector: Urban Development along TX

### Urban Development along Tsukuba Express (TX)

#### 3) Development along railway through the National Government Act

TX was developed according to

**"Housing Development and Railway Construction Act"**

which was established by the national government in 1989.

#### **【Past issues in railroad development】**

- Time is needed for negotiations on land acquisition/ considerable delays in construction periods
- Uncontrolled development along railway lines
- Many lands along railway lines are left undeveloped due to speculative actions, and so on

**【Housing Development and Railway Construction Act】**

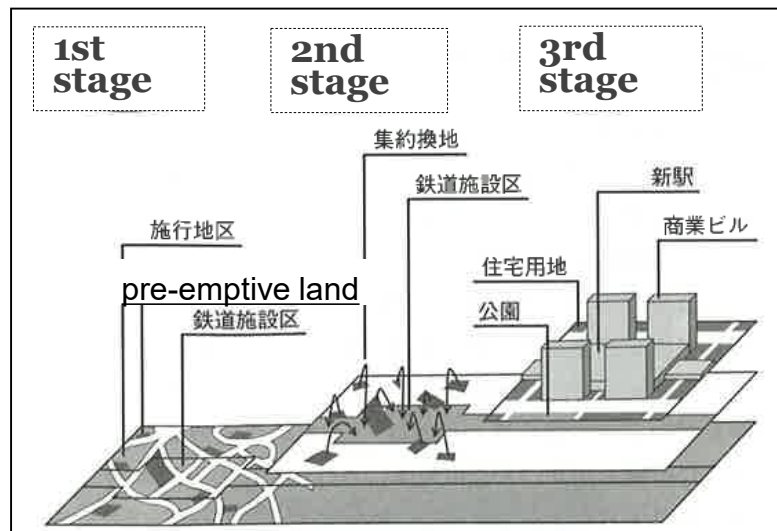
## 2. TOD/LVC by the Public Sector: Urban Development along TX

### Urban Development along Tsukuba Express (TX)

#### 3) Development along railway through the National Government Act

- The act stipulates the conduct of **Integrated Land Readjustment Projects** to facilitate the acquisition of land for railway projects.
- In the project, pre-emptive lands owned by railway operators, urban revitalization agencies, and local governments were consolidated and replotted.

【Image of Integrated Land Readjustment Project】



【In the vicinity of Mori Station after development of TX (2006)】





## 2. TOD/LVC by the Public Sector: Urban Development along TX

### Urban Development along Tsukuba Express (TX)

#### 4) Effects of collaboration through integrated development

##### ■ Tsukuba Style Community Activities

New life style and collaborative activities among communities along the railway have been emerged under the slogan of "Tsukuba Style."

"Tsukuba Style Forum" has been supported by local authorities to enhance the image and promote community activities.

##### 【New Community: Kashiwanoha Campus City】



##### 【Tsukuba Style website】

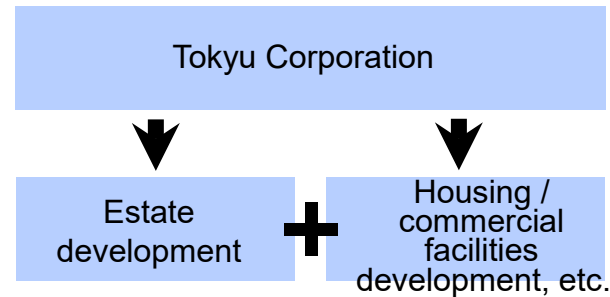


## 2. TOD/LVC by the Public Sector: Urban Development along TX

Development along Den-en-toshi Line are done by a single business operator (Tokyu Corporation).  
On the other hand, development along TX are done by different business operators at each station.

### □ Along the Tokyu Den-en-tsu Line

#### 【Development by single business operator】



Azami-no-oka residential area:

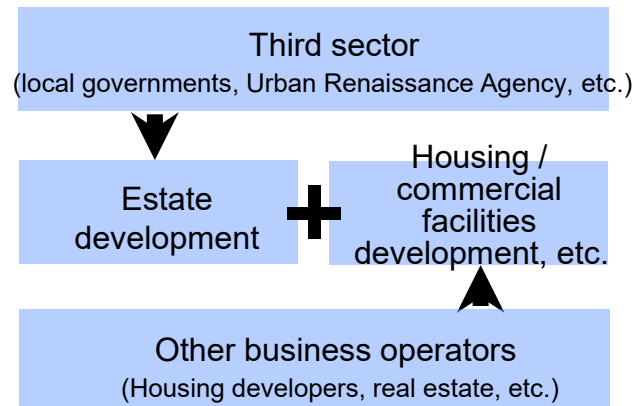


Tama Plaza Terrace



### □ Along the Tsukuba Express line

#### 【Development by different business operators】



Nakane Kondadai, Science City  
Katsuragi, etc.



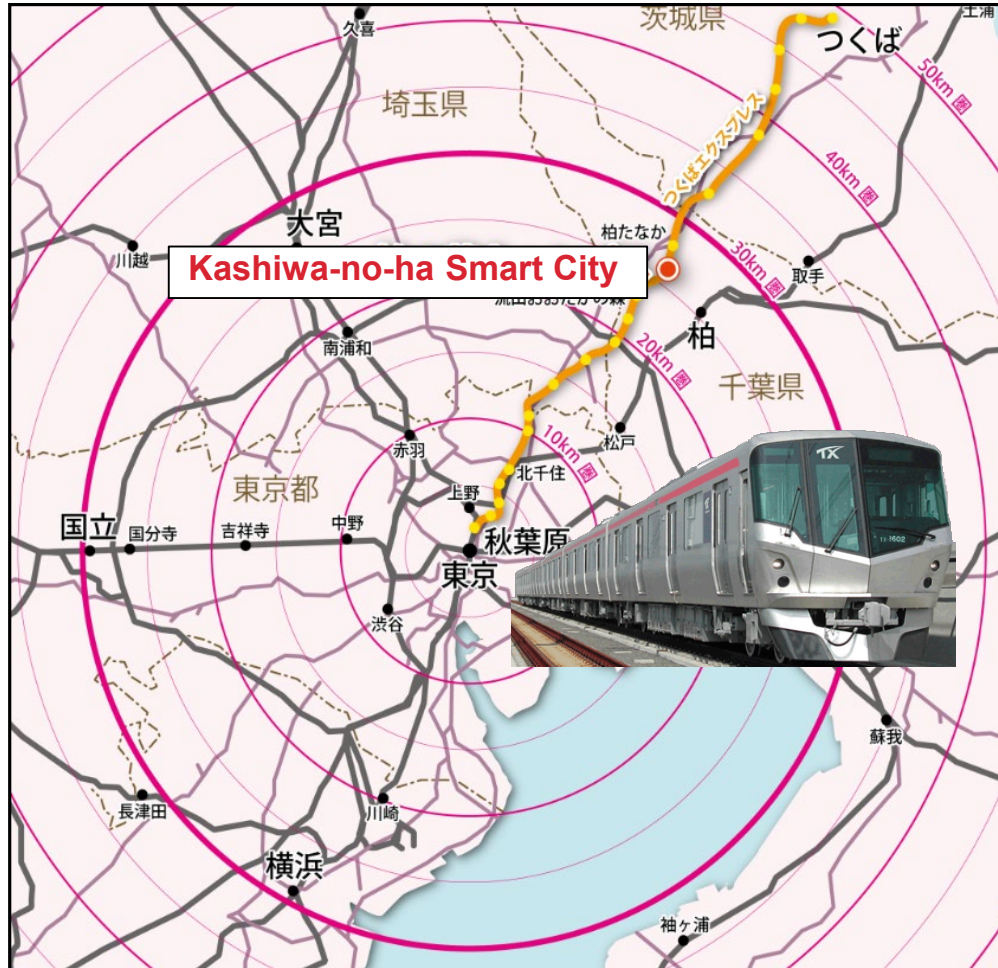
Kashiwanoha Campus City





# Outline of “Kashiwa-no-Ha” smart city

## It began as a TOD project



- Suburban Town 25 Kms from Tokyo
- 273 Ha Green Field Development
- Estimated Population 26,000
- Utilizing cutting-edge of technologies
- Public, private, academics and residents participated through the development

# Outline of “Kashiwa-no-Ha” smart city

## Actually a Green Field Development !

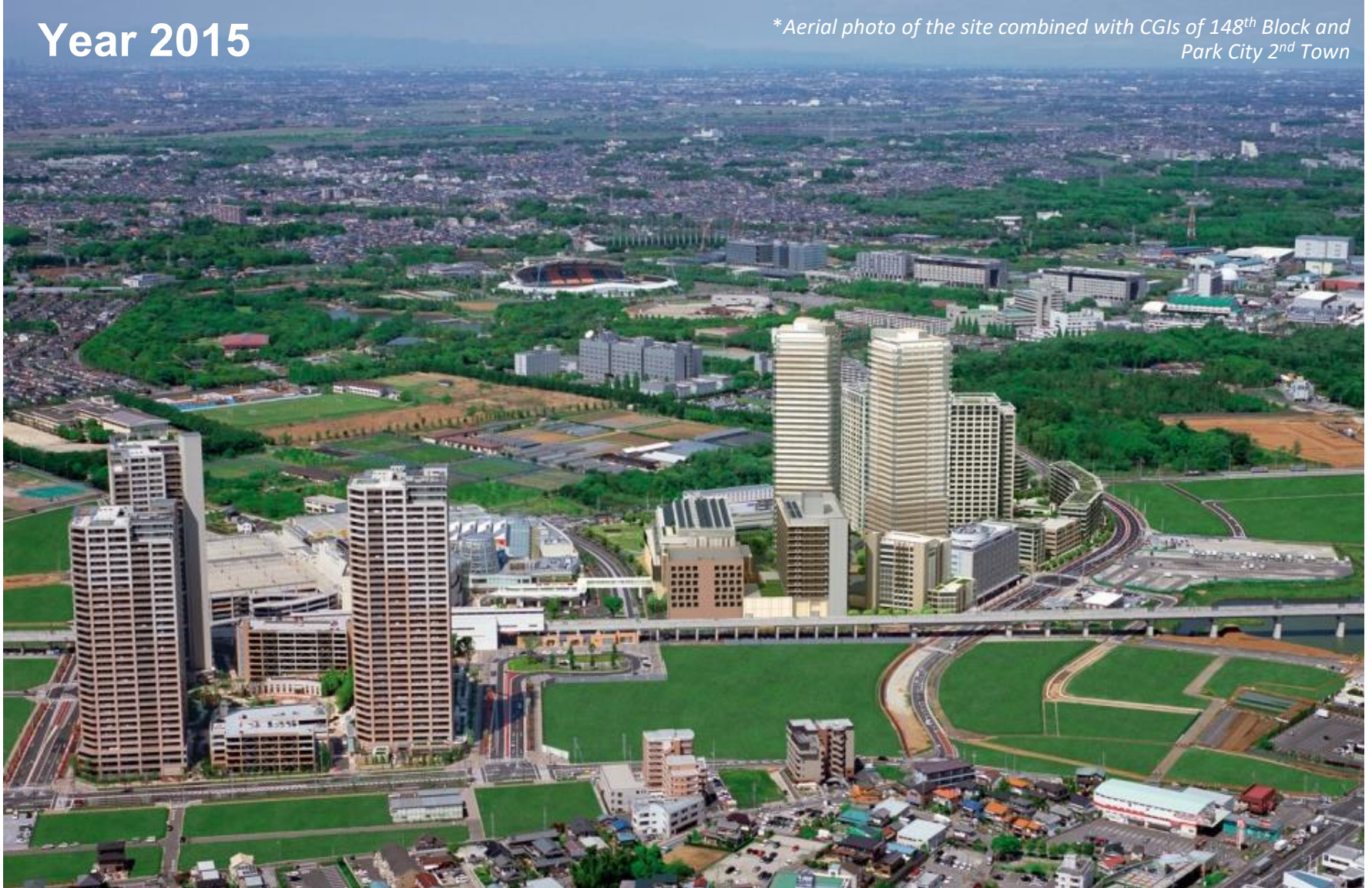




# Outline of “Kashiwa-no-Ha” smart city

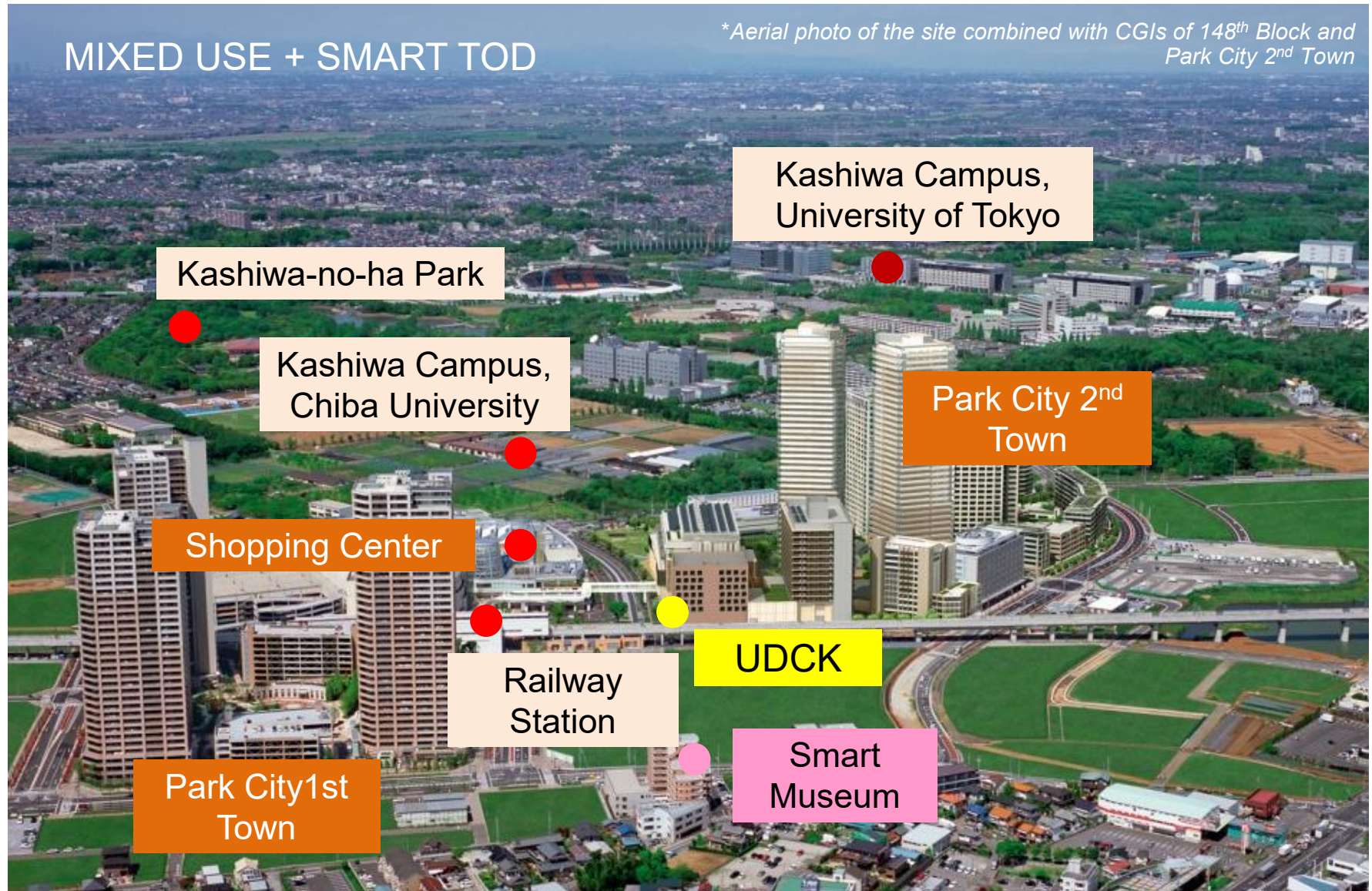
Year 2015

*\*Aerial photo of the site combined with CGIs of 148<sup>th</sup> Block and Park City 2<sup>nd</sup> Town*





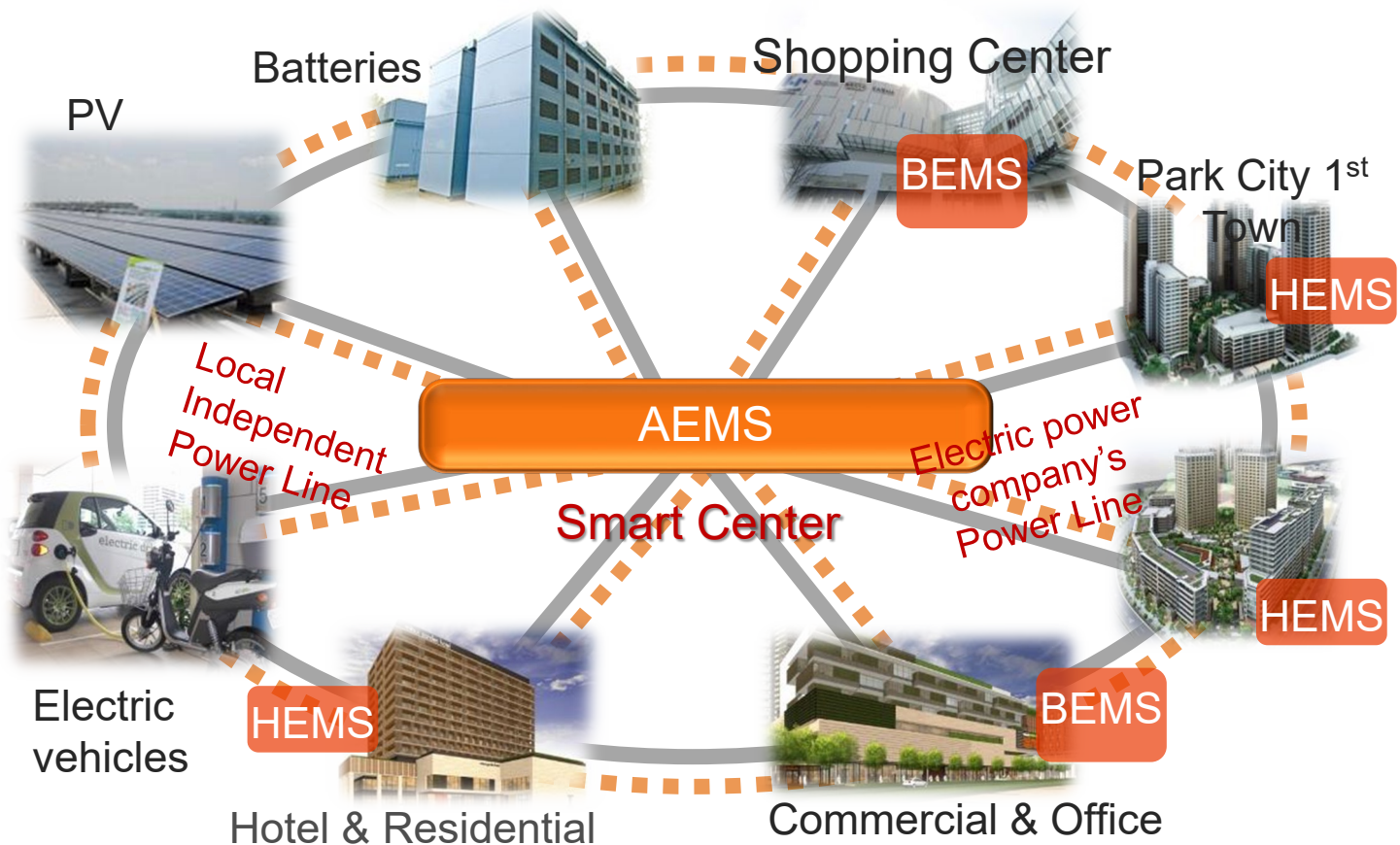
# Outline of “Kashiwa-no-Ha” smart city



# Smartization using advanced ICTs and other technologies

## Smart Grid System based on AEMS

- Smart grid system has been built by wiring local independent power line for the first time in Japan.







Kashiwanoha Campus City (along TX)

Thank you for your attention

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