

An Overview of Japan's High-Speed Railway : Shinkansen

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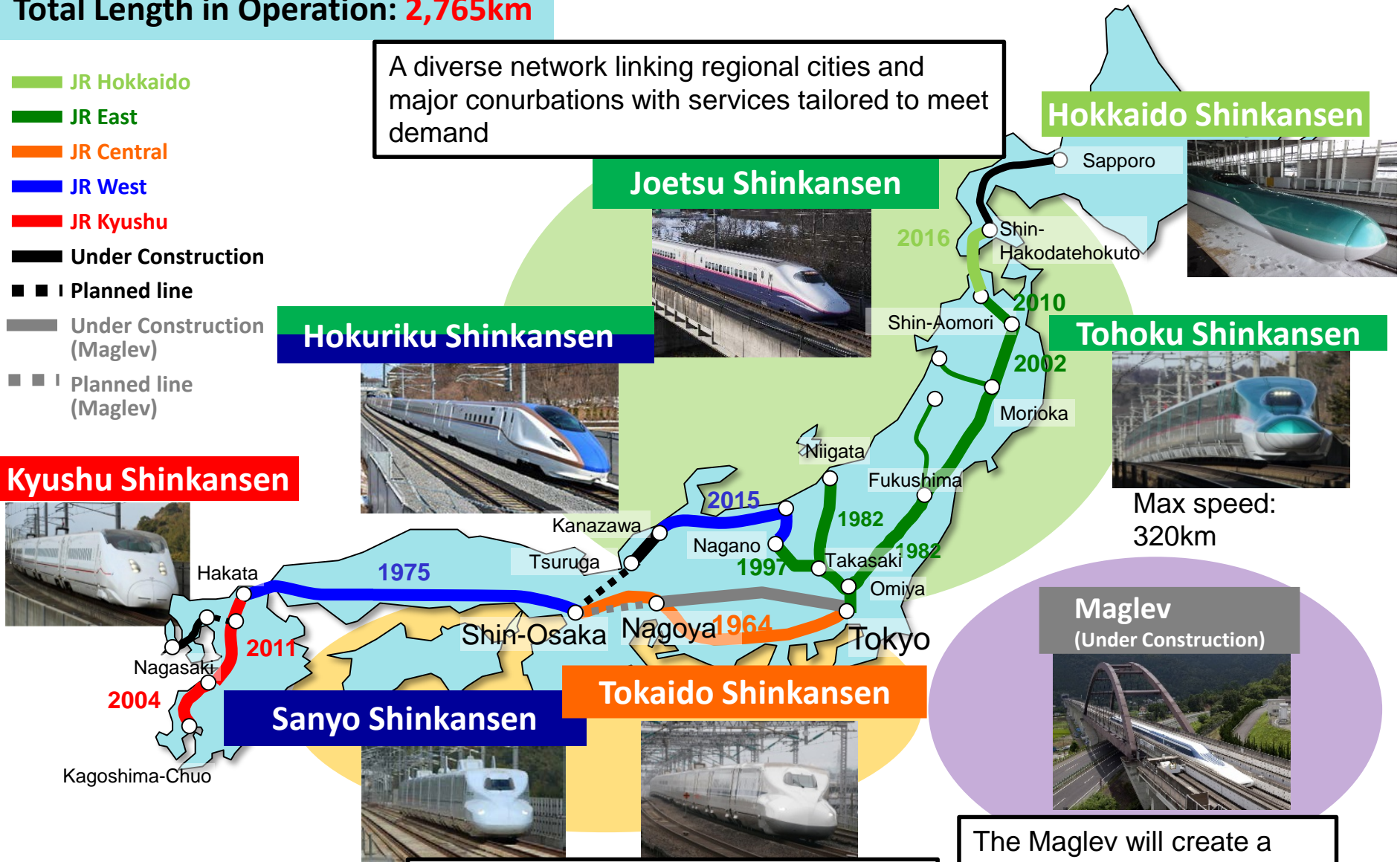
1. Current Shinkansen Network
2. Background and Construction Scheme of Shinkansen

Overview of the Shinkansen Network in Japan

Total Length in Operation: **2,765km**

- JR Hokkaido
- JR East
- JR Central
- JR West
- JR Kyushu
- Under Construction
- Planned line
- Under Construction (Maglev)
- Planned line (Maglev)

A diverse network linking regional cities and major conurbations with services tailored to meet demand



Hokkaido Shinkansen



Joetsu Shinkansen



Tohoku Shinkansen



Hokuriku Shinkansen



Max speed: 320km

Kyushu Shinkansen



Maglev
(Under Construction)



Tokaido Shinkansen



Sanyo Shinkansen



A high-frequency, large capacity service, acting as Japan's major transport artery

The Maglev will create a Mega-region linking Japan's three main conurbations

Total Length
in Operation

[km]

3000

2500

2000

1500

1000

500

0

1964

1970

1980

1990

2000

2010

[year]

Tokaido Shinkansen

Sanyo Shinkansen

Tohoku Shinkansen

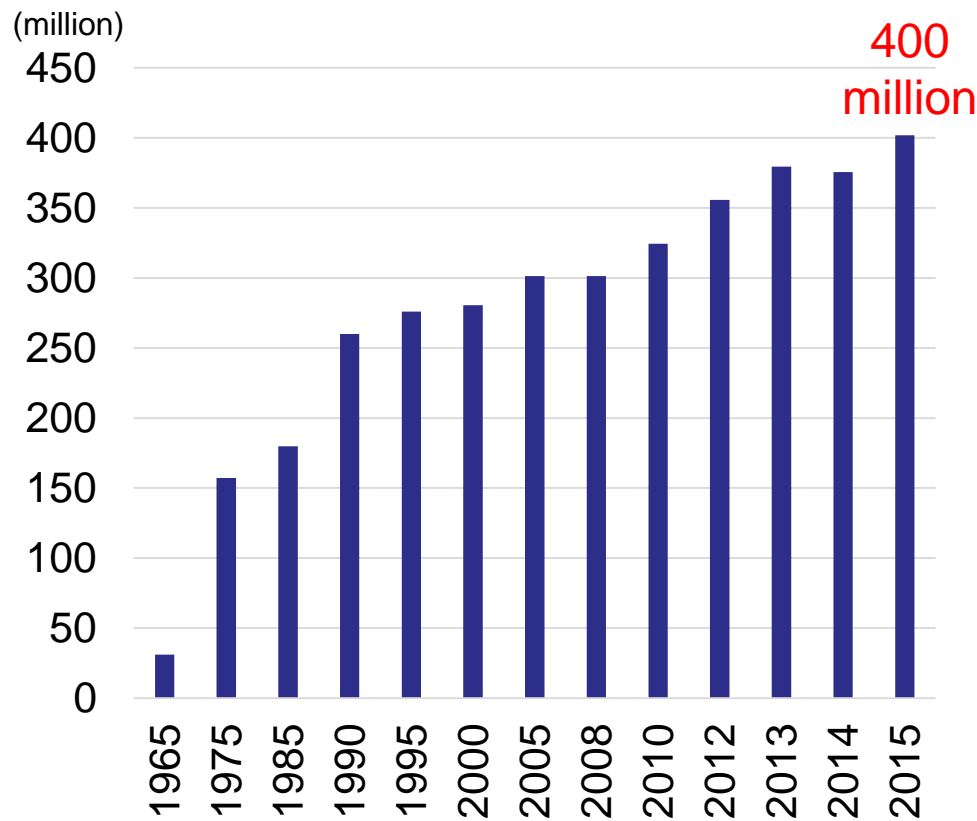
Joetsu Shinkansen

Hokkaido Shinkansen

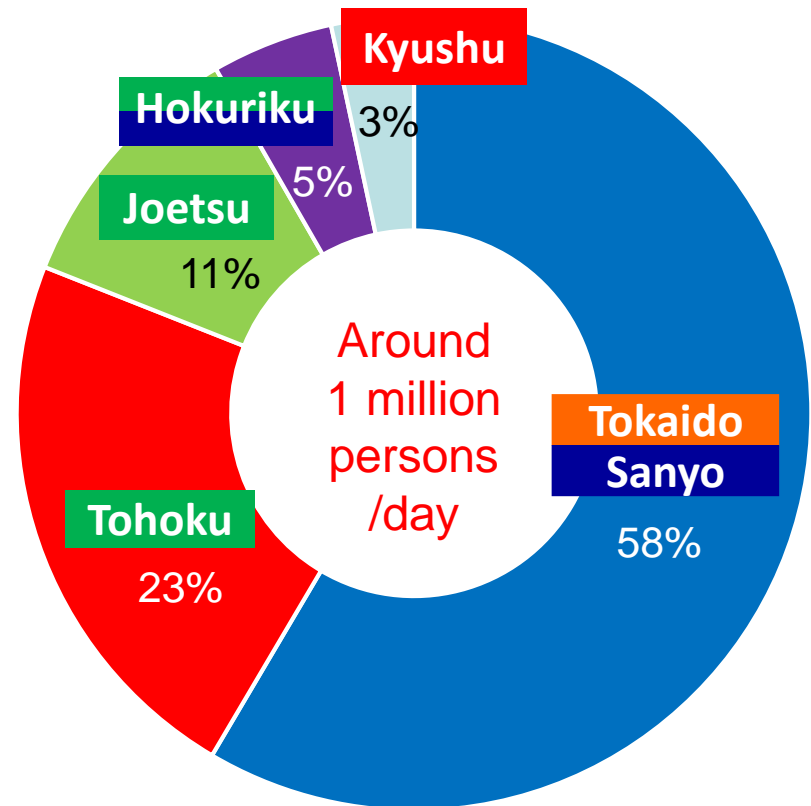
Hokuriku Shinkansen

Kyushu Shinkansen

The Trend of the number of Passengers



Average Daily Passengers (FY2015)



1. Current Shinkansen Network

2. Background and Construction Scheme of Shinkansen

		Status
①	Tokaido Shinkansen (opened in 1964) Sanyo Shinkansen (opened in 1972)	Built as extensions to the network of non-Shinkansen lines
②	Tohoku Shinkansen (Tokyo-Morioka)(opened in 1982) Joetsu Shinkansen (opened in 1982) Five Seibi Shinkansen Lines <ul style="list-style-type: none"> • Hokkaido Shinkansen (Aomori-Sapporo) (under construction, partly opened in 2016) • Tohoku Shinkansen (Morioka-Aomori) (partly opened in 2002, opened in 2010) • Hokuriku Shinkansen (Tokyo-Osaka) (under construction, partly opened in 2015) • Kyushu Shinkansen (Fukuoka-Kagoshima) (partly opened in 2004, opened in 2011) • Kyushu Shinkansen (Fukuoka-Nagasaki)(under construction) Maglev (Tokyo-Osaka) (under construction)	Built in accordance Nationwide Shinkansen Railways Construction and Improvement Act

Tokaido and Sanyo Shinkansen: Lines that cover the most densely populated areas in Japan and contribute to economic growth.

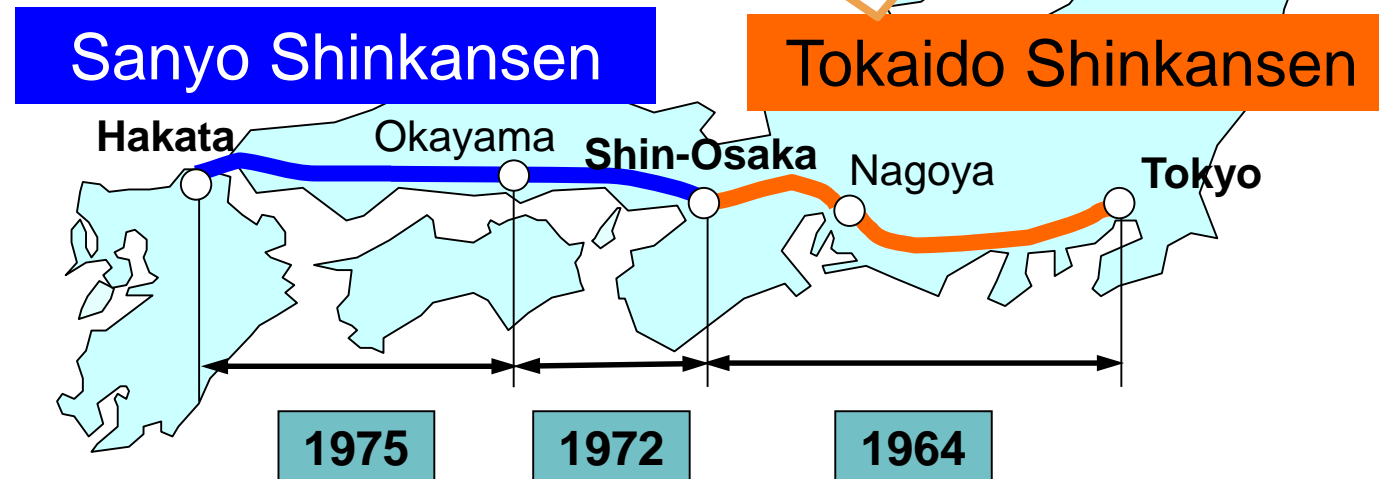
Seibi Shinkansen Lines : Lines that contribute to economic growth and regional development.

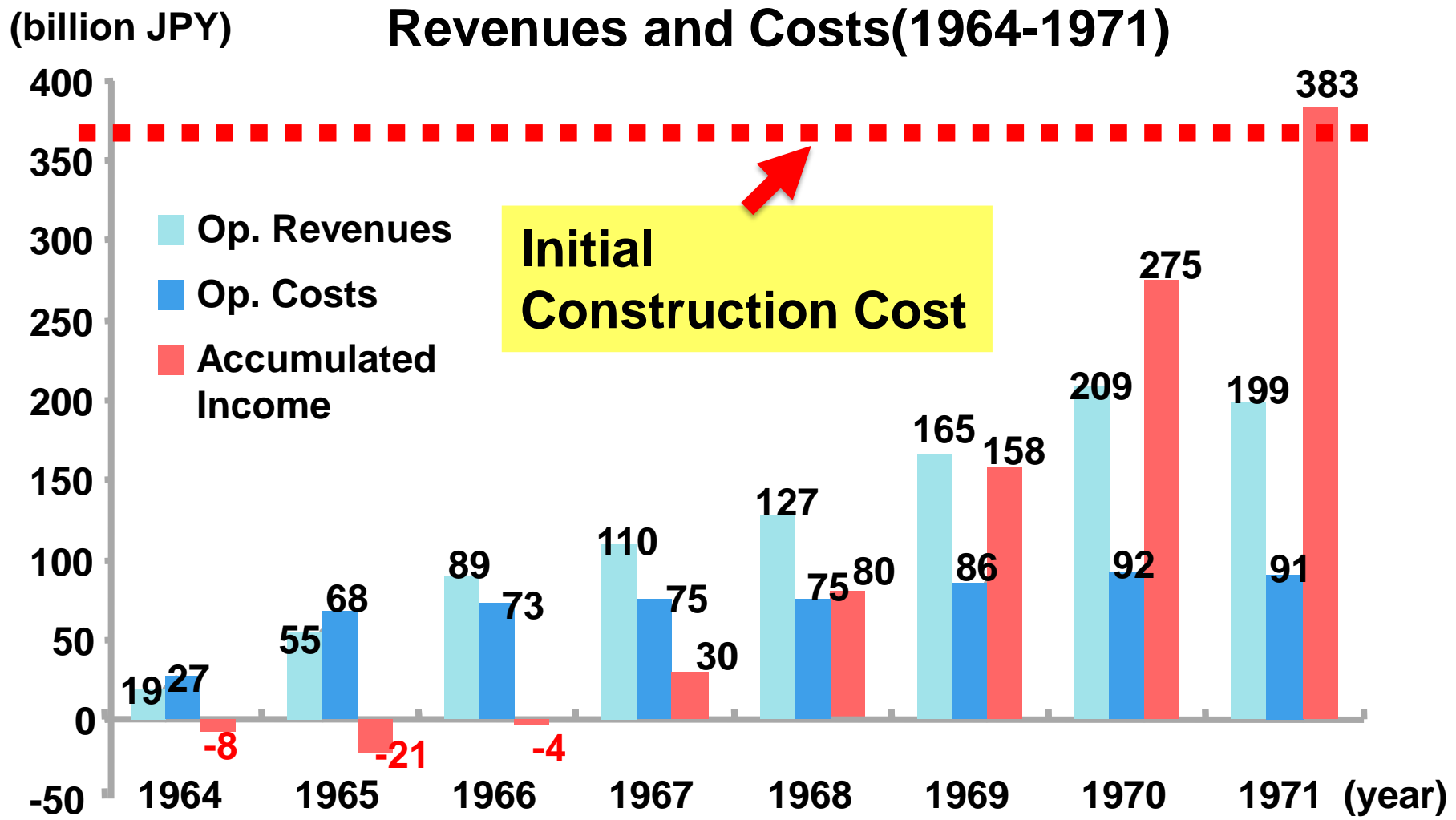
Construction-operation separated scheme is applied. 6

① Tokaido and Sanyo Shinkansen

- Built as an addition to JNR Tokaido services to ease congestion.
- Funded using loans, including financing from the World Bank.

- This line covered **the most densely-populated areas** in Japan.
- The profit was enough to return the loans within 7-8 years of the start of operations.





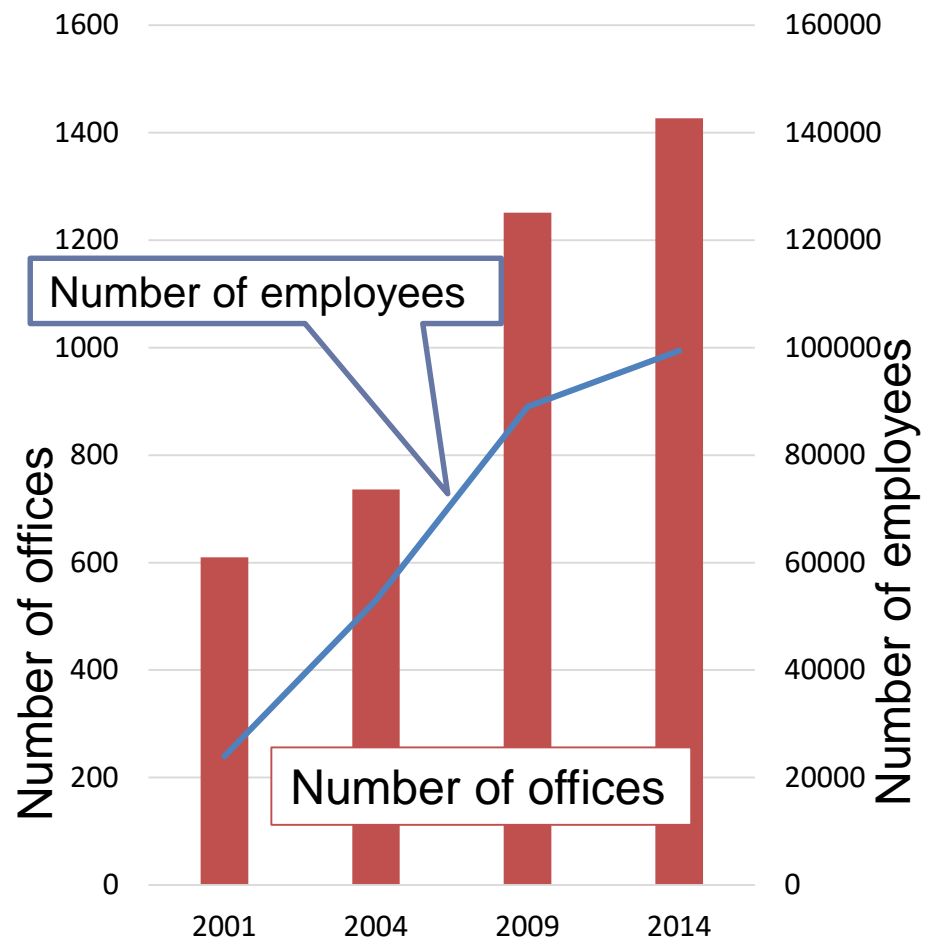
➤ The number of offices and employees increased since Shinagawa station opened.



Prior to opening of Shinagawa Station (1995)

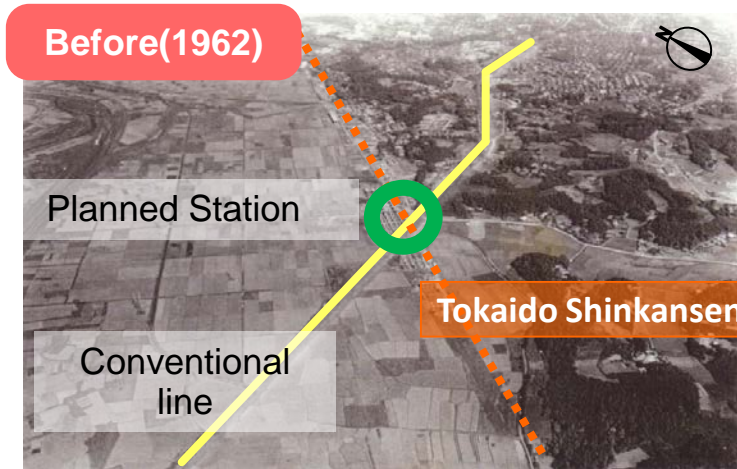
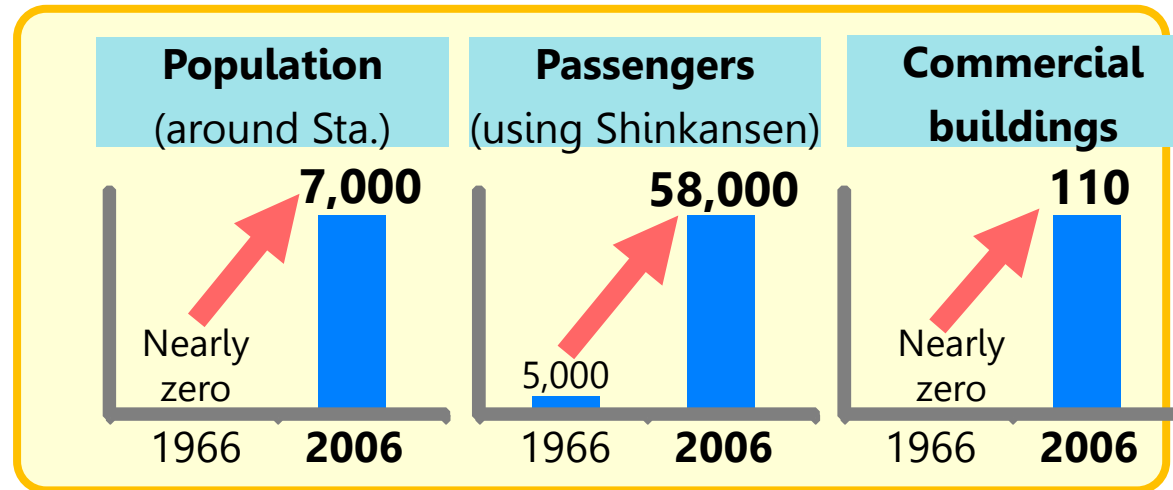


After opening of Shinagawa Station (2003)



Source: Tokyo metropolitan area “ the number of offices and employees by large classification of industry by district, city, town, village, and town and areas

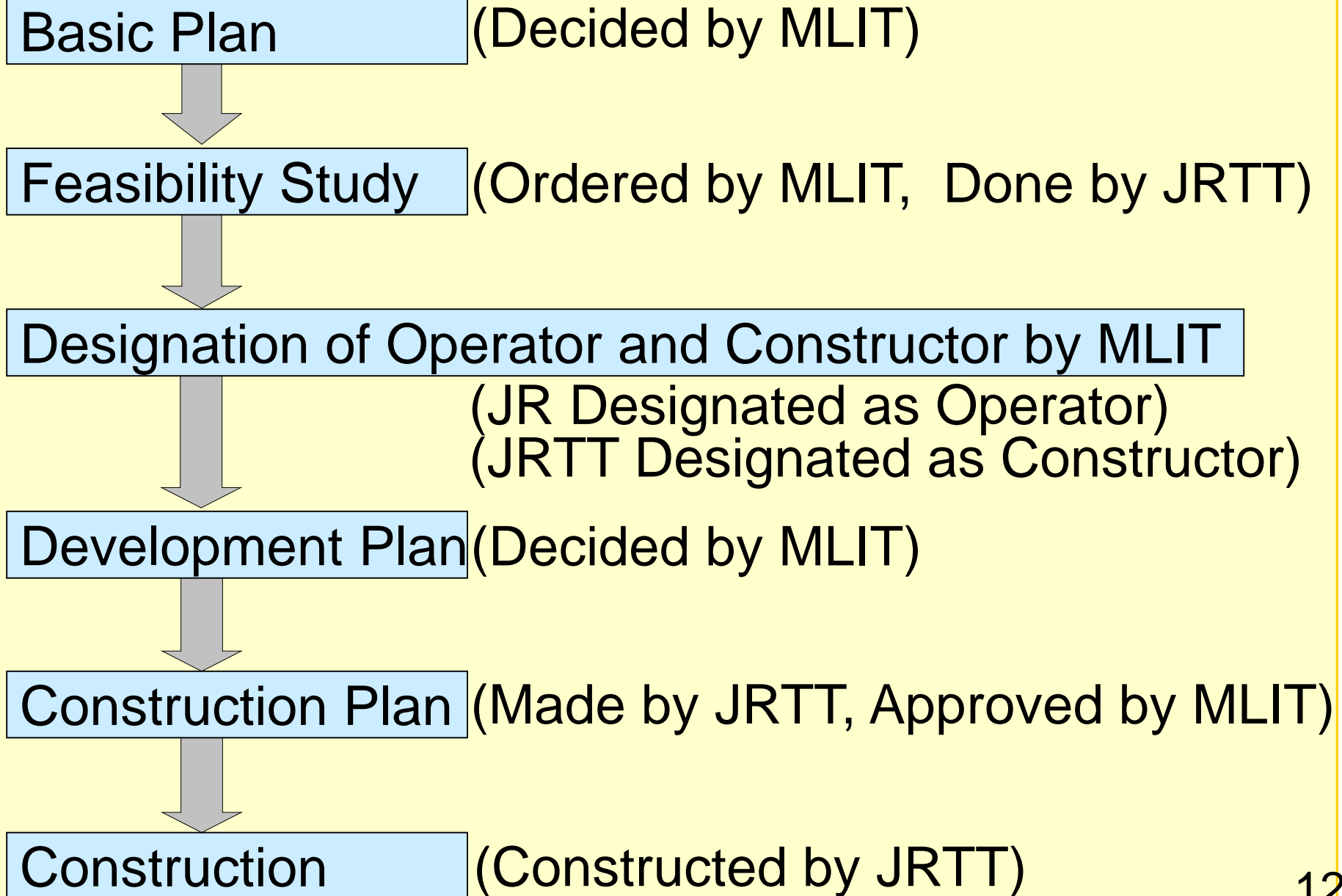
Shin-Yokohama Station



② Seibi Shinkansen

- JR Hokkaido
- JR East
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- Under Construction
- ■ | Planned line
- Under Construction (Maglev)
- ■ | Planned line (Maglev)





Secure prospect of stable financing

Profitability on income and expenditures
(benefits the finances of operating body on average over 30 years)

Investment benefits (profit \div cost > 1)

Consent of JR as the business entity

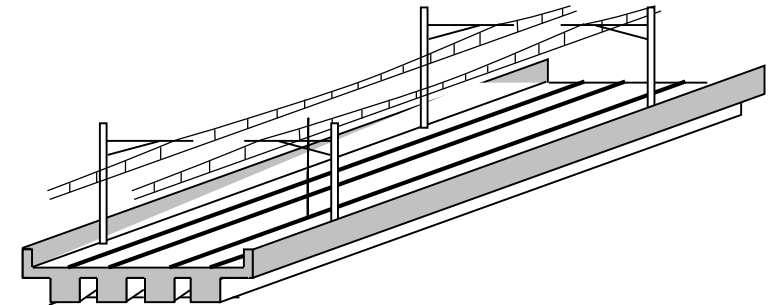
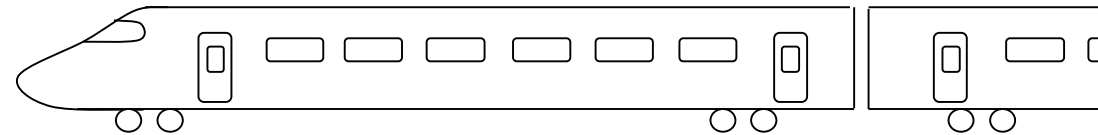
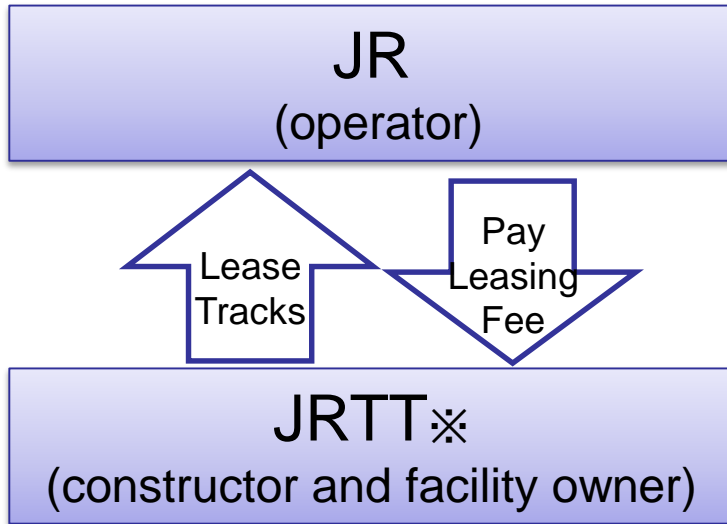
Consent of local governments along the railway line to
separating management of parallel conventional line



Work can start when all of the above conditions have been agreed.



- A construction-operation separation scheme was introduced.
 - Construction funds were supplied by the local and central government
 - JRTT (the constructor) loaned the tracks and facilities to JR (the operator), with JR paying a leasing fee, capped at the size of its profits, to JRTT.



※Japan Railway Construction, Transport and Technology Agency

<Construction Funds>





Regional Business grew along with Shinkansen



- Passengers increased
(Joetsu-Myoko to Itoigawa)

2015
25,000 persons/day 295% of previous year

- Economic effect of Shinkansen:
2015

167.8billion (\$678million)
by growing tourism business

* Source Development Bank of Japan, Dec 2016

- Number of tourists increased
(Kanazawa-Catsle visitors)


2015 174% of previous year


- The value of land increased
(West side of Kanazawa Station)

2015 117% of previous year


* Source: 2015 Land Price Publication

Travelling Activities increased along with Shinkansen

- Increase of Travelling
(number of passengers between Shin-Aomori and Shin-Hakodate Hokuto)
2016
5,600 persons/day  **199%**
of previous year

- Growth of Tourism Business
(number of visitors to Goryokaku Tower)
2016
 **146%**
(Mar 26- Apr 10)
of year-on-year



- Positive Impact on other Transport Service
(number of "Hakodate Travel Rail Pass" (incl. railways, buses and streetcars) sold)
2016
 **233%**
(Apr 1 - Apr 30)
of year-on-year



Thank you for your attention.

