



# **JR East and its HSR Experience**

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East Japan Railway Company

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**1 Outline of JR East**

**2 HSR Perspectives**

**3 Economic Benefits of HSR**



**1 Outline of JR East**

**2 HSR Perspectives**

**3 Economic Benefits of HSR**

# 1 Outline of JR East

***JR EAST is the largest  
railroad company in JAPAN***

**Network: 4,668 miles**

**No. of Passengers: 17 million /day**

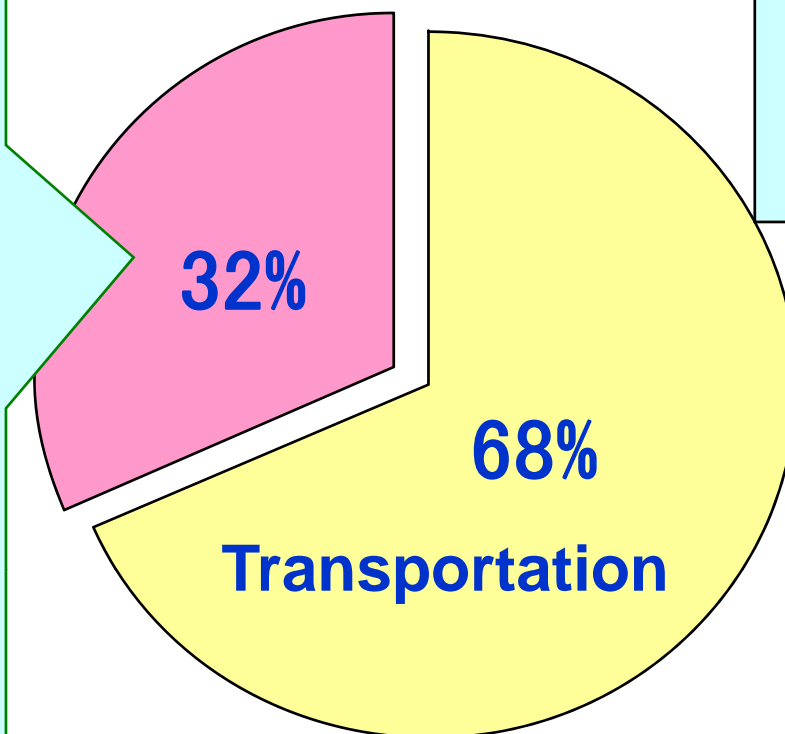
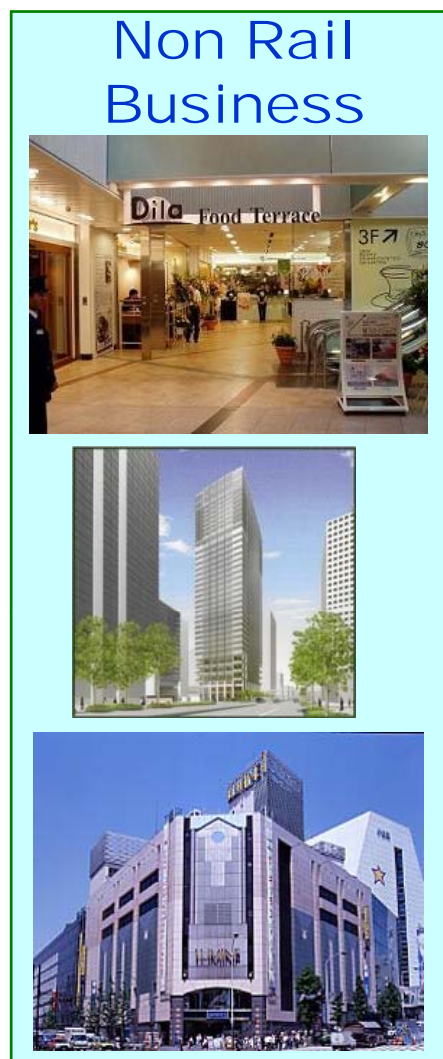
**No. of Trains: 13,000 /day**



\*Numbers are as of FY ended March 31 , 2010

# 1 Outline of JR East

## *Revenues from Railroad and Non Rail Businesses*

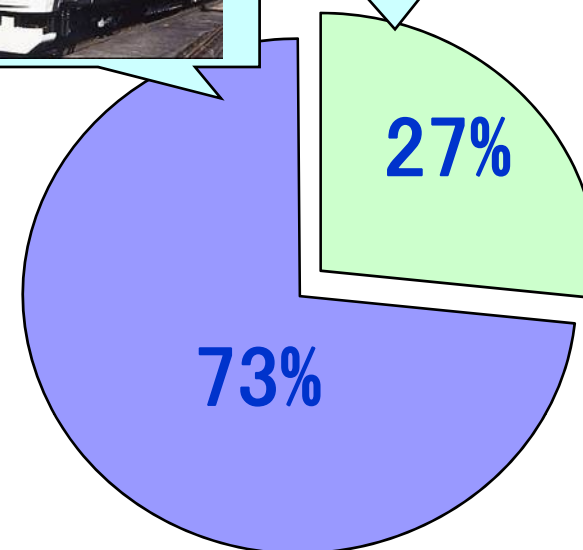


**JR East  
Group Total  
\$ 29 billion**

Conventional Lines



Shinkansen



**Rail Revenue  
\$ 18 billion**

As of Mar.31.2010

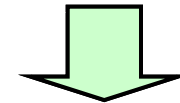
# 1 Outline of JR East

## *Shinkansen Network*

2010~



1964 Shinkansen  
start up



0 fatality

**Shinkansen Network: 882 miles**

- Dedicated lines: 709 miles
- Through service: 173 miles

**No. of Passengers: 241,000 /day**

**No. of Trains: 310 - 415 /day**



# 1 Outline of JR East

## *Three types of Shinkansen*

*High speed*



Series E2 170mph ★



Series E5 200mph★

*Large capacity*



Series E1 150mph



Series E4 150mph ★

*Through service*



Series E3 170mph ★



Series E6 200mph ★

★ With coupling/uncoupling functions



1 Outline of JR East

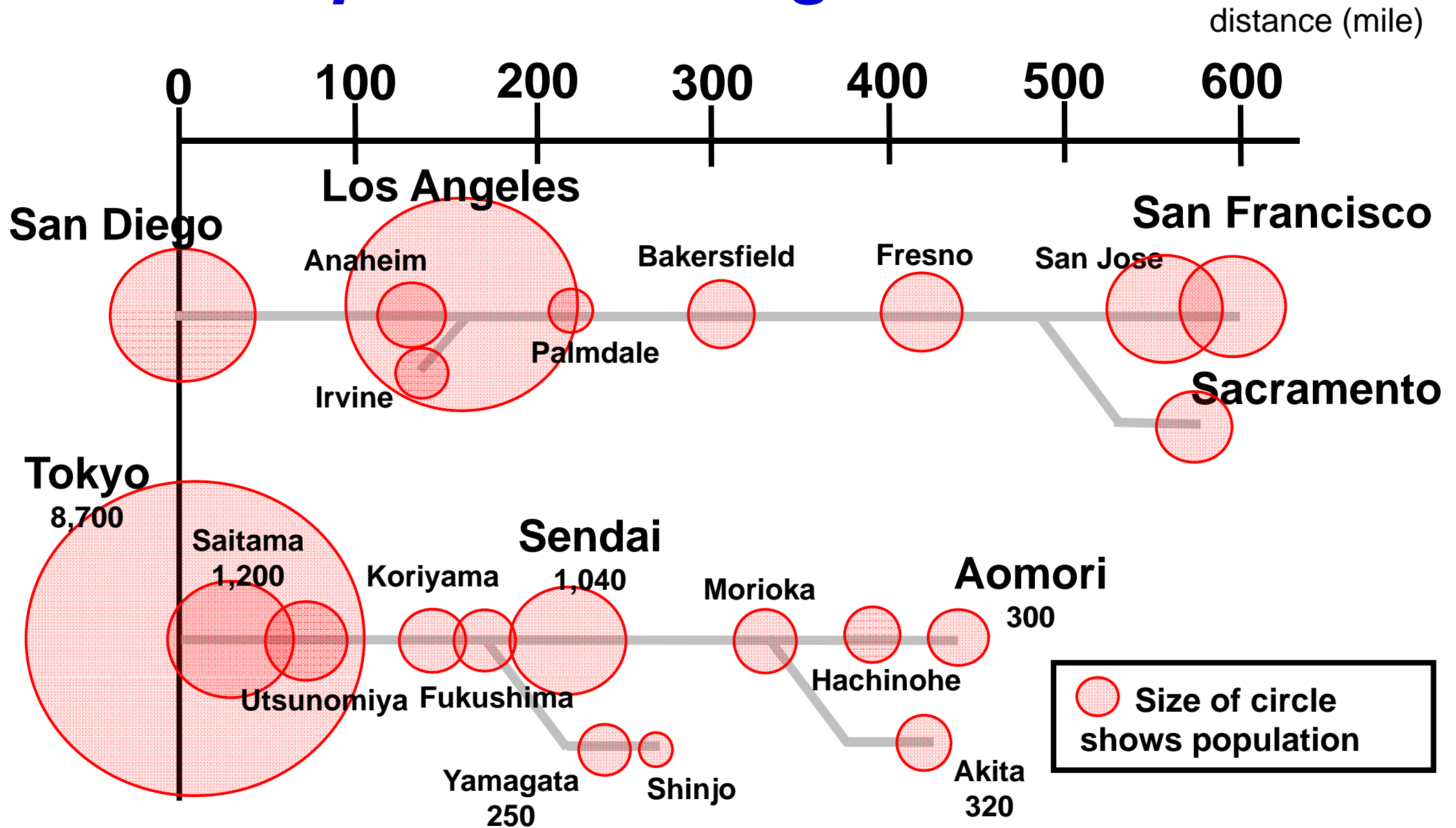
**2 HSR Perspectives**

3 Economic Benefits of HSR



## 2 HSR Perspectives

### *Population along HSR route*



Population of main cities taken from 2010 survey (Unit: thousand)

## 2 HSR Perspectives

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Safety: 0 fatality

since 1964 Shinkansen start up

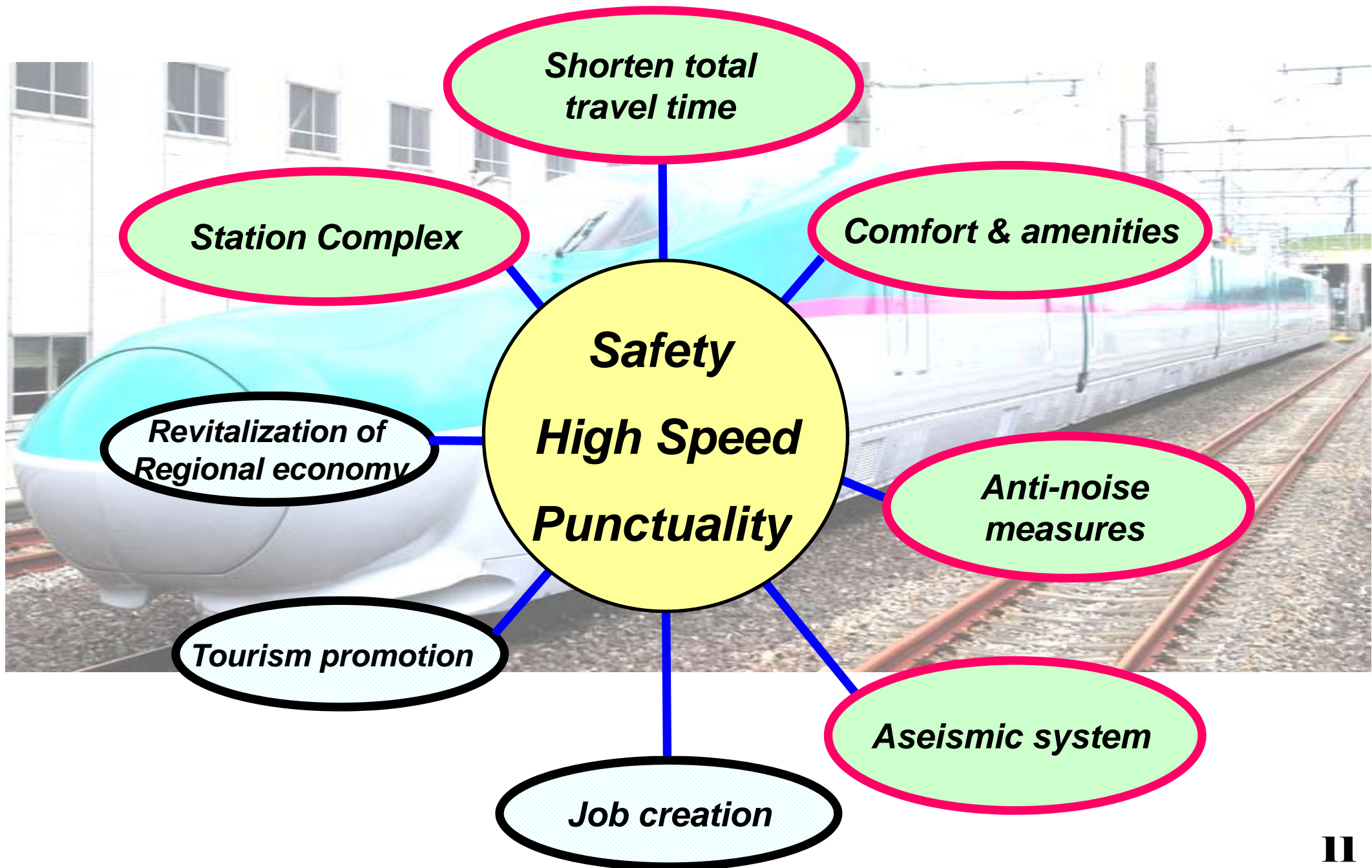
High Speed: 200 mph

from March 2013

Punctuality: Less than 1 min.

## 2 HSR Perspectives

### *HSR Keywords*





## **2 HSR Perspectives**

**(1) Shorten total travel time**

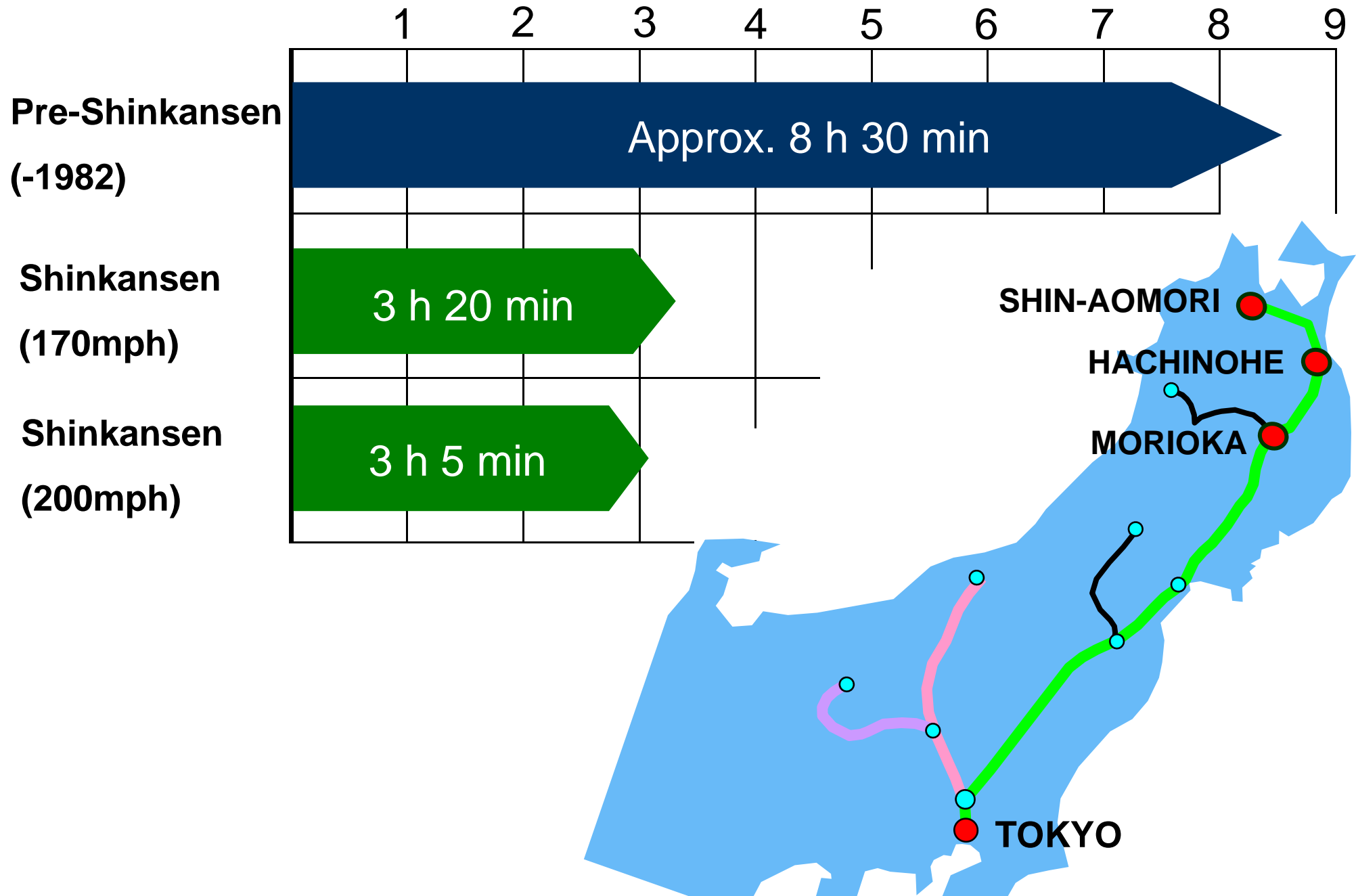
(2) Comfort & Amenities

(3) Station complex (station, hotel, shopping mall, etc.)

(4) Anti-noise measures & aseismic system

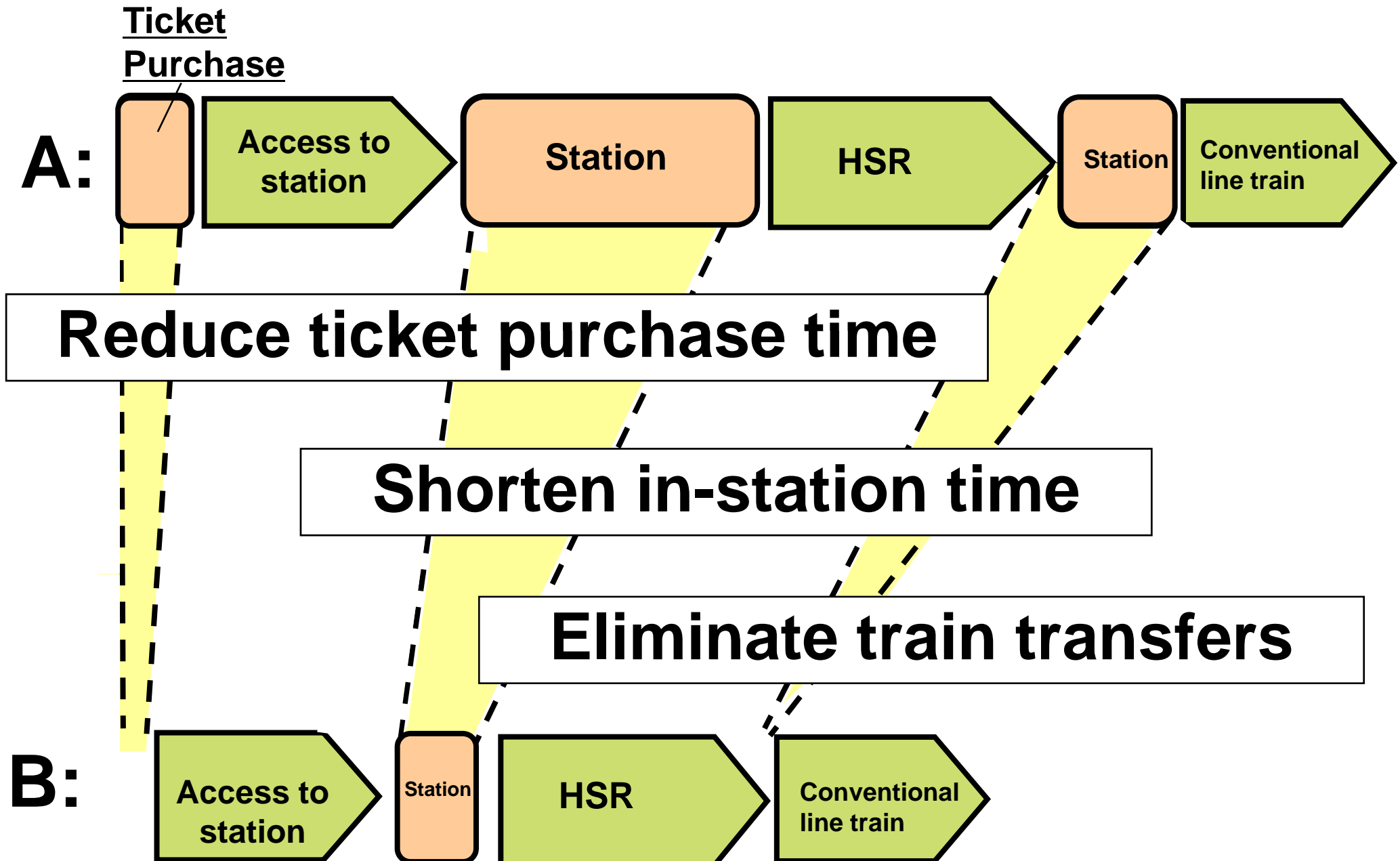
## 2-(1) Shorten total travel time

***Tokyo to Aomori 443 miles***





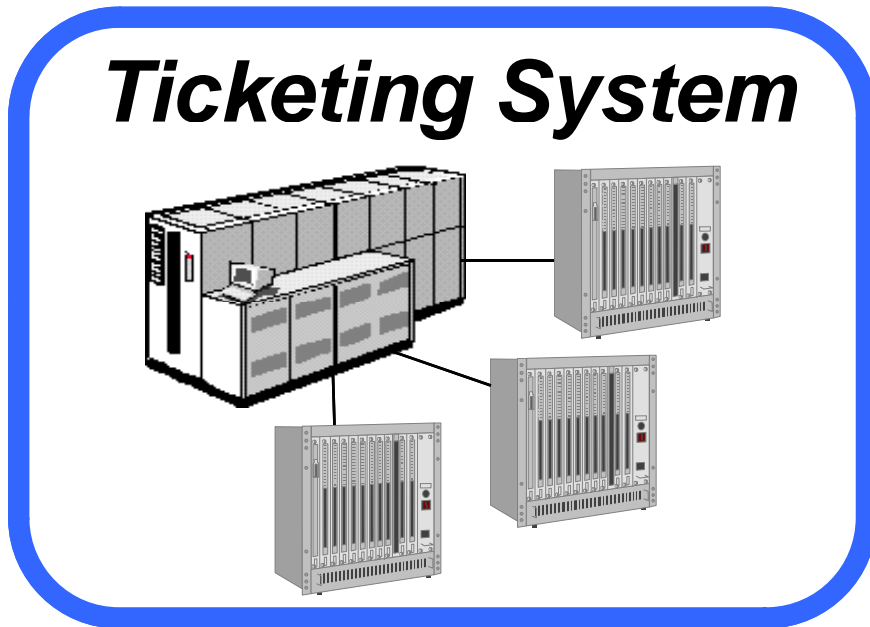
## 2-(1) Shorten total travel time



## 2-(1) Shorten total travel time

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### *Reduce ticket purchase time*



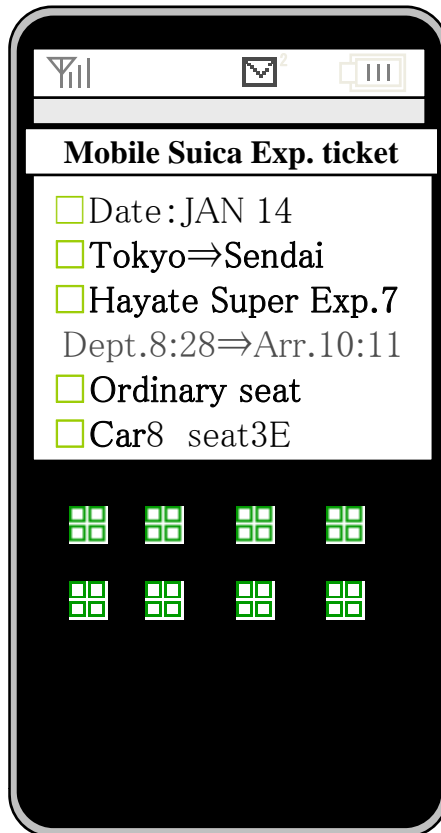
***Station***

***Home, Office (Web site)***

***Anywhere (Mobile)***

# 2-(1) Shorten total travel time

## *Reduce ticket purchase time*



(thousand)

2,500

2,000

1,500

1,000

500

0

**No. of handset- embedded  
Suica cards**

**2.3 million**

Suica cards outstanding 34 million

'06/1

'07/1

'08/1

'09/1

'10/1

## 2-(1) Shorten total travel time

Conventional Line  
Platform



Escalator



Concourse



***10 min to Shinkansen departure***





## 2-(1) Shorten total travel time



***5min to Shinkansen departure***





## 2-(1) Shorten total travel time



Passenger  
Getting ON



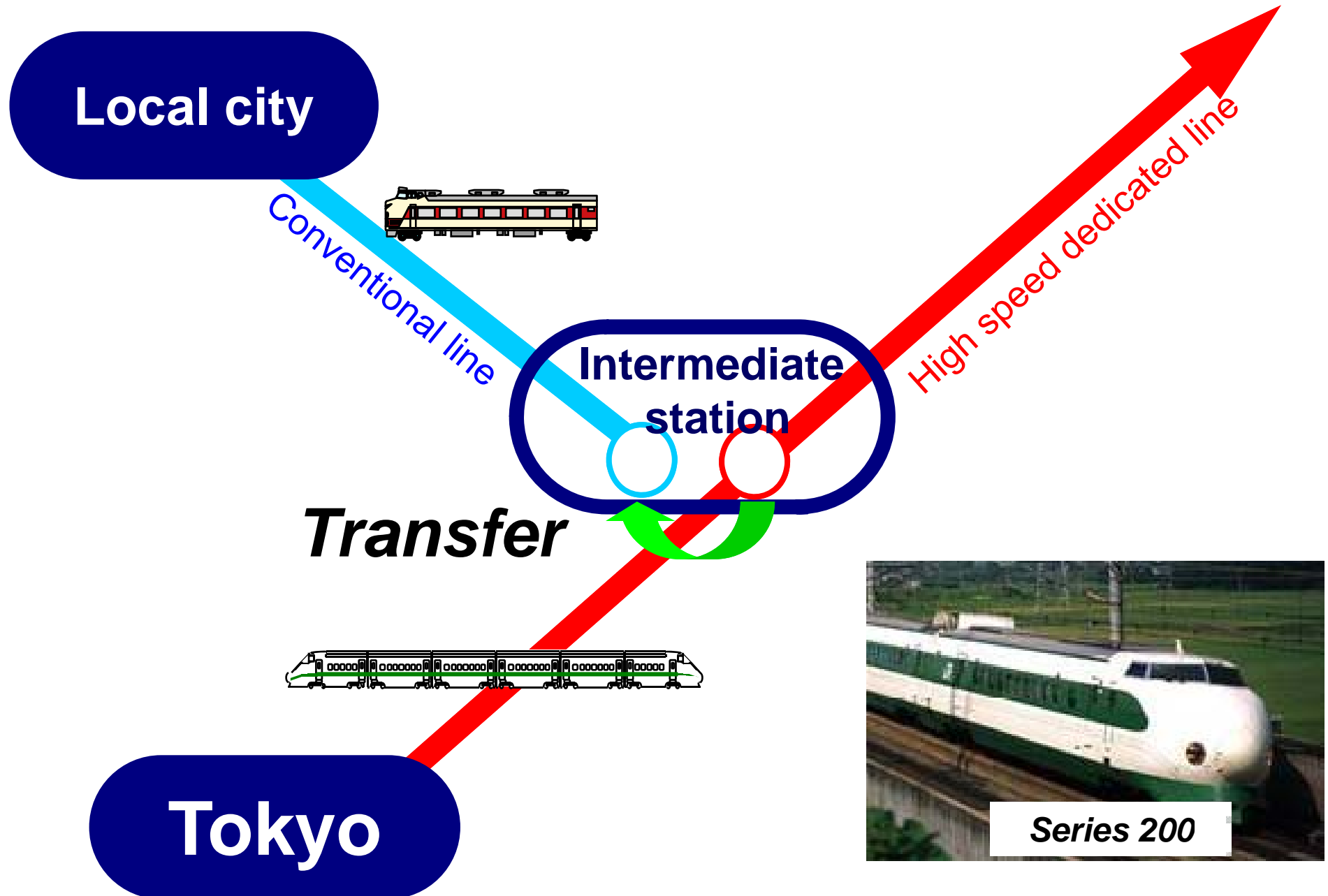
Train Leaving

***2 min to Shinkansen departure***



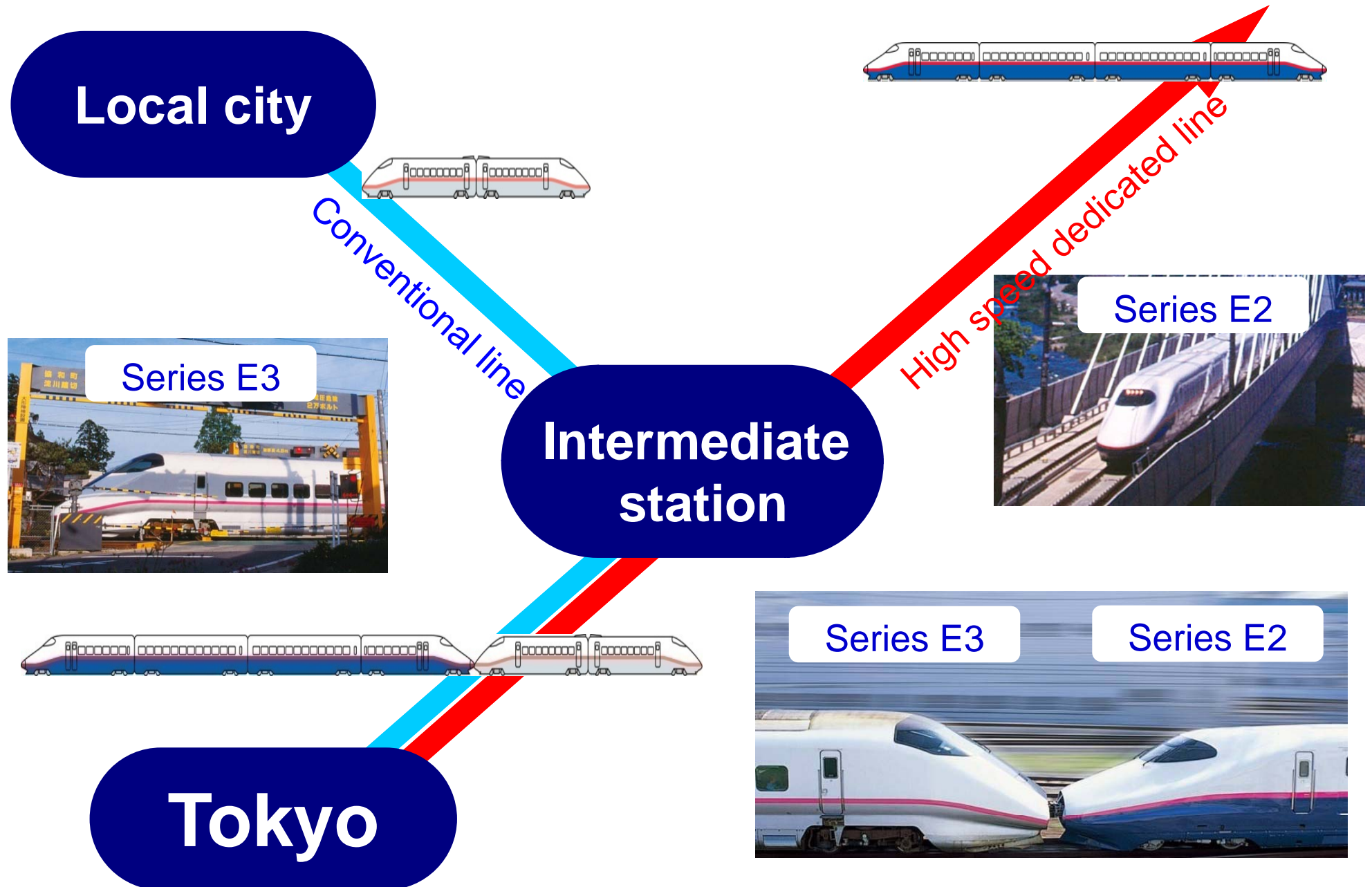
## 2-(1) Shorten total travel time

### *Eliminate train transfers -1*



## 2-(1) Shorten total travel time

### *Eliminate train transfers -2*



## **2 HSR Perspectives**

(1) Shorten total travel time

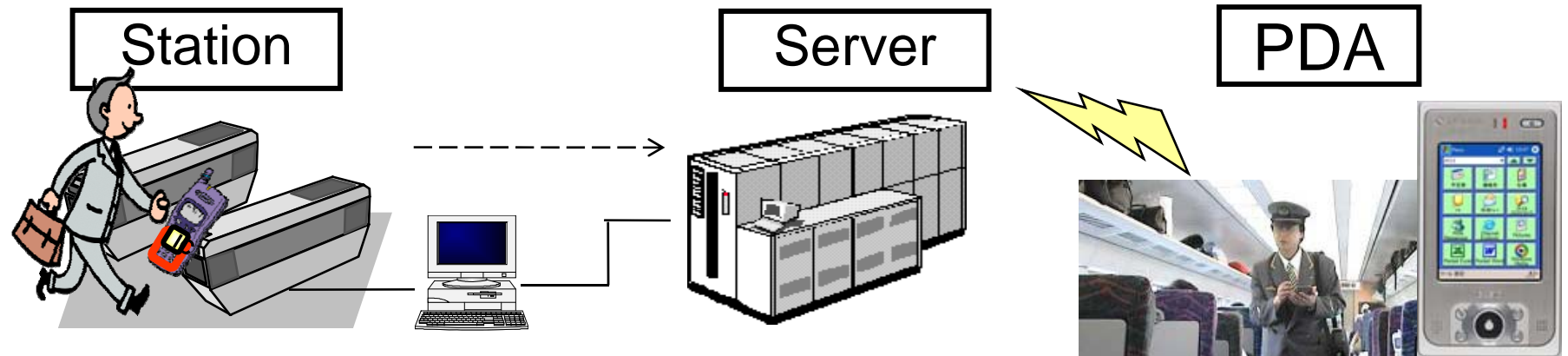
**(2) Comfort & Amenities**

(3) Station complex (station, hotel, shopping mall, etc.)

(4) Anti-noise measures & aseismic system

## 2-(2) Comfort & Amenities

### *No Ticket verification in cabin*





## 2-(2) Comfort & Amenities

 GranClass

**on the Series E5**





## 2 HSR Perspectives

- (1) Shorten total travel time
- (2) Comfort & Amenities
- (3) Station complex** (station, hotel, shopping mall, etc.)
- (4) Anti-noise measures & aseismic system

## 2-(3) Station Complex





# 2-(3) Station Complex

## ***“Tokyo Station City”***

Tenant sales total  
\$ 1.95 billion

**SAPIA TOWER**

**GRAN TOKYO  
NORTH & SOUTH TOWER**

**GRANSTA**

**Tokyo Station  
MARUNOUCH-Side**



## 2-(3) Station Complex

# ***“Shin-Aomori Station”***



**Now**





## 2 HSR Perspectives

- (1) Shorten total travel time
- (2) Comfort & Amenities
- (3) Station complex (station, hotel, shopping mall, etc.)
- (4) Anti-noise measures & aseismic system**

## **2-(4) Anti-noise measures & aseismic system**

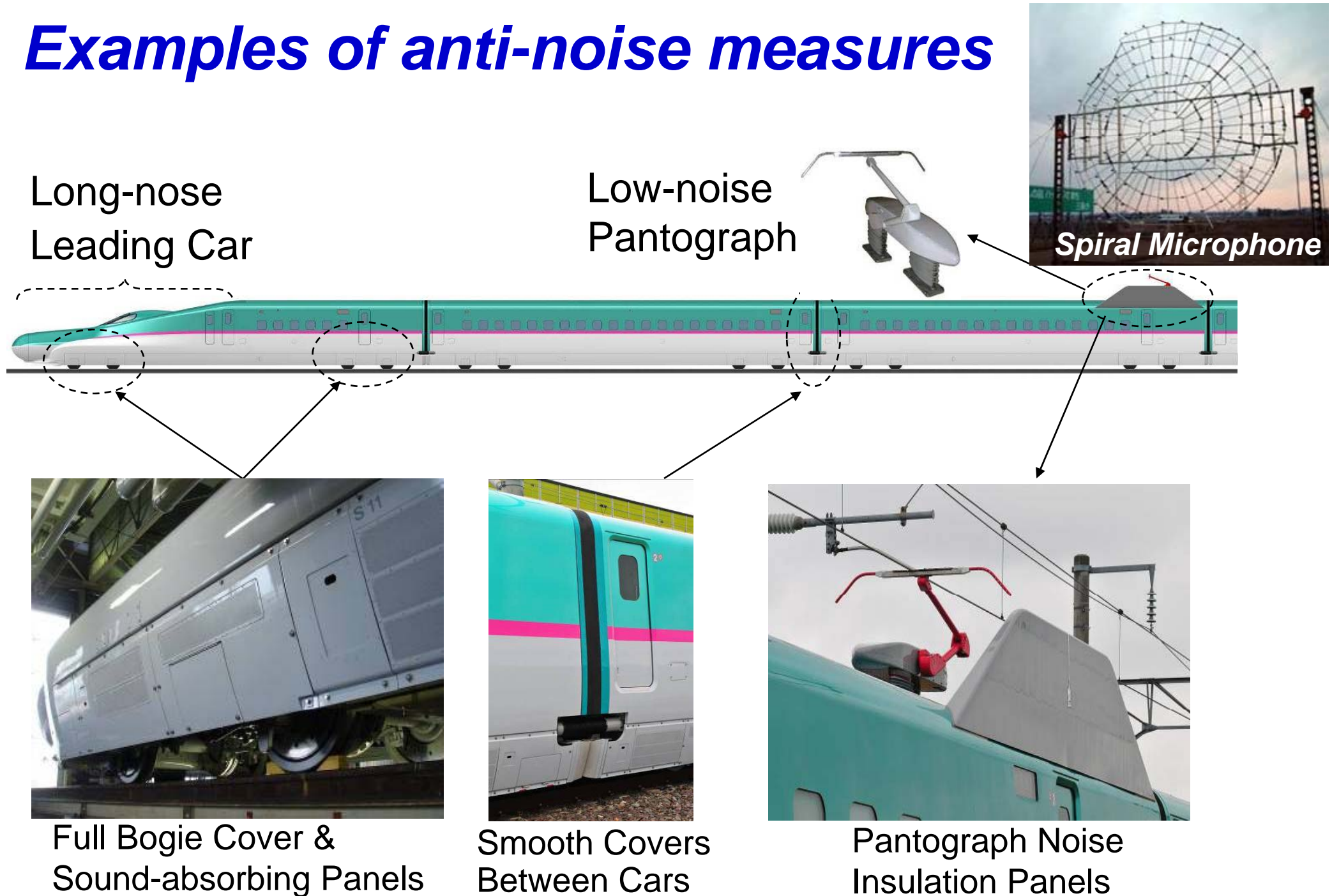
### ***Shinkansen noise level***

- Below Japanese environmental standard of 75 dB
- No damage to agriculture or livestock



# 2-(4) Anti-noise measures & aseismic system

## *Examples of anti-noise measures*



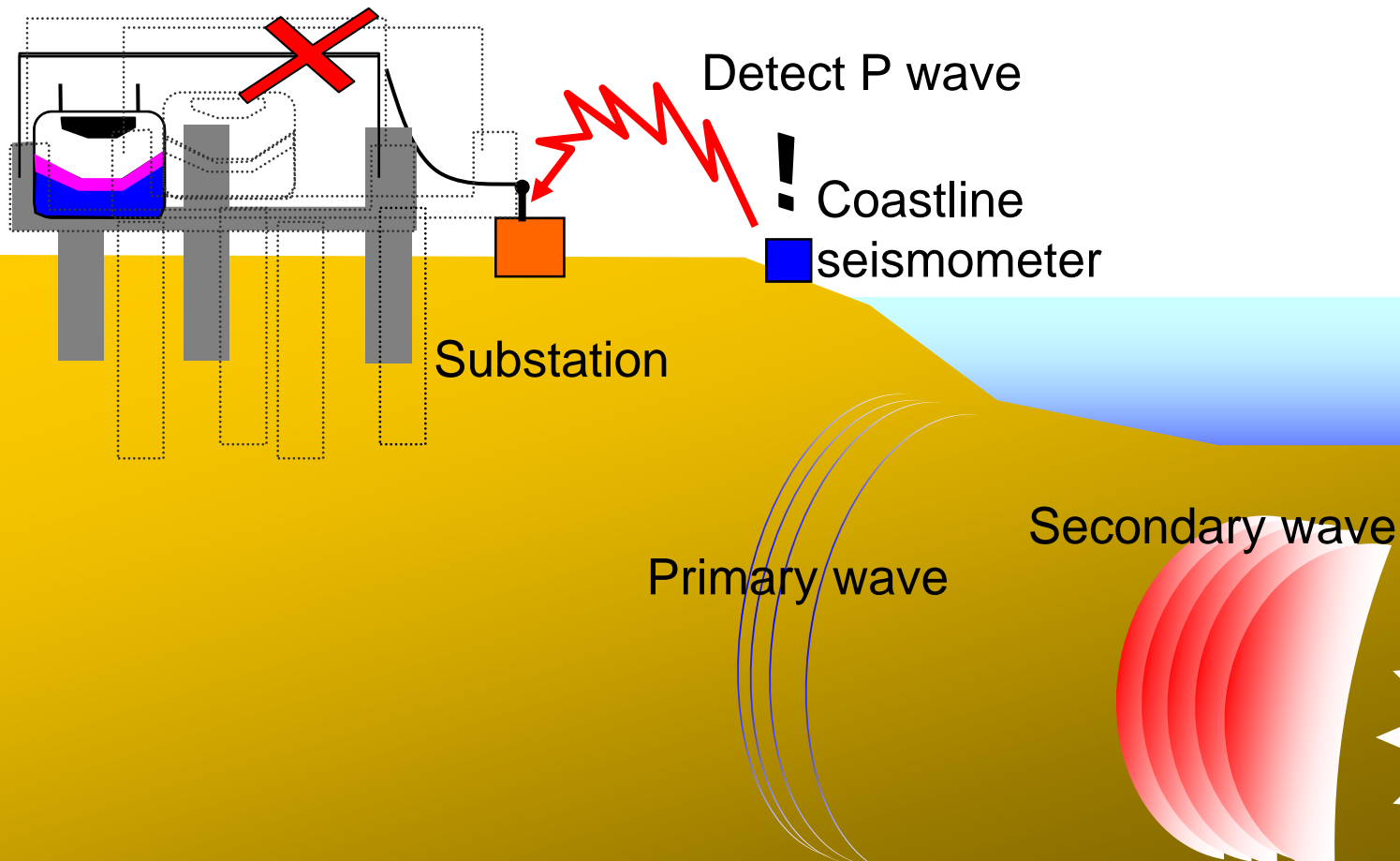
# 2-(4) Anti-noise measures & aseismic system

## *Early Earthquake Alert System*

Whenever coastline seismometer detects Primary wave.

### Power shutdown

Emergency brakes

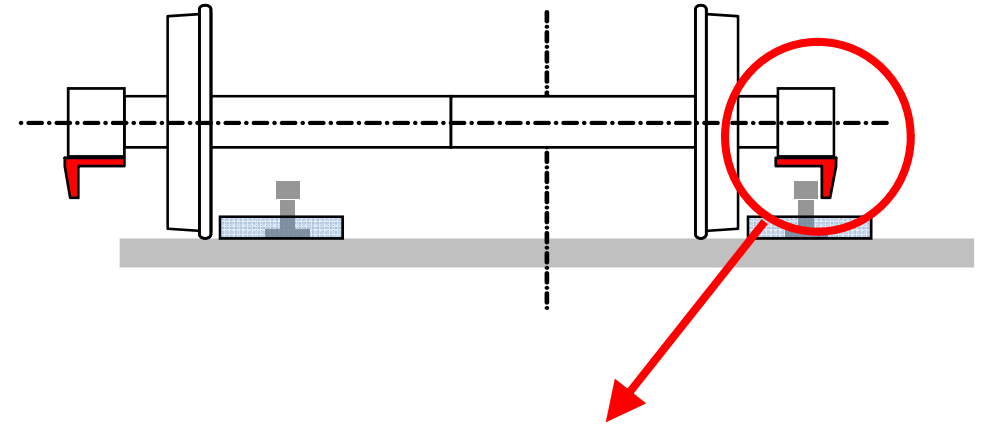


# 2-(4) Anti-noise measures & aseismic system

## *Reinforced Pillars*



## *L-Shaped Car Guides*







1 Outline of JR East

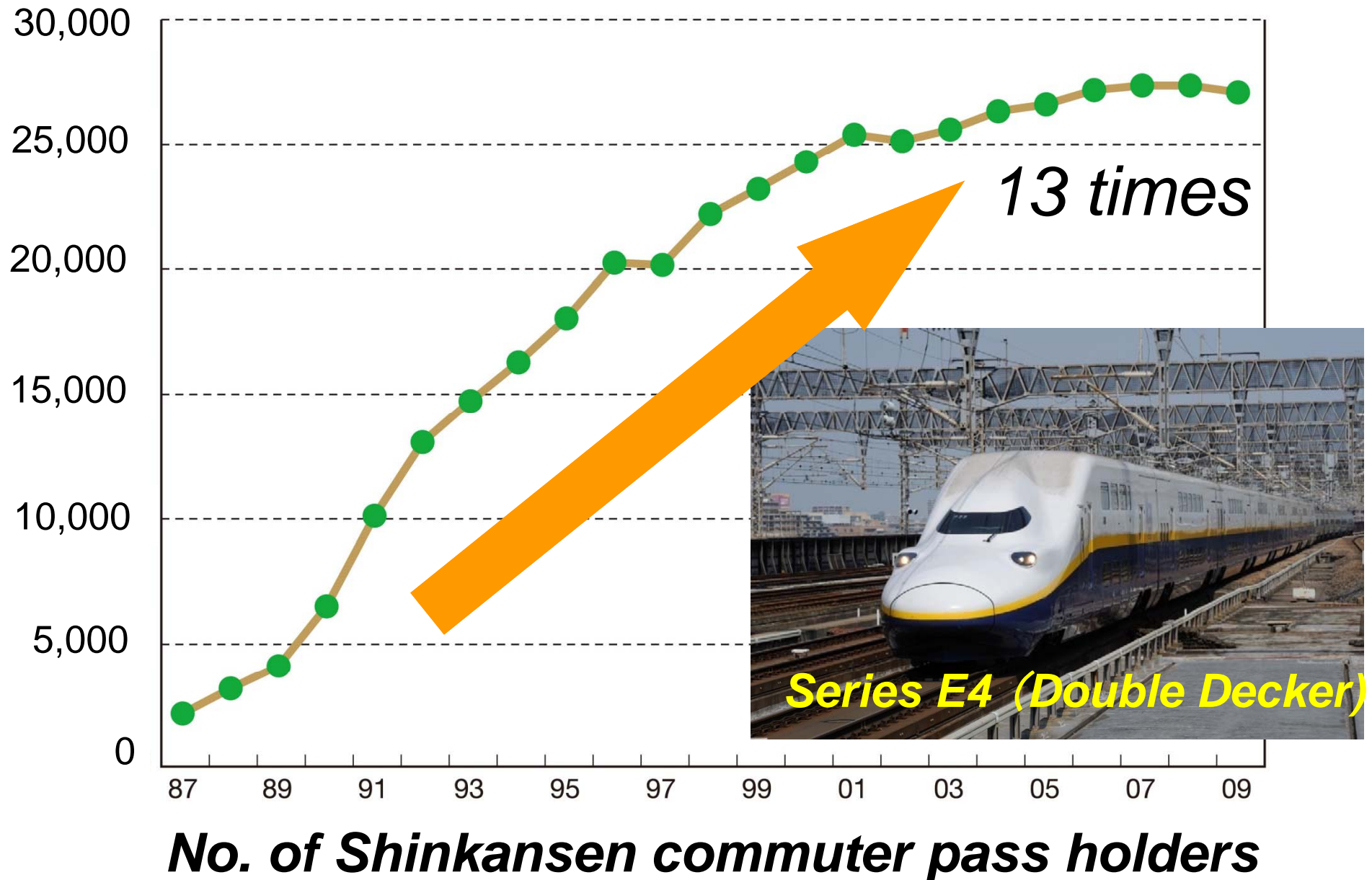
2 HSR Perspectives

**3 Economic Benefits of HSR**



### 3 Economic Benefits of HSR

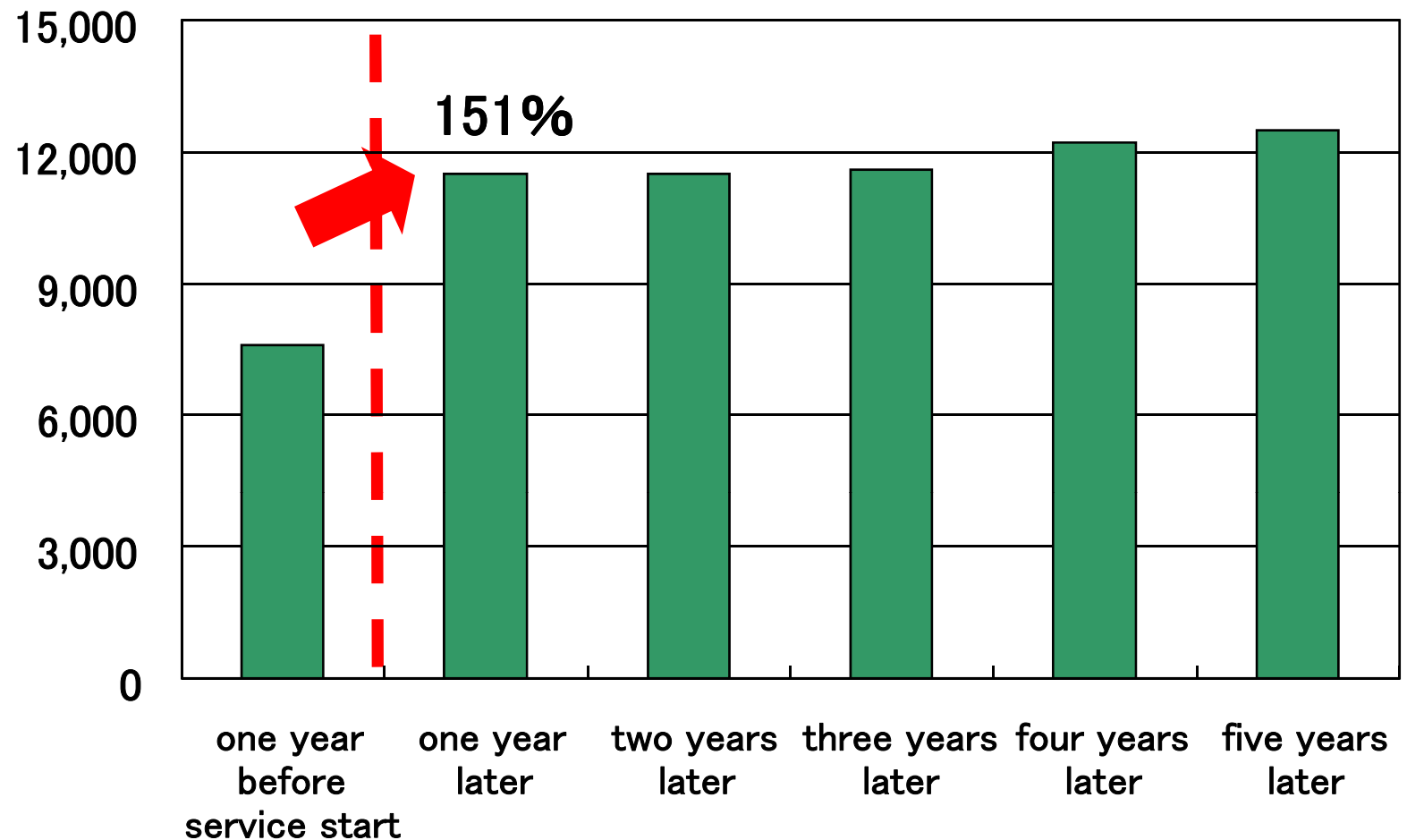
## *Growth in Shinkansen commuters*



# 3 Economic Benefits of HSR



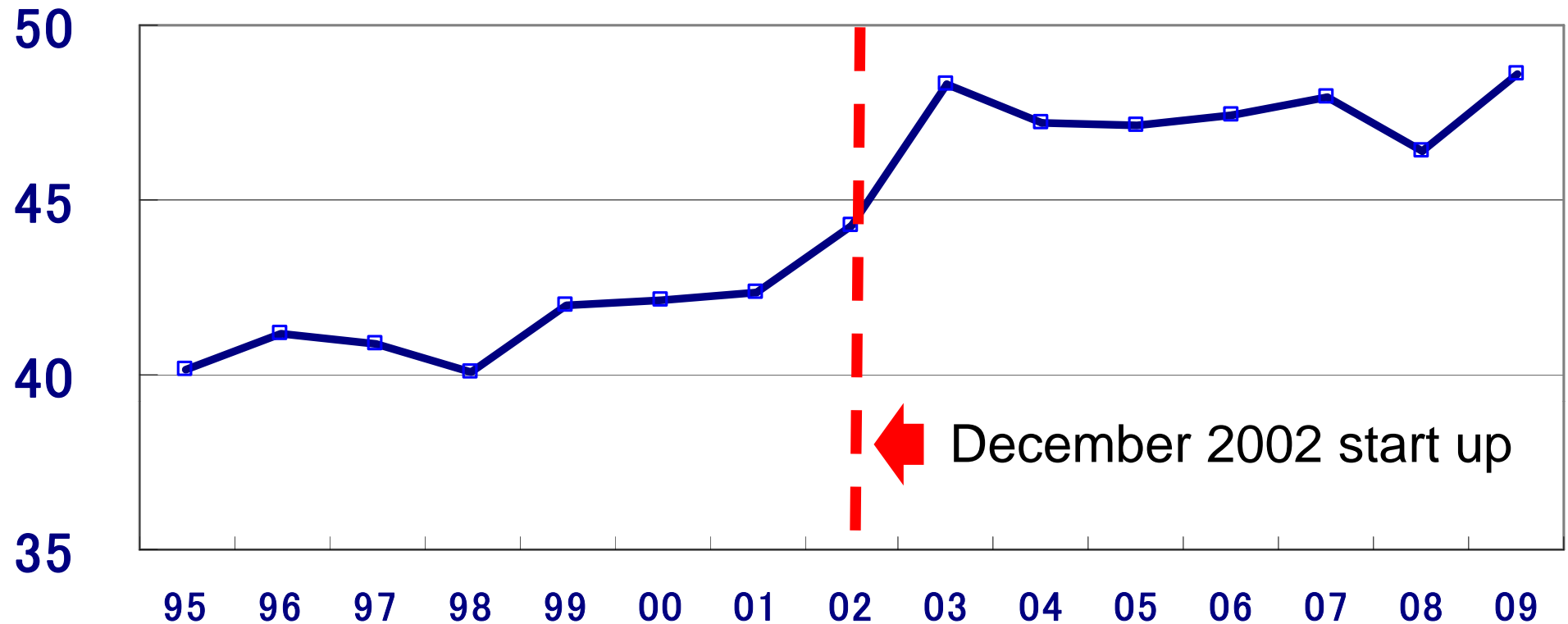
## *Daily passengers* (Morioka-Hachinohe)



### 3 Economic Benefits of HSR

## *Tohoku Shinkansen Tourist Inflow into Aomori*

(million)



Aomori Prefectural Government

### 3 Economic Benefits of HSR

(After 11 months)

# ***7,000 Jobs created***

Increased tourist consumption inducing greater employment, as calculated by the Aomori Prefectural Government



**Before**



**Now**

# Conclusion

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- HSR of JR East is safe, punctual, highly efficient and environmentally friendly, providing a comfortable ride.
- The Shinkansen is a technology that is in tune with the urban setting and local environment.
- JR East is empowered to coordinate an optimal rail system and hopes to contribute to building California's HSR.



***Thank you for your attention***

