# Maximizing Benefits of High-Speed Railways

## Introductory Remarks for the Workshop "Environmental Impacts of High-Speed Rail"

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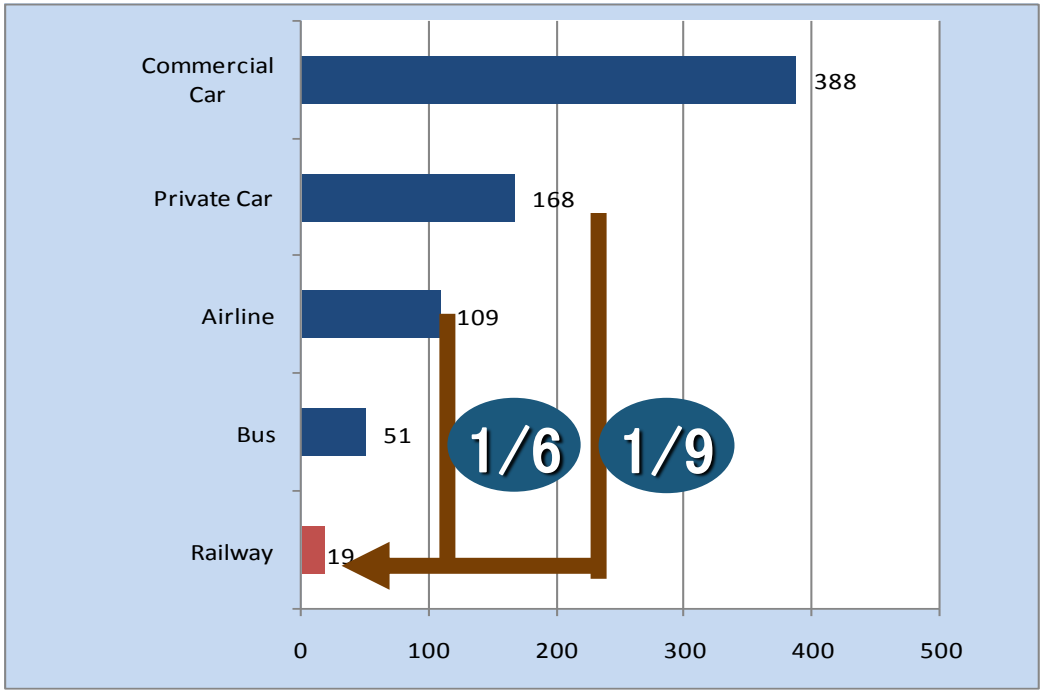
助成 日本財団 The Nippon Foundation

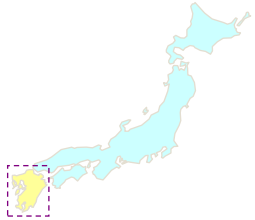
# Is Rail Environmentally Friendly?



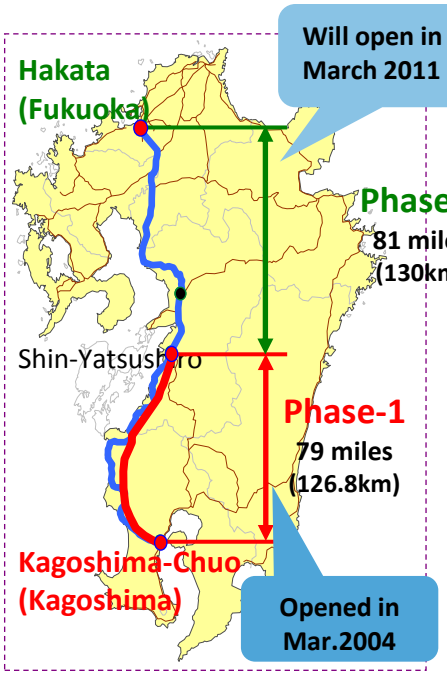

g−$CO_2$／passenger km (FY 2007)

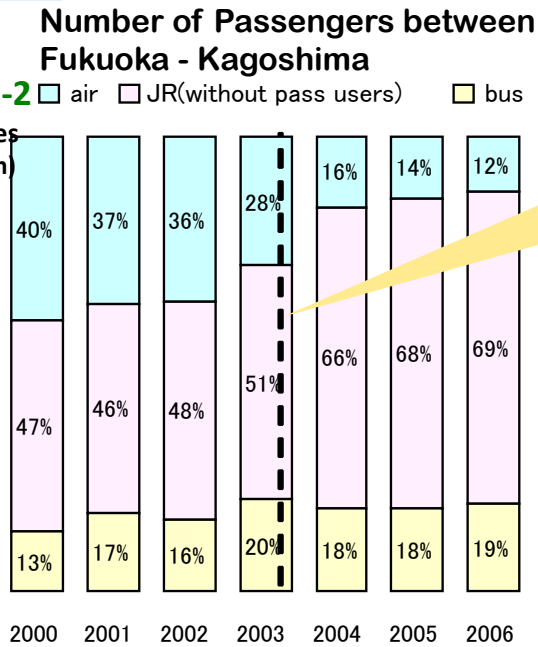
Source: MLIT

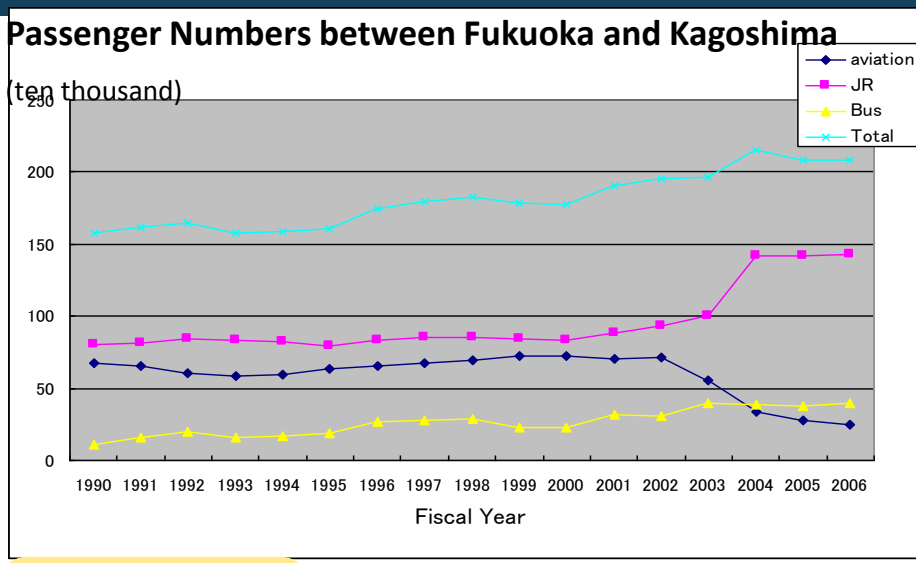
# A Recent Example in Japan



Kyushu Shinkansen

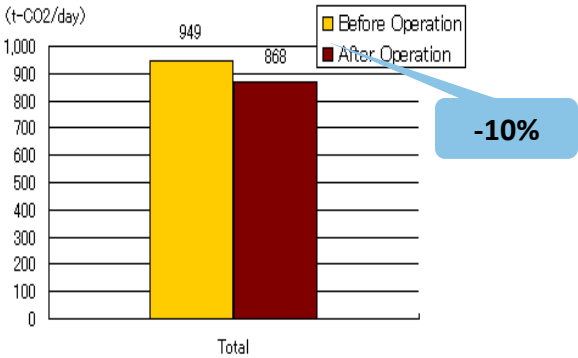



Shin Yatsushiro – Kagoshima Chuo started operation

CO2 emissions total




(Source: ITPS Presentation at TRB2010)

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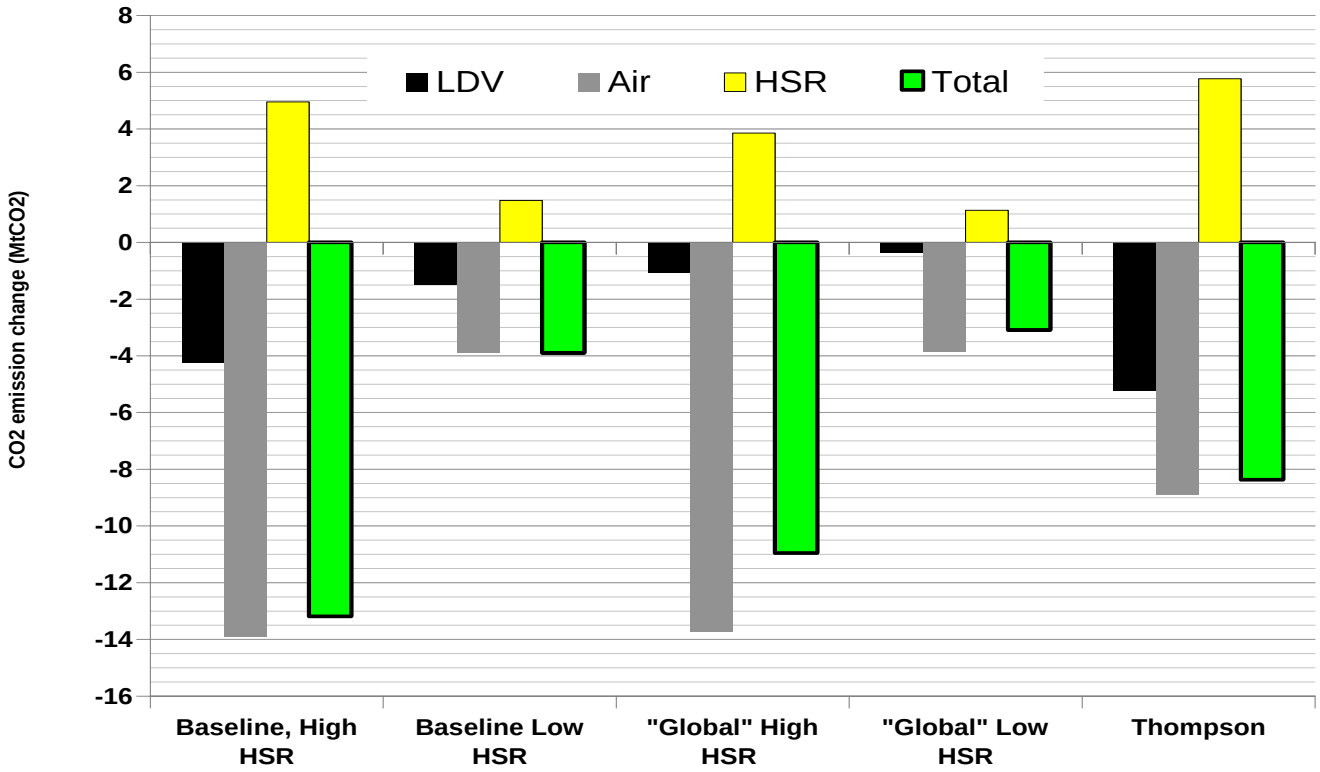
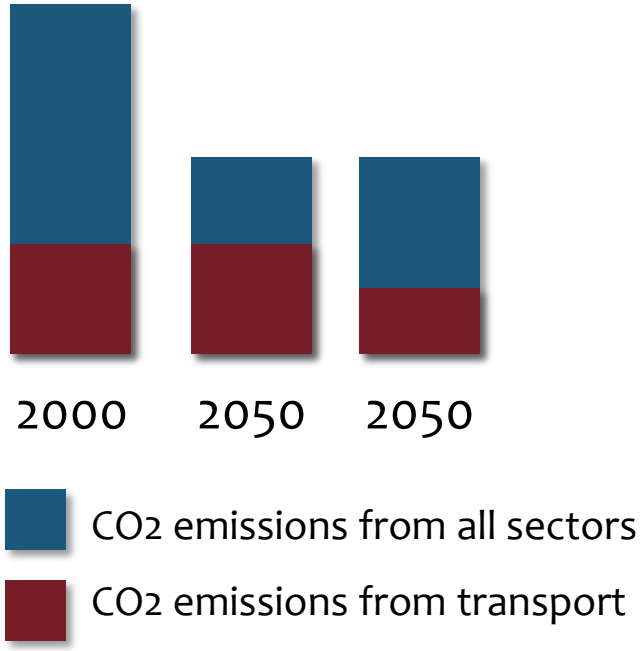


# Is Rail Environmentally Friendly?

# Why Rail Now?

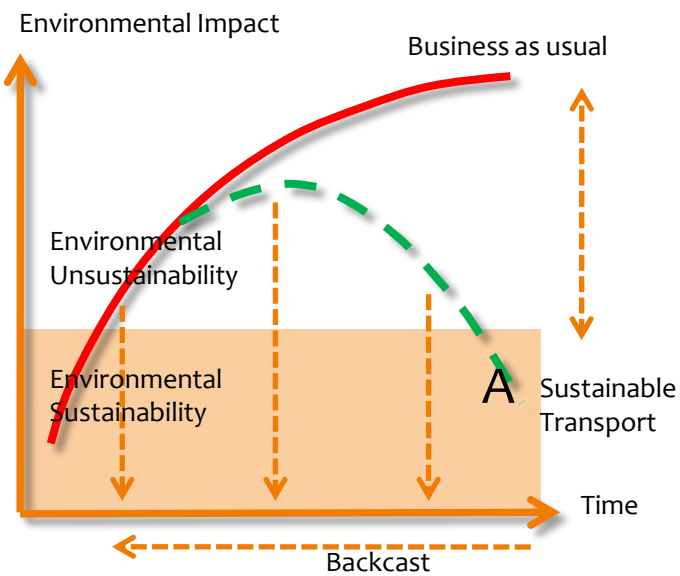



**Rather than leaving it to other sectors only,**

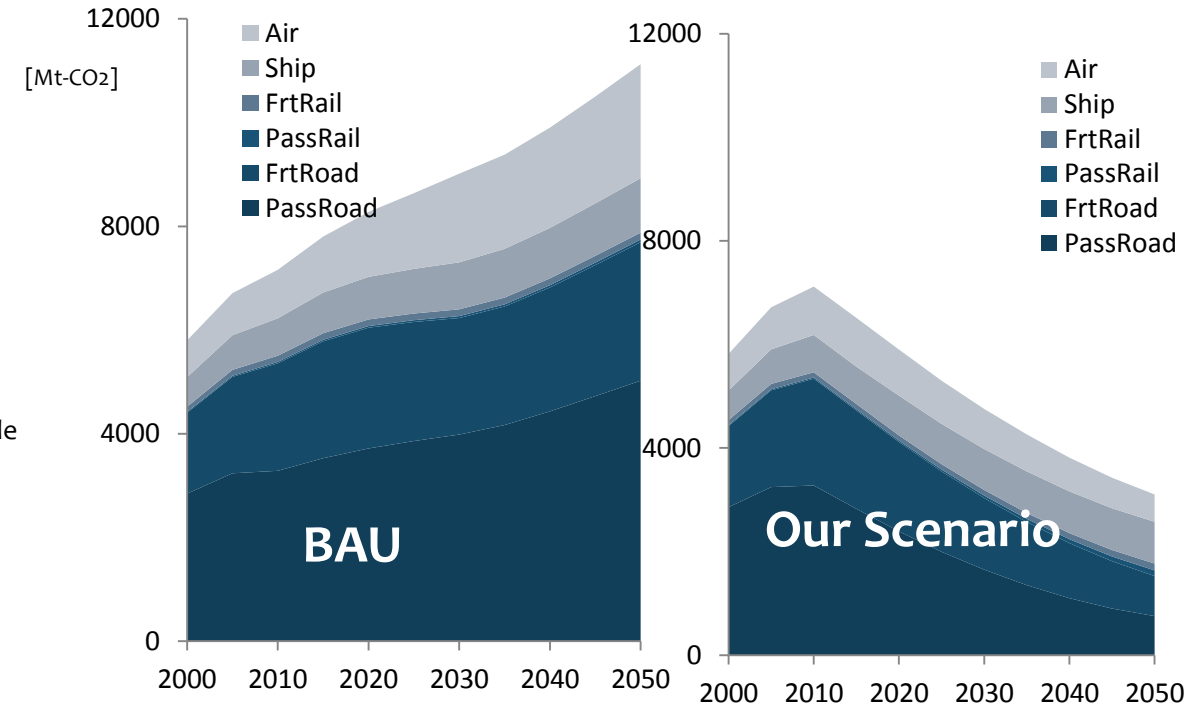
**the Transport Sector needs to act!**

# Why Rail Now? (2)

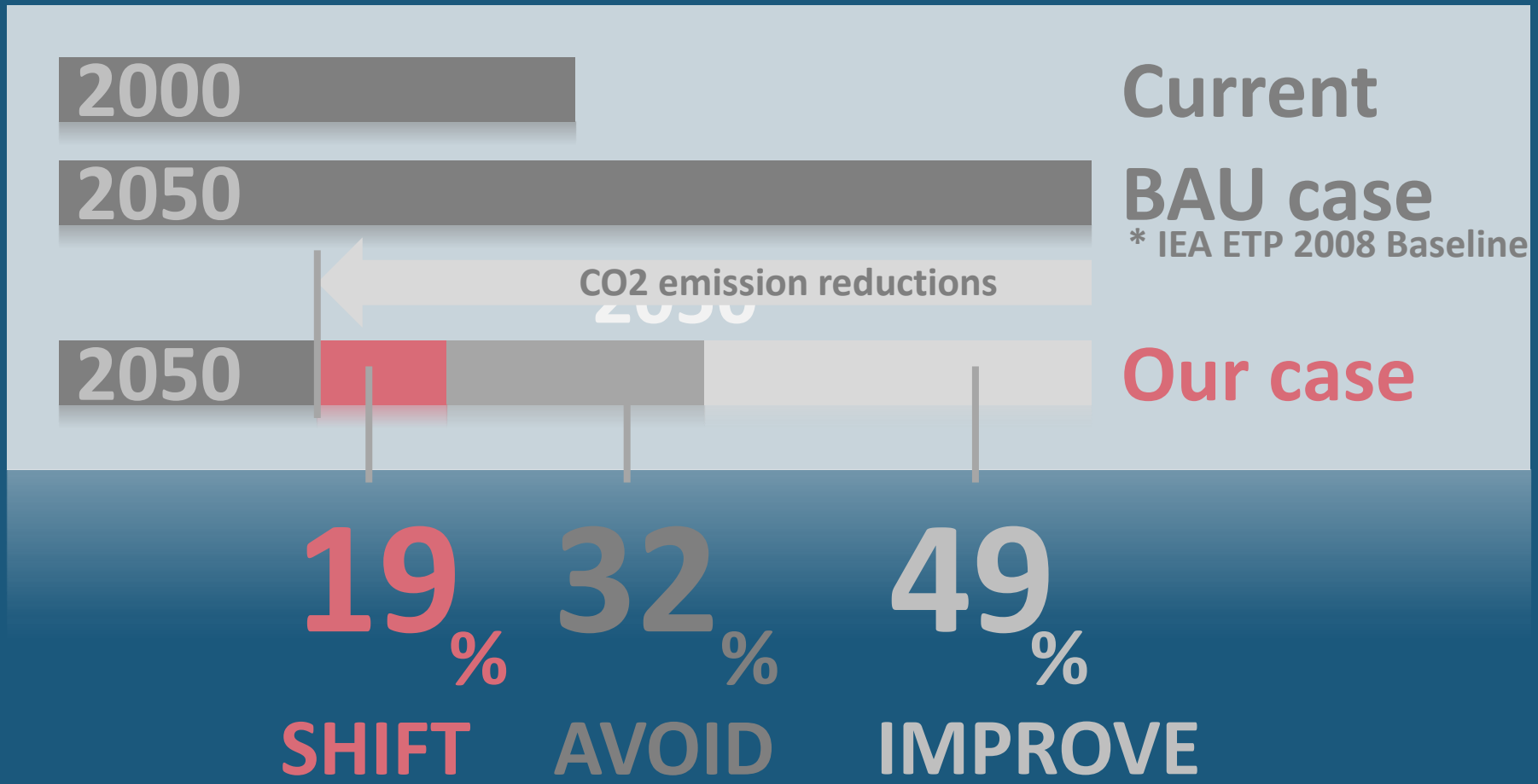
## Suppose we achieve 50% reduction from the transport sector by 2050…




Source: http://www.vibat.org/vibat_ldn/pdf/VIBAT_London_exec%20summary_sept2009LR.pdf



# CO2 Emissions from Transport (Global)



# Why People Choose HSR?

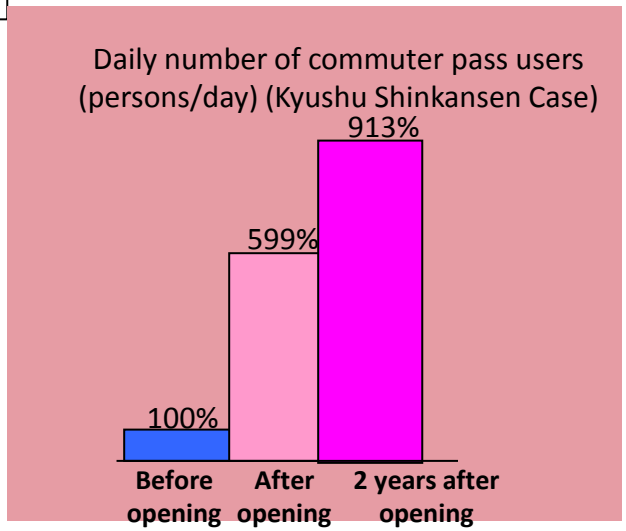
Local Community

Business Community

Tourists

International Community

Shinkansen ⟷ **3 minutes for transfer** ⟷ Conventional Line

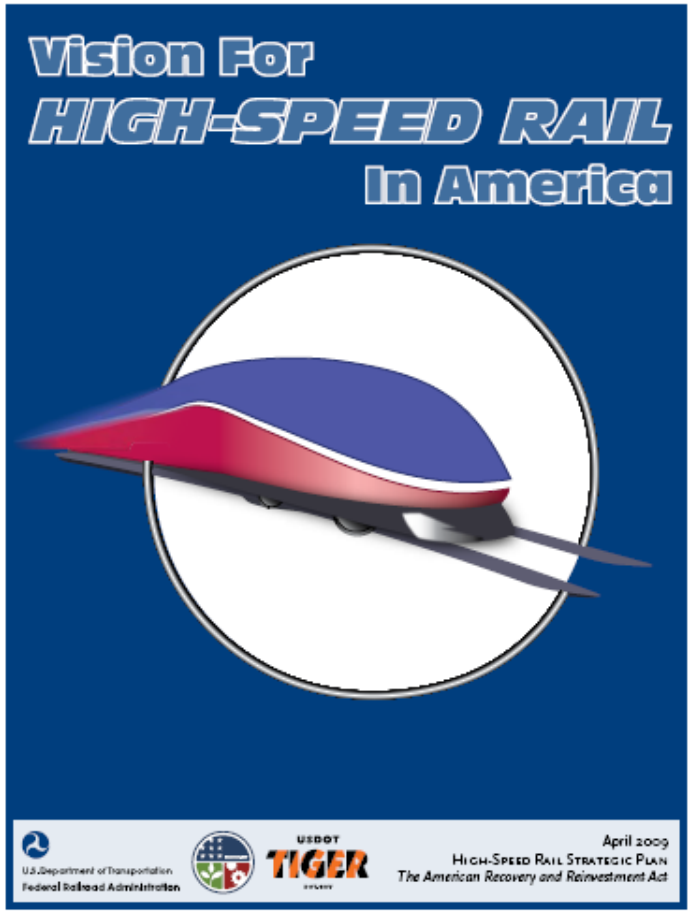



**Network Connections and the Level of Intermodality**

- ✓HSR and local trains
- ✓HSR and bus services
- ✓HSR and special bus routes run by JR
- ✓HSR and car rental
- ✓HSR and taxi services

**Kagoshima**

# Co-Benefits of HSR




- **Strategic Transportation Goals in US HSR Strategic Plan**
  - Ensure safe and efficient transportation choices
  - Build a foundation for economic competitiveness
  - Promote energy efficiency and environmental quality
  - Support interconnected livable communities

***A sustainable mode which brings co-benefits including climate change aspects.***

# Broad Issues of HSR
# - Stations and Livable Community-

http://upload.wikimedia.org/wikipedia/commons/8/87/JR_Central_Towers_-_02.JPG

http://upload.wikimedia.org/wikipedia/commons/9/9f/Tokyo_station01_1920.jpg

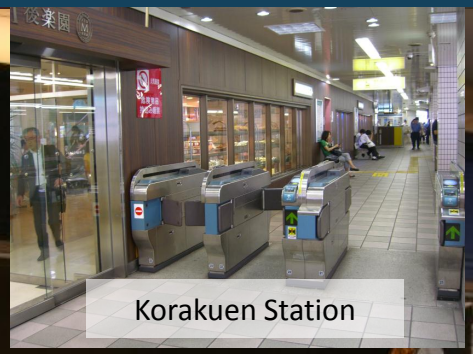
http://upload.wikimedia.org/wikipedia/commons/f/f9/JR_Kyoto_sta02n4592.jpg

http://upload.wikimedia.org/wikipedia/commons/6/6f/Shinagawa_station_area_02.jpg

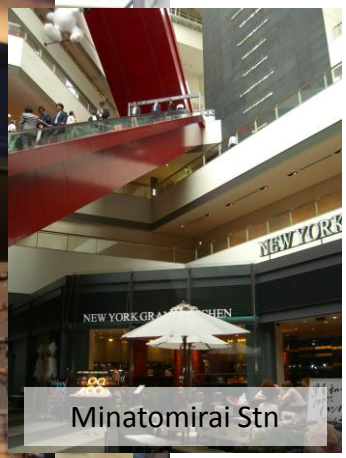
http://upload.wikimedia.org/wikipedia/commons/a/a9/Shinagawa_Station_20070504-02.jpg

# Broad Issues of HSR
# - Community with Rail -

Korakuen Station


Korakuen Station

Ikebukuro Station



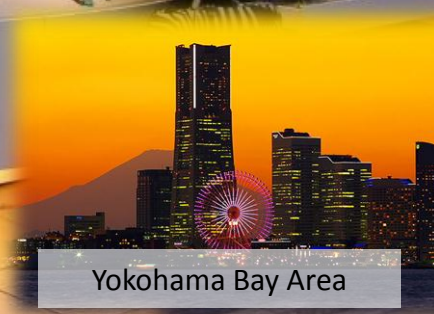
Minatomirai Stn

Ikebukuro Station

Tokyo Station

Tokyo Station

Tokyo Station


Yokohama Bay Area

http://upload.wikimedia.org/wikipedia/commons/d/d2/070203_MM21%26FULL.jpg

# Today's Workshop

## Keynote Speech: Mr. David Valenstein; FRA

FRA's Look at the Future : High-Speed Rail and the Environment

## Part I : High-Speed Rail – Climate Change Context

1. Impacts of High-Speed Rail in the United States: Dr. Lee Schipper (UC Berkeley)
2. Life-Cycle Analysis of High-Speed Rail- the Case of California: Dr. Mikhail Chester (UC Berkeley)
3. Review of CO2 Emission Studies of High-Speed Rail in Europe: Dr. Greg Marsden (University of Leeds)
4. Case Study of Carbon Impacts of Switching from Air to Shinkansen in Japan: Prof. Yoshitsugu Hayashi (Nagoya University)

# Today's Workshop

## Part II : Broad Issues Regarding High-Speed Rail

1. Introduction of JR East Experiences: How to Maximize Economics and Social Benefits of High-Speed Rail: Mr. Masaki Ogata (JR East)
2. Land use HSR interactions: Prof. Elizabeth Deakin (UC Berkeley)

## Part III : Panel Discussion

The panel will address broader impacts of high-speed rail as well as the conditions and policies under which high-speed rail environmental benefits can be maximized. Can these conditions be achieved in the US? Have they been achieved in Japan or Europe?

# Thank you very much for your attention!

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