California High-Speed Rail and Economic Development:

Station-Area Market Profiles and Public Policy Responses

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HSR as an Economic Stimulus in California

Los Angeles, San Francisco, San Diego, San Jose & Sacrament are ranked in the nation's **top 50 city-pairs** for HSR investments (America 2050's assessment).

California is the largest beneficiary, receiving a federal contribution of **$2.34 billion**.

The passage of Proposition 1A in 2008 authorized **$9.95 billion** in the state's general obligation bonds.

The California HSR Authority expects that the HSR project will generate **600,000** construction-related jobs over the course of building and induce **450,000** permanent new jobs over the next 25 years (CAHSRA, 2010).

Small downstream economic benefits ?

(Levinson, 2010; Givoni, 2006)

Rail Investment & Economic Development

Conventional wisdom holds impacts are:

- Spatially **redistributive** within a city-region

- Highly **localized**, focused on rail hubs/nodes & shaped by other accompanying factors.

(Banister & Berechman, 2000; Bertolini & Spit, 1998; Cervero & Landis, 1997)

→ HSR Projects?

Objectives

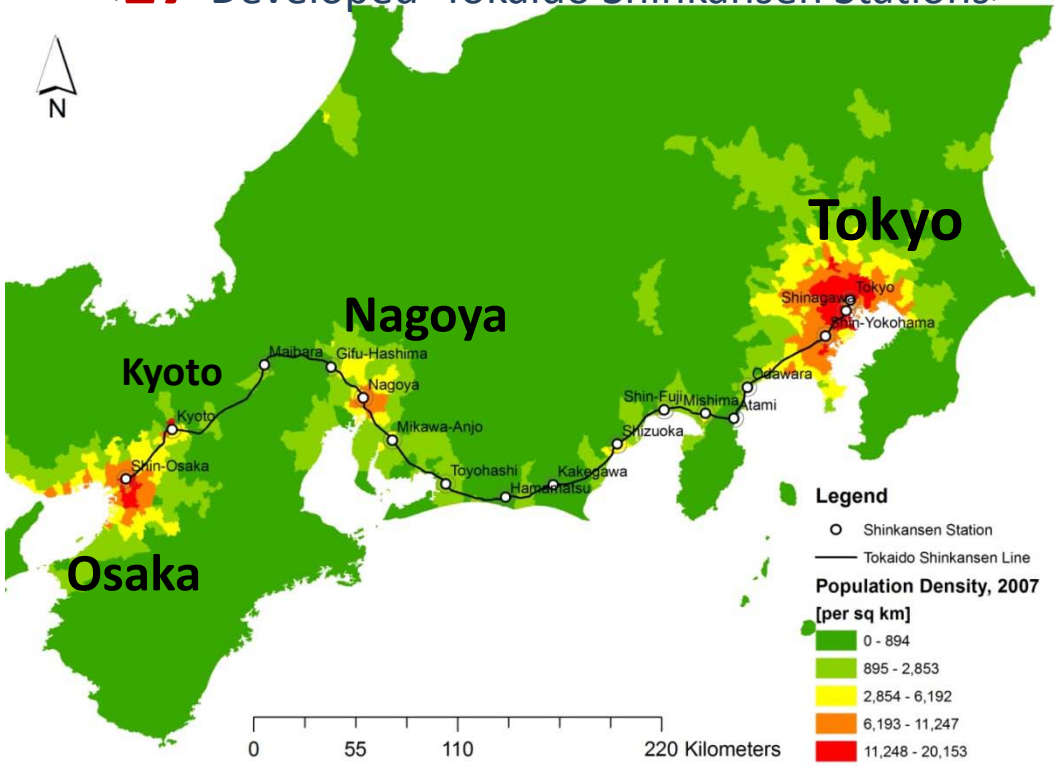
This research examined **recent job and labor market trends** in proposed California HSR station areas, focusing on:

1. **The spatial distribution of economic activities across different types of cities that might be spurred by HSR in California;**
2. **Opportunities for leveraging transit-oriented developments & enhancing access to international airports and other large-scale activity centers that add further increments of agglomeration benefits; and**
3. **The application of value capture techniques to recoup some of the costs of the California HSR project from rail-induced agglomeration & accessibility benefits.**

International Comparison

< 26 Proposed California HSR Stations>

<17 Developed Tokaido Shinkansen Stations>



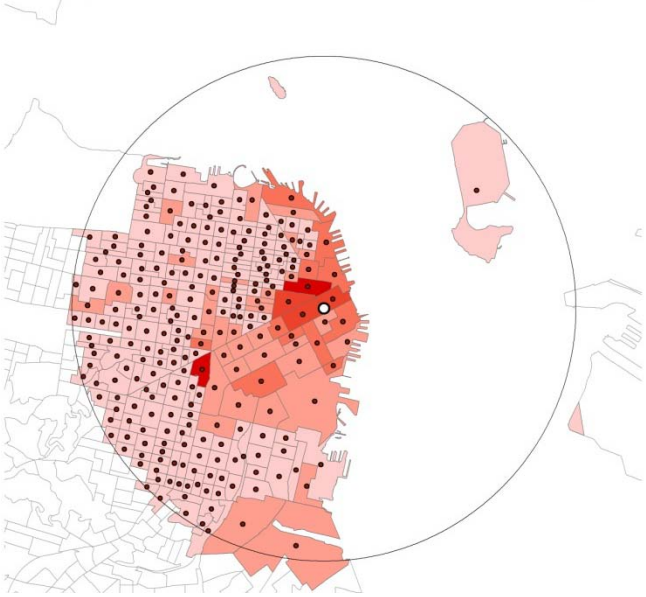
International Comparison

	California HSR	Tokaido Shinkansen	Tokaido/ California
Open Year	-	**1964** (46 years)	-
Service Distance km	**695.2** (San Francisco and Los Angeles)	**552.6** (Tokyo and Shin-Osaka)	**0.80**
Max. Speed kph	**354**	**270**	**0.76**
Travel Time	**2 hrs 40 mins** (Estimate in 2010)	**2 hrs 20 mins** (2010)	**0.88**
Passengers per day	**91,000~194,000** (Phase I Estimate for 2030)	**378,000** (FY2009)	**1.95~4.15**
Initial Costs per km US$M	**5.63** (Estimate in 2008)	**1.79** (1964)	**0.32**
Ave. # of Jobs in 5 km	**117,837** (2008)	**514,345** (2006)	**4.37**
Ave. # of Workers in 5 km	**65,771** (2008)	**212,769** (2005)	**3.24**

Station Catchment Area

Units of Analysis:

In **5 km** of the 26 California HSR & 17 Tokaido Shinkansen Stations



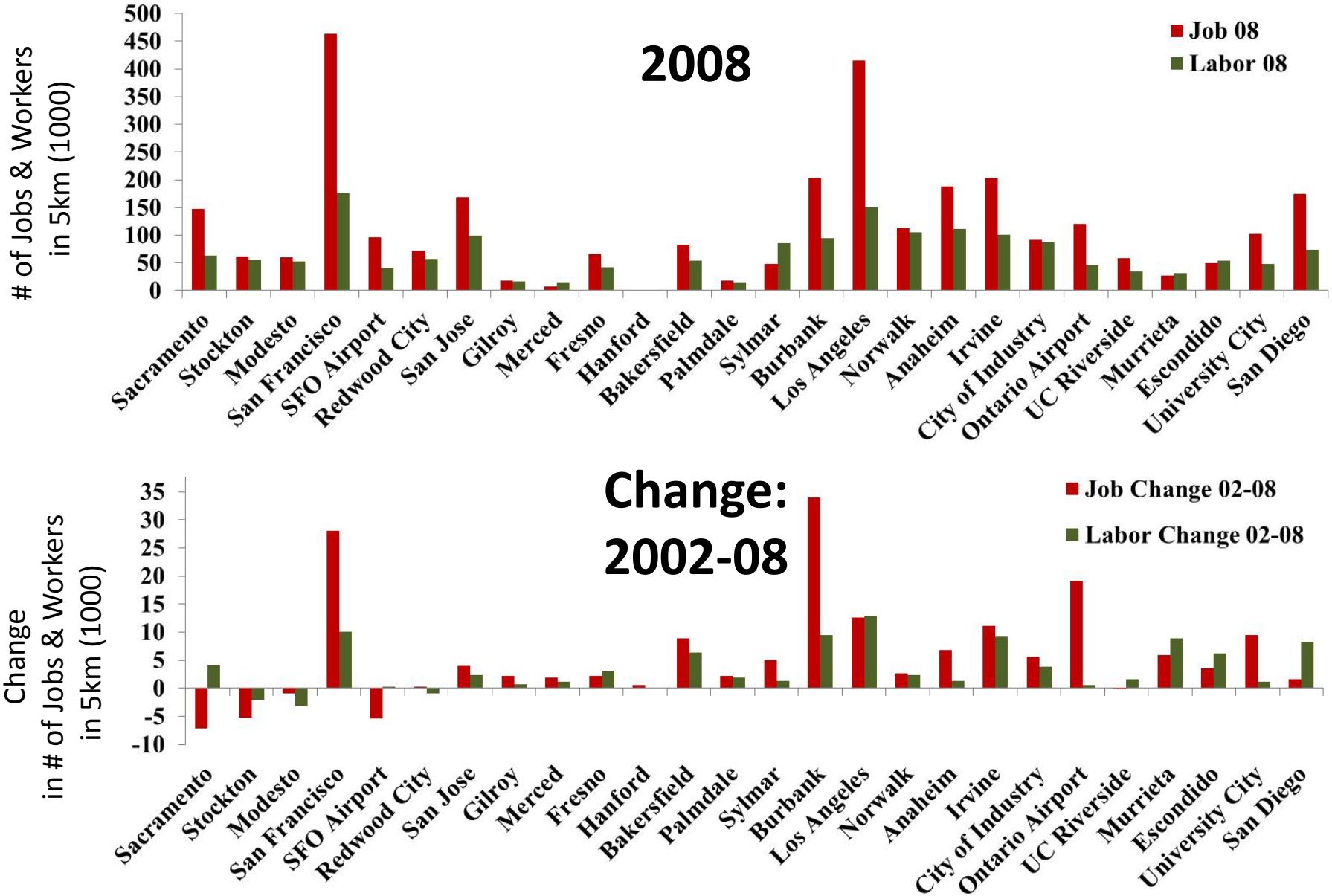
<e.g., *S.F. Transbay Terminal*>

<e.g., *Tokyo Station*>

1. The HSR project must economically encompass a larger radius around the proposed stations than the 500 meter radius (e.g., 1-3 miles; Catz and Christian, 2010).

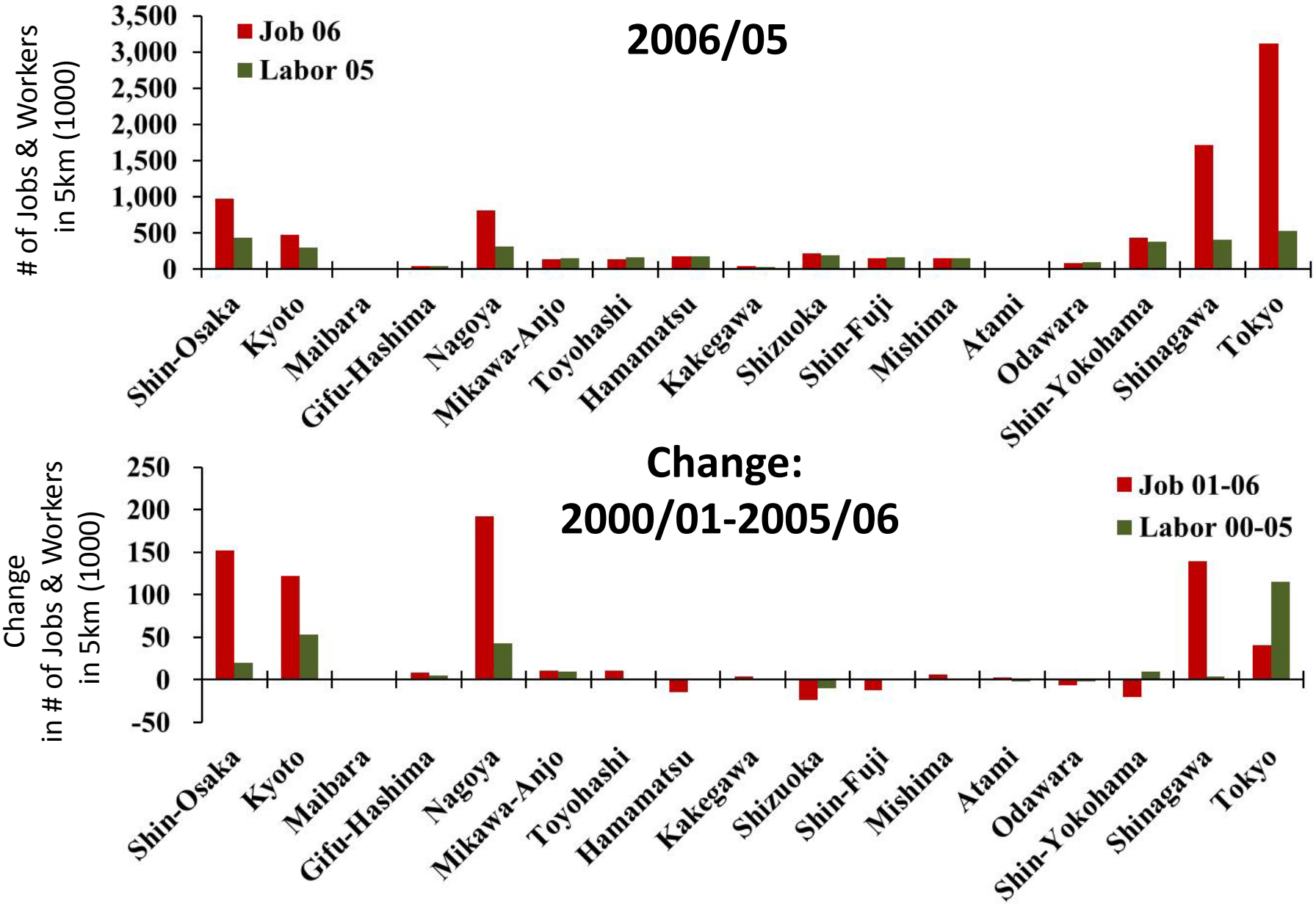
2. The exact locations of many of the 26 HSR stations are still unknown, so the station catchment areas are likely to shift more than 500 meters.

Job & Worker Distributions: California



Data Source: LEHD, 2002 and 2008

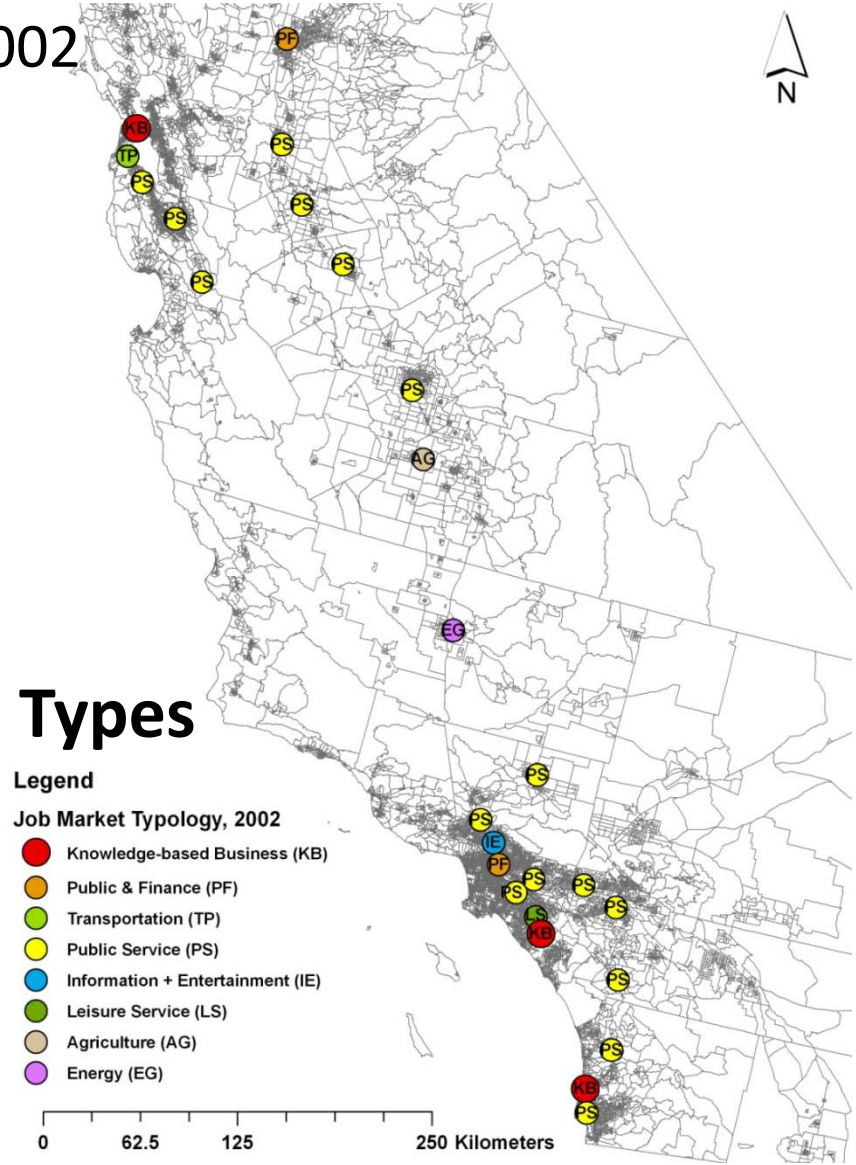
Job & Worker Distributions: Japan



Industrial Typologies: California

Job Markets (NAICS code)

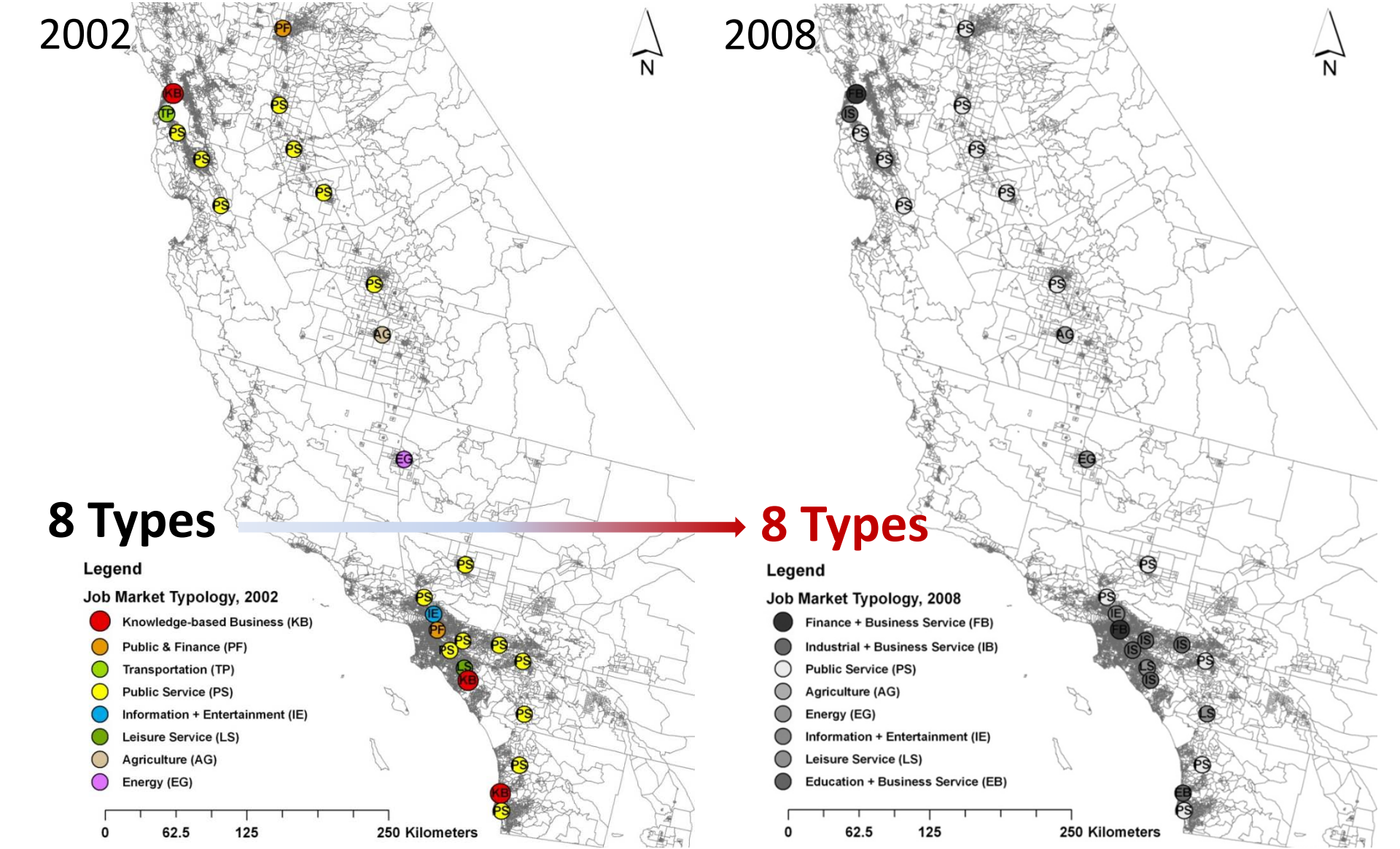
2002



8 Types

Industrial Typologies: California

Job Markets (NAICS code)

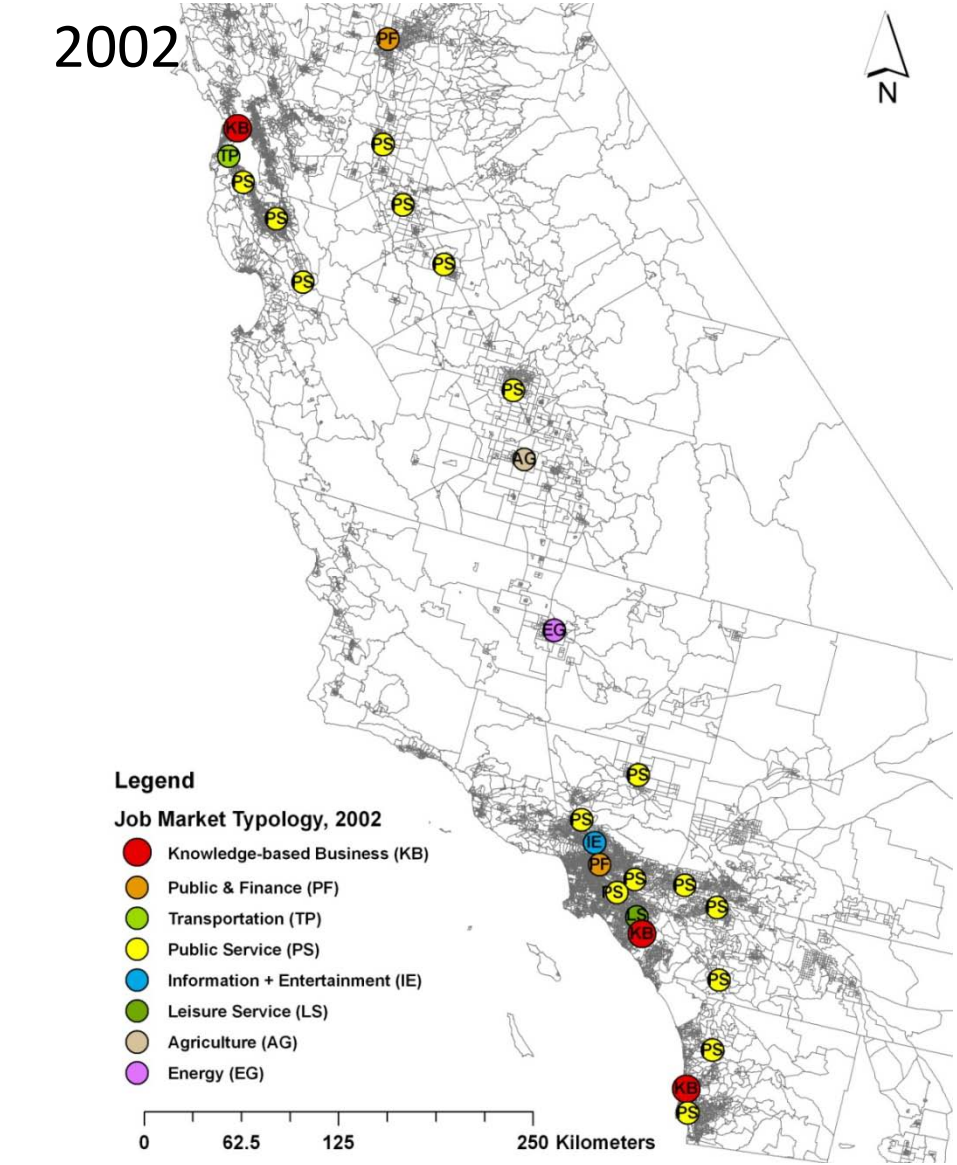


Industrial Typologies: California

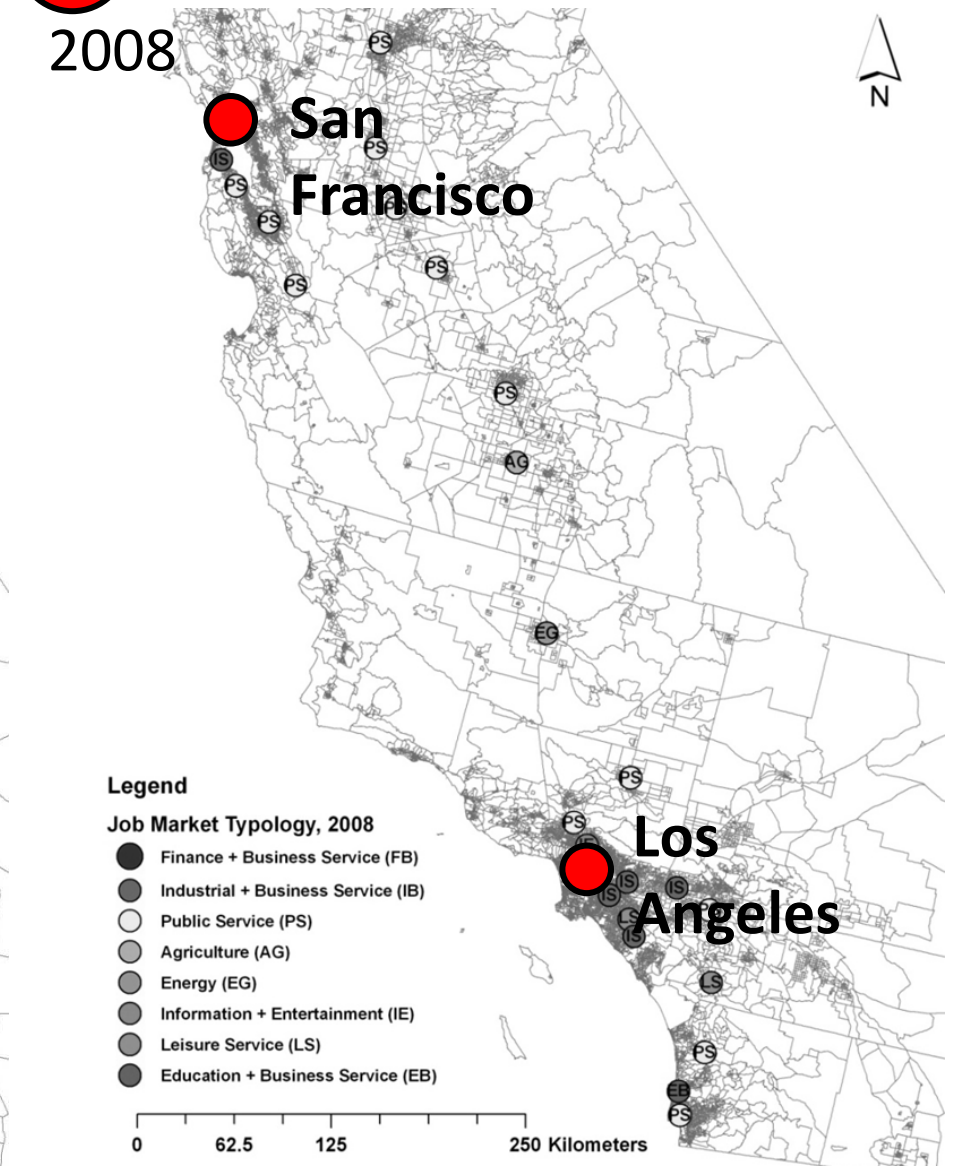
Job Markets (NAICS code)

FB : Finance + Business Service

2002



2008

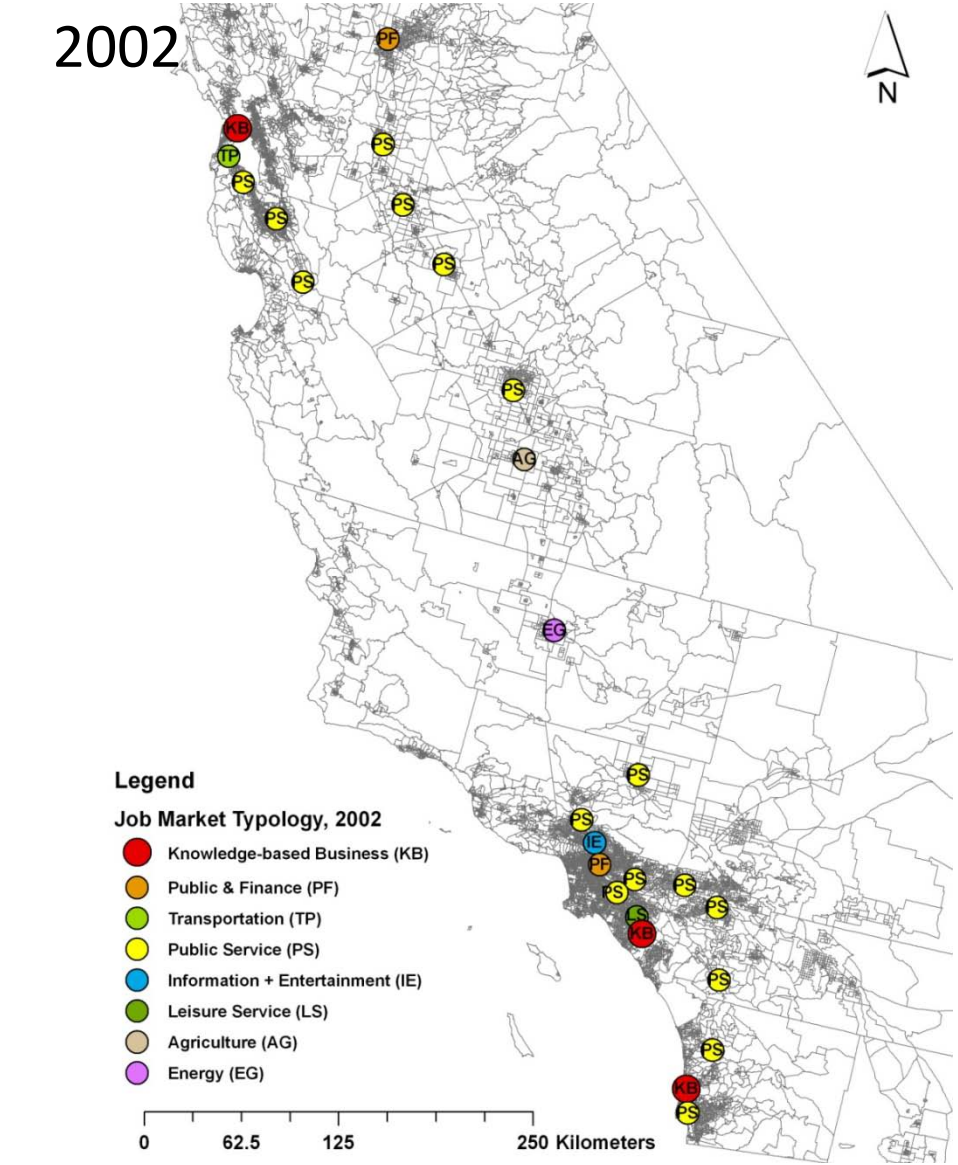


Industrial Typologies: California

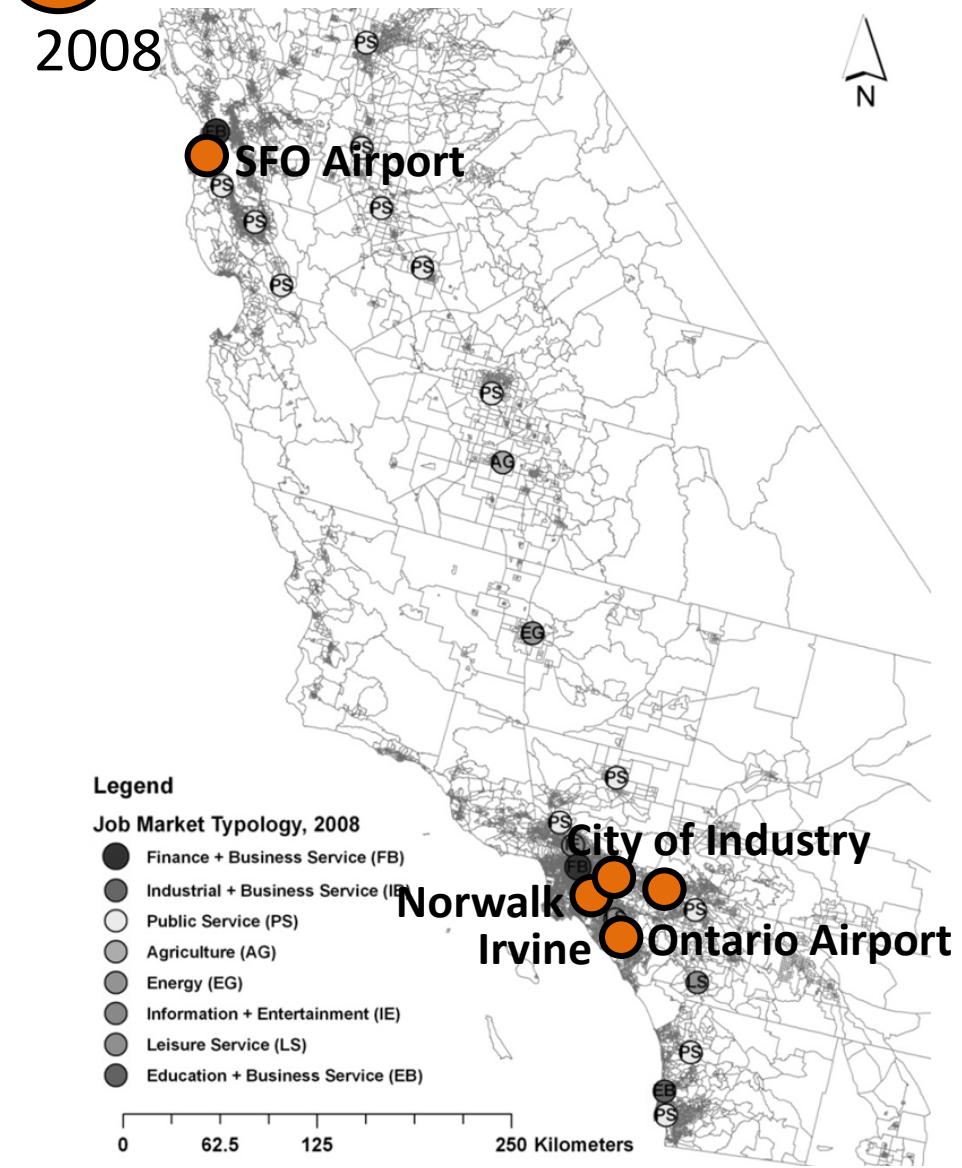
Job Markets (NAICS code)

IB : Industrial + Business Service

2002



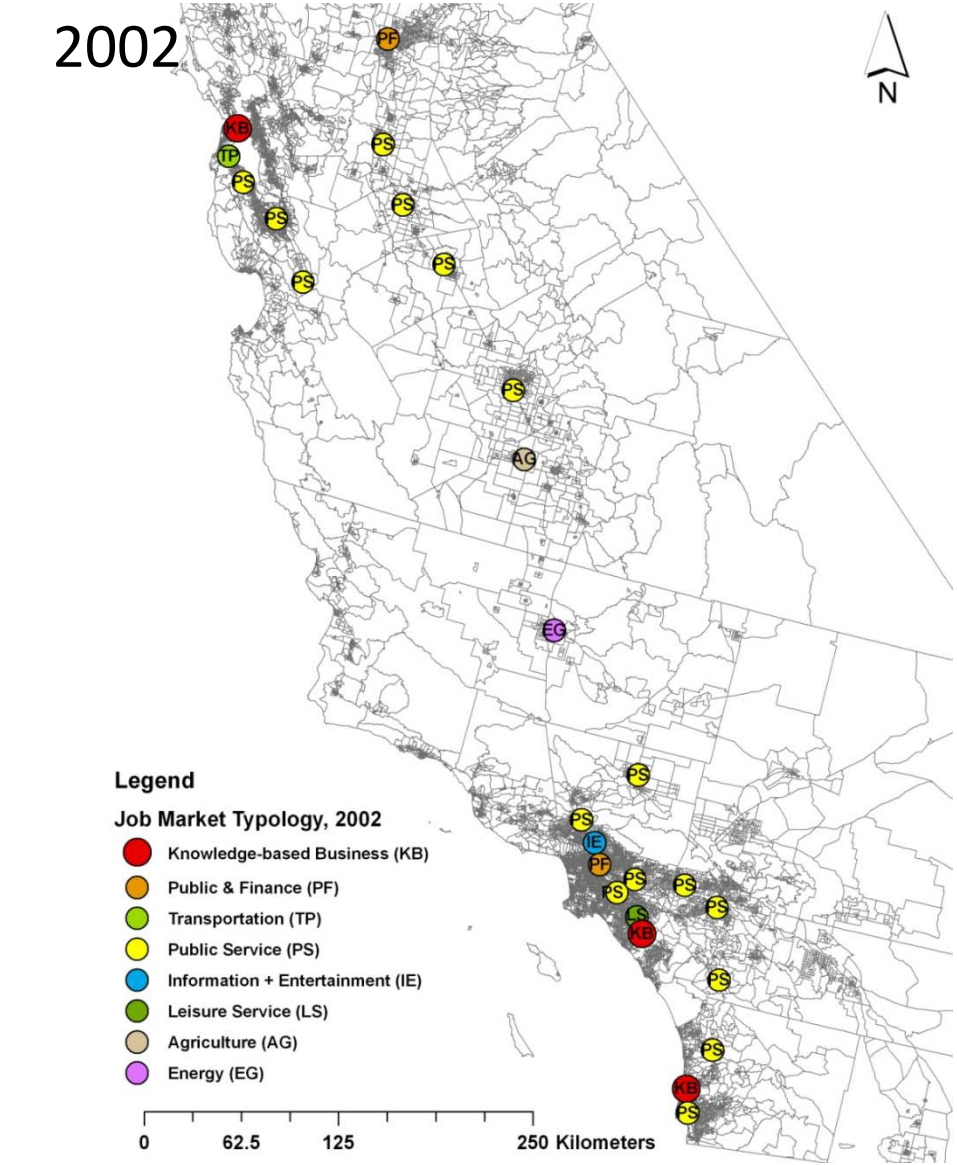
2008



Industrial Typologies: California

Job Markets (NAICS code)

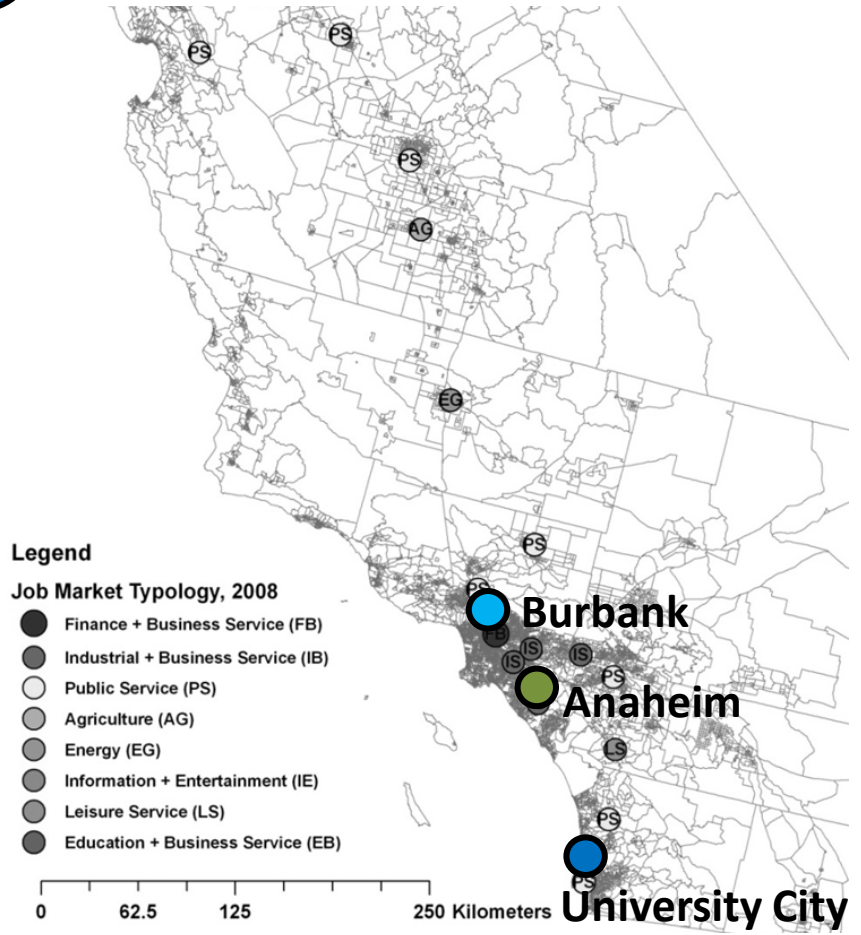
2002



IE : Information + Entertainment

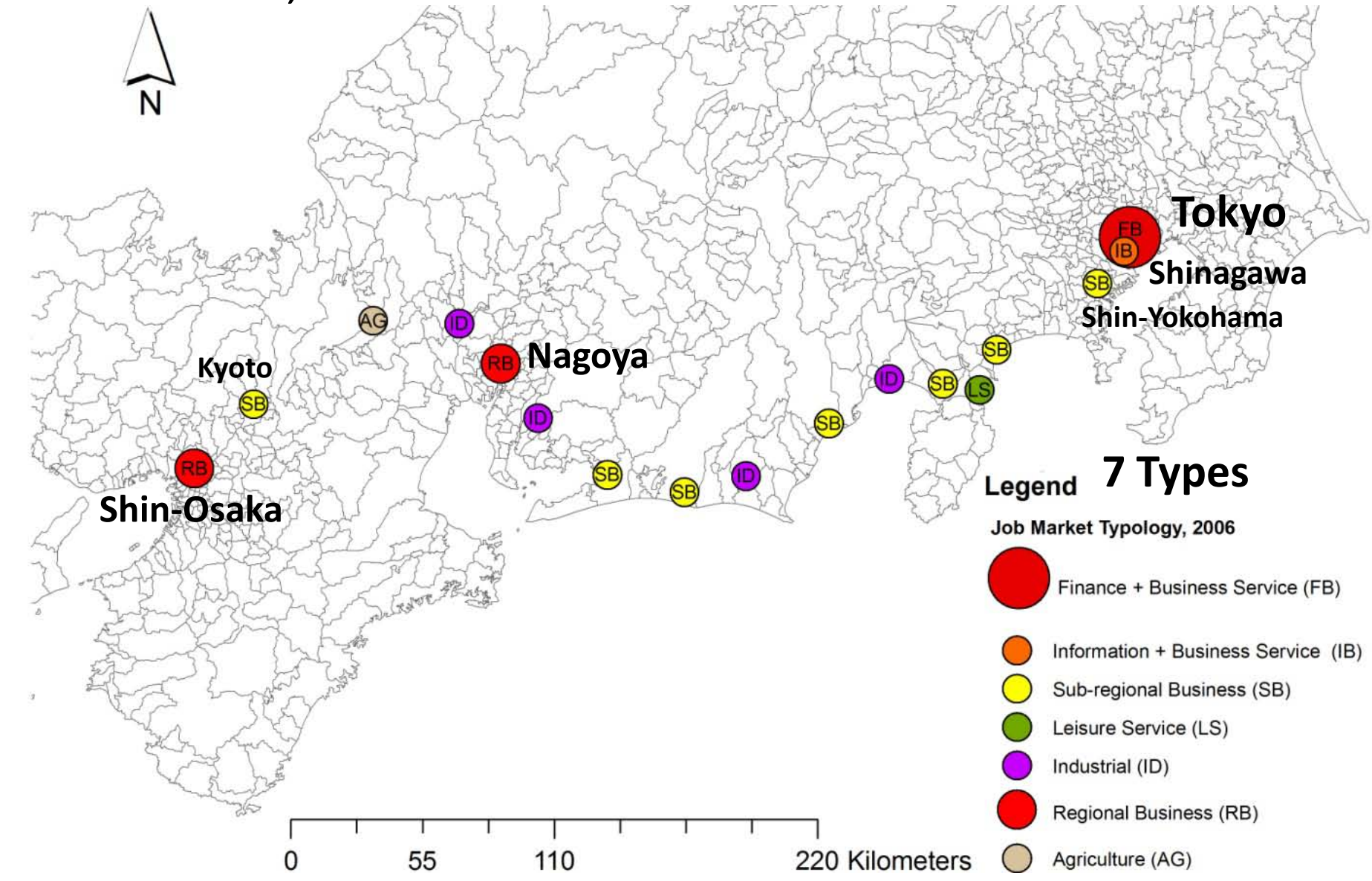
LS : Leisure Service

EB : Education + Business Service



Industrial Typologies: Japan

Job Markets, 2006



Key Point 1: Global Cities

The new HSR project is likely to induce knowledge- and service-based business agglomeration benefits, mostly to large, globally connected cities.

e.g., San Francisco & Los Angeles in California / Tokyo, Shinagawa, Nagoya & Shin-Osaka in Japan

S.F. Transbay Transit Center

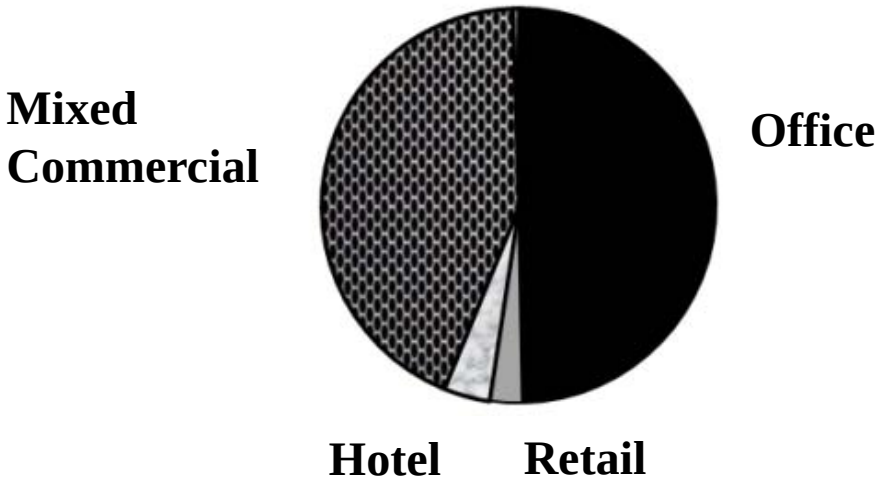
Tokyo Station

Key Point 1: Global Cities

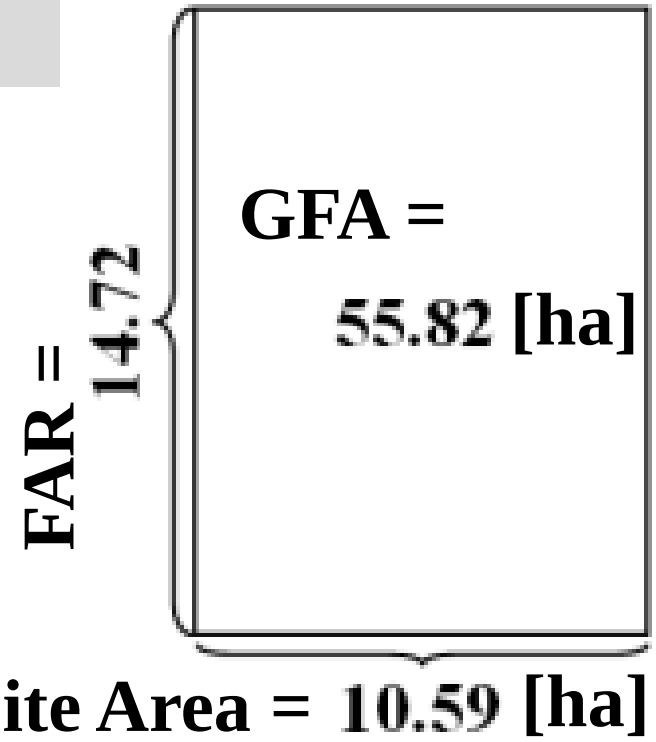
Urban Renaissance Program, 2001-

- Public land sales (national rail yard)
- Density bonus
- Approval process reduction
- Local infrastructure provision
- Public open space requirement

Floor Use Share



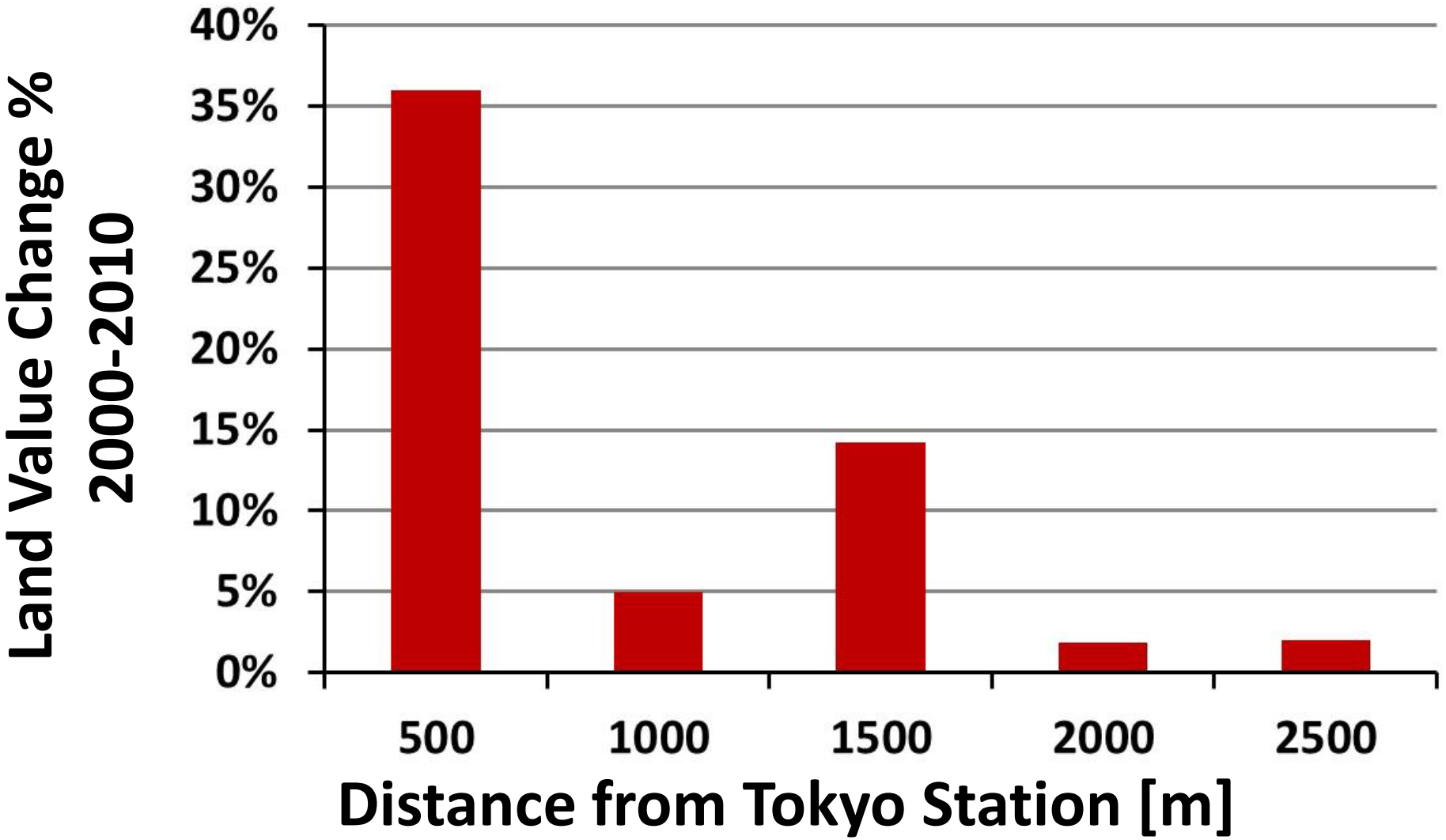
Scale & Density



Joint Development around Tokyo Station, 2001-2006

Key Point 1: Global Cities

Commercial Land Value Premiums in the Catchment Area



Source: Jin Murakami, Results of Hedonic Price Model s

Key Point 2: Edge Cities

The new HSR project can guide the clustering of time-sensitive manufacturing and business service activities in edge-city locations, accompanied by regional airport development plans and local transit feeder services.

e.g., Ontario Airport on the edge of Los Angeles / Shin-Yokohama on the edge of Tokyo

Ontario Airport, CA

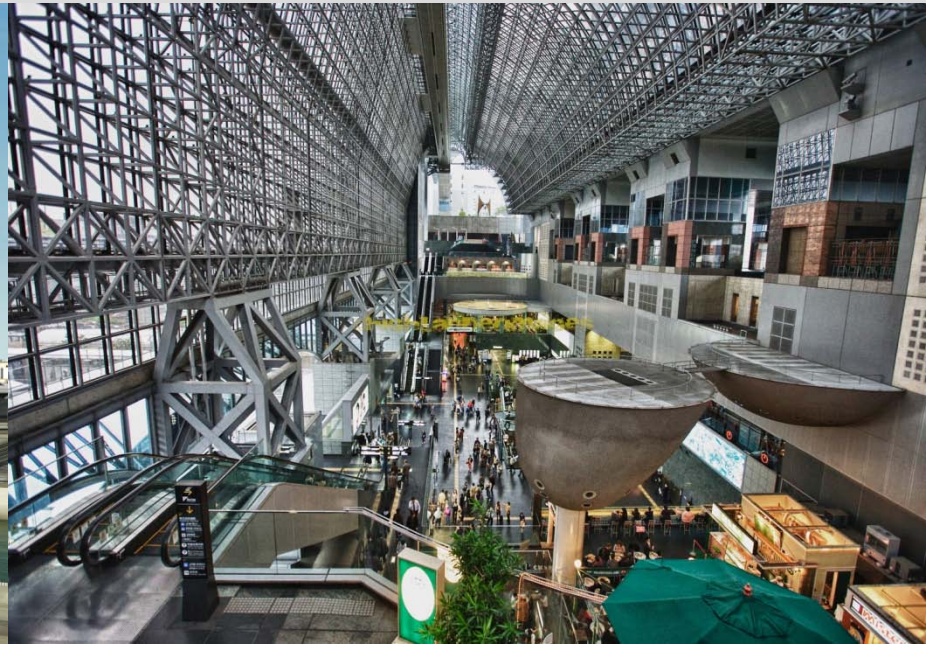
Shin-Yokohama, JAPAN

Key Point 3: Leisure Cities

The new HSR project might be able to promote regional tourism and local leisure services in relatively large cities, with high-quality urban design and unique social capital.

e.g., Anaheim in Southern California / Kyoto in Western Japan

Anaheim Station Site, CA



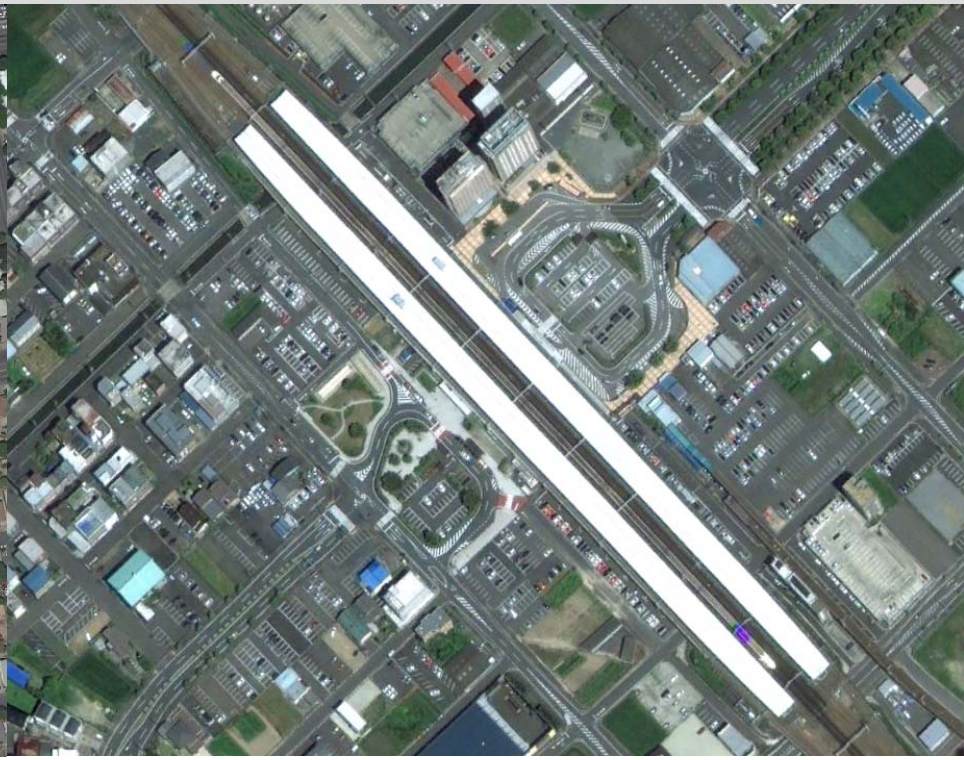
Kyoto Station, JAPAN

Key Point 4: Other Intermediate Cities

The new HSR project is likely to yield regional accessibility and agglomeration benefits predominantly to major cities at the expense of small intermediate cities.

e.g., Stockton, Modesto, Merced, Fresno & Bakersfield in California
/ Odawara, Shizuoka, Hamamatsu, Gifu-Hashima & Maibara in Japan

Stockton Station, CA



Gifu-Hashima Station, JAPAN

Conclusion

The California HSR project is likely to **induce** knowledge- and service-based business agglomeration benefits that accrue mostly to globally connected cities and **shift** some service activities to edge cities, airports, and leisure-entertain hubs **at the expense of small, intermediate cities**.

HSR's redistribution effects need not be a **"zero-sum"** game. When leveraged through far-sighted, **proactive public policies**, increased agglomerations that take form through redistribution can have **"generative"** economic qualities, to the benefit of the state at large.

Public Policy Implications

Strengthen strategic planning at the regional and sub-state levels, matched by sustained, flexible funding programs

- **Metropolitan polycentrism: linking airports, edge cities, major activity centers**
- **TOD as a sustainable community strategy (SB 375)..**HSR & feeder links
- **Aggressively pursue joint development/ value capture opportunities**