Institutional Models of East Asian Railway Operators and Implications for California High-Speed Rail

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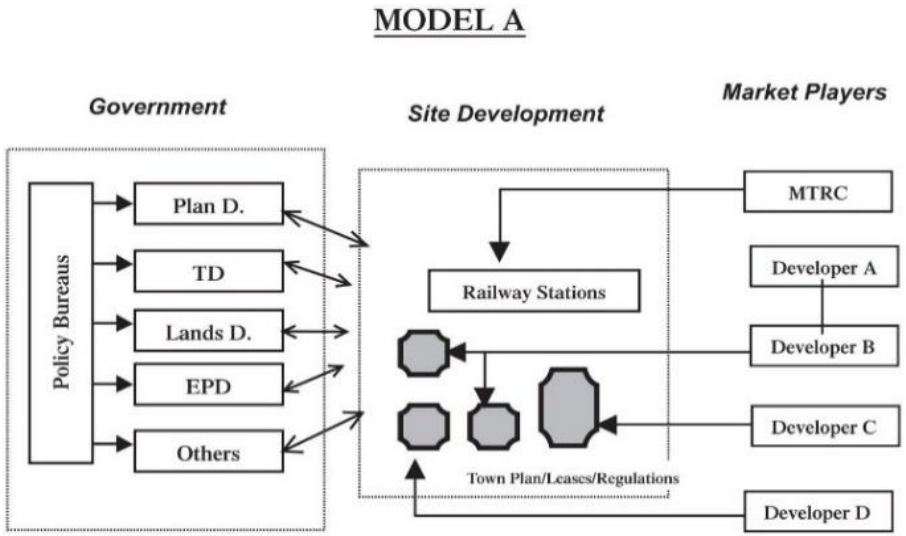
Introduction

- Japan
  - 15 major private railway companies (not including 6 Japan Railway Companies)
  - Own only 10.5% of track mileage, but handle 33.8% of ridership and 29.2% of rail traffic volume
- Hong Kong
  - Mass Transit Railway Corporation is main operator of 6-line, 126 km rail network
  - 23% of stock owned by private investors, with rest owned by Central Government
  - Between 2001 and 2005, property development provided 62% of income, while ticket fares provided 28% of income

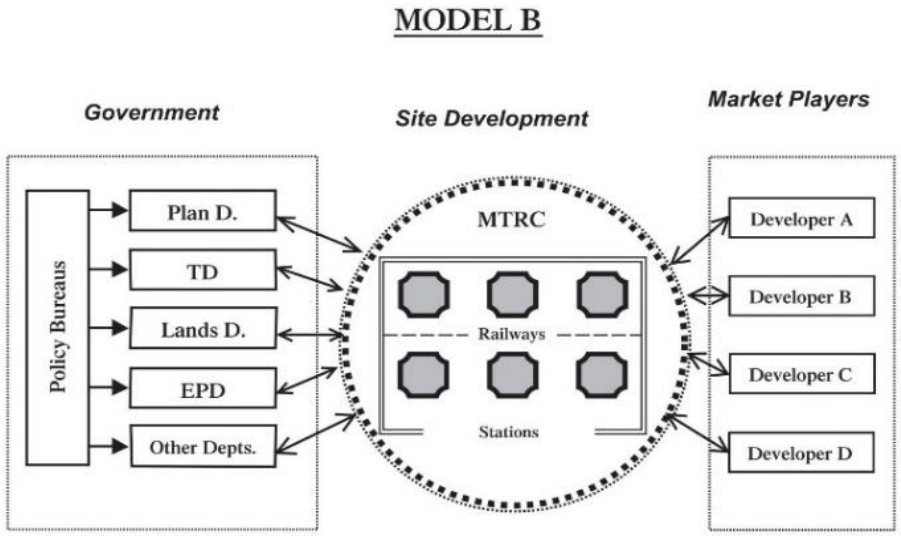
Institutional Model: Rail + Property Development

- Transit operator master plans station areas <u>before</u> line is built:
  - Buys land around station
  - Works in tandem with local governments to change policies to maximize development potential in station areas
  - *Has developers accommodate* its designs to optimize transportation and commercial functions of station area

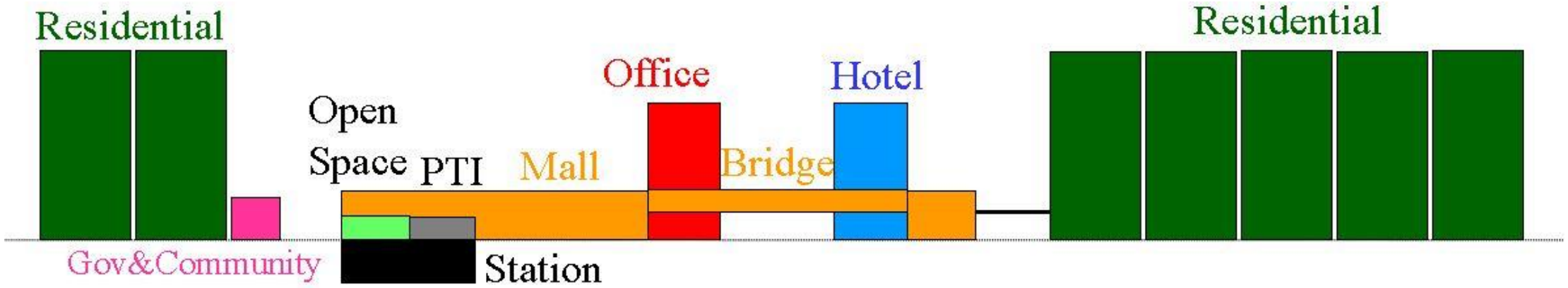
US Model



East Asian Model



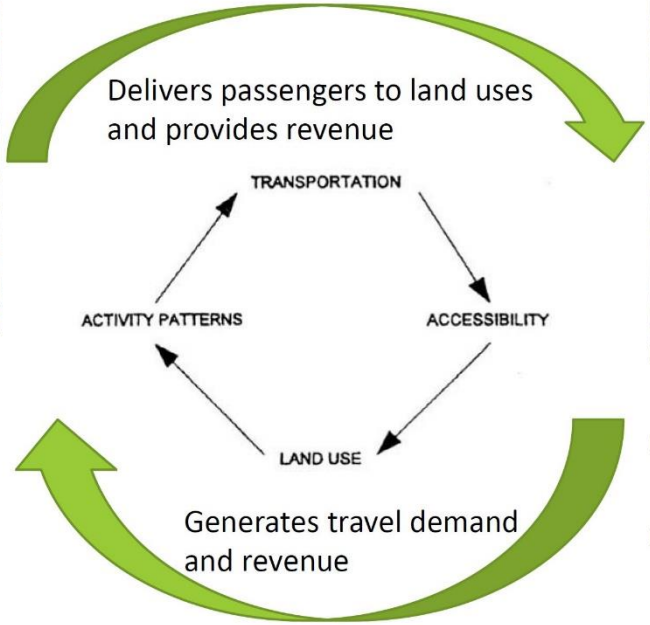
Ownership and Management of Station Areas



Component	Residential Towers	Mall and Retail Bridge	Office	Hotel	Town Square	Government and Community (Post Office and Day Nursery)	Public Transport Interchange (Train Station)
1) Construction	Developer based on railway/development coordinated design; enabling works provided by MTRC (multiple packages)						
2) Mechanism for sharing costs and profit	-Developer paid land premium and development cost -Investment return split by up-front profit and end-profit sharing				Part of the property design	Conditions in land grant	
3) Ownership of asset	Individual flat owners	Developer			Common area of the mall and PTI	Government	
4) Management	MTRC	Developer		Hotel operator	Developer	Government delegated to operator	

Business Diversification

High-Speed Train Service
Long-distance, time-sensitive transport
Local Rail Service
Commuter and feeder transport
Local Bus Service
Commuter and feeder transport
Tourist Bus Service
Recreational transport



Real Estate Operations
Construction of hotels, apartments, office space, department stores
Retail Operations
Operation of hotels, apartments, office space, department stores
Recreational Operations
Operation of tourist programs, sports complexes, amusement parks, resorts

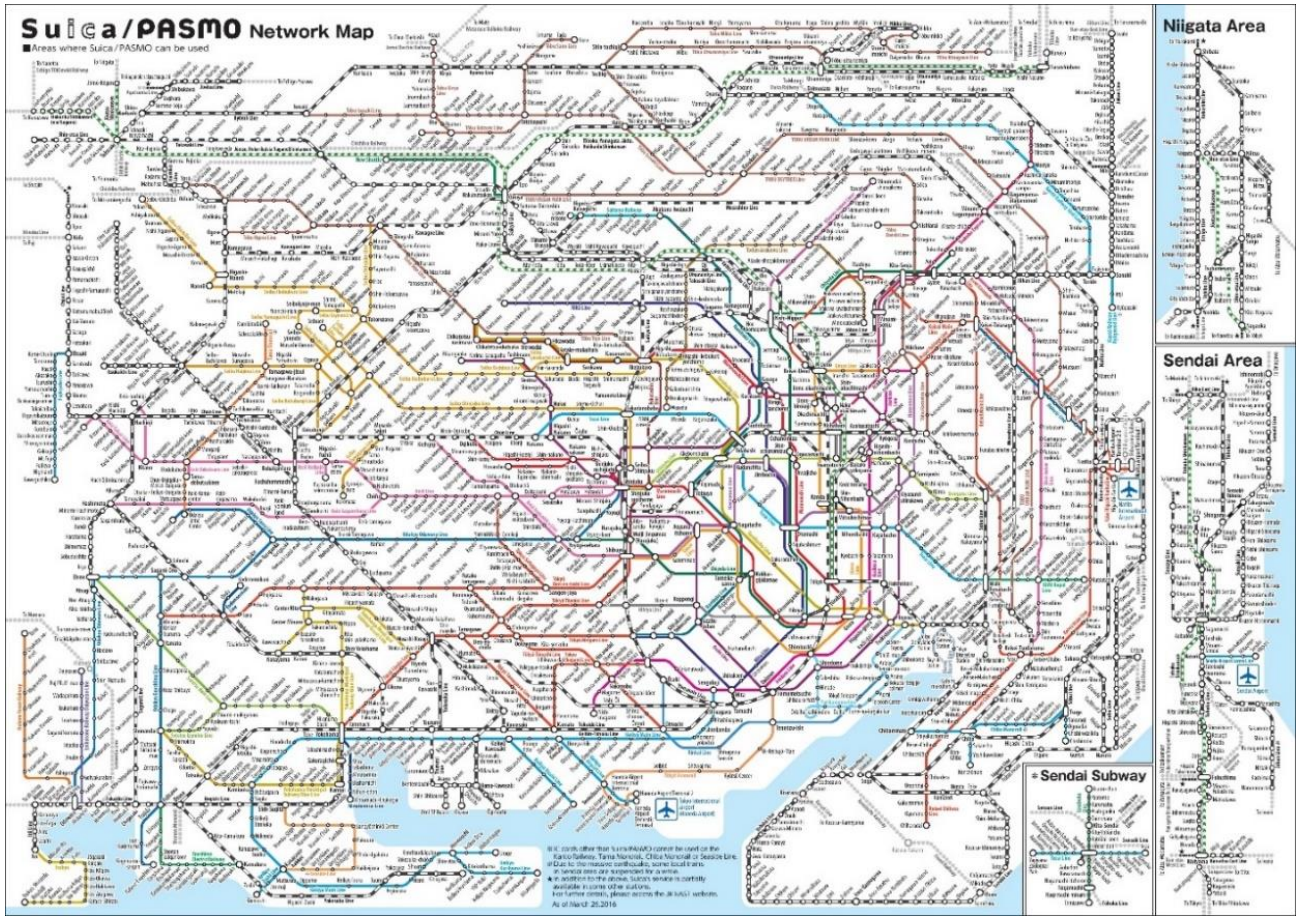
Business	Range of Activities
Transportation	Railway operations; bus services; taxi services; car rentals; trucking; aviation; shipping; freight forwarding; package delivery; manufacturing of rolling stock
Real Estate	Construction, sale, and leasing of housing, office space, hotels; architectural and engineering services; landscaping
Retailing	Construction and operation of department stores, supermarket chains, station kiosks, catering services, and specialty stores
Leisure and Recreation	Construction and operation of resorts and spas, amusement parks, baseball stadia, multiplex movie theaters, fitness clubs, golf courses; operation of travel agencies

Operating Profits and Losses of 15 Major Companies in Japan, 1994

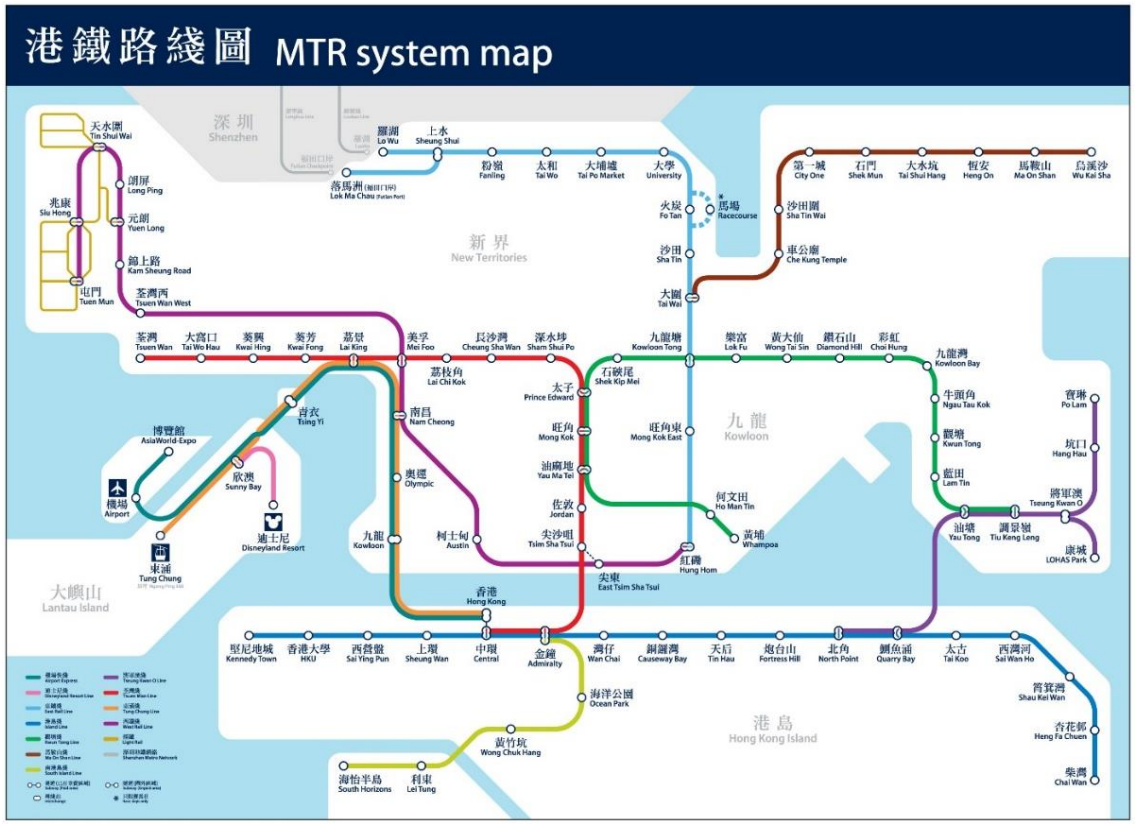
Operating Profits and Loss of Major Private Railway Companies, 1994							
Company	Railway	Percent	Bus	Percent	Other	Percent	Operating Profit
Tobu	$237,734,823	44%	-$33,599,855	-6%	$340,594,757	63%	$544,729,725
Seibu	$226,799,021	52%	-	-	$206,353,827	48%	$433,152,848
Keisei	$133,923,950	87%	-$5,547,146	-4%	$25,675,361	17%	$154,052,165
Keio	$174,814,340	58%	-$3,962,247	1%	$120,135,331	40%	$298,911,918
Odakyu	$222,202,815	51%	$2,535,838	-6%	$213,010,402	49%	$432,677,378
Tokyu	$323,160,870	49%	-	-	$341,070,226	51%	$664,231,096
Keikyu	$155,003,105	55%	-$10,460,332	-4%	$135,667,339	48%	$280,210,112
Sotetsu	$71,954,406	28%	-$16,799,928	-6%	$198,112,353	78%	$253,266,832
Kintetsu	$254,217,771	51%	-$22,664,053	-5%	$263,568,674	53%	$495,122,392
Nankai	$128,059,825	44%	-$19,811,235	-7%	$182,263,364	63%	$290,511,954
Keihan	$105,237,282	49%	-	-	$111,259,897	51%	$216,497,179
Hankyu	$138,361,667	42%	-	-	$189,712,389	58%	$328,074,056
Hanshin	$43,743,207	23%	$2,060,368	1%	$148,663,509	76%	$194,625,575
Meitetsu	$114,746,675	43%	-$19,652,745	-7%	$174,021,891	65%	$269,115,820
Nishitetsu	$38,513,041	25%	$12,203,721	8%	$100,799,565	67%	$151,357,837

Provides Funding for Extensive Railway Networks

Tokyo



Hong Kong



US Transit Agencies' Farebox Recovery Rates

Rank	Agency	Fare Revenues	Operating Expenses	Ratio
1	MTA New York City Transit (NY)	$4,291,795,069	$8,609,894,659	0.50
2	New Jersey Transit Corporation (NJ)	$935,760,178	$2,042,445,532	0.46
3	Washington Metropolitan Area Transit Authority (DC)	$782,530,362	$1,722,371,525	0.45
4	MTA Long Island Rail Road (NY)	$700,684,859	$1,290,583,961	0.54
5	Metro-North Commuter Railroad Company (NY)	$678,284,864	$1,140,503,687	0.59
6	Massachusetts Bay Transportation Authority (MA)	$602,771,384	$1,490,330,937	0.40
7	Chicago Transit Authority (IL)	$591,366,583	$1,363,369,808	0.43
8	Southeastern Pennsylvania Transportation Authority (PA)	$481,627,476	$1,218,758,061	0.40
9	San Francisco Bay Area Rapid Transit District (CA)	$462,774,335	$580,245,794	0.80
10	Los Angeles County Metropolitan Transportation Authority (CA)	$368,369,593	$1,404,770,454	0.26
11	Metra Rail (IL)	$337,413,270	$706,682,336	0.48
12	San Francisco Municipal Railway (CA)	$214,676,015	$744,904,420	0.29
13	MTA Bus Company (NY)	$210,333,373	$642,244,351	0.33
14	Port Authority Trans-Hudson Corporation (NJ)	$181,665,196	$397,298,962	0.46
15	King County Metro (WA)	$168,373,544	$591,089,442	0.28
22	San Diego Metropolitan Transit System (CA)	$97,614,714	$240,702,811	0.41
24	Peninsula Corridor Joint Powers Board, dba Caltrain (CA)	$83,351,480	$119,462,254	0.70
25	Southern California Regional Rail Authority, dba Metrolink (CA)	$83,110,552	$207,614,351	0.40
28	Alameda-Contra Costa Transit District (CA)	$69,948,064	$358,704,916	0.20
31	Orange County Transportation Authority (CA)	$59,855,525	$273,775,749	0.22
38	Santa Clara Valley Transportation Authority (CA)	$42,354,077	$342,743,193	0.12
45	Sacramento Regional Transit District (CA)	$29,506,770	$135,404,119	0.22
52	Long Beach Transit (CA)	$17,331,149	$82,992,378	0.21

Source: 2015 National Transit Database Top 50 Agencies

*Yellow indicates agencies in California

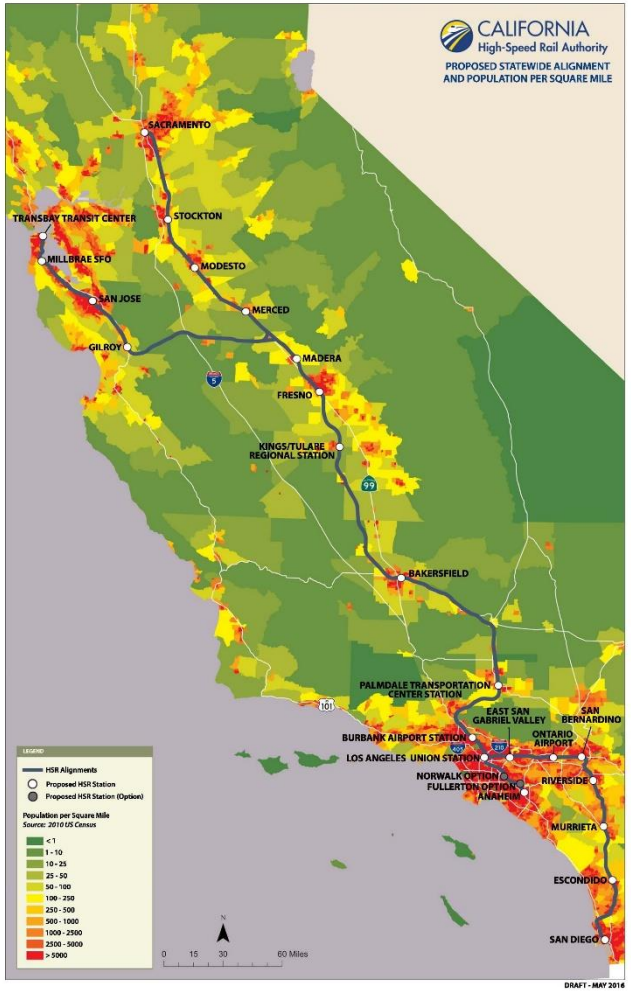
Why hasn’t the US picked up on it?

- Little attention given to east Asian countries by US researchers – most focus on US, Canada, Australia, or countries in Western Europe
- Perception that east Asian society is fundamentally different from US
- General tendency for researchers and professionals to look at countries they are more familiar with
- Political resistance – transit is a “public service,” not a commercial enterprise
- Transit agencies by law are not allowed to own commercial pieces of property
- Local resistance to increased land use density limits potential for station area development
- Joint development, special assessment districts, tax increment financing, development impact fees – most revenues go to local government rather than transit agency

Implications for California High-Speed Rail

Steps the CA HSR Authority has taken

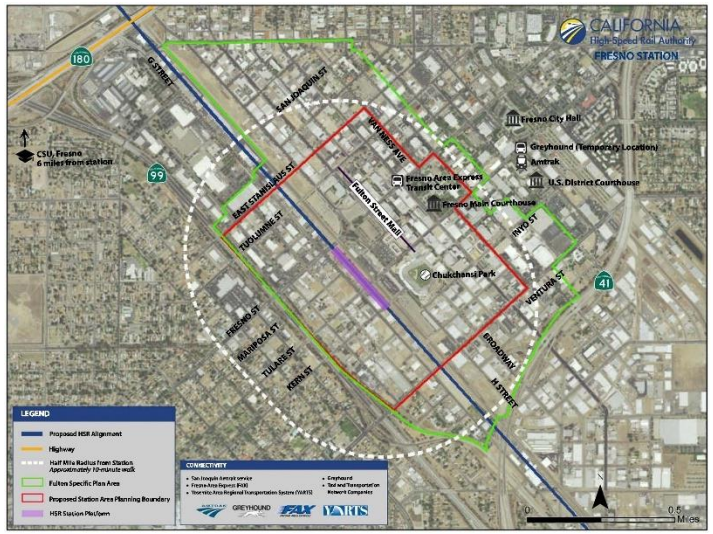
- 2016 Business Plan Objective:
  - *"Provide California citizens a highly safe, reliable and commercially successful system . . ."*
- Placing alignment and stations within population centers
- Progressing on network integration to increase potential connectivity of high-speed rail with other transit operators statewide
- Partnering with cities along the alignment to prepare station area master plans



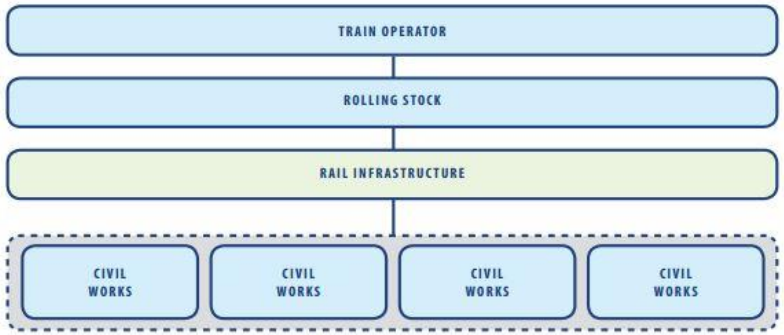
Steps the CA HSR Authority has taken

- Established transit-land use committee to develop policies for integrating high-speed rail stations within their surrounding communities
- Currently procuring an Early Train Operator to advise on key decisions regarding rolling stock and rail infrastructure design

Map of Fresno Station Area



Operating Model



Steps to Mature Operations

PHASE	DESCRIPTION
Pre-Operations	Operational aspects of the system must be incorporated into the planning, design and construction of the system to ensure commercial viability.
Ramp-up	California high-speed rail brand is built and users begin adopting a new mode of transportation. This phase is critical to the success of the system.
Mature Operations	"Steady state" operations is the core operations phase and generates the most revenue after travelers adapt to the system and view it as one of the State's transportation options.

Thanks!

- Questions or comments?

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