Rethinking the California HSR Project
What Can We Learn from Other Contexts?
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Timeline

1996  Establishment of CaHSRA
1999  First “preferred corridor” plan
2008  Prop 1A: $9 billion in general obligation bonds for HSR
2009  ARRA federal funds
2014  Allocation of revenue from cap-and-trade to HSR
2015  Construction breaks ground
2019  Governor Newsom comments about HSR
High-Speed Railways across Europe (2014)
Questions

1. Why are some European countries successful in developing HSR, while the California project is marred in controversy?

2. What lessons can we learn from the successes and the failures of European HSR planning, and can these lessons apply to California?

3. Can HSR be planned and designed to promote not only mobility but also economic development? What factors influence economic outcomes?
Presentation Overview

1. What are the prerequisites for success? What can we learn from the European experience?

2. Common mistakes in designing and planning high-speed rail stations

3. Impact of high-speed rail on station-cities/ Factors that lead to differentiated effects

4. A Southern California example: Anaheim
Prerequisites for Success

1. Location
   - Station location within city
   - City location within HSR network/connections to metropolitan centers

2. Connectivity
   - Spatial station, station-neighborhood
   - Intermodal municipality, region
   - Operational

3. Partnerships
1. Location

Connection of Major Origins and Destinations
1. Location
- Station location very near city center
1. Location

- Peripheral station location
Connectivity: Three dimensions

-Spatial connectivity: spatial integration of a station with its immediate surroundings and the region

-Intermodal connectivity: availability of different transportation modes converging at the HSR station; seamless integration and time-coordination between HSR and other travel modes and connections to major destinations

-Operational connectivity: Interagency coordination; co-governance
Spatial Connectivity

Should be achieved at 4 different scales/zones:

Station
Station-neighborhood
Municipality
Broader region
Station-adjacent zones of influence

Adjacent Development
Adjacent station area development offers the opportunity to connect and coordinate land use with the CAHST investment. Typically, this development will be by private parties, but cities or a state agency could also be the developer. Sometimes cities, or a state agency, may be the regulatory entity responsible for reviewing development proposals in the station areas.

Adjacent Streets
Streets are essential in meeting functional requirements of vehicles in the project area, but streets' role as places of shared use – especially for pedestrians – is also essential. The numerous cities, as well as the California Department of Transportation, should work with the CAHST to make sure that streets near station areas meet the urban design needs of all users, not just motor vehicles. And the CAHST should not ignore the fact that future transit patrons need to cross streets safely if they are to access the CAHST system.

CAHST Project Envelope
The CAHST is primarily concerned with improvements within the project Right of Way (ROW) and at stations, but is also influenced by the character and function of the streets and development adjacent to this ROW. Sometimes the ROW is above streets, or may be integrated with private development. It will be necessary to consider how the project envelope overlaps with adjacent streets and development.
At the station

- Attention to station architecture-creation of a “place” for travelers and non-travelers.
- Provision of retail and cultural services
- Wayfinding/ Good signage
At the station

Smooth passenger flows via high capacity elevators and escalators
At the station

• *Landmark architecture*

Rotterdam Central
• Landmark architecture

Liège-Guilemins Station, Belgium
At the station neighborhood

- Coordination of land uses around station areas through the densification of uses, location of major “traffic attractors” such as important public buildings near stations, and distinctive architecture
- Attention to pedestrian/bicycle connections
At the station neighborhood

- Good integration of station to surrounding street network
- Architectural quality of adjacent real estate
At the station neighborhood

- Functional diversity of surrounding land uses
- Public space quality; places for people to congregate
- Elimination of the barrier effect
- Emphasis on the pedestrian environment
Rotterdam Central

- Diversity of surrounding land uses
- Improved pedestrian environment
- Connection of station with surroundings
- Quality public space
Intermodal Connectivity

- Availability of different transportation modes converging at the HSR station;
- Seamless integration and time-coordination between HSR and other travel modes
Quick access to other travel modes and pedestrian connections to adjacent neighborhoods. Short pedestrian connections by layering tracks atop each other.

Information panels within the station and standardized, easy-to-read signs for in-station and station-district wayfinding.
Rotterdam Centraal: Intermodality & Design

- A bicycle & pedestrian ‘tunnel’ reduces the barrier effect
Intermodal Connectivity in European Stations

Rotterdam Centraal: Parking

- Availability of ample bike parking and bike sharing programs
Intermodal Connectivity

- Good HSR connectivity with local metro and tram systems
- Location of a central bus terminal inside or directly adjacent the station
- Car rental and car-sharing services

Hannover Station

Torino Porta Susa
Integration of ticketing between different services and modes:

### Online-Ticket

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**Validity:**
- **From:** 11.07.2014
- **To:** 25.07.2014

**Journey Details:**
- **From:** Belfort Mont. TGV
- **To:** Gießen
- **Date:** 11.07.2014
- **Time:** 11:07

**Seat Class:** TGV 9583

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**German Local Regional Train**

**French TGV (High-Speed Train)**
- Cooperation with airlines. Convenient connection to airports. Airport check-in and luggage transfers at stations
Intermodal Connectivity in European Stations

- Convenient ticket purchase:
  - At service counters inside the station
  - At ticket machines inside the station
  - Online / at home
  - Via Phone Apps, with paperless ticketing & real time travel info
Operational Connectivity in European Stations

Governance

- Interagency coordination of different public and transit agencies and other stakeholders
- Development of public corporation to manage the HSR project, with representatives from different agencies on its board of directors
3. Partnerships

- Public-Private Partnerships; joint development; significant involvement of the private sector

Leipzig Main Station
Mistakes

- Inappropriate station siting
- Peripheral stations

Gare Aix-en -Provence
Mistakes

- No mitigation of the barrier effect created by the massive railway infrastructure, parking lots, and station buildings; the station and tracks become a divider.

Parking around Ebbsfleet station, UK
Mistakes

- The station is internally oriented – more like an airport—cut off from the rest of the city.
- There is too much parking for cars; but little emphasis to alternative transportation modes.

Kassel Wilhelmshöhe Station
Mistakes

- The station is automobile-oriented, well-planned to be accessed by automobiles but not well-planned to be accessed by pedestrians or cyclists.
Mistakes

- Existing architecture is generic, has a boilerplate quality, and ignores the specificities of the local context.
HSR as attractor of economic development

Factors influencing differential HSR impacts:

City Status
First-tier cities are often the primary beneficiaries but HSR has also induced development in some second-tier cities

Connection to and Distance from Metropolitan Center
Metropolitan integration is greater with cities within 65-100 miles from metropolitan center

Condition of the local economy
Cities with pre-existing strong economies, cultural assets, tourism
HSR as attractor of economic development

Factors influencing differential HSR impacts (cont’d):

Connectivity – spatial, intermodal, operational
Spatial integration; good choice of other modes and seamless integration; coordination of agencies

Station location
Central or peripheral locations

Importance of plans
Anticipatory planning/design and policy interventions

Partnerships
Built in 1959, the Disneyland Monorail System was the first operating fixed-guideway in the United States.

Walt Disney [is]...the only man in the city who can get a working rapid transit system built...and turn it into a real attraction so that people will want to ride it.
“Having the HSR station and having more people consider Palmdale as an option to live in, in order to work elsewhere, is going to be very beneficial for the city.”

Palmdale planner
Pre-Conditions for Economic Development

• HSR Connection to major metropolitan centers
• Central station location
• Integration of station with its surrounding area (spatial connectivity)
• Significant station area improvements - High quality architecture
• Mixture of uses around station (retail and cultural amenities) and places for people to congregate
• Seamless connections with other modes (intermodal connectivity)
• Public-Public collaboration & coordination (operational connectivity), and Public – Private partnerships
Conclusion

• HSR enhances mobility options and under certain pre-requisites can also enhance economic and development opportunities around station areas.

• But these prerequisites require careful pre-planning with a particular attention to issues of station location, spatial, intermodal, and operational connectivity, and partnerships.
Thank you!