Urban Development of the Areas near HSR Stations : A Case of Korea

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I. History for Planning, Construction and Operation



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Plan	Contents
Feasibility study (1984.1)	- Feasibility study of Korea HSR construction
Approving Basic Plan (1990.6)	 Length: 409km (Seoul~Daejeon~Daegu~Busan) Design speed: 350km/h Con. cost: 5.8 billion USD Con. period: 1991~1998
Revisions of Basic Plan (1993.6 , 1997.)	 Change in con. cost: 10.7 → 17.6 billion USD con. period: 1991~2001 Daejeon & Daegu Station: underpass → ground level
First Opening (2004.4)	 HSR operation integrated with conventional rails Seoul~Busan line (Kyoungbu corridor) Seoul~Mokpo line (Honam corridor)

HSR History for Construction

Phase	Corridor	Section (Length)	Туре	Con. Cost
Kyoungbu 1 st Phase		Seoul~Daejeon~Daegu (286.7km)	New track	12.7
(2004) H	Honam	Osong~Kwangju~Mokpo (252.5km)	Improved track	0.9
2 nd Phase (2010)	Kyoungbu	Daegu~Busan (130.7km)	New track	7.9
3 rd Phase (2015)	Honam	Osong~Kwangju (183.8km)	New track	8.4
4 th Phase (2016)	Kyoungbu	Suseo~Pyungtack (61.1km)	New track	3.1
5 th Phase (2018)	Olympic	Wonju~Gangneung (120.3km)	Improved track	3.9

HSR History for Operation



Two operators (starting from December 8th 2016)

(KORAIL has 41% stake in SR cooperation)

Expected results: competition between two operators

passengers ↑, service ↑, fare ↓, facility (railway, station) profit ↑

	Existing operator (KORAIL)	New operator (SR cooperation)
Corridor	Kyoungbu, Honam Chonra, Kyoungjeon	Kyoungbu, Honam, Suseo-Pyungtack
Fare	60 USD	about 54 USD (10%↓)

	Planned (Basic Plan)	Actual
Demand	183,120 (2010)	125,364 (2013)
Construction Cost	5.8 billion USD	New track 20.6 billion USD

II. Major Changes and Economic Impacts



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Changes in Transport	Travel Time
Changes in transport	Modal Share
Regional Economic Activities	Convention and Meeting
Regional Industrial Specialization	Land Price
Decontrolization(Strow Effect)	Population
	Shopping and Health Care

Changes in Transport





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■ Expansion of HSR service area 39.7% → 55.5%







Regional Economic Activities



Decentralization(Straw Effect)

Population in capital region : starting to decrease





[Cheonan]

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[Trip purpose of KTX users]

Major Findings and Lessons

Structural change in national land use

- 1~2hrs access between major cities
- Middle land area closely associated with capital region
- KTX station oriented development

Relief of disparity between capital region and non capital region

- Incoming population of capital region \downarrow , middle land \uparrow

Economic impacts

- City with HSR station: population \uparrow , land price \uparrow , employment \uparrow
- Generating new service economy and specialized industries

Value for money: positive (Seoul-Busan corridor)

- Operation cost: 1 billion USD (2012)
- Operation revenue: 1.5 billion USD (2012)

Success in HSR technology localization

III. Progress in Station Area Development



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HSR
Station
AreaTerm: Station (Influence) Area "驛勢圈"where transport, economic and cultural activities are made
in association with KTX station and access transport network.

Core: within 10mins by walking

Direct: within 10mins by walking and transport mode

Wide: within 30mins by rapid transport mode



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Location	Old Station	New Station	Total
CBD	Seoul, Yongsan, Youngdungpo, Suwon, Daejeon, West-Daejeon, East-Daegu, Busan, Changwon, Masan, Jinju, Iksan, Jeongup, Kwangju, Mokpo, Jeonju, Namwon, Soncheon, Yeucheon	_	19
Outside CBD	Hangsin, Kwangju-Songjeong 	Kwangmyoung, Chenan- Asan, Osong, Gimcheon- Gumi, NewKyoungju, Ulsan, Centran-Chanwon, YesuEXPO	22
Total	33	8	41

KTX Stations in Kyoungbu Corridor



Overview of KTX Station Area Development

Station	Year of Approval	Execution Body	Development Plan	Investment & Execution
Yongsan	2006	Private sector	0	Х
Daejeon	2006	Local gov. and Korail	\bigtriangleup	Х
East-Daegu	2005	Private sector	\bigcirc	\bigcirc
Busan	2005	Local gov.	\bigcirc	Х
Gwangmyoung	2004	LH	\bigcirc	\bigcirc
Osong	2005	Local gov.	\bigcirc	Х
Cheonan-Asan	2005	LH	\bigcirc	0
Kimcheon-Gumi	2007	Central gov. and LH	0	0
New-Kyoungju	2013	Private sector	\bigcirc	\bigtriangleup
Ulsan	2009	Local gov.	0	0

East-Daegu station

SPA 시네마 문화홈 FOOD 피트니스 키즈엔터테이먼트 키즈수영장 사무실 쇼핑센터 Shopping Center 승명기가통이다 KTX Bus Terminal walk **Transfer passageway** 아쿠아리움 서점 subway 영엔터테이먼트 **Parking lot** 기계실 지하저수조



Gwangmyong station



Cheonan-Asan station



Kimcheon-Gumi station



Ulsan station

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Area	Problems and Obstacles
Development Plan	Lack of integrating transport, urban and industry plans
Access Transport	Slow progress for feeder transport system
Financing	Sensitive to economic growth and recession
Institutional Collaboration	Conflicts between interest groups
Legal System	Inefficient legal system for incentives, numerous regulation for approval, etc.

IV. Urban and Regional Development Strategy



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Vision – KTX Economic Development Model



Role of KTX station and KTX economic zone

- Platform for connecting between KTX station city and domestic and world markets
- Center for transport, business and culture activity
- Center for creating innovative knowledge industries by combining human resources and traditional culture

Basic direction

- Reconsidering KTX station as a hub of urban and regional economy development
- Reduced travel and spatial distance
 - between cities by KTX
- Adopting nationwide marketing concept



Three Development Strategy

Strategies	Contents
Transport hub	 Establishing Hub-Spoke structure Improvement of transport connectivity and transfer (Building multi-purpose intermodal transport center)
Regional specialization	 Creation of local-based service industry Link to nearby industry and administrative complex Brand making for KTX station area
Link to urban development	 Green growth transit-oriented development Station area development accord with long-term comprehensive strategy

Transport hub

- Building multi-purpose intermodal transport center
- Building intermodal transport center for every KTX stations

Increasing station area development potential

- Realization of TOD as a hub of transport
- Combining commercial, residential, business function with intermodal transport center



Regional specialization

Function	Facilities
Transport	Intermodal Transport Center, Bus and Taxi Stops, Parking and Ride, Intercity Bus Terminal, Express Bus Terminal, City Subway Station
Information	Tourist Information Center, Conference Center, Exhibition Center, Convention center
Business	Retail Shop, Restaurant, accommodation, Office Building, Discount stores, Department Store, Shopping Mall, Hotel, Hospital
Residential	Apartment, Complex building
Amenity	Pedestrian road, Square(plaza), Park

Linkage to urban development

- Win-win development
 - Fostering differentiated urban function from exiting CBD
 - Performing a role as a regional growth hub
- Rail transit-oriented development (TOD)
 - Differential development density and land use according to zone
 - Primary station area : high density development, secondary station area : low-medium density development
- Local strategy for urban development
 - Introduction of urban regeneration in inner city
 - Functional location for external city



Conflicts between existing CBD and new station area

- Promoting differentiated urban function from existing CBD
 Win-win development
- Conflicts among interest groups
 - Local government: leading institution
 - Central government: deregulation, consultation (financing etc.), guideline, coordination within ministry department
- Strong driving force and willingness of local government

Thank You.



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