

On the Characteristics of New Terminal Railway Stations
 -Through Analyzing on the Periodicals of Railway Economics Research arch <2010-2013>-
 中国新しいターミナル駅の特徴について
 -専門誌“鉄道経済研究”（2010-2013）を通して-

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Abstract: This report aims to study the newly planned railway stations, to analyze the commons and unique characteristics of design in the new period through individual cases, analyses different guiding roles of factors, and provides reference experience and theory guidance for design and construction of railway stations in the future.
 Key words: Characteristics, High-speed Railway, Station, Periodicals of “Station Economy Research”, China

1. Introduction

Transportation progressing is vital to the urban development, the study of transportation planning is wide and turns out to be attracted more and more attentions. The constructions of high-speed railway stations in big metropolitans have changed citizens' lifestyle. The multiple traffic transportations coexisting symbolized the development of city's modernization, however, railway transportation has been still regarded as the most important traffic tool in the huge territory country such as China.

2. Study Purpose

Station junction stimulates city economies to different degrees, its influence on expanding the economy is unquestionable. Along with the growth of economy, huge amounts of cargos and passengers are gathering in the stations, which have brought more requirements to the functions of stations. Meanwhile, transportation junction effects surrounding area development gradually, different locations of station and strategic goals of urban development impact city spatial form in size and quality.

Selection of location for high-speed railway station has held two contrary opinions: considering existing stations or close to city centre area by using the original traffic transferring junction as support; the other is choosing the locations in some potential area apart from city centre to bring new development to surrounding streets to create a future secondary city. Urban planning construction has a complicated process, selecting station location is also inevitable, reducing transferring time is a main issue for every planner.

Terminal railway station is regarded as a city's landmark, stations have had different characters: Among them, some are defined as city's supplementary commercial business center, some are aimed to be city's greenland module site, some are tended to be a tourism attraction, some are designed to be a comprehensive junction transferring core. Were the current stations are planned in proper size, served and functioned as well as it is required? Were they designed by the green energy saving methods? These questions take long time to be analyzed.

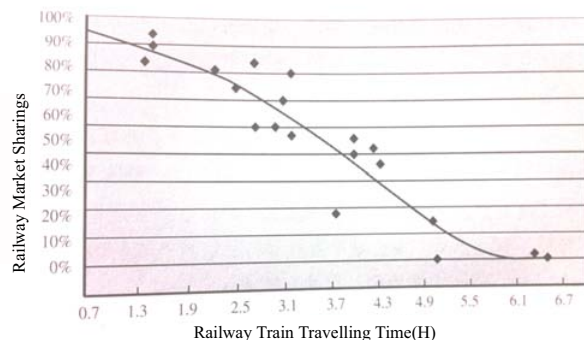


Fig-1 HSR Travelling time and Railway-Air Market Share Relation

3. Investigating methods

3.1 Documents investigating- Periodicals

3.1.1 Railway Economic Research
 2010(2)-2013(4), Bimonthly

3.2 Station case analysis

2011(1)-2011(6), Periodicals

4. Results

4.1 HSR Station Forsters Multiple City Centers

4.1.1 Station and Surrounding Community

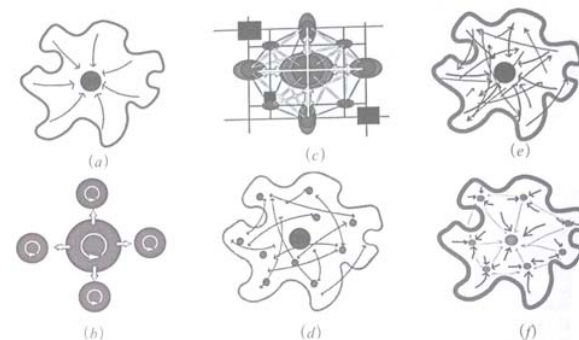


Fig-2 Multiple centers structure in sections planning with traffic system

- a) sections to CBD
- b) sections to Multiple CBDs
- c) realistic section distribution layout
- d) irregular sections
- e) structural adjusted sections
- f) ideal regular structure

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4.2 The Three Periods of Railway Station Constructing Development:

● **The First period, Study Period, (2000-2003).**

When China has just entered building newly ideal stations stage, the designs and plannings were developed by studying foreign advanced experience and concepts, typical cases such as Shanghai South Station, Nanjing Station.

● **The Second period, Research Period, (2001-2006).**

Along with the increasing of station numbers and scales, the role of railway station built inside the city as a comprehensive transportation hub becomes more and more important, especially most local governmental sections take it as the landmark in their district, which make the stations characterized somehow by local community special culture. Stations built during this period with local vivid cultural traditions are such as Beijing South Station, Wuhan Station

● **The Third period, Developing Period, (2007-now).**

Through the previous two periods' study and research the current station character has been combined with the local traditional culture elements, mainly shows the characters from three aspects: firstly, displaying community local traditional unique cultures; Secondly, displaying contemporary time character. Thirdly, displaying transportation architecture character.

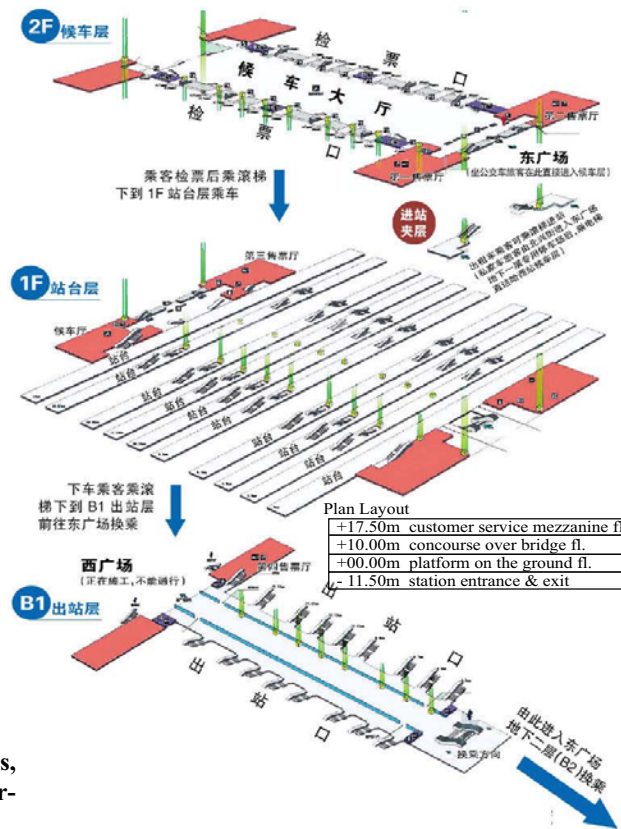


Photo-1 FRONT ELEVATION



Photo-2 PERSPECTIVE VIEW

Harbin West Station Traffic Analysis



5 Conclusions

HSR Station Case Study

STATION NAME: 1 Harbin West Station
 Location No.4,5 Metro
 25km from airport
 8km from Harbin Station
Harbin-Dalian high-speed rail line
 Operating from 2012, Dec.01
 Length 921km
 Train type CRH380B, CRH5A
 Highest speed 200km(winter), 300km(summer)



STATION TECHNICAL INDEX:

- (1) Station planning released 2011.Dec.15
- (2) Station Building Area: 70,000m²
East-West 888m, South-North 540m
- (3) Site Area: 52.6km²

Station architecture design is a complicated process, we wish to see more progress through global inter-changing studies.

1 Li zhuanheng, The Theory and Practice in New Area Planning of HSR Station, Chinese Architectural Engineering Industry Publishing Company, 2012.08

2 Qiu Xiaoyan, Economics and Planning Research(Bimonthly), Economics and Planning Research Institute of the Ministry of Railways, 2011.05