Hierarchy, Negotiation, Competition and Protest:

Multi-Actor Interaction in Building High-Speed Railway Oriented New Town in China

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Introduction

High-Speed Railway station area development might be a platitude in the practice and academia of the western world (Peters and Novy, 2012). Those cases in Europe are evolving from property capitalization towards urban mega-project and till TOD (Transit Oriented Development) (Bertolini, et al, 2012). However, the similar topic in Chinese context can be interpreted differently into local scenario.

HSR-New Town Nationwide Fever

The strategy of using the railway station as a growth pole of a new town/district in China is considered as the major policy response to HSR embedding. With the operation of HSR stations, the processes in majority of cities have moved onto the actual implementation phase. However, this HSR-New Town (HSR-NT) development is gradually turning from a heat to a 'nationwide fever'. Before excavating the insight, it is important to be aware of the problematic situations in the planning and implementation of current HSR-NT in China as follows:

- Tendency of turning from a golden opportunity for city re-construction to just a gimmick of land enclosure:

  Since most of those HSR stations have been put in to use recently, the majority of the land and road system around stations are almost ready for secondary land development (if there is such). In other words, the land enclosure in urban periphery has been almost finished. The institutional parameters that drove local government to keep the 'production line' of urban space are revealed.

- Lack of sustainable engine for further urban development:

  The increasing fiscal burden to pay back mortgage in the primary land market is strongly restricting the land development around station. Not to mention with the challenge of changing political and financial background, the missing market interest is gradually growing. The international crisis is exacerbating domestic inflation in China, while the Chinese national policy on housing and land is tightened up. Therefore, what is the future sustainable engine to keep the 'growth machine' running?

What caused the current problematic situations? Who are hidden behind the curtain? What collective action problems are involved in the process of planning and implementation? Those raise the necessary of getting anatomy insight of the process of making HSR-NT. In order to actor-centered institutionalism will be introduced. The main research question will be formulated as: **How can interactions between actors**

embedded in the Chinese context effect the decision-making and implementation process of making High-Speed Railway oriented New Town? The case of Wuhan station area development will be taken as a case study. Two trips of fieldwork to Wuhan have been conducted. One was from October 2010 to February 2011, and the other is from January to February 2012. Twelve structured in-depth interviews to key actors involved in this case have been made, including transport planner, urban planner, civil servant, urban designer, and architect, etc.

Wuhan railway station area development: a new sub-city center

Wuhan, the capital of Hubei Province, locates at the inner part of China. The urbanization history can go back to 3500 years ago. It was merged from three counties - Wuhanchang, Hankou and Hanyang - on both banks of Yangtze River in 1949. According to the old version of City Master Plan (1996-2020), it is regarded as an important city in central China, vital industrial base and transportation node (B1). The population was planned to be 5.05 million by 2020 within the area of 8467 km2. In the reversion of City Master Plan (2006-2020) its position has been raised to be a central city in central China, a national historical city, vital base for industry and science education, and integrated transportation node. Wuhan has been playing more and more important economic and social role in nationwide. It is one of the two metropolitan areas, which are approved to be the comprehensive pilot area to build 'Two-type Society, that is Resource-saving, and Environment-friendly Society' in 2007. Two years later, it is regarded as one of National innovation pilot cities.

Wuhan holds a strategic position within national water and railway transportation network. It is planned as one of the four national conjunction nodes in the National Railway Network Plan. Billions has been invested into the twelve railway related infrastructure projects in Wuhan during the 11th Five-year Social and Economic Development Plan, including the case of 'Wuhan Station' to be discussed here. There used to be two railway stations, Wuchang and Hankou stations. Although Wuchang station is not connected into HSR network, it is considered as the nodal station organizing multi-direction railway transportation to all over the country. Hankou station is connected into the HSR network, providing the CRH trains which head for Yangtze River Delta in the east. The name of the new 'Wuhan station' emphasizes the symbolic importance of Wuhan station as a municipal transportation node. The high-speed trains departing from it will head for north and south. This new periphery station is far away from the city centers: 17 km away from Hankou station, 12 km from Wuchang city center, and 22 km from Hanyang city center (see Fig. 1).

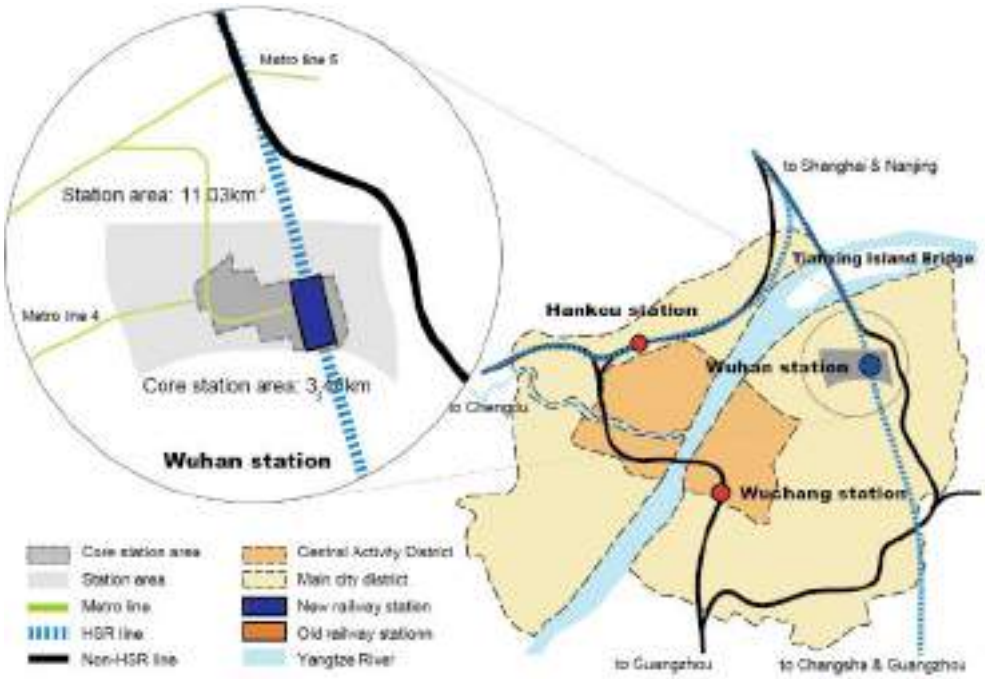

Figure 1: Wuhan railway network and location of Wuhan Station (source: author made)

The whole process from 1995 until January 2012 involved at least 13 official plans or researches. They are 1 architecture design, 4 infrastructure plans, 2 city master plans, 3 conceptual plan and urban designs, and 3 regulatory plans. Two more plans (research) are being conducted at the same time. During the past fifteen years, there were some crucial moments that determined the direction of decision-making process (see table 1). One is the official approve for the final proposal of Beijing-Guangzhou High-Speed railway line as well as the Wuhan Station by MOR and National Develop & Reform Commission in 2004. Another is the official statement of building Yangchun-lake sub-center around Wuhan Station in the revision of City Master Plan of Wuhan in 2006. (The detailed illustration of timeline can be found at http://timeglider.com.) The whole process can be divided into three phrases according to the crucial moments: First is the planning of HSR route and location of station from 1995 to 2004. Second phase is the making of spatial plan of station area and construction Wuhan station from 2004 to 2008. Last but not the least is the preparation of Wuhan station and implementation of station area plans from 2008 until now (May 2012).

Time	Event	Significance
09/1997	MOR's approve on Wuhan Railway Network Plan	Decision on plan and construct Tianxing Island Bridge and the new Wuhan Station
17/05/ 2004	Official approve by MOR and National Develop & Reform Commission (the first agreement between province, municipality and MOR was reached on 26/09/2003)	Final decision-making on Beijing-Guangzhou HSR route and periphery location of Wuhan Station
2006	Official approve for City Master Plan of Wuhan (2006-2020) by State Council	Firstly establishing the planned role of Yangchun-Lake sub-center, in order to form multi-centered metropolitan area in Wuhan
2007	Integration of five plans after the international competition of urban planning and design	Plan for Yangchun-Lake sub-center settled down and the future vision began to take shape
12/2009	OCT Co. Ltd. won the land, P(1009)113, with the function of 'housing, entertainment & tourism' in the bidding by 4.3 billion RMB	Official involvement of Wuhan OCT project

Table 1: Crucial moments in the process of Wuhan station area development (source: author made)

Key Collective Action Problems in Making HSR-New Town

Context matters in defining the key collective action problems in the HSR station area development. There are some shared commonalities. Based on the European experiences during last two decades in 20th century, a series of relevant dilemmas were elaborated. For instance, Bertolini and Spit summarize the spatial, temporal, functional, financial, and management dilemmas (1998). As the economic and political context change, new dilemmas emerged during the past decades, such as the discussions on the difference of TOD and TAD (Transit Adjacent Development), understanding the failure of some station area development projects, and decline of lesser stations. Etc. (Peters, D., Novy, J., 2012; Speck, 2012). This paper sets forth four collective action problems that are characteristic in Chinese context: location and route choice of railway line and station, transport intermodality with other transportation modes, functional diversity, and social integration with local context. And specific features defer in individual

cases. In this case of Wuhan, the ecological accountability stands out as the fifth issue. The majority of those issues are attached to the acclimatization of this new potential 'growth pole' into existing Chinese city context.

- Where to locate the HSR and station?

  The decision making of the route of railway and location of station layouts the keynote of future station area development. The choices include redeveloping/enlarging the existing central-located station, building a new central-located station, and building a new periphery located station, etc.

- How to connect railway with the other transportation modes?

  The buzzword of 'intermodality' is one of the most important issues which all sectors need to take into consideration. It not only refers to the connectivity with other transportation, including airplane, metro, city bus, inter-city bus, private car and pedestrian from station itself, but also the accessibility to station from surrounding area.

- What functions to be facilitated?

  Functional diversity in urbanized area is no doubt the key for spatial quality as J. Jacob indicated. But it might be opinionated to come to the judgment that it is always necessary to promote diverse space in station area. The situation differs depending on the orientation of station itself, which can be pass-by station, property-led station, and nodal integrated station, etc.

- For whom is the plan made for?

  Social integration is a common issue to produce spatial quality in new towns. It indicates the identity of local residents, the external image of community, as well as the embedding of new dwelled community with original ones, etc.

- To what extent can environment vulnerability be taken into consideration?

  With the growing emphasis on ecological sustainability from either normative or political motivations, the accountability of urban plans for protecting public resource becomes more out loud, especially in such a hilly and lochy city like Wuhan.

Chinese Characteristic Action Arena for Building a HSR-NT

Actors embedded in institutional settings

The theoretical approach in this paper is mainly adapted from the 'Actor-centered Institutionalism' from Scharph (1997) and 'IAD (Institutional Analysis and Development framework)' from Ostrom (et al. 1994).

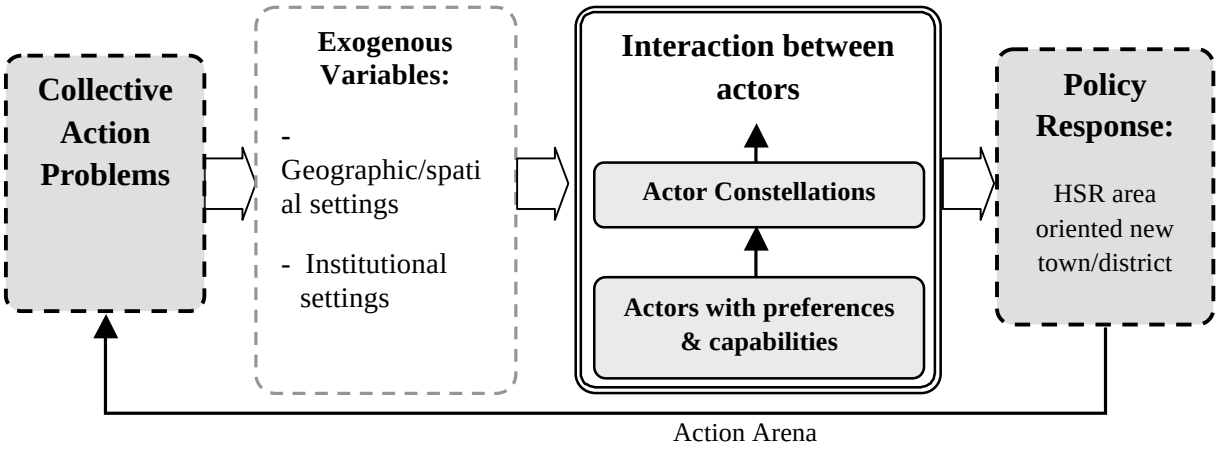

Figure 2: Conceptual framework (source: author adapted from Scharph and Ostrom)

The general institutional arrangement of transportation and urban (spatial) development in HSR station area development in China is shown in table 2. The power and interest continually shifts not only on scalar dimensions, but also at differentiated phases along the process of planning and implementation. The horizontal continuity shows the involvement of public and private sectors, while the vertical axis represents the time sequence of process. This shares some commonality with other mega-project development in the centralized institutional arrangements of China.

	Transportation development (As 'node')				**Urban development (As 'place')**			
	Actors			**Accountability**	**Actors**			**Accountability**
	Macro	**Meso**	**Local**		**Macro**	**Meso**	**Local**	
Decision-making & planning	MOR	--	--	Make plan for HSR route and station location	MG	--		Make spatial plan for station area development
Implementation & construction	MOR	--	--	Construct railway track and station architecture	--	--	MG, DG, ASDO	Municipal government entrusts construction office and district governments to conduct
Management & service	--	LRD		Maintain daily function of station and the commercial space within it	--	--	MGP	Attract investment and provide preferential policies for station area

Table 2: General actor constellation of mega transportation infrastructure in China (source: author made)

(MOR: Ministry of Railway, LRD: local railway department, MG: municipal government, DG: district government, SADO: station area construction office, P: private developer/investor)

Preferences and Capacities of Actors

Built upon the understanding of institutional settings, different preferences (individual and organizational self-interest, and normative obligations and aspirations) of actors and their capacities will be explained.

- Dominant position of public actors

Firstly, the dominant role of MOR in the decision-making process for location and route is un-doubtful. Unlike in the other countries, MOR is independent of Ministry of Transport. It is responsible for the formulation of the railway network planning, the implementation and the evaluation of railway infrastructure, and the management/ regulation of state-owned railway property. It is known as the most enclosed 'kingdom' left by the Socialist Planned Economy, which means the system of decision-making and implementation is relatively independent from other social and economic sectors in Chinese society. Wuhan has its own subordinate office, which directly runs the railway investment and construction company in cities around Wuhan. It is famous for the capability both in technique and political aspects because of the extremely strategic position of the city in national railway network. Another hidden factor is that the director of Wuhan Railway Bureau is the younger brother of Minister of Railway, which provides possible closer relationship within ministry. To conduct the practical financing and investment of railway infrastructure construction, Wuhan-Guangzhou HSR Ltd. Co. is established. The whole line is financed by Guangdong, Hunan, and Hubei province, and Wuhan municipality entrusts district governments to take in charge of replacement and demolishment. The argumentation of 'three pillars' (Amos, P. & Bullock, R., 2011) can be seen as the vivid metaphor for the governance and structure of railway industry into Chinese context: not enough join-up governance of the transport sector in a single ministry; the separated roles of policy-making and transport services delivery (in all modes, including railways), and independently regulate the industry (whether by ministry or agency).

Secondly, local Wuhan subordinate railway Office acts with its own interest during the implementation of plans. One typical example is the 'illegal ' restaurants and shops under the ramp of Wuhan station in east square. There was no such commercial space in the legally approved architecture design. However, the Wuhan railway office realizes the huge hidden profit margins of involving retail and restaurant, as well as the consumption demand from the passengers. Another example is the changed function part of Wuhan station area management office building. The building was originally oriented for only the office function. However, the management office changed part of building into hotel without application for official approval from Wuhan government. It is obviously illicit but accepted throughout the time.

Thirdly, Wuhan municipal government entrusts the construction office to be in charge of the land development. According to the Constitution, the government is not allowed to participate in the market activity directly, which raises the necessary of Wuhan City Construction & Investigation Ltd. Co. It is the subject who is in charge of the financing and developing real estate of the land except the station as representative of government. The similar state-owned enterprise exists almost in every city and has been considered as the main financing platform for urbanization in China. In the case of Wuhan station area development, a Wuhan Railway Stations Construction & Coordination Office was founded to organize the spatial development as well as municipal facilities around the three railway stations. Wuchang (2008) and Hankou (2006) station are located within the third ring road, and therefore, Municipal City Construction Committee is in charge of them. And Wuhan station is under the charge of Municipal Transportation Committee for it is located outside of third ring. The mechanism is as follows: The land around the station was collected into the Land Reserve Center of Wuhan ever since the decision-making of periphery location was made in early 2000s. Cooperating with Land Reserve Center, the City Construction & Investigation Company hypothecates the state-owned 'raw land' to banks in order to get mortgage as investment for site development, such as road and sewage construction. After repaying the mortgage and finishing the site development, the company then leases the 'mature land' to developers. In this sense, there is no specific procedure of station area that is differentiated from other land development. One unforeseen event, the Wuhan OCT thematic park project, needs to be mentioned. This project changed the mechanism of the Staion Area Construction Office: In order to re-capture the new potential profit from land price appreciation brought by OCT, Wuhan municipal government withdraw the development right of the station area besides the core area back from the office.

Last but not the least, district government has slightly saying in the decision-making process but significant role during implementation. The station area involves two administrative districts, which are Hongshan District as the main part and Qingshan District involved just a tiny proportion. Only the west part of this area is urbanized with the majority community of industrial workers ('Danwei'), such as

Wuhan Steel Plant as well as other factories. This area used to be one of the fully facilitated neighborhoods when the factory workers were the middle classes in Chinese society back then. Nowadays, this area is considered as not so popular in housing market because of the industrial pollution and social segregation. During the whole decision-making process, neither of the district government was involved. However, since they have the land or administrative power to operate the development, it is difficult for Wuhan Railway Stations Construction & Coordination Office to implement the plans in practice. Therefore, in this stage, district (esp. Qingshan district) is involved. Their role is to operationalize the demolishment and replacement of residents and functions under the order from Wuhan Railway Stations Construction & Coordination Office (A9).

- Missing the coalition or platform between spatial development and railway sectors

However, the role of a collaborate coalition or network platform in this case is missing. First of all, there is slight negotiation between spatial and railway sectors. The typical example is the decision-making of the location choice in the early phase. Only in some rare cases, most of which are mega cities with bigger right in anatomy, spatial actors can negotiate with transportation actors in the decision-making/planning phase. It is indeed this case that the municipality and MOR succeeded to achieve a relatively win-win situation. But the whole process was fragmented and not so transparent. During the phase of construction, they also do not cooperate well. City public facility departments complained that they always need to wait for the final plan from railway sector to start their own construction. The competition/fight for the shared construction site also happened sometimes (A9). Another typical un-cooperated example is the transfer between different transportation modes. The planned two metro lines are still under construction two years after the establishment of station. And the bus connection provides less capacity than nowadays demand, not to mention the requirement of the planned sub-city center.

Secondly, there is also missing cooperation between spatial development sectors on both city and regional level. At city level, the whole land operation procedure is planned on the city level and managed through Wuhan Railway Stations Construction & Coordination Office. It has higher legitimized power than two involved district governments, Qiangshan and Hongshan District. The speed and quality of district government's work on clearance of land in advance will strongly affect the implemented outcome of the plans. Besides, at regional level, the relationship between cities on the HSR corridor still remains as competition rather than cooperation.

Thirdly, the land ownership is quite tricky. Generally speaking, there is clear definition for the station area according to the national regulation that is the railway sector can obtain the ground land of the station architecture from local authorities. In this case, Wuhan railway department required a bit larger area around the station for the construction of ticket office in the contract with local government. In total, it covered 330-thousand m2 land with 120 thousand m2's floor area. And Wuhan government owned the land excluded that part in the station area. However, during the practice, it turned out that the land needed for ticket office was exaggerated. Therefore, the actual development right of the extra land was given back to Wuhan municipality and Wuhan railway department is only in charge of drip line area of the station architecture.

- Bonded market behavior of public actor with private actor

The public-owned company makes the government's participation in market realized and legalized. As both rule-maker and participants in this game, public actor is acting just like other profit-making private actor. Real estate developers and enterprises are only brought in the game during the public bidding for leasing land use right after the infrastructure is implemented. Unlike some other station area development, there is no specific legitimated coalition or platform to facilitate private market behavior. The main reason of it is that only two relatively economically 'weak' districts are involved in the process, which seems no necessary of creating new coalition. It also shows that the ever-surviving developers in Chinese re-structured market in the post-financial-crisis era are mostly public-owned. They also want to bond their

own interest with public actors so that they can participate earlier in the process of primary land market in order to gain more profit from land leasing. It is a huge gap that they haven't been involved more in-depth for they are the actually users of the potential boomed urban space.

- Strong intervention of flagship project developer

Wuhan OCT project is the biggest investment in the history of OCT company as well as in Chinese entertainment tourism industry. After attracting such a flagship project, Wuhan government, especially municipality, shows clear confidence in realizing this Yangchun-lake sub-center. The government came to be aware of the possible enormous profit hidden in the rise of land price of this area in the coming future. The interesting response is that the land development right around the station was then taken back to municipal authority (municipal land resource center) from the Railway station area construction and coordination office in the middle of the development process. The frequency of politicians' inspects on the progress of the project and the countdown sign in the OCT construction site show the high attention from government.

- Slight involvement of civic actor

The interests of civic actors, such as local community, industry or NGO are slightly involved. Most of the local communities are the farmers living on the collective-owned land. They are asked to move out of origin housing to a new collective built public housing by local government. The same situation does not apply to the big industry within the site, such as Wuhan Steel Plant. Unfortunately, there is no such NGO involved in the whole process. It is a relatively a supply side approach. The opportunities for housing and office development in the station area seem to sprout from the planning perspectives. The content of the plans seems to be very much driven by design and regulation oriented planning as opposed to forms of interactive or communicative planning.

Furthermore, the previous mentioned media attention on Wuhan OCT is the only case that the voice of civil actors could be heard. And their opposition, to some extend, contributed to the positive change of the way of dealing with public space in the future Yangchun-lake sub-center (A12). However, the reliability of the media reports still needs to be further invested. Because of social contradictions in rapid urbanization, this type of critic on government and real estate developer is easy to resonate citizens. In this case, there is not enough evidence that can fully prove the report.

Facing Collective Action Problems in Wuhan Yangchun-lake Sub-center

The five previously mentioned collective action problems are involved on different levels and will evolve with the change of exogenous variables in institutional settings. They are assorted according to both temporal and scalar dimensions (see Fig. 3). The scalar dimension (vertical axis) refers to the governance level from national, regional, municipal till project levels, while the temporal dimension (horizontal axis) indicates the three phases from planning, implementation and management. The actor constellations and the interaction among them in those five issues will be described as follows.

Figure 3: Important issues in temporal-scalar scheme (source: author made)

Location choice

Location choice is the most fundamental dilemma. The outcome lays out the keynote of future development, on which the others will be path dependent: The discussion dated back to the vision for railway network in City Master Plan in 1995. The idea is to build the new Wuhan-Beijing Passenger-dedicated Line as one of the major north-south corridors. It was planned to be laid next to the old Beijing-Guangzhou line. And a new station, Wuhan North Station, was proposed on the second road ring in the

northeast part of Wuhan. It was not considered as High-Speed line yet. At that time there was only one vehicular bridge available for railway to cross over the Yangtze River, that is, Wuhan Bridge. In this version of City Master Plan, the new Tianxing Island Bridge for both railway and car was planned. It is then known as the main channel connecting the HSR Wuhan station to the north bank of the river nowadays. However, the abuses of that proposal gradually emerged. Four specific problems were discussed: The technique criteria of railway construction become the first problematic issue: the western proposal would go through the highly urbanized area and might limit the high-standard designed train speed. The second problem is from the ecological perspective: it would affect the ecologically sensitive environment along the corridor. Wuhan is also known as 'City of Hundred-lakes' and therefore it is famous for the rich ecological resources. The west route is rather close to the beautiful inner city lake, Sha-Lake, where locate the Museum of Hubei Province, Hubei Provincial Government, Wuhan University, as well as other exclusive hotels and housings. Railway station is always not the favorite public facility in the civic opinion for the old negative image, such as unsafely, insanitation, and disorder. Not to mention the possible noise, air and visual pollution caused by the project. Protests from academia, politician and citizens have been heard after the publicity of that plan. Thirdly, correspondingly to the second problem, cutting through the existing blocks would leave even more inefficient and fragmented land ownership along the corridor. It requires large amount of demolition or replacement of housing, universities and office, which will raise the fiscal and time cost. On the contrary, northeastern periphery area connecting directly with Tianxing Island Bridge is still vacant with no complicated land problems. Last but not the least, the original intension of the central location within the city was to attract more internal passengers of Wuhan. However, considering the unexpected rapid growth of regional transfer, it might lose the external regional passenger from other cities around Wuhan in the bigger picture. Therefore, a new east (periphery) proposal route was then raised. It is proposed to locate the station at northeastern outskirt and to lay the HSR line along the east side of the biggest inner city lake, East-Lake. Not only the route choice but also three possible options for the station location were intensively discussed.

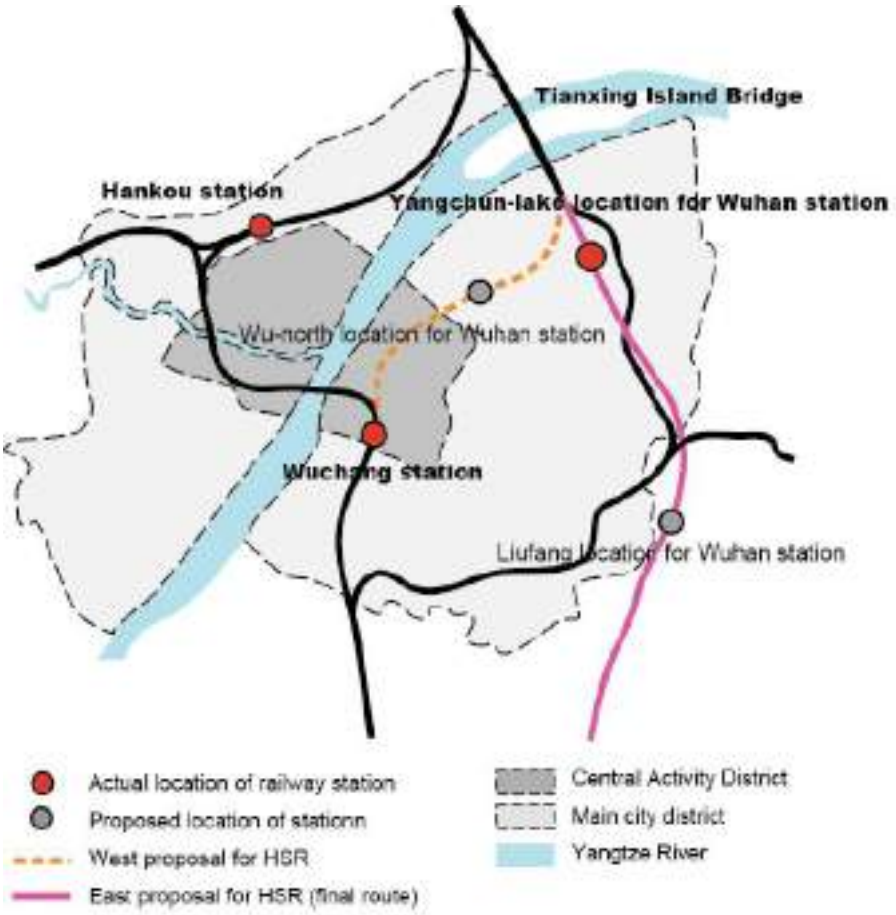

Figure 4: Two proposals for route and location for Wuhan station (source: author made)

The major discussions were focused on the following issues: From the technique perspective, east proposal is easier to operate to HSR than west line for it's new railway track. The high frequency of CRH trains in every 10-15 minutes might strongly restrict the city public transport, visual connection, and spatial expansion toward the east. And the turning radius of west line is not easy to be realized and be sufficient than east line. From the implementation perspective, west line can provide better accessibility to the urban center but more difficulty for construction. From the connectivity perspective, the east line is farer away to central city road system but easier to connect the three major parts of Wuhan by the third ring express road. Besides, it makes few sense of re-using the old Beijing-Guangzhou railway corridor since the old line has already been planned to remove in the long-term perspective anyway. In the revision of Wuhan Network Plan, the eastern periphery route was officially chosen under the condition of keeping environmental balance of East-Lake. On 17th May 2004, MOR and NDRC (National Development & Reform Commission) officially approved the proposal of locate HSR station next to Yangchun Lake in the northern edge of city. The new station is named as 'Wuhan Station' in order to distinguish from the existing two central stations, Hankou and Wuchang (see Fig.4).

Why and how did the crucial change from central to periphery location happen? As shown in Fig. 5, negotiation is the most effective way of communication between railway and urban sectors in this case. Of course, the negotiation here is different from the western definition. Its Chinese conception combines two types of activity: 'mobile warfare' and 'joint quest'(Faure, 1998). It is interesting that the frustration continued for 2-3 years and was soon replaced by the rational reasoning on the possible east alternatives until coming to the final agreement. the involved actor constellations include railway and urban sectors on municipal, regional, and local levels. The superficial reason is that the specific regional department, who makes the plans, locates right at Wuhan. That provides much more opportunities for both sides to communicate. However, the deep reason is their shared interests:

On one hand, the Ministry of Railway (MOR) plays as almost the role of top-down decision maker left by the previous planned-economy. The most important orientations are to maximize the space enclosure, minimize the fiscal and technical input of construction, and eventually maximize railway revenue. It It is one typical fossil of 'Danwei'. Even after the economic reform since 1978 and several attempts of internal institutional innovation since 1980s, it remained its independency by owning the subsidiary regional department/office, public security, judicature agency, hospital, school, and research institution. It is also separated from Ministry of Transport (MOT). MOR makes decisions in the planning of passenger and freight railway transport on national level, while the regional departments are in charge of the construction, management and daily service on local level. They have the legal ownership of land in the railway corridor and under the roof of station. The revenue of MOR mainly consists of the construction fund from freight railway transportation, ticket profit, mortgage from bank by impawning land, social insurance fund, insurance company investment, etc. Therefore, at the beginning the west central proposal is a bit more preferred for it re-uses the old railway track corridor and can therefore minimize the demolishment and construction cost. Besides, the eastern part of Wuhan is rich in landscape resources and knowledge industry. This sensitive eastern proposal next to the national scenic park, East-Lake Park, might make the construction more difficult if the balance between infrastructure and ecological environment is asked to achieve. However, the criteria for location choice changed and made. Firstly, it is better that the HSR line to cross the Yangtze River at the new Tianxing Island Bridge for the old bridge is not qualified for the new HSR from the technique perspective. Secondly, the integration between railway station and metro line as well as other transfer modes has also been taken into consideration. Thirdly, the new location should also provide the best connectivity and accessibility as terminal and nodal station in the national railway network. Based on those criteria, two optional proposals for the line route and three proposals for the station location were proposed. One was the west line (also called Sha-lake line), which use the original Beijing-Guangzhou railway corridor through the old town of Wuchang. The other choice was the east line, which will avoid the existing urbanized area and go through the east side of East Lake.

On the other hand, urban development sectors have their own orientations. Despite of the rather top-down process, the voice of Wuhan municipal government and Hubei provincial government can still be traced. From the normative obligation of Wuhan government, the east periphery proposal is more acceptable. Because the railway station is always considered as one rare opportunity to re-organize the urban structure and optimize the spatial extension. It is especially crucial for the metropolis like Wuhan, which covers the area of 8494 km2 with the population of 9.79 million (November 2010[1]). From the self-interest of local governments, even if the development might not be realized according to the plans, the enclosure of cheap rural land will bring big fortune to local government (G.Dai, et al, in press). To conclude, the Chinese version of negotiation within top-down institutional setting plays the major role in making the decision for peripherylocation.

Figure 5: Interaction between actors on problem of location choice (source: author made)

Transportation intermodality

The word of 'intermodality' not only refers to the connectivity with other transportation (including airplane, metro, city bus, inter-city bus, private car and pedestrian) from station to city center, but also the accessibility from surrounding area (namely the planned Yangchun-lake sub-city center) to station itself. Firstly, the interchange with other transportation modes is not sufficient enough. Take metro as an example. The plan for metro system was earlier than plan for Wuhan HSR line and it was not integrated considered at the beginning. Eventually two lines are connected to the underground of railway station and the construction caught up with each other under the coordination of municipality. However, the detailed plan and construction were almost separated. Wuhan metro company owns the land in the underground, which is part of the Wuhan Municipal Transport Group. And the land above ground of station architecture is owned by railway sector. During the construction, both groups even 'fight' for the construction site. The railway station was put into use for two years while the metro line is still under the phase of facilitating metro equipment and decoration. Secondly, the accessibility from surrounding area to station requires enhance as well.

Fig. 6 illustrates the involved actors in promoting transport intermodality, which are Wuhan government, municipal transport company, Wuhan Railway Department. The communication channel on the same level is sometimes blocked and it is somehow even more efficient to deliver the message through higher authority. The lack of corporation between transport and urban sectors on the local level reflects the segregation between MOR, MOT and MOHURD (Ministry of Housing and Urban-Rural Development) on national level. The major hidden mechanism is that the accountability systems in MOR and MOT are differentiated: On one hand, within the centralized MOR system, the local railway departments are the direct detached offices of MOR on meso and local level. The organization of local offices is not necessarily correspondent to the municipals. For instance, Wuhan Railway Department is in charge of the planning, construction and management of six provinces around Wuhan metropolitan area. There are twelve local offices over the country in total. Therefore, the Wuhan Railway Departments in this case is only accountable for MOR instead of Wuhan municipal government. On the other hand, the local departments for other transportations are less dependent on the MOT but more relied on the local economy development. In the sense, they are more accountable for being consistent with municipal government. As to the role of urban sector in the interaction process, is more likely as a coordinator in between. To conclude, the actors' corporation in making the transportation intermodality of Wuhan case is not effective enough.

Figure 6: Interaction between actors on problem of transport intermodality (source: author made)

Functional diversity

[1] See online data of 6th National Population Census from Hubei Provincial Bureau of Statistics, http://www.stats-hb.gov.cn/structure/xxgk/tjgb/rkzw_347_1.htm

Fig. 7 shows the actor constellations embedded in producing functional diversity. Municipal government and its construction office, the metro company, as well as the Wuhan Railway Department are the involved actors. It can be interpreted from the following three aspects in Wuhan case: introducing flexibility in land development, flagship project benefiting from/to station area development, restrained involvement of commercial space in station.

Figure 7: Interaction between actors on problem of functional diversity (source: author made)

- Introducing flexibility in land development

It can be seen as the amendment or supplement to the hierarchical way of arranging actors' behavior. The basic idea of flexibility in the program was developed from the key concept of 'white land' in the international competition for the station area. And it was adapted into the regulatory plans, namely the un-fixed land use. It shows the local government's concern that to what extent can the station attract local and even regional economic dynamic, and how big is the role of regional function of station area should play within the agenda of sub-city center. The flexibility is reflected in the 'dual-core' structure of central station area in the plan: one core is aiming for the local function of sub-city center such as local cultural facility, sport and medical facility, commercial retail, and housing, the other core is oriented for regional activities, such as headquarter office, high-end hotel, and tourism (theme park) etc. The layout of public facilities relates to this basic idea. However, to conclude, this interaction between actors remains within the restriction of traditional centralized 'blueprint' planning. Very few developer or any other market forces are involved.

- Flagship project benefiting from/ to station area development

Since the developers are mentioned in last point, it is inevitable to discuss their interaction with other actors. The flagship project has mutual beneficial with HSR station: On one hand, it is attracted by the accessibility improvement brought by HSR station. It was originally persuaded by Wuhan government to move from other alternative locations to this area for two reasons: Firstly, Wuhan Station is providing good accessibility for customers from other cities to the theme park. Secondly, East-Lake's environmental advantage will attract further interest for the future housing development. It is the outcome of competition with other economic active pole, such as CBD.

On the other hand, it will trigger the development of sub-center around the station area. It seems that apparently not all sub-city center functions will be realized within the boundary of station area according to the direct implementation of the sub-city center plan. Instead, the spatial development starts from the flagship project outside the station area. The crucial example in this case is the OCT project, namely 'Huaqiao City'. OCT Enterprise Co. is attached to the State-owned Assets Supervision and Administration Commission of the State Council (SASAC). It is known as the leading enterprise of cultural tourism, which refers to the combination of Chinese theme park tourism as well as related cultural and service industry. The cultural industry development started from the foundation of Chinese first cultural theme park-Splendid China in 1989. After that, it has successfully built a series of theme parks such as Chinese Folk Culture Village, Window of the World, and Happy Valley, etc. Besides, it also established cultural facilities, such as Chinese Art Center, He Xiangning Art Museum, OCT creative cultural park, and Chinese art gallery, etc. Its successful marketing has been copied to other major Chinese cities. On 26th December 2009, the Wuhan OCT started its formal operation, which includes the theme park of Happy Valley, water parks, metropolitan entertainment and casual zones, themed hotels and housing. It stresses the combination with local historical culture of Chu. It is the biggest investment ever and one of the most important links in the chain operation involved in the company's development strategy in central China. The detailed program of OCT can be seen from its official website[2]. To conclude, competition is the thematic way of involved actors to realize functional diversity by introducing flagship project.

[2] See the official website of OCT, http://www.octwuhan.com/

- Restrained involvement of commercial space in station

The mixture of commercial space is also considered as one of successful operationalization of functional diversity. The former minister of MOR, Mr. Liu Zhijun, was in favor of efficiency for mobility. That is because to solve the problem of crowd in station area during the Chinese New Year is considered as one of the most important political achievement as well as a normative mission. Pure transport function and huge scale of waiting space in the hall is the corresponding result. The idea of adding up a whole floor of shops was vetoed because the unique architecture structure requires much more cost than usual design. And the huge parking space is regarded as the major profitable space rather than retail space in the mind of railway sector. Therefore, in the early version of station architecture design, there was only a few retail shops planned in the underground floor (A8). However, the there is indeed enormous demand for more retail function: on one side, the passengers have the demand to eat or communicate or just shopping while waiting for train at hall. On the other hand, the involvement of more commercial space will surely bring more profit the landowner, which is the local railway sector. Therefore, the idea of mixed function was adopted a bit during the implementation. One main way is to add more restaurants in the second floor of waiting hall. However, the indoor ventilation system for smoke and oil is not qualified enough for too many commercial function. Then, another 'illegal' way emerged: the local Wuhan Railway Department added two small buildings under the ramp of entrance of east square with the 4000 m2. The restaurants such as KFC and other quick food shops are providing place to eat and relax for the passengers. Those shops are always full once it was put into use. This situation is known by urban planning sector, but they couldn't response because the land under the ramp is still owned by local transport sectors. That situation becomes more and more common. To conclude, the missing platform between transport planner, urban planner, and developer makes the making of commercial space quite secretive.

Social integration and ecological accountability

The building of local identity in this new sub-center is not explicit yet for there has not been a solid local community of HSR-NT. However, the involvement of Wuhan citizens in the seemly scandal of privatization of public waterfront in thematic park reflects some tension of social integration. Therefore, the social integration and ecological accountability are discussed together in this case. Specific geographic location of Wuhan makes the ecological accountability a significant element in conducting the Yangchun-lake sub-center. The attentions for environmental sensitivity and public resource from government are especially significant in this case. From political perspective, it can be seen as a spatial operationalization of the political promotion of 'Two-type Society', Resource-saving, & Environment-friendly Society, in Wuhan. Fig. 8 illustrates the interaction between actors on these issues. Protest is the main interaction mode between actors to pursue the social integration and ecological accountability. The centralization feature of Chinese planning and political system prevent this kind of interaction mode from the other dilemmas of collective actions. It can be reflected in two sub-issues: one is concern on the ecological sensitivity around East-Lake park in the thematic park (Wuhan OCT), the other is the discussion of the (re) placement of heavy industries in the east.

Figure 8: Interaction between actors on social integration and ecological accountability (source: author made)

For the first issue, As the national scenic park, East-Lake is labored to be city brand of Wuhan, the 'city of lakes'. The East-Lake Management Committee was set up to make future trajectory and to manage the daily issues of this area. Master Plan of East-Lake was made and approved by State Council in 2009, in which involved the potential economic effect of Yangchun-lake sub-center development. When Wuhan OCT project was proposed to the public, there was a big debate among civic, government and Wuhan OCT developer on whether the case should be located at such an ecologically sensitive location. It started with one journalist's exposure of a seemly scandal of privatization of East-lake shore on 25th March 2010. That report claimed that the land and even lake in between Wuhan station and East-lake was leased to OCT for a profit-making urban function without taking civic interest into account not all. Then it attracted a series of media attention. After the explanation in press conference and field tour for public, the program

of this thematic park and housing development began to be more transparent and more public facilities such as art museum and concerts are planned. And the final plan was adapted according to the Master Plan of East-Lake Park. It furthermore labeled itself to be the 'eco-cultural tourism park' of China by planning to open public facilities next to the park. To conclude, the outcome of this interaction, to some extent, contributes to the possibility of avoiding an exclusive, elite-oriented community.

As to the other sub-issues of (re) placement of heavy industries in the east of station, it is also considered as crucial issue in all plans of station area. Different from other Chinese HSR station area, this area involves heavy industries, such as state-owned Wuhan Steel Plant, which is important backbone for Wuhan local industry. Besides, there are also small-polluted industries such as cement factory, construction material factory, and landfill, which are planned to be removed from this area. The statements of cleaning up the factory chimneys and high-voltage electricity wire in station area can be seen repeatly in the planning documents. However, to beautify the skyline can be quite different from to actually decrease the productivity of industry. It relates to the future industrial structure of the Yangchun-Lake sub-city center. On that issue, no civic or other voice has been heard.

Conclusion and Discussion

This paper starts with the two major problems of the 'nationwide fever' of using HSR railway station as a growth pole of a new town/district in China: the tendency of turning from a golden opportunity for city re-construction to just a gimmick of land enclosure, as well as the lack of sustainable engine for further urban development. Wuhan Yangchun-lake sub-city center development is taken as in-depth case study. Five collective action problems are characteristic in Chinese context: location and route choice of railway line and station, transport intermodality with other transportation modes, functional diversity, social integration with local context, and the ecological accountability. Those five are inter-related on both temporal and scalar dimensions. In order to dissert the process of decision-making and implementation of HSR-NT, the actor-centered institutionalism perspective is introduced. The specific institutional settings in Chinese infrastructure project shape the orientations and capabilities of actors involved in the action arena. The features include: the dominant position of public actors, the missing the coalition or platform between spatial development and railway sectors, bonded market behavior of public actor with private actor, strong intervention of flagship project developer, and slight involvement of civic actor.

The action arena and interaction modes between actors (constellations) differ in each collective action problems. Firstly, hierarchy remains the major featured interaction modes in Chinese mega infrastructure development and the spatial development around it. MOR and municipal governments are playing the dominant role in this infrastructure-driven spatial development. In the process of railway infrastructure development, MOR is the sole decision maker despite of the few involvement of local government in the location choice. Once the choice for location is made, the construction of infrastructure is completely exclusive towards the other actors. The situation is similar in the implementation of urban plans. Bottom-up actors are restrained at the end of the 'production line' of urban building environment. Small private developers as well as the other market forces are excluded in the key process of land development. Only state-owned developers are likely to hold more secured position in making the decision whether to invest, because they could be closer to more information from public stakeholders. Therefore, even there are indeed some interests from developers and rigid consumption demand for housing from young couples, developers show even more cautious when the policy atmosphere starts to change and market demand starts to shrink.

Secondly, negotiation exists between transportation sectors and urban sector. On the dilemma of location and route choice of railway line and station, it is interesting that it took not so long time of frustration to come to the agreement on the periphery location between MOR and local government because of the shared interests of both sectors. On the dilemma to gain functional diversity, the transportation sector, including metro transport, inter-and inner-city bus system, and road transport, have the chance to negotiate with each other on sub-issues, such as the integration of metro space, the involvement of the commercial

space in the station architecture, etc. Most of those negotiation processes are realized under the coordination of municipal government or the Railway Construction Office. Of course, the actors involved are not totally free to express their preference. The extent of expressing either self-interests or normative obligation differs. In this case, the outcomes of negotiation on both dilemmas are relatively positive.

Thirdly, competition usually exists within the same institutions without long-term vision. That could lead to malignant outcome. Within transportation system, the railway sector namely MOR and other transportation sectors MOT and its local institutions are always under the competition for land, investment, and even political priority. The most direct result could be the low intermodality of station area. Even within urban development system, competitions also exist on many levels: At the municipal level, the planned new sub-center has to compete with the existing CBD as well as other economic active spots within the city. At the district level, the pressure under the pro-economic growth baton from municipality make the district governments take into account of the financial balance while implementing HSR-NT plans.

Last but not the least, protest only happens on the recessive dilemmas, such as social integration and ecological accountability. The top-down feature of Chinese planning and political system prevent this kind of interaction mode from the other dilemmas of collective actions. The outcome of this interaction, to some extent, contributes to the possibility of avoiding an exclusive, elite-oriented community.

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