Chapter 4

The Development of China's Transportation Infrastructure and International Links in China's Northwest Region

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March 2010

This chapter should be cited as
Zhong Feiteng (2010), 'The Development of China's Transportation Infrastructure and International Links in China's Northwest Region', in Zhang, Y. (ed.), *Development of China's Transportation Infrastructure and International Connectivity*. ERIA Research Project Report 2009-7-5, Jakarta: ERIA. pp.53-68.

CHAPTER 4

The Development of Transportation Infrastructure and International Links in China's Northwest Region

Northwest China consists of the three provinces of Shaanxi, Gansu, and Qinghai and the two autonomous regions of Xinjiang and Ningxia. It covers 3.1 million square km with a population of 99.6 million. The Northwest China is a major gateway opening up to the outside world in China's national strategy, and Xinjiang Uygur Autonomous Region is a bridge to the west. Xinjiang shares 5,600 km of boundary line with Mongolia, Russia, Kazakhstan, Kyrgyzstan, Tajikistan, Afghanistan, Pakistan and India, which accounts for roughly one-forth of the total frontier of China. In regarding to infrastructure, Xinjiang is definitely one of the most important regions for China connecting the outside world.

During the past ten years, northwest China has achieved great progress with the help of the Western Regional Development Strategy. Since the beginning of the Western Regional Development strategy, Northwest China has entered into a period of high economic growth. It realized 11.6% annual GDP growth from 2000 to 2009. Meanwhile, infrastructure in Northwest China has also made many breakthroughs. Among of them, highways in operation in northwest China newly increased 88,000 km, of which 14,000 km is composed of expressway, and railways in operation newly increased more than 8000 km. By the end of 2008, the number of civil airports in northwest China reached 79, which accounts for 49.4 percent of the total of China. In addition, the length of gas and oil pipeline newly increased 14,130 km.[8]

[8] Department of Western Regional Development of the National Development and Reform Commission, "Brilliant Achievement of Ten Years of the Western Regional Development," *New Western Region*, No.24, 2009, p. 4.

The achievement of infrastructure in Northwest China cannot be separated from the national strategy for transportation infrastructure development. Since 2004, the approved traffic programs at national level include *Mid-long Term Railway Network Planning* (earlier in 2004), *National Expressway Network Planning (August 2007), Comprehensive Transportation Network Mid-long Term Development Planning (October 2007) and Mid-long Term Railway Network Adjusting Planning Scheme (November 2007).* The Ministry of Commerce also initiated *Modern Logistic Model City Plan* in 2009. Northwest China has become closely connected and integrated under those national level transportation projects.

1. The Development of Infrastructure in Northwest China

Northwest China's transportation networks are initially formed by the development of railways, highways, waterways, air and pipelines. This is further strengthened in the *Comprehensive Transportation Network Mid-long Term Development Planning* in 2007, which is the first national level and comprehensive plan for China. This planning covers above five transportation infrastructure areas, and consisting of "five horizontal and five vertical" comprehensive transportation corridors and four international transportation corridors.

1.1. The Development of Railway Networks

After the approval of the Comprehensive Transportation Network Mid-long Term Development Planning by the State Council, the Ministry of Railways announced the *Mid-long Term Railway Network Restructuring Scheme*. According to the new planning, railway length will increase from 100,000 km to 120,000 km up to 2020. Thus, the Northwest China's railway network will increase more than 5,000 km. The

steadily improved transportation infrastructure will definitely lay a solid foundation for Northwest China's sustaining development. The planning added Xuzhou-Lanzhou passenger line into the national high speed railway grid. By this way, it could connect Northwest China and Eastern China.

The railway construction in Northwest China has achieved remarkable progress. According to the Work Report of Shaanxi Government in 2010, the railway length was 2,600 km in 2009, and it will reach to 4,300 km in 2010. Among of them, electrified railways are 3,720 km, and double-track railways are 2,240 km. The Work Report of Gansu Government announced in 2010 that the construction of Lanyu, Xiping, Tianping railways runs smoothly, and the second double track of Lanxin Railway started. At the end of 2009, the railways in operation of Qinghai province reached to 1,651 km. Meanwhile, Xinjiang has constructed the Jingyihuo Railway (connecting Jinhe, Yining and Khorgas at the border with Kazakhstan), the Second Wujing Railway (connecting Urumqi West with Jinhe), the Kuitun-Karamayi section of the Kuibei Railway (connecting Kuitun with Beitun), and the Xiaohuangshan-Wucaiwan section of the Wuzhun Railway (connecting Urumqi North with the coal industry base in the eastern part of Dzungaria Basin) at the end of 2009. The newly increased operation of railways reaches to 641 km, and the total length of the other current construction railways reaches to more than 5,000 km.

Lanyu Railway, an important double line electrified railway planned in the *Eleventh Five-Year Plan*, started to construct in 2008. Lanyu Railway is to run through Gansu, Shaanxi, Sichuan provinces and Chongqing with a total length of 820 km. The project will be constructed in six years. Lanyu Railway connects Lanxin Railway, Baolan Railway, Lanqing Railway and Longhai Railway in north, and Baocheng Railway, Xiangyu Railway, Dacheng Railway, Yuhuai Railway in south, will be the best railway corridor from Northwest to Southwest China. It stands side by side with Jingguang Railway and Jinghu Railway in China's north-south artery, and will be an international corridor to connect Central Asia and Southeast Asia.

The second double track line of Lanxin Railway is a high-speed railway connecting Lanzhou, Gansu and Xinjiang, started in 2010. The 1,776 km long railway routes starts from Lanzhou, through Xining, Zhangye, Jiuquan, Jiayu Pass, Hami, Turpan, to Urumqi (Xinjiang). The finance of the project is pooled by the Ministry of Railways, Xinjiang, Gansu, and Qinghai. On March 19, 2010, the Xining-Datong section of the Lanxin Railway (second double track line) began to construct. On March 25, 2010, the Hami section was also started. It is expected that they will be completed within 5 years. By that time, Lanxin Railway second double track line will connect closely with Lanxin Railway, Longhai Railway, Lanyu Railway, Baolan Railway, and Taizhongyin Railway, and form a western railway network. As a result, the connection between Northwest-North and East-Southeast will be much more enhanced.

The construction of the railway from Kashgar to Hotan started in July, 2008 and is expected to be completed in February, 2011. At the same time, the railway from Korla to Golmud also started. This railway route from Korla to Qarkilik will connect to Qinghai Railway in Golmud, and it will extend to inland China by connecting Tibet or Xining. So far, it will be the second railway corridor in Xinjiang connecting inland China. Xinjiang plans to invest 19.34 billion Yuan in railway construction in 2010. In all 13 current construction projects, Korla to Luntai section of the double-track line from Korla to Aksu, Urumqi-Alashankou electrified lines and Wucaiwan-Jiangjunmiao section of the Wuzhun Railway will be completed in 2010. Besides that, there are also other new projects that will start in 2010, such as Hami railway south ring line, Hongliuhe-Yandun electrified line, and Urumqi new railway station and related projects etc. Furthermore, the second double-track line of Lanxin Railway will be comprehensively pushed forward. As the final year of *Eleventh Five-Year Plan*, 2010 is witnessing many new projects.

Table 4-1. The Approved Railway Construction Projects in Northwest China (2010)

Region	Project
Shaanxi	1. Xi'an-Chengdu Passenger Dedicated Line 2. Baoji-Lanzhou Passenger Dedicated Line 3. Shenmu-Watang Railway
Gansu	1. Dunhuang-Golumd Railway 2. Chengdu-Lanzhou Railway 3. Baoji-Lanzhou Passenger Dedicated Line 4. Yinchuan-Lanzhou Railway Second Corridor 5. Pingtang-Wuwei Railway Second Corridor 6. Pingliang-Qingyang Railway (the north extension of Tianping Railway) 7. Lanzhou-Linxia-Hezuo Railway 8. Tianshui-Longnan Railway (the south extension of Tianping Railway)
Qinghai	1. Golumd-Dunhuang Railway 2. Golumd-Korla Railway
Ningxia	1. Yingchuan-Lanzhou Railway Second Corridor 2. Gantang-Wuwei Railway Second Corridor
Xinjiang	1. Jiangjunmiao-Hami Railway 2. Hami-Ejin Railway 3. Korla-Golumd Railway 4. Fuhai-Fuyun Railway

Source: The author reorganizes data based on database provided by China Industry Analysis System. This database is supported by the State Development and Reform Commission.

1.2. The Development of Highway Network

The State Development and Reform Commission announced the *National Expressway Network Plan* in December 2004. According to this plan, China would adopt an "intensively construction in the East, formulating network in the Central and connecting the west", which laid out the principle to build expressways along the rail passenger dedicated lines. The national expressway network would connect all important traffic point cities around the country, including 50 rail junctions, 67 aero hubs, more than 140 highway hubs and 50 waterway hubs. This would create

complementary advantages by combing various transportation ways. According to the *Layout & Planning of National Highway Transportation Junction* approved by the Ministry of Transportation in 2007, China planned to establish 179 national highway hubs in 196 cities, including 12 central hubs. The Northwest China has 21 cities entered into this list, and accounted for 11.7 percent of total. Xi'an and Jiuquan are the central hubs, account for 16.7 percent of total (see table 4.2).

Table 4-2. The Cities in Northwest China in the List of the Layout & Planning of National Highway Transportation Junction

Region	City	Number
Shaanxi	Xi'an (central hub), Xianyang, Baoji, Yulin, Hanzhong, Yan'an	5
Gansu	Lanzhou, Jiuquan (central hub), Jiayu Pass, Tianshui, Zhangye	4
Qinghai	Xining, Golumd	2
Ningxia	Yinchuan, Guyuan, Shizuishan	3
Xinjiang (including Xinjiang Production and Construction Corps)	Urumqi, Hami, Korla, Kashgar, Shehezi, Kuitun, Yining (Korgas)	7

Source: Same as Table 4.1

By March, 2010, Gansu has a total 114,000 km of classified roads and highways, and a total of 1,644 km of expressways. By the end of 2010, the total length of expressway will reach to 2,000 km.[9] Shaanxi Province will finish the projects of Ankang-Maoba-Shanchuanjie expressway, the Shaanxi section of Qinglan Expressway, and Ankang-Hanzhong expressway, which will make Shaanxi's expressway in operation to 3,000 km.[10] Qinghai province has planned to newly increase 2,000 km of highways,

[9] "Gansu: Four Cities in National Highway Transportation Junction Planning Obtained Specialists' Approval," *Gansu Daily*, 2010-3-12.

[10] "Shaanxi: Expressway in operation will break 3,000 kilometers," www. chinahighway.com, 2010-2-24.

which will make Qinghai's highway in operation to 62,000 km.[11] By the end of 2009, Xinjiang has a total of 150,000 km of highways, and will reach to 152,000 km by the end of 2010. In 2010, there are several major line under construction, such as Lianyungang-Khorgas Expressway, the second phase of the Xingxing Xia-Turpan Highway, the Minghui (the border between Gansu and Xinjiang)-Hami section of the Beijing-Urumqi Expressway. Other current construction projects include Xinjiang-Tibet Highway and Wuqia-Turgart Port.[12]

2. The International Connection of Infrastructure in Northwest China

The relations and connections between Northwest China and its western neighboring countries have a long history. A best case to illustrate is the famous "silk road". However, the real progress in the international connections of Northwest China was not took place until the 1990s. With the increasing economic and trade transactions with neighboring countries, there is an urgent need to improve infrastructure.

By the end of 2006, Northwest China has 61 first class ports to outsider world, which accounted for 57 percent of the total of China. In the *Eleventh Five Year Plan* on Western Region Development, China decided to "propel important border port city to realize leaping development". To further open up to west, it is important to develop the border port cities, and to speed up construction of international corridors. In addition, the plan also suggested that it should make priority to construct international corridors connecting Southeast Asia, Central Asia, Russia and Mongolia.

[11] "Qinghai: Highways will increase 2,000 kilometers in 2010," www.chinahighway.com, 2010-3-2.
[12] "Xinjiang: the Total length of highways will reach 152000,000 kilometers," www.xinhuanet.com, 2010-3-13.

There are four international regional transportation corridors in the *Comprehensive Transportation Network Mid-long Term Development Planning*. The Central Asia international transportation corridor, which bases on two principal axes of Northwest transportation corridor to East costal and land bridge transportation corridor forms an international line from Urumqi to Korgas.

Other international corridors consist of “five vertical and five horizontal” specific routes. In details, the fifth route in “five vertical” is Linhe-Fangchenggang transportation corridor. It starts from Linhe (Inner Mongolia), through Yinchuan, Lanzhou, Chengdu, Kunming, and Nanning to Fangchenggang (Guangxi). Based on railways, highways, civil aviation and partial oil and gas pipelines throughout the full rang of whole corridor, it forms the second north-south comprehensive transportation corridor in Western China. This corridor takes Kunming airport as international air transport gateway to Southeast Asia, and Fangchenggang as major port to connect international maritime with Southeast Asia.

The first corridor of the “five horizontal” is Northwest transportation corridor to East costal area. It starts from Tianjin and Tangshan through Beijing, Datong, Hohhot, Baotou, Linhe, Hami, Turpan, Kashi, to Turugart Port of Xinjiang. Based on railways, highways, civil aviation and partial oil and gas pipelines throughout the full rang of whole corridor, it forms transportation corridor linking northwest to eastern China. This corridor takes Tianjin Port and Tangshan Port as major hubs to connect international maritime transport network, and Turugart Port to link with Central Asia transit network.

The second corridor of the “five horizontal” is Qingdao-Lhasa Transportation Corridor. It starts from Qingdao through Jinan, Dezhou, Shijiazhuang, Taiyuan, Yinchuan, Lanzhou, Xining, Golumd, and to Lhasa, which comprises of railways, highways, civil aviation and partial oil and gas pipelines throughout the full rang of whole corridor. This corridor takes Qingdao Port as major hub to connect international maritime transport network.

The third corridor is land bridge transportation corridor. It starts from Lianyun Port, through Xuzhou, Zhengzhou, Xi'an, Lanzhou, Urumqi to Alataw Port of Xinjiang. It is a part of the Eurasian Land Bridge and comprises of railways, highways, civil airways and partial oil pipelines throughout the full rang of whole corridor.

The border port plays an important role in China's outside connections. As we mentioned earlier, Xinjiang is an important frontier region with 17 first class ports and 11 second class ports. Xinjiang has 101 both inbound and outbound travelers and goods transport routes and is the region with the largest number of highway ports, travelers and goods transportation routes and the longest length of operation. In all operational routes, the important ones include Urumqi-Alataw Port-Semipalatinsk, Urumqi-Korgas Port-Alma-Ata and Kashi-Turugart-Bishkek etc. Among of them, the Urumqi- Alataw Port-Semipalatinsk route is the longest international highway transportation of both travelers and goods with the length of 1,363 km. Xinjiang has trade relations with 148 countries and regions. In 2007, trade between Xinjiang and Kazakhstan, Kyrgyzstan, Russia, Pakistan, and Tajikistan reached 11.649, 3.78, .617, 0.477, and 0.428 billion US dollars respectively. The above mentioned five countries accounted for 92.1 percent of the total trade of Xinjiang.[13]

[13] "Xinjiang Ports' Imports and Exports Exceeds 18 Billions US Dollars," *Xinjiang Daily*, 2008-2-15.

Table 4-3. The List of first class Ports of Xinjiang

Country	Port	Port's region	Opening time	Port's kind	Port's position	Counterpart port
International	Urumqi airport	Urumqi	1973	Aviation	International transport	Alam-Ata,Tashkent
Mongolia(4)	Taskhin	Altay	1989	Highway	Bilateral port	Bulgan
	Hongshanzui	Altay	1992	Highway	Bilateral port	Dayang
	Wulastai	Changji	1992	Highway	Bilateral port	Beitage
	Laoyemiao	Hami	1992	Highway	Bilateral port	Burgastai
Kazakhstan(7)	Korgas	Ili	1983	Railway and highway	International transport	Korgas
	Alataw Pass	Bortala	1992	Railway and highway	International transport	Druzhba
	Baktu	Tacheng	1992	Highway	International transport	Baktu
	Jimnay	Altay	1992	Highway	Bilateral port	Maykapchagay
	Aheytubiek	Altay	1992	Highway	Bilateral port	Alekseyevka
	Dulata	Ili	1992	Highway	Bilateral port	Kolzhat
	Muzart	Ili	1992	Highway	Bilateral port	Narynkol
Kyrgyzstan(2)	Torugart Pass	Kizilso	1983	Highway	Bilateral port	Turgart
	Yearkeshtan	Kizilso	1998	Highway	International transport	Yearkeshtan
Tajikistan	Karasu	Kashi	2004	Highway	Bilateral port	Murghob
Pakistan	Kunjirap	Kashi	1982	Highway	International transport	Suster
International	Kashi Airport	Kashi	1993	Aviation	Bilateral port	Andijan, Osh

Note: By the end of 2008, Korgas upgrades into an international rail and highways transport with the establishment of Jin-Yi-Huo Railway.

Source: Wen Lu, *The Establishment and Development of Xinjiang's Port since Modern Times*, Master Thesis, Xinjiang University, 2005, p.46; Dengfeng etc., "Mathematical Analysis of Spatial Development Mode of Port Region in Xinjiang," *Arid Land Geography*, Vol.29, No.3, 2006, p.423.

Among of them, Alataw Pass, Korgas and Yearkeshtan are the three largest ports. According to Port Administration Office of Xinjiang, the volumes of shipments in above three ports account for more than 90 percent of the total of Xinjiang. In April 1, 1992, an express container railway from Lianyungang to Alataw Pass was completed. In 1997, China, five Central Asian countries and Russia hold a conference of Ministries of Railways (Transportation) and signed a joint communiqué to formulate railway transportation development plan based on the principles of equality and mutual benefit. In April 22, 2004, the train from Lianyungang to Alataw Pass was firstly extended to Alma-Ata, which symbols another progress of the New Eurasian Land Bridge transportation network. In 2005, the shipments in Alataw Pass exceeded 10 million tons. In Korgas port, China and Kazakhstan set up the free trade zone. In 2008, Jin-Yi-Huo Railway was completed and opened for operation connecting Alataw Pass to Central Asia and Europe.

China has actively provided assistance to neighboring countries to develop transportation infrastructure, and plaid a key role to develop the Eurasian international transport corridor. In May, 2004, the first China-Tajikistan land port completed. In July, 2007, the Tajikistan-Uzbekistan highway started to build, which is supported by China's 300 million U.S. dollars soft loan, and it is expected to complete in August of 2010. Before that, China already provided 60 million Yuan official assistance to Kyrgyzstan to build China-Kyrgyzstan-Uzbekistan highway.[14] Based on this highway, it is planned to build China-Kyrgyzstan-Uzbekistan railway, which starts from China through Kyrgyzstan, Uzbekistan, and Kazakhstan to Iran and Turkey. By that way, it links Europe's railway network. With improved transportation infrastructure, the shipments between Xinjiang and Central Asian countries have increased significantly.

The transportation cooperation between China and Kazakhstan has also made progress. In November, 2004, China and Kazakhstan signed an agreement to open 12 new international passengers and goods transportation routes in 2005. In 2007, the shipments in Alataw Pass reached to 12.48 million tons next only to Manzhouli.

[14] He Zhanjun and Fan Yongwei, "China Actively Assist Central Asian Countries to Improve Highway Communication," www.xinhuanet.com, 2008-9-8.

By the end of 2008, Jin-Yi-Huo Railway was completed and connected to Kazakhstan, becoming a comprehensive railway and highway transportation. In October, 2009, the 18th China-Kazakhstan Joint Committee on cross-border railway was held in Urumqi. Railway specialists from two countries revised and supplemented *China-Kazakhstan Cross-Border Railway Protocol*. They defined the objective of the 1.5 million tons of shipments in China-Kazakhstan railway port in 2010.

In regarding to oil pipeline, the west and east sections of the China-Kazakhstan crude oil pipeline from Caspian Sea to Xinjiang were completed in 2002 and 2005 respectively. The transnational pipeline, extending 962.2 km from Atasu in Kazakhstan to the Alataw Pass of Xinjiang, was completed in December, 2005 at the cost of 700 million U.S. dollars. On July 12, 2006, Kazakhstan's crude oil poured into oil tank of PetroChina Dushanzi Petrochemical Company, marking the beginning of the commercial operation for China's first direct oil import pipeline.

The Central Asia-China gas pipeline starts from Turkmenistan through Uzbekistan, Kazakhstan and to Korgas in China, where it is connected to the West-East gas pipeline. The total length of this pipeline is about 10,000 km. In August of 2007, the construction of the Turkmen section of the pipeline began. The construction of the Kazakhstan section started in July, 2008, and the first stage was completed in July 2009. On 14 November, 2009, the whole pipeline was inaugurated.

In addition, the *Eleventh Five-Year Plan* on Western Region Development suggested that China should accelerate the construction and open Kanas port crossing the border of China and Russia. As a result, it could thoroughly utilize large scale storages of various resources in the Siberia federation district of Russia.

3. The Future of China-Central Asia Infrastructure Connectivity

As an important land corridor connecting West China with Central Asia, West Asia, South Asia and Europe, Xinjiang has enhanced transportation infrastructure

development and strengthened transport cooperation with its neighboring countries. However, there are some problems that need to be solved: insufficient capacity of international transportation corridor, unreasonable spatial layout of transportation corridor, less comfortable connection between international and national, and lack of multilateral coordination.[15]

Concerning the future of China-Central Asia international connectivity, in general, increasing economic relations Northwest China and Central Asia is a strong motivation. China and Central Asia countries are strongly complementary to each other. According to the *Mid-long Term Railway Network Planning* and the *Eleventh Five-Year Planning* on China Railway, the Ministry of Railways increased its investment on international railway corridors and port stations crossing the border areas, including newly constructing eight international corridors and rebuilding and enlarging five transport corridors. In addition, China would actively participate in Trans-Asian Railway, Northeast Railway and the Third Eurasian Land Bridge. These railways will not only change Xinjiang and Northwest China's traffic structure, but also improve the south section of the Eurasian Land Bridge, forming the best way to connect East Asia, Southeast Asia with Central Asia, West Asia, and further with North Africa and South Europe.

According to the planning, the length of the new railway lines in Xinjiang will exceed 6,799 km by 2020. The total length of railway will reach more than 10,000 km, with 3,050 km electrified railway and four crossing border railways. Thus, it is expected to form a "five lines, four rings, four ports" network. The "five lines" include the Lanxin Railway, the newly building double-track Lanxin Railway, the Jiangjunmiao-Hami-Linhe Railway, the Hami-Golumd Railway and the Korla-Golumd Railway. The "four rings" represent four railways encircled the Tarim Basin, the Junggar Basin, the Tian Shan and the Turpan Depression. The "four ports" include the existing Alataw Pass and three other newly building Korgas, Torugart Pass and Kunjirap port railway stations.

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[15] Xiao Zhaosheng and Wu Wenhua, "Strategic Thinking on International Transportation Corridor in China's Opening up to West," *Comprehensive Transport*, No.10, 2007, pp.22-23.

A good case to illustrate the international cooperation in railway is the Trans-Asian Railway. As early as in the 1960s, the idea of an integrated freight railway network was raised. In 1995, Mahathir Mohamad, the Prime Minister of Malaysia, suggested that the six ASEAN countries should build a railway network connecting China. In November 2006, the Trans-Asian Railway Network Agreement was signed by 17 Asian nations in the 62 United Nations Economic and Social Commission for Asia and the Pacific Conference. Up to now, there are 21 nations that have signed this agreement, including Armenia, Azerbaijan, Bangladesh, Cambodia, China, India, Indonesia, Iran, Kazakhstan, Laos, Mongolia, Nepal, Pakistan, South Korea, Russia, Sri Lanka, Tajikistan, Thailand, Turkey, Uzbekistan and Vietnam.

The Customs Union between Russia, Belarus and Kazakhstan was set up in January 1, 2010. This customs union plans to establish a single economic space by January 1, 2012. To facilitate economic development, Kazakhstan needs to improve its trade, especially oil trade. From geographic perspective, Kazakhstan is much more close to China than to Europe. Thus, Kazakhstan has the strong will to enlarge trade with China and actively participate in building international infrastructure corridor. Kazakhstan recently announced to build an international railway to connect China with Europe as part of the Trans-Asian Railway that could realize continent transportation without reloading. Meanwhile, Kyrgyzstan also planned to build Andijian-Osh-Yierkstan-Kashi railway and highway connecting with Nanjiang Railway in China. It seems that the land transportation corridor cooperation between China and Kazakhstan has its spillover effect.

Recently, China, Central Asia states and other related countries reached a preliminary agreement to build a modern transportation corridor at cost of 19.2 billion U.S. dollar. This corridor will be a new “silk road” to create closer ties among the related countries. Afghanistan, Azerbaijan, China, Kazakhstan, Kyrgyzstan, Mongolia, Tajikistan and Uzbekistan agreed to build railway and highway in 2010 and expected to complete it in 2018. The transportation cooperation between China and Kazakhstan make great stride, however, as noted by specialists, problems still existed.

For example, some contents of the cooperation agreement could not be taken effect. Standards are used in various ways. Transportation infrastructure and capacity are still limited. The effective coordination between international and domestic departments need to be further strengthened, and the market access in transportation still need to be improved.[16]

In South Asia, Pakistan government approved a plan to build a railway from Havelian (Northwest Pakistan) to Kashi in Xinjiang. The Ministry of Railway of Pakistan announced that it would spend 165 million Rupee (about 2.75 million U.S. dollar) to initiate feasibility study on this railway. Some Chinese specialists were invited by Pakistan government to do the feasibility study on technology and capital. Meanwhile, Pakistan suggested that China could build a railway directly reach to Gwadar port and Karachi to promote bilateral trade. The background of suggestion is that China is building Gwadar port. If Quetta-Gwadar Railway was also included in the plan, Gwadar will become a seaport to Xinjiang. As specialist pointed out, however, building cost is a really challenge.[17]

Overall, the future development of transportation infrastructure in Northwest China largely depends on how to develop Xinjiang. As observers noted that, "in 21st century, Xinjiang will become a tie connecting China with Central Asia, South Asia, West Asia and Europe, a catalyst and a propeller to improve economic growth in western region and an international trade center for Eurasian region."[18] With the rising position of Xinjiang in China's grand strategy, Xinjiang will receive much more investment and support from Chinese central government. Thus, the transportation connectivity between Northwest China and the outside world will be greatly improved.

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[16] Wang Haiyan and Liu Yanliang, "Institutional Arrangement and Functional Cooperation in Transportation between China and Kazakhstan," *Xinjiang Social Sciences*, No.4, 2009, pp.47-48.

[17] Wang Wei, "The Construction of China's International Railway Corridor in the Eleventh Five-Year Plan," *Land bridge Horizon*, No.2, 2009, p.39.

[18] Li Yuxin and Ni Chaojun, "The Status and Role of Xinjiang in Regional Economic Cooperation between China and South-Central Asia: Perspective of Xinjiang Economic Zone," *China Soft Science Magazine*, No.6, 2008, p.75.

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