

Mongolia

Trade Facilitation and Logistics Development Strategy Report



The logo for the Asian Development Bank (ADB), consisting of the letters 'ADB' in white serif font on a black square background.

MONGOLIA: Trade Facilitation and Logistics Development Strategy Report

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Asian Development Bank

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Abbreviations

ADB	Asian Development Bank
AH	Asian Highway
BCP	border-crossing point
BOT	build–operate–transfer (scheme)
CAREC	Central Asia Regional Economic Cooperation
FTZ	free trade zone
GAMAS	Mongolian Customs Automated Data Processing System
GDP	gross domestic product
GSP	General System of Preferences
HACCP	Hazards Analysis and Critical Control Points
ICT	information and communication technology
ICTA	InfoComm Technology Agency
IFFC	International Freight Forwarding Centre
IMAR	Inner Mongolia Autonomous Region (PRC)
IMMI	Ivanhoe Mining Mongolia, Inc.
KPI	key performance indicator
MCGA	Mongolian Customs General Administration
MFFA	Mongolian Freight Forwarding Association
MFN	most favored nation
MIAT	Mongolian Airlines
MIT	Ministry of Industry and Trade
MMA	Mongolian Meat Association
MNCCI	Mongolian National Chamber of Commerce and Industry
MNT	Mongolian togrog
MRTA	Mongolia Road Transport Association
MRTT	Ministry of Road, Transport, and Tourism
MTZ	Mongolian Railways
PRC	People’s Republic of China
SEZ	special economic zone
SSIA	State Specialized Inspection Agency
SWOT	strengths, weaknesses, opportunities, threats (analysis)
TIR	Transports Internationaux Routiers

Note

In this report, “\$” refers to US dollars.

Foreword

The Asian Development Bank (ADB) is pleased to provide this report on the state of the transportation and logistics sectors in Mongolia. It covers key measures needed to make these sectors more efficient and cost-competitive. This volume will be useful for government policy makers, providers and users of transport and logistics services, and other stakeholders. Efficient and cost-competitive transportation and logistics sectors will enable Mongolia not only to spur economic activity and engender social and political cohesion within its borders, but also to take full advantage of its geographical position and serve as a transit corridor between the dynamic and growing economies in the East and West.

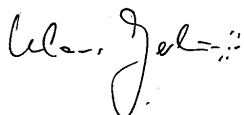
This report is part of a series of nine that cover the countries in the Central Asia Regional Economic Cooperation (CAREC) area: Afghanistan, Azerbaijan, Kazakhstan, Kyrgyz Republic, Mongolia, the People's Republic of China (specifically its Inner Mongolia and Xinjiang Uyghur autonomous regions), Tajikistan, and Uzbekistan. This series is part ADB's continuing support of CAREC and the region in an effort to further poverty alleviation and secure a better future for people. Support, provided under the ADB CAREC Program, has been focused on promoting more efficient and effective economic cooperation among CAREC countries in the areas of transport, trade policy, trade facilitation, and energy.

The reports highlight the substantial challenges CAREC countries need to overcome. Aside from being landlocked with varied terrain, these countries are challenged by inadequate infrastructure, unsupportive systems and policy environment, and lack of skills and management know-how. From the numerous measures recommended in these reports, a common theme has emerged: the compelling need for the members of CAREC to achieve unity in purpose and action. Across borders, customs procedures need to be harmonized, tariffs rationalized, and a common framework for achieving seamless movement of cargo agreed upon. Clearly, a general atmosphere of cooperation needs to be achieved if the whole region is to reap the full benefits of efficient and competitive transportation and logistics services.

ADB hopes that the publication of this report, as well as the eight others in the series, would inspire such spirit of cooperation and unity in the region.

The conduct of these trade logistics studies embodies ADB's new strategy under its Strategy 2020 and its five core areas of operation, two of which are infrastructure and regional cooperation and integration. The publication of the reports, meanwhile, is in line with ADB's new strategic direction of focusing on knowledge which is one of the five drivers of change. It is part of the efforts of the East Asia Region Department to develop knowledge products that will support ADB's mission of reducing poverty in Asia and the Pacific.

ADB staff contributions from the Financial Sector, Public Management, and Regional Cooperation Division, East Asia Department, and the Department of External Relations are greatly acknowledged. We also acknowledge the efforts of consultants who conducted primary research in the field. These combined efforts have resulted in a timely and significant contribution to trade facilitation and logistics in the CAREC region.



Klaus Gerhaeusser
Director General
East Asia Department

A Trade and Logistics Strategy for Mongolia

Mongolia's domestic economy is relatively small, consisting mainly of mining—which accounts for more than half of the country's gross domestic product (GDP)—livestock, and processing industries. Mongolia has therefore to look to transit trade as the linchpin of its economic growth, at least in the meantime that its domestic industries have yet to fully develop. This study proposes a dual, holistic strategy for Mongolia to both take fuller advantage of its strategic location as a transit country while enhancing domestic economic activities. This strategy involves increasing both the demand for, and the supply of, transport and logistics services in the country. Increasing the demand for such services means increasing both international and domestic cargo traffic. Increasing the supply of transport and logistics services, on the other hand, means increasing the capacities of the transport and logistics sectors and making such services more competitive. At the center of this effort are the three free trade zones (FTZs) and special economic zones (SEZs) already identified by the government as focus points for investments: Altanbulag, Zamyn-Uud, and Tsagaan Nuur.

Increasing Demand

Addressing the demand-side factors involves attracting foreign investors to relocate to Mongolia, in the process increasing transit traffic through the country while engendering more economic activities, especially in regions away from Ulaanbaatar. Attracting foreign investors to the three FTZs requires that the required infrastructure in and around these areas be made available and that policies are formulated and adopted to provide enough economic incentives.

The three zones are different in terms of accessibility, proximity to market, and readiness to be FTZs or SEZs. The development and positioning strategies of each of these zones should therefore be customized according to geography, surrounding economic conditions, and capabilities. The Zamyn-Uud zone is located next to the PRC and is ideal for PRC manufacturers looking to establish manufacturing plants that can take advantage of existing infrastructure as well as the European Union's grant of tax exemption for Mongolian goods. Altanbulag's proximity to the Russian Federation makes it a viable option for Russian investors to relocate to in order to manufacture goods for the Russian market. Finally, Tsagaan Nuur's location between the PRC and the Russian Federation makes it a potential transit point between the two markets, especially once the needed infrastructure is put in place.

In addition to developing the various infrastructure facilities that will increase demand for, and supply of, transport and logistics services, policies that increase the incentive for foreign investors to relocate to the FTZs/SEZs must be put in place. The most important of these policies are those that make cargo and passenger crossing between Mongolia and the PRC and between Mongolia and the Russian Federation more efficient, speedier, and less costly. Making the adoption of these policies possible requires successful negotiations with the PRC and the Russian Federation.

Demand for transport and logistics services can be increased with the further development of the three main industries of Mongolia. The recent increase in world commodity prices, especially of copper, coal, and gold (the three major mineral resources of the country), has resulted in many foreign mining companies taking up exploratory licenses in Mongolia. The discovery of large copper deposits in Omnogovi Province has also helped focus the world's attention on

Mongolia. With these discoveries, it is now incumbent to plan and implement transport links to facilitate the delivery of the minerals to destination countries (e.g., the PRC). In addition, a special mining zone should be created to support the development of the mining industry in Omnogovi Province.

The livestock industry is another key industry in Mongolia. To promote its development, appropriate infrastructure to protect herds from extreme weather conditions must be built. The sanitary conditions in the industry must also be improved, as this will enable Mongolia to expand its export markets, both in the Russian Federation, its traditional destination for livestock products, and in new markets such as the PRC and Northeast and Southeast Asia.

The processing industry, the main products of which are cashmere and cashmere products, is currently encountering difficulties in reaching export markets. The industry is using mainly the southern multimodal route via the Xingang Port in the PRC instead of the shorter northern Trans-Siberian Highway because of customs delays and the need to make train reservations a month in advance. It is also facing the issue of onerous export documentation processes. Both issues can be resolved through a bilateral agreement with the Russian Federation and the streamlining of export permits.

Increasing Supply

The following measures should be undertaken if the transport and logistics sectors in Mongolia are to cope with increased demand for their services.

Rail Transport

The Trans-Mongolian Railway is the most important route that facilitates north–south transit and domestic trade. Linking Sukhbaatar in the north and Zamyn-Uud in the south, by passing through the capital of Ulaanbaatar, this 1,100 kilometer (km) railway transports major imports and exports of crude oil, timber and wood products, fertilizers, and machinery. Efforts must therefore be exerted to promote the competitiveness of this route. However, the railway is a joint venture between Mongolia and the Russian Federation. As such, Mongolia needs the approval of the Russian Federation to improve the railway’s capacity.

While the current rail capacity is sufficient to serve current trade volumes, the Mongolian authorities have to remain proactive in exploring ways to increase this capacity to support future growth. Investing in a double-track system is an expensive endeavor. The viability of alternative technologies, such as electric rail systems and double-stack container trains, must be considered.

Road Transport

Road networks are another significant transport infrastructure for Mongolia. Because of the country’s large landmass, the “last mile” link these networks provide will offer benefits to rural areas, as well as serve to complement the main railway lines to allow intermodal transport. With many roads more than 20 years old, there is urgency to upgrade current roads and extend these to less-developed regions, such as the western part of the country. Various initiatives are being

implemented toward this end, such as the construction of the Millennium Road, Asian Highway (AH) 32 (2,325 km), AH4 (758 km), and AH3 (1,009 km). While these provide the core network systems, similar road projects that yield economic benefits will be needed for the Ulaanbaatar–Darhan–Erdenet area, around the South Gobi and the Oyu Tolgoi region.

Logistics Sector

To increase the capacity of the logistics sector, facilities that are lacking, such as public warehouses, must be provided and existing ones upgraded. The ability of private enterprises to offer innovative logistics solutions to support the growing economy must also be enhanced.

Recommendations

Table 1 summarizes the recommended measures to develop Mongolia’s transport and logistics sectors.

Table 1: Summary of Programs and Projects Proposed by the Study to Improve Mongolia’s Transport and Logistics Sectors

INFRASTRUCTURE PROGRAMS AND PROJECTS		
Investment Proposal	Description	Priority
Complete the construction of AH3	Extend paved roads from Choyr to Saynshand (225 km) and to Zamyn-Uud (225 km).	High
Increase road density in north/central region	Upgrade and maintain roads in the cities of Ulaanbaatar, Darhan, and Erdenet; and the aimaks (provinces) of Tov, Selenge, and Darhan-Uul.	Medium
Build roads in Omnogovi	Build a paved road between Oyu Tolgoi and Gashuun Sukhait (130 km) and Oyu Tolgo and Hanbogd (50 km).	Medium
Extend railways into Omnogovi	Connect Zuunbayan to Oyu Tolgoi and Tavan Tolgoi to facilitate traffic.	Medium
Build pipelines in Dornod	Utilize the oil pipelines to export crude oil/gas to the PRC.	Medium
Build roads in Western region	Complete the construction of AH4 that links aimaks Bayan-Ulgii, Gobi-Altai, Khovd, Uvs, and Zavkhan. Construct a 79 km road from Ulgii to Tsagaan Nuur.	Medium
Integrated Logistics Center	Provide a public warehouse for freight forwarders in Ulaanbaatar and Aimak.	High
Comprehensive trucking terminal	Provide a container terminal with container docks, yards, and storage facilities.	High
Container-handling terminal	Identify aimaks where livestock are at high risk and build farmhouses to protect them from the natural elements.	High
Build local farmhouses	Improve infrastructure within the zones to attract outside investors.	Medium
Infrastructural development in the FTZ	Extend paved roads from Choyr to Saynshand (225 km) and to Zamyn-Uud (225 km).	High

MEASURES TO IMPROVE TRADE AND INDUSTRIES		
Capitalize on GSP Plus to encourage investments in Mongolia	Promote the benefits of manufacturing in Mongolia. Also, promote the country's production capabilities and the incentives it provides to investors.	High
Target selected key industries to lead economic development (Manufacturing)	Review policies and incentives to spur the development of timber, cashmere, and meat processing industries.	High
Policies for mining sector: promote desert economy	Review policies and incentives to strengthen Mongolia's mining sector and relate spin-offs to oil and gas. Reach stability agreements to optimize long-term growth and build investors' confidence. Explore feasibility of setting up a special mining zone in Omnogovi.	High
Policies for livestock sector: promote meat processing	Formulate a national standard on hygiene, adopt HACCP, promote cold chain logistics, and diversify overseas market.	Medium
Support and assist in the operations of the "Mongolian Vector"	Increase the frequency of service, explore the viability of relocating the consolidation center to Zamyn-Uud.	High
Support and assist in the operations of the "Friendship Express"	Negotiate with PRC customs at Xingang to reduce customs delays.	High
Offer transshipment services	Establish expertise in cargo consolidation and deconsolidation, as well as container management in Ulaanbaatar.	Medium
Commission a study to increase railways capacity without building new tracks	Study the viability of the double-stack technology as an alternative to the double-track technology.	Medium
Review the tariff discounts	Examine the price elasticity of rail services and determine appropriate policies on tariff discounts.	Low
Purchase long-term rates from Trans-Siberian Railways	Negotiate with the Russian Federation for bulk purchase rail rates and lower operating costs.	Medium
Establish a lead agency for all transport and logistics improvements	Create a body with relevant representatives from government agencies and private sector.	High
Rank logistics service providers	Classify freight forwarders into A, B, or C. Provide different incentives for each and ensure no destructive competition.	Medium
Offer training and development programs to increase professionalism	Provide FIATA courses, introduce logistics and transport management courses in tertiary public education.	Medium
Perform scenario analysis for the PRC's accession to the Transports Internationaux Routiers Convention	Determine possible problems and advantages and meet PRC counterparts to proactively offer assistance.	Medium
Master planning for the FTZs	Engage international consultants to conduct master planning studies (including the identification of target industries) for the FTZs.	Medium

AH = Asian Highway, FIATA = Fédération Internationales des Associations de Transitaires et Assimilés (International Federation of Freight Forwarders Associations), FTZ = free trade zone, GSP = Generalized System of Preferences, HACCP = Hazard Analysis and Critical Control Points, km = kilometer, PRC = People's Republic of China.

Source: Authors.

Introduction and Background

Project Overview

This technical assistance project continues the work on promoting trade facilitation and customs modernization in Mongolia as part of the Asian Development Bank's (ADB) Central Asia Regional Economic Cooperation's (CAREC) Trade Facilitation Program. The overall purpose of the program is to leverage transit trade for development and transform Central Asia and the People's Republic of China's (PRC) inland provinces into modern "silk roads" or "landbridges" connecting East Asia with Europe. Toward this end, several measures and studies have been carried out under the CAREC Program, including a recently completed study on employing effective information and communication technology (ICT) in Mongolia's national customs system.

This new technical assistance aims to add on another key dimension for a more integrated and complete trade facilitation strategy for Mongolia. This study addresses other non-trade barriers and behind-the-border constraints—specifically in trade logistics capacity, in terms of both infrastructure and manpower, and strategic implementation.

Project Scope and Outcomes

The project consultancy covers the following major work scope and outcomes:

- **Stocktaking and analysis of the current state of Mongolia's logistics**—Study of industry profile and practices of the logistics sector in Mongolia.
- **Analysis of Mongolia's major transport routes and its access to major export and import markets**—Overview of Mongolia's economic and international/border trade profile. Positioning of Mongolia as an overland trade conduit between the Russian Federation and the PRC (and, possibly, Kazakhstan).
- **Identification of existing policy and operational inadequacies/impediments facing the logistics industry**—Review of logistics-related trade facilitation and cooperation initiatives (such as multilateral and bilateral transit/transport agreements). Assessment of logistics and supply-chain inadequacies/impediments in the areas of policy and regulations, infrastructure and facilities, transport operator/carrier capacity, human resources, and logistics service capacity.
- **Formulation of recommendations to improve the policy and regulatory environment for logistics**—Recommendations and logistics strategy for Mongolia that addresses the identified logistics and supply-chain inadequacies and provides an overall "blueprint" for the government of Mongolia's policy purposes.

- **Formulation of concrete project proposals to address logistics impediments**—An action plan in line with the overall recommendations, including a plausible proposal for developing logistics centers in Mongolia.
- **Formulation of recommendations and concrete project proposals to improve the operational environment for free trade zones (FTZs)**—Recommendations and project proposals to develop a comprehensive FTZ strategy for Mongolia, including an action plan for the successful management of FTZs.

Methodology

In this study, the team of consultants (the “study team”) conducted primary research by interviewing relevant stakeholders to obtain first-hand knowledge of the situation in Mongolia. The visits were conducted over a period of 3 months (February, April, and June) in 2006. The organizations visited are listed in the Appendix. The study team also reviewed existing statistics, reports, and other secondary sources of information relevant to the project’s terms of reference.

In evaluating the situation in Mongolia, the study team adopted a dual, holistic approach, which analyzes and addresses not only the supply-side factors in accordance with the technical assistance terms of reference, but also the demand-side aspects of logistics development in the country. This is done in acknowledgment of the demand-driven nature of the logistics industry.

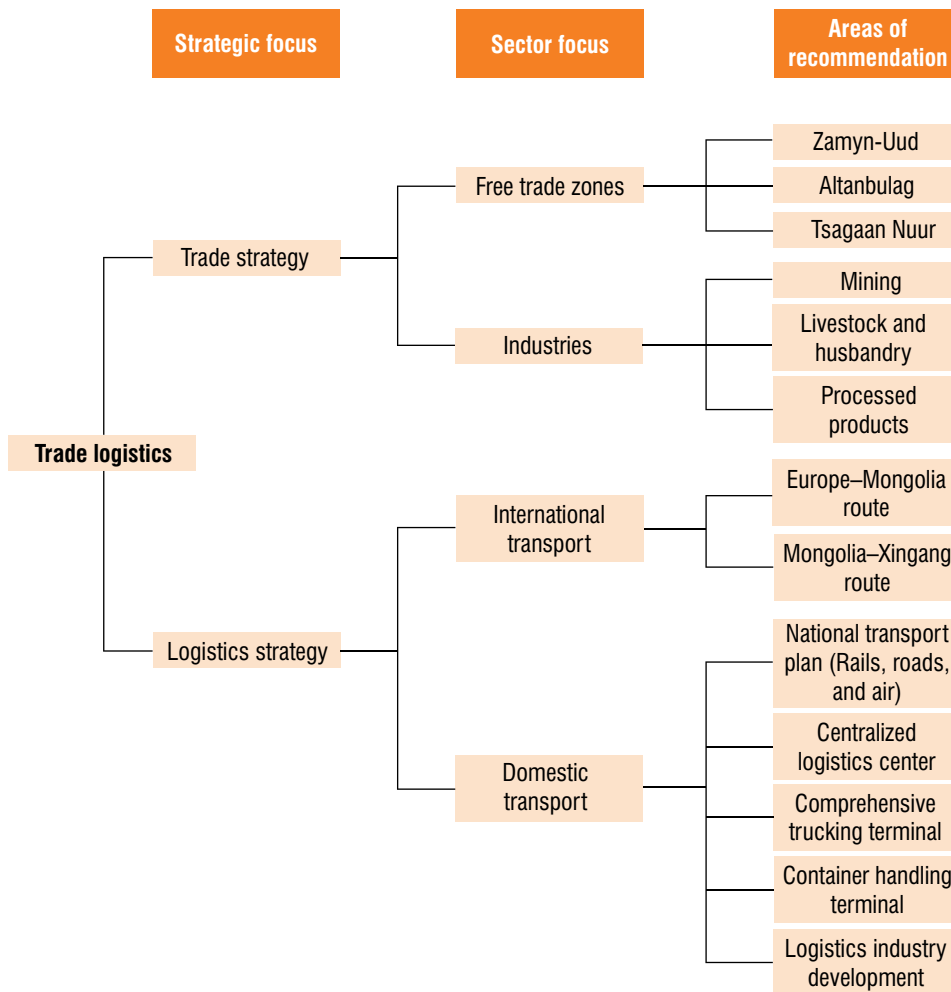
The analysis of the demand-side factors was conducted by identifying and appraising the three major industries of Mongolia, namely, mining, livestock, and processing. The study team also looked into and assessed three FTZs and special economic zones (SEZs) as potential catalysts for Mongolia’s industrial and economic growth. Based on the information, it determined the country’s broad logistics needs and incorporated these into demand-driven recommendations for logistics development in Mongolia. The study team’s findings are presented in Chapter 3: Assessments on Industry and Trade.

The supply-side variables were analyzed through an assessment of the many facets of the transport and logistics sector, including those regarding infrastructure, regional cooperation (bilateral/multilateral agreements), and industry development. The results of this exercise are also presented in Chapter 3.

Both analyses helped determine a holistic trade logistics strategy on three levels—strategic focus (transport and logistics, trade); sector focus (international transport, domestic transport, FTZ/SEZ, industries); and specific areas of recommendations (Europe–Mongolia Route, National Transport Plan, Container Handling Terminal, etc.). This approach is illustrated in Figure 1 and detailed in Chapter 4: Recommendations.

Finally, an implementation plan prioritizing these recommendations is provided, also in Chapter 4.

Figure 1: Proposed Trade Logistics Strategy for Mongolia



Source: Authors.

Country Profile

Geography and Demographics

Located between the regional giants, the Russian Federation and the People's Republic of China (PRC), Mongolia is the world's 19th-largest country, with a land area of 1.6 million square kilometers (km²). With a population of 2.8 million (July 2006 estimates), it has one of the world's lowest population densities at two people per km².¹

Nearly 30% of the population resides in the capital of Ulaanbaatar, making the capital the single largest concentration of social and economic activity for the country. The main transport artery for the country is the Trans-Mongolian Railway linking the landlocked country to the Russian Federation to the north and the PRC to the south. The Russian Federation and the PRC are also the only neighboring countries to Mongolia although on the western front,² Kazakhstan is only 190 kilometers (km) away across Russian Federation territory.

Economy

Economic activities in Mongolia have traditionally been based on herding, agriculture, and mining. Mongolia is known to have extensive mineral deposits of copper, coal, molybdenum, tin, tungsten, and gold—important exports contributing to foreign exchange earnings for the country. The Mongolian economy is still in transition from its past dependency on Soviet aid and, because of its dependence on a few industries, remains susceptible to external shocks.

An overview of the Mongolian economy in terms of its strengths, weaknesses, opportunities, and threats (SWOT) is shown in Table 2. This overview served as a basis for the subsequent analyses undertaken in this study and the formulation of recommendations for the development of Mongolia's logistics sector.

Mining

Mining is the biggest economic sector in Mongolia, contributing more than half of the country's gross domestic product (GDP). Oil, copper, coal, and gold are the major resources.

¹ Information in this chapter was sourced from *CIA World Factbook*, www.cia.gov

² Mongolia has a border measuring 8,220 km in length, 4,677 km of which are shared with the PRC and 3,543 km with the Russian Federation.

Table 2: SWOT Analysis Results for Mongolia

Strengths	Weaknesses
Excellent mineral resources of coal, copper, gold, and energy-related products Trans-Mongolian Railway Strong transit logistics industry with successful transport corridors via dedicated express container block train services Strong animal husbandry and cashmere production Young ^a and highly literate population ^a Large, unexplored land mass rich in minerals Integrated Customs Information Systems	Dependence on PRC energy and minerals exports Dependence on foreign direct investments <ul style="list-style-type: none"> • Huge geography with low population density • Generally poor accessibility (marked by low road and rail density) • Underdeveloped infrastructure in power supply and water • An economy that is not well diversified, relying on three main sectors • High interest rates, resulting in high costs of borrowing and financing for business • Dependence on the Trans-Siberian Highway for rail route • Reliance on Xingang ports in the PRC for sea route • Lack of industry knowledge (on company and individual levels) in modern logistics management (e.g., INCOTERMS, FIATA)
Opportunities	Threats
<ul style="list-style-type: none"> • Recent high prices for commodities • Land link between two large economies • Potentially huge energy market in the PRC • Promising retail and commercial opportunities at Russian borders • The PRC's impending accession to the Transports Internationaux Routiers (TIR) Convention, which may result in a breakthrough resolution of road transport problems in Omnogovi • Tax-free privileges for made-in-Mongolia exports to the European Union, which attracts foreign firms, including PRC firms, to set up manufacturing bases in Mongolia • Development of free trade zones/special economic zones, which invariably raises industry demand for logistics services 	<ul style="list-style-type: none"> • New Euro–Asia Highway that may result in trade being diverted to the south • Development of ports, mega carriers, and containerization which reduce the appeal of land transport • Volatile commodity prices which may deter investments from miners

FIATA = Fédération Internationales des Associations de Transitaires et Assimilés (International Federation of Freight Forwarders Association); INCOTERMS = international commercial terms created by the International Chamber of Commerce; PRC = People's Republic of China; SWOT = strengths, weaknesses, opportunities, and threats analysis.

^a The country's literacy rate is 97.8%. Of the total population, 27.9% is 0–14 years old, 68.4% is 15–64 years old, and 3.7% is above 65 years old.

Source: Authors.

Two of the country's provinces (aimak) are particularly rich in mineral deposits, namely, the Dornod and the Omnogovi provinces. Dornod Aimak is the third largest province, with a population of 74,000, half of which stays in Choybalsan, the provincial center. The province's large oil reserves are found in the Tamag region, the only one of Mongolia's 24 sites with oil deposits that is being actively explored. Daching, a company from the PRC, has the license to mine the area and has so far contributed Mongolian togrog (MNT) 1.4 billion in investments to Chybalsan. Dornod has five border points with the Russian Federation and the PRC and is located near the PRC railway network.

Toward the south of Ulaanbaatar lies the Omnogovi Province. Sparsely populated and with a large territory, the province is currently attracting the attention of mining companies from all over the world. In recent years, discoveries of copper, gold, and coal reserves, mainly in Oyu Tolgoi and Tavan Tolgoi, coupled with record prices for those metals in the world's commodities market, had resulted in about 20 mining companies being granted licenses to conduct exploratory activities in the region. Currently, four companies have already started exploration activities in the region:

- Ivanhoe Mines Mongolia Inc., which has been given two licenses to mine in the area;
- Mongol Gazar;
- Entrée Gold ETG; and
- Troy Mongolia Resources.

Ivanhoe Mines Mongolia Inc. (IMMI) owns the Oyu Tolgoi camp, which is a site of large copper and gold deposits located 600 km south of Ulaanbaatar.³ Box 1 provides details on the exploratory activities of IMMI in this area. Over the last 5 years, the Oyu Tolgoi camp has grown from a cluster of 10 *gers* (traditional Mongolian housing with 20–30 workers) in 2001, to 500 *gers* with about 1,000 workers. The Mongolian Airline (MIAT) currently services the area by operating flights between the camp and Ulaanbaatar for IMMI employees and government officials.

Copper production in Mongolia is scheduled to start in 2008 and is expected to account for an estimated 7% of the country's GDP. The subsector's contribution is expected to rise to 30% in 2009, to 40% in 2010, and then peak in 2016. The South Oyu reserves are also expected to double the country's GDP by 2010–2012.

To the south of the Oyu Tolgoi camp lies the strategically located Gashuun Sukhait border-crossing point (BCP) and customhouse, which is also located 280 km away from the PRC city of Bayan Obo; 500 km away from Inner Mongolia Autonomous Region's provincial capital of Huhehaote City (Hohhot); and 450 km away from Baotou, another major industrial city in the PRC, all of which are currently importing coal from Mongolia. The Gashuun Sukhait BCP is open daily for freight and for only the first 20 days of each quarter for immigrants. Most cargo freight, which is mainly transported by truck, consists of coal obtained from the Tavan Tolgoi mines located 260 km away from the border. Currently, imports through this border are mainly for IMMI's operations at Oyu Tolgoi. With the impending start of copper mining at the Oyu Tolgoi camp, copper exports to the PRC via the Gashuun Sukhait customhouse are expected to add bustle to the BCP.

At present, some disputes over freight forwarding activities in the Tavan Tolgoi area exist. While Mongolian drivers are permitted to drive up to only 100 km beyond the PRC border, trucks from the PRC are now driving up to Tavan Tolgoi itself, which is more than 260 km away from the border. This appears to be a violation of the bilateral transport agreement signed between Mongolia and the PRC; Mongolian freight forwarders have now raised this matter to the government of Mongolia.

³ Oyu Tolgoi is also 200 km from the provincial center of Dalanzadgad and 45 km from Hanbogd soum, a territory with a town population of 2,700 (only about 1,300 live in the town). The provincial capital of Dalanzadgad has a population of 12,000 while the province's population is about 47,200.

Box 1: Ivanhoe Mines Mongolia Inc.'s Activities in Omnogovi Province

Ivanhoe Mines Mongolia Inc. (IMMI) has drilled more than 650,000 meters and has spent almost \$100 million so far in exploratory work. It has estimated that the South Oyu reserves (part of IMMI's discoveries in the region) will achieve a mining life in excess of 35 years, producing more than 15 million tons (t) of copper and 350 t of gold. It is also exploring another copper deposit near its Oyu Tolgoi camp, the Hugo Dummett reserves, which results of exploratory work show as holding substantial copper deposits although it will not be as big as the Southern Oyu copper reserves.

IMMI plans to spend \$1.274 billion over the next 35 years to build sustaining plants and infrastructure to support and expand its mining operations in the area. Making these plans feasible are two water aquifers it discovered under the Gobi Desert. One aquifer, located in Gunii Hooloi, can provide 8.5 kiloton (kt) of water daily for the next 40 years. The other, in Golbyn Gobi, can provide 140 kt. IMMI also plans to get their required power supply from the People's Republic of China's Inner Mongolia Autonomous Region for the next 5 years. It is also planning to construct a coal-fired power station at Tavan Tolgoi, which would provide 240 megawatts of power.

IMMI is also studying the possibility of putting up a smelter to produce copper concentrates, as well as a plant to manufacture copper wires, pipes, and pallets. However, the viability of these huge investments depends on the conclusion of a stability agreement with the government. A recent tax imposed on copper concentrates has led to suggestions that copper products would not be subject to the same level of tax as copper concentrates.

In addition to the Oyu Tolgoi camp, IMMI is also conducting exploratory works in other parts of Mongolia. The company holds the license to explore about 130,000 square kilometers of land in Mongolia.

Source: Authors.

Omnogovi Province holds much economic potential for Mongolia. IMMI's activities in the region have already resulted in \$5 million paid to the government in income taxes, duties, and fees. In addition, about \$6 million have been paid in license fees. Four thousand direct and indirect jobs have also been created, of which 91% went to Mongolians, about half of whom are from the South Gobi region. In total, IMMI projects revenues of \$7.9 billion for the government over the lifetime of the mines.

IMMI has further plans for Omnogovi Province. In particular, it is proposing the development of a new city in Hanbogd *soum* (district) for its employees who are to support its strategic investments in infrastructure projects, such as power supply, roads, and schools. In addition to the new city, IMMI also plans to construct a permanent mining town to house 3,000, as well as another industrial town where commercial and industrial activities can be established under the auspices of a free trade zone (FTZ) or special economic zone (SEZ). While there is no existing FTZ development plan for this province, IMMI management has voiced an interest in a similar setup that will provide a positive fiscal environment. The government of Mongolia ought to look into such zone development possibilities through a preliminary private–public discussion on feasibility issues.

Livestock

The livestock industry is also key for Mongolia. Serving mainly the Russian market, the industry is vulnerable to extreme weather conditions, animal diseases, as well as human factors.

While it has overall potential, the industry faces several challenges. The smaller meat traders in Selenge Province, for example, face discrimination from the Russian customs offices in Ulan Ude and Irkutsk, which impose strict standards on meat imports. A slight discrepancy in its manifest can make a cargo subject to being withheld.

The livestock market is also heavily controlled on the Russian side. Mongolian meat suppliers are required to sell through selected Russian enterprises. Currently, only 14 Mongolian factories have the license to export and they can only supply to six meat-processing plants in the Russian Federation's Ural region. Holding monopolistic control, these Russian companies depress the purchase price of Mongolian meat exports while still enjoying high consumer prices. Finally, Mongolian meat exports are subject to a Russian quota of 60,000 tons (t) annually. A 60% tariff is levied on any excess exports, thus capping the growth potential of Mongolian exports to this market.

Processing Industry

Another major industry in Mongolia is processing, particularly of timber and cashmere. The timber subsector is more of a transit processing industry whereby raw materials are imported from the Russian Federation (through Altanbulag and Sukhbaatar, and then to Zamyn-Uud) for processing before being sent to the PRC for more value-added processing. In Mongolia, the processing is done in customs special zones. There is also an active furniture-making cluster in the industrial town of Darhan.

The cashmere subsector, on the other hand, is a homegrown one with an abundant supply of raw material from local goat herds. At present, the biggest exporter of cashmere is Gobi Corporation. According to this firm, cashmere exports tend to suffer from burdensome inspections and export documentation requirements. In addition to the standard contract, packing list, commercial invoice, certificate of origin, and quality certificate, two additional documents are required for semi-finished products, namely, the Veterinary and the State Specialized Inspection Agency (SSIA) certificates. The SSIA certificate, which takes a week to process, is the main source of delays in documentation clearance.

There are now two existing routes for the export of Mongolia's cashmere products, which are mostly destined for Japan and Europe. Exporters may choose to export either northward on the Trans-Siberian Railway and traverse over the Russian Federation onward to the final destination or southward by rail through the Zamyn-Uud border to the PRC port of Xingang. The latter option will include subsequent sea freight to the ports either in Japan or the Netherlands (Rotterdam) before transportation, either by road or rail, to the retail shops.

Although the Trans-Siberian route would appear to be physically shorter, the amount of time and money spent for this journey is similar to that of the multimodal alternative through the PRC port (see Table 3 for the time and cost estimates). This situation results mainly from the fact that the Trans-Siberian route is less developed and is subject to more customs requirements and

procedures, as well as scheduled delays and inflexibility. For instance, a reservation on the train carriage requires a 1-month advance notice while that for the sea route requires only 7–10 days of notice.

Table 3: Costs of Sending a TEU over Two Modes of Transport for Mongolian Cashmere Exports

Transportation mode	Time (No. of days)	Cost (\$)
Trans-Siberian Highway	30–40	2,300
Multimodal (rail/sea/land)	30–40	2,000

TEU = 20-foot equivalent unit, \$ = US dollars.

Source: Authors.

Free Trade and Special Economic Zones

FTZs play an important role in the development of a country’s logistics industry. By jump-starting a cluster of economic activities, FTZs help drive up the demand and growth of the supporting logistics sector.

FTZs are essentially special zones where (some) normal trade barriers, such as import or export tariffs, do not apply. Usually, such zones are set up in relatively underdeveloped parts of the host country, the rationale being that the zones will attract investors where they are most needed for employment and wealth creation. In addition to reduced bureaucracy, these setups usually offer attractive incentives, such as tax holidays, to investors.

In Mongolia, the government has designated three areas—Altanbulag, Zamyn-Uud, and Tsagaan Nuur—as sites for FTZs. The Zamyn-Uud FTZ has been upgraded to an SEZ, which has a greater range of economic activities. The following sections outline the assessment of each of these special zones. Findings from this analysis will be used in the subsequent formulation of recommendations for the development of Mongolia’s logistics sector.

The Zamyn-Uud SEZ

The Zamyn-Uud SEZ is located in the BCP town of Zamyn-Uud in the southern part of Mongolia. It is located about 780 km from Ulaanbaatar, 230 km from Saynshand, which is the center of Dornogobi Province, and 8 km from the town of Erlian in the PRC. The border town has a population of about 7,000.

The Russian Federation–Mongolia–PRC international railway network goes through Zamyn-Uud. Currently, transport between Zamyn-Uud and Ulaanbaatar is exclusively by rail. As no road links Choyr to Ulaanbaatar, there is also no means of intermodal transport to give freight forwarders flexibility in transporting goods.

The Zamyn-Uud SEZ was set up in 2004 to foster industrial, commercial, and tourism development. It is 900 hectares (ha) of empty land with no planned development. West Paradise, a company from the British Virgin Islands, was given the right to develop the SEZ but it has yet to start operations. The Ministry of Industry and Trade (MIT) has the authority to withdraw or cancel the contract if West Paradise does not deliver on its contractual obligations, all of which are geared toward the establishment of an SEZ in the area.

More than 70 trade and service centers, 13 hotels, and 4 banks currently exist in Zamyn-Uud, all serving Mongolia–PRC trade which is the predominant economic activity in the BCP town. Although there is a large customhouse in Zamyn-Uud, there are no logistics facilities as goods move in and out of customs quickly.

The customhouse has about 160 employees deployed over five custom inspection sites. It operates 24 hours daily, with three shifts of officers. About 1 million passengers pass through it yearly. Last year, it also inspected about 250,000 vehicles, including trucks, cars, and trains, with one block train of about 50 wagons being considered one vehicle.

Figures for 2004 from the Mongolian Customs General Administration (MCGA) indicated that Zamyn-Uud is the most active customhouse after the Ulaanbaatar customhouse. In 2004, exports that passed through it were valued at \$12 million while imports amounted to \$66 million. The total rail capacity for Zamyn-Uud is about 12.1 million t of cargo yearly. Most of the cargo comprises transit goods, such as timber and oil products. Mongolia exports mainly coal, refined copper, and tin.

Containers coming in through rail or truck are delivered to the transshipment area located about 4.5 km away from the customhouse.

The process and amount of time required for clearing cargo depends on the nature of the cargo. Cargo of higher value and greater variety of products will take a longer time to process, requiring up to 3 days in some instances. According to local customs officers, certain shipments could contain more than 70 kinds of goods, with some traders including in the cargo personal items, thus resulting in delays in clearance. Goods coming in through the border can be cleared either in Zamyn-Uud or Ulaanbaatar. Those to be cleared in Ulaanbaatar would be sealed at Zamyn-Uud and sent on to the capital.

Near the customhouse is an X-ray facility for trucks entering Mongolia from the PRC border. This newly built facility has greatly reduced the time required to check vehicles. Truck drivers are required to park their vehicles within the X-ray machine and then wait outside the facility during the X-ray scan. According to local customs officers, under optimum working conditions, the entire clearance process will take about only 3 minutes for each vehicle.

There are two transshipment centers at the customhouse. The older transshipment center handles mainly coal shipments, while the newer one handles containers and products other than coal. Three container-moving machines handled by trained operators move containers between trucks and trains. In addition to containers, goods are also transported via pallet or individually by workers, depending on the type of goods to be moved.

Goods are moved into the transshipment center on an ad hoc basis. The railway usually informs customs about 30 minutes before the goods arrive. About 50–60 wagons and 40–50 containers are moved within the transshipment center daily.

Local customs officials are looking forward to new technologies and management techniques to improve the efficiency of cargo movement. The introduction of the Mongolian Customs Automated Data Processing System (GAMAS) has sped up the clearance process. The customs office is currently working on the introduction of risk management to further improve the process.

Mongolian Railways operates 24 hours daily; so do rail operations in Erlian, PRC. The two railway tracks at the Zamyn-Uud station cater to the difference between the PRC and Mongolian rail tracks. PRC rail tracks are narrower at 1,435 millimeters. Mongolian rail tracks, meanwhile, follow the Russian standard gauge of 1,520 millimeters. PRC exports coming in through Zamyn-Uud or local goods exported to the PRC are transferred via two methods. One is by changing the wheels of the train, and this is done only at Erlian (PRC side). The other method would be to transship the goods, with unloading and loading done on the Mongolian end.

The time spent loading and unloading depends on the types of goods being moved. For instance, moving a container would take about 5 minutes as the station has the necessary machines to move containers. The station handles about 15,000–20,000 containers yearly; containers can be transported via either train or truck.

The Altanbulag FTZ

The Altanbulag FTZ is located in the northern part of Mongolia adjacent to the Khiagt border port of the Russian Federation. It is expected to contain residential, commercial, and entertainment facilities and amenities within its 500 ha land, besides being a trade hub for Russian–Mongolian trade.

The Russian Federation–Mongolia–PRC international railway network goes through Sukhbataar, which is about 24 km away from the Altanbulag FTZ site. The area is also linked to Ulaanbaatar via a paved, two-lane highway.

Promotional activities for this FTZ have already been started and, so far, the FTZ had attracted the interest of PRC, Korean, and Singaporean firms. Local officials hope that, in view of the level of interest expressed by these investors, work would soon start in earnest to develop the area. This includes the construction of infrastructures, plants, and factories.

Currently, the FTZ is fenced up and efforts are ongoing to resolve the issue of the supply of water and electricity to the area. Although there is an underground water source, studies on how to access this water source are needed. Electricity and power supplies also need to be established to attract more potential investors. There are currently no buildings or ongoing construction on the FTZ site. Major investments in infrastructure and management capability building will be required for the FTZ to start commercial activities.

At the legal and administrative fronts, all regulations concerning Altanbulag FTZ have been endorsed for approval of the Great Hural, the highest level of government in the country. These regulations cover such areas as land use and financial incentives like tax holidays.

The local authorities have not identified any target industry for the FTZ but wood and garment industries have been discussed as potential areas for investment.

Despite the current lack of progress in the establishment of an FTZ in the area, Altanbulag holds potential for such a facility to be set up because of its location near Sukhbataar, Darhan, and Erdenet—three major economic activity hubs in northern Mongolia. Light industry facilities in these cities include a cement factory, a sheepskin processing plant, a steel plant, a meat processing factory, a flour mill, and a number of small producers of bakery products, confectioneries, dairy products, soft drinks, and other beverages. Multinational companies from Bulgaria, the Czech Republic, Hungary, Japan, Poland, and the Russian Federation are present in these cities.

In recent years, Mongolia has experienced faster economic growth than neighboring Russian towns and cities.⁴ Thus, it is possible to develop Altanbulag successfully into a regional trade, tourism, and industrial center. However, this possibility is dependent on the Russian Federation's trade policy toward its neighboring regions. If the Russian Federation opens up its trade policy regime, reduces nontariff barriers, and agrees to improve its bilateral transport agreements with its neighbors, Altanbulag could attract Russian visitors and investors, thus enhancing its chance of success as an FTZ. A significant potential source of these visitors and investors is the biggest city near the border, the Russian city of Ulan Ude, which has a population of 350,000 and is located 270 km north of Altanbulag.

Fourteen customs officers work at the customhouse in Altanbulag, where about 66 cars, 120 passengers, and 40 cargo trucks pass through each day. MCGA 2004 data indicate that Selenge Province, for which the Altanbulag customhouse is the BCP, is an important link in the country's trade network. In 2004, imports into this province were valued at \$48.5 million while exports amounted to \$2 million. The main import products were foodstuffs and automobile spare parts.

The customs office has a few customs brokers, such as Tuushin, and the representative offices or outlets of two banks to cater to the needs of traders. Two X-ray machines are available to facilitate customs and security checks.

Presently, Mongolian drivers are not allowed to enter Russian territory. On the other hand, Russian drivers can enter Mongolia through Altanbulag and proceed down to as far as Sukhbaatar. Russian drivers carrying foodstuffs can also drive to Ulaanbaatar directly.

Russian trucks entering Mongolia first stop at the Altanbulag Customhouse upon crossing the border. The Russian drivers go to a small sentry with their passports, where a customs officer provides a book for them to use to sign in and out. The drivers then manually sign in, filling out details such as names and truck plate numbers. After making the manual data entry, they then drive and stop at the customs office located about 500 meters away. They enter the premises with their respective declaration forms and documents, and complete the necessary procedures to clear their cargos.

There are no local area network facilities at the sentry point. It is, however, possible to install a workstation connected to such a network to monitor cargo movement, which can help increase productivity by eliminating the need for constant updating and maintaining of manual records.

The Tsagaan Nuur FTZ

The Tsagaan Nuur FTZ was established in November 2005 to catalyze the development of the western region of Mongolia. This FTZ is located 68 km away from the Bayan Ulgii provincial town and about 1,720 km away from Ulaanbaatar. It is also located about 32 km away from the Russian border, 250 km from the PRC border, and 190 km away from Kazakhstan (through Russian property). It measures about 708 ha and lies on a flatland covered with pebbles and rocky soil. Two rivers flowing by its west and north sides provide water supply to the zone.

The northwest region's main economic activities are food processing and livestock and animal husbandry. Both industries are vulnerable to extreme changes in climate and weather (drought

⁴ For example, Altanbulag operates 12 hotels, while Sukhbaatar operates 20 hotels. The Russian town of Hiagt, in contrast, has only one restaurant and no hotel.

and heavy snow), such as those that occurred in recent years and have resulted in the loss of livestock. As herding is its main source of income, diversifying the region's economic activities is urgently needed.

Tsagaan Nuur is a mountainous area. The Tsagaan Nuur FTZ is strategically located in the Bayan Ulgii Province where a 260 km road (Asian Highway No. 4 or AH4) connecting the Russian Federation and the PRC, the shortest one to do so, will be constructed. The Millennium Road, a long road connecting the eastern and western regions of Mongolia, is also located in the province and is currently undergoing repair and reconstruction. There are no railways in the region as distances are too long and rail construction costs would be prohibitive. In addition, there is no connecting rail on both the Russian and PRC sides, thus further reducing the viability of rail transport.

The MIT aims to first establish the FTZ and then develop the region. From 2006 to 2010, it will be focusing on developing a marketing network for wholesale trade, emphasizing transit trade with the PRC and the Russian Federation. The wholesale network would cover economic activities which involve a range of products, from raw materials to end-consumer products.

The FTZ also encompasses the village of Nogoon Nuur Soum. There are about 20 buildings in the area, including a secondary school, hospital, kindergarten, a hotel, storage facilities, petroleum base, and a military base. As of the end of 2004, 312 families (about 1,626 people) were living in the area. However, the village population had been dwindling because of the lack of economic opportunities and harsh living conditions.

The road network in the FTZ is underdeveloped, with only dirt roads available. At certain points, there are no dirt roads and drivers have to navigate over rough and unmarked terrain. The lack of paved roads means that a 100 km journey can take up to 2–3 hours to complete.

The customhouse at Tsagaan Nuur was opened in September 2005 at a cost of MNT3 billion. Covering 2.7 ha, it has 18 closed-circuit television (CCTV) cameras and 5 types of alarm systems, including those for fire and theft. In addition, it has motion detectors along the border fence to detect smugglers throwing goods over the fence. A cargo scanner is used to facilitate customs and security checks for incoming passengers from the Russian Federation.

MCGA 2004 data show that trade going through Tsagaan Nuur accounted for a very small portion of Mongolia's international trade. For 2004, about \$5.4 million of imports and \$722,000 worth of exports were recorded in this region.

Exports include wool, meat, coal, and molybdenum. Transit goods from Kazakhstan to the PRC include cashmere, wool, and goatskins while transit goods from the Russian Federation to the PRC consist mainly of scrap metal and timber. Transit goods are moved only during summer. Wheat imported from the Russian Federation and Kazakhstan is processed into flour in Bayan Ulgii, while sheep wool is semi-processed into wool and then reexported to the United Kingdom.

According to local officials, imports from the Russian Federation include flour, gasoline, foodstuffs, construction materials, and camel products. These goods are mainly finished products and imported exclusively for Bayan Ulgii.

Open from Monday through Saturday (9 am–7 pm), the customhouse has a daily traffic density of about 50–60 passengers, 10 light cars, and 5 trucks. About 16 customs officers are on duty daily. Passengers and drivers of cargo arriving at the customhouse outside operating hours would have to wait in the border town (about 120 households with 400 people) and wait for the customhouse to resume operations.

A fiber optic link will replace the existing dial-up connection between the customhouse and the Bayan Ulgii provincial town.

Government agencies operating at the customhouse include border troops, a specialized inspection agency, and customs. Border troops currently fulfill the duty of issuing visas to foreigners, but they would be relinquishing this duty over to immigration authorities.

Document checks usually take 15–20 minutes, while the time taken for physical inspection depends on the type of goods being imported. Inspection of cargo with different varieties of goods takes about 1–2 hours. In most cases, customs conducts 100% physical inspection of goods.

Summary Comparisons of the Three Free Zones

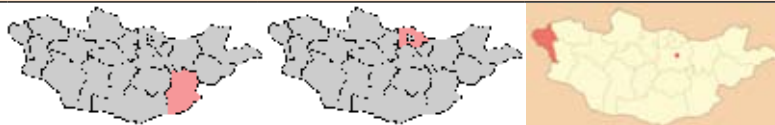
Table 4 provides a succinct summary of the attributes of the three FTZ and SEZ sites in terms of land size, population, utilities, transport infrastructure, industry focus, current developments, location, and other factors.

Zamyn-Uud and Altanbulag are both considerably stronger vis-à-vis Tsagaan Nuur in terms of transport infrastructure, both having access to the the Russian Federation–Mongolia–PRC rail, as well as in trade and transit trade. Further analysis shows that among the three locations, Zamyn-Uud has the strongest attributes and highest potential as an SEZ site. Such an assessment is illustrated in Figure 2.

The three circles in Figure 2 represent the three different FTZ and SEZ sites. The variables of comparison are industry competitiveness (breadth and depth of the supporting local industries in the area); accessibility (how well the site is connected at the regional and local levels, and whether it is served by intermodal options); and market potential (site's proximity to major local or cross-border markets). The attributes most in favor of Zamyn-Uud are its proximity to the huge PRC market, its strong transport links (including to the Millennium Road networks), and its large existing business activity base and strong transit traffic. Finally, shading inside the circle indicates the relative risk in terms of investments and finance for each FTZ and SEZ. Hence, the lighter the shading, the less the risk.

Table 4: Cross-Comparison of the Three Free Trade and Special Economic Zones in Mongolia

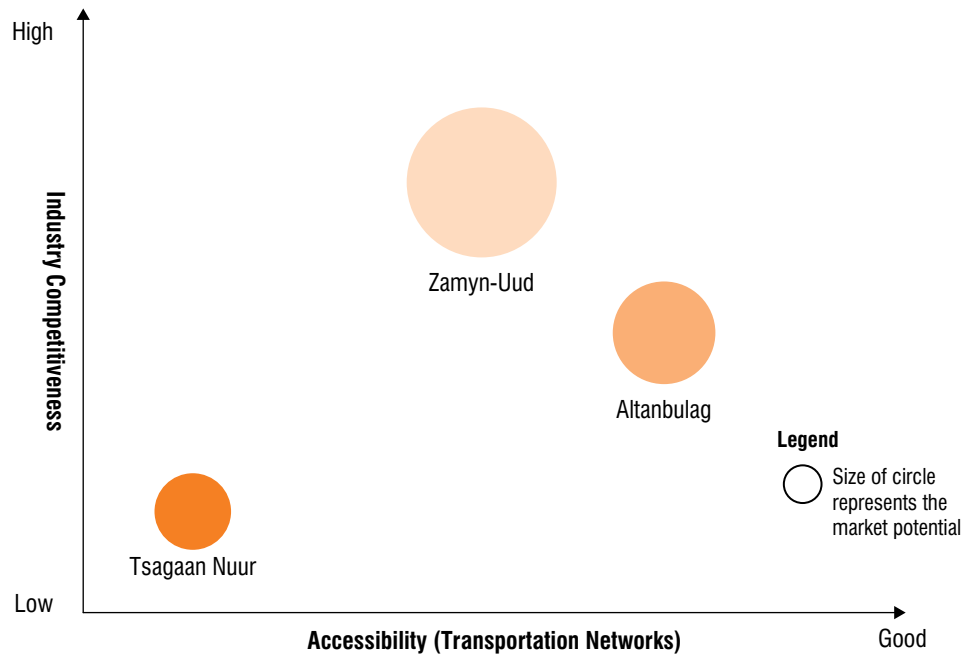
	Zamyn-Uud	Altanbulag	Tsagaannuur
Land size	900 hectares	500 hectares	700 hectares
Population where FTZ is located	7,000	4,000	1,600
Available population	Domogovi province (52,000)	Sukhbaatar City (23,000); Selenge province (100,000)	Bayan Olgii province (98,900)
Electricity	100 kW electricity transmitting line and substation	110 kW with 10 substations	
Heating	10 boiler houses for heat production and distribution		
Location	780 km from Ulaanbaatar	335 km from Ulaanbaatar	1,720 km from Ulaanbaatar
Nearest Mongolian city		Subhbaatar City	Ulgii
Nearest Foreign Cities and Population	3 km from Erlian	Khiagt border port	
Railway	Russian Federation–Mongolia–PRC rail	Russian Federation–Mongolia–PRC rail	No
Planned rail	–	–	–
Roads	Earth roads to Ulaanbaatar	Paved roads to Ulaanbaatar	Dirt tracks
Planned roads	Millennium Road	–	Millennium Road
Nearest border	PRC	Russian Federation	Russian Federation, PRC
Imports (2004)	\$12,240,943	\$48,449,589	\$5,426,983
Exports (2004)	\$66,579,923	\$2,005,874	\$722,002
Communications	High-speed fiber optic cable and VSAT system		Dial up
Existing industries	Transmit trade, hospitality, banking	Animal husbandry, meat products, transmit trade, light manufacturing, FMCG production, hospitality	Animal husbandry, animal feed production, wool processing
Possible industries	Logistics hub, tourism/entertainment zone	Tourism/entertainment zone, timber processing center	Transit route
Upgrades	Cargo terminal, infrastructural Development	Infrastructural development, roads	Infrastructural development (road, water, electricity)
Recommendations	Appoint new manager, identify objective of FTZ	Appoint new manager, identify objective of FTZ	Review location of FTZ, identify objective of FTZ



FMCG = fast moving consumer goods, FTZ = free trade zone, km = kilometer, kW = kilowatt, PRC = People's Republic of China, VSAT = very small aperture terminal.

Source: Authors.

Figure 2. Assessment of Mongolia's Three Free Trade and Special Economic Zones



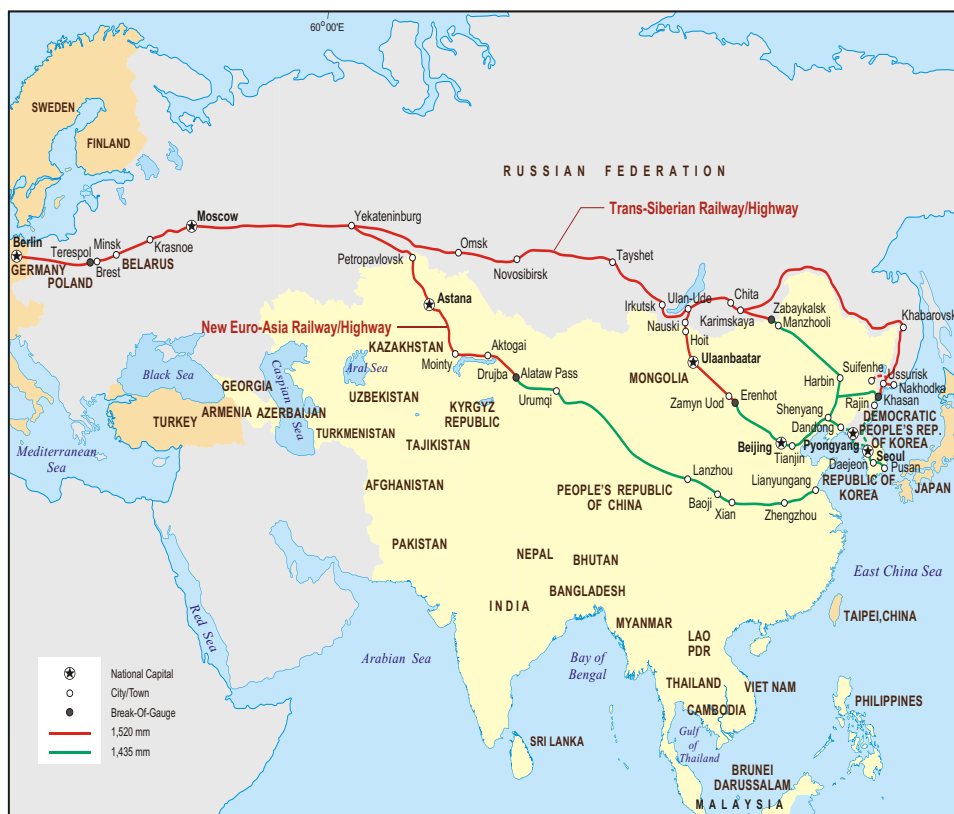
Source: Authors.

Assessment of the Transport and Logistics Sectors

Major Transport Routes in the Region

In North Asia, the two major land transport routes linking Asia and Europe are the Trans-Siberian Railway/Highway and the New Euro-Asia Railway/Highway (Figure 3). The former links Europe through the Russian Federation and Mongolia, with the section of the railway in Mongolia running in a north-south direction and spans 1,110 kilometers (km) to the People's Republic of China (PRC). The latter links Europe through the Russian Federation and then Kazakhstan (via Mongolia) to the PRC.

Figure 3: Trans-Asian Railways



Source: United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP).

The Trans-Siberian Highway spans nearly the width of the Russian Federation, stretching over 10,500 km from St. Petersburg in the west, to Nakhodka in the east. The road was largely unfinished up until early 2004. Today, a 1,000 km section near Lake Baikal still lacks paved roads and goes through forest, making it difficult for vehicles to pass through.

Running alongside the Trans-Siberian Highway is the Trans-Siberian Railway, which is a network of railways connecting the Russian Federation to Mongolia and the PRC. This railway consists of three tributary routes. The main route runs from Moscow to Vladivostok via southern Siberia and was built between 1891 and 1916. Traveling this 9,288 km long route takes about 7 days. The second route is the Trans-Manchurian route, which branches off in Tarskaya (about 1,000 km east of Lake Baikal) to head southeast into the PRC and its capital, Beijing. The third is the Trans-Mongolian route, which branches off the main line in Ulan Ude on Lake Baikal's eastern shore. From Ulan Ude, it heads south to Ulaanbaatar before making its way southeast to Beijing. The major points along this route include

- the connecting point with the main Trans-Siberian line (5,655 km from Moscow),
- the Russian border town of Naushki (5,895 km),
- Russia–Mongolia border (5,900 km),
- the Mongolian border town of Sukhbaatar (5,921 km),
- the Mongolian capital of Ulaanbaatar (6,304 km),
- the Mongolian border town of Zamyn-Uud (7,013 km),
- the PRC border town of Erlian (842 km from Beijing),
- Datong (371 km), and
- Beijing.

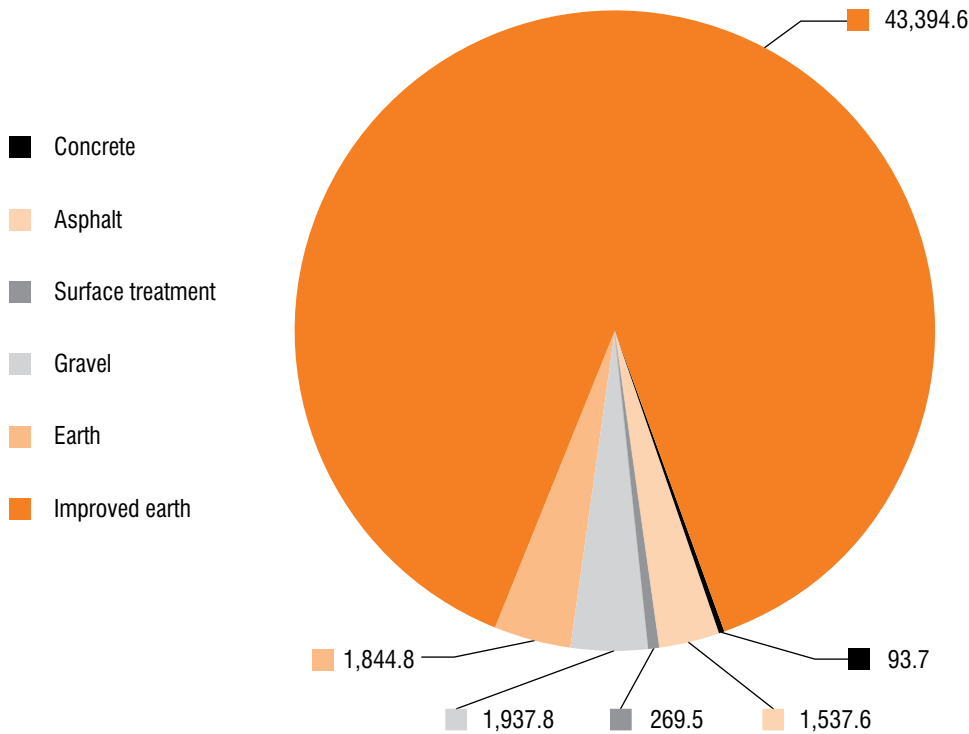
The New Euro–Asia Railway/Highway (also known as the New Euro–Asia Continental Bridge) is a revived international passageway also beginning from Europe through the Russian Federation to the PRC, but passing through Kazakhstan instead of Mongolia. From Kazakhstan, the railway runs through the Druzba-Ala pass in Xinjiang and then through Xi'An and Lanzhou before ending up in the PRC's eastern seaport of Lianyungang.

The long-term success of Mongolia's role as a transit country depends on the attractiveness of the Trans-Siberian Railway vis-à-vis the New Euro–Asia Railway/Highway. On a positive note, Russian authorities are now reviewing rail freight charges in an attempt to promote the greater use of the Trans-Siberian Railway. Any positive interest this review generated is, however, somewhat dulled by existing issues of inefficiency and inflexibility. For example, exporters using the Trans-Siberian Railway are required to provide 30 days of advance notice whereas those employing the alternative sea route need only place a booking 7 days in advance.

The close proximity of the New Euro–Asia Railway/Highway to the Trans-Siberian Railway invariably poses considerable competition to the latter. Should the New Euro–Asia Railway/Highway be successful in attracting and diverting traffic away from the Trans-Siberian route, Mongolia risks being marginalized from the region's major trade flows. However, the New Euro–Asia Highway is also currently facing its own transit issues. This presents a window of opportunity for Mongolia to improve its infrastructure and industry quickly and secure a first-mover advantage in servicing transit trade flows.

Figure 4: Share to Total of Different Roads in Mongolia

Mongolian Road Network
(49,077.9 kilometers)



Source: Transport Policy and Coordination Department, Ministry of Road, Transport and Tourism.

Road Transport

A road transport master plan was developed for Mongolia in 1995. Since its implementation, most projects listed in the master plan have been completed, resulting in the construction and rehabilitation of 1,300 km of new roads. At present, Mongolia has 49,077.9 km of roads, of which 45,239.43 km (92%) are low-quality tracks and 3,838.47 km (8%) are paved roads. The paved roads are mainly located along the northern section of the north–south railway. Figure 4 provides a more detailed breakdown of the types of roads in Mongolia.

Mongolia’s road density remains very low at 3.13 km of road per 100 square kilometer (km²), one sixth of the PRC’s national average. Many roads in Ulaanbaatar are also showing signs of physical deterioration as these were built more than 20 years ago. Only about 0.1% of Mongolia’s gross domestic product (GDP) is spent on road development, dramatically lower than the international average of 1% of national GDP. At present, available funding comes from state revenues from gasoline and diesel taxes and from vehicle licensing fees and municipal taxes of each individual aimak (province). There is an urgent need to inject fresh funds to finance the construction of new roads and upgrade and maintain existing ones.

To address the inadequacies of the national road transport system, the government has recently identified several areas for targeted improvement as part of the country's Government Action Plan, 2004–2008,⁵ including

- implementing programs to develop an integrated network for roads, communication, information, and energy;
- improving public infrastructure in tourist destinations;
- raising the accessibility of remote areas, such as the western regions of Mongolia (by constructing roads and bridges);
- continuing the focus on developing the Millennium Road networks;
- widening income sources for the “road fund” by improving the regulatory and tax environment;
- promoting private investment and involvement in the construction and maintenance of roads; and
- upgrading the conditions of selected road networks.

The national coordinating body for all road transport initiatives is now the Department of Transport Policy and Coordination of the Ministry of Road, Transport, and Tourism (MRTT). MRTT also works closely with nongovernment organizations, such as the Mongolian National Chamber of Commerce and Industry (MNCCI), as well as the Mongolian Road Transport Association (MRTA), to improve the regulatory framework, investment conditions, and level of professionalism in the industry. In working on road infrastructure projects, MRTT believes in public–private partnership principles. For instance, it subcontracts most of the construction and maintenance works to the private sector. It is also now exploring the build–operate–transfer (BOT) model.⁶

The centerpiece of the government's efforts to improve the roads in Mongolia is the Millennium Road Project, some of whose networks coincide with the Asian Highway (AH) routes. Comprised of a long east–west section and five north–south sections, the network promises to bring a whole new level of accessibility to the underdeveloped western and eastern regions of Mongolia. Under the project, a total of 7,546 km of paved roads will be developed, of which a 2,653 km horizontal section will link Tsagaan Nuur at the northwestern tip to the Sumber border post in the eastern Dornod Province.

The AH3 and AH4 highways are two other important parts of this network. AH3 is a 1,009 km-long highway that connects Sukhbaatar in the north and Zamyn-Uud in the south. This highway will complement the north–south railway by running alongside it to provide multimodal transport options across the country. At present, only the portion between Altanbulag and Sukhbaatar to Ulaanbaatar is well developed. ADB has plans to develop the section from Ulaanbaatar to Choyr while the remaining stretch from Choyr to Zamyn-Uud will still consist of low-quality earth tracks.

AH4 is a 758 km-long highway that links the Russian Federation and the PRC via a land link (Yarant to Tsagaan Nuur) in the western part of Mongolia. Although the Russian Federation and the PRC already share a common border, local sources reveal that large and heavy trucks usually transit through Mongolia because of better road conditions than those in the Russian Federation. Through the construction of AH4, Mongolia would further strengthen its transit role in the region.

⁵ State Great Hural, Annex to Resolution 24, 2004.

⁶ This could be somewhat difficult to implement as the Mongolians are not used to paying for road usage, there currently being no road toll system in the country.

Mongolia has other road projects, mostly in the northern area where the main economic centers, such as Ulaanbaatar, Darhan, and Erdenet, are located. Interest has been forthcoming from international development agencies, including ADB, the World Bank, and the Kuwaiti Fund, to help support such developments. Meanwhile, smaller projects in less-developed areas have also begun to attract the attention of domestic investors (who will, however, need the government's support in developing more major trunk roads to these locations).

Because of its huge land area and a low population base, public infrastructure projects in Mongolia would typically require huge capital outlays with a significantly long payback period. With the lack of a critical mass for profitable operations, the BOT model (with road toll systems) is expected to suffer from feasibility issues for the private investor. As such, public financing would seem to be the more realistic option. The government could, accordingly, explore obtaining concessionary loans from international organizations, improving its policy regime, and strengthening its tax collection efficiency, as well as identifying a more effective model for allocating state and provincial budgets to road transport development.

The gaps in Mongolia's road transport system must be quickly addressed. Roads are critical in lowering the country's typically high land transport costs and in providing the last mile of distribution services (i.e., intermodal transport) that rail transport cannot address.

Rail Transport

At present, Mongolia has 1,810 km of railways of 1,520 millimeter broad gauge width. Its entire railway system is under the control of Mongolian Railways (MTZ), which is a 50–50 joint venture between the Mongolia and Russian Federation governments. Because of the huge landmass that needs to be traversed, the railway mode has inevitably become the essential backbone of Mongolia's land transport system. Products that are almost always carried by rail include those on international transit (including crude oil, timber and wood products, fertilizers, and machinery), as well as high-value and bulky items, such as foodstuffs, scrap metal, chemicals, spare parts, animal hides, and cashmere.

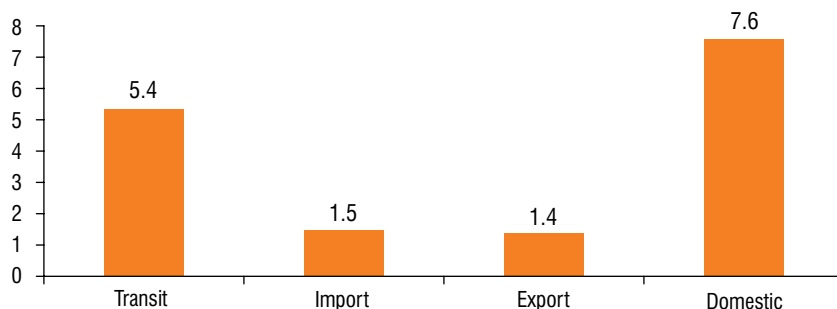
The north–south rail linking Sukhbaatar to Zamyun-Uud via Ulaanbaatar is the main artery in Mongolia's rail system. This line is a single-track rail that supports an annual freight capacity of 4 million tons (t) of goods.⁷ There is another shorter 250 km railway track in the eastern part of Mongolia—starting from the city of Choybalsan to the border post Ereentsav, and then entering Soloveovsk (Russian Federation). This track, however, is not linked to the main north–south line and is thus much less pertinent for transit trade.

Railway tariffs are currently regulated by the government and subject to discount cuts for transit transport to encourage traffic growth. While rail transport offers generally more competitive pricing, road transport, with its more flexible schedules, has increasingly been more popular.

In 2005, the total tonnage carried by rail in Mongolia was 16 million t (Figure 5). Thirty-four percent of this volume was transit trade, while domestic freight accounted for nearly half of the

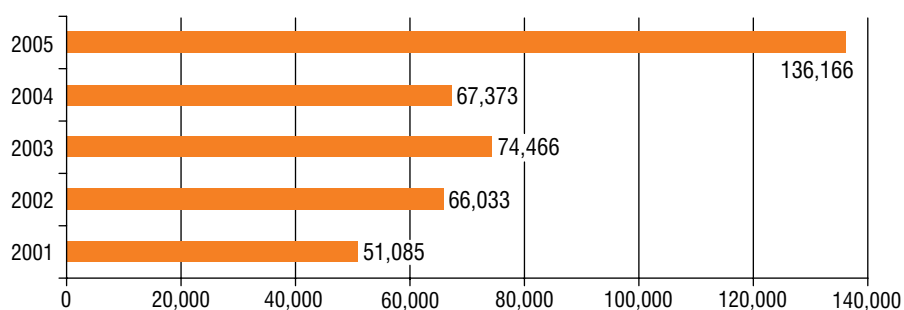
⁷ Interviews with officials of the Transport Policy and Coordination Department, Ministry of Road, Transport and Tourism.

Figure 5: Freight Carried by Rail in Mongolia, 2005 (million tons)



Source: Freight Shipment Department, Mongolian Railways.

Figure 6: Yearly Freight Throughput Carried by Rail in Mongolia (million ton-km)



km = kilometer.

Source: Freight Shipment Department, Mongolian Railways.

total quantity. Although transit traffic lags behind domestic transport in terms of volume, the transit business is decidedly much more lucrative. For instance, revenue from transit freight contributed 76% of total freight revenue for MTZ in 2004. Transit transport also registered higher margins relative to the other categories.

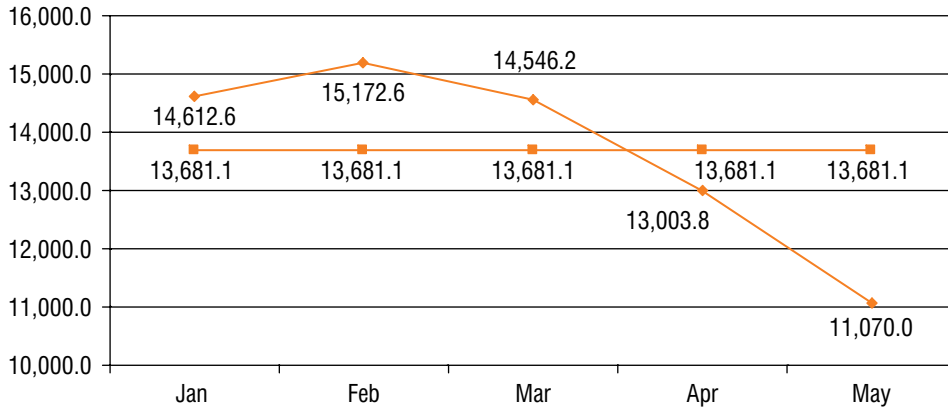
Figure 6 shows the annual throughput (in terms of tons-km)⁸ of MTZ from 2001 to 2005. Evidently, the rail freight industry has seen much growth—with the annual throughput expanding nearly 3 times within a span of 5 years.

A more recent performance in monthly throughput in 2006 is shown in Figure 7. Following a growth over the period of January–February 2006, the figure shows a steady drop from March 2006 to May 2006. The drop is attributed to the decrease in the discounts in railway tariffs for transit transport. This resulted in some diversion of freight to alternative routes and even road transport.

Despite its monopoly over the country's railway system, MTZ has been operating at a deficit, partly because of its obligations toward its 15,000 personnel. To improve its financial situation,

⁸ Rail tariffs are typically calculated by the distance traveled and the tons carried; thus “throughput”, which is the product of both distance and weight, is a better measure of the financial performance of a rail company than weight alone.

Figure 7: Monthly Freight Throughput Carried by Rail in Mongolia, 2006
(million ton-km)



Source: Freight Shipment Department, Mongolian Railways.

MTZ may either raise its charges or secure more freight business. It should also look into attracting investments to replace/service its aging locomotives and even its tracks. The lack of maintenance and increasing freight volume had since led to the deterioration of certain railway sections. MTZ's locomotives are likewise old—about 20 years old on average. Huge capital outlays are now required to build new tracks and maintain existing assets.

As with what it did for the country's road transport system, the government has made plans to improve the rail transport system and included these plans in its Government Action Plan, 2004–2008. The major target areas under these plans include (i) raising the market demand and profitability of the rail transport system through aggressive promotion and competitive pricing, (ii) attracting new investments, and (iii) studying and adopting new methods and technologies to increase the overall capacity of the railways. Recently, a program to repair and upgrade rail tracks has been initiated and includes the installation of heavier rail and concrete sleepers. In addition, the government is considering various options to partner with the private sector to raise fresh funds (based on market principles) for future expansion.

The government also has plans to build electrified lines and a dual-track railway for the north–south line, which will raise the annual capacity to 15 million t. Other planned developments include building a railway line from Zuun Bayan to Oyu Tolgoi (332 km) and another extension from Oyu Tolgoi to Tavan Tolgoi (150 km). These plans are in recognition of the potential of Oyu Tolgoi as an economic (mining) cluster. These lines will facilitate the imports of heavy machines to help in drilling and exploration in the Oyu Tolgoi region. The study team, however, believes that a railway extension southward from Oyu Tolgoi to the border post of Gashuun Sukhait could be a better alternative to facilitate the export of bulky commodities to the Inner Mongolia Autonomous Region (IMAR) and PRC markets.⁹

⁹ It is a relatively expensive and time-consuming to transport the minerals via a new eastern extension to the north–south line and then southwards to Zamyn-Uud.

Figure 8: The Mongolian Vector



Source: Tuushin Co. Ltd.

Rail remains the most important and dominant mode of transport for Mongolia. Already, major freight forwarders in Mongolia are putting together large-scale container block express train service packages for international freight in the region. Such packages provide dedicated rail services that link Ulaanbaatar to other markets with fixed schedules. One of the packages is the Mongolian Vector, which enables transport between Europe and Mongolia. The other is called Friendship Express, which links Mongolia to the PRC.

The Mongolian Vector (Figure 8) was conceptualized by Tuushin Co. Ltd.¹⁰ working with six other partners¹¹ on this service to ensure a smooth journey. This vector is a rail service between Frankfurt and Hohhot that leaves on the 15th and 30th of each month. To help manage the costs for traders, goods are given free storage at the warehouses in the two cities until enough consolidation is achieved to enable transport in standard-size containers. An armed guard accompanies the train throughout the service, helping to allay any safety and security concerns.

¹⁰ The concept was formed by Tuushin during the Crete Conference for Euro–Asia transport corridors in 1994. It started operations on 15 March 2002.

¹¹ The partners are railway authorities from the Russian Federation (Rikon), Belorussia (Belintrans), Hohhot, Poland, Czech Republic, and Germany.

The Friendship Express service was launched by the International Freight Forwarding Centre (IFFC) of MTZ to ply the Xingang–Ulaanbaatar route. This is a fixed service that departs from Mongolia twice a week. Started on 28 May 2002, the service also involves the participation of the China Railway Container Transport Centre and some freight-forwarding agents.

In view of the private sector's affirmation of the route's feasibility, it is now extremely timely to focus on the development/rehabilitation of the railway infrastructure. Such efforts may include constructing new railway lines, whose estimated construction cost of \$1 million per km of track will require the government to explore different financing options. Alternatively, the government may also look into raising the capacity of existing railways by building a double track or electrifying the lines.

Air Transport

Mongolia has one international airport (renamed Chinggis Khan International Airport on 5 May 2006) with direct flights to Beijing and Hohhot (IMAR of the PRC), Moscow and Irkutsk (Russian Federation), Berlin and Frankfurt (Germany), Inchon (Republic of Korea), and Tokyo (Japan). There are also plans to extend flight services to Singapore and Hong Kong, China. Another airport in Dornod Aimak was opened recently with flight links to the Republic of Korea. Overall, Mongolia has 48 airports, 14 of which have paved runways with 34 having unpaved runways.

Passenger traffic has steadily increased over the years. Airport authorities are now planning to expand capacity. Air freight, however, remains unpopular as compared to land transport modes.

Local airlines MIAT and Aero Mongolia serve domestic airports. For express and courier services, DHL Express is a leading player in the country. Legal restrictions on foreign enterprises have prompted DHL to partner with the Mongolian Postal Services for door-to-door deliveries in the country.

Water Transport

Mongolia has 580 km of waterways. Lake Hovsgol (135 km), Selenge River (270 km), and Orhon River (175 km) offer navigable routes but carry little traffic. Most rivers and lakes freeze over in winter and are only operable from May to September. As such, waterway transport makes virtually no contribution to Mongolia's overall transport industry.

Logistics Sector

Mongolia has about 60 freight forwarders, with only one third providing integrated logistics services while the rest offer limited forms of transport. The major freight forwarders are IFFC of MTZ, Tuushin Co. Ltd., Erin International, Progresstrans Co. Ltd., and Mongoltrans Co. Ltd. Transit traffic forms a significant part of the business for most of those forwarders. Overall, about

10 Mongolian companies handle 60% of transit traffic, while the Russian Federation handles the remaining 40%. The IFFC holds a monopoly over the issuing of cargo manifest for rail freight.

In general, the key logistics players provide a more complete range of services, such as multimodal transport, import and export documentation, customs brokerage, and other value-added services. They also provide better and bigger facilities, such as cargo terminals and warehouses. Tuushin, for instance, has a container freight station near the Mongolian Railways station while Erin International has a customs special zone (similar to a mini-free trade zone) where Russian timber is imported and processed before being reexported to Japan. The key logistics industry players also invest in better information systems.

In terms of customs coordination, the major freight forwarders typically house small customs offices (which are electronically linked to the Mongolian Customs Automated Data Processing System [GAMAS]) within their own logistics centers to facilitate goods clearance. The smaller logistics service providers do not have this facility, however, and their customers will have to visit external common customhouses to clear their goods.

Recently, a limited number of foreign-owned companies established their presence in Mongolia, mainly in the air express and courier and land freight sectors. These include DHL, FedEx, and UPS, which offer air express and courier services. Foreign investment regulations, however, required these companies to form partnerships with Mongolian providers for local door-to-door deliveries. DHL, for example, has formed a joint venture company with the Central Post Office, while FedEx is working with Tuushin deliveries. In the road freight sector, PRC companies are now active in the areas of Zamyun-Uud and the Omnogovi Aimak for the transport of minerals (e.g., coal, copper) into IMAR.

Mongolia's logistics industry is still underdeveloped. For instance, no freight forwarding regulations exist, although the government is currently considering the enactment of such a law to regulate practices in international trade and transport. Moreover, the lack of electronic fund transfer systems compels freight forwarders to pay cash for rail reservations and transactions, which raises the risks of corruption and pilferage losses. Overall, freight forwarders in Mongolia currently face several issues, which are discussed below.

Lowering of Tariff Discounts for Transit Freight

Transit traffic provides an important source of business for local service providers. Acknowledging this, the government usually offers a 15%–30% discount for rail freight from the Russian Federation to the PRC through Mongolia and a 30%–50% rate cut in the opposite route. Starting in March 2006, however, MTZ cut some of these discounts, resulting in a diversion of traffic away from the north–south railway and a loss of business for the logistics companies.

Restricted Access to Ulaanbaatar

With a population numbering close to 1 million and still increasing because of rural-to-urban migration, traffic jams are very common in Ulaanbaatar, especially during peak hours. Cargo trucks are therefore not allowed to enter the city center during working hours. This forces logistics companies to operate for long hours (sometimes up to 24 hours), which adds to their operating costs.

Lack of Consolidation in Logistics Facilities

There is basically no consolidation of logistics activities and no sharing of facilities in Ulaanbaatar. This results in a loss of economies of scale and, thus, higher unit costs for the local logistics providers. The government should look into centralizing storage facilities into one zone earmarked for industrial and logistics development, and building a large-scale modern integrated logistics center to house the smaller service providers. This will allow the logistics service providers to upgrade their facilities and reap economies of scale in common supporting services, such as security, power, water supply, and container yards. This zone should be located outside the city center and near the railway stations to raise transport efficiency. The government should, moreover, formulate appropriate regulation over the use of such zones, in consultation with all stakeholders.

High Costs of Information Technology Systems

Data management programs for freight forwarders are generally expensive.¹² It typically costs companies about \$500 for the purchase of networking equipment, \$50 for monthly broadband access, and an average of \$650 for a per-user license. Smaller logistics service providers thus find it hard to adopt information technology improvements even if these are beneficial to their operations. Making the situation worse is the lack of affordable financing, with loans being charged the interest rates of 2.5% month.

Inconsistent Performance and Poor Quality of Service

Ground surveys have shown that the knowledge and service levels of Mongolia freight forwarders are generally low. Some individuals do not understand INCOTERMS (international commercial terms) well and lack experience in handling international freight.¹³ With a service-grading system in place, companies will hopefully take more initiatives in improving their service quality and human resources.

Equipment Deterioration

Forty percent of vehicles, mostly located and registered in Ulaanbaatar, are more than 10 years old and show signs of wear and tear. Such old vehicles are more expensive to maintain and only add to the variable costs of running operations. They also compromise the efficiency of the road transport industry. However, most freight forwarders continue to employ them because of the high costs of upgrading.

Customs and Transport Agreements

Mongolia signed a transit transport agreement (1992) and a road transport agreement (1996) with the Russian Federation, and a similar road transport agreement with the PRC in 1991. These bilateral agreements allow, in principle, mutual movement of trucks and goods between

¹² There are now about 60 software companies in Mongolia, with 4 more companies being established.

¹³ This was brought up during the interviews and the UNESCAP workshop conducted in 17–19 April 2006. An example was highlighted, where World Vision engages a small local freight forwarder to transport goods from overseas to Mongolia. The cargos were seized at the PRC customs for months because of incorrect and incomplete documentation.

the countries. In practice, however, Mongolian trucks are not permitted to enter into Russian Federation and PRC territories. Russian Federation and PRC trucks, on the other hand, do ply Mongolian routes. Russian drivers transporting food and other necessities travel from northern Mongolia directly to Ulaanbaatar while PRC trucks transport coal from Tavan Tolgoi (260 km from the border) to Gashuun Sukhait in southern Mongolia.

Mongolia also signed a trade agreement with the PRC in 1992 for the use of the latter's Tianjin (Xingang), Qingdao, and Qinghuangdao ports. The Xingang–Ulaanbaatar corridor is the main corridor being used by Mongolia sea exports en route to markets in Europe, Japan, the Republic of Korea, and the United States. Port congestion, however, is very common at the Xingang port, resulting in frequent delays of 3–5 days for Mongolian exports.

On 29 April 2006, the railway authorities of Mongolia and the PRC signed a bilateral agreement to improve freight forwarding between the two countries and reduce transit tariffs.¹⁴ The PRC authorities promised to resolve the common problems of customs delays at Erlian for coal trains, while Mongolia agreed to cut tariffs on all transit freight, except oil, by 30%–50%. With this agreement, oil freight of more than 5 million t and carried by MTZ through Erlian will enjoy a discount of \$1/t as compared to the route through Manchuria. This helps reinforce Zamyn-Uud's position as a gateway for Mongolia–PRC trade.

The United Nations Conference on Trade and Development is facilitating a tripartite agreement among Mongolia, the PRC, and the Russian Federation on transport facilitation. Although Mongolia had been working actively with the other two countries on customs documentation, systems, practices, and tariffs, progress has been slow. Varying concerns and issues on the negotiations were beyond the control of Mongolia.

On multilateral agreements, Mongolia has joined the Convention on Transit Trade of Landlocked States (1965) and Transports Internationaux Routiers (TIR) (2002). Additional benefits are seen to be forthcoming when the PRC accedes into the TIR Convention.

Key Conclusions

The key conclusions from this chapter's analysis are as follows:

- (i) As a landlocked country, Mongolia's location between the Russian Federation and the PRC offers both opportunities and challenges. Transit trade essentially becomes critical to the country's future economic progress.
- (ii) Mongolia's transit trade depends heavily on the development of the Trans-Siberian Railway/Highway vis-à-vis the new Euro–Asia Railway/Highway. Services, such as the Mongolian Vector and the Friendship Express block train services, are excellent initiatives for positioning Mongolia as a crucial link in servicing the trade flows between Asia and Europe and deserve official support. The two services can even be further integrated to link Frankfurt right to Tianjin, resulting in a new pan-Europe–Asia highway.

¹⁴ The agreement was signed by Ulaanbaatar Railway Chief Mr. V.V. Magdei and Erlian City Committee Head Mr. Zhan Guo Huo.

- (iii) Investments in infrastructure are necessary to increase intra-country connectivity and intercountry linkages, as well as to raise overall transport efficiency. An example of a relevant project is the planned road construction from Choyr to Zamyn-Uud, which will help provide a potentially beneficial multimodal transport option in this economic cluster area.
- (iv) The construction of railways in the Omnogovi region is also recommended because of the region's strong economic potential. The railway should link the area to IMAR to facilitate commodity flows to the PRC's growing markets. An issue that could arise, however, concerns the difference in rail gauge widths between Mongolia and the PRC.
- (v) Private enterprises have commented that communication from the government must be improved. For instance, the companies felt that details of the national transport plan, which are important to their operations, are not made available to them. MRTT is encouraged to open more communication channels and continuously engage the private sector in consultations. One encouraging sign toward this direction is the MRTT facilitating the United Nations Economic and Social Commission for Asia and the Pacific's (UNESCAP) Trade and Transport workshop in Ulaanbaatar from 17 to 19 April 2006. The workshop became a forum for dialogue between the public and private sectors.

Recommendations

Mongolia's Strategic Positioning

Mongolia's domestic economy is relatively small and, thus, its very survival depends on transit trade, especially between its two large neighboring countries, the People's Republic of China (PRC) and the Russian Federation, whose economies have been booming. Thus, the strategic positioning of Mongolia should be that of a "transit nation" that offers integrated, safe, and efficient transport such that goods and passengers can move seamlessly.

To support this vision, Mongolia needs to implement favorable policies, adopt market principles, invest in infrastructure, and enhance the capacities of the logistics sector, such that trade and transport impediments are minimized. To do this effectively, both demand-side and supply-side factors must be addressed.

To address the demand-side factors, demand for transport services must be increased, mainly by attracting foreign investors to relocate or establish factories and plants in Mongolia. The government must also adopt an export-oriented trade strategy. The proposed free trade zones (FTZs) and special economic zones (SEZs) are important developments that deserve more focused governmental support and guidance. The operation of these zones will build up the manufacturing capabilities of Mongolia, a crucial requirement for the country's long-term development, as well as stimulate the demand for basic and advanced transport modes.

On the supply side, the existing transport infrastructure must be upgraded and expanded, and the logistics sector must improve its capacity and the quality of its services to be able to cope with increasing demand. The study team advocates the "demand-first" strategy, which then justifies supply-side interventions. Such an approach helps reduce the probability of "white elephant" logistics projects, which lack market demand after being constructed.

Demand-Side Proposals

Promote Trade and Manufacturing

The study team strongly recommends that Mongolia capitalize on the Generalized System of Preferences (GSP) Plus scheme to attract overseas investors to locate factories and plants in Mongolia. The GSP Plus is a scheme by the European Union (EU) that grants the status of most favored nation (MFN) to selected countries, with Mongolia and Sri Lanka being the only two Asian nations that have received the MFN status. An MFN status gives a country the privilege of having duty-free and quota-free access to 25 countries in the EU on 7,200 products, including textile and meat. With no restrictions on duties and quotas to the European markets, Mongolia becomes an attractive location for manufacturing plants producing exports destined for the EU. To take advantage

Box 2: Proposed Strategic Architecture for Mongolia's Transport and Logistics Sectors

Strategic Positioning

Mongolia as the Transit Nation, offering the route of choice for the integrated, safe, efficient, and seamless movement of goods and passengers.

Strategic Drivers

Demand-Side Proposals—(i) Promote manufacturing and trade, (ii) strengthen industries, (iii) improve current services and introduce new ones, and (iv) develop free trade zones/special economic zones

Supply-Side Proposals—(i) Raise the capacity of railways and roads; (ii) construct and upgrade logistics facilities (integrated logistics centers, trucking terminals, container terminals, etc.); and (iii) develop the logistics industry.

Source: Authors.

of this privilege, Mongolia can create a special department in the Ministry of Industry and Trade (MIT) to spearhead efforts to encourage North Asian countries, such as the PRC, Japan, and the Republic of Korea, to set up manufacturing bases in Mongolia. PRC investors should be keenly interested as they can locate to Zamyun-Uud and further capitalize on the area's SEZ status. Besides the SEZs, certain growth areas, such as the Ulaanbaatar–Darhan–Erdenet triangle, can be sites for manufacturing bases. Mongolia can certainly benefit from both the increased economic activity that the establishment of manufacturing plants and factories will bring, as well as the increase in trade with the EU that a growth in manufactured goods will create. Table 5 presents recent bilateral trade between Mongolia and the EU.

To encourage growth in the manufacturing sector, a dual strategy must be adopted. The first consists of increasing the value of local exports, while the second involves adding value to items in the transit trade.

The first strategy considers the strengths of Mongolia's local produce and builds on industrial ecosystems to enhance their export competitiveness along the metrics of quality, cost, reliability, efficiency, or service. Mongolia has been adopting this strategy as evidenced by the production facilities in the Ulaanbaatar–Darhan–Erdenet triangle. For example, cashmere producers, such as Gobi Cashmere, are moving from production to design as well, moving up the value chain instead of exporting only raw fur. Targeting heavy or high-tech industries immediately may be unwise because of the large capital outlay required and the lack of industry ecosystems in the country to support such manufacturing.

The second strategy requires an analysis on raw materials that originate from overseas and pass en route to another country. By establishing production plants and logistics facilities along the main transport route, Mongolia can add value to these raw materials, transforming them into intermediate products. For instance, a value chain surrounding woodwork and furniture processing must be identified as a key industry. Based on the large amounts of high-quality timber from the Russian Federation that transit through it en route to the PRC, Mongolia can develop her own capabilities in timber processing and related value chains to capture higher value and greater gross domestic product (GDP). Furniture manufacturing should also be

**Table 5: Bilateral Trade between Mongolia and the European Union (EU),
1999–2005 (□ millions)**

	1999	2000	2001	2002	2003	2004	2005
EU imports from Mongolia	40	53	40	32	23	43	50
EU exports to Mongolia	60	78	88	78	96	105	99
Balance	20	25	48	46	73	62	49

Source: Ministry of Industry and Trade.

considered because it is labor, rather than capital, intensive and subject to low barriers to entry. The government can design incentives, for instance, greater “preferential discounts”¹⁵ to the shipment of furniture and tariff discounts, and expand the role of customs special zones in current warehouses and factories to encourage this and other industries.

Figures 9 and 10 compare the import and export values of timber products. It is noted that the volume and value of timber imports (Figure 9) far exceed those of timber exports (Figure 10). This implies high potential for Mongolia to exploit in adding more value to transit products. Raw timber from the Russian Federation via Altanbulag can be sent to timber-processing plants, sawmills, and furniture centers to be converted into intermediate or finished goods.

Strengthen Industries

Mongolia’s pillars of economic growth lie in mining and livestock/meat processing. These shall be examined separately, with different stimulus and improvement packages proposed for each.

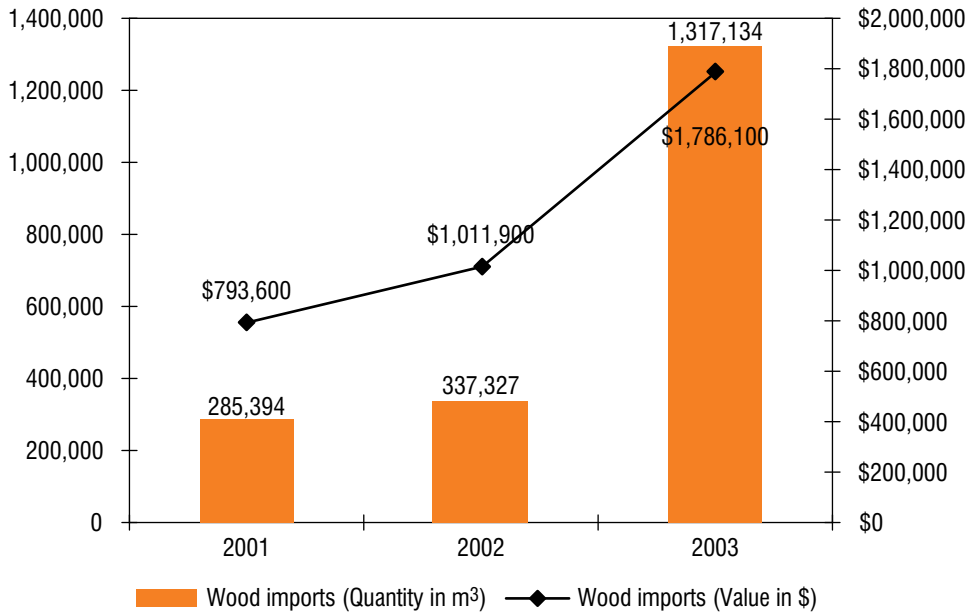
Although Mongolia is well-endowed with natural resources, the international community perceives investing in the mining sector as highly risky. This perception is exacerbated by the weak infrastructure that adds to the costs of importing specialized mining machines and exporting commodities. To address this, the Foreign Investment and Trade Agency will have to be more active and aggressive in promoting the sector overseas. The government must also continue exploring options to encourage such investment and stimulate the growth of the industry. Recently, it has removed import taxes for drilling machines.

In addition to the three proposed FTZ and SEZ sites, it is recommended that Omnogovi province be considered as a potential FTZ site. In particular, the government can consider establishing Omnogovi as a special mining zone that enjoys the privileges stipulated under the mining law. To promote the “desert economy”, an industrial road map for strengthening the value chain that integrates mining, oil, and gas and related industries needs to be planned. These plans ought to include appropriate policies such as the promotion of coal gasification, and the encouragement of the building of oil refineries.

In 2005, Mongolia’s total coal output amounted to 7 million tons (t). Of this, 4.2 million t were for industrial use, 0.8 million t were for household use, and 2 million t were for exports. The price

¹⁵ A distinction is made here between rail tariff discounts and preferential discounts. The former relates to the current practice of offering discounts to all shippers, while the latter refers to discounts made available only to certain industries that Mongolia wishes to target.

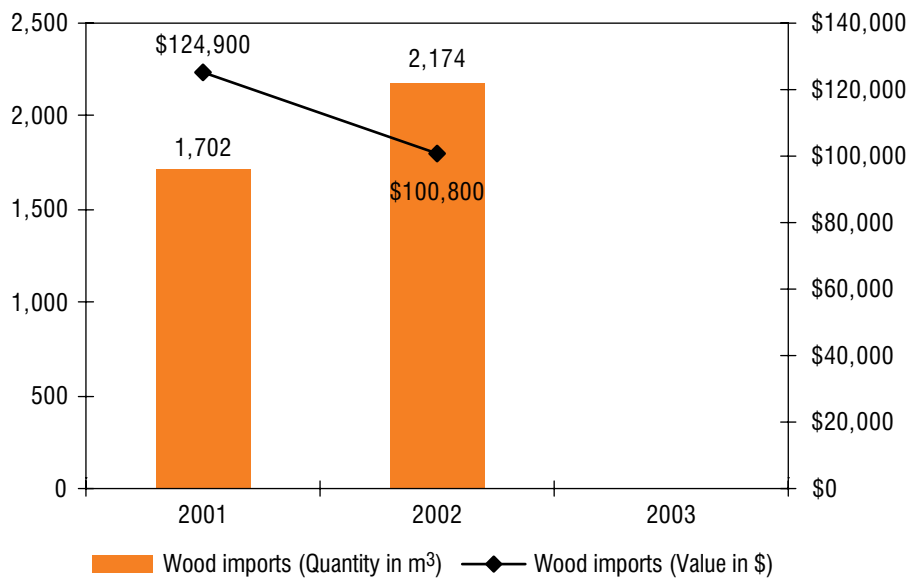
Figure 9: Imports of Timber Products by Mongolia, 2001–2003



m³ = cubic meter, \$ = US dollars.

Source: Mongolian Customs General Administration (MCGA).

Figure 10: Exports of Timber Products by Mongolia, 2001–2003



m³ = cubic meter, \$ = US dollars.

Source: Mongolian Customs General Administration (MCGA).

for each ton of coal for export was \$20 while that for domestic use was \$12. Increasing the transport capacity of the region can increase the volume of coal production further.

There are various recommendations for the livestock/meat processing industries. First, *aimaks* with high risk of stock losses because of extreme weather will require the building of farmhouses that can act as logistics centers to protect the livestock. Second, the State Specialized Inspection Agency (SSIA) should formulate a national policy on veterinary, agriculture, and livestock production for all related Mongolian companies to comply with, thus raising the hygiene level in the industry. Third, SSIA should, in cooperation with the Mongolian Meat Association (MMA), adopt the international standards of Hazards Analysis and Critical Control Points (HACCP)¹⁶ in all Mongolian meat processing centers, factories, and transporters. MMA should also provide training, consultancy, and audit services for implementing HACCP. Furthermore, the MMA can spearhead the use of cold chain logistics, partnering with the Mongolian Freight Forwarding Association (MFFA) and the Mongolian Road Transport Association (MRTA). By controlling the hygiene level from production, storage, processing to distribution of meat, Mongolia should be able to convince Russian markets to raise their import quotas. At the same time, Mongolia should also look at diversifying its meat export to other markets, such as the PRC, Japan, the Republic of Korea, Southeast Asia, and South Asia.

Improve Current Transport Services and Introduce New Ones

Two container block train services handle transit trade in Mongolia. These are Tuushin's twice-monthly Mongolian Vector that travels between Frankfurt and Hohhot, and the International Freight Forwarding Centre's (IFFC) twice-weekly Friendship Express that links Xingang to Ulaanbaatar.

One limitation of the Mongolian Vector is its twice-monthly schedule: the train sets off only on the 15th and 30th of each month. This implies a waiting time of about 15 days for a consignee if the goods reach the railway terminal¹⁷ just after the block train has left. The main reason for the twice-monthly schedule now is the limited volume of export and transit goods, and that is the reason demand-side factors should be addressed to stimulate the growth of manufacturing and trade. With sufficient demand growth, it will be possible for the Mongolian Vector service to offer another schedule, e.g., leaving three times a month and shortening the waiting time to 10 days. Increasing the frequency of departure will be crucial because transport efficiency is reckoned on price and frequency, especially for time-sensitive cargoes.

Tuushin could also explore the feasibility of relocating the cargo consolidation center from Hohhot to Zamyn-Uud. Currently, all European-bound goods are sent from all parts of the PRC to Hohhot to be consolidated and loaded into containers, which then travel through Zamyn-Uud and Ulaanbaatar. The benefits of this relocation are manifold. First, Tuushin can improve its control over the punctuality and safety of the cargo. Second, Mongolia can be less dependent on Hohhot and PRC customs. Third, as a consolidation hub, more freight forwarding companies would be willing to establish offices in Zamyn-Uud. This network effect can increase the price competitiveness of cargo freight which then attracts more shippers to use the logistics services in Zamyn-Uud. This

¹⁶ HACCP is a food safety management program aimed at identifying possible points of contamination from production to delivery and adopting a preventive approach to reduce those risks. The principles are now integrated into a new ISO standard under ISO 22000.

¹⁷ Tuushin provides free warehouse storage while waiting for the next schedule for the Mongolian Vector.

creates a positive feedback loop that increases the appeal of Zamyn-Uud as a logistics hub and of Mongolia as a transit country. All these benefits would accrue only if a cargo consolidation center that has large enough storage facilities for goods in transit, railway networks, and a cross-docking terminal to facilitate intermodal transport is constructed in Zamyn-Uud.¹⁸

Shipments, especially imports, being transported through the Friendship Express service sometimes face delays during customs clearance at Xingang. The Mongolian Customs General Administration (MCGA) may need to coordinate with PRC customs to explore how goods can leave the port faster. Some suggestions toward this end include stating the final destination as “Ulaanbaatar” instead of “Xingang” on the cargo manifest and on the labels on cargo destined for Mongolia. This will facilitate the segregation of goods meant for Mongolia from those meant for the PRC, which have Xingang as their final destination.

The PRC currently mandates that all wool and cashmere exports transported by rail from Mongolia must be transloaded onto trucks to reach Xingang. This regulation stems from the PRC’s stringent quality control regime under which SSIA laboratory tests are deemed inadequate to ensure that these sensitive goods are safe to be transported through PRC territory by rail. The transloading takes a maximum of 8 hours in Zamyn-Uud, and there is only one inspection warehouse for roads at Xingang, thus adding to the potential delay. The government of Mongolia will thus need to institute the appropriate measures to increase the credibility of its certification process and ensure that its products pass its and the PRC’s hygiene standards. It would also need to increase the volume of wool and cashmere so that transporting these goods by rail becomes more cost effective.

In addition, MCGA should coordinate with the PRC customs on the installation of an electronic data interchange system. Many of the customs documents are still handled manually and little customs statistics exchange occurs between the sides of the border.

Promoting a new transshipment service centered in Ulaanbaatar is also recommended. Currently, trade flow between the PRC and Europe is extremely unbalanced, with the flow from the PRC much larger in volume. This results in a huge number of containers being sent to Europe via the sea. But because of mismanagement and the long distance, the containers are either left in European ports or returned after significant delays.¹⁹ The storage of empty containers adds to the cost of transporting PRC goods to Europe.

Mongolia can reduce this additional cost by promoting transshipment services through it. PRC shippers can send their containers to Ulaanbaatar where a Mongolian freight forwarder then unloads, inspects, and reloads these cargo into Russian containers bound for Europe. The empty PRC containers are then returned to Xingang or other points of origin. By providing this management service, Mongolian freight forwarders can charge fees while, at the same time, greatly raise the attractiveness of the Trans-Mongolian route versus the sea route. For this transshipment service to be feasible, a container-handling terminal run by experienced Mongolian freight forwarders, such as the Mongolian Express, will be required.

¹⁸ From Xingang and other parts of the PRC, PRC drivers can use road transport to reach Zamyn-Uud, but the cargo need to be transloaded onto the train wagons as the journey between Zamyn-Uud and Ulaanbaatar is connected only by rail.

¹⁹ The high cost of empty containers can be illustrated by the fact that Sino-Trans charges from \$10/day/TEU to \$20/day/TEU 15 days after a container is stored in its storage facilities.

Prioritize the Development of Free Trade and Special Economic Zones

Mongolia's MIT has declared its intention to upgrade the FTZs into SEZs to allow a wider range of services in these specified zones. This status change to SEZs could allow the individual zone managers to increase their range of activities and allow investors to tap into wider economic opportunities.

The three zones have varying strengths and weaknesses. These attributes can be leveraged to create three zones of different focus. Thus, different strategies and action plans ought to be proposed separately for the zones. Notwithstanding the recognition of the strategic, social, economic, and political importance of developing all three zones to bring employment and economic prosperity to the regions, it is proposed that the development of the FTZs and SEZs be prioritized in the order of Zamyn-Uud, Altanbulag, and Tsagaan Nuur.

The importance of creating successful zones should not be overlooked. The successful implementation of one zone will encourage investors to look at opportunities in the other zones, as well as in other parts of Mongolia. Conversely, the lack of progress in the zones can be a disincentive for potential investors.

The Zamyn-Uud Special Economic Zone

Proximity to the PRC is the most compelling reason for Zamyn-Uud being the first SEZ that must be developed in Mongolia. Although there is currently no development within the zone, the areas surrounding Zamyn-Uud do offer relatively better infrastructure. There is thus less infrastructure investment required compared to the other two zones. Investors from the PRC have also already indicated their interest in setting up factories in Zamyn-Uud to manufacture finished products for export to the EU. This interest is motivated by the increased revenues that would result from the tax exemption that Mongolian products enjoy in the EU under the latter's GSP Plus program.

Several measures need to be undertaken to initiate and sustain the development of the Zamyn-Uud SEZ:

(i) Resolution of the SEZ's Management

The first imperative for the government to develop Zamyn-Uud into an SEZ is for it to resolve, in the fastest time possible, its contract issues with West Paradise, the company to which it assigned the development and management of the area. Should it be determined that West Paradise is unable or unwilling to fulfill its contractual obligations, or otherwise is unsuitable as the zone manager, a selection process for a new zone manager should be launched. The contractual dispute with West Paradise is holding up the development of Zamyn-Uud, and investors will have limited time to exploit the opportunities afforded by the MFN status accorded to Mongolia by the EU.

(ii) Zone Master Planning

Once the ownership issues have been resolved, master planning for the zone must be conducted. It is proposed that the services of a world-renowned consultancy firm be engaged for this purpose.

The scope of reference for this master planning exercise should include

- study of existing industries and the take-up rate for industrial land over the last 10 years;
- identification of industrial growth sectors and assessment of whether or not Mongolia can attract these “growth industries”, taking into account the physical and infrastructure constraints in Mongolia;
- assessment of the market demand for long-term industrial space in Mongolia and identification of the types of industrial clusters likely to take up space within the zones;
- analysis of the existing markets of existing industries, especially the upstream and downstream value chains of target industries in order to map out appropriate markets;
- preparation of a list of investors’ requirements and the assessment criteria that determines their choice of investment locations;
- identification of the international and regional markets for Mongolian exports;
- assessment of the sufficiency of skilled and semiskilled labor in Mongolia needed to support the target sectors;
- undertaking of a diagnostic review of the operating environment in Mongolia;
- undertaking of a social infrastructure audit study in and around Mongolia; and
- assessment of the availability of infrastructure, utilities, transport, and logistics in relation to the development plan.

With a master plan that is agreed upon by both the public and private sectors, the zone manager can then proceed to implement the plan.

(iii) **Implementation of Infrastructure Development Projects**

Notwithstanding the configurations of the master plan, relevant authorities need to consider some infrastructure development projects that could help attract more investors.

- **Road connections to Zamyn-Uud.** Zamyn-Uud must be connected to Ulaanbataar by road. A road connection will provide locators in the SEZ with an alternative to rail transport that is more flexible as trucks can offer smaller capacities and thus would not require as much cargo consolidation and can be dispatched on shorter notice. The most feasible way of establishing a road link from Zamyn-Uud to Ulaanbataar is to extend the road between Ulaanbataar and Choyr to reach Zamyn-Uud.
- **Airport.** Currently, travel to Zamyn-Uud is restricted to rail, and the journey from Ulaanbaatar takes about 12–15 hours. This long journey will deter potential investors. A study to explore the feasibility of constructing an airport at Zamyn-Uud should thus be conducted.
- **Logistics facilities.** To support the fully fledged SEZ in Zamyn-Uud, logistics facilities will need to be developed extensively. A central warehouse manager could be appointed to set up a central distribution center that will manage the flow of goods in and out of Zamyn-Uud, including those of finished products in transit

for export out of the country. To facilitate multimodal transport, a cargo terminal could be built next to the logistics center.

The customs modernization process should be continued, with the customs processes being linked with the services provided by the logistics facilities to monitor the movement of goods. Tax calculations could also be systematized and automated to allow faster computation and fewer errors. Record keeping would also be easier, thus allowing the collection of data for the future improvement of the system.

(iv) Implementation of Transport Policies

The government of Mongolia should consider permitting incoming less-than-container-load (LCL) trucks to transload into container terminals while awaiting cargo clearance. Customs authorities could also allow the cargo to be sealed and transported to Ulaanbaatar for clearance. At Ulaanbaatar, tax-exempt goods could be released immediately for shipment to clients while the remaining goods could be held for further processing. This whole new system would increase the efficiency of the logistics process. Currently, goods can be held up for 7 days and can cost \$20,000 per truck.

(v) Implementation of Customs Administration Measures

In anticipation of higher traffic at the customs terminals, the passenger and cargo lanes are proposed to be segregated for faster processing.

The government of Mongolia can also initiate discussions with the PRC government to remove existing “crossing fees” and “translation fees” at Erlian for Mongolian traders. These fees are implicit taxes on trade and undermine the flow of goods and discourage the growth of the trading community.

Finally, in anticipation of the PRC’s accession to the TIR Convention, a special express lane can be set up for PRC cargo trucks using TIR.

(vi) Development of Local Enterprises

Local Mongolian enterprises have demonstrated the potential and ambition to engage in regional trade. An example is Tuushin, which conceptualized and put in operation the Mongolian Vector service. To encourage further such activities, the government should support local enterprises in their pursuit of the goal of becoming larger international enterprises. (For example, Tuushin has indicated interest in shifting its operations in Hohhot back to Zamyn-Uud in Mongolia to reduce the number of customs checks required. Tuushin could be given certain incentives to do this.) Further support would encourage other logistics enterprises to set up similar innovative services to raise the profile of Mongolia as a transit hub.

The Altanbulag Free Trade Zone

Lying at the other end of the Trans-Mongolian Railway and located next to the Russian border and the nearby industrial towns, Altanbulag has the potential of being developed into an integrated trade, commercial, retail, and tourism hub targeting Russian tourists, businessmen, and investors.

(i) Zone Master Planning

Similar to Zamyn-Uud, master planning must be conducted for Altanbulag with the exercise to be commissioned from an internationally renowned consultancy group to produce a blueprint for a zone manager to implement. The exercise will identify the possible industries that could and must be developed in the SEZ. A well-done master plan will also help the zone manager to market the zone to overseas investors as the objectives of the SEZ and its infrastructure would be clearly defined.

The master planning exercise should also include the development of tourism for local and foreign visitors. While the zone requires further development, the town of Altanbulag already has some tourism facilities that could already be exploited. Commercial and retail activities can be planned to provide more activities for visitors to the area.

(ii) Implementation of Infrastructure Development Projects

- **Logistics facilities.** A central storage facility can be constructed to serve the needs of the zone when manufacturing plants are set up. This facility will serve as a holding area for goods in transit while awaiting export out of Mongolia.
- **Rail extension.** A 24 km rail extension from Sukhbaatar to link Altanbulag to the Trans-Mongolian Railway should be considered when more economic activities come about in the area. The extension will also attract more investors into the FTZ as it would demonstrate the commitment of the government to the development of Altanbulag.

(iii) Implementation of Economic Development Policies

The Government of Mongolia can initiate dialogues with the Government of the Russian Federation for the latter to allow special day-trip visas for Russian visitors to Altanbulag to enjoy the proposed tourism facilities in the area. This will diversify economic activities in the FTZ to include the hospitality, retail, and banking industries which, in turn, will attract more investors because of better living conditions.

Similar immigration arrangements could also be made for Mongolians visiting Russian territories. This will allow Mongolian traders to visit the Russian Federation and increase economic activities between the two countries.

Overall, goods and tourist movement should be simplified to expedite the higher flow of traffic between the two countries. This will increase economic activities and, eventually, prosperity in the region that spans the border between both countries.

(iv) Implementation of Industry Policies

Currently, a high volume of timber is being transported through Mongolia to the PRC. Mongolia can tap into this trade flow by establishing a timber-processing center to produce higher value-added commodities, such as processed wood and furniture. The viability of establishing this industry should be assessed properly and, if found feasible, its supporting infrastructure such as timber mills, will have to be set up.

Similarly, the garment industry has been suggested as a probable industry for Altanbulag because of available raw animal hides from the animal husbandry industry in Mongolia. There is a need to provide higher added value to products through processing. As with the timber-processing industry, the garment industry has to be evaluated to assess the required infrastructure that must be established to support its development.

The Tsagaan Nuur Free Trade Zone

Tsagaan Nuur is a unique challenge because of its sparse population, remote location, and extreme weather. Nevertheless, it is located at the crossroads between the Russian Federation and the PRC, and once the AH4 highway is completed, economic activities between the two countries will be heightened. This increased trade between the two large and dynamic economies represents an opportunity that Tsagaan Nuur could and must take advantage of. Once established, the FTZ in the area will spur economic activities in the western Mongolian region.

(i) Zone Master Planning: Establishing Another Free Trade Zone

The current FTZ site was chosen for its historical significance as a trading post in the past. Although there is warehousing, there are no paved roads, and weather conditions are harsh in the area. It is therefore difficult to encourage economic activities in it.

In view of this, a study needs to be undertaken to assess the potential of an alternative adjacent site (while still keeping the current site for future development) near the provincial center of Ulgii in Tsagaan Nuur. Compared to the current designated site, Ulgii has a larger population, more developed infrastructure (including an airport), more economic activities, and better weather conditions.

(ii) Implementation of an Infrastructure Development Project: Asian Highway 4 (AH4)

The construction of AH4 should be expedited to facilitate the growth of transit traffic through the region. AH4 will also provide a smoother and quicker access to and from the provincial center of Ulgii and connect it with the Russian Federation, the PRC, and Kazakhstan (via the Russian Federation).

(iii) Implementation of Industry Policies

- **Target Industries.** Local officials had recommended several industries that can be developed to increase economic activities in the region. These industries include
 - processing of wheat imported from the Russian Federation and Kazakhstan;
 - processing of meat products for reexport to the Russian Federation and Europe;
 - production of animal feed;
 - vegetable farming (e.g., potato production);
 - fish exporting, with the lakes of Tsagaan Nuur, Kholboonuur, Achitnuur, and Tolbonuur as the areas for production;
 - production of medical supplies with the use of herbs existing in the area;
 - establishment of a brick factory to supply to the FTZ and for export to the Russian Federation;
 - processing of timber from the Russian Federation into furniture for sale in the region and for export to the PRC;

- processing of wool for export;
- production of garments for export; and
- trading through a trade center that needs to be established.

However, more research is required to review the viability of these suggestions before any support is provided.

While efforts to develop the region's economic activities should be continued, the local authorities might want to consider implementing a strategy to gradually build up the local economy by focusing on existing trades and industries. Building up these economic pockets of activities will, in turn, attract greater investments in other supporting businesses, such as banking and communications.

- **Entrepot Center for the Region.** To take advantage of the potential increase in trade between the Russian Federation and the PRC, a wholesale center could be set up to serve the needs of traders from these countries and Mongolia. Traders can use the wholesale center to trade and negotiate contracts, thus making Tsagaan Nuur the entrepot center of the region.

After setting up the entrepot center, local authorities can support its development by waiving taxes on goods or even providing subsidized rentals for the stalls to encourage traders to set up shops in the wholesale center.

(iv) **Development of Local Enterprises**

The predominant economic activities of the region are related to animal husbandry. Economic development centered on this industry should be encouraged for a vibrant local industry to be developed. Existing cattle herders could be taught to upgrade their animal husbandry skills. Information on animal disease prevention, productive animal husbandry practices, and better cross-breeding techniques from research centers could be taught to raise their productivity. These research centers should be affiliated with local universities to enable better dissemination of research results. Funding should be provided for more research on disease prevention and breeding techniques.

In addition, a tannery center can be set up to process the leather by-products of the meat-processing industry. The leather produced can, in turn, be used to produce higher value-added products, such as footwear and bags.

The development of these cottage industries will improved the livelihood of the locals and, in turn, create demand for higher-end economic activities, such as banks and logistics centers.

The other industries that have been identified for the region include soap production, brick production, cashmere processing, and dairy products production. However, it is crucial that the local authorities undertake research to study market demand before seeking investors in these industries. Certain industries might not be suitable for Tsagaan Nuur because of its location and existing infrastructure.

Supply-Side Proposals

The capacity of transport and logistics services must be able to meet demand at a cost-effective rate. In this section, recommendations for each mode of transport, as well as for enhancing the logistics sector, will be elaborated.

Rail Transport

The government may need to review the structure of the Mongolian Railways (MTZ), currently owned equally by the governments of the Russian Federation and Mongolia. The former has not been supportive of Mongolia's efforts to expand the railway's capacity by investing in additional tracks and facilities for transit traffic. It would therefore be prudent for it to actively seek a solution to the impasse, including looking at international and multilateral diplomatic channels.

At the same time that the impasse is being resolved, the government should look at the possibility of working closely with the local private sector to create a new and independent entity that uses a mix of equity and debt to finance new projects. One such project is the construction of new rail tracks in the Omnogovi region to provide better transport and logistics services for the mining outputs from the area. Mining companies, such as the Ivanhoe Mines Mongolia Inc. (IMMI), could be invited to have a stake in the new entity.

To increase the current capacity of the north–south railways through the construction of new tracks and the rehabilitation of existing ones, other options must be considered. The construction of a double-track system along the 1,000-kilometer (km) north–south railways would require an immense amount of investment. It is suggested that MTZ investigate another technology, called double-stacked trains, to increase rail capacity. Invented in the United States in 1984, double-stack railcars provide higher capacity and security by cradling the lower container so that their doors cannot be opened during transit. Using especially engineered railcars that carry two tiers of containers instead of one, this technology can preclude the need to construct new rail tracks and reduce the cost of locomotive power and number of staff at the railways terminals. Thus, in theory, current resources can be maintained to support two times the current freight volume. Successful operations of double-stack railway systems can be studied from APL and Pacer International in the United States.

The operational parameters to measure rail efficiency are price, time, reliability, and flexibility. In theory, rail transport is more cost effective compared to road transport, especially over long distances. However, MTZ faces internal and external problems which cause its performance to suffer in terms of the operational parameters of rail efficiency.

To make MTZ's pricing structure more competitive, the government needs to review the railway's tariff discount structure as data seem to indicate that rail pricing is elastic. By raising prices, it faces the risk that cargos may be diverted to alternative routes, such as the new Euro–Asia route that completely bypasses Mongolia. Moreover, MTZ should advocate strongly for its purchase of long-term contracts with the Russian Federation to secure lower operating rates and thus increase the cost competitiveness of the Trans-Mongolian route.

In theory, cargo transported by rail can reach Europe in 15 days, compared to 45 days by sea. However, border crossing creates many delays, the underlying causes of which could only

be addressed by agreements between and among governments. Thus, the Ministry of Foreign Affairs will need to apply the necessary means to accelerate the conclusion of the discussions on the Transit Transport Framework Agreement²⁰ among Mongolia, the PRC, and the Russian Federation.

Finally, as mentioned in the strategy for manufacturing and trade, the government can add incentives to the development of the timber-processing industry by providing greater “preferential discounts”²¹ to the shipment of furniture. This is to encourage manufacturing and value-added activities, rather than just facilitating the movement of raw timber. Tariff discount is a tool that the government can use to help accelerate the growth of selected key industries.

Road Transport

As railway construction is long term and entails heavy financial commitments, the building of roads presents an attractive alternative to raise accessibility to different parts of Mongolia. At present, road infrastructure development efforts in different parts of the country are at different stages, with the north and the cities of Ulaanbaatar, Darhan, and Erdenet enjoying a higher road density than the eastern, western, and southern parts of the country. It is therefore proposed that a zonal approach in planning for road developments in Mongolia be adopted. Following market principles where economics dictate the allocation of resources, the recommended order of priority for new road construction is as follows: (i) complete the parallel road along the north–south railways, (ii) maintain and upgrade the current roads in the central and north zones, (iii) build a road network in the south, (iv) extend and upgrade roads in the east zone, and (v) develop and upgrade the roads in the west zone.

The first priority is to complete the AH3 highway. This involves building a 238 km road linking Ulaanbaatar to Choyr, a 225 km road linking Choyr to Saynshand, and a road of similar length from Saynshand to Zamyn-Uud. Once completed, this highway will serve as a new truck road for Mongolia, permitting intermodal transport and creating a new route that complements the railways.

Most of the central and north zones already have paved roads. Being areas with high economic activities, it is advisable to raise the paved road density higher to facilitate movement of cargo and passengers. As such, the aimaks (provinces) of Tov, Selenge, Darhan-Uul, and Orhon should receive funding for new roads and upgrades. These efforts will create a new transport system, with Ulaanbaatar as the focal point.

The south zone, notably the Omnogovi Aimak, should also have roads that radiate from Dalanzadgad and pass by the important mines at Tavan Tolgoi and Oyu Tolgoi. Two paved roads are suggested to be built—a 130 km road linking Oyu Tolgoi to Gashuun Sukhait and a 50 km road extending from Oyu Tolgoi to the town of Hanbogd soum.²² The first road allows greater

²⁰ Six rounds of negotiations have been completed since 1998. The main agreement has been forged, but the talks are now focusing on the appendixes. No date of completion is stated.

²¹ A distinction is made here between rail tariff discounts and preferential discounts. The former relates to current practice of offering discounts to all shippers, while the latter refers to discounts only to certain industries that Mongolia wishes to target.

²² Hanbogd soum is the nearest town to Oyu Tolgoi. Housing workers permanently in Oyu Tolgoi is expensive, costing \$30 per person per day because of special housing, food, and energy. The bulk of workers should be housed in Hanbogd soum to lower operating costs over the long term.

ease in transporting copper and coal to the PRC's Inner Mongolia Autonomous Region (IMAR), while the second allows ease in transporting passengers commuting from Hanbogd soum to Oyu Tolgoi. Next, the government can discuss the possibility of building a rail line linking Baotou of IMAR to Oyu Tolgoi via Gashuun Sukhait, thus making possible intermodal transport. A railway line can also extend from Zuunbayan along the northeast line to Oyu Tolgoi and Tavan Tolgoi, thus forming a railway loop.

The eastern aimak of Dornod is another area with huge deposits of coal and gas. There is a railway line, but this does not connect to the north–south railways, ending at Choybalsan. According to data, 40% of the railway capacity for transit transport from the Russian Federation to the PRC is for transporting crude oil.²³ To alleviate stress on the railway capacity, the government can explore the viability of constructing a network of roads with oil pipelines to the east and west of the country. This will allow the transport of liquefied coal or gas through the pipes directly to destinations, without the need for domestic transport via trucks to the north–south railways and then transloading onto trains.

The western zone is a challenging area, with relatively lower standards of living and high incidence of poverty, few economic activities, and substantial rural–urban migration problems. Roads will be an important consideration to improve the standards of living there. This zone will require the most assistance in terms of funding. Loans and grants, if secured, could be diverted to this zone to complement the construction of AH4, which will connect Bayan-Ulgii, Gobi-Altai, Khovd, Uvs, and Zavkhan. To improve the accessibility of the Tsagaan Nuur FTZ, a 79 km paved road connecting Olgii and the FTZ will be needed.

All of the above-mentioned road development projects and plans should be integrated into one national master plan to be updated by the Ministry of Road, Transport and Tourism (MRTT). These plans should be vetted with the private sector and nongovernment organizations, such as the Mongolian National Chamber of Commerce and Industry (MNCCI), MRTA, and MFFA, to mobilize support and consensus, and explore the possibilities of joint investment projects, where applicable.

Logistics Facilities

Mongolia must develop a central logistics center, a comprehensive trucking terminal, and a container-handling terminal.

Currently, the whole of Mongolia, including Ulaanbaatar, lacks modern and integrated logistics centers. A common feedback from freight forwarders is that Mongolia needs to have its own facility to run logistics operations, and that this lack of logistics centers is forcing them to tie up working capital that could be better invested in other areas of operations. In addition, many storage facilities are small and need repairs. One or more public warehouses need to be constructed to provide a modern and integrated logistics center for freight forwarders to house their inventory and make the distribution operations more efficient. By centralizing the facilities, economies of scale can also be obtained by the beneficiaries who should be able to share in investments such as those for security services and better power and water systems.

²³ According to British Petroleum's estimates, the PRC's demand for crude oil to drive her economy could be as high as 170 million tons per year.

The comprehensive trucking terminal is an earlier initiative led by the Transport Regulation Division of MRTT that was aborted because of lack of funds. According to MRTT, more than 200 trucking companies, mainly one-person operations, are located in the capital without proper facilities for conducting business and operations. A trucking terminal with offices and yards is proposed to be built for cross-docking operations. This terminal can also contain diagnostics centers for vehicle servicing, which will help keep servicing costs low.

The container-handling terminal will encourage the development of containerization and facilitate the adoption of new container management practices described earlier. This is a sizable investment that requires a large terminal area, container docks, and expensive equipment, such as yard cranes. A feasibility study on the use of double-stack container trains in the terminal also needs to be conducted.

Policy Measures

There is no one lead agency that is charged with the development of the transport and logistics sectors in Mongolia. At present, many organizations are involved, either directly or indirectly, including MRTT, MTZ, the Council of Transport and Logistics in MNCCI, MFFA, and MRTA, as well as SSIA, the InfoComm Technology Agency (ICTA), and MIT. An agency that has the authority to coordinate among different organizations will help streamline the approval of new initiatives and provide a one-stop shop service on advisory, consultancy, and dispute settlement issues.

The logistics industry also faces the challenge of the existence of inconsistent standards. To improve overall standards, MRTT, with support from MFFA, should take the lead in implementing a national classification system that ranks logistics companies where the highest rank is given to full-service providers that have shown consistent track records; have invested adequately in facilities, staff, resources, and information systems; and are of sound financial standing.

Other Measures

Ensuring enough skilled workers and improving the human resource pool of the logistics industry must also be a concern of the government. More and better drivers, logistics managers, and other personnel involved in the industry would mean more efficient and therefore more competitive operations for logistics service providers and, ultimately, a more competitive logistics industry in Mongolia. Thus, MRTA, which now organizes and conducts basic courses for drivers, should expand its educational services to include courses in international freight forwarding and integrated logistics management that are approved by the Fédération Internationale des Associations de Transitaires et Assimilés (FIATA, or the International Federation of Freight Forwarders Associations).

On the international front, two matters deserve attention. The first is the PRC's accession to the Transports Internationaux Routiers (TIR) Convention. Mongolia is a signatory of the Convention and had implemented the protocol in 2004, with six of its border posts²⁴ being designated as passes for TIR. The TIR Convention is the only international customs transit system in Central Asia that facilitates the cross-border movements by providing a single procedure from point of departure to the point of destination, with an international guarantee chain. However, these

²⁴ The border posts are Yarant, Tsagaan Nuur, Borshoo, Altanbulag, Ulihan, and Ereentsav.

benefits have been limited so far for Mongolia because of the PRC's reluctance to accede to the Convention, claiming that it is still reviewing the cost and benefits that would accrue to it from joining the TIR. To quicken the pace of the PRC's accession to the TIR Convention, Mongolia may proactively help in the PRC's cost-benefit analysis and help demonstrate the benefits of TIR accession to the PRC.

The other issue is on mutual access into each other's territory. Bilateral agreements now permit PRC drivers to drive 100 km into the Omnogovi Aimak mainly to transport coal. Mongolian trucks are, however, required to stop at the PRC border and not allowed to participate in logistics activities on PRC land. This is being perceived in the Mongolian logistics industry as unfair treatment. Since September 2005, for example, all traffic carrying coal from the Tavan Tolgoi mines to IMAR was suspended because of protests over the PRC's involvement in such freight. This has affected the level of economic activities in the region.

Implementation Plan

This section discusses some of the key aspects of project implementation, namely stakeholder identification, public-private partnership (PPP) schemes, review and reporting mechanisms, and project financing, and how these relate to the implementation of the proposed measures to improve the logistics industry in Mongolia. It then summarizes the investment proposals, both for the construction and rehabilitation of transport infrastructure and facilities, as well as for the implementation of capacity-building initiatives that include policy reforms, regulations, and PPPs.

Stakeholders

The effort to enhance Mongolia's transport and logistics infrastructure needs the involvement of a lot of agencies and organizations, the principal ones of which can be broadly categorized into those representing the public sector and those representing the private sector. The key stakeholders in the public sector include MRTT, MIT, MCGA, MTZ, SSIA, ICTA, and the various agencies running the FTZ and SEZ. Those representing the private sector include MNCCI, MFFA, MRTA, MMA, and established freight forwarders and trucking companies, such as IFFC and Tuushin.

Managing multiple agencies will be difficult if no institution provides leadership and coordination, and facilitates communication. This institution could be a national steering committee headed by a minister and having committee members who are representatives of the different stakeholders. The members in the steering committee will head the individual working or functional groups, which can be categorized around regions (north, east, west, central, and south of Mongolia) or modes of transport (air, road, and rail).

The lead agency could also be the MRTT. There are strong arguments for the recommendation that the MRTT take a stronger role in the affairs of Mongolia's logistics industry. First, the lead organization is preferably from the public sector and is directly involved in the legislation and execution of national plans. Private organizations may lack the political clout or the economic resources to implement large-scale initiatives. Second, the lead organization should be directly involved in transport and logistics issues. The MRTT satisfies both these conditions. In addition, it

must be noted that the MRTT has prepared a national plan to improve the transport infrastructure for both passenger and traffic.

Public–Private Partnerships

Prudent transport policies and regulations are needed to ensure that benefits are optimized and that initiatives are sustained over the longer term, as measured by three metrics²⁵—(i) economic and financial sustainability, (ii) environmental and ecological sustainability, and (iii) social sustainability. Sometimes, trade-offs, such as increased economic growth at the expense of environmental erosion, are inevitable. However, as far as possible, institutional reforms and regulations that can achieve all three sustainability metrics should be performed. The government of Mongolia has a history of intervening in the market, such as the formation of MTZ and Mongolian Airlines, but this is necessary because of the transitional stage of the economy. In any case, many stakeholders hold the opinion that, although the government ought to continue to serve a regulatory role, it should also explore more opportunities for allowing more private enterprises to exist and flourish, especially in partnership with it, and for market principles to prevail, where possible. This will preclude the public sector “crowding-out” private initiatives. The PRC is adopting this strategy in developing numerous logistics centers and parks. Another prime and modern example of PPPs is Singapore’s TradeXchange.²⁶ Toward this end, MNCCI will play a very important role in communicating business opportunities to its members, while letting the government know the feedback of any changes in transport policies or investment proposals that it feels ought to be attended to.

Review and Reporting Mechanism

With so many initiatives, a critical success factor is the development of well-defined key performance indicators (KPIs) to measure the progress and success of each initiative. KPIs are widely used in corporations as a performance measurement tool. For example, road density (km of roads per km² of land) can be a measurement to assess the efforts directed toward improving the accessibility of the country.

In the initial period, the focus of the steering committee, MRTA, or whatever institution is to be given charge of the logistics sector, is to develop a comprehensive and meaningful set of KPIs, via consensus among the different stakeholders. Next, it is recommended that the working groups meet monthly to review progress and highlight key issues. The steering committee can meet every quarter to decide on strategic issues, such as resource allocation or launch/abortion of certain initiatives. Next, the KPIs and the progress of each initiative can be published through various means, including government portals, for transparency and accountability of each project. (A number of government agencies do not have a website, but ICTA is aggressively promoting e-government. It is suggested that ICTA leads in this initiative to link all public agency websites.) Finally, incentives and disincentives are indispensable to ensure that time, energy, and resources are devoted to the completion of each initiative. For the private sector, profits and savings constitute the most potent incentives.

²⁵ World Bank. 1996. *Sustainable Transport Priorities for Policy Reform*. Washington, DC.

²⁶ TradeXchange is Singapore’s latest effort to reengineer TradeNet. This project will facilitate cross-border trade and seamless communication among all trading and supply chain partners.

Project Financing

It should be noted that there are three main potential sources of investments for projects and programs to develop the logistics sector in Mongolia, namely, the government, the private sector, and international organizations. Government resources will be required for initiatives with little commercial viability but are needed for long-term economic, environmental, and social goals, such as extending roads to the remote regions of the country. The recent sharp increase in price of commodities such as copper prompted some ministers to discuss the imposition of a “windfall” tax on mining companies. If such a tax is indeed imposed, part of the budget surplus that would be generated can be used to create a fund for the transport and logistics sector. In other investment areas that have potential for profit but are heavily regulated by the government, market principles could be permitted to prevail by gradually transferring ownership to the private sector. Permitting more private enterprises to participate in a formerly monopolistic environment will increase productivity and efficiency, and reduce the burden on government resources, thus freeing up these resources for other areas equally as important to the country’s development such as social services. Finally, for projects requiring massive funding, international organizations, such as the World Bank, the International Monetary Fund, and ADB, could be tapped for grants and loans. Private equity firms could also be invited to participate.

A widely accepted and highly successful mode for implementing infrastructure projects that involve the private sector is the built–operate–transfer (BOT) scheme. An example of this scheme is the construction of a toll road. Under this scheme, the road is built by an international consortium and run for a specified period of time agreed upon between the consortium and government, say, for 20 years, during which vehicles pay a toll to the consortium. After the prescribed period has expired, the ownership of the road is turned over to the government. One of the key tasks for the steering committee is to determine the best mode of funding and implementation for each initiative.

Various recommendations have been provided in this chapter, some of which are strategic recommendations that have nationwide implications, while others are tactical in nature, targeting specific issues. The two sets of recommendations are presented in Tables 6 and 7, respectively. These proposals could serve as a guide for the government of Mongolia in prioritizing programs for the development of the country’s transport and logistics sectors. It is further recommended that MRTT be involved as the lead agency to coordinate and execute these proposals.

Table 6. Proposed Infrastructure Programs and Projects

Investment Proposal	Description	Stakeholder	Priority
Complete the construction of AH3	Extend paved roads from Choyr to Saynshand (225 km) and to Zamyn-Uud (225 km).	MRTT	High
Increase road density in north/central region	Upgrade and maintain roads in the cities of Ulaanbaatar, Darhan, and Erdenet; and the aimaks of Tov, Selenge, and Darhan-Uul.	MRTT	Medium
Build roads in Omnogovi	Build a paved road between Oyu Tolgoi and Gashuun Sukhait (130 km), and Oyu Tolgo and Hanbogd (50 km).	MRTT	Medium
Extend railways into Omnogovi	Connect Zuunbayan to Oyu Tolgoi and Tavan Tolgoi to facilitate traffic.	MTZ, MIT	Medium
Build pipelines in Dornod	Utilize the oil pipelines to export crude oil/gas to the PRC.	MRTT, MIT	Medium
Build roads in the Western region	Complete the construction of AH4 that links aimaks Bayan-Ulgii, Gobi-Altai, Khovd, Uvs, and Zavkhan. Construct a 79 km road from Ulgii to Tsagaan Nuur.	MRTT, MIT	Medium
Integrated logistics center	Provide a public warehouse for freight forwarders in Ulaanbaatar and aimaks.	MRTT, MNCCI, freight forwarders	High
Comprehensive trucking terminal	Provide operations, cross-dock, and business centers for trucking companies.	MRTT, trucking companies	High
Container-handling terminal	Provide a container terminal with container docks, yards, and storage facilities.	MRTT, freight forwarders	High
Build local farmhouses	Identify aimaks where livestock are at high risk and build farmhouses to protect livestock from the natural elements.	MIT, MMA	Medium
Infrastructural development in the FTZs	Invest in infrastructure within the zones to attract investors.	MIT, FTZ management	High

AH = Asian Highway; FTZ = free trade zone; km = kilometer; MIT = Ministry of Industry and Trade; MMA = Mongolian Meat Association; MNCCI = Mongolian National Chamber of Commerce and Industry; MRTT = Ministry of Road, Transport and Tourism; MTZ = Mongolian Railways; PRC = People's Republic of China.

Source: Authors.

Table 7. Proposed Measures to Improve Trade and Industries

Recommendations	Descriptions	Stakeholders	Priorities
Capitalize on GSP Plus to encourage investments in Mongolia	Promote the benefits of manufacturing in Mongolia. Also, promote the country's production capabilities and the incentives it provides to investors.	MIT, FIATA, MNCCI	High
Target selected key industries to lead economic development (manufacturing)	Review policies and incentives to spur the development of timber, cashmere, and meat processing industries.	MIT, Private sector	High
Policies for mining sector: Promote desert economy	Review policies and incentives to strengthen Mongolia's mining sector, and relate spin-offs to oil and gas. Reach stability agreements to optimize long-term growth and build investors' confidence. Explore feasibility of setting up a special mining zone in Omnogovi.	MIT, Private sector	High
Policies for livestock sector: Promote meat processing	Formulate a national standard on hygiene, adopt HACCP, promote cold chain logistics, and diversify overseas market.	SSIA, MMA, MFFA, MRTA	Medium
Support and assist in the operations of the "Mongolian Vector"	Increase the frequency of service; explore the viability of relocating the consolidation center to Zamyn-Uud.	Tuushin, MRTT	High
Support and assist in the operations of the "Friendship Express"	Negotiate with PRC customs at Xingang to reduce customs delays.	MCGA, IFFC, MRTT	High
Offer transshipment services	Establish expertise in cargo consolidation and deconsolidation, as well as container management in Ulaanbaatar.	MIT, MTZ, MRTT, Private sector	Medium
Commission a study to increase railway capacity without building new tracks	Study the viability of the double-stack technology as an alternative to the double-track technology.	MTZ	Medium
Review the tariff discounts	Examine the price elasticity of rail services and determine appropriate policies on tariff discounts.	MTZ	Low
Purchase long-term rates from Trans-Siberian Railways	Negotiate with the Russian Federation for bulk purchase rail rates and lower operating costs.	MTZ	Medium
Establish a lead agency for all transport and logistics improvements	Create a body with relevant representatives from government agencies and private sector	MIT, MRTT, MCGA, SSIA, ICTA, MNCCI, MFFA, MRTA	High

Recommendations	Descriptions	Stakeholders	Priorities
Rank logistics service providers	Classify freight forwarders into A, B, or C. Provide different incentives for each and ensure no destructive competition.	MRTT, MNCCI, MFFA, MRTA	Medium
Offer training and development programs to increase professionalism	Provide FIATA courses, introduce logistics and transport management courses in tertiary public education.	MRTA	Medium
Perform scenario analysis for the PRC's accession to TIR	Determine possible problems and advantages and meet PRC counterparts to proactively offer assistance.	MRTA	Medium
Master planning for the FTZs	Engage international consultants to conduct master planning studies (including the identification of target industries) for the FTZs.	MIT, Zone management	Medium

FIATA = Fédération Internationale des Associations de Transitaires et Assimilés (International Federation of Freight Forwarders Association); FTZ = free trade zone; GSP = Generalized System of Preferences; HACCP = Hazards Analysis and Critical Control Points; ICTA = InfoComm Technology Agency; IFCC = International Freight Forwarding Centre; MCGA = Mongolian Customs General Administration; MFFA = Mongolian Freight Forwarding Association; MIT = Ministry of Industry and Trade; MNCCI = Mongolian National Chamber of Commerce and Industry; MRTA = Mongolian Road Transport Association; MRTT = Ministry of Road, Transport and Tourism; MTZ = Mongolian Railways; PRC = People's Republic of China; SSIA = State Specialized Inspection Agency; TIR = Transports Internationaux Routiers.

Source: Authors.

Conclusion

Previous work on Mongolia has focused either on enhancing the transport and logistics sectors, or the feasibility and implementation of free trade zones (FTZs) and special economic zones (SEZs). This report adopted an integrated approach to holistically assess both transport and trade sectors. It provides a comprehensive framework to address the need to increase both the market demand for transport services and the capacity to satisfy those demands.

Mongolia has a key role to play in facilitating transit trade. The strengths, weaknesses, opportunities, and threats (SWOT) analysis reveals many opportunities and challenges for Mongolia in this area, where its unique location between the Russian Federation and the People's Republic of China (PRC) can be capitalized on. In the foreseeable future, Asia will continue to export increasing volumes of goods to Europe and the United States, while emerging ones among its economies, such as the PRC, will have huge demand for commodities and energy. Mongolia lies along a critical path between Asia and Europe and by adopting various initiatives to improve its infrastructure and logistics industry, it can increase its transport capacity and capability and contribute substantially to the competitiveness of the Trans-Mongolia Railways, on which its success as a transit country largely depends. This report details the more important of these initiatives, such as the construction of public warehouses, comprehensive trucking terminals, and container-handling terminals.

With a small domestic market and limited industry clusters, Mongolia will need to depend on the revenues and economic activities generated by its being a transit country. This, however, does not mean that the local industries are to be ignored. With rich reserves of metals and energy, as well as a large supply of livestock, the key issue is how Mongolia can add value to these raw materials instead of merely exporting them. The successful implementation of the FTZs and SEZs and the suggested special mining zone at Oyu Tolgoi will play a strategic role in realizing that ambition.

Besides infrastructure developments, support pillars, such as communication and human resources, are also essential enablers. Mongolia has been proactive in applying information and communication technology (ICT) in various areas, as evident from the customs' roll-out of the Mongolian Customs Automated Data Processing System (GAMAS) system and the InfoComm Technology Agency's formulation and implementation of the national ICT master plan. Such efforts as these must continue. In addition, the Mongolian National Chamber of Commerce and Industry, the Mongolian Freight Forwarders Association, and the Mongolian Road Transport Association should, individually and collectively, exert effort to improve the quality and the capacity of the workforce through education programs and continuous training.

Finally, project financing is likely to be a critical factor in implementing the various initiatives, and there are a few sources for funding. It is recommended that the various action plans be reviewed

and prioritized, after which domestic and international organizations can be invited as partners for the modernization of Mongolia's infrastructure and logistics sector. However, it ought to be noted that oftentimes, the lack of funding is not the obstacle, but the lack of political will.

There remains much work to be done, with finer details and information required. To continue on, the new logistics committee may commission a second phase project to further refine directions and plans on the actual implementation of the recommended courses of action.

Appendix

Organizations Visited and Officials Interviewed

Organization	Officials
Airport Customs	Ms. Sambuu Otgonpurev, Director, Airport Customs
Asian Development Bank	Mr. Mandar P. Jayawant, Deputy Country Director Mr. Luvsanchultem Vanjildorj, Regional Cooperation Specialist
Bayan Ulgii Province	Mr. Z. Sherkhan, Director, Bayan Ulgii Customhouse Mr. M. Kendebai, Deputy Director, Bayan Ulgii Customhouse Mr. N. Badrakh, Head, Tsagaan Nuur Customs Branch Office Mr. Alip, Advisor to the Head, Tsagaan Nuur Free Economic Zone Administration Mr. Puntsagdorj, Officer, Tsagaan Nuur Free Economic Zone Administration
DHL International (Mongolia) Ltd.	Mr. Davaanordog Shavirai, Operations & Services Supervisor
Erin International Co. Ltd.	Mr. Erkhembayar Yamaaranz, Executive Director Ms. Baljmaa Baatar, Finance and Project Director Ms. Narmandakh Batbayar, General Manager
Gobi Cashmere Corporation	Mr. Enkd-Amgalan Choidogdemed, Senior Manager
Hanbogd Soum	Mr. Buyntogtokh, Governor
Information and Communications Technology Authority	Mr. T. Naranmandakh, Deputy Director – General Policy Coordination and Implementation Department
International Freight Forwarding Centre	Mr. L. Khatar, Managing Director Mr. A. Tuguldur, External Relations Manager
Ivanhoe Mines Mongolia Inc.	Mr. Munkhbat A., Senior Vice President Ms. Oyumaa Ochirbat, Deputy Director, Oyu Tolgoi Government Relations Mr. Munkhbat T., Deputy Director, Oyu Tolgoi Project
Infosystems Ltd.	Ms. P. Sarantuul, Managing Director
Landex LLC	Ms. Gerelmaa, Managing Director
Ministry of Foreign Affairs	Mr. B. Altangerel, Director, Law and Treaty Department
Ministry of Fuel and Energy	Mr. Tumentsort Tsevegmid, Chief of Department
Ministry of Road, Transport and Tourism (MRTT)	Mr. Yo. Jargalsaikhan, Officer, Transport Policy and Coordination Department Mr. Ganbold Khatanbaatar, Officer, Road Policy and Coordination Department

Organization	Officials
Ministry of Industry and Trade	Mr. Dagva Batmunkh, Deputy Director-General, Trade and Economic Cooperation Policy Coordination Department Mr. D. Erdenebat, Head, Altanbulag Free Trade Zone (FTZ) Mr. Samdui, Governor, Altanbulag FTZ Mr. Ongosh Nigmat, General Manager, Tsagaan Nuur FEZ Mr. Ya. Gantumur, Governor, Zamyn-Uud FTZ
Mongol Express Co. Ltd.	Mr. D. Enkhbat, Managing Director
Mongolian Freight Forwarding Association	Mr. B. Myamar, Secretary General
Mongolian Meat Association	Dr. Deleg S., President
Mongolian National Chamber of Commerce and Industry	Mr. Sambuu Demberel, Chairman and CEO Ms. Lunda Odonchimeg, Assistant to Chairman
Mongolian Railway	Mr. B. Lkhagvasuren, Head of Freight Department Mr. Hurelbaatar D., Chief of Zamyn-Uud Station
Mongolian Customs General Administration (MCGA Headquarters)	Mr. Baagaa Battamur, Deputy Director General Ms. Chadraabal Emkhutuya Mr. Samdan Altangerel, IT Director
Mongolian Customs General Administration (MCGA Border Posts)	Mr. Byambatsogt Gal-Ochir, Director of Customs House, Darhan Mr. Dondogin Damba, Director of Customs House, Selenge Ms. Naran Zagaancooj, Senior Officer, Altanbulag Customs Office Mr. Banzragch, Director of Customs House, Zamyn-Uud Mr. Monkhor Ganbaatar, Head of Customs House, Gashuun-Sukhait
National Road Transport Association of Mongolia	Mr. Tseden-Ish Togtmol, General Secretary
State Specialized Inspection Agency	Mr. Enkhtaivan Tsoggerel, Head of Trade, Industry and Service Department Mr. Lkhagvadorj Ragchaa, Head of the Inspection Department of Industry, Tourism & Service
Transport Service Center	Mr. Batsuuri Baljin, Head, Vice Director/Director of Transport Regulation Division (MRTT)
Tuushin Co. Ltd.	Ms. N. Enkhriimaa, Vice-Director Mr. Enkhtuvshin, General Manager (Sales) Mr. Dugersuren N., Chief of Container Freight Station