ADB

Viet Nam

Transport Sector Assessment, Strategy, and Road Map

Asian Development Bank

ADB

Viet Nam

Transport Sector Assessment, Strategy, and Road Map

January 2012

Asian Development Bank

Printed in the Philippines.

ISBN 978-92-9092-422-7
Publication Stock No. RPS113947

Cataloging-in-Publication Data

Asian Development Bank.
Viet Nam: Transport sector assessment, strategy, and road map.
Mandaluyong City, Philippines: Asian Development Bank, 2012.

1. Transport. 2. Viet Nam. I. Asian Development Bank.

Note:
In this publication, "$" refers to US dollars.

Asian Development Bank
6 ADB Avenue, Mandaluyong City
1550 Metro Manila, Philippines
Tel +63 2 632 4444
Fax +63 2 636 2444
www.adb.org

For orders, please contact:
Department of External Relations
Fax +63 2 636 2648
adbpub@adb.org

Printed on recycled paper.

Contents

Tables and Figure

Tables

Figure

Currency Equivalents

(as of 1 January 2012)

Currency unit	–	dong (D)
D1.00	=	$0.0000475
$1.00	=	D21,035

Abbreviations

ADB	–	Asian Development Bank
AFD	–	Agence Française de Développement
ASR	–	assessment, strategy, and road map
AusAID	–	Australian Agency for International Development
CPS	–	country partnership strategy
CSP	–	country strategy and program
DGT	–	Direction générale du Trésor
DRVN	–	Directorate for Roads of Vietnam
EIB	–	European Investment Bank
GDP	–	gross domestic product
GHG	–	greenhouse gas
GMS	–	Greater Mekong Subregion
HCMC	–	Ho Chi Minh City
JICA	–	Japan International Cooperation Agency
MPI	–	Ministry of Planning and Investment
MOT	–	Ministry of Transport
MRT	–	mass rapid transit
NH1	–	National Highway 1
PATA	–	policy and advisory technical assistance
PDOT	–	provincial department of transport
PPP	–	public–private partnership
PPTA	–	project preparatory technical assistance

PRC	–	People's Republic of China
PSP	–	private sector participation
PTA	–	public transport authority
SEDP	–	socioeconomic development plan
SOE	–	state-owned enterprise
TA	–	technical assistance
TRAMOC	–	Hanoi Public Transport Management and Operation Center
VNR	–	Vietnam Railways Corporation
VNRA	–	Vietnam Railway Administration
VEC	–	Vietnam Expressway Corporation
VEA	–	Vietnam Expressway Administration
VITRANSS 2	–	Second Comprehensive Study on the Sustainable Development of Transport System in Viet Nam
VRA	–	Vietnam Road Administration

Acknowledgments

This report was prepared by a team led by Masahiro Nishimura, transport specialist, Southeast Asia Department (SERD), and team members Robert Anderson (consultant), Peter Broch (senior transport specialist, SERD), Rustam Ishenaliev (transport specialist, SERD), Phung Van Quang (consultant), Yasushi Tanaka (senior transport specialist, SERD), and Robert Valkovic (principal transport specialist, SERD). Guidance and support was provided by Kunio Senga (director general, SERD), James Lynch (director, Transport and Communications Division, SERD), Tomoyuki Kimura (country director, Viet Nam Resident Mission, SERD), Ayumi Konishi (senior advisor, Office of the Director General, SPD), Richard Bolt (advisor, Office of the Director General, SERD), Munawar Alam (unit head, Project Administration, SERD), Yumiko Tamura (principal country specialist, SERD), Le Dinh Thang (senior project officer [Transport], SERD), Kurumi Fukaya (principal investment specialist, Private Sector Operations Department), Uzma Hoque (social development specialist, Gender and Development, SERD), and Pradeep Tharakan (climate change specialist, SERD). The team wishes to thank the Department of External Relations and the following staff for their support in preparing and editing the report—Elizabeth Alimurung (project analyst, SERD) and Ann Mushayt Alemania (operations assistant, SERD).

The team wishes to thank agencies and colleagues in the Government of Viet Nam and the development partners for discussions and consultations held during the preparation of the report.

I Sector Assessment: Context and Strategic Issues

A. Introduction

1. This sector assessment, strategy, and road map (ASR) documents the current assessment by the Asian Development Bank (ADB) and strategic investment priorities of the government and ADB in Viet Nam's transport sector. It highlights sector performance, priority development constraints, government plans and strategy, past ADB support and experience, other development partner support, and future ADB support strategy. The ASR is linked to and informs ADB's country partnership strategy (CPS) for Viet Nam. The ASR and CPS for Viet Nam both target 2012–2015. The ASR will be updated as strategic developments and program changes are needed, and will help to provide sector background information for investment and technical assistance operations.

B. Overall Transport Sector Context

2. Investment in the transport sector in Viet Nam is expanding rapidly; as a percentage of gross domestic product (GDP), investment more than doubled from 2004 to 2009 when it reached 4.5% of GDP. The road subsector predominated, accounting for 3.6% of GDP. From 1993, when ADB resumed operations in Viet Nam, through 2008, the transport sector received the largest share (39.0%) of total ADB loan disbursements of about $6 billion and the vast majority was invested in roads (ADB 2009a).

3. Improved transport is the key means for increasing access by rural populations to social and economic opportunities; "spending additional 1% of GDP in infrastructure in Viet Nam has led to a proportionate reduction of the poverty rate by roughly 0.5%" (Vietnam Academy of Social Sciences 2006). The impact of improved access is greater in poorer provinces. With improved access and increased mobility of the population, there is a direct correlation to improved equality in gender and economic well-being. The overriding challenge for the government in the 5-year planning period (2011–2015) will be to continue mobilizing sufficient resources to implement the ambitious transport infrastructure program as envisioned by the various transport master plans.

4. The greater urban areas of Ha Noi and Ho Chi Minh City (HCMC) comprise 14 million people, of whom almost 6 million are employed and generate 20 million passenger trips per day, of which over 90% are by private vehicles. These two cities are the only urban centers that presently require mass urban transit services; all secondary cities have fewer than 1 million people, hence, lower volume transit services will presently suffice. Efficient transport in these two cities is nonetheless essential for the cities' continued economic growth, which has been above the national average for well over a decade, as well as to serve as important hubs that provide critical support and services for many sectors.

5. Rapidly increasing private vehicle ownership and traffic volumes have resulted in over 10,000 annual fatalities in recent years. Traffic accidents disproportionately affect the poor and vulnerable users such as pedestrians and motorcyclists. More than half of traffic fatalities involve persons who are less than 30 years of age, and traffic accidents, particularly in rural areas, are widely believed to be significantly underreported.

6. In recent years, fundamental organizational and policy reforms have taken place in nearly all transport institutions. The emphasis to separate policy, regulatory, and operator roles is particularly noteworthy, but a multimodal orientation is still lacking, resulting in imbalances and integration problems between subsectors, and coordination with investments and programs in other sectors remains poor. The core organization in the transport sector is the Ministry of Transport (MOT), with most of the key agencies dealing with transport located under MOT.[1] Some agencies, primarily in the urban transit subsector, are under the overall responsibility of specific people's committees. The key transport management agencies in the three focal subsectors are shown in Table 1.

Table 1 Key Management Organizations in Transport Subsectors

Roads and Expressways	Railways	Urban Transit
• Ministry of Transport (MOT) • Directorate for Roads of Vietnam (DRVN) • Vietnam Expressway Corporation (VEC) • Cuu Long Corporation for Investment Development and Project Management of Infrastructure • Provincial departments of transport (PDOTs)	• Ministry of Transport (MOT) • Vietnam Railway Administration (VNRA) • Vietnam Railways Corporation (VNR)	• Ha Noi People's Committee • Ha Noi Metropolitan Rail Transport Project Board • Hanoi Public Transport Management and Operation Center (TRAMOC) • Ho Chi Minh City People's Committee • Management Authority of Urban Railways • Management and Operations Center for Public Transport

Source: Asian Development Bank.

7. Planning and programming for transport sector investments and management of sector operations in cities and provinces are vested with the provincial departments of transport (PDOTs). The PDOTs are responsible to their respective provincial people's committees and typically have no direct responsibility link to MOT, except under certain circumstances when special works or projects are to be carried out under the overall direction of MOT. The size of provincial budgets for local transport is inadequate and private finance for this purpose is still at its infancy, constrained by institutional barriers. Nevertheless, the government is making strides toward decentralization. Under a 2006 Decree (Government of Viet Nam 2006), provinces for the first time were permitted to become possible "line agencies" of official development assistance programs under the government. This was an important step in eventually transferring more authority to PDOTs for the development of rural transport systems.

[1] MOT's organizational structure is shown in Appendix 4.

C. Core Sector Problems and Issues

8. Transport sector development is a key to sustaining Viet Nam's socioeconomic growth over the next decade as identified in Viet Nam's 2011–2015 Socio-Economic Development Plan (SEDP). MOT submitted its Five-Year Plan in October 2009 for inclusion in the SEDP (Minister of Transport of Viet Nam 2009). In the plan, MOT identified five core sector problems: (i) incomplete and disintegrated institutional system and development plans, (ii) unsatisfactory quality and capacity of transport service, (iii) lack in quality and quantity of transport infrastructure in both urban and rural areas, (iv) insufficient state budget and other financial sources, and (v) complications from the regional and global economy. These problems—mainly arising from insufficient resources and inputs as well remaining policy, institutional, and operational inefficiencies—are causing environmental and social degradation and hampering socioeconomic development. Further problems, causes, and effects are summarized in the problem tree provided in Appendix 1.

9. This ASR elaborates on the following core problems, issues, and strategic solutions: (i) improving subregional transport efficiency; (ii) institutional, organizational, and financial development in transport; (iii) traffic safety and social sustainability; and (iv) mainstreaming climate change (mitigation and adaptation). These issues are also aligned with those developed in ADB's Sustainable Transport Initiative.

1. Improving subregional Transport Efficiency

10. The rapid growth of international trade and globalization has highlighted the need to improve transport linkages and reduce logistics costs at the subregional level. The Greater Mekong Subregion (GMS) countries expressed their desire, through the GMS Economic Cooperation Program, for better transport connectivity to improve the environment for trade. The GMS Transport Sector Strategy Study, approved in 2004, developed a strategy and plan for further integration of transport networks in the GMS until 2015. One key recommendation of the study was to widen the GMS transport strategy to include not only roads but also railways and other modes of transport. To this end, Viet Nam needs to (i) establish, upgrade, and maintain reliable, cost-effective routes, regardless of the mode of transport; (ii) improve the level and coordination of transport planning, including the integration of planning between subsectors and between different agencies; (iii) improve conductivity across borders, including formalization of cross-border agreements and improvement of regional transport organizations; and (iv) increase the effectiveness and operational efficiency and safety of traffic. Only by progressing in all of these fronts will Viet Nam be able to maximize its comparative advantages at the subregional level.

2. Institutional, Organizational, and Financial Development in Transport

11. Institutional reform and modernization is often the most difficult bottleneck to overcome in transport agencies worldwide. Viet Nam is no exception, but MOT is making progress, for example through the recent reorganization of the roads and expressways subsector at MOT with the creation of the Directorate for Roads of Vietnam (DRVN) and the planned creation of an exclusive expressway administration agency, tentatively called the Vietnam Expressway Administration (VEA).

12. Vietnam Railways Corporation (VNR) operates and maintains the existing railway network, and the Vietnam Railway Administration (VNRA) is responsible for planning and developing new lines. Reforms in the railway subsector began in 1994, resulting in the separation of infrastructure (VNRA) and operations (VNR) in 1995. The Railway Law of 2005 encourages private sector participation (PSP) but, in reality, private companies can only participate through a joint venture with VNR.

13. The institutions that plan, develop, and operate urban transit are not well integrated under the city people's committees, with separate agencies for bus management, bus operations, new agencies for mass rapid transit (MRT) systems,[2] and line departments for road investment and traffic management. Both Ha Noi and HCMC propose to establish urban transport authorities to undertake overall management, planning, and regulatory roles to coordinate different transport modes.

3. Traffic Safety and Social Sustainability

14. Traffic safety in Viet Nam should not be viewed simply in terms of near-term reduction in accidents (i.e., installation of signals and signage), but rather in terms of long-range investment in social awareness and education. Simply constructing a highway median crash barrier to separate opposing vehicles on a high-traffic volume highway, although it may be very beneficial in preventing head-on accidents and may even have a very high economic internal rate of return, will not reduce widespread speeding and reckless driving. Without a generational commitment focusing on education and training to change driver (and pedestrian) behavior and customs, the high road accident and fatality rates will only get worse as traffic volumes increase. A two-pronged approach to the issue of traffic safety in Viet Nam is required. This includes (i) improvements in the physical safety of roads by improving the infrastructure; and (ii) adoption of long-term policies that will promote behavioral change of drivers, pedestrians, and enforcers of traffic laws and regulations.

15. Investment in transport infrastructure will contribute to social sustainability through inclusive economic growth by connecting the poor to markets and increasing their access to basic productive assets. Also, a shift from private to public transport will have numerous indirect social benefits to public transport users and the general population, such as safety improvements, less congestion, lower commuting times, pedestrian-friendly environment, and indirect economic opportunities that, in combination, will lead to an improved urban environment and a better quality of life.

4. Mainstreaming Climate Change (Mitigation and Adaptation)

16. High rates of economic growth in Viet Nam have led to growing energy demands and increased greenhouse gas (GHG) emissions. Passenger traffic has grown 5.8% annually from 1999 to 2008 and is expected to more than triple from 2008 to 2030 (JICA 2010). According to global estimates, transport accounts for about 30% of the world's total carbon dioxide emissions from fossil fuel combustion (OECD 2008). ADB's Safeguard Policy Statement places emphasis on promotion of GHG reduction and requires quantifying and monitoring direct and indirect GHG emissions in projects that are expected to generate significant GHG emissions.

17. Viet Nam is one of the countries that are most vulnerable to the impacts of climate change (ADB 2009b). By the end of the century, rice production is expected to decline dramatically and rising sea levels could submerge tens of thousands of hectares of cropland, forcing thousands of families in coastal areas to relocate. Sea levels may rise by 70 centimeters by the end of the century, while rainfall will decline significantly over the next 20–30 years. Climate change impacts could cost countries like Viet Nam the equivalent of 6%–7% of GDP each year, and the benefits of investing in adaptation and mitigation measures outweigh their costs.

18. The government has addressed the impact of climate change as a key issue by approving the National Target Program in 2008 (Government of Viet Nam 2008). It requires MOT and PDOTs to

[2] Some MRT lines are under the responsibility of national departments, not the city people's committees.

develop action plans including both mitigation and adaptation aspects.[3] Transport projects in vulnerable areas should be "climate-proofed" taking the uncertainties of the impacts into consideration.

D. Subsector Issues

1. Roads and Expressways

19. Viet Nam has an extensive road network and a relatively high overall road density (Table 2). The present network comprises more than 256,000 kilometers (km), but only about 17,000 km (7%) are national highways, and only about 23,000 km (9%) are provincial roads. The vast majority of the network (84%) is local roads (classified as district, commune, or urban roads). This means that the network is not hierarchically well articulated; the density of primary and secondary roads is lower than that of tertiary roads, limiting domestic and regional connectivity for, in particular, remote and rural areas of the country. Another significant characteristic of the network is its limited capacity, further affecting connectivity.[4]

Table 2 Comparative Road Densities (kilometers of road per square kilometer)

Road Density	Viet Nam	Philippines	Thailand	Japan	United Kingdom
Road network density	0.78	0.67	0,38	3.16	1.58
National road network density	0.05	0.10	0.11	0.14	0.19
Expressway density (kilometers/million vehicles)	0	97	36	97	115

Source: JICA. 2009. *The Study on National Road Traffic Safety Master Plan in the Socialist Republic of Vietnam until 2020.* Tokyo.

20. This lack of capacity and connectivity is compounded by the condition of most of the roads and highways. About 94% of national roads are paved, but only about 43% are in good condition; 37% are in average condition; and 20% in poor to very poor condition. Provincial and local roads are in worse condition than those in cities. In the approximately 216,000 km of local roads, 24% of provincial roads, 86% of district roads, and 79% of commune roads are unpaved (i.e., surfaced with either earth or gravel). Even in urban areas, only about half the roads are paved. In total, about 52% of the network is unpaved, and about 16% of the local population does not have access to an all-season road (ADB 2010b). Overall, the road network consists predominantly of unpaved, narrow, local road sections; therefore, traffic is greatly affected by environmental and weather conditions. As road management becomes increasingly decentralized, planning, operation, and maintenance capacity challenges will also be assumed by local governments, requiring countrywide capacity development and additional local government budgets.

21. Motorcycles comprise about 95% of total road traffic in Viet Nam (Al Haji 2005), which directly affects road design criteria (primarily lane and shoulder widths) and results in high numbers of traffic accidents, as well as affecting traffic flow and road capacities.

[3] ADB is preparing a policy and advisory technical assistance for "Support for the National Target Program on Climate Change" to commence in 2011.

[4] Nearly all national roads (about 93%) are only two lanes wide, and more than 60% of the entire 256,000 km network has fewer than two lanes.

a. Improving Subregional Transport Efficiency

22. Viet Nam has made very significant progress in the past 5 years (2006–2010) in improving the transport efficiency of its road and highway networks, and is beginning to improve the expressway network. With the assistance of ADB and other development partners, the country is making considerable progress in upgrading and completing major links in its national road network. The backbone of the national road network is National Highway 1 (NH1, GMS Eastern Corridor) stretching the length of the country from the border with the People's Republic of China (PRC) in the north to the Mekong Delta in the south. The initial phases of this upgrading have been completed, but as traffic volumes and road usage continue to increase, additional upgrading, road widening, and strengthening and widening of bridges are being carried out. Continuous upgrading of NH1 will be required in the near and mid-term future. Viet Nam has upgraded, and will continue to upgrade, a number of road links running westerly from this primary corridor, connecting to Cambodia, the Lao People's Democratic Republic (Lao PDR), and the PRC.[5]

b. Institutional, Organizational, and Financial Development in Transport

23. There has been a recent major reorganization at MOT. The Vietnam Road Administration (VRA) has been disbanded and replaced with the DRVN.[6] The responsibilities and authority of the former VRA were primarily for road operations and maintenance. The newly constituted DRVN has a complete road authority organizational structure that includes (i) policy making, planning, investment, and finance; (ii) traffic safety, road management, and maintenance; (iii) vehicle registration and licensing; and (iv) project and construction management. From an institutional perspective, this reorganization will bring long-term benefits to MOT.

24. The Vietnam Expressway Corporation (VEC) was established in 2004 as a state-owned enterprise (SOE) under MOT. It was organized to be financially independent of MOT, funded by revenues from tolled expressways. The core responsibility of VEC is to establish a nationwide expressway network, and to play a critical role in its financial management, construction, operation, and maintenance. Soon after the establishment of VEC, ADB took the lead in assisting the development of an expressway master plan for Viet Nam and has continued to support the capacity development of VEC. The first expressway by VEC is scheduled to be completed and open to traffic in 2011.[7] VEC's financial situation, currently without any toll revenue, is fragile and is expected to have difficulties meeting financial covenants posed by past ADB projects for some years before the major expressways, such as the Noi Bai–Lao Cai and Ho Chi Minh–Long Thanh–Dau Giay expressways, become fully operational. In 2010, the government agreed to provide counterpart funds to expressway projects to enhance the financial sustainability of VEC.

25. MOT established the Expressway Management Office in April 2011 in preparation for the establishment of VEA. According to MOT's proposal submitted to the Prime Minister in 2010 (MOT 2010), VEA will be responsible for the development of the expressway network; administration of expressway projects by public–private partnership (PPP), build–operate–transfer, and build–transfer investments; and execution of state management tasks over the expressway network. MOT plans

---

[5] Some of the important east–west regional links include (i) to Cambodia: the Southern Coastal Corridor, and two links along this corridor; (ii) to the Lao PDR: the Kon Tum–Ta Oy–Saravan (part of the Development Triangle of Cambodia–Lao PDR–Viet Nam [CLV]); the East–West Corridor, the improvement of the route from Vinh to Khammouane Province, Lao PDR, then across the new Mekong River Bridge to Nakhon Phanon, Thailand, and the Northeast Corridor; and (iii) the Noi Bai–Lao Cai Highway connecting to the PRC.

[6] The DRVN organizational structure is shown in Appendix A4.3. The reorganization was mandated by the Prime Minister's Decision 107/2009/QD-TTg dated 26 August 2009, and the actual physical reorganization of the offices was finalized on 30 April 2010.

[7] Cau Giay–Nin Binh Expressway.

to establish three operation centers in the north, central, and southern areas of the country. VEC and other expressway project owners will be administered by the government through a single focal point of VEA.

c. Traffic Safety and Social Sustainability

26. The government and MOT are acutely aware of the significant cost and social disruptions posed by the nation's high traffic accident and fatality rates. The National Traffic Safety Committee (NTSC)[8] is the national entity responsible for the national coordination of traffic safety, including overall responsibility for provincial and city traffic safety committees. In MOT, the Traffic Safety Department is responsible for traffic safety, and the Vietnam Register is responsible for vehicle safety standards and inspections. Additionally, within MOT, the Transport Development and Strategy Institute often acts as the lead ministerial entity in dealing with road traffic safety policy and issues.

27. Policy issues on road traffic safety are extremely varied and a challenge to address. They can be viewed as affecting three different areas of concern: the individual, the vehicle, and the roadway. The most straightforward issue to address is the roadway environment. MOT has clear policies and strategies to address such issues as identifying and improving accident "black spots," strengthening and widening bridge structures, widening pavements and shoulders to accommodate underpowered and nonpowered vehicles, and similar road infrastructure improvements. Likewise, policy issues on the vehicle are also clear and MOT is moving forward, albeit slowly, to improve procedures, policies, and management of the issuance of vehicle registrations and vehicle inspections. The most difficult traffic safety issue is the establishment of policies that require change in the behavior of individuals. Such policies often address the very basics of culture, particularly education—starting from early childhood, or reeducation of the enforcers of traffic laws and regulations—leading to consistent and even-handed enforcement without corruption.

d. Mainstreaming Climate Change (Mitigation and Adaptation)

28. Mainstreaming climate change adaptation measures into the road and expressway subsector will require (i) impact assessment, such as degrees of sea-level rise and floods; (ii) assessment of uncertainty and/or certainty of the impacts; and (iii) identification of necessary, cost-effective measures, together with the proper timing, of the existing and proposed transport infrastructure. For roadway and expressway embankments, bridges, and other structures, the primary adaptation measures will be (i) to conduct climate change impact, vulnerability, and adaptation assessment to identify how climate change may affect infrastructure design and alignment risks; and (ii) to make a comparative assessment between the project and the alternatives to determine the cost effectiveness of taking adaptive measures.

29. New expressways may divert traffic flow from congested roads to smooth and short-distance routes, but they can also increase traffic demand. Thus, expressways are expected to have both positive and negative effects on GHG emissions. Positive impacts are expected in connecting missing links, constructing bypass routes to congested areas, and enhancing modal connections. When applicable, those impacts should be quantified based on the ADB Safeguard Policy Statement.

[8] The NTSC was established in 1997 to advise the Prime Minister and to coordinate and advise state agencies, concerned organizations, people's committees, cities, and other countries and international traffic safety organizations with regard to safety issues, policies, and regulations for the Viet Nam transport sector, including road, railway, marine, inland waterway, and air subsectors. The NTSC is chaired by a deputy Prime Minister.

2. Railways

30. The railway network in Viet Nam consists of 2,525 km of track, of which 2,124 km between HCMC and Lao Cai are meter-gauge track, and 163 km between Ha Noi and Dong Dang, connecting to Nanning in the PRC, are dual-gauge track.[9] There are 162 km of standard-gauge tracks that link Ha Noi to Kep and Quang Trieu. The main line is a 1,726 km track linking HCMC to Ha Noi.

31. The railway sector in Viet Nam is small compared to other modes of transport. In 2007, the railway system carried only 6.5% of passengers and only 1.6% of freight tonnages. The number of passengers declined from 2006 to 2007. Freight ton-kilometers increased by about 34% during this period, reflecting an increase in longer-haul traffic, a market segment in which rail is more cost-efficient than trucking.

a. Improving Subregional Transport Efficiency

32. The Strategic Framework for Connecting GMS Railways (ADB 2010a) was endorsed at the GMS Ministerial Conference in August 2010. If the rail network in Viet Nam becomes part of the broader GMS rail network, investments will complement the national rail network. Within the context of an integrated and efficient GMS rail network, the need to invest in infrastructure and equipment (like the national rail sector) is not the only consideration. To build a truly integrated GMS rail network, Viet Nam will need to participate in the development of protocols and policies for the cross-border movement of rail freight and passengers, common technical standards to ensure interoperability of equipment and trains, regional cooperation in the rail sector, and regional rail safety standards. The most important aspect is that these developments must be carried out in the context of a broader structural change in the railway subsector nationwide, and in the GMS.

b. Institutional, Organizational, and Financial Development in Transport

33. The railway network is operated and maintained by VNR, an SOE. VNR has, in recent years, been converted into a corporation, and private train companies (joint stock companies) have been formed, providing limited passenger, freight, and infrastructure maintenance services.

34. VNRA is responsible for developing the sector, constructing new lines, and securing resources for infrastructure maintenance. VNR pays 10% of its gross revenues to VNRA as a track access charge. These funds are generally used for infrastructure maintenance.

35. Planned railway investment in Viet Nam will have a funding gap of as much as $64 billion depending on the cost of high-speed rail. Because VNR is an SOE, the burden of funding will fall mainly on the government.[10] Since VNR is unable to generate its own funds for capital investment, donors (both bilateral and multilateral) and the private sector contribute to financing. While the railway master plan has clearly identified the investment needs, there is an urgent need to increase the pace of structural reform of the rail sector to attract external funding and reduce the burden on the government.

36. Reforms in the railway sector that began in 1994 have gradually modernized the structure and legal foundation of the railway subsector, but the 2005 Railway Law, which provides the legal

[9] Dual-gauge tracks are mix of standard-gauge (1,435 millimeters) and meter-gauge (1,000 millimeters) tracks.

[10] ADB is currently funding the rehabilitation of the track and infrastructure between Yen Vien and Lao Cai, a project that has yet to be implemented despite a loan agreement being in place for almost 5 years.

framework for the private sector to invest, has not resulted in significant increase in PSP. VNR needs to be given a commercial orientation, with flexibility to manage its resources and to price its services. The number of workers in VNR, over 53,000 people, is large, given the current market share of the railways. Rules governing private investment in the railway subsector remain unclear and, as a result, PSP has been limited.

37. There is no reason why a state-owned railway, complemented by private operations and service, cannot thrive in Viet Nam's transport market as long as an effective regulatory structure is in place including public–private partnership arrangements. This structure would encourage the development of the railway subsector and the optimal use of transport infrastructure and services. Given that modern rail operations (involving fuel-efficient locomotives and long trains) can be significantly more efficient than road transport in moving bulk containers and passengers over long distances, it is clear that there should be ways to increase the railways' share of the transport market. Policy and regulatory issues that need to be addressed include

(i) creating a level playing field, by giving VNR flexibility in pricing its services and tailoring services and prices to meet the needs of freight shippers and passenger demands;
(ii) giving VNR the freedom to contract out for services, for example in infrastructure and equipment maintenance and in the provision of onboard services;
(iii) transparent rules to promote private investment in railway services and/or in the provision of railway infrastructure and equipment;
(iv) transparent rules for the operation of private trains over state-owned infrastructure;
(v) rules for the provision of services operated in the public interest and rules for obtaining and providing financial support; and
(vi) safety regulations and the responsibilities for enforcement.

These are by no means simple tasks and will require promotion of and political support for structural changes. Assistance to MOT, VNRA, and VNR in the development of plans for implementing and managing such significant and challenging changes will also be required.

3. Urban Transit

38. Strong growth in major urban centers has resulted in large demand for transport, which has been met mainly by rapid expansion of private vehicle fleets. Only Ha Noi has a bus system, which has been serving a reasonable portion of the demand since 2000. Private vehicles, mostly motorcycles, make up an abnormally high proportion (80%–90%) of total trips but there is significant potential for household incomes to rise, enabling more families to afford to purchase cars. The current road network is already becoming severely congested during peak hours, and the increase in private car ownership will only exacerbate this problem.

39. An improved urban transit network is vital to meet the growing travel demand. Both Ha Noi and HCMC have established urban transport master plans to expand the present road and public transit network capacity to meet the future challenges set by this growth. Bold targets for an urban transit share of 45%–50% by 2020, high by international standards, will require large investments but implementation has been slow.

a. Improving Transport Efficiency

40. Efficient urban transport can only be achieved through synergy of both road and urban transit networks. Recent studies on urban and transport development in Ha Noi have been carried out (JICA 2007) and HCMC (JICA 2004). The approved master plans target increasing the urban transit share

from the current 3%–14% to 22%–26% by 2015 and 45%–50% by 2020, using efficient suburban and urban bus and rail networks to encourage private vehicle users to switch to public transit. The urban transport master plans envisage a series of radial and ring roads, more cross-river bridges, urban transit development, traffic management strengthening, and pedestrian facility improvements.

41. Major urban ring roads are uncompleted, and most of the secondary and other feeder networks are inadequate. The government has decided to reserve 15%–20% of land for urban transport in Ha Noi and HCMC, but the available land is inadequate in urban areas and expensive to acquire. Most roads are narrow; only 10%–15% have a width of more than 12 meters (suitable for buses), 50%–60% are 7–12 meters wide (suitable for cars and minibuses only); and 30%–40% of the remaining roads are less than 7 meters wide, suitable mainly for motorcycles.

42. For urban transit, future demand will be met through MRT lines along major urban corridors, with some to be extended in the future to regional growth centers, and by significant expansion of the bus network, including bus rapid transit lines. To ensure the growth in urban transit ridership, it is necessary to integrate all modes of urban transit into common terminals or multimodal transfer points, coordinate bus and rail schedules, and use common standards for operations (including ticketing), safety, emergency services, and maintenance.

b. Institutional, Organizational, and Financial Development in Transport

43. The investment costs to achieve the urban transport master plan targets are significant with large financing gaps. For Ha Noi, the total investment cost will be about $12.7 billion, of which the road share is $6.8 billion (54%) and urban transit is $5.4 billion (43%). For HCMC, the corresponding amounts are $11.2 billion (51%) and $9.8 billion (42%). These costs are too large to be borne by the cities alone and will require substantive external financing, through the national government, development partners, or private sector by bonds, debts, or other financing methods.

44. Planning, designing, constructing, commissioning, operating, and maintaining a modern urban transit system is highly complex, requiring expertise and knowledge based on past experiences of similar systems. In the two cities, the Department of Transport has overall responsibility for the coordination of transport planning. Under the department are other entities that manage the road network. The Transportation and Urban Public Works Service coordinates the management of the bus network. Implementation of the new MRT projects[11] is under the responsibility of the Hanoi Public Transport Management and Operation Center and Hanoi Metropolitan Rail Transport Project Board in Ha Noi; and Management and Operations Center for Public Transport and Management Authority for Urban Railways in HCMC. However, there is no agency responsible for the overall urban transit system, and a hierarchy of operational management for each urban transit mode needs to be achieved through a public transport authority (PTA).

45. The PTA is proposed to be established through either the expansion and separation of key units in TRAMOC in Ha Noi or the establishment of a new agency in HCMC. Each form of establishment will lead to some improvements in the current capacity and organizational situation, but necessary changes to organizational structures will be challenging in the prevailing operating cultures. Better coordination should result from the PTA, but there is need to introduce more efficient and effective urban transit operations, including an increase in PSP in operation and maintenance.

[11] Separate organizations will be established to operate and maintain the MRT system.

c. Traffic Safety and Social Sustainability

46. Presently, there is no single entity that addresses overall urban traffic safety issues. Once a central PTA is established, safety would be a core issue to be addressed by coordinating and managing the safety of passengers and staff across all transit modes.

47. Poorly managed urban transit in Viet Nam's major cities eventually contributes to the decline in the urban environment and social conditions of city dwellers. One of the key advantages of a modal shift from private vehicles to urban transit is that the proposed measures will also bring about social benefits through (i) reduced road traffic congestion and travel time, (ii) dedicated pedestrian access, (iii) enhanced traffic safety, and (iv) reduced pollution and improved amenity. The benefits of an efficient transport system extend well beyond the transport utility; the system becomes an integral part of a sustainable and livable city.

d. Mainstreaming Climate Change (Mitigation and Adaptation)

48 A well-integrated urban transit system that encourages a shift from private vehicle to public transport will support climate change mitigation in urban areas by encouraging the use of lower carbon emission transport modes. The urban transport master plans target a model shift of 30%–40%, which, when combined with the natural growth of the city, would significantly reduce total GHG emissions. In terms of climate change adaptation, the MRT and other structures will be designed to adapt to such effects as flooding by having raised entrances to MRT stations and higher pumping capacity to discharge flood water.

E. Strengths, Weaknesses, Opportunities, and Threats Analysis

49. The strengths, weaknesses, opportunities, and threats (SWOT) of the Viet Nam transport sector in terms of ADB's operations are outlined in Table 3.

50. To summarize, the core problem is inefficiencies in the transport sector that are caused by (i) lack of subregional and national transport efficiency; (ii) inefficient institutional, financial, and operational development of transport agencies and private transport industry; and (iii) lack of traffic safety and environmental sustainability. Improved efficiency in the transport sector will lead to (i) increased regional and international competitiveness and reduced logistics costs by stimulating economic growth, increasing foreign investment, and establishing supply chains; (ii) reduced urban congestion and environmental and social degradation; and (iii) safer transport systems.

Table 3 Transport Sector—Summary of SWOT Analysis

Strengths	Weaknesses
• MOT developing strong policy and strategic frameworks • Stakeholders (government, donor partners, nongovernment organizations, and general public) committed to and recognize the importance of the sector • Appropriate alignment of past ADB transport strategies and programs with government priorities and programs • Effective ongoing coordination between ADB, donor partners, and the government • Strong comparative advantage of ADB in the roads and expressways subsector • Approved urban transport master plans	• Weak priority setting at MOT, which results in unrealistic expectations • Insufficient state budget allocation for transport infrastructure development • Weak institutional capacity and management in MOT, PDOTs, and related agencies • Slow and inefficient technology transfer and capacity building in the sector • Overdependence on poorly financed and managed SOEs for undertaking civil works • Lack of appreciation for traffic safety by the general public • Poor urban transit network and services • High cost of urban land acquisition and length of time taken to acquire the land • Unrealistic PSP plans in financing transport projects
Opportunities	**Threats**
• To assist in the development of strong and sustainable transport institutions • To assist in the improvement of road traffic safety • To promote public–private partnership in the sector, including promotion of increased efficiency and PSP in SOEs • To utilize low-carbon modes for urban transit to access global finance and to support climate change mitigation • To make economic growth in HCMC and Ha Noi attractive to investors and donors for transport projects	• Economic fluctuations • Continued delays in equitization of SOEs • Continued delays in implementing legal and other reforms needed to promote public–private partnership • Poor transport asset management affecting the government's capacity for transport development • Continued weak PSP in the transport sector • Attractiveness of private vehicles compared to urban transit • Urban road network and infrastructure not being suitable for buses • Negative impact of climate change on transport network

HCMC = Ho Chi Minh City, MOT = Ministry of Transport, NGO = nongovernment organization, PDOT = provincial department of transport, PSP = private sector participation, SOE = state-owned enterprise, SWOT = strengths, weaknesses, opportunities, and threats.
Source: Asian Development Bank.

II Sector Strategy

A. Government Sector Strategy and Plans

51. The government's current national planning strategy for the country is reflected in the socioeconomic development plan (SEDP) for 2006–2010. It laid out for the first time a path to transition from a rigid, centrally controlled economy to a market economy. It highlighted the national importance of the transport sector in promoting economic growth, poverty reduction, safety enhancement, environmental protection, and human resource development. In general terms, the SEDP envisioned a transport system that promoted (i) competitiveness, (ii) integration and inclusion, and (iii) sustainability and safety. The development strategy for the transport sector until 2020 was best summarized in a Decision by the Prime Minister in 2004 (Government of Viet Nam 2004), which referred to the need to minimize transport costs; to pursue a synchronous, rational, and gradual modernization program; and to maintain the existing transport infrastructure.

52. The SEDP for 2011–2015 is expected to place greater emphasis on the overall protection of the environment and improvement of the business environment, and to stress the need for more effective management of the transport sector. In the next decade (2011–2020), it is expected that the continued planned development of infrastructure will require about $16 billion annually, or approximately 20% of the country's GDP. Based on current estimates, less than half of that amount is projected to be available. The government's primary source to make up for this very significant shortfall is the private sector. This requires that in the very near future, there is successful development of an effective legal framework for public–private partnership (PPP).

53. In March 2009, the Prime Minister approved the "Adjustments to the Transport Development Strategy up to 2020 with a Vision toward 2030" (*Official Gazette* 2009), referred to in this paper as "Transport Strategy 2020." Transport Strategy 2020 followed an ambitious, forward-looking, top–down planning strategy. It can be inferred that the SEDP for 2011–2015 will closely adhere to official pronouncements of the Prime Minister and will incorporate the following major principles of Transport Strategy 2020:

(i) Transport is an important part of the national infrastructure and should be prioritized in a sustainable manner.
(ii) The country's geographical location and national resources should be promoted in the development of the nation's transport system.
(iii) Transport infrastructure will be developed in a coordinated and rational manner, linking different modes and all regions of the country, and stressing the importance of maintenance and sustainable operations.
(iv) Modern technology should be applied to deliver safe, high-quality, and environmentally responsible transport at reasonable costs.
(v) Regional and international cooperation in transport and transport systems will be promoted.
(vi) Safe and convenient mass transit systems, initially in Ha Noi and Ho Chi Minh City (HCMC), will be developed to reduce urban traffic congestion.
(vii) All potential infrastructure investment sources will be mobilized.

54. To implement Transport Strategy 2020, in conjunction with these seven principles, seven parallel areas were identified around which the following specific solutions and policies were to be formulated: (i) transport development, (ii) raising of capital, (iii) transport industrial development, (iv) international integration and competition, (v) reform, (vi) new sciences and technologies, and (vii) human resource development. The government has designated the Ministry of Transport (MOT) to implement Transport Strategy 2020.

55. During the preparation of Transport Strategy 2020, the Japan International Cooperation Agency (JICA) supported the government by preparing the Second Comprehensive Study on the Sustainable Development of Transport System in Viet Nam (VITRANSS 2) (JICA 2010). VITRANSS 2 is equally ambitious and forward looking. It can be viewed essentially as a bottom–up planning document that analyzed the existing networks, performance, and demand forecasts of five subsectors: roads, railways, inland waterways, ports and shipping, and air. From this analysis, together with an overview of the institutional arrangements and regulatory framework, VITRANSS 2 developed appropriate strategies and master plans for the transport sector as a whole and for each of the five subsectors.[12]

56. Viet Nam's Prime Minister approved a railway master plan in 2002 for the development and modernization of the railway network. The objective of the plan was to significantly increase the railway's share of the transport market to 25% of freight tons and 20% of passengers. The plan calls for approximately $7 billion to be invested by 2020. The master plan recognized that the railways in Viet Nam had deteriorated and that significant investment would be needed. The railway master plan was very ambitious and all encompassing, including rehabilitation, upgrading, and construction of new rail lines and repair facilities. It even included new facilities for the manufacture and export of rolling stock. However, in the intervening 8 years, little progress has been made on any of the major components.

57. The Prime Minister has recently issued two decisions[13] that contain specific project details in support of the policy outlined in Transport Strategy 2020. One decision, the Road Transportation Development Plan, established a road development concept that sets out a series of planning and policy components for the road subsector. It designated 114 specific national highway, ring road, expressway, provincial, and rural transport projects to be implemented by 2020, and an additional 13 urban road projects to be implemented in Ha Noi and HCMC. The second decision, the Detailed Master Plan for North–South Expressway–Eastern side (MPNSE), divided the 1,811-kilometer (km) expressway into 16 sections, approved the alignment and technical standards, and provided details of required land acquisitions. The decision set a 14-year schedule for implementation: 2010–2023. The MPNSE is expected to cost $17.9 billion, or about $10 million per kilometer, and will require an average yearly investment of about $1.3 billion during implementation. Very few details are included in the decision for an appropriate investment plan for a "mega" project of this size and complexity, except to state that funding is expected to come from both the public and private sectors.[14]

58. **Public–Private Partnership**. The focal point for PPP in the government is the Ministry of Planning and Investment (MPI).[15] Although the concept of PPP is still in its infancy in Viet Nam, it is

[12] The report's recommendations for the road and railway subsectors are summarized in Appendix 5.

[13] Decision No. 1327/QD-TTg. 24 August 2009. *Approval of Vietnam Road Transportation Development Plan by 2020 and Vision toward 2030*. Ha Noi; and Decision No. 140/QD-TTg. 21 January 2010. *Approval of the Detailed Master Plan for North–South Expressway—Eastern Side*. Ha Noi.

[14] The decision only establishes that the sources of investment shall be (i) state budget through loans or loan guarantees; and (ii) investors under build–operate–transfer, build–transfer–operate, build–transfer, or PPP, including partial funding from state budgets.

[15] The PPP Program Development Office (PDO), staffed by senior officers from MPI, Ministry of Finance, and other government agencies has recently been established within MPI. The PDO was created to play the central role of coordinating the various PPP programs and initiatives within the government.

gaining recognition at the highest levels of the government as an indispensable source of investment capital. The Prime Minister recently emphasized that under the SEDP for 2011–2015, it will be necessary to encourage projects conducted under the build–operate–transfer (BOT) and PPP models. In the current decree,[16] three types of investment are regulated in Viet Nam: BOT, build–transfer–operate (BTO), and build–transfer (BT), but a pilot project incorporating the basic premises of PPP has yet to be fully implemented. For PPP to generate significant investment capital in the coming years, the primary need is a comprehensive and consistent legal PPP framework.[17] This will require acceptance of the "partnership" component of PPP as an integral component of the legal framework; in turn, the government agrees to share reasonable risks and responsibilities with the private sector in managing PPP projects.

59. Successful PPP projects in the transport sector are widespread across countries, but they are seldom successful without significant public sector subsidies and/or guarantees. This is particularly the case in the roads and expressways subsector. In an expressway PPP, such items as right-of-way and resettlement costs are typically borne by the public entity, and often subsidies also include a portion of civil works costs. Tariff-free importations and corporate tax "holidays" are also often part of the incentive package. User tolls that can be charged on expressways are, without exception, tightly controlled by the public entity. Therefore, to guarantee the financial viability required to justify the risk of borrowing the investment capital, an appropriate package of subsidies and guarantees is essential. Another major issue is risk sharing between the private and public sectors.

60. The Government of Viet Nam issued regulations on pilot investment for PPP projects.[18] One of the first pilot projects is expected to be the Dau Giay–Phan Thiet Expressway, financed initially by Binh Minh Import-Export Production and Business Limited Liability Company (Bitexco) and the International Finance Corporation. The Prime Minister approved a list of proposed PPP projects to be launched in Viet Nam, including (i) Ninh Binh–Thanh Hoa Expressway, (ii) Dau Giay–Lien Khuong Expressway, (iii) Ha Long–Mong Cai Expressway, (iv) Ben Luc–Hiep Phuoc Expressway, (v) Thanh Hoa–Ha Tinh Expressway, and (vi) Ho Chi Minh Highway (Cam Lo–La Son Section).

61. **Governance**. The key factor underpinning both traditional and PPP implementation of transport infrastructure will be continued progress in policy and reform issues under the broad umbrella of governance. The government has already taken steps in the reform process, including implementation of the Revised Law on the State Budget, which became effective in 2004; the implementation of improvement policies for all government agencies, including state-owned enterprises (SOEs) and public investment projects; and the establishment of State Audit of Vietnam as a technically independent unit under the National Assembly. In December 2009, the World Bank (2009) approved a loan[19] that has as its core objective support for modern governance to strengthen the selection, preparation, implementation, and supervision of public investment projects. This loan is organized around four main aspects that are essential to strengthening the public investment project cycle: (i) project selection (competitive entry, environmental screening, and project approval); (ii) project implementation (cost estimates, bidding rules, bidding transparency, conflict of interest, dispute resolution, land acquisition, and environmental management); (iii) financial management

[16] Decree 108, Law on Investments, took effect from 15 January 2010.

[17] At present, public investment that involves construction works falls under the Construction Law and another set of associated decrees. In addition, the State Budget Law, the Procurement Law, the Land Law, the Environmental Protection Law, and the relevant decrees apply. Furthermore, there are important inconsistencies between these documents, especially in relation to the preparation, appraisal, classification, and monitoring and evaluation of projects. Important gaps exist as well, particularly in relation to assessing the economic and social impacts of projects.

[18] Decision No.71/2010/QD-TTg. 9 November 2010. Approving the Regulations on Pilot Investment under the Form of Public–Private Partnership.

[19] First Public Investment Reform Development Policy Loan approved on 22 December 2009 for $500 million (maturity = 25 years, grace period = 10 years).

(reporting and control, administrative costs, environmental budgets, subsidies, and guarantees); and (iv) project oversight (project documentation, monitoring, and evaluation). It was also agreed between the government and the World Bank that the issuance of this policy as a Prime Ministerial Decision in 2010 would be a trigger for a second loan.[20] ADB (2010d) addresses the governance issue of SOEs and their involvement in road transport projects through a policy and advisory technical assistance (PATA).

62. **Gender.** ADB interventions will aim to increase women's access to social benefits due to improved roads and transport services, including better access to health and education services, to markets, and to increased trading opportunities. All projects will ensure that gender analysis informs mass rapid transit (MRT), urban transport, and road infrastructure design and construction to maximize women's equal access and benefits. The gender-specific design features of projects will include (i) targets for women's employment generation through civil works, maintenance and operations staff, ticketing staff, and station attendees and supervisors, and adherence to gender-specific core labor codes; (ii) gender-sensitive physical design features; for example, women-only waiting spaces, women-only carriages, separate toilets, child-friendly access and facilities, shop spaces for female-run businesses, etc.; (iii) increased awareness on and prevention of HIV/AIDS and trafficking of girls and women; (iv) increased awareness of road safety and reduction of its impacts, focused on local populations, including women and children; (v) gender-sensitive resettlement plans so that affected households secure better access to compensation resources and livelihood activities; and (vi) targets for women's employment and capacity development of female transport staff to promote the role of women in the transport sector.

B. ADB's Sector Support Program and Experience

1. Recent ADB Support

63. During the first decade after ADB resumed operations in Viet Nam (1993–2002), the primary challenge in the sector was to restore transport infrastructure from the damages of war. The present-day challenges are to achieve sector outcomes that will sustain Viet Nam's growth and development, as well as raise the country's regional and global competitiveness. The primary goals of investments in the transport sector are to elevate the country's competitive performance and to adopt international best practices. ADB has supported the improvement of national and regional connections mainly through enhancement of Greater Mekong Subregion (GMS) corridors, national highways, and rural road networks.[21] ADB's Strategy 2020 (ADB 2008) and Sustainable Transport Initiative (ADB 2010c) encourage more active involvement in urban transit and railway subsectors.

64. In view of Viet Nam's transport sector needs and ADB's experience, strength, and strategy, this assessment, strategy, and road map (ASR) focuses on three subsectors: (i) roads and expressways, (ii) railways, and (iii) urban transit.[22] Road transport takes a primary share of passenger and cargo traffic, and it needs to be further developed to enhance efficiency and safety. The railway network in Viet Nam is relatively extensive with 2,525 km of tracks, but the infrastructure is not well utilized due to limited operational capacity. Urban mass transit services are urgently needed in the two large cities, Ha Noi and HCMC, due to recent rapid growth in traffic demand.

---

[20] To be called the Second Public Investment Reform Development Policy Loan for an additional $500 million to carry similar loan conditions as the first loan.

[21] Except for one loan to improve Saigon Port (Loan 1354-VIE), ADB's transport projects have mainly supported roads and expressways.

[22] The three other principal transport subsectors in Viet Nam are (i) maritime, comprising 80 large regional and small ports; (ii) inland waterways, totaling about 15,400 km of navigable and/or managed rivers and canals; and (iii) aviation, comprising 21 airports, of which 4 are classified as international.

65. The ADB strategy in the country strategy and program for 2007–2010 (ADB 2006) was to support the government's investment program to improve transport infrastructure and reduce transport costs. The proposed investment program had three thrusts, in line with the SEDP for 2006–2010, as follows:

(i) Address the social equity aspects of Viet Nam's transport needs through the Asian Development Fund to support the development of provincial and district roads. This thrust supported the SEDP objective of a regionally integrated infrastructure system and was also consistent with the agreement with MOT and other funding agencies that ADB's investments in transport would include support to provincial road networks.

(ii) Provide support for investment projects to address critical transport needs that are constraints to economic growth in the main development centers. This thrust was to help develop infrastructure to attract business investment and development in an environmentally sound manner. Projects included investments in expressway and railway facilities for the safe and efficient movement of goods and people around, through, and between national centers of economic activity. Urban transport bottlenecks were also to be addressed and public sector participation (PSP) was to be encouraged to help overcome budgetary constraints.

(iii) Bring subregional dimensions to the development of the transport network in terms of connectivity, including multimodal transport modes and competitiveness.

66. The comparative advantage of ADB in the transport sector includes (i) a track record as a major sector funding agency since the early 1990s, (ii) bringing a GMS dimension to sector development, (iii) recognition by both the government and other funding agencies that ADB is a major partner, and (iv) capacity to provide Asian Development Fund and ordinary capital resources loans for major projects and policy reform programs. ADB should continue to utilize these historical advantages and broaden its range of experience to bring value-added expertise to such issues as traffic safety and climate change. ADB should expand its efforts in supporting PSP in transport programs and strengthen good governance in both private and public sectors.

67. Beginning in 1993, ADB's support for the rehabilitation and improvement of the transport sector has been concentrated in the road subsector. Initially, three loans addressed the rehabilitation of National Highway 1 (NH1).[23] Recent ADB experience in Viet Nam has been mainly carrying out project preparatory technical assistance (PPTA) and PATA, expressway and road projects, and a railway upgrading project. The first of a series of loans for the improvement of provincial and district roads in the northern region was completed in 2009,[24] and a second loan for roads improvement in the central region was completed in 2010.[25] Loans for two GMS projects, including the GMS Southern Corridor (Phnom Penh–Ho Chi Minh City Highway) Project and GMS East–West Corridor Project, were completed; and loans for the GMS Northern Corridor (Noi Bai–Lao Cai Highway) Project and GMS Southern Coastal Corridor Project were approved in 2007 and are under implementation. There has only been one project in the maritime subsector, an early loan to address capacity constraints at Saigon Port. In the railway subsector, one loan was approved in 2006 to address improvements to the Yen Vien–Lao Cai Railway Upgrading in the GMS Northern Corridor. In the urban transit subsector, MRT projects for Ha Noi and HCMC have been approved.[26]

[23] Road Improvement, Second Road Improvement, and Third Road Improvement.

[24] Provincial Roads Improvement.

[25] Central Region Transport Network.

[26] Multitranche financing facility and its first tranche for HCMC MRT Line 2 was approved in December 2010. Ha Noi MRT Line 2 was approved in March 2011.

68. Implementation performance of recent projects needs to be improved to ensure ADB's continuous involvement and achievement of outcomes. It will require breakthroughs in procurement, resettlement, consultant management, safeguard compliance, and others. Institutional development and capacity enhancement is also important so that relevant government agencies will improve efficiencies, understand ADB procedures, and become familiar with emerging needs, such as mainstreaming climate change, sustainable transport, PPP and PSP, and gender and social issues. ADB will also need to coordinate more closely with and be responsive to the needs of the executing agencies.

69. So far, self-evaluations from project completion reports have assessed that progress in meeting Viet Nam's transport sector needs has been mixed. Improvements in GMS transport corridors have led to a significant increase in cross-border trade between Viet Nam and GMS countries. Rehabilitation of national highways and trunk and rural roads have contributed to rapidly increasing flights and passenger traffic. However, management of the transport sector is still inefficient, and transport costs are relatively high. Large-scale projects, such as expressways and urban mass transit, do not progress as fast as the government had planned. Poverty-targeted investments are still necessary, especially in remote areas of the country. Traffic safety and urban congestion remain as major social issues. Greater attention needs to be paid to prioritization based on known and proven or likely impact, relative subsector and project priorities, executing and implementing agencies' absorptive capacity, and the practical steps and time needed to build capacity, project readiness for implementation and procurement, and ADB's comparative advantage in subsectors.

2. Sector Assistance Program Evaluation Report[27] and Project Completion Findings from 1993 to 2008

70. **Relevance**. Independent evaluation has assessed that the transport projects in Viet Nam have consistently been relevant to the needs and priorities of the government, and have largely been designed to achieve intended outcomes. Projects have been in line with the comparative advantage of ADB and have been harmonized with projects provided by other development partners, primarily the World Bank and JICA. Lending operations have been well focused with regard to civil works requirements, but not so well focused on aiding the development of national and provincial institutions in the transport sector. After decades of war and isolation, ADB operations in the mid-1990s were initially driven by the need to respond to the considerable demand for investment in physical infrastructure. This reflected the need for urgent remedial measures at the time, and after this initial "emergency" phase was over, normal diagnostic analyses were used to prepare and carry out projects.

71. **Effectiveness**. Outputs have generally met or have exceeded targets, primarily in terms of kilometers of upgrading of national and provincial roads. Outcomes of ADB assistance, mainly reduced vehicle operating costs and reduced travel times, have also been achieved as envisioned in project designs. Operations generally achieved results as defined by country operational strategies, country strategies and programs, and country partnerships and strategies, and have supported Viet Nam's goals and objectives.

72. **Efficiency**. ADB assistance was assessed as highly efficient in meeting socioeconomic objectives such as growth effects, but less efficient in terms of targeting resources at capacity development and institutional development of MOT and provincial departments of transport. Transport sector economic rates of return on investments according to the project performance evaluation and project completion reports on completed loans varied between 13% and 35% (compared with 18.1%–32.3% at appraisal). However, implementation delay is a growing problem in recent projects.

[27] ADB 2009c.

73. **Sustainability**. Evaluations were less optimistic on sector sustainability. Maintenance funding was marginally sufficient for the first three projects to improve NH1; but there was no certainty that even a similar, minimum level of funding would be provided for needed periodic maintenance overlays, or that sufficient funds would be passed down to provinces to finance the maintenance of the scattered road sections being constructed under ADB loans.[28] Assurances have been made by the government that maintenance funding will be made available, but the scale of underfunding remains a problem, particularly for local roads.

74. **Impact**. ADB operations have had their most positive impact on economic development. As the full impact of local road projects take hold over the next few years, the impact of ADB operations will begin to shift more toward poverty reduction and begin to have a more positive impact on social concerns. Negative impacts that are unrelated to construction, such as air and noise pollution, carbon dioxide emissions, safety impacts, and other social issues, including severance, were examined. While some of these have been addressed or mitigated through incorporation of measures in project designs, even more could be done to support the government in terms of reducing emissions, driver education, vehicle inspection, licensing and traffic regulation enforcement, and the widening of road shoulders. Based on current performance, ADB assistance will have a "likely substantial impact."

3. Lessons Learned and Better Practices

75. The sector assistance program evaluation identified key lessons learned by reviewing ADB completion reports and other performance and sector evaluations. ADB plans to act on the following key lessons, mainly through the PATA and policy components of loan projects:

(i) Design flexibility—standard designs may not always be appropriate for certain local conditions (e.g., in mountainous areas)
(ii) Project preparation—length of time from identification to effectiveness needs to be shortened
(iii) Underbidding—this problem has left some contractors with insufficient funds for successful implementation
(iv) Safeguard harmonization—already agreed in principle, but needs to be implemented
(v) Institutional strengthening—needs more attention, particularly in light of potentially large increases in future investment
(vi) Transparency—the use of equitized SOEs to bid on ADB-funded projects when they may still be effectively under government control may result in conflicts of interest, and in some reported cases has resulted in underbidding to secure contracts
(vii) Capacity analysis—not enough has been done to identify capacity-building needs, particularly at the provincial level
(viii) Technical assistance (TA) ownership—TA could be more demand-driven to improve ownership.

C. Coordination with Other Development Partners

76. The World Bank has completed and is implementing a number of initiatives and projects that are complementary to ADB's involvement in the transport sector. As a pilot project for PPP in expressways, the Dau Giay–Phan Thiet expressway project has been assessed in close coordination with MPI, but its

[28] Loan 1888: Provincial Roads Improvement and Loan 2195: Central Region Transport Networks Improvement Sector.

implementation is taking a long time. The World Bank also supports MOT with implementation details to establish road maintenance funds and the Vietnam Expressway Administration (VEA). The most relevant World Bank projects include the (i) Road Network Improvement Project, (ii) Da Nang–Quang Ngai Expressway Project, (iii) Ha Noi Urban Transport Development Project, (iv) Hai Phong Urban Transport Project, and (v) Road Safety Project.

77. JICA has been, and continues to be, a major bilateral funding agency in the transport sector in Viet Nam supporting policy issues and infrastructure development. ADB and JICA are presently cofinancing the Ho Chi Minh–Long Thanh–Dau Giay Expressway and the GMS Ben Luc–Long Thanh Expressway. JICA's list of completed and ongoing transport projects is long. Relevant JICA projects to this ASR's core issues include the (i) Ha Noi City Urban Railway Construction Project (Line 1), (ii) Project on Integrated Urban Mass Rapid Transit and Urban Development for Ha Noi City, (iii) Northern Viet Nam National Roads Traffic Safety Improvement Project, (iv) Transport Infrastructure Development Project in Ha Noi, and (v) the earlier mentioned key transport initiatives: VITRANSS 2 and Study for Traffic Safety Master Plan.

78. ADB's active cooperation with other development partners in transport is also significant, including cofinancing with (i) Agence Française de Développement (AFD) and Direction générale du Trésor (DGT) on the GMS Yen Vien–Lao Cai Railway; (ii) Australian Agency for International Development (AusAID) and Korea Eximbank on the GMS Southern Coastal Corridor, and on the future Central Mekong Delta Transport Connectivity; (iii) AFD, DGT, and European Investment Bank (EIB) on the Ha Noi Metro Line 3; (iv) Kreditanstalt für Wiederaufbau (KfW) and EIB on the HCMC Metro Line 2; and (v) Nordic Development Fund on the climate change component of the Transport Connections in Northern Mountainous Provinces. KfW is undertaking two projects in the railway sector: Main Line Locomotives and the Vietnam Railway Control Center.

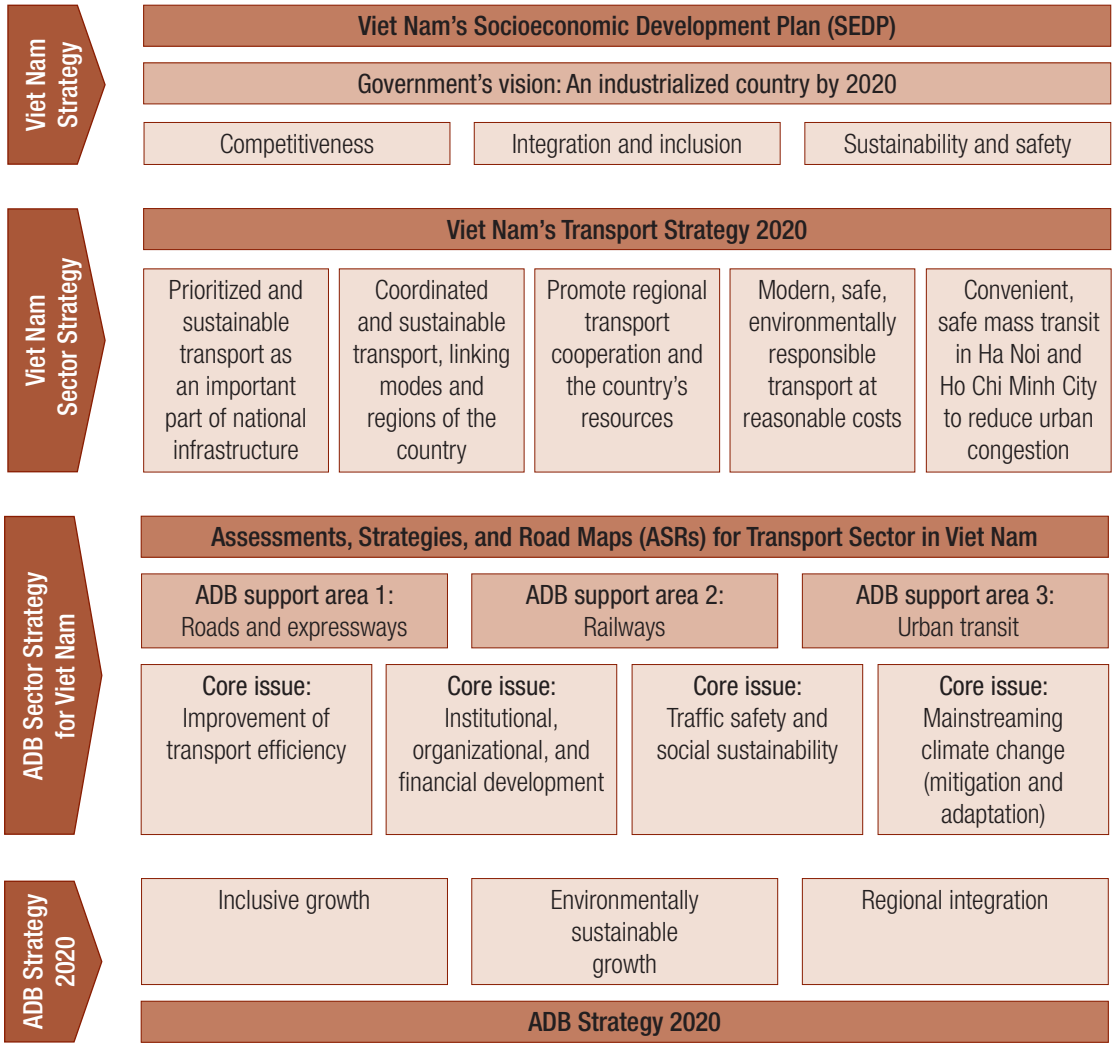
D. ADB Sector Forward Strategy[29]

79. Based on the ADB assessment of the transport sector and Viet Nam's Transport Strategy 2020, the forward strategy will be to improve planning, implementation, and operational efficiency throughout the sector. The strategy proposes three key strategic investment areas: expressways and roads, railroads, and urban transit. Common binding strategies are to (i) improve subregional and domestic transport efficiency; (ii) strengthen institutional, organizational, and financial development of government transport entities; (iii) promote tr affic safety and social sustainability; and (iv) mainstream climate change mitigation and adaptation in the sector (Figure, p. 21).

80. As with Viet Nam's Transport Strategy 2020, ADB's Strategy 2020 calls for increased PSP in infrastructure investment, not only to fill the financing gap but also to transfer management and technical expertise to improve sector efficiency. In support of the government's plan to increase the use of the private sector in transport infrastructure, ADB will assist the development and financing of PSP and PPP projects in the abovementioned three core support areas. ADB will also consider supporting projects in some noncore areas, such as ports and airports, if the projects involve PSP or PPP. ADB can assist the government in the preparation of demonstration PSP and PPP projects. ADB can also provide direct financing for such projects and credit enhancement to catalyze funds from private sector financiers and capital markets.

[29] The strategy presented here is for discussion purposes only and represents no commitment on behalf of ADB or its clients.

Figure Strategic Linkages



Source: Asian Development Bank.

1. Improving Subregional and Domestic Transport Efficiency

81. Viet Nam needs to improve transport linkages and reduce logistics costs to meet the rapid growth of international and domestic trade and travel needs. The GMS Transport Sector Strategy developed a plan to further integrate GMS transport corridors until 2015. The government has a long list of development and improvement of expressways and national and local roads to be implemented under Transport Strategy 2020. With a track record of funding road and expressway projects successfully, ADB should continue to support the development of subregional and domestic transport networks until the country's main networks like the North–South Expressway: Eastern Side[30] are complete and the government can steadily mobilize necessary investment through its own public or private funding sources.

[30] Route, planned construction period, and other details are given in Appendix 6.

82. The GMS Strategic Framework for Railways was endorsed in 2010. The government is developing and modernizing the railway network based on a master plan approved in 2002. However, the railways are apparently losing competitiveness against roads and planned expressways in some network sections. Railway development should target specific market niches in which it has the best chance of becoming competitive. Also, more attention should be paid for the enhancement of transshipment convenience at the linkage points like ports and freight yards.

2. Strengthening Institutional and Financial Development of Government Transport Entities

83. The country strategy program (CSP) for 2007–2010 (ADB 2006) identified as a key issue the relatively inefficient management of the transport sector. MOT is making progress in modernizing its organizational structure, for example, by the recent establishment of DRVN. However, modernization of the transport entities including railway and urban transit agencies remains a key issue. Reform of state-owned transport enterprises is also needed to promote competition and improve quality. There is a need for a public transport authority in Ha Noi and HCMC for more efficient and effective management of urban transit operations. ADB approved a PATA for the road and expressway subsector in 2010 to address these issues. ADB should continue to be involved and take an initiative in institutional and financial development of transport entities by implementing the TA effectively and conducting other capacity development measures for national and provincial transport agencies including policy components embedded in loan projects.

3. Promoting Traffic Safety and Social Sustainability

84. Rapid motorization has caused a serious traffic safety concern in the country. Similarly, increased mobility has brought social issues, such as spread of HIV and human trafficking. The pro-poor aspect of transport development should also be considered as increased connectivity to markets and social infrastructure contributes greatly to inclusive growth and poverty eradication. ADB's recent involvement in traffic safety per se was limited to the implementation of an Association of Southeast Asian Nations (ASEAN) regional TA and was marginal compared to other development partners. However, ADB emphasized the importance of the issue in the Sustainable Transport Initiative in 2010 and is preparing a safety improvement of NH1 as a pilot project. Social sustainability has been and needs to be pursued through pro-poor rural road projects in central and northern regions and through subcomponents of transport projects addressing gender equality, human trafficking, and the spread of HIV.

4. Mainstreaming Climate Change Mitigation and Adaptation

85. Viet Nam is one of the countries that are most vulnerable to the impacts of climate change. Many parts of the country may be impacted by sea-level rise and intensified extreme weather events. Transport projects in vulnerable areas should be "climate-proofed" with the uncertainties of the impacts into consideration. Some adaptation studies are ongoing and planned as part of loan and TA projects including expressways, national highways, and provincial roads.[31] Engineering designs should consider not only the changes in climate conditions but also other coping measures like construction of dike systems.

[31] ADB also finances capacity development technical assistance projects for (i) Climate Change Adaptation in the Mekong Delta and (ii) Support for the National Target Program on Climate Change with a Focus on Energy and Transport.

86. Emission of GHG can be mitigated by mode shifting, distance shortening, and congestion reduction. Railways and urban transit are considered to be important modes for sustainable transport in this regard. ADB's Sustainable Transport Initiative encourages more active engagement in these subsectors. Road and expressway projects that can mitigate GHG emissions by distance shortening and congestion reduction should also be encouraged with the impact of induced demand into consideration.

87. Motorcycles dominate a large share of vehicle trips in Viet Nam. Road network and design should be given consideration not to discourage the use of motorcycles for emission benefits, although safety, environment, and other concerns should be well addressed.

5. Major Outcomes and Outputs from Subsectors

88. **Roads and Expressways.** The expected outcome for roads and expressways is enhanced transport efficiency in expressway and road transport networks, which will be realized primarily through reductions in travel time and cost. Expected outputs include (i) TA to strengthen financial arrangements, operation and maintenance, and governance in the road transport subsector; TA to increase road safety capacity and climate change adaptation development along NH1; (ii) PPTA for new road and expressway projects; and (iii) loan support for continued implementation of the priority expressway and upgrading and improvement of national and local roads.

89. **Railways.** The expected outcome for railways is a more efficient and sustainable multimodal transport system by increasing the market share of railways. Expected outputs include completion of the current rehabilitation project of existing lines and PPTAs for new projects.

90. **Urban Transit.** The expected outcome in urban transit is enhanced public transit systems in major cities, which will result in social sustainability in urban areas, including reduced congestion, improved urban environment, and enhanced traffic safety. Expected outputs include (i) TA to enhance the operational capacity, (ii) PPTA for new projects, and (iii) loan support for new and extension of MRT lines.

91 Key assumptions and risks are that (i) progress in improving cross-border conductivity will continue and cross-border agreements between Viet Nam and its neighboring countries will be finalized; (ii) coordination of transport sector planning will be sufficient and timely—in particular, policy for prioritizing projects will be effective—and preparation of project financial planning will be realistic in terms of available funding; (iii) capacity of civil works contractors to implement the government's ambitious transport sector master plan is sufficient; and (iv) leadership within the government will be effective, to provide the impetus required to permit the various capacity development initiatives to significantly improve the country's transport sector. Ongoing and pipeline projects and programs of ADB and development partners are listed in Appendix 2 and Appendix 3, respectively.

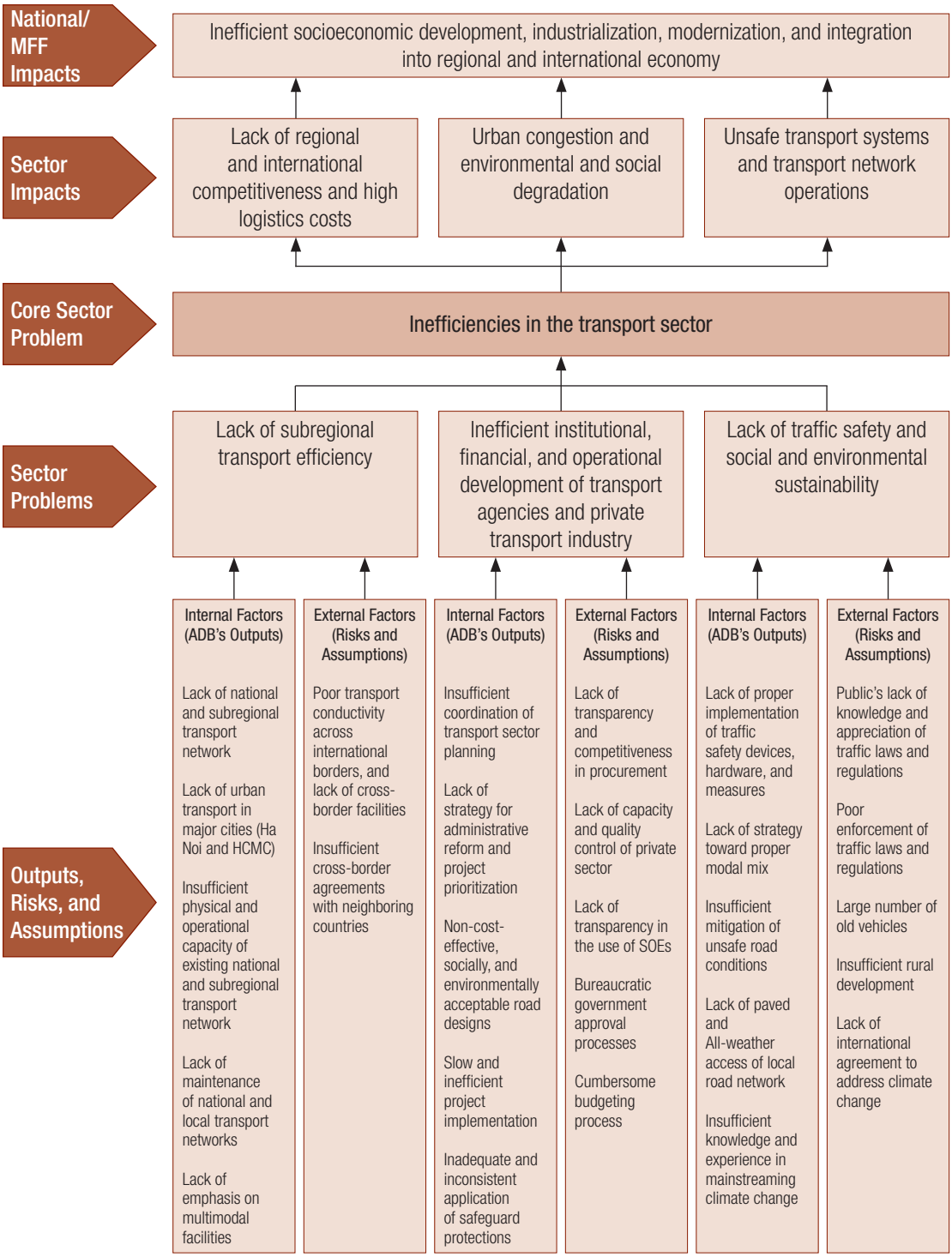
III Sector Results Framework

Country Sector Outcomes		Country Sector Outputs		ADB Sector Operations	
Outcomes with ADB Contributions	**Indicators with Targets and Baselines**	**Outputs with ADB Contributions**	**Indicators with Incremental Targets**	**Planned and Ongoing ADB Interventions**	**Main Outputs Expected from ADB Contributions**
More efiicient and safe transport of people and goods	100% of rural population has access to an all season road by 2020. (2004 baseline: 83.5%) Passenger share by public transit in Ha Noi and HCMC increases to 22%–26% by 2015. (2010 baseline: 3%–14%) Traffic accident fatalities reduced by 23%–30% by 2015. (2007 baseline: 12,800)	Subregional and national transport infrastructure and systems are expanded, improved, and well-managed.	Length of expressway 2,381 km by 2020. (2010 baseline: 0 km) Expressway management is streamlined through establishment of VEA by 2012. Road fund is established by 2012 and a PPP project is commenced by 2015. (2010 baseline: none)	**(i) Planned Key Activity Areas** – Expressways (49% of funds) – National and provincial roads (20% of funds) – Railways (4% of funds) – Urban transit (27% of funds) **(ii) Projects in the Pipeline with Estimated Amounts** – Expressway projects ($1.0 billion) – National and provincial road projects ($850 million) – GMS railway project ($80 million) – Ha Noi and HCMC MRT projects ($1.2 billion) **(iii) Ongoing Projects with Approved Amounts** – Expressway projects ($1.8 billion) – National and provincial road projects ($320 million) – GMS railway project ($160 million) – Ha Noi and HCMC MRT projects ($330 million)	**(i) Planned Key Activity Areas** – 540 km of expressway constructed – 3,300 km of national and provincial roads constructed or rehabilitated – 450 km of railways rehabilitated – 20 km of MRT lines constructed **(ii) Pipeline Projects** – 180 km of expressway constructed – 1,500 km of national and provincial roads constructed or rehabilitated – 160 km of railways rehabilitated **(iii) Ongoing Projects** – 360 km of expressway constructed – 1,800 km of national and provincial roads constructed or rehabilitated – 285 km of railways rehabilitated – 23 km of MRT lines constructed

ADB = Asian Development Bank, GMS = Greater Mekong Subregion, HCMC = Ho Chi Minh City, km = kilometer, MRT = mass rapid transit, PPP = public–private partnership, VEA = Vietnam Expressway Administration.

Sources: Government of Viet Nam. 2009. Decision No.1327/QD-TTg. 24 August 2009. Approval of Vietnam Road Transportation Development Plan by 2020 and Vision toward 2030. Ha Noi; ADB. 2010. *Key Indicators 2010.* Manila; and ADB estimates.

Appendix 1
Transport Sector Problem Analysis



ADB = Asian Development Bank, HCMC = Ho Chi Minh City, SOE = state-owned enterprise.
Source: Asian Development Bank.

Appendix 2
ADB's Ongoing and Pipeline Projects, Program Loans, and Grants

A. Ongoing Projects

Loan/MFF Number	Sector/Project/Program Name	Amount ($ million)	Date Approved
	Project/Program Loans Approved 2005 and Onward		
2195	Central Region Transport Networks Improvement Sector	94.5	11 Nov 2005
2302	GMS: Kunming–Hai Phong Transport Corridor: Yen Vien–Lao Cai Railway Upgrading (cofinanced with AFD and DGT)	60.0	19 Dec 2006
2372	GMS: Southern Coastal Corridor (cofinanced with AusAID and KEXIM)	75.0	28 Nov 2007
2374	Ho Chi Minh–Long Thanh–Dau Giay Expressway TA (Engineering)	10.00	28 Nov 2007
2391/2392	GMS: Kunming–Hai Phong Transport Corridor: Noi Bai –Lao Cai Highway Project (Construction)	1,096.0	14 Dec 2007
2451	Ho Chi Minh–Long Thanh–Dau Giay Expressway (cofinanced with JICA) (Construction)	410.2	30 Sep 2008
2460	GMS Ha Noi–Lang Son, GMS Ha Long–Mong Cai, and Ben Luc–Long Thanh Expressways (Engineering)	26.0	23 Oct 2008
2703	Second Northern GMS Transport Network	75.0	25 Nov 2010
MFF 0053 2730	GMS: Ben Luc–Long Thanh Expressway (cofinanced with JICA) Tranche 1	636.0	Tranche 1—22 Dec 2010 Tranche 2—2013
MFF 0052 2731	Ho Chi Minh City MRT Line 2 (cofinanced with KfW and EIB) Tranche 1	540.0	Tranche 1—22 Dec 2010 Tranche 2—2012
2741	Ha Noi MRT (cofinanced with AFD, DGT, and EIB)	293.0	29 Mar 2011
2789	Transport Connections in Northern Mountainous Provinces	80.0	30 Sep 2011

TA Number	Technical Assistance Programs		
4862	PPTA Ho Chi Minh City Metro	1.7	02 Nov 2006
4900	PPTA Ha Noi Metro	0.4	18 Dec 2006
7045	PPTA Central Mekong Delta Transport Connectivity	0.8	17 Dec 2007
7154	PPTA GMS: Ha Noi–Lang Son and Ha Long–Mong Cai Expressways	1.5	23 Oct 2008
7245	PPTA Transport Connections in Northern Mountainous Provinces	1.0	05 Mar 2009
7611	PATA for Strengthening and Financial Arrangements, Operation and Maintenance, and Governance in the Road Transport Subsector	1.0	24 Sep 2010
7647	PPTA Ho Chi Minh City Outer Ring Roads	0.225	16 Nov 2010
7822	CDTA Implementation Support for Central Mekong Delta Connectivity Project	26.0	30 May 2011
7900	Improvement of Road Safety and Climate Resilience on National Highways	1.5	27 Oct 2011

continued on next page

Table *continued*

TA Number	Sector/Project/Program Name	Amount ($ million)	Date Approved
7892	PPTA Sustainable Urban Transport in Ho Chi Minh City MRT Line 2	1.0	18 Oct 2011
7894	PPTA Sustainable Urban Transport in Ha Noi Metro Line 3	1.0	18 Oct 2011
7924	PPTA GMS: Second Southern Coastal Corridor	1.0	9 Nov 2011

B. Pipeline Projects

Sector/Project/Program Name	Amount ($ million)	Expected Year of Approval
Project/Program Loans		
Sustainable Urban Transport for Ho Chi Minh MRT Line 2	10.0	2012
Strengthening Sustainable Urban Transport for Ha Noi Metro Line 3	10.0	2012
Ho Chi Minh City 3rd Ring Road TA Loan	20.0	2012
Central Mekong Delta Transport Connectivity	220.0	2013
Ho Chi Minh City MRT Line 2 or 5 Extension	80.0	2013
Improvement of Road Safety and Climate Resilience on the NH1	50.0	2013
Ho Chi Minh City 3rd Ring Road	200.0	MFF Tranche 1—2014
Provincial Roads Improvement in Red River Delta	71.0	2014
GMS: Southern Coastal Corridor, Phase 2	100.0	2014
GMS: Trung Luong–My Thuan–Can Tho Expressway	133.0	2014
GMS: Ha Noi–Lang Son Expressway	363.0	MFF Tranche 1—2015
Ha Noi LRT Line 3 Extension	200.0	2015
Road Maintenance Project	100.0	2015
GMS Expressway 1	300.0	2015
Technical Assistance Programs		
PPTA Provincial Road Improvement	1.0	2012
PPTA Trung Luong–My Thuan–Can Tho Expressway	2.0	2012
PPTA Ha Noi Urban LRT Line 3 Extension	1.5	2013
PPTA Road Maintenance Project	1.0	2013
PPTA GMS Expressway 1	1.5	2014
PPTA Ho Chi Minh City MRT Extension	1.5	2014

ADB = Asian Development Bank, AFD = Agence Française de Développement, AusAID = Australian Agency for International Development, CDTA = capacity development technical assistance, DGT = Direction générale du Trésor, EIB = European Investment Bank, GMS = Greater Mekong Subregion, JICA = Japan International Cooperation Agency, KEXIM = Export-Import Bank of Korea, KfW = Kreditanstalt für Wiederaufbau, LRT = light rail transit, MFF = multitranche financing facility, MRT = mass rapid transit, NH1 = National Highway 1, PATA = policy and advisory technical assistance, PPTA = project preparatory technical assistance, TA = technical assistance.
Source: Asian Development Bank.

Appendix 3
Major Projects of Development Partners and the Government of Viet Nam

A. Ongoing Projects of Development Partners and the Government of Viet Nam

Sector/Project/Program Name	Year
Project/Program Loans	
Road Traffic Safety Project, WB	2005–2011
Third Rural Transport, WB	2006–2011
Mekong Delta Transport Infrastructure Development Project, WB	2007–2013
Ha Noi Urban Development Project, WB	2007–2013
Da Nang–Quang Ngai Expressway, WB and JICA	2011–2017
North–South Expressway Construction (HCMC–Dau Giay) (cofinanced with ADB), JICA	2008–2014
Saigon East–West Highway Construction, JICA	2008–2012
National Highway No. 1 Bypass Road Construction, JICA	2008–2011
Third National Highway No. 1 Bridge Rehabilitation, JICA	2008–2011
National Highway No. 3 and Regional Road Network (Ha Noi–Thai Nguyen), JICA	2008–2013
Transport Sector Loan for National Road Network Improvement, JICA	2008–2013
National Highways and Provincial Roads Improvement, JICA	2004–2016
Ha Noi–HCMC Railway Line Bridges Safety Improvement, JICA	2004–2014
Cai Mep–Thi Vai International Port Construction, JICA	2005–2013
Noi Bai International Airport Terminal 2 Construction, JICA	2010–2014
HCMC Urban Railway Construction (Line 1), JICA.	2007–2019
Ha Noi City Urban Railway Construction (line 1), JICA	2008–2014
Ha Noi City Urban Railway Construction (Line 2), JICA	2009–2020
Ha Noi City Transport Network Improvement, JICA	1999–2010
Nhat Tan Bridge Construction, JICA	2008–2013
Noi Bai International Airport–Nhat Tan Bridge Connection Road, JICA	2010–2013
Red River Bridge Construction, JICA	2000–2012
Ha Noi City Third Ring Road, JICA	2008–2014
Northern Vietnam National Roads Traffic Safety Improvement, JICA	2007–2013
Ho Chi Minh Highway Construction Project, Government of Viet Nam	
North–South Expressway, Government of Viet Nam	
National Highways Improvement Project, Government of Viet Nam	
Local Roads Improvement Project, Government of Viet Nam	

continued on next page

Table *continued*

Sector/Project/Program Name	Year
Technical Assistance Programs	
Second Comprehensive Study on the Sustainable Development of Transport System in Viet Nam (VITRANSS 2), JICA	2007–2010
Urban Planning Formulation and Management Capacity Development Project, JICA	2009–2011
Integrated UMRT and Urban Development for Ha Noi, JICA	2008–2010
Management, Operation and Maintenance of Expressway System (Advisor Dispatch and Capacity Development), JICA	2010–2013
Capacity Enhancement in Construction Quality Management, JICA	2009–2012
Strengthening the Traffic Police Training in Police Academies, JICA	2009–2012
Traffic Safety Human Resources Development in Ha Noi, JICA	2008–2010

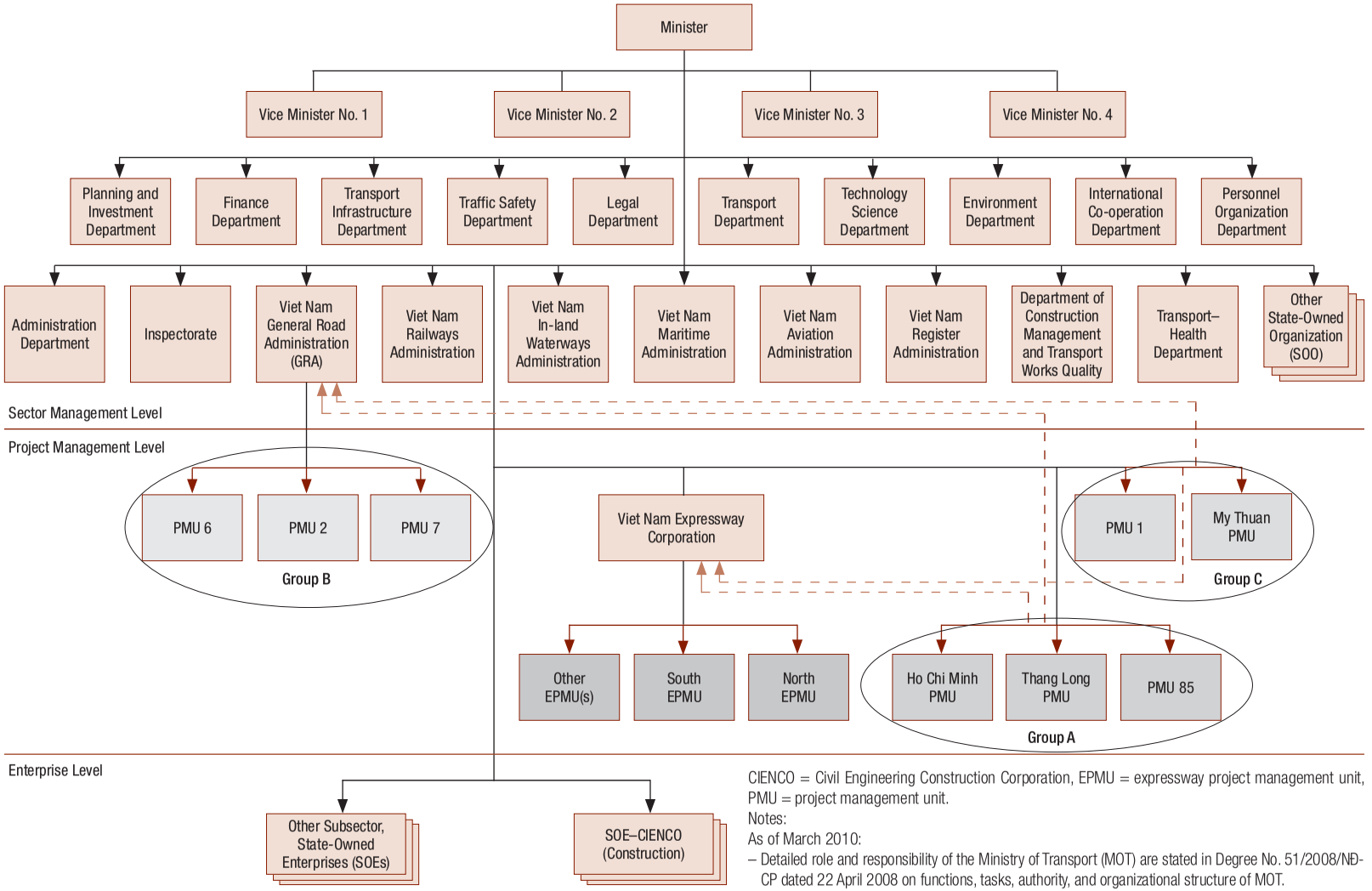
B. Pipeline Projects of Development Partners

Project/Program Loan and Technical Assistance Programs
PPP Pilot Dau Giay–Phan Thiet Expressway, WB
Mekong Delta Coastal Provincial Transport Improvement, WB
Thanh Hoa–Bai Vot Expressway, WB
Hai Phong Urban Transport, WB

ADB = Asian Development Bank, HCMC = Ho Chi Minh City, JICA = Japan International Cooperation Agency, PPP = public–private partnership, UMRT = urban mass rapid transit, WB = World Bank.
Source: Asian Development Bank.

Appendix 4
Government Structure for the Transport Sector

Figure A4.1 Organizational Structure of the Ministry of Transport



CIENCO = Civil Engineering Construction Corporation, EPMU = expressway project management unit, PMU = project management unit.

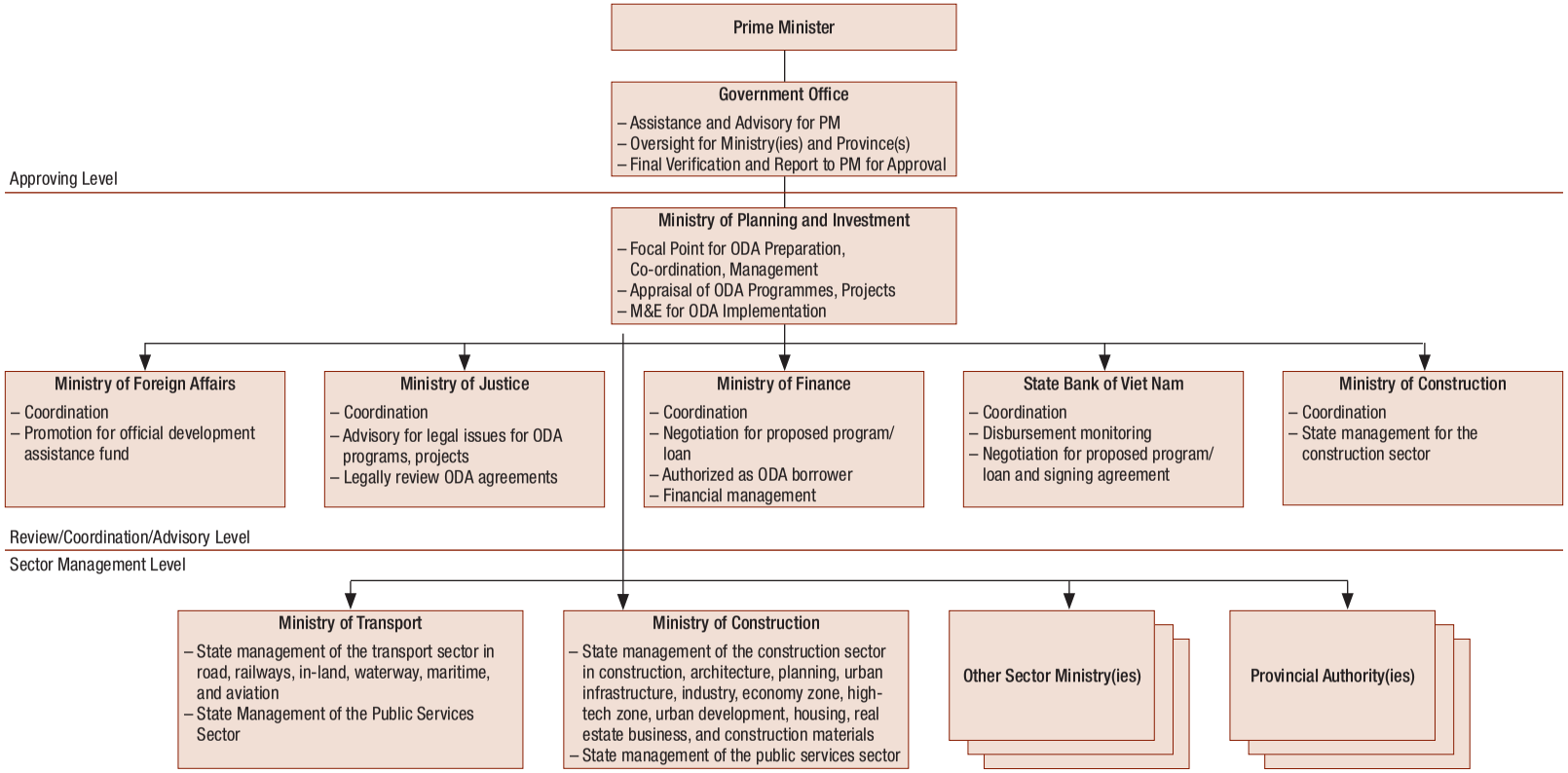
Notes:

As of March 2010:

– Detailed role and responsibility of the Ministry of Transport (MOT) are stated in Degree No. 51/2008/NĐ-CP dated 22 April 2008 on functions, tasks, authority, and organizational structure of MOT.
– Detailed role and responsibility of the GRA are stated in Decision No. 107/2009/QĐ-TTg dated 26 August 2009 on functions, tasks, authority, and organizational structure of GRA.
– PMU(s) in Group A are dependent on MOT.
– PMU(s) in Group B are dependent on GRA.
– PMU(s) in Group C are dependent on MOT and to the transport infrastructure developer.

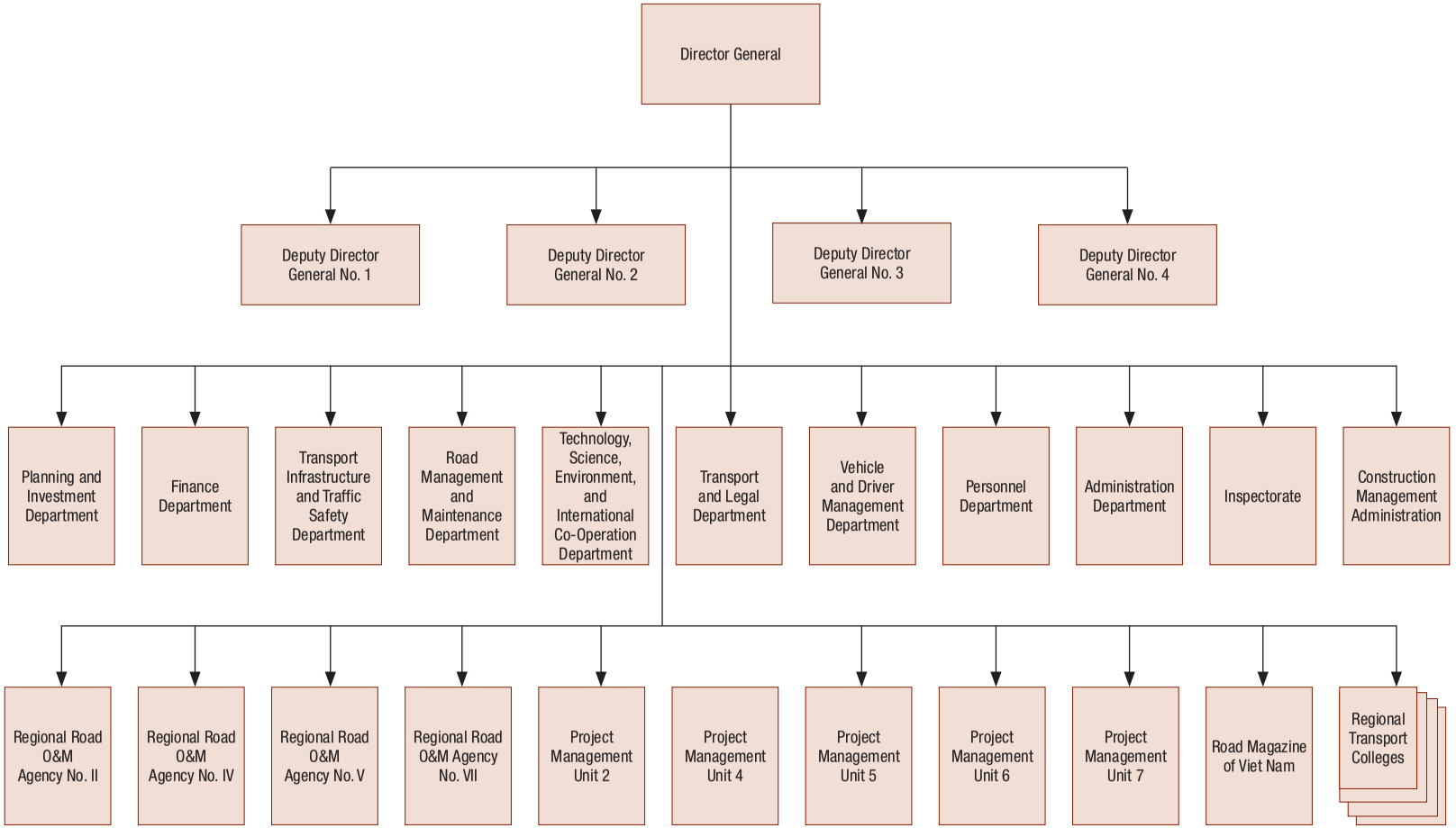
Source: Asian Development Bank.

Figure A4.2 Roles and Responsibilities in Transport Official Development Assistance Administration



Notes:
As of March 2010:
Key tasks of relevant bodies are reported only in the diagram. Detailed role and responsibility are stated in relevant decrees as follows:
– Decree No. 131/2006/NĐ-CP dated 9 November 2006 of government issuing the regulation on ODA Management and Use.
– Decree No. 33/2008/NĐ-CP dated 19 March 2008 on functions, tasks, authority, and organizational structure of the Government Office.
– Decree No. 116/2008/NĐ-CP dated 17 November 2008 on functions, tasks, authority, and organizational structure of the Ministry of Planning and Investment.
– Decree No. 15/2008/NĐ-CP dated 4 February 2008 on functions, tasks, authority, and organizational structure of the Ministry of Foreign Affairs.
– Decree No. 93/2008/NĐ-CP dated 22 August 2008 on functions, tasks, authority, and organizational structure of the Ministry of Justice.
– Decree No. 77/2003/NĐ-CP dated 1 July 2003 on functions, tasks, authority, and organizational structure of the Ministry of Finance.
– Decree No. 96/2008/NĐ-CP dated 26 August 2008 on functions, tasks, authority, and organizational structure of the State Bank of Viet Nam.
– Decree No. 17/2008/NĐ-CP dated 4 February 2008 on functions, tasks, authority, and organizational structure of the Ministry of Construction.
– Decree No. 51/2008/NĐ-CP dated 22 April 2008 on functions, tasks, authority, and organizational structure of the Ministry of Transport.
Source: Asian Development Bank.

Figure A4.3 Organizational Structure of the Directorate for Roads of Viet Nam



O&M = operation and maintenance.
Source: Asian Development Bank.

Appendix 5
VITRANSS 2 Recommendations for Road and Railway Subsectors

Roads	Railways
(i) VRA should grow into its intended role of becoming the road authority in Viet Nam, by resolving its conflicts with VEC (network planning and determination of the scale of expressways) and MOC (interurban transport development).	(i) Railway projects should be allocated a higher proportion of MOT budget to enable railways to compete with other transport modes. Allocations should be limited to those corridors where railway is more energy- and cost-efficient.
(ii) The regulatory function over toll roads should be taken out of VEC, and VEC should focus on its main role as developer and partner of private expressway investors.	(ii) Railway subsector should target market niches in which it has the best chance of becoming competitive. The North–South Line is the most important with potentials for container transport. Even with massive investments, the shorter Ha Noi–Hai Phong Line may be at a disadvantage to trucking and buses, when the parallel expressway gets built.
(iii) A 5-year road investment program should be institutionalized.	(iii) VITRANSS 2 identified a package of improvement works, just enough to keep existing railway assets functioning at a daily capacity of 50 trains for both directions. With additional funding, a second stage of railway improvements can be pursued, involving system rehabilitation and selective double-tracking that will result in a step-increase in capacity and improved services. A third stage of system modernization will entail substantial technology upgrades and should be last in priority.
(iv) A project management bureau should be created to formalize the status of project management units and leverage the accumulated experiences of the staff.	(iv) The high-speed railway project is very capital-intensive and the development of a full section should be deferred beyond 2030.
(v) CIENCOs should be spun off into joint-stock companies, so they evolve into competitive civil works contractors, with arms-length relationship with MOT.	
(vi) The possibility of merging the unit responsible for developing technical standards and the unit responsible for keeping the quality of construction into a "Road Technology Research and Development Institute" should be studied.	
(vii) The system of using the road maintenance fund should be formalized.	

CIENCO = Civil Engineering Construction Corporation, MOC = Ministry of Construction, MOT = Ministry of Transport, VEC = Vietnam Expressway Corporation, VITRANSS 2 = Second Comprehensive Study on the Sustainable Development of Transport System in Viet Nam, VRA = Vietnam Road Administration.

Note: Urban transport was not identified as a separate subsector by the Japan International Cooperation Agency (JICA), but rather was included in the appropriate subsector according to mode of transport.

Source: Asian Development Bank.

Appendix 6
North–South Expressway: Eastern Side (Ha Noi–Ho Chi Minh City–Can Tho)

Implementation Status	Investor–Donor	PPP	No.	Route/Section	Start Point	End Point	Length (km)	Scope (lanes)	Total Investment (VND billion)	Construction Period
			1	Phap Van–Cau Gie	Phap Van IC (Ha Noi)	Cau Gie (Ha Noi)	30	6	1,350	2017–2018
Under construction	Government of Viet Nam	No	2	Cau Gie–Ninh Binh	Cau Gie, Ha Tay	Ninh Binh Town	50	6	9,650	Under construction
		Yes	3	Ninh Binh–Thanh Hoa (Nghi Son)	Cao Bo	Nghi Son	121	6	25,289	2011–2014
			4	Thanh Hoa (Nghi Son)–Ha Tinh (Hong Linh)	Nghi Son	Hong Linh Town	97	4–6	19,852	2012–2015
			5	Ha Tinh (Hong Linh)–Quang Binh (Bung)	Hong Linh Town	Bung	145	4	25,362	2019–2023
			6	Quang Binh (Bung)–Quang Tri (Cam Lo)	Bung	Cam Lo	117	4	12,051	2019–2023
			7	Quang Tri (Cam Lo)–Da Nang (Tuy Loan)	Cam Lo	Tuy Loan	182	4	24,591	2015–2019
Contract imminent	JICA/World Bank	No	8	Da Nang–Quang Ngai	Da Nang City	Quang Ngai Town	130	4–6	25,035	2011–2014
			9	Quang Ngai–Binh Dinh	Quang Ngai City	An Nhon, Binh Dinh	170	4	29,750	2016–2019
			10	Binh Dinh–Nha Trang	An Nhon, Binh Dinh	Dien Khanh, Khanh Hoa	215	4	35,905	2017–2020
			11	Nha Trang –Phan Thiet	Dien Khanh, Khanh Hoa	Phan Thiet City	226	4–6	35,708	2011–2020
Under preparation	World Bank	Yes	12	Phan Thiet–Dau Giay	Phan Thiet City	Dau Giay, Dong Nai	98	4–6	16,170	2011–2014
Under construction	ADB/JICA	No	13	Dau Giay–Long Thanh	Dau Giay	Long Thanh, Dong Nai	43	6–8	16,340	Phase I—under construction
Contract imminent	ADB/JICA	No	14	Long Thanh–Ben Luc	Long Thanh, Dong Nai	Ben Luc, Long An	58	6–8	22,620	2012–2016
Completed	Private	Yes	15	Ben Luc, Trung Luong	Ben Luc, Long An	Trung Luong	37	8	10,970	Completed 2010
ADP pipeline	ADB	Yes	16A	Trung Luong–My Thuan–Can Tho	Trung Luong	My Thuan	92	6	26,700	2011–2015
ADB pipeline	ADB	Yes	16B		My Thuan	Can Tho				
				TOTAL			1,811		337,343	

ADB = Asian Development Bank, IC = interchange, JICA = Japan International Cooperation Agency, km = kilometer, PPP = public–private partnership.

Sources: Ministry of Transport, Government of Vietnam; Asian Development Bank.

References

ADB. 2006. *Viet Nam Country Strategy and Program 2007–2010*. Manila. http://www.adb.org/documents/CSPs/VIE/2006/CPS-VIE-2006-02.pdf

———. 2008. *Strategy 2020: The Long-Term Strategic Framework of the Asian Development Bank 2008–2020*. Manila. http://www.adb.org/documents/policies/strategy2020/

———. 2009a. *Country Assistance Program Evaluation Report (CAPE) for Viet Nam*. Manila. http://www.adb.org/Documents/CAPES/VIE/CAP-VIE-2009-29/

———. 2009b. *The Economics of Climate Change in Southeast Asia: A Regional Review*. Manila. http://www.adb.org/documents/books/economics-climate-change-sea/

———. 2009c. *Sector Assistance Program Evaluation Transport Sector in Viet Nam*. Manila. http://www.adb.org/Documents/Reports/SAPE/VIE/SAP-VIE-2009-28/SAP-VIE-2009-28.asp

———. 2010a. *Connecting Greater Mekong Subregion Railways: A Strategic Framework*. Manila. http://www.adb.org/documents/reports/connecting-gms-railways/

———. 2010b. *Key Indicators 2010*. Manila. http://www.adb.org/Documents/Books/Key_Indicators/

———. 2010c. *Sustainable Transport Initiative Operational Plan*. Manila. http://www.adb.org/documents/policies/sustainable-transport-initiative/

———. 2010d. *Technical Assistance to Viet Nam for Strengthening Institutional and Financial Arrangements, Operations and Maintenance, and Governance in Road Transport*. Manila. http://www.adb.org/Projects/project.asp?id=41443

Al Haji, Ghazwan. 2005. *Road Safety in Southeast Asia: Factors Affecting Motorcycle Safety*. Norrköping, Sweden.

Government of Viet Nam. 2004. Decision No. 206/2004/QD-TTG of 10 December 2004 approving the Strategy on Development of Viet Nam's Communication and Transport till 2020. Ha Noi.

———. 2006. Decree 131/2006/ND-CP, Issuance of Regulation on Management and Utilization of Official Development Assistance. Ha Noi.

———. 2008. Decision 158/QD-TTg. December. Ha Noi.

Japan International Cooperation Agency (JICA). 2004. *The Study on Urban Transport Master Plan and Feasibility Study in Ho Chi Minh Metropolitan Area (HOUTRANS)*. Tokyo. http://www.jica.go.jp/vietnam/english/pdf/DS_HOUTRANS.pdf

———. 2007. *The Comprehensive Urban Development Programme in Ha Noi Capital City (HAIDEP)*. Tokyo. http://www.jica.go.jp/english/operations/social_environmental/archive/pro_asia/pdf/vie09_03.pdf

———. 2009. *The Study on National Road Traffic Safety Master Plan in the Socialist Republic of Vietnam until 2020*. Tokyo.

———. 2010. *The Comprehensive Study on the Sustainable Development of Transport System in Vietnam (VITRANSS 2)*. Tokyo. http://www.jica.go.jp/vietnam/english/pdf/DS_VITRANSS2.pdf

Minister of Transport of Viet Nam. 2009. Transmittal Letter No. 7011/BGTVT-KHDT of 7 October 2009, Five-Year Plan 2011–2015. Ha Noi.

Ministry of Transport (MOT). 2010. Transmittal Letter on Establishing the Expressway Administration of Vietnam under the Ministry of Transport. No: 6499/TTr-BGTVT. 17 September. Ha Noi.

Organisation for Economic Cooperation and Development (OECD). 2008. *The Challenges of Climate Change*. Key messages. International Transport Forum, Ministerial Session. 29 May. http://www.internationaltransportforum.org/Topics/pdf/KeyMessages2008.pdf

Official Gazette. 2009. 09–10/March 2009. Decision No. 35/2009/QD-TTg dated 3 March 2009. No. 09–10 March 2009. Ha Noi.

Vietnam Academy of Social Sciences. 2006. *Vietnam Poverty Update: 2006*. Ha Noi.

World Bank. 2009. *First Public Investment Reform Development Policy Loan*. Washington, DC. Approved 22 December. http://web.worldbank.org/external/projects/main?Projectid=P117723&theSitePK=40941&pagePK=64283627&menuPK=228424&piPK=73230

Viet Nam: Transport Sector Assessment, Strategy, and Road Map

This transport sector assessment, strategy, and road map (ASR) aims to better harmonize program and project planning of the Government of Viet Nam with development partners. The preparation of the ASR is an integral part of project planning to ensure coordination between the government's priorities and those of the Asian Development Bank (ADB)—especially ADB's Strategy 2020 and Sustainable Transport Initiative. The ASR focuses on three subsectors: (i) roads and expressways, (ii) railways, and (iii) urban transit. It is linked to and informs ADB's country partnership strategy for Viet Nam, which targets 2012–2015.

About the Asian Development Bank

ADB's vision is an Asia and Pacific region free of poverty. Its mission is to help its developing member countries reduce poverty and improve the quality of life of their people. Despite the region's many successes, it remains home to two-thirds of the world's poor: 1.8 billion people who live on less than $2 a day, with 903 million struggling on less than $1.25 a day. ADB is committed to reducing poverty through inclusive economic growth, environmentally sustainable growth, and regional integration.

Based in Manila, ADB is owned by 67 members, including 48 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance.

Asian Development Bank
6 ADB Avenue, Mandaluyong City
1550 Metro Manila, Philippines
www.adb.org
ISBN 978-92-9092-422-7
Publication Stock No. RPS113947

Printed on recycled paper

ISBN 978-92-9092-422-7
9 789290 924227

Printed in the Philippines