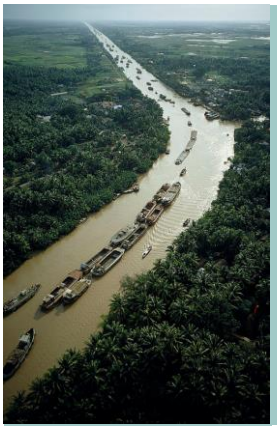
Working paper 421



Mapping current incentives and investment in Viet Nam's transport sector: informing private climate finance

Emily Darko, Nguyen Manh Hai and Shelagh Whitley

Key messages

- The government of Viet Nam has not published specific financing needs for green and climate smart transportation, but it has clearly highlighted the need for additional investment. This includes private finance and has indicated a role for the Ministry of Planning and Investment and the Ministry of Finance. The role involves reviewing financial demands, allocating domestic financial resources and coordinating foreign assistance sources, policies and mechanisms to promote implementation of the strategies.
- By linking the key findings on current incentives, sources of capital, and investment trends in the transport sector, and comparing them with Viet Nam's stated objectives for (i) mobilising private investment and (ii) addressing climate change and green growth we were able to identify some important considerations for those seeking to mobilise private climate finance in Viet Nam's transport sector.
- Climate finance needs to support approaches that respond to sub-sector priorities while ensuring consistency at the overall sector level. In land transport, international public finance broadly follows national public expenditure by investing primarily in roads, with the notable exception of metro rail investment, which seems driven by international public investment priorities.
- In order to further promote shifts to public transport and low-carbon modes of transport (such as encouraging modal shifts from private road vehicle use to bus, rail and water), climate finance could support the government's development of incentives for both public and private investment in affordable and high-quality service provision in these areas. This could include incentives for improved and more extensive bus, train and ferry services, and increased provision of freight services over rail and water.

Acknowledgements

We would like to thank all those we interviewed for this study for their time and inputs, without which the work would not have been possible. Please find a full list in Appendix 1. We are also grateful for helpful comments provided by peer reviewers Sam Barnard of the Overseas Development Institute (ODI) and Benoit Lefevre and Karen Anderton, in addition to those provided by Neil Bird and Tom Mitchell of ODI.

We would welcome further inputs to this report from climate finance practitioners and those working and investing in the transport sector in Viet Nam.

Authors: Emily Darko and Shelagh Whitley of ODI, London, and Nguyen Manh Hai of the Central Institute for Economic Management, Ha Noi.

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Abbreviations

ADB	Asian Development Bank
AFD	French Development Agency
ASEAN	Association of South East Asian Nations
BoEA	Bureau of Economic Affairs
BOT	Build-Operate-Transfer
BT	Build-Transfer
BTO	Build-Transfer-Operate
BRICS	Brazil, Russia, India, China and South Africa
CCD	Climate-Compatible Development
CFU	Climate Funds Update
CIT	Corporate Income Tax
CPI	Climate Policy Initiative
CTF	Clean Technology Fund
DFID	Department for International Development
DPI	Department of Planning and Investments
EPT	Environment Protection Tax
ESMAP	Energy System Management Assistance Program
EU	European Union
FDI	Foreign Direct Investment
FSF	Fast-Start Finance

GDP	Gross Domestic Product
GHG	Greenhouse Gas
GSI	Global Subsidies Initiative
GSO	General Statistics Office
HCMC	Ho Chi Minh City
ICT	Information and Communication Technology
IFC	International Finance Corporation
IIED	International Institute for Environment and Development
IMF	International Monetary Fund
IPO	Initial Public Offering
ISIC	International Standard Industrial Classification
JICA	Japan International Cooperation Agency
JSC	Joint Stock Company
MoIT	Ministry of Industry and Trade
MoST	Ministry of Science and Technology
MoT	Ministry of Transport
MPI	Ministry of Planning and Investment
ODA	Official Development Assistance
ODI	Overseas Development Institute
OECD	Organisation for Economic Co-operation and Development
OOF	Other Official Flows
PPP	Public–Private Partnership
PSP	Private Sector Participation
SOE	State-Owned Enterprise
TDSI	Transport Development and Strategy Institute

TLC	Transparency, Longevity and Certainty
UK	United Kingdom
UN	United Nations
UNDP	UN Development Programme
UNEP	UN Environment Programme
UNFCCC	UN Framework Convention on Climate Change
US	United States
VCAPS	Vietnam Climate Adaptation Partnership
VIR	Vietnam Investment Review
VRA	Viet Nam Railway Authority
VRC	Viet Nam Railway Corporation
WTO	World Trade Organization

Executive summary

There is consensus within the discourse on climate finance that there is a key role for the public sector (and donor funds more specifically) in mobilising private investment in climate-compatible development (CCD). However, there has been limited analysis about what specific role the public sector and public resources should play, particularly in light of recent findings on (i) the importance of domestic private investment and (ii) the current domination of public investment in international (North–South) finance for CCD (Buchner et al., 2014). This paper describes the findings from an application of a diagnostic tool (see Whitley, 2015) to support governments and development partners that are seeking to mobilise private finance for CCD.

The first aim of this diagnostic tool is to fill key information gaps about incentives and investment at country level in climate-relevant sectors, in order to support governments in their efforts to shift or direct additional private resources to CCD. The second is to enhance understanding of the links between public incentives and private investment in CCD.

In this case, the diagnostic tool and its three frameworks were applied to the mapping of current incentives and investment in Viet Nam's transport sector, which is a key sector for both the National Climate Change Strategy and the Green Growth Strategy, as well as for sub-national adaptation to climate change. The government of Viet Nam has not published specific financing needs for green and climate smart transportation under these strategies, but it has clearly highlighted the need for additional investment and indicated a role for the Ministry of Planning and Investment and the Ministry of Finance in reviewing financial demands, allocating domestic financial resources and coordinating foreign assistance sources, policies and mechanisms to promote implementation of the strategies (Government of Viet Nam, 2012; Prime Minister, 2012).

Although we could not find publicly available data to fully complete all of the frameworks, by linking the key findings across the three frameworks and comparing them with Viet Nam's stated objectives for (i) mobilising private investment and (ii) addressing climate change and green growth (see Section 2) we were able to identify some important considerations for those seeking to mobilise private climate finance in Viet Nam's transport sector.

Enabling conditions

- Although the highest levels of investment in the transport sector in Viet Nam currently come from the national government budget, foreign direct investment and official development assistance (ODA), Viet Nam has now reached middle-income status and it is anticipated that levels of ODA will decline. The government of Viet Nam has made it a priority to increase private investment in transport, from both domestic and international sources. This has been promoted through part privatisation of state-owned enterprises and through pilot public–private partnerships, but many parts of the transport sector (including those that are important for climate mitigation – such as water and rail transport) remain dominated by state owned enterprises or exclusively publicly owned, limiting scope in some areas for private investment.
- There are two major components to Viet Nam's climate change and green growth strategies' focus on transport: cleaner technology and fuels and increased use of public transport. The strategy documents focus on shifting from private vehicles (cars and motorcycles) to buses and metro rail (in Ha Noi and Ho Chi Minh City) and improving water and intercity rail. In contrast with these objectives, we find that a large proportion of national government and international public finance is in road transport infrastructure.

Barriers

- In those areas where the government supports private investment, interviewees suggested there needed to be additional space for private investors to identify and scope opportunities in tender procedures (bidding for projects), as opposed to only competitively bidding for opportunities developed by the government. In addition, it was mentioned that allowing private investors and private companies the space to explore commercial models and ways of raising capital in ways that are regulated but not fully dictated by the state could help increase private capital flows.
- Other barriers to private investment are the lack of clarity around fees that can be charged for transport services and tariffs that can be recouped, along with uncertainty about land availability and ownership rights. In terms of fees and tariffs, there need to be clear rules at the outset of deals about the division of revenue between public and private investors, and if and to what extent private fees and tariff collection is duplicated by state fees and tariff collection.
- Overall, there are significant gaps in terms of information on investment opportunities, as well as public information about needed shifts in the investment and structure of transport sector operations that will impact on the daily lives of public and private transport users. One interviewee suggested that, in order to allow for increased tariffs and fees in the sector, which are needed to attract private investment, there needs to be a public awareness-raising campaign of the need for individuals to contribute more to transport sector improvements.

Actions

Given the diversity of investment trends and incentives in Viet Nam's transport sector, climate finance needs to support approaches that respond to sub-sector priorities while ensuring consistency at the overall sector level. In land transport, international public finance broadly follows national public expenditure by investing primarily in roads, with the notable exception of metro rail investment, which seems driven by international public investment priorities. In order to further promote shifts to public transport and low-carbon modes of transport (such as encouraging modal shifts from private road vehicle use to bus, rail and water), climate finance could support the government's development of incentives for both public and private investment in affordable and high-quality service provision in these areas. This could include incentives for improved and more extensive bus, train and ferry services, and increased provision of freight services over rail and water.

Considerations for future research

About 12% of ODA in the transport sector between 2009 and 2013 is not classifiable to one modal sub-sector, because the investment addresses a cross-cutting development or transport issue – for example investment by the World Bank in rural transport development and Asian Development Bank support to urban development in small and medium-sized cities in central Viet Nam. Using Viet Nam's current transport sector structure as the basis for analysis means the crucial element of overall urban and rural planning is not captured. It is very important to sustainable transport development, as is the Avoid-Shift-Improve (A-S-I) approach that governments adopt policies that firstly encourage people and businesses to avoid or reduce the need to travel (Ang and Marchal, 2013). Integrated transport planning and development is critical to inclusive and sustainable transportation, but is more challenging to categorise and review.

1. Introduction

Under the UN Framework Convention on Climate Change (UNFCCC), countries have committed to mobilising $100 billion annually in long-term climate finance from public and private sources to address the climate change needs of developing countries by 2020. Estimates of climate finance needs vary between $0.7 and $4 trillion in additional costs between 2015 and 2050, depending on the assumptions and methodologies used. Whatever level is used, these estimates are high above the UNFCCC commitment, and above current levels of global climate finance flows of $331 million,[1] of which 58% is estimated to come from the private sector (Buchner et al., 2014; Global Commission on the Economy and Climate, 2014; Green Growth Best Practice, 2014).

To overcome such a gap, there is a need to generate significant shifts in private investment towards climate-compatible development (CCD).[2] This requires a stable and attractive regulatory environment, through 'Transparency, Longevity and Certainty' (TLC) (or long, loud and legal signals), a process in which public finance (domestic and international) plays an important role to enable greater investment (Hamilton, 2009; High Level Advisory Group on Climate Change Financing, 2010; Kreibiehl and Miltner, 2013; Mabey, 2012; UNFCCC, 2012).

Findings from researchers tracking current climate finance (Buchner et al., 2014; IFC, 2013)3 demonstrate that:

- Almost 75% of climate finance is domestic investment, with private actors having an especially strong domestic investment focus, with 90% of their investments remaining in the country of origin.[4]
- The minority (10%) of international climate finance (North–South) originates almost exclusively (94%) from public as opposed to private sources.
- Overall, there is very limited information available on private investment by climate-relevant sector[5] and sub-sector beyond that for large renewable energy projects, and very little country-level data beyond the Organisation for Economic Co-operation and Development (OECD) and the BRICS (Brazil, Russia, India, China, South Africa).

This data gap is one of the most significant barriers to understanding the effectiveness of existing public sector interventions to mobilise private climate finance. Without information on where public sector funds come from and where they have been used to mobilise private climate finance in developing countries, it is virtually impossible to assess their effectiveness, learn lessons or replicate good practice (Whitley, 2014).

The Overseas Development Institute (ODI) has developed a diagnostic tool to (i) address this limited availability of information on private climate finance beyond renewable energy and outside the OECD and BRICS countries; and (ii) increase understanding of the role of domestic and public finance and incentives in shaping international and domestic private investment. This paper describes the findings from an application of this diagnostic tool to the transport sector in Viet Nam. The sector and country were chosen because, relative to

[1] As climate finance is not defined under the UNFCCC, it is unclear which of these currently estimated flows will be counted towards those commitments.
[2] CCD safeguards development from climate impacts (climate-resilient development) and reduces or keeps emissions low without compromising development goals (low-emissions development) (http://cdkn.org/resource/defining-climate-compatible-development-3/)
[3] Also http://www.oecd.org/countries/vietnam/aid-at-a-glance.htm#recipients
[4] This information from the Climate Policy Initiative (CPI) is based on a global data review, and it is unclear how this finding would change across different country contexts.
[5] For the purpose of this research, climate-relevant sectors have been defined to include agriculture, forestry, extractives, manufacturing, energy, water and sanitation, construction, transportation and information and communication technology (ICT) (Whitley, 2015).

other countries, Viet Nam has received significant climate finance pledges for support to its transport sector, and greenhouse gas (GHG) emissions from the transport sector in Viet Nam doubled between 1994 and 2010 (UNFCCC, n.d.). The findings from the diagnostic can be used to support the Vietnamese government and development partners when designing interventions to mobilise private finance for CCD, and those working more broadly on opportunities for private climate finance in the transport sector.

This paper is accompanied by a methodology paper outlining the objectives of the diagnostic in more detail, the data collection approach, key sources of information, current data gaps and areas where additional work might be undertaken to improve information on incentives and investment at the country and sub-sector level (Whitley, 2015). Parallel studies have been completed on the water and sanitation sector in Viet Nam (Canales Trujillo et al., 2015), the agriculture sector in Zambia (Whitley et al., 2014) and the energy sector in Uganda (Whitley and Tumushabe, 2014). The aim is to refine this diagnostic approach through the application of this approach across additional countries and sectors.

2. Context

This section provides a brief overview of the 'climate' for private investment in Viet Nam and a snapshot of the country's transport sector, including its governance and objectives on climate change and green growth.

We include this broader information because, in addition to incentives for investment in the transport sector (reviewed in Section 4), macroeconomic conditions and levels of financial sector development at national level also can have significant impact on investment.

2.1 Investment climate – Viet Nam

Economy

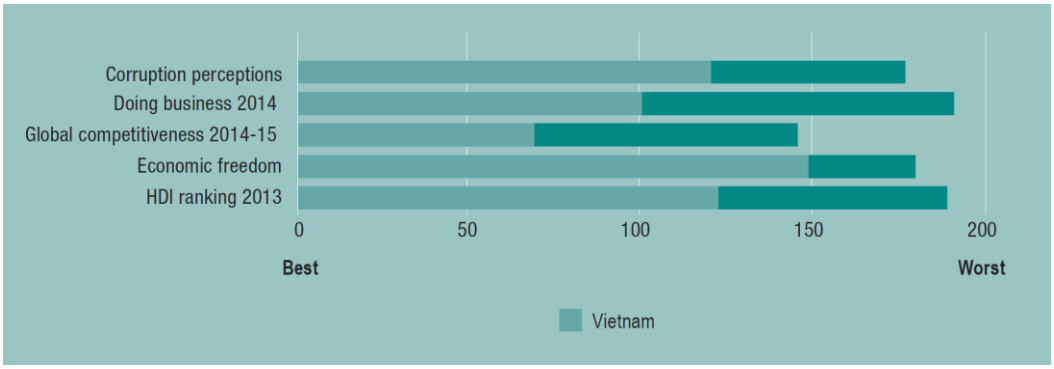
Viet Nam is considered a development success story.[6] Its transition from a low-to a lower-middle-income country in 2009 is reflected in the sharp rise in gross domestic product (GDP) per capita, from $239 in 1985 to $1,911 in 2013;[7] a fall in the number of people living in poverty from 60% in the early 1990s to 20.7% in 2010 (Badiani et al., 2013); and the country maintaining a very low share (3%) of GDP coming from official development assistance (ODA) (OECD, 2014).

The transformation of Viet Nam's economy began in 1986 with political and economic reforms known as Doi Moi. These marked the end of the centrally planned command economy and included reforms permitting increased private sector involvement in sectors deemed to be non-strategic and an increasingly market-based economy. In 1988, a Land Law was enacted that permitted private land rights; Decision 217-HDBT in 1987 granted state-owned enterprises (SOEs) greater independence, with rights over capital. However, ultimate investment decision-making is still under the control of the state. At the same time as the economic reforms, a process of international economic integration, with an emphasis on trade liberalisation while protecting domestic production, was taking place in the country (Thanh, 2005).

Although economic reform has led to growth, this has not always been distributed evenly across the country, with an overall medium ranking on the Human Development Index (121st out of 187), and it has taken place in the context of higher than average levels of corruption. For example, the majority of foreign direct investment (FDI) has concentrated in industrial and urban areas, mainly in the South-East and Red River Delta regions (Anwar and Nguyen, 2014; Nguyen Thi et al., 2006), and 60% of ethnic minorities remain poor (OECD, 2014). According to the Corruption Perceptions Index 2014, Viet Nam is ranked 119th out of 175, where 175 is the most corrupt.[8] Such high levels of corruption can lead to significant costs for business and slow progress on increasing investment from private sources (see Figure 1). The World Bank's Doing Business Ranking also highlights the impact of difficulties starting a business, such as low levels of credit access and access to electricity (see Figure 2).

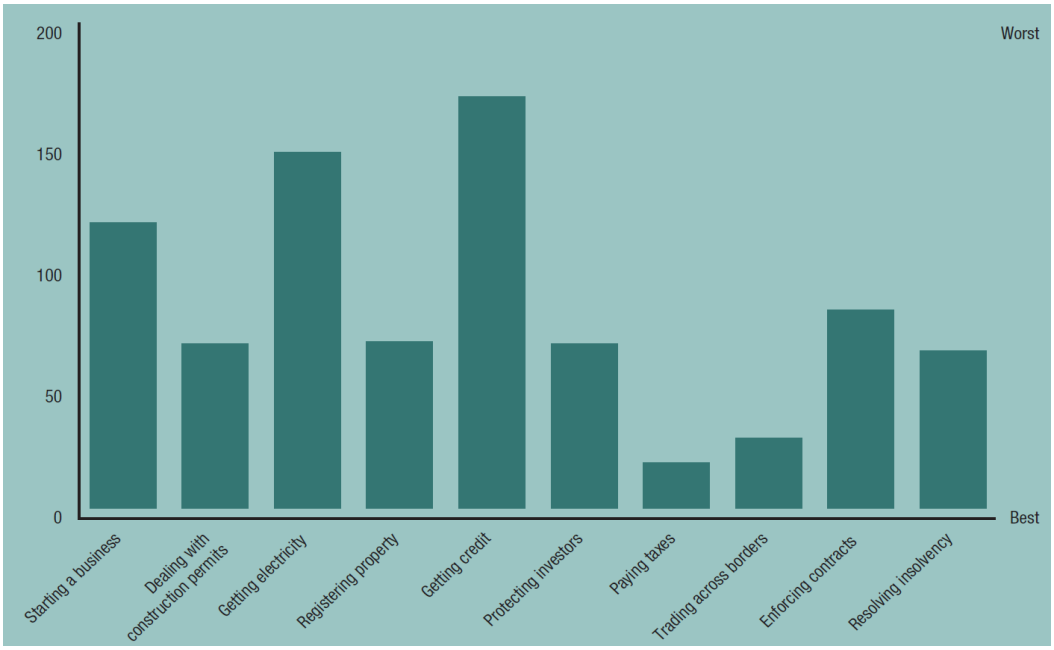
[6] http://www.worldbank.org/en/country/vietnam/overview
[7] http://data.worldbank.org/indicator/NY.GDP.PCAP.CD/countries?display=default
[8] http://www.transparency.org/country/#VNM

Figure 1: Rankings on key global indices (0 = best, 180 = worst)



Source: World Bank (2013).

Figure 2: Viet Nam ranking on World Bank Doing Business topics (0 = best, 180 = worst)



Source: World Bank (2013).

Finance and investment

Viet Nam has taken significant steps to encourage private domestic and foreign investment in the economy through relaxation of restrictions on firm ownership (including SOEs) and legislation on public–private partnership (PPP) models, particularly in infrastructure (see Appendix 2).

The Vietnamese government has also undertaken various measures in recent years to improve the business and investment climate and transparency. Modernisation of the Investment Law and Enterprises Law in 2005, together with the 2007 Securities Law, has established a comprehensive legal framework for the development, regulation and supervision of capital markets (ADB, 2014). Following Viet Nam's accession to the World Trade Organization (WTO) in 2007, FDI increased from $12 billion in 2006 to more than $21 billion in 2007 (KPMG, 2011), and the Vietnamese government has opened an increasing number of sectors and sub-sectors to domestic private and foreign investment. The National Assembly passed revised Enterprise and Investment Laws in November 2014, which will take effect from 1 July 2015 and allow greater freedom of operation for enterprises, simplified registration procedures and a new definition of SOEs as enterprises wholly owned by the state (Massmann, 2014).

While growth in Viet Nam's financial markets, and in particular its stock market, has been strong in recent years, it is not diversified, and the country's equity markets are quite volatile as a result. There is a strong

perception that corporate governance standards are also not consistently upheld and international standards of financial reporting are not fully embraced, meaning risks for investors, particularly foreign investors, who must ensure compliance with international standards for their shareholders and with national government legislature (ADB, 2014). State-owned banks hold the majority of the market share and continue to provide directed and often subsidised credit to select industries, often supporting the immediate cash needs of less productive public enterprises, potentially at the expense of the private sector (ibid.).

In addition, the Vietnamese banking sector suffers from high levels of nonperforming loans and under-capitalisation (ADB, 2014). The local currency bond market is much smaller than the regional average (56.5% of GDP) and insurance penetration rates are on a par with the Philippines and Indonesia but below those in Thailand and Malaysia (ibid.). The Viet Nam Asset Management Company was created on 9 July 2013 under the direct control of the State Bank of Viet Nam to address some of these issues within the banking sector by purchasing, recovering and restructuring of bad debt (ibid.).

2.2 The transport sector in Viet Nam

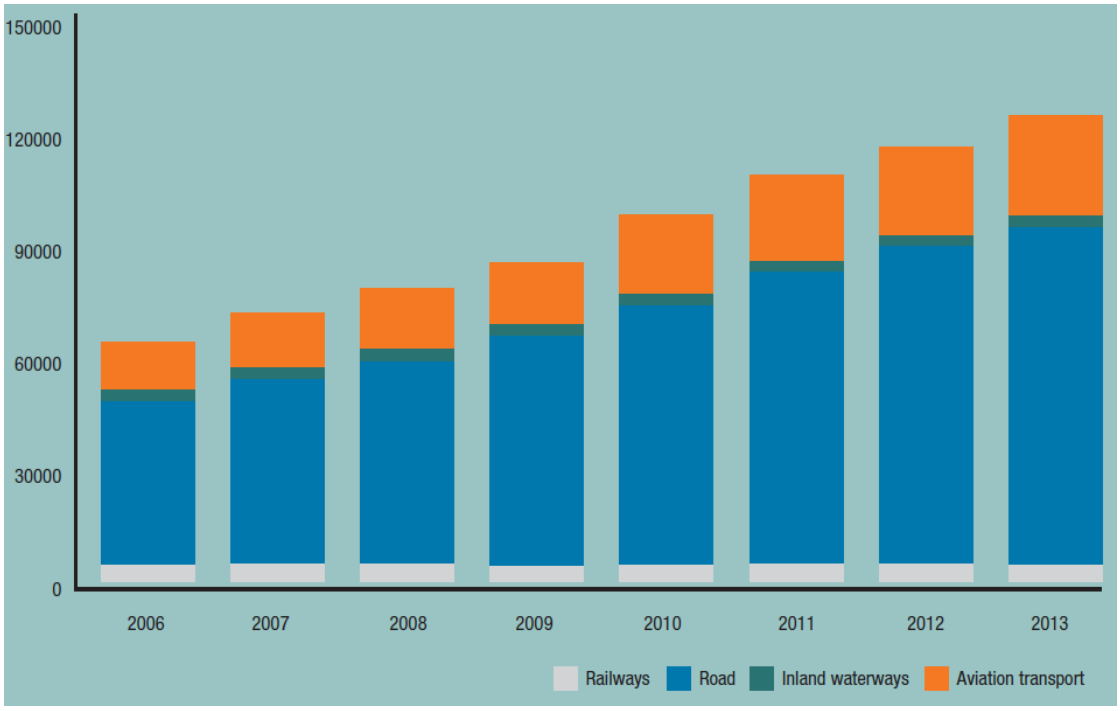
The Vietnamese government recognises that development of the transport sector is critical for economic growth and development, and that investment in transport can pave the way for wider investment flows.

The transport sector strategy, Decision No. 355/QD-TTg,[9] sets out overall sector plans to increase investment, improve safety, develop inter-city and urban transport systems, increase private participation and minimise environmental pollution. In urban transport, there is mention of increased public transport use and facilities; in rural transport, the focus is on building roads.

Both freight and passenger volumes have increased significantly in recent years linked, to the rising population and increased wealth. The share of road passengers has increased more quickly than that for other modes of transport, linked to rapid increases in motorcycle and car ownership (see Figure 3). The development of the transport sector has contributed positively to inclusive economic growth in Viet Nam over the past decade, through improved links to markets and education and health facilities; however, a number of challenges remain, including high accident rates, capacity constraints and challenges with policy, planning, budgeting and regulatory implementation (World Bank, 2014). In particular, public transport provision and access to transport has not kept pace with demand, with 16% of the population living more than 2km from an all-weather road.[10] The country's high rates of road traffic accidents and congestion impact wellbeing and economic development: a recent study of existing traffic congestion in Ho Chi Minh City (HCMC) indicated that congestion was costing the city about VND14 billion a year, 6.25% of HCMC's GDP (ESMAP, 2014).

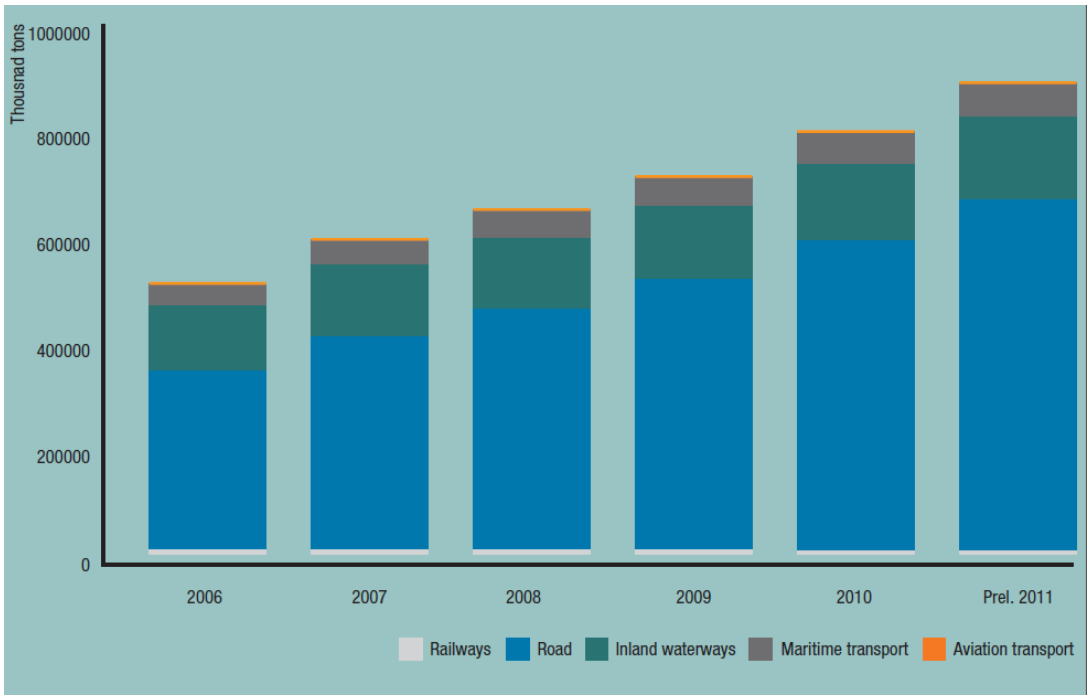
[9] https://luatminhkhue.vn/excutive/decision-no-355-qd-ttg.aspx
[10] http://www.worldbank.org/en/results/2013/04/12/vietnam-achieving-success-as-a-middle-income-country

Figure 3: Volume of passengers by type of transport, mill. Persons, km



Note: (*) Including data of transportation establishments and others operating in transportation business activities.
Source: GSO.

Figure 4: Volume of freight by type of transport



Source: GSO.

Road

Roads are the dominant modality for both passenger and freight transport. Road traffic also accounts for a major portion of Viet Nam's gasoline and diesel consumption. The road network in Viet Nam is 210,000km, of which 7,000km are urban roads, and the percentage of paved roads is 84%, up from 61% in 1997 (World Bank, 2014). Improvements have been driven by the construction of new roads rather than maintenance of existing capital stock as routine maintenance is under-funded (ibid.).

Motorcycles are the primary mode of transport in major Vietnamese cities, and account for 60-65% of journeys in Ha Noi and HCMC, with bicycles accounting for a further 25% (World Bank, 2014). It is anticipated that both of Viet Nam's major cities (Ha Noi and HCMC) will face serious congestion problems if private vehicle ownership continues to grow at current rates (ibid.).

According to the Strategy for Transport Development in Viet Nam, gasoline and diesel and fuel oils will be the primary fuels used in the transport sector through 2020, and there are currently there no government incentives to promote low-emission road vehicles, although they are discussed in the 2012 Green Growth Strategy Paper (RCEE and Full Advantage, 2009).

Air

There are 135 airports/airstrips in Viet Nam (World Bank, 2014), and aviation transport was responsible for 6.9% of fuel consumed in the transport sector in the country in 2005 (RCEE and Full Advantage, 2009). There are three major airlines operating in Viet Nam. Viet Nam Airlines, which has the largest market share at about 62%, is a SOE. VietJet, a private airline with 30% FDI investment, is the newest airline, with a 20% market share. Jetstar Pacific is owned by Viet Nam Airlines and Jetstar, which is owned by Australian airline Qantas. Jetstar Pacific has about 17-19% of the market share and is a joint stock company (JSC).

Water

Inland waterways

Viet Nam has 41,000km of inland waterways, of which only 8,000km are used commercially. Although water-based infrastructure and transport could make significant contributions to sustainable economic growth through improving the efficiency of freight transport and reducing road congestion, there is currently a strong preference for road over waterways for reasons related to cost and convenience. Water transport is still perceived to be more risky than road transport, and inland waterways are in quite poor condition.

Despite limited investment, the number of boats, their capacity and the number of passengers have increased rapidly in recent years, and inland waterways are attractive for the transportation of a subset of high-weight low-value goods (e.g. coal, rice, sand, stone, gravel), as well as personal transport – particularly in the Mekong Delta and Red River (World Bank, 2014).

The inland waterways are dominated by domestic companies, a number of which are small and informal. There are examples of private companies using good logistics to develop farm to ocean tanker transportation of rice.[11]

Maritime

Viet Nam has 3,400km of coastline along one of the world's busiest sea cargo lanes, and has ambitions to compete with Singapore and Hong Kong on the provision of sea cargo services.

Viet Nam has over 80 seaports. The larger ones have traditionally been developed by government, and handed over to the country's state-owned port and shipping company operator, Vinalines, for operation (World Bank, 2014). Currently, Vinalines is loss-making and is reported to have defaulted on five loans worth over VND 23.06 trillion and does not have the capacity to raise funds to finance large-scale infrastructure, such as a planned port project at Lach Huyen (Blancas et al., 2014).

There has been some international investment in the port sector – for example in the Viet Nam International Container Terminal in HCMC, which is owned by a Vietnamese JSC in which Singapore and Japanese private companies own a 63% share. International ownership of ports is possible, but there are restrictions on the services that can be provided and the share of ownership by international owners within joint ventures. Vietnamese port capacity has increased and costs have come down in recent years; tariffs in Saigon port are competitive with other feeder ports in Association of South East Asian Nations (ASEAN) countries and China (World Bank, 2014).

Rail

The Vietnamese rail network consists of eight lines and just over 2,500km of track. In terms of rail use, average passenger train loads are relatively high but freight loads are low, owing to weak infrastructure and operating

[11] Based on an interview with Chris Jackson, World Bank.

plans (World Bank, 2014). The railway sector accounts for 3.2% of total transport sector fuel consumption, based on 2005 figures (RCEE and Full Advantage, 2009), and currently rail systems are diesel-based using relatively inefficient engines (according to an interview with the UN Development Programme (UNDP)).

In 2003, the railway transport sub-sector was reorganised to create the Viet Nam Railway Authority (VRA), charged with all policy, regulation and safety matters, and the Viet Nam Railway Corporation (VRC), charged with railway operations (RCEE and Full Advantage, 2009). The VRC is the sole supplier of rail services, and, following its partial privatisation, it is divided into four business groups: two passenger train-operating entities (North and South), a freight train company and a grouping of regional infrastructure administrations. The VRA is responsible for planning and development, new construction and securing resources for maintenance; the VRC pays it 10% of gross revenues as a track access charge.

Storage and pipelines

There is considerable capacity for improvements in the storage of primary goods in Viet Nam. Large warehousing is limited to Vietnamese government rice warehouses, which are kept for price stabilisation (food security) purposes, and those held by SOEs for export (Vinafood 1 and 2).

The development of logistics parks, which involve clustering cargo-handling facilities near a port, airport or industrial zone, is also limited in Viet Nam. Most cargo facilities are developed by the private sector and are standalone warehouses below the standard found in other countries in the region (Blancas et al., 2014). The WTO Commitments of Viet Nam and Decree 140/2007 on Logistics Services set out the foreign ownership limits applicable to certain logistics-related services. According to these, from 11 January 2014 on, the market is more open to international investors. For investment in goods warehousing and storage services, including the business of warehousing in containers and storage for processing raw materials and equipment, it is possible to invest 100% of FDI.[12]

Current investment in pipelines is predominantly in gas and oil. According to the Central Intelligence Agency World Factbook (2013), Viet Nam has the following pipelines: 72km condensate[13]/liquid; 398km condensate/gas; 955km gas; 128km oil; 33km oil/gas/water; 206km refined products; and 13km water. The study found no evidence of specific government emphasis on improving the environmental impact of pipeline construction and operations.

Policies and institutions

Public transport was neither a central government nor a municipal government priority in the initial years after the Doi Moi reforms in the 1980s. Wider transport infrastructure has expanded considerably in the past decade, with significant ODA spending on road, rail, ports and airport infrastructure.

Current Vietnamese policy on investment in transport infrastructure is to prioritise and encourage private sector investment in expressways, ports and airlines, leaving out sub-sectors deemed important to national security, such as military air bases. In addition, although management of rail services and vehicles will remain state-controlled, there is an open policy on railway infrastructure investment, with a focus on learning from experience abroad

While government transport strategies and plans highlight maintenance as a priority, much of the current policy focus in terms of attracting private investment to the transport sector is on new infrastructure and investment in SOEs and at the firm level.

The Ministry of Transport (MoT) is the primary actor responsible for transport at the national level, but decision-making, policy formulation and implementation of transport projects re divided between a large number of national and sub-national level agencies, several of which do not fall under the remit of the MoT (see Table 1). By way of example, a number of different agencies are responsible for the investment, implementation and maintenance of road projects (World Bank, 2014). For national roads, the Ministry of Planning and Investment (MPI) approves investment, implementation is the responsibility of the Project Management Units

[12] http://www.apac-legal.com/c/vietnam-opened-more-market-to-fdi-in-logistics-business-1

[13] Condensate is either the liquid phase produced by the condensation of steam or any other gas, or, in gas form, is a low-density mixture of hydrocarbon liquids that are present as gaseous components in the raw natural gas produced from many natural gas fields.

of MoT and maintenance is undertaken by the Viet Nam Roads Administration with funds channelled through the Ministry of Finance (ibid.).

Table 1: Government institutions in Viet Nam's transport sector

Ministries	**Ministry of Transport (MoT)** – planning, managing and maintaining national infrastructure including roads, rail, air transport and sewage pipelines, assessing local government planning and approving city master plans, developing long and medium term sector strategies
	Ministry of Planning and Investment (MPI) - state management over planning, development investment and statistics, including provision of general advice on strategies, plans for national socio- economic development; development planning, mechanism and policies for general economic management and some specific fields; domestic investment, foreign investment; economic zones; management of official development (ODA) and grants from international non-governmental organizations; bidding; establishment and development of enterprises, collective economy and cooperative sector; statistics; state management over public services in sectors under its management
	Department of Planning and Investment (under MoT) – integrates investment plans prepared by modal administrations for submission to MPI for inclusion in the PIP and MoF for inclusion in the state budget
	Viet Nam Land Administration (VLA) – approves certain projects before MoT submission to MPI
	Ministry of Natural Resources and Environment (MoNRE) – approves EIAs of national transport projects
	Ministry of Agriculture and Rural Development – agricultural storage facilities
	Ministry of Finance (MoF) – approves maintenance budgets of MoT
	Ministry of Industry and Trade (MOIT) – Encourages and mobilizes domestic and international investment capital sources, coordinates mobilisation of official development assistance capital sources for investment, oversees management of gasoline pipelines
	Prime Minister's Office – approves certain projects, administrative authority over VAC, Vinalines, VRC
Government agencies, authorities and bodies	**National Assembly** – approves large national transport investments included in annual state budget
	Transport Development and Strategy Institute (TDSI) - the only institute under the Ministry of Transport, but is large – with about 150 staff. The headquarters is in Hanoi and there is a branch in HCMC. It is responsible for preparing the master plan on transport for the Ministry to submit to the Prime Minister. It is also responsible for policy on mobilising resources for transport development – the model is PPP and privatisation
	Urban transport bodies (Hanoi, HCMC): Peoples Committees, Transport and Urban Public Works Services, Traffic Police, under Public Security Department, Mass Transit Planning Agencies (Hanoi Agency for Transport Planning, HCMC Rail Planning Board)
	Civil Aviation Authority- Provide the basis for investment direction and policy on infrastructure. They are also responsible for aviation administration, HR development and aviation-related industries. Current government focus in aviation is on infrastructure
	Directorate for Roads of Viet Nam (DRV) - part of the MoT, advises the Minister of Transport in state management and organizing legal implementations on road transportation nationwide; conducta public services on road transportation according to legal regulations
	Viet Nam Railway Administration - Plans and manages development of the rail sub-sector and regulates it
	Viet Nam Inland Waterways Administration, under MoT - Plans and manages 75% of network, navigational aides and port facilities
	PDOTs and Provincial Departments of Agriculture - Plans and manages remainder of network and ports
	Viet Nam Marine Administration, under MoT - Plans, develops and maintains – channels, ports, shipping industry plans
Investment authorities	**Foreign Investment Agency, Ministry of Planning and Investment**

Table 2: State-owned enterprises in the transport sector

Viet Nam Expressway Corporation (VEC)	Main partners are the IBRD, HICA, ADB. VEC was established by the Ministry of Transport and the Prime Minister with the goal of mobilising resources outside of the state budget – it is 100% SOE, but set up under the enterprise law. To develop, finance and manage expressways.
Viet Nam Railway Corporation (VRC)	Sole provider of rail services, manages enterprises that carry out construction, maintenance and commercial activities unrelated to rail
Vinalines	Operates majority of Viet Nam's ports and seven shipping companies, the majority of the national fleet
Vietnam Airlines	SOE airline, owns majority share of Jetstar Pacific airline
Viet Nam Waterway Construction Corporation (VINAWACO)	Dredging and construction of hydraulic works company
Viet Nam Freight Forwarding Company (VINAFCO)	Logistics corporation set up by the government in 1987
Civil Engineering Construction Corporation No.s 4, 5 6 & 8	Responsible for road, rail and air transport infrastructure construction
Transport Engineering Design Incorporation (TEDI)	Leading design consultancy agency

Note: Vietnam Airlines and Vinalines have not been (and are not) part of MOT though they are, of course, in the transport sector. They are under direct oversight of the Prime Minister when they are 100% SOE. They are being partially-privatised and thus will be under oversight of shareholders (state may still be a major shareholder)

Note: Vietnam Airlines and Vinalines have not been (and are not) part of MoT, although they are, of course, in the transport sector. They are under the direct oversight of the prime minister when they are 100% state-owned. They are being partially privatised and thus will be under the oversight of shareholders (the state may still be a major shareholder).

2.3 Demand for transport sector investment

As Viet Nam's economy has grown, the level of international assistance (in the form of ODA) has declined in absolute terms and relative to GDP, leaving a financing gap for infrastructure projects (including for transport). The government is seeking to fill this, in part through private investment. Recognition of the financing gap for service provision and infrastructure across the transport sector is slowly translating into more targeted policies to attract private investment.

Although data could not be found on Viet Nam's sector-level ambitions for investment in transport, a wide range of transport projects across different transport sub-sectors are at inception phase and seeking private investment. For example, the HCMC Department of Transport alone has 61 project calls for investment. In addition, a small number of projects underway have secured some private investment, such as the deep sea port being developed at Hai Phong, two hours from Ha Noi. Nonetheless, the majority of the transport sector investment currently ongoing in Viet Nam is infrastructure-focused, and ODA- and government-funded, such as the airport expansions at Noi Bai (Ha Noi) and Tan Son Nhat (HCMC). Long Thanh Airport – HCMC's second – is due to begin construction in 2016, and recently secured a $2 billion loan from a French company (Tuoi Tre News, 2014a). Private infrastructure investment is increasing but is still the exception rather than the norm.

In addition to the development of new infrastructure, there is increasing government and donor policy attention on overall planning to alter the modal spread of transport, shifting freight from roads to water and rail and passengers from private vehicles (particularly motorbikes) to buses, electric bikes and rail – particularly urban rail. There is also a focus on addressing the fuels and vehicles used in transport.

2.4 Climate and green growth objectives (for transport in Viet Nam)

Viet Nam's Climate Change Strategy for 2011-2020 highlights the country's plans to become a modern industrialised country by 2020, noting that its production and consumption of energies will sharply increase, including through transport and urban development, resulting in higher emission of GHGs. To address this trend, the transportation sections of the strategy include the following objectives:

- To plan the system of transportation and improve its quality to international standards; and to develop means of public transport in urban areas while controlling the growth of individual means of transport;
- By 2020, the public transport system to in the main satisfy society's demand for transportation; the modernisation of a nationwide transport network and an externally orientated transport corridor must be completed by 2050;

- To introduce fuels of low GHG to means of transport; to encourage bus and taxi consumption of compressed natural gas and liquefied gas, so 20% of these vehicles use such energies by 2020 and 80% by 2050;
- To set up and apply mechanisms and policies encouraging the use of energy-saving vehicles while getting rid of energy-intensive ones.

In addition, a number of objectives under the sections on saving and effectively using energies are linked to transport (Government of Viet Nam, 2012). These include:

- To design and implement policies that support and encourage the effective use of energies in economic fields, including transportation and urban development; to check and reject ineffective technologies that largely consume energies and create GHGs. Until 2015, the plan on rejecting ineffective technologies must be finalised and issued;
- To research, develop and apply technologies, equipment and consumer goods that use energies effectively, consume non-fossil energies and create low emissions, including in transportation and urban development

Viet Nam's Green Growth Strategy also includes key targets for 2020 related to transport that complement those in the Climate Change Strategy, including increasing the share of public transportation in large and medium cities to cover 35-45% of journeys (Government of Viet Nam, 2012).

The Green Growth Strategy sets out four areas of focus for transportation (Government of Viet Nam, 2012; Prime Minister, 2012):

- **Sustainable urbanisation:** Urban spatial planning needs to ensure economic and ecological efficiency that is favourable for public transportation development. Basic transport infrastructure should ensure accessibility of an acceptable quality for all people while reducing costs from pollution and reduce traffic jams. There is a need to invest in systems for urban transportation to achieve at least an average level of development in comparison with advanced countries in the region, and to prioritise the development of public transportation in urban areas with the involvement of all economic sectors in terms of both investment in fuel-efficient vehicles and exploitation of public transportation. In areas that are highly vulnerable to climate change, infrastructure (including for transport) should be adapted to climate change to minimise economic losses.
- **Infrastructure:** Enhanced investments are needed in upgrading and improving transportation systems and networks, such as water transportation, expressways and railways that are energy, economically and environmentally efficient and climate-resilient. There is to be an emphasis on developing transportation systems through connecting economic centres and large-scale production areas, by means of investments in public transportation infrastructure using modern industry and technologies. In addition, the dike system will be upgraded to ensure safety for socioeconomic activities and human life and linked with usage for transportation, so as to enable an effective response to climate change, sea level rises and flooding.
- **Fuels:** Changes need to be made to the fuels used for transportation, including encouraging buses and taxis to shift to liquefied petroleum gas and introducing quality management of standards on fuel and gas emissions and vehicle maintenance. This includes establishing and publically announcing standards on fuel consumption.
- **Innovation:** There is to be a focus on investments in research on and the development and application of green transportation technologies (engines using new, low-emission energy, intelligent transportation systems, etc.); stimulating international and domestic enterprises to invest in green economic development through importing, using and localising green technologies; using economic instruments and technical standards to control the development of individual motorised vehicles in large and medium cities, allocating special routes for non-motorised vehicles; and formulating a roadmap towards 2020 to initiate green procurement in sectors.

In addition to the focus in the Green Growth Strategy on the need for urbanisation strategies and infrastructure to respond to climate change, an adaptation strategy has been developed for HCMC that highlights a number of priorities linked to transport (VCAPS, 2013). These priorities are linked to the development of a comprehensive infrastructure system as part of HCMC's master plan, whereby the city would become a centre for industry and

multi-disciplinary services in South-East Asia and a central hub for international transportation. In particular, the adaptation strategy for HCMC focuses on two transport sub-sectors: marine transport and public transportation (metro and buses), and the links between the two.

An increase in global marine transport has resulted in a demand for deeper harbours in HCMC, meaning that both the city's harbours have had to be relocated more towards the sea. As a consequence, HCMC is developing new harbours and redeveloping the inner city areas formerly occupied by these harbours. The new locations for harbours should be developed taking into consideration sea level rises and land subsidence, and should be built high enough not to flood in the coming decades. Further, establishing harbours and directly related industries near the sea and residential zones more inland requires multimodal infrastructure to get people to their work and to connect the harbours with the main transport routes. High-quality public transportation is necessary to avoid congestion, and increased urban density requires the support of a modern and multimodal public transportation system. This system will consist of six metro lines that will to a large extent be built on viaducts. In addition, existing railroads will be renovated and a light rail system will connect the city with the new international airport in Long Thanh, about 40km east of the city.

Viet Nam's Climate Change and Green Growth Strategies do not contain specific targets for public or private finance, but the Climate Change Strategy mentions the objective of working with MPI and the Ministry of Finance to review the financial demands necessary for activities to cope with climate change, and the Green Growth Strategy highlights the roles of MPI and the Ministry of Finance in identifying and allocating domestic financial resources and in coordinating foreign assistance sources, policies and mechanisms to promote implementation of the strategy (Government of Viet Nam, 2012; Prime Minister, 2012).

3. Framework 1: incentives (industrial policy tools)

The first framework in the diagnostic tool builds on existing categories of subsidies and the industrial policy tools governments most commonly use to mobilise investment. We use the term 'incentives' to describe all industrial policies, subsidies, support, aid, assistance, fiscal policy and fiscal instruments. See Whitley (2015) for more detail on the methodology and the three frameworks used for this study.

Framework 1 (Figure 5) highlights the key regulatory, economic and information instruments in Viet Nam's transport sector. These instruments are outlined to provide information on the incentives available to support private investment in Viet Nam and to show whether they are provided across the transport sector or are targeted at specific sub-sectors. Where secondary analysis was identified on the effectiveness of these incentives in shaping or mobilising investment, this information has been included. Additional detail on economic instruments can be found in Section 4 (Framework 2); the incentives most frequently referenced in interviews are outlined in more detail in the section below.

Information for this framework was obtained on the basis of interviews with key stakeholders in Viet Nam (see Appendix 1) and a review of publicly available government documents.

Figure 5: Framework 1 – industrial policy tools

Regulatory	**Investment regulation** • Transport as a sector to be developed through BoT, BTO and BT contracts • Partial privatization (equitization) of SOEs in the transport sector (Decision 14/2011/QD-TTg and Decision 37/2014/QD-TTg). • New Decree on Public-Private-Partnerships (PPP) (15/2015/ND-CP) • Toll roads, seaports, and airports prioritized in the Pilot facility for (PPP) **Transport** • Reform of the public bus sector including specific focus on role of private investment in public transportation (Decision No. 71/2004//QD-UB) • Limits to lifetime use of road vehicles including buses (Decree No. 23/2004) • Government licensing of road transport businesses (Decree No. 91/2009) • Roadmap for vehicle emissions standards – setting out emissions standards for road vehicles that will come into force starting in 2017 (Decision No. 49/2011) **International regulation** • Global emissions standards: UNECE Convention on Long Range Trans-boundary Air Pollution, influencing aeroplane design and International Maritime Organization (IMO) regulation of emissions from ship exhausts through standards known as Tier I, II and III of MARPOL 73/78
Economic	• Tariff regulation (toll roads, bus operations), managed by the National Assembly and at local government level • Fuel cost support (subsidies and efficiency upgrades) linked to transport primarily in agriculture and fisheries sectors (Decree 61/2010/NĐ-CP) (Decision 289/QĐ-TTg) • Grants, tax exemptions and price support to airlines and bus companies, including discounts for use of ground handling services at airports • Incentives for domestic and international investors in road and rail infrastructure – corporate income tax exemptions and preferential rates, import duty exemptions (for first-time imports of equipment and facilities for the development of public transport, including transportation by sea and air; rail; passenger transportation by cars of 24 or more seats; transportation by modern and high-speed inland waterway ships; transportation by container) (Decree 87/2010 on Import and Export Duty), land rental exemptions and reductions, accelerated depreciation of fixed assets • Policy risk guarantees –for airlines • Land provided for free by the provincial government to investors in return for capital investments • Land Law - government-set land prices (No: 44/2014/ND-CP)
Information	• Transport sector master plan to 2020 • Department of Transport Climate Change and Green Growth strategies (2012) • 2010 seaports network development master plan • Master plan for development of inland waterways to 2020 • Lists of investment projects in transport, e.g. HCMC Department of Transport list of projects 2014 • Transport Development and Strategy Institute (TDSI) in the Ministry of Transport of Vietnam – collects and publishes sector-level data on volume of use of transport modalities (except for motorbikes) • City-level development master plans on transport for Ha Noi and HCMC • Aviation development master plan (2009 - Decision No. 21/QD-TTg)

3.1 Regulatory instruments: key incentives, gaps and considerations

At the national economy level, Viet Nam's Doi Moi policies opened the Vietnamese economy to private domestic and international investment (see Section 2). However, there is growing awareness that reducing restrictions on investment is insufficient to increase investment flows, and that the government must provide investors with additional policy clarity and further incentives. This impacts investment in the transport sector.

In terms of regulation influencing the transport sector more specifically, current transport policies overlap at national and sub-national level, and across the sector and at sub-sector or modal level. Vietnamese law is made up of over 10,000 legal instruments. Higher-ranking legal instruments set out more general rules, while lower-ranking legal instruments provide details for implementation. Table 3 indicates the key types of legal instrument in hierarchical order.

Table 3: Hierarchy of legal instruments in Viet Nam

Legal instruments	Issuing body
The Constitution Laws (including Codes) Resolutions	National Assembly
Ordinances and Resolutions	Standing Committee of National Assembly
Decrees, Regulations and Resolutions	Government
Decisions and Directives	Prime Minister
Circulars and Decisions	Ministries

Source: Allens (2012).

3.2 Investment regulations highlight transport as a priority sector

The inclusion of private investment in different sectors of the Vietnamese economy took place through specific changes in the Investment Law (2005), where investment in transport infrastructure was highlighted as an area entitled to 'investment preferences' or incentives (Decree 108/2006/ND-CP). The new Investment Law, to be implemented in 2015, also clarifies what level of foreign ownership will result in a company incorporated in Vietnam being deemed a foreign-invested enterprise and increases the proportion of shares foreign investors can hold in a public or listed company. The new legislation also sets out processes that streamline registration – to make it faster and easier.

In addition, investments in transport are part of specific legislation on the manner in which private actors and investors can engage in different sectors in Viet Nam through Build-Operate-Transfer (BOT), Build-Transfer-Operate (BTO) or Build-Transfer (BT) contracts (Decree 108/2009/ND-CP). Under this legislation, roads, road tunnels, ferry landings, railways, railway tunnels and bridges, airports, seaports and river ports are highlighted as areas for private sector participation. Under these types of contracts, the participation of government is limited to 49% of the total investment capital of the project. Under this legislation, the central government issues investment licences for private actors to enter into BOT, BTO and BT contracts. Domestic investors do not need to acquire investment licenses for projects of less than VND 15 billion (approximately $714,000) (BoEA, 2013).

In 2010, the government decided to trial PPPs in a number of sectors with support from the UK Department for International Development (DFID) and the World Bank (Decision 71/2010/QD-TTg) (see also Appendix 2). A new Decree (15/2015/ND-CP) on the PPP investment form has been recently approved (April 2015); this includes projects for investments in roads, road bridges, road tunnels and ferry landings; railways, railway bridges and railway tunnels; urban transport; and airports, seaports and river ports. The PPP facility is managed by three consultancies and expects to promote $170 billion in infrastructure investment by 2020, with 50% of the funding coming from the private sector.

To date, PPPs in the transport sector have been implemented only for road construction and with domestic private investment (e.g. the HCMC expressway, which has domestic private investment from Bitexco).[14] Interviewees suggested there had been important regulatory breakthroughs recently in terms of policies to address obstacles to investment in general, which also help support PPPs, for example regulation to address corruption and to simplify investment procedures such as registration. However, there remain constraints to investment. For example, although private companies, including international companies, are now permitted to develop proposals for investments, the government still decides on all investment projects and the bidding process is 100% competitive. As a result, firms are not incentivised to develop investment proposals, as a proposal may be designed by one firm and then the contract won in a bidding process by another firm. A potential solution to this offered by an interviewee was that the government cover the cost of the development of investment proposals.

3.2.1 Partial privatisation of state-owned enterprises and reduced dominance in transport operation

The investment law reform included the process of 'equitisation' (or partial privatisation) of SOEs by selling part of the assets or liabilities to the private sector, transforming the SOE into a JSC (see also Appendix 2). This reform has been relatively slow, and in the first 20 years resulted in a reduction of SOEs from around 12,000 in 1996 to 4,500 in 2004 (Nguyen and van Dijk, 2012) and to 3,135 in 2013.[15] Regulation of the equitisation process establishes the sectors that must remain under the control of the state but where there is potential to allow participation of the private sector (Decision 14/2011/QD-TTg and Decision 37/2014/QD-TTg). The government issued Decision 37/2014/QD-TTg in June 2014, on the criteria for the classification of SOEs, the main purpose of which is to reduce the number of sectors where the state is required to be a majority or sole shareholder and to encourage private investment. Decision 37 sets out four categories on state ownership requirements – namely, (i) 100%; (ii) 75% or more; (iii) from 65% up to 75%; and (iv) from 50% up to 65%. There are 16 sectors in which the state is required to retain 100% ownership, including the management of railway systems, irrigation systems and air terminals that are important to national defence and security. In seven sectors, the state must hold at least a 75% stake; these include the management of inland roads and waterway systems, seaports and air terminals (not included in the first group). Aviation transport is one of the sectors in which the state must hold a greater than 65% but less than 75% stake. Public services for urban lighting, water supply and drainage sewerage, waste collection and international sea and railroad transportation are among the sectors in which the state will hold a more than 50% but less than 65% stake.[16]

Private sector investment in SOEs is also increasingly being promoted within the transport sector, notably in airlines: Vietnam Airlines has already raised private investment through a domestic initial public offering (IPO) and is currently seeking international investment.[17] The government is identifying additional sources of income, for example by changing regulations allowing bus companies to obtain an income from advertising.

Although SOEs continue to dominate transport operation in several sub-sectors, most notably rail service operations, there is an increasing role for private companies as operators of land, water, air and storage services and networks, as well as future potential for involvement in urban rail and road transport.

Also in road operations, privatisation of toll booths and toll collection is planned; according to Thuy and Chinh (2013), the Vietnam Road Department will sell the fee collection right of the toll stations for a duration of about five years.

Potential investors access information about specific investments via the websites of MoT, MPI and businesses in the transport sector, local newspapers and provincial Departments of Planning and Investment (DPIs).

HCMC Department of Transport investment opportunities document and study interviews demonstrated the government's interest in developing and attracting investment in ports. MoT is supporting BOT proposals and will allow investors to collect service fees or to trade sand after dredging, and offer assistance to ensure projects are effective.

3.2.2 Promotion of public transportation

Public transport was neither a central government nor a municipal government priority in Viet Nam until the early 2000s, when the prime minister prioritised its promotion under Decision 71/2004, with goals to increase

[14] A Vietnamese multi-industry corporate operating in real estate, infrastructure, mining and manufacturing: http://bitexco.com.vn/about.html
[15] http://www.gso.gov.vn/Default_en.aspx?tabid=491
[16] http://www.allenovery.com/publications/en-gb/Pages/New-opportunities-from-state-owned-enterprises-in-Vietnam.aspx
[17] http://www.vietnamairlines.com/en/about-us/ipo

bus travel to 30% of journeys by 2010 and 50% by 2020 and to encourage participation of the private sector in the provision of bus services (ESMAP, 2014). More recent government strategies (e.g. the Green Growth Strategy) place further emphasis on increasing public transport and partially privatising SOEs operating in the public transport sub-sectors (Decision 37/2014) (see also Sections 2.5 and Appendix 2).

Cyclo (pushbike taxi) operations have reduced in number as a result of increased private vehicle ownership and government policies that have restricted their operations, such as the government of Ha Noi's decision to license just four companies operating cyclo services for tourists on restricted routes (Thanh Nien News, 2013b). The restriction on cyclo companies is meant to improve traffic flow, but in parallel reduces the use of a low-emitting mode of transport. In contrast, motorcycle taxis remain unregulated and are usually privately owned by individuals as opposed to companies.

3.2.3 Safety and emissions standards

Legislation now requires that buses, cars and trucks be taken off the road once they reach a certain age. This legislation was put in place to address road safety but also helps reduce GHG emissions and air pollution. The government has also recently approved roadmaps on ethanol use in transport and on vehicle emission standards, to coordinate with Ministry of Industry and Trade (MoIT) standards on fuel efficiency and Ministry of Science and Technology (MoST) fuel standards. The emission standards will be enforced from 2017 and will be applied to new cars and motorcycles that are manufactured or assembled in Viet Nam or imported. In addition, investment in new planes by Vietnam Airlines has led to the use of planes with lower emission technologies. This shift was not as a result of a targeted domestic policy but because newer built planes must have improved emissions profiles to meet international standards and to operate in the European Union (EU) airspace.

3.3 Economic instruments: key incentives, gaps and considerations

This section highlights key economic instruments deployed by the government of Viet Nam (often with support from development partners). Details of public and private provision of grants, debt, equity, guarantees and insurance by domestic and international actors are outlined in detail in Section 5.

3.3.1 Tariffs and fees

Road tolls

The government recognises tariffs as an important incentive for private investment in road infrastructure and as part of BOT investment deals in roads where it has transferred road toll collection rights to BOT companies. However, two conflicts have arisen from private toll charges.

First, there is concern about the affordability of unregulated private toll fees, as investors seek faster returns on their investment by increasing fees. The state commitment to keeping road user fees affordable can mean a shortfall between the time it takes private investors to recoup road costs (which can be up to 20 years, according to TASCO road construction company Chair Pham Quang Dung) and the maximum terms most commercial banks are prepared to lend for, which is up to 15 years (Anh, 2014).

Second, there is overlap between existing state toll road charges, further charges brought in under the 2012 Road Maintenance Fund Decree and private toll charges. In 2013, it was reported that the government planned to spend around $43 million buying toll collection rights from investors for four stations on national highways to prevent drivers paying overlapping tolls to investors collecting tolls to return their capital under BOT contracts (Viet Nam News, 2013b). Motorists are already required to pay road-use fees for a road maintenance fund, so the BOT tolls represent a second fee (Decree of the Government on the Road Maintenance Fund 18/2012/ND-CP) (Viet Nam News, 2013b; Thuy and Chinh, 2013).

Bus tariffs

In terms of tariffs and fees for transport operations, the government recognises existing fees passengers pay to bus companies operations are too low for bus companies to recoup their costs, so it provides direct subsidies to the bus companies on the basis of the number of passengers carried on certain routes. In HCMC, these subsidies to bus companies rose by 35 times in between 2002 and 2012.

In 2012, the HCMC Department of Transport raised the bus fare for subsidised routes of less than 18km to raise revenue and reduce the subsidy from the city budget; Ha Noi city government raised bus fares in 2011 (Son, 2012). Yet, despite a VND 1.4 trillion ($66.7 million) budget for support to bus companies in 2012 in HCMC,

buses account for only 6-7% of passenger transport (Vietnam Breaking News, 2013). Furthermore, there is evidence that bus companies do not provide accurate information about passenger numbers and costs and inflate passenger numbers to receive greater government support (Tuoi Tre News, 2013).

Recently, a pilot programme in HCMC allowed 156 public buses on 10 routes to carry advertisements in an attempt to enable the bus companies to generate additional revenue through channels other than increased fees (Vong, 2014).

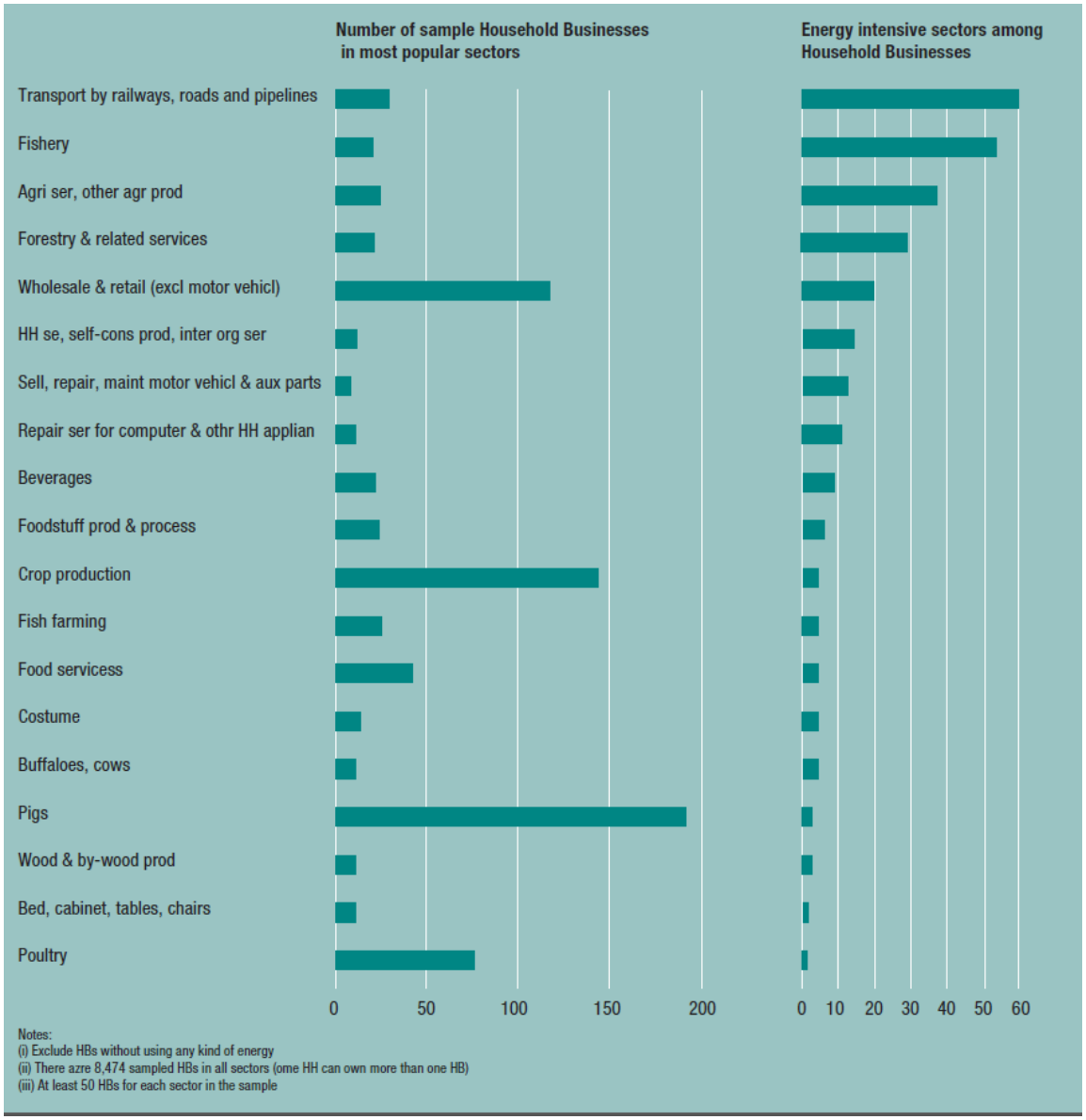
3.3.2 Fuel cost support (subsidies and efficiency upgrades)

Subsidies for fossil fuels in Viet Nam amounted to $4.12 billion in 2011, the equivalent of 3.4% of GDP. The largest component of these subsidies is allocated to electricity (70%), with a much smaller portion supporting transportation through consumer subsidies for gasoline and through producer subsidies in the form of reduced import tariffs for petroleum products (UNEP et al., 2014).[18] The transportation sector uses 71% of refined petroleum products in Viet Nam; this is led by household use (motorbikes and cars), buses and trains and then by logistics, shipping and airlines (see Figure 6) (UNDP, 2014). In addition, a large proportion of enterprises in Viet Nam are micro-businesses, based within households. For these household businesses, the vast majority of their costs on petroleum products come from those working in the transport, fishery and agriculture sectors (see Figure 6) (ibid.).

The primary fossil fuel subsidies linked to transport are provided to rural households to increase the affordability of transport in the context of rising energy prices and to support transport of agricultural produce (see Decision 289/QĐ-TTg). This is in addition to the subsidies on transport and lighting fuels provided in rural areas by Petrolimex (the Vietnam National Petroleum Group) (UNDP, 2014). In addition, enterprises in priority agriculture sectors receive a 50% subsidy in actual transport costs if production sites are located more than 100km from retail sites, with the subsidy ceiling at VND 500 million per enterprise per year (Decree 61/2010/NĐ-CP). In addition to subsidies for rural transport, in 2008 the government announced that fishing vessels would be given cash compensation of between VND 15 and 24 million ($833-1,413) to offset higher diesel prices (GSI and IIED, 2012). Fishermen were also provided with support to buy new, larger-capacity engines and to switch to more fuel-efficient engines at a value of VND 10-18 million per year per engine. For the purpose of this analysis, fuel subsidies to fishing vessels would be relevant to the fisheries sector as opposed to the transport sector.

[18] http://www.greenfiscalpolicy.org/countries/vietnam/

Figure 6: Energy-intensive sectors among household businesses



Source: Anh et al. (2013).

Table 4: Use of refined petroleum by household businesses, 2007-2009

	2007		2008		2009	
	1,000 tons	%	1,000 tons	%	1,000 tons	%
Household (motorbikes and cars)	8162	18.17	12277	19.57	11566	18.85
Transportation (bus/train)	7071	15.74	10134	16.16	9777	15.94
Logistics (lorries etc.)	3303	7.35	4662	7.43	4869	7.94
Shipping	4206	9.36	6180	9.85	5605	9.14
Airlines	7483	16.66	10403	16.59	10420	16.99
Other	14697	32.72	19064	30.4	19109	31.15
Units: 1000 tons	44922		62720		61346	

Source: GSO 2011[19]

3.3.3 Environmental taxes

In addition to fossil fuel subsidies that reduce the cost of fuels for transport, Viet Nam has introduced an Environment Protection Tax (EPT), making the country a leader in environmental tax reform in South-East Asia. Consumer unit taxes are levied on refined fuels and coal as well as on environmentally harmful substances (hydrochluorofluorocarbons, certain pesticides, soft plastic bags). Taxes on coal and refined fuels are expected to account for 99.5% of the estimated EPT revenue. It was estimated that the EPT had the potential to reduce Vietnam's annual CO_2 emissions by up to 75% and contribute up to €1.5 billion in additional tax revenue to support both state and provincial budgets by 2012.[20] In has been reported that Vietnam raised taxes on fuel imports three times in between 2012-2015, and that in May of 2015 it would triple the environmental tax on fuel consumption (Business Green, n.d.)

3.3.4 Tax exemptions and tax incentives

Some of the main incentives for investing in Viet Nam are tax deductions and exemptions, which are the same for both international and domestic investors. Investments in rail and road infrastructure benefit from a five-year income tax holiday, in addition to general FDI tax exemptions and reductions on corporate income tax, import duty and land rental charges. This indicates government prioritisation of road and rail infrastructure, as no evidence was found for transport sector operators within the Corporate Income Tax (CIT). There is a new CIT of 22%, applicable since January 2014 (the previous CIT was 25%), but preferential tax treatments (exemptions, reductions, preferential rates) are also in place for specific sectors, including infrastructure development, special economic zones and areas with difficult socioeconomic conditions (KPMG, 2013).

3.3.5 Grants and concessional loans

Part of the perceived private investment shortfall, particularly for major transport infrastructure projects, owes to the long time periods over which private investors need to wait to see profit from their investments – periods of up to 20 years, which are far beyond terms that commercial banks will accept for a return on capital (Anh, 2014).

19 http://www.vn.undp.org/content/dam/vietnam/docs/Publications/VN%20value%20chain%20policy%20analysis%20fossil%20fuel%20trade%20subsidy%20tax%20-%20paper1%20-%20final%20CORR.pdf

20 http://www.greenfiscalpolicy.org/countries/vietnam/

Road operations – buses

As well as subsidising bus passenger costs through reduced tariffs (see Section 3.3.1), the government also supports compliance with Decree 23 (Decree detail not known), which requires that fleets replace buses every 17 years by providing a proportion of the bus cost and a loan guarantee for the remaining costs, according to interviewees in this study (see also Section 4.2.5). There are also plans to provide government support with interest rates on commercial loans for investment in cleaner technology buses.

Water operations

Responding to specific livelihood issues, there are subsidies targeted to specific groups of waterway users. For example, in a new loan programme fisherman can apply for subsidised loans to buy stronger and faster ships for deep-sea fishing to compete with Chinese fishing vessels (Sands, 2014).

Air operations

There is also government support to some private sector transport operators; for example, Jetstar Pacific receives a 25% discount on various ground services provided by the majority government-owned SOE Vietnam Airlines.

3.3.6 Guarantees

Loan guarantees have been made available to support the purchase of new buses, for other investment by SOE (or joint stock) bus companies and to international investors in airlines (e.g. a policy risk guarantee was provided to Australian investors in Jetstar Pacific). Our research could not identify any formal facility for providing loan guarantees in the transport sector.

3.3.7 Land incentives

All land in Viet Nam is owned collectively and managed by the national government and, as such, neither foreigners nor Vietnamese nationals can own it. National government support includes covering the costs of ground clearance and exemption from land use levies. In general, investment in the transport sector is exempted from land use fees as it is an investment-incentive sector. These exemptions also apply for pilot PPP initiatives.

The government often provides land in return for capital investment in addition to that required for the project. For example, the Korean company GS E&C invested in a link road to Tan Son Nhat Airport and was given land in return (Cho, 2013).

The recent real estate market slowdown has decreased returns for investors receiving land incentives, although the major challenge to the sustainability of this incentive is that available land in sought-after areas, predominantly major urban centres, is scarce. The Civil Aviation Authority is looking into further investment incentives, such as allowing investors to obtain land in an area separate from that of the transport project in return for specific investment.

3.4 Information instruments: key incentives, gaps, and considerations

3.4.1 Plans and strategies

The transport strategy to 2020, which the Transport Development and Strategy Institute (TDSI) is responsible for developing, was established in 2004 and subsequently modified. It sets out ambitious plans for inland waterways; deep seaports; rail services and rail infrastructure; airport expansion, increased airlines and investment in state-owned airlines; and investment in expressways, rural road infrastructure and urban public transport.[21] Although the private investment sub-component was not specified in the 2002 transport strategy, it was estimated that average investment demand between 2002 and 2020 would be $ 7 billion per year, with almost 60% allocated to rail and urban transportation (Vu, 2011). According to TDSI, in the past, the strategy and master plan were focused more on infrastructure; recently, they have paid more attention to transport management (operations) and to climate change and low-carbon and green growth.

In 2013, the prime minister approved the adjustment of the transport development strategy to 2020, with a vision towards 2030. According to this adjustment, by 2020 Viet Nam will have basically met the needs of freight and all transport passengers with good-quality services at reasonable prices while limiting environmental

[21] A taxi firm interviewed for the study said taxis were not considered public transport and there were no provisions for taxi services in the HCMC transport infrastructure plan.

pollution. 'By 2020 total passenger volume will be 6.2 million, of which roadway will take 86-90% of passengers; railway 1-2%, inland waterways 4.5-7.5% and aviation 1-1.7%' (Viet Nam Business Forum, 2013).

3.4.2 Investment and resource information

The Foreign Investment Agency under MPI manages FDI activities in Viet Nam and the direct investment of Viet Nam abroad, but it provides only basic information about services in the transport and storage sector and does not, for example, list investment project opportunities in English online.[22] Nonetheless, during the research trip, the study team was given hard copies of brochures listing projects for investment in the transport sector. For example, the HCMC Department of Transport's document 'Projects Calling for Investment' sets out 43 transport infrastructure investment opportunities, the majority for road bridges and sections of the HCMC metro.

In addition, information on investment is available at the level of the individual opportunity or on previous investments; for example, there is information about the Vietnam Airlines IPO via a link at the bottom of the homepage of its website.[23] English-language news outlets in Viet Nam also provide information about government plans and updates on investments agreed, but again nothing to directly promote projects to potential investors outside of Viet Nam.

At the time of interviews, TDSI was preparing a project on public and private investment past, present and future across the transport sector, the report on which was due to be produced in April 2015.

Information about investment opportunities in the transport sector is spread across various national and sub-national agencies, making the dissemination of information more complex. It is unclear whether the Foreign Investment Agency has complete information to share.

3.5 Key themes emerging from Framework 1

3.5.1 Regulatory instruments

- The transport sector has been highlighted as a priority sector for private sector investment, with an emphasis on roads, road tunnels and ferry landings, railways, railway tunnels and bridges, airports, seaports and river ports.
- However, the wider role of private investment is limited in the sector, for reasons of domestic security and because of the sector's role in providing key infrastructure. As a result, the government is committed to keeping 16 sub-sectors of transport operations under 100% state ownership. These include railway operations, irrigation systems and airport terminals. A further seven sub-sectors must always have a minimum 75% state ownership, including management of inland roads and waterways and seaports.
- In addition, in spite of stated objectives to develop PPPs in the sector, there is currently limited government capacity to implement these – in terms of both civil servant experience in PPP structuring and mismatched expectations from the public and private sectors around investment in PPPs. As a result, the only PPPs that have thus far been developed in Viet Nam have been in the area of road construction.
- In addition to regulation that directly shapes private investment, a number of government regulations target emissions standards, influencing the environmental impact of private investment in transport. Domestic legislation will cap the lifetime of road vehicles from 2017 and set emission standards for new cars and motorbikes imported, manufactured and assembled in Viet Nam. International legislation has also impacted emission standards, leading to lower-emission technologies in new aircraft purchased by Vietnam Airlines.

3.5.2 Economic instruments

- If private investors are to finance infrastructure and operations in the transport sector, tariffs and fees need to offer sufficient returns over a time period and there need to be clear procedures where multiple investors (public and private) and tariff revenues need to be shared. At the same time, the government is seeking to ensure any private investment objectives are balanced with ensuring the affordability of transport in Viet Nam. This appears to be causing challenges in two sub-sectors (road infrastructure and bus operations). Currently, road tolls are not high enough for investors to earn sufficient returns, while road users are often charged multiple tolls along roads with multiple investors. In contrast, bus companies

[22] http://fia.mpi.gov.vn/news/117/fdi-project-information – there was no information on this page when it was accessed 3 February 2015.
[23] http://www.vietnamairlines.com/en/about-us/ipo

are receiving significant subsidies to keep fares affordable, but bus journeys remain low, meaning the subsidies appear to benefit these companies over public transport passengers.

- In addition to subsidised bus fees, the transport sector also benefits from the country's subsidies to fossil fuels, with 71% of refined petroleum products in Viet Nam consumed by transport (household use, buses and trains). The primary fossil fuel subsidies linked to transport are provided to rural households to increase the affordability of transport.
- Although low tariffs and fees may reduce the attractiveness of investment in bus transport operations and road infrastructure, and fossil fuel subsidies may undermine investment in the efficiency of transport operations (particularly road and water transport), these impacts may be moderated in part by Viet Nam's EPT on fuels and parallel incentives for investment in efficient motors (in the fisheries sector). This multiplicity of incentives through pricing signals, which simultaneously promote and undermine the viability of private climate finance, may create undue complexity for investors.
- In the absence of clear price signals (through tariffs, fees and subsidies), tax deductions and exemptions are another key investment incentive for both domestic and international private investment. These incentives include income tax holidays and reductions in CIT, import duty and land rental charges for rail and road infrastructure. Other incentives for general investments in the transport sector are exemptions from land use fees and access to free land from the government, which may be unsustainable for the government as land prices increase and as desirable land in urban areas becomes scarce.

3.5.3 Information instruments

- Government strategy documents outline the high levels of investment needed in the transport sector, with a requirement for additional resources for sector management and for infrastructure development. These strategy documents highlight that incentives for private sector investment are expected to come primarily through PPP structures in infrastructure and partial privatisation of transport sector operations.
- Although both domestic and international private companies are identifying commercially viable opportunities in transport operations as restrictions to investment are lifted, improvements to publically available information about transport project pipelines could be useful to domestic and international investors for parallel infrastructure development.

4. Framework 2: sources of capital

In addition to understanding incentives at the country level (Framework 1), the design of interventions to mobilise private investment in CCD requires a clear picture of the sources of capital available (Framework 2). **See Whitley (2015) for more detail on the methodology, three frameworks, sector and sub-sector categories used for this study.**

Framework 2 (Figures 7 and 8) outlines the different sources of capital available for the transport sub-sectors in Viet Nam, to show where there may be gaps the government of Viet Nam, donors and/or private investors could fill. This framework was completed on the basis of interviews and desk-based research, including both formal datasets (government and international) and informal data from sources that included local media. Our research was limited by the need to find information from these informal data sources in English (formal data sources were accessed in Vietnamese). In most cases, information is made publicly available through company press releases; however, the level of disclosure of financial information on these resources is limited.

In terms of sub-sector analysis, the sector was split into two broad categories – infrastructure and operations. Infrastructure covers the construction of road, rail, airports, ports, pipelines and storage facilities, but excludes sewage and water pipelines, which are covered by the water and sanitation sector. Operations covers both the running of transport infrastructure post-construction and the individual, private and public operation of transport vehicles, services and networks. Each of these two categories is then divided into modal forms – air, land and water.

The International Standard Industrial Classification (ISIC) codes for the transport sector were used as the basis for defining the sources of capital currently allocated to the sector; however, as this does not include transport infrastructure, this study incorporates sub-sectors from the construction sector code: 421 – construction of road and railways, 422 – construction of utility projects, specifically long-distance pipelines and urban pipelines, and elements of 43 – electrical, plumbing and other construction installation activities related to the construction of road, rail, aviation, ports, pipelines and storage facilities.

A number of sub-sectors under the ISIC transport code were excluded: fuel is categorised under the energy sector and transport vehicles, including their material content and design, are categorised under manufacturing (see Whitley, 2015). In addition, courier and postal services, which are classified as transport under the ISIC code, are not covered in our analysis given the additional resources that would have been required to assess the sources of capital for these services.

Sub-sectors are categorised in the section and figures below to show where private finance is ‘established’, ‘emerging’ or ‘limited’: this is a qualitative judgement based on the scale and depth of private investment identified. The sources of capital are also categorised as ‘international’ or ‘domestic’ based on the headquarters of the majority shareholder.

Figure 7: Framework 2 – sources of capital, transport operations

Extent of private investment		Established		Emerging					Limited
Sub-sectors/sources of capital		**Land** Cars, coaches, buses and motorbikes (private and taxis)	**Air** Airlines and satellites	**Water** Passenger ferries and commercial boats	**Storage operations**	**Land** Trucks/road freight	**Water** Port and Waterway operation	**Air** Airport services	**Land** Rail and metro
Grants (private - including philanthropy and CSR)	**Public**	**Domestic** (MoE)=	**Domestic** (MoE)	**Domestic** (State Bank of Viet Nam)					
	Private								
Debt (private – including OTC, market traded, microfinance etc)	**Public**	**Domestic**	**Domestic**		**International** (IFC)		**Domestic**	**Domestic**	**Domestic**
	Private	**Domestic**	**Domestic**		**Domestic**				
Equity (listed and unlisted, including balance sheet finance)	**Public**	**Domestic** (JSCs and SOEs)	**Domestic** (Joint Stock Companies)	**Domestic** (Joint Stock Companies)	**International** (IFC)	**Domestic** (JSCs and SOEs)	**Domestic** (JSCs and SOEs)	**Domestic** (JSCs and SOEs)	
	Private	**Domestic** (Joint Stock Companies) **International** (Japan, Singapore)	**International** (Australia, Thailand) **Domestic**	**International** (unclear countries, through JVs with domestic companies) **Domestic** (Joint Stock Companies)	**Domestic** **International** (Belgium)	**Domestic** (Joint Stock Companies) **International** (Singapore)	**Domestic** (Joint Stock Companies) **International** (Korea, Japan, Taiwan	International (Singapore) Domestic (JSCs and SOEs)	
Guarantees (including loan insurance)	**Public**		**Domestic**						
	Private								

4.1 Transport operations – sources of capital, gaps and considerations, by sub-sector

4.1.1 Established (private investment)

Land transport operations: **cars, coaches and motorbikes (private and taxis)**

Small-scale domestic private sector companies have been dominant players in the operation of a number of land transport services, most notably taxi and coach services (since reunification in 1975).

All taxi companies are privately owned, mostly by Vietnamese individuals and companies. Domestic equity is invested by shareholders, including the family of owners, and staff in the case of the Mailinh Taxi Group.

There has been an increase in the purchase and use of electric bikes in Viet Nam, partly in response to petroleum price increases. This is causing government concern because regulation has not kept up with the safety requirements for these bikes (Daily Times, 2014). However, e-bikes are often perceived to be of poor quality and to serve as a stepping stone as people save up for a motorbike (Golluoglu, 2012).

Innovation appears to be taking place in the field of unregulated motorbike taxis, where firms such as Aloxeom are providing a mobile phone app linking passengers to private motorcycle taxi drivers, limiting the wasted time and fuel caused by drivers looking for passengers (Tuan and Mateo-Babiano, 2013). International private investment in taxi booking companies and apps has increased. By way of example, Japanese telecoms firm SoftBank Corp invested $250 million in GrabTaxi Holdings Pte Ltd (a Singaporean company), which allows customers to order cabs closest to its location through mobile phone, with operations in Singapore, Malaysia, Thailand, Viet Nam, Indonesia and the Philippines (Aravindan, 2014).

There is also significant and growing investment in private vehicles (motorbikes and cars) (World Bank, 2014).

Air transport operations: **airline operations**

Airlines are also seeing increasing private investment, through partial privatisation of state-owned airlines and new private airline companies operating in Viet Nam. VietJet Aviation JSC (owned by Sovico Holdings), which was founded in 2007 and began commercial operations in 2011, is Viet Nam's only privately owned carrier. It plans to raise as much as $300 million from a corporate bond sale to fund expansion while preparing for an IPO. The company will raise $200-300 million as early as the second quarter of 2015 and has not decided whether to do it overseas or domestically (Nguyen, 2015).

Jetstar Pacific Airlines Joint Stock Aviation Company was also founded in 2007. The majority shareholder (67%) is State Capital Investment Corporation (a Vietnamese sovereign wealth fund), with Australian airline Qantas and two other minor shareholders holding the balance of ownership (30 and 3%, respectively).

Vietnam Airlines is the largest carrier and is state-owned, with 75% of investment coming as charter capital from the state (from domestic banks such as Exim Bank, the Bank for Investment and Development of Viet Nam), and the balance raised through commercial loans for airplanes, which are sometimes backed by government guarantees. Recently, Vietnam Airlines increased openness to raising additional revenues through selling advertising space. The company also recently completed a small IPO (stock market launch), with a domestic investor taking a total equity share of 3.475%: airline investment regulation allows non-state investment in Vietnam Airlines of up to 25% (interview). This is part of a wider restructuring plan for Vietnam Airlines by the prime minister.

Viet Nam has recently seen the operation of its first commercial seaplanes, operated by domestic company Hai Au Aviation (jointly owned by two private companies), which purchased three planes for over $10 million in 2013 to fly from Ha Noi to Ha Long Bay (Ha, 2014).

4.1.2 Emerging (private investment)

Water transport operations

Passenger ferries and commercial boats

Private ferry and boat operators, including 100% privately owned companies as opposed to JSCs, have increased their market share significantly in recent years. In addition, international private companies are permitted to provide ferry and boat services through joint ventures with domestic companies, but only where their ownership share does not exceed 49% (World Bank, 2014). Many large shipping operations (freight) in Viet Nam are owned by JSCs, such as Hai Phong Fishery Shipbuilding JSC and the Viet Nam Petroleum Transport JSC.

There is more private investment in operation of vehicles on waterways than in other sub-sectors of transport operations. This may owe in part to the absence (historically) of significant state provision of boat services. Several domestic private companies operate small fleets of passenger ferries, for example Vina Express and Greenlines, which recently invested over $5 million in new speedboats for its HCMC–Vung Tau route (Viet Nam Breaking News, 2014). Although a number of small companies currently operate boat tourism excursions, mostly Vietnamese-owned, there is evidence that the government is considering granting concessions to larger companies for some of the most lucrative national water tourism areas. The presence of larger operators may crowd out smaller players but help reduce pollution and congestion because it is easier to regulate a small number of larger players (Hung, 2014).

A new government loan programme allows fisherman to apply for subsidised loans from the State Bank of Viet Nam to buy ships for deep-sea fishing (Sands, 2014).

Storage operations

Investment in the operation of storage facilities is from private and public sources, including private domestic sources. The International Finance Corporation (IFC) has provided debt and equity to a cold storage facility majority owned by a US company and incorporated in the British Virgin Islands. While the state provides some overall management of storage facilities (for example, it controls rice storage facilities) and SOEs have historically owned and operated many major storage facilities, private companies are increasingly involved in storage. To date, Belgian-owned Molenbergnatie Viet Nam Limited Company is the only FDI in Viet Nam with its own bonded warehouse licence for the storage and logistics of agricultural products.[24] Some companies in other sectors are developing their own storage solutions; for example, Korean electronics company Samsung intends to operate its own air cargo handling facility at Ha Noi's Noi Bat Airport from late 2015 (Waters, 2014).

Land transport operations: **trucks/road freight**

The level of privatisation in the road freight sub-sector is significant, and roads are the dominant mode for freight, with a market share of around 60% of domestic cargo (Business Monitor International, 2011). There are over 1,050 enterprises registered in the road transport business, of which only 16 are SOEs, 450 are JSCs and 583 are privately owned (ibid.). Very few international private companies are present; one example is APL Logistics (part of the Singapore-based NOL Group), which has launched a new container-based cross-border trucking service, which will cater for customers between Phnom Penh in Cambodia and Cai Mep Port in Viet Nam (ibid.).

Water transport operations: **port and waterway operations**

The inland waterways system is managed by nine state waterway management companies, with SOEs providing transport services (transportation, production of mechanical equipment and port services); river ports are managed by three port authorities (World Bank, 2014). After nearly eight years when five inland waterway management stations (or waterway management units) were partially privatised, MoT decided in

[24] http://www.molenbergnatie.com/en/our-location/vietnam

2013 that a further 10 inland waterway management stations would be partially privatised, with the government ownership stake between 54% and 80% (Ban, 2013).

Tan Cang–Cai Mep International Terminal Co. Ltd is a joint-venture company of Saigon Newport Corporation (a partially privatised SOE), with three shipping lines including Mitsui O. S. K. Lines (Japan), Hanjin Shipping (Korea) and Wanhai Shipping (Taiwan) providing private international equity investment. The Investment Certificate was granted by the Viet Nam Government in September 2009, with capital investment about $100 million, equivalent to around VND 2,000 billion.[25]

Air transport operations: airport services

Although most airport operations take place through SOEs and their subsidiary companies, opportunities for private investment in airport operations are increasing, with domestic and international private equity investment in cargo handling (see Section 4.2.2), fuel supply and engineering. These are all areas outside of air terminal operations, which are deemed to be strategic for military air transport and therefore need to remain publicly owned. This increase in private airport services operations has taken place through partial privatisation of Vietnam Airlines ground operations and increases in the number of private companies providing ground services.

Vinapco, a subsidiary of Vietnam Airlines, is currently the main aviation fuel supplier to aircraft in Viet Nam. As part of the prime minister's restructuring plan for Vietnam Airlines, it must sell up to 50% of Vinapco, which will likely be to a domestic investor. Fuel distribution regulations preclude foreign investment in the sector without special governmental approval (Freshfields Bruckhaus Deringer, 2014).

Interviewees suggested the provision of ancillary services – ground handling, engineering, catering – was more attractive for private investment than investing directly in an airline, with faster returns and smaller-scale investments than is the case when investing in infrastructure. Although national security concerns limit private investment opportunities, for commercial passenger air services investment opportunities in these operations could be viable.

4.1.3 Limited (private investment)

Land transport operations: rail and metro

There is currently no private investment in rail operations, as it is prohibited under Vietnamese investment legislation (see Decision 37/2014). Nonetheless, Viet Nam Railways, the state-owned rail company, has indicated that it may seek to attract private investment in the future. In addition, although there is no private investment in the urban metro systems currently under construction in Ha Noi and HCMC, international investors have expressed interest to the Department of Transport in HCMC in undertaking metro operations and investing in rolling stock (interview).

[25] http://www.tcit.com.vn/section-7.aspx

Figure 8: Framework 2 – sources of capital, infrastructure

Extent of private investment		Established	Emerging				Limited
Sub-sectors/sources of capital (no grants or guarantees identified)		**Land** Roads	**Water** Ports and waterway infrastructure	Air Airports	**Land** Pipelines	**Storage facilities**	**Land** Railways and stations
Debt (OTC, market traded, microfinance etc)	**Public**	**International** (Korea, Japan, ADB, WB) **Domestic** (MoF)		**International** (Japan)	**Domestic** (SOE)	**International** (IFC)	**International** (IFC, JIBC, ADB, EIB, CTF, AFD)
	Private	**International** (Korea)		**International** (France)			**Domestic**
Equity (listed and unlisted, including balance sheet finance)	**Public**		**Domestic** (Joint Stock Companies)		**Domestic** (Joint Stock Companies)		
	Private	**Domestic** (Joint Stock Companies)	**International** (Japan) **Domestic** (Joint Stock Companies)		**Domestic** (Joint Stock Companies)	**International** (Japan)	

4.2 Transport infrastructure – sources of capital, gaps and considerations, by sub-sector

4.2.1 Established (private investment)

***Land transport infrastructure:* roads**

Investment in road infrastructure is large-scale and remains dominated by domestic and international public finance, with growing private investment in the form of BOT and pilot PPP arrangements. In 2014, the total budget for road infrastructure was VND 101 trillion ($4.7 billion), of which VND 41 trillion ($2 billion) was raised through BOT, VND 35 trillion through government bonds and VND 34 trillion from ODA, with VND 3 trillion coming from the national budget (Directorate for Roads interview).

There are 60 BOT projects in road construction and management (Directorate for Roads interview). The BOT structure constitutes 10-15% ownership by the BOT investor company, using balance sheet equity. Currently, the primary lender to companies building toll roads is the joint stock commercial Bank for Investment and Development of Viet Nam. A current typical BOT project involves domestic investors, but the government is seeking to promote international private investment in the highway system. Examples of international investment include Korean company GS E&C, which has invested $340 million in constructing a 14km toll road connecting Tan Son Nhat Airport to the North-East HCMC inner beltway, in return for which the HCMC government has leased 1 million m^2 of land to the company as a form of additional benefit (see Section 3.2.7) (GS E&C, 2008).

The vast majority of international public investment in road infrastructure comes from four donors; Japan, Korea, the Asian Development Bank (ADB) and the World Bank. The focus of this investment is on expressways, bridges and urban and peri-urban road linkages (e.g. to airports) and rural road construction as part of wider rural infrastructure development programmes.

4.2.2 Emerging (private investment)

Water transport infrastructure

There have been some initial private sector investments in ports in Viet Nam, including international investment in port terminals and a PPP investment by a Japanese firm and Vietnamese SOE Vinalines. Lach Huyen deep seaport near Hai Phong is being developed through a PPP investment by Japan's Molnykit Company and Viet Nam's Ministry of Defence-backed SOE (Saigon Newport Corporation) (VIR, 2013). In addition, $2 billion has been invested by foreign investors and state-owned and private Vietnamese companies in terminals at Cai Mep Port, Viet Nam's only deep-sea facility (Boudreau and Nguyen, 2014).

In addition to port investment, MoT is seeking to mobilise private capital under the BOT model for two projects to upgrade the Cho Gao Canal (south of HCMC) using a VND 91.4 trillion ($4.2 billion) investment, and a waterway transport route along the Sai Gon River.

Air infrastructure

The vast majority of investment in airport infrastructure comes from international public finance, primarily from the Japan International Cooperation Agency (JICA). Noi Bai Airport in Hanoi has a new international terminal with JICA funding, as does Tan Son Nhat Airport in HCMC. There is some private investment in airports. Long Thanh Airport – HCMC's second largest – is due to begin construction in 2016, and recently secured a $2 billion loan from a French company (Tuoi Tre News, 2014a). The Ministry of Finance is hoping this private investment can serve as a demonstration for wider private investment in airport infrastructure. However, currently, of the 21 airports in Viet Nam, only three are profitable: Noi Bai (Ha Noi), HCMC and Da Nang. This may limit further investment from the private sector in smaller more regional airport infrastructure (interviews).

Land transport infrastructure

Pipelines

The majority of investment in pipelines is through SOEs, such as PetroViet Nam's subsidiary PV Gas, which is leading the development of a $1.3 billion, 325km sub-sea gas pipeline (Sullivan, 2014).

There is increasing private investment in pipelines through JSCs. Ha Noi-based industry group Petrolimex, a JSC and Viet Nam's top oil product importer and distributor, is discussing a $212 million pipeline project with China's top oil producer (PetroChina Co Ltd) to import Chinese refined products to Viet Nam. The pipeline would have initial annual capacity of 10 million tonnes (about 200,000 barrels per day) of gasoline, diesel and other products, close to Viet Nam's total fuel imports for 2010 (Minh, 2011).

Storage infrastructure

In 2013, foreign ownership limits in goods warehousing and storage facilities were reduced, opening the sector to further international investment.

There has been recent international public and private finance for large-scale investment in storage, including an IFC investment alongside commercial banks ($10 million) in a $16 million cold storage facility in HCMC, with the balance set to come as equity from private investors.[26] In addition, as a part of the strategy to expand its logistics business further in Asia, Kawasaki Kisen Kaisha, Ltd, a Japanese company, has agreed to establish a joint venture with Cool Japan Fund Inc. and Japan Logistic Systems Corp. to construct and operate a cold storage in the outskirts of HCMC.[27]

4.2.3 Limited (private investment)

Land transport infrastructure: **rail, metro and bus infrastructure**

Rail and metro infrastructure remains dominated by public domestic and international investment. The HCMC metro railway is being constructed with the majority of the finance coming from the Japanese Bank for International Cooperation, with additional funding from ADB, the European Investment Bank and the Clean Technology Fund (CTF, $50 million) and the remainder from the HCMC government (estimated $1.0 billion). The Ha Noi sky train has been financed by the Chinese government (it is built on an elevated platform, which helps with the land acquisition problem).[28]

4.3 Key themes emerging from Framework 2

The transport sector is different from other sectors reviewed using this study's methodology because the types and sources of finance are specific to the sub-sector and vary significantly, meaning it is difficult to identify high-level trends and more appropriate to understand the issues for each sub-sector.

4.3.1 Established

Two sub-sectors have greater private investment activity than the rest of the transport sector: road transport operations and infrastructure development and air operations.

Private investment, mostly domestic, is significant in road transport operations – cars, taxis, motorbikes, coaches and trucks and freight transport operations – and there is no evidence of international public funding of road transport operations, including road public transport operations. Road infrastructure is mostly publicly funded, with international public finance providing considerable capital for building roads. However, there is increasing domestic private investment, and anecdotal evidence that more international private money is interested as well as able to invest. There is growing investment in the form of BOTs and pilot PPPs.

Air operations is a sub-sector with increasing private investment, through partial privatisation and private sector identification of commercial opportunities, combined with relaxation of state regulation of private sector involvement in civilian air travel. This is particularly the case for airline operations. National security considerations mean limitations on the privatisation of airport services.

4.3.2 Emerging

A number of sub-sectors have components of private sector involvement in different forms.

[26] http://www.pidg.org/impact/case-studies/antara-cold-storage

[27] http://www.kline.com/KAMCorpInfo/News/2014/140925-K-Line-Establishes-Joint-Venture-Cold-Storage-Business-in-Vietnam.asp

[28] http://adb.org/projects/details?page=overview&proj_id=45200-001; http://adb.org/projects/details?proj_id=40080-023&page=overview&ref=countries/viet-nam/projects

There is a great deal of domestic private investment in water operations and small- and larger-scale boat and ferry operators and companies, alongside continued state management of waterways – with some privatisation of management operations completed and more planned. There is private as well as public investment in waterway infrastructure, particularly deep seaports. There is no international public finance in water operations or infrastructure, which is significant because water transport – particularly for freight – is low carbon compared with road and air transport, where there is considerable international public investment.

Urban metro rail, unlike national rail, has attracted international public finance and there is interest from international private investors in operating metro rail services.

Air transport infrastructure remains dominated by government contracts and international public finance.

There is both public and private investment in storage facilities and increasing private investment in pipelines through JSCs.

Across sub-sectors, there is little evidence of public international finance linking with domestic private investment – given the prominence of domestic private investment and the direct links between domestic private and public investment this is an important gap. International public finance (the primary channel for climate finance) is most prominent in infrastructure investments, rather than transport operations, where it is virtually non-existent, with the exception of storage operations.

4.3.3 Limited

National rail infrastructure and operations remain in state control.

5. Framework 3: scale of support

5.1 Findings – summary (Framework 3)

The goal of completing Framework 3 was to understand trends in investment across sub-sectors of the transport sector. Unfortunately, as a result of significant gaps in international and national datasets, in terms of both year and sub-sector coverage, it was possible only to complete a framework that would show investment trends over time for ODA as opposed to all sources of finance (see Figure 9).

In addition, it was not possible to identify levels of private investment in the transport sector beyond FDI, as none of the national or international datasets covered domestic investment. It was also impossible to find sub-sector information for FDI, with the lowest level of classification of the General Statistics Office (GSO) in Viet Nam being 'transport and storage' (see Figure 10). When information was available by sub-sector, datasets tracked it slightly differently. For example, the OECD divides the sector into seven sub-sectors, by modality (road, water, air, rail and storage) along with categories for support to policy development, education and training. Within the national budget, the sector groups are roads, railways, in-land waterways, maritime waterways and aviation. These classifications are different from, and overlapping with, the sub-sectors used in this analysis, which are based on UN ISIC codes (see Whitley, 2015).

The Vietnamese government also provides information on the number of enterprises across a number of the sub-sectors in the transport sector, which can also provide some indication or proxy for wider changes in public and private investment (see Figure 12).

This general lack of data has significant implications for tracking climate finance effectiveness, not only as it pertains to private investment. If it is not possible to track support and investment at sub-sector level, it is not possible to make a causal link between the support provided and the shifts or increases in climate-compatible activities and investment.

It was possible, however, to find sub-sector information for public support and investment to Viet Nam's transport sector in the form of national budget expenditure, ODA, other official flows (OOF)[29] and fast-start finance (FSF) and from dedicated multilateral climate funds (from Climate Funds Update (CFU[30])) (across a number of different years). This allows us to observe some interesting trends in the relative scale of support and investment from these different public sources and different emphases in terms of sub-sector support and investment.

5.2 Key themes emerging from Framework 3

- Investment in the transport sector in Viet Nam is supported primarily by the national government budget, paired with international funding, through both FDI and ODA. Climate finance has also had a significant role in the sector, particularly during the FSF period (2010-2012) (see Figure 9).

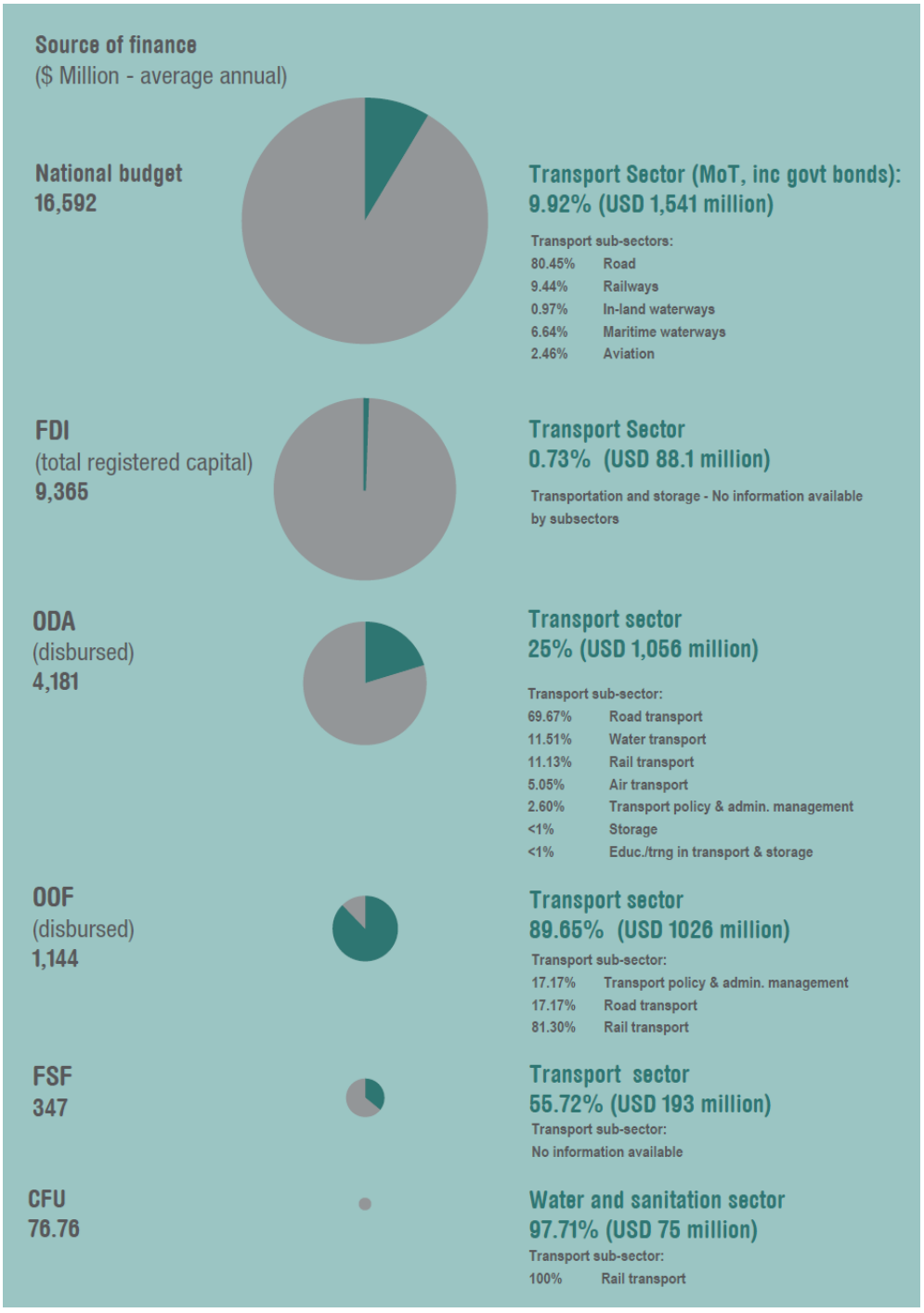
[29] OOF are defined as transactions by the official sector with countries on the List of Aid Recipients that do not meet the conditions for eligibility as ODA or official aid, either because they are not primarily aimed at development or because they have a grant element of less than 25% (http://stats.oecd.org/glossary/detail.asp?ID=1954)

[30] www.climatefundsupdate.org

- The share of national government investment directed towards transport is approximately 10%, with the vast majority focused on road investments (over 80%) (see Figure 9).
- ODA funding for the transport sector increased significantly in between 2009 and 2014, with ODA mirroring government investment and focusing on road transportation (see Figure 10). Japan, Korea, France, ADB and the World Bank are the primary providers of ODA in the sector.
- As Viet Nam has been considered a middle-income country since 2009, it is expected that the level of ODA directed towards the country will decline in coming years, and this will have significant implications for investment in the sector. High levels of current ODA in Viet Nam's transport sector points to a need for the country to increase domestic budget funding or wider private investment in the sector.
- In terms of climate finance, most ODA to the transport sector is not considered climate-relevant (the Rio Marker is blank or zero) (see Figure 11). In cases where the investment is marked as climate-relevant (Rio Marker is 1 or 2), the adaptation-relevant investments are for water transport and transport policy and administration; the mitigation-relevant investments are for rail transport.
- In contrast with climate finance tracked by the OECD, climate finance tracked by ODI during the FSF period (2010-2012) is relatively high in Viet Nam (see Figure 9). This includes significant support from the CTF, which invested in urban transport projects in Ha Noi and HCMC, all led by ADB: the Ha Noi Sustainable Urban Transport Program; Sustainable Urban Transport for HCMC MRT Line 2 Project; and Strengthening Sustainable Urban Transport for Ha Noi Metro Line 3 Project.[31] It is important to note there is significant duplication between data reviewed on FSF and other datasets on investment in the sector. These are likely to be included in the OECD Development Assistance Committee database, although they may have not been tagged as 'climate-relevant' within the OECD data.
- Transport sector projects in Viet Nam have not benefited from the carbon markets – as the majority of carbon projects have been focused on the energy sector and the development of hydropower.[32]
- Public and private domestic investment is generally provided by SOEs and JSCs. According to the Enterprise Survey, the number of SOEs in the transport declined significantly between 2009 and 2013, and there has also been a growing total number of non-state enterprises. This trend is particularly noticeable in the construction of roads and railways sub-sector, and also in service activities incidental to land transportation and cargo handling (see Figure 12).
- Information management and disclosure is limited in transport. Examples of this include limited financial and non-financial disclosure of information relating to SOEs, including on the level of lending by state-owned banks to SOEs (World Bank, 2014). Although attracting private investment is a priority area for the transport sector in many government strategies, and Viet Nam has attracted relatively high levels of FDI, there has been limited foreign investment in the sector. This is likely because of limitations on ownership for foreign investors in the provision of public services (see Framework 1). Information on FDI by sub-sector is not available.
- The contribution of OOF (likely public finance in the form of export credit and non-concessional loans) is significant, with 60% of OOF spent in Viet Nam invested in the transport sector. These flows are likely deployed with the aim of mobilising private investment (from overseas), and so contrast significantly with the levels of FDI contributing to the sector, where less than 1% is directed towards transport (see Figure 9).

[31] https://www.climateinvestmentfunds.org/cifnet/?q=country/vietnam
[32] https://cdm.unfccc.int/Projects/projsearch.html, https://vcsprojectdatabase2.apx.com/myModule/Interactive.asp

Figure 9: Framework 3 – scale of support ($ million) – average annual



Note: See also Appendix 3.

Figure 10: ODA to transport sub-sectors in Viet Nam, 2009-2013 ($ million)

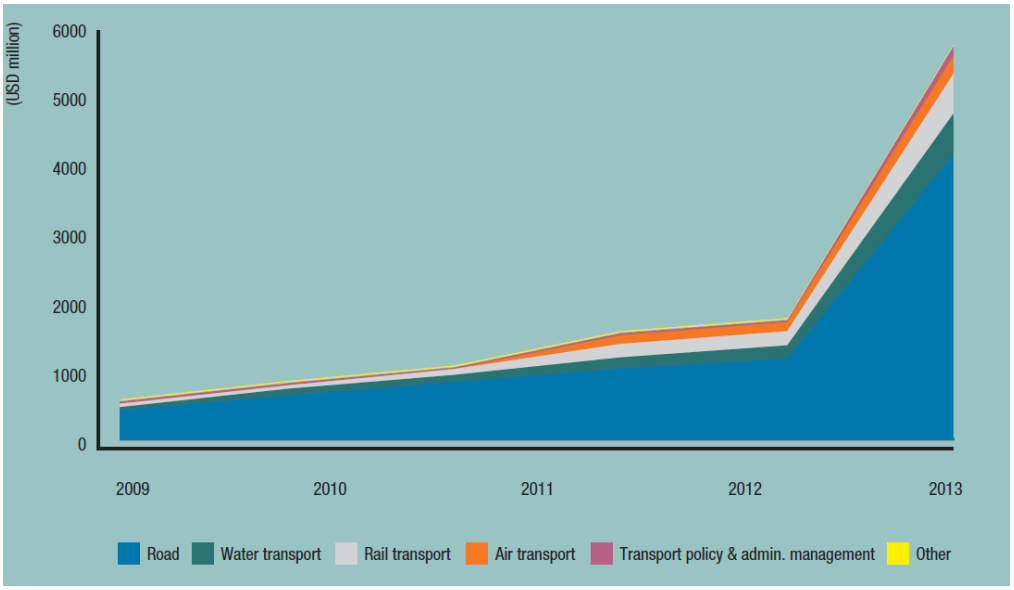


Figure 11: Framework 3 – scale of support for climate change within ODA ($ million) – average annual

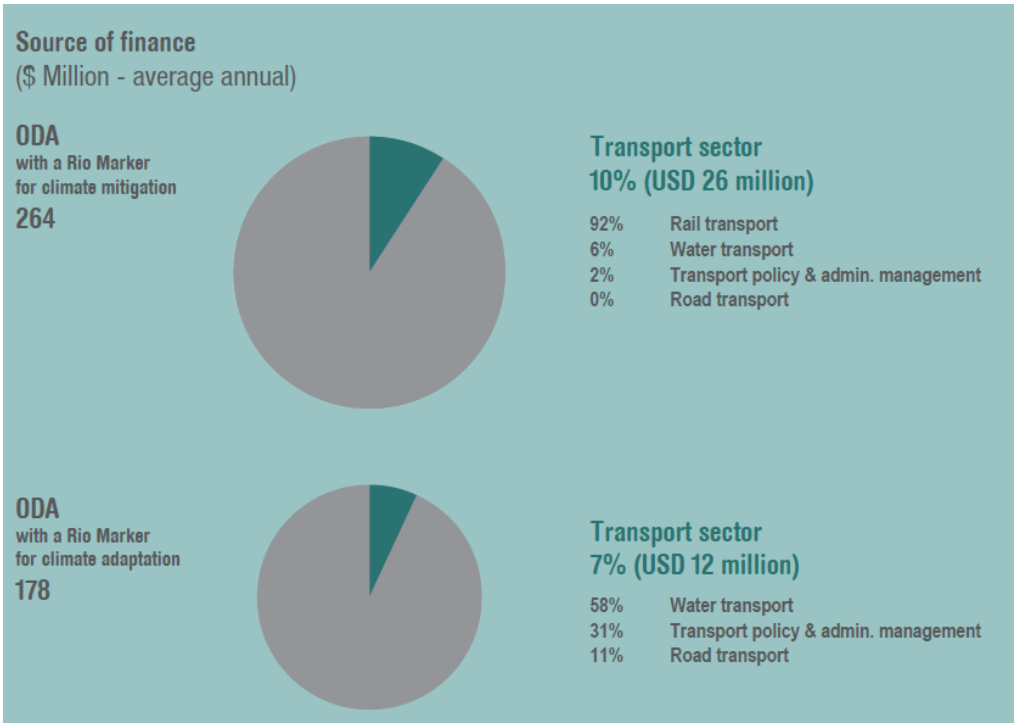


Figure 12: Enterprises in the transport sector in Viet Nam, 2009-2013

		2009				2011				2012			
		Total	SOE	FDI (100%)	Non-State	Total	SOE	FDI (100%)	Non-state	Total	SOE	FDI (100%)	Non-state
ISIC Code	**ISIC Code Description**	12230	150	154	11926	24191	43	278	23870	27489	18	255	27216
4210	Construction of roads and railways	4634	83	5	4546	5691	21	30	5640	6476	11	11	6454
4911	Passenger rail transport	3	1	0	2	6	0	0	6	10	2	0	8
4912	Freight rail transport	4	1	0	3	8	0	0	8	11	0	0	11
4920	Other land transport	54	1	2	51	96	1	1	94	89	0	0	89
4931	Transport via pipeline	240	0	0	240	540	0	2	538	514	0	4	510
4932	Transport via pipeline	1392	2	18	1372	2651	0	16	2635	2986	0	13	2973
4933	Transport via pipeline	3199	1	13	3185	8078	1	16	8061	9367	0	10	9357
5011	Sea and coastal passenger water transport	30	0	0	30	70	0	2	68	62	0	1	61
5012	Sea and coastal freight water transport	325	7	0	318	503	1	4	498	437	0	0	437
5021	Warehousing and storage	64	0	0	64	94	1	0	93	111	0	0	111
5022	Service activities incidental to water transportation	448	4	0	444	826	1	0	825	770	1	0	769
5110	Passenger air transport	3	2	1	0	5	0	1	4	3	0	1	2
5120	Freight air transport	1	0	0	1	6	0	2	4	1	0	0	1
5210	Warehousing and storage	78	2	15	61	258	1	27	230	347	1	33	313
5221	Service activities incidental to land transportation	338	16	1	321	898	4	8	886	983	1	1	981
5222	Service activities incidental to water transportation	100	15	1	84	237	4	5	228	347	1	2	344
5223	Service activities incidental to air transportation	68	1	1	66	278	1	9	268	202	0	4	198
5224	Cargo handling	227	11	3	213	464	3	11	450	557	1	12	544
5229	Other transportation support activities	1022	3	94	925	3482	4	144	3334	4216	0	163	4053

6. Conclusions

There were two goals in applying this diagnostic tool to map incentives and investment in the transport sector in Viet Nam. The first was to address the limited availability of information on private climate finance beyond renewable energy and outside OECD countries and the BRICS; and the second was to increase understanding of the role of domestic and public finance and incentives in shaping international and domestic private investment. More specifically, the application of this diagnostic tool provides the core information needed by governments and other stakeholders seeking to design interventions to mobilise private climate finance. **For more information on the methodology and frameworks used in this report, see Whitley (2015).**

We were able to complete Frameworks 1 and 2 at sub-sector level for the transport sector in Viet Nam using government websites and documents, interviews with key stakeholders (see Appendix 1) and publicly available information and international datasets. This provided primarily qualitative information that could be used to inform climate finance spending, particularly as it pertains to actors and programmes that seek to mobilise private investment. There is a significant gap in detailed information about private domestic investment, however.

We were unable to complete Framework 3 (in full) at sector or sub-sector level because of the absence of publicly available data on private investment, discrepancies in the definitions and categories used in international and national datasets, gaps in coverage for particular years and the fact that a number of actors do not collect sub-sector data. This has significant implications for the second aim of this research, which was to determine links between incentives and investment within a sector. It also has serious implications for the assessment of climate finance effectiveness, and not only as it pertains to private investment. If it is not possible to track support and investment at sub-sector level, it will be very challenging to make a causal link between the support provided and any shifts or increases in climate-compatible activities and investment.

However, by linking the key findings across the three frameworks, and comparing them with Viet Nam's stated objectives for (i) mobilising private investment and (ii) addressing climate change and green growth (see Section 2), we were able to identify some important considerations for the deployment of climate finance in Vietnam's transport sector that aims to mobilise private investment. As there is significant diversity of investment sources and forms across modal sub-sectors in transport and between infrastructure and operations, concluding points focus on examples from land transport.

6.1 Enabling conditions

- Although the highest levels of investment in the transport sector in Viet Nam currently come from the national government budget, FDI and ODA, Viet Nam has now reached middle-income status, and it is anticipated that levels of ODA will decline. The government of Viet Nam has made it a priority to increase private investment in transport, from both domestic and international sources. This has been promoted through part privatisation of SOEs and through pilot PPPs, but many parts of the transport sector (including those important for climate mitigation – including water and rail transport) remain dominated by state-owned companies or exclusively publicly owned, limiting scope in some areas for private investment.
- There are two major components to Viet Nam's climate change and green growth strategies' focus on transport: cleaner technology and fuels and increased use of public transport. These strategy documents focus on shifting from private vehicles (cars and motorcycles) to buses and metro rail (in Ha Noi and HCMC), and improving water and intercity rail. In contrast to these objectives, we

find that a large proportion of national government and international public finance is made in road transport infrastructure.

6.2 Barriers

- In those areas where the government supports private investment, interviewees suggested there needed to be additional space for private investors to identify and scope opportunities in tender procedures (bidding for projects), as opposed to only competitively bidding for opportunities developed by the government. In addition, it was mentioned that allowing private investors and private companies the space to explore commercial models and ways of raising capital in ways that are regulated but not fully dictated by the state could help increase private capital flows.
- Other barriers to private investment are the lack of clarity around fees that can be charged for transport services and tariffs that can be recouped, along with uncertainty about land availability and ownership rights. In terms of fees and tariffs, there need to be clear rules at the outset of deals about the division of revenue between public and private investors, and if and to what extent private fees and tariff collection is duplicated by state fees and tariff collection.
- Overall, there are significant gaps in terms of information on investment opportunities, as well as public information on needed shifts in the investment and structure of transport sector operations that will impact on the daily lives of public and private transport users. One interviewee suggested that, in order to allow for increased tariffs and fees in the sector, which are needed to attract private investment, there needs to be a public awareness-raising campaign of the need for individuals to contribute more to transport sector improvements.

6.3 Actions

Given the diversity of investment trends and incentives in Viet Nam's transport sector, climate finance needs to support approaches that respond to sub-sector priorities while ensuring consistency at the overall sector level. In land transport, international public finance broadly follows national public expenditure by investing primarily in roads, with the notable exception of metro rail investment, which seems to be driven by international public investment priorities. In order to further promote shifts to public transport and low-carbon modes of transport (such as encouraging modal shifts from private road vehicle use to bus, rail and water), climate finance could support the government's development of incentives for both public and private investment in affordable and high-quality service provision in these areas. This could include incentives for improved and more extensive bus, train and ferry services, and increased provision of freight services over rail and water.

6.4 Considerations for future research

About 12% of ODA in the transport sector between 2009 and 2013 is not classifiable to one modal sub-sector, because the investment addresses a cross-cutting development or transport issue – for example investment by the World Bank in rural transport development and Asian Development Bank support to urban development in small and medium-sized cities in central Viet Nam. Using Viet Nam's current transport sector structure as the basis for analysis means the crucial element of overall urban and rural planning is not captured. It is very important to sustainable transport development, as is the Avoid-Shift-Improve (A-S-I) approach that governments adopt policies that firstly encourage people and businesses to avoid or reduce the need to travel (Ang and Marchal, 2013). Integrated transport planning and development is critical to inclusive and sustainable transportation, but is more challenging to categorise and review.

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Appendix 1: Interviewees

No	Title	Name	Position	Organization
	Dr	Laura Latinger	Senior Economist	World Bank Group
	Mr	Le Duy Hung	Senior Infrastructure Specialist	World Bank Group
	Mr	Muzamil Hussain	Policy and Corporate Manager	DFID, British Embassy
	Mrs	Le Thi Bich	Officer	DFID, British Embassy
	Mr	Kenichi Yamamoto	Deputy Chief Representative, PPP Specialist	JICA
	Dr	Pham Hoang Mai	Director-General	Department of Science, Education, Natural Resources and Environment, MPI
	Ms	Nguyen Viet Trinh	Officer	Department of Science, Education, Natural Resources and Environment, MPI
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	Mr	Nguyen Hoang Linh	Reporter	VIR
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	Mr	Nguyen Quoc Khanh	Deputy Head, Waste Management Division	Administration of Technical Infrastructure, Ministry of Construction
	Mr	Vu Dinh Chinh	Deputy Head, Technical Infrastructure Management Division	Administration of Technical Infrastructure, Ministry of Construction
	Mr	Nguyen Thang	Deputy Director-General	Institute of Strategy and Policy on Natural Resources and Environment
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	Mr	Nguyen Quoc Minh	Officer	Department of Transport, HCMC People Committee
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	Mr	Cao Thanh An	Deputy Head, Division on PPP	Department of Planning and Investment, HCMC People Committee
	Mr Mr	Tang Minh Chi	Officer, Division on PPP	Department of Planning and Investment, HCMC People Committee
	Mrs	Nguyen Le Hoang Anh	Officer, Division on PPP	Department of Planning and Investment, HCMC People Committee
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	Mr	Nguyen Quoc Anh	Head of Division	May 19th Transportation Cooperative
	Mr	Le Minh Tam	Deputy Head, Division of Solid Waste Management	Department of Natural Resource and Environment - DONRE
	Mrs	Pham Thi Kim Ngan	Officer, Climate change Coordination Office -CCCO	Department of Natural Resource and Environment
	Mrs	Nguyen Thi Men	Officer, Division of Solid Waste Management	Department of Natural Resource and Environment
	Mr	Vo Thanh TUng	Officer, Division of	Department of Natural Resource and Environment

No	Title	Name	Position	Organization
			Solid Waste Management	
	Mr	Vu Ngoc Hung	Deputy Director, Environment Management Department	Industrial Safety Techniques and Environment Agency,
	Mr	Pham Duc Hong	Director of Capital Department	Ministry of Finance
	Mr	Vu Tu Thanh	Deputy Regional Managing Director, Chief Representative	US–ASEAN Business Council, Inc.
	Mr	Vu Thanh Dat	Deputy General Manager, Financial Investment	Investment Department, Vietnam Airlines
	Mrs	Nguyen Thi Phuong Hier	Deputy Director-General	TDSI, MoT
	Mr Mr	Pham Ngoc Son	Vice-Director, Centre for Research and Development of Local Transport	TDSI, MoT
	Ms	Do Thanh Thuy	Researcher	TDSI, MoT
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	Mr	Hannington Sebaduka	Technical Advisor	IFC
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	Mr	Doan Chi Hieu	Deputy Director, Investment Department	Department of Roads
	Mr	Nam	Director, Planning and Investment Department	Viet Nam Expressway Corporation

Appendix 2: Privatisation and the emerging role of PPPs in Viet Nam

According to ADB's Public Private Partnership Handbook (ADB, 2008), the term 'public–private partnership' describes a range of possible relationships among public and private entities in the context of infrastructure and other services. Other terms used for this type of activity include private sector participation (PSP) and privatisation. While the three terms are sometimes used interchangeably, ADB outlines the following differences:

- PPPs are an arrangement (typically medium to long term) that includes the private sector while structuring a role for government to ensure social obligations are met and successful sector reforms and public investments achieved. Sectors in which PPPs have been completed include power generation and distribution, water and sanitation, pipelines, railways and roads.
- PSP contracts transfer obligations to the private sector rather than emphasising the opportunity for partnership.
- Privatisation involves the sale of shares or ownership in a company or the sale of operating assets or services owned by the public sector. Privatisation is most common and more widely accepted in sectors that are not traditionally considered public services, such as manufacturing, construction, etc.

In 2012, it was estimated by ADB that the total investment requirement for infrastructure in Viet Nam would be $150-160 billion through 2022 (ADB and AFD, 2012). Currently, infrastructure investment is state-led, and as a percentage of GDP is relatively high by international standards (approximately 10% per year). Historically, investment in infrastructure in Viet Nam has been sourced primarily from the state budget and ODA and channelled through SOEs, but as investment needs grow, and ODA is projected to fall, it is possible additional resources could be mobilised through the use of PPPs (ibid.).

Public–private partnerships

Thus far, PPPs in infrastructure in Viet Nam have been very limited (see the tables below). To address this gap, in 2010 the government launched a framework and pilot facility for PPP projects (Decision 71/2010/QD-TTg) with support from DFID and the World Bank. The facility is managed by Rebel IMC, Scriptoria and Mekong Economics and expects to promote $170 billion in infrastructure investment, with 50% of the funding coming from the private sector.[33]

Based on ADB analysis, the sectors of primary interest for the development of PPPs are power, transport (i.e. toll roads, seaports and airports) and water (ADB and AFD, 2012). Clean water supply systems and waste treatment plants are two of the eight proposed pilot investments through PPP forms (Decision 71/2010/QD-TTg).

However, as outlined in the balance of this report, challenges remain with respect to making PPPs in the transport sector bankable for private sector partners without addressing underlying low tariff issues or providing viability gap financing in the form of credit support and guarantees (ADB and AFD, 2012). In

[33] http://rebelgroup.com/int/projects/development-of-public-private-partnership-support-facility-in-vietnam/335

addition, stakeholders interviewed for the study indicated a lack of government capacity for PPP development as a constraint to investment in infrastructure, given gaps in civil servant understanding of PPP structuring and mismatched expectations about private investment in PPPs, with private investment seen as simply covering public sector budget shortfalls within projects conceived and managed by the public sector.

Viet Nam: total number of PPP projects by type and primary sector, 1990-2008

Sector	Concession	Divestiture	Greenfield Project	Management and Lease Contract	Total
Energy	1	7	10	0	18
Telecommunications	1	0	2	0	3
Transport	0	0	7	0	7
Water and sewerage	0	0	2	0	2
Total	**2**	**7**	**21**	**0**	**30**

Source: PPI Database.

Viet Nam: total number of PPP projects by primary sector and sub-sector, 1990-2008 ($ millions)

Sector	Subsector	Number of Projects	Total Investment
Energy	Electricity	17	1,783
	Natural gas	1	1,300
	Total energy	18	3,083
Telecommunications	Telecommunications	3	2,013
	Total Telecommunications	3	2,013
Transport	Airports	1	15
	Roads	1	133
	Seaports	5	732
	Total transport	7	880
Water and sewerage	Treatment plant	2	213
	Total water and sewerage	2	213
Total		**30**	**6,189**

Source: PPI Database.

SOE reform and privatisation

In addition to piloting PPPs, the government of Viet Nam is increasing its focus on private sector investment by rejuvenating the 'equitisation' (partial privatisation) process, strengthening SOEs in advance of partial privatisation and sharply reducing their number to 690 by the end of 2015 and 200 by 2020. There is recognition of the need to restructure large SOEs to improve governance and inter-ministerial coordination and oversight, and to create a more 'level playing field' for private investors and SOEs in developing PPPs through improved bid transparency and more balanced SOE access to state-directed and preferential financing (ADB, 2014; ADB and AFD, 2012). The reduction in the number of SOEs was carried out mainly through merging and liquidation with other SOEs, with a limited impact on the total volume of their activities (Ishizuka, 2009).

The government issued Decision 37/2014/QD-TTg in June 2014, on the criteria for the classification of SOEs, the main purpose of which is to reduce the number of sectors where the state is required to be a majority or sole shareholder and to encourage private investment. Decision 37 sets out four categories of state ownership requirement: (i) 100%; (ii) 75% or more; (iii) from 65% up to 75%; and (iv) from 50% up to 65%.

Appendix 3: Additional information for Framework 3

Sources of finance – Viet Nam (total)

Sources of finance	Years	Average annual investment/support ($ million/year)	Data source
State investment	2009-2013	16,592.39	http://www.gso.gov.vn/default_en.aspx?tabid=776
ODA disbursed	2009-2013	4,176.95	OECD Creditor Reporting System
FDI total registered capital	1988-2013	9,364.84	www.gso.gov.vn/default_en.aspx?tabid=471&idmid=3&ItemID=
FSF approved	2010-2012	347.33	http://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-
CFU approved	2013-2014	76.67	www.climatefundsupdate.org
OOFdisbursed	2009-2013	1,144.43	OECD Creditor Reporting System

Sources of finance – Viet Nam (transport sector and sub-sectors)

Sources of finance	Years	Average annual investment/support ($ million/year)	Proportion of investment in transport)		Data source
			(% of total investment)	(% of total transport sector finance)	
Viet Nam budget (including government bonds)	2009-2012	3,340	5.02	33.27%	MoT
ODA dispersed	2009-2013	5,827	21.88	58.05	OECD
FDI net	2013	6	0.30	0.68	GSO
FSF		1	0.25	0.01	ODI, CFU, FSF dataset
CFU	2013-2014	75	96.39	0.75	CFU
OOF	2010-2012	727	59.15	7.24	OECD
Total finance to transport		**9,962**	8.56		

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Overseas Development Institute
203 Blackfriars Road
London SE1 8NJ
Tel +44 (0)20 7922 0300
Fax +44 (0)20 7922 0399

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