

**PROJECT INFORMATION DOCUMENT (PID)
APPRAISAL STAGE**

Report No.: AB2656

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| Project Name | Vietnam: Hanoi Urban Transport Development Project |
| Region | EAST ASIA AND PACIFIC |
| Sector | General transportation sector (70%); Roads and highways (30%) |
| Project ID | P083581 |
| GEF Focal Area | C-Climate change |
| Global Supplemental ID | P085393 |
| Borrower(s) | |
| | Socialist Republic of Vietnam |
| Implementing Agency | |
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| Environment Category | <input checked="" type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> FI <input type="checkbox"/> TBD (to be determined) |
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1. Country and Sector Background

Hanoi, Vietnam's capital and the key economic node of the country's north, is a booming city of around 3 million people. Hanoi's transport is characterized by an apparently continuous stream of motorcycles, a symbol of high personal mobility amid rapidly rising incomes. The city has seen rapid motorization over the last fifteen years which has turned a city where 90 percent of trips in 1990 were made by cycles and public transport to one where close to 65 percent of vehicular trips in 2005 were made on motorcycles.

However, with rapid economic and population growth -- GDP/capita has increased at over ten percent an annum for the last decade to US\$1380 in 2005 (Hanoi Statistical Yearbook 2005), and a population that is forecast to double by 2020 -- Hanoi is facing a multitude of threats to its urban mobility that if left unaddressed, could fundamentally affect the city's livability and its ability to sustain economic growth. There is already more than one motorcycle registered on average per household (1.5 million citywide), and the automobile population (approximately 150,000 vehicles) is increasing at over ten percent a year and is expected to continue doing so.

Congestion is fast becoming a critical problem. At less than seven percent of the land area, the road network is exceptionally limited (relative to almost 25 percent in many US cities, about 15 percent in most European cities and 11 percent in China's large cities) and expansion is restricted by severely high costs of resettlement (which constitutes over 80 percent of the project cost for

many city projects). In part due to availability of better infrastructure, growth is currently focused on the south and southwestern directions. The corridors connecting the city to these rapidly growing areas are particularly vulnerable.

Hanoi People's Committee (HPC) has focused on public transport as a key strategy to increase the capacity and efficiency of the City's major corridors. However, despite a spectacular twenty-fold increase in bus ridership from 1.2 million monthly trips in 2001 to over 24 million monthly trips in 2006, public transport currently accounts for only 10 percent of total trips. Congestion constrains the long-term attractiveness and potential impact of the regular bus service. Though rail systems are being planned (a French financed east-west line is most advanced), costs are high and international experience suggests that implementation may take time. A recently completed masterplan financed by the Japanese International Cooperation Agency (JICA) recommends the adoption of bus-based mass rapid transit systems in the short-term.

There is a need to complement the planned improvements in public transport with a comprehensive mobility management strategy. In recent years Hanoi has tried to control vehicle *ownership*, with restrictions on automobile and motorcycle ownership in the urban districts that were widely circumvented and have now been abandoned. There is little focus on vehicle *use*: automobile and motorcycle parking is cheap and plentiful (much of it on the city's sidewalks), there is no system of regular vehicle registration charges for motorcycles and, petrol costs are among the world's lowest.

Moreover, though a culture of traffic management (supported by the recently complete Bank-financed Urban Transport Improvement Project) is slowly emerging, much more attention is needed to increase the efficiency and safety of the current stream of traffic. Traffic management is still nascent and Hanoi residents have been slow to accept many basic traffic management techniques such as median barriers and traffic channelization. Though fatality rates in the city (about 2.72/10,000 vehicles) are difficult to compare internationally because of the unusual dominance of motorcycles, surveys suggest that traffic is a major source of stress, particularly for women and for people making motorcycle trips over 7km. Continued engagement is needed to build capacity and increased acceptance of the needs of safety and order over unfettered mobility.

Given the already exceedingly high densities in Hanoi's existing urban districts (272 per hectare in the urban districts and up to 404 per hectare in the central Hoan Kiem district -- compared to 86 in Paris, 62 in London and 370 in Hong Kong) the HPC is targeting new urban growth in the newly urbanizing areas on the western and northwestern edges of the existing built-up area. The most recent Master Plan envisions extensive greenfield development in the northwest section of the City, south of the Red River and subsequently, north of the river (by 2020) to accommodate projected growth. Road infrastructure is needed to facilitate this development. As part of this effort, the Japan Bank of International Cooperation (JBIC) is financing construction of the Nhat Tan Bridge across the Red River. Development plans exist, as do plans for new roads to provide access to these areas. The need for enhancing the capacity of the institutions responsible for land-use development and integration with transport and other infrastructure plans, and delivery is pressing.

As the City transforms itself into a major metropolis all the institutions engaged in managing the urban environment need to build capacity. In the sphere of public transport, the city is in the midst of major reform in public transport operations and management. In part as a result of a study financed by the Public Private Infrastructure Advisory Facility (PPIAF), in 2005 Hanoi concessioned six new bus routes to two new private operators chosen by competitive tender, ending the monopoly of TRANSERCO, a State Owned Enterprise. This process is now being extended to other routes and it is recognized that an independent, strong, planning coordinating and regulatory agency in charge of all public transport is needed.

The city also recognizes the need to enhance its capacity to manage air quality. Available data suggests that transport is a serious contributor to Hanoi's poor air quality, in particular with respect to carbon mono-oxide, nitrogen oxides and particulates. However, data is scarce; most of the existing air quality stations are in a state of disrepair and their data is not processed in any systematic manner. The City is in the midst of creating institutions and mechanisms to effectively manage its air quality monitoring infrastructure and provide the basis for an information-based control strategy.

2. Objectives

The development objective of the IDA Credit is to increase urban mobility in targeted areas of Hanoi by (i) increasing the use of public transport in two existing corridors and one new corridor [thereby increasing corridor capacity]; and (ii) reducing travel times by all modes between the city center and the west and northwest sections of the city (west of west lake).

Its GEF strategic objectives are to promote a shift to more environmentally-sustainable transport modes and urban development plans, and to promote the replication of these approaches in the country and region. Its global environment objective is to lower Hanoi's transport-related greenhouse gas emissions, relative to a business-as-usual scenario.

The proposed project also supports all three objectives of the current 2000-2006 Country Assistance Strategy (CAS) Objectives. It supports: (i) *high growth through a transition to a market economy*; and (ii) *adoption of a modern public administration, legal and governance system* by supporting the development of a modern regulatory system to govern the public transport industry, supporting competitive franchising in the urban bus sector, and enhancing the City's development planning capabilities, and (iii) *an equitable, socially inclusive and sustainable pattern of growth*: in the development of a sustainable high-quality public transport system that provides accessibility to all users, and by financing road infrastructure and complementary efforts to promote integration of land-use and transport planning in ways that fosters urban expansion oriented about public transport.

3. Rationale for Bank Involvement

The Bank is well positioned to support Hanoi address these challenges, both in terms of the Bank's competitive advantages in financing and policy advice, as well as in terms of a strong relationship with the City. The Bank has been working with Hanoi on urban transport issues since the mid-1990s. This has included:

- Investments as part of the Urban Transport Improvement Project (UTIP; Cr. 3125) in Hanoi and HCMC (approximately US\$20 million each), which was the Bank’s first urban transport operation in Vietnam. UTIP focused primarily on introducing traffic management and enhancing related capabilities in local institutions. It has generally been a success in Hanoi, where authorities have implemented the traffic management schemes and complemented them with significant enforcement leading to lower accident rates and more orderly traffic.
- A PPIAF-financed study executed by the Bank that examined institutional issues in the bus sector and supported the successful allocation of operating franchises on new routes to private operators as discussed.

The proposed project supports construction of critical sections of road infrastructure to facilitate future city development, development of a Bus Rapid Transit (BRT) system and capacity building in transport and planning/implementing institutions. Project design is consistent with the Bank’s global urban transport strategy and Vietnam infrastructure strategy.

The project facilitates environmentally sustainable urbanization of Hanoi. The project targets improvements in sustainable transport modes (buses, bicycles and walking) to upgrade the urban environment and the mobility needs of the urban poor. Given the good working relationship established under UTIP, and extensive experience with similar projects (e.g. BRT systems in Bogotá, five other Colombian cities and Santiago), as well as sustainable transport projects in Mexico City, Lima and Santiago, the Bank is ideally placed to support this project. The Bank can also help coordinate the efforts of other donors active in transport related issues in Hanoi.

Rationale for GEF Funding. GEF co-financing is being proposed for a set of strategic initiatives that either reduce barriers to implementation of the project or maximize the global environmental benefits from the project investments. The project is consistent with the objectives of the GEF Operational Program 11 on “Promoting Environmentally Sustainable Transport”. The project is also consistent with the GEF climate change strategic priority related to Sustainable Transport as defined in the GEF Business Plan for FY04-06 (GEF/C.21/9). The project is the first BRT system being financed by the Bank in Asia and has the potential to be a high profile demonstration for bus-based mass rapid transit.

4. Description

The project has three components as summarized in Table 1. A brief description of the project components follows:

The **Bus Rapid Transit Component (BRT)** [total US\$77.19 million, IDA US\$67.88 million, Government of Vietnam US\$5.31 million, GEF\$4.0 million] will support the development of 24.5 km of segregated busways and bus priority along the Giang Vo- Lang Ha and Giai Phong - Dai Co Viet corridors, the construction of BRT stops, interchange stations, terminals and maintenance facilities. It will also support the establishment of a modern BRT management system, including bus ticketing and financial controls. Lastly, the component will finance the implementation of a public consultation, communications and media strategy for disseminating information on the BRT system.

The **Road Infrastructure and Sustainable Urban Planning** [total US\$162.67, IDA US\$59.52 million, Government of Vietnam US\$101.40 million, GEF US\$1.75 million] component includes the construction of a section of the Second Ring Road (RR2) between Nhat Tan Bridge and Cau Giay on the main western radial arterial and construction of a resettlement site to house persons displaced by the proposed road, together with support for sustainable urban land development and transportation planning in Hanoi.

The **Institutional Development Component (ID)** [total US\$8.49 million, IDA US\$4.44 million, GEF US\$4.05 million] supports equipment procurement and technical assistance (TA) to: (a) strengthen Air Quality Management; (b) support traffic management; (c) support establishment and strengthening of a new Public Transport Authority; (d) support transport planning and policy development; and (e) finance replication activities that have been designed to address GEF's priority on replication (to be agreed/confirmed by negotiations).

Table 1. Project Cost by Component

| Project Cost By Component | Financed by | IDA | GEF | Total |
|---|---------------|---------------|-------------|---------------|
| | Hanoi | US | US | US |
| | US \$million | \$million | \$million | \$million |
| 1. Development of the BRT System | | | | |
| A. BRT System. civil works and equipment | 5.31 | 67.88 | 1.40 | 74.59 |
| B. Pedestrian and NMT access at BRT stations, | 0.00 | 0.00 | 1.30 | 1.30 |
| C. BRT Consultation, Communications and Media Strategy | 0.00 | 0.00 | 1.30 | 1.30 |
| 2. Road Infrastructure and Sustainable Urban Planning | | | | |
| A. Second Ring Road between Cau Giay and Nhat Tan | 99.03 | 38.23 | 0.00 | 137.26 |
| B. Resettlement site CT1 | 2.37 | 21.29 | | 23.66 |
| C. Integrated Sustainable Urban Land Development and Transport Planning | 0.00 | 0.00 | 1.75 | 1.75 |
| 3. Institutional Development | | | | |
| A. Air Quality Management | 0.00 | 1.50 | 0.00 | 1.50 |
| B. Traffic Safety | 0.00 | 2.38 | 0.00 | 2.38 |
| C. Public Transport Authority Strengthening and policy development | 0.00 | 0.22 | 2.70 | 2.92 |
| D. National and Regional Replication and information dissemination | 0.00 | 0.00 | 0.90 | 0.90 |
| Project Management | 0.00 | 0.34 | 0.45 | 0.79 |
| Total Cost (excluding estimated US\$15.1 million taxes) | 106.71 | 131.84 | 9.80 | 248.35 |

5. Financing

| Source: | (\$m.) |
|---------------------------------------|---------------|
| BORROWER/RECIPIENT | 106.70 |
| INTERNATIONAL DEVELOPMENT ASSOCIATION | 131.84 |
| GLOBAL ENVIRONMENT FACILITY | 9.80 |
| Total | 248.35 |

6. Implementation

Hanoi People's Committee will be fully responsible for executing the project and will be responsible for overall project management and oversight at the city level. HPC has established a Project Steering Committee headed by the Vice Chairman of the HPC responsible for infrastructure to facilitate project implementation. To manage, coordinate and supervise the project, the HPC has established a HUTDP Project Management Unit (HUTDPMU), under the Hanoi Transport and Urban Public Works Service (TUPWS), to prepare and implement the proposed project. The core HUTDPMU staff has worked as Project Management Unit (PMU) staff to implement UTIP. The PMU will be maintained at all times during the implementation period with adequate budget and qualified fulltime staff.

TUPWS will be the project/investment owner. HUTDPMU will sign all contracts on behalf of TUPWS. HUTDPMU will be the executing agency managing the implementation of all project components. The Public Transport Authority (PTA) will be involved in the procurement of the buses and all equipment related to the BRT system. HUTDPMU and PTA together will manage the BRT concession processes. The BRT concessions will be signed with the PTA on behalf of HPC. The BRT vehicles will be sold by the PTA to the chosen operators on an installment basis. The traffic police and traffic inspection board under TUPWS will be involved in the procurement of all equipment related to traffic management. The Department of Natural Resources and the Environment (DONRE) will manage the implementation of the air quality component. The Department of Architecture and Planning Management (DAPM) will directly manage the consultants hired for implementation of the urban planning technical assistance (HUTDPMU will manage procurement and sign contracts). HUTDPMU will coordinate with all relevant agencies including the HPC, TUPWS, the traffic inspection board of TUPWS, the traffic police, Hanoi Authority for Planning and Investment (HAPI), the PTA and bus operators on the comprehensive planning TA. HUTDPMU will organize and manage all Hanoi based replication activities including workshops and hosted study tours. Individual cities wishing to explore BRT demonstrations will execute study tours and feasibility studies for such activities, facilitated by the Ministry of Transport (MOT) (this arrangement will be finalized at appraisal).

The roads and BRT road infrastructure will be turned over to TUPWS after construction and will be maintained by TUPWS. BRT buses, terminals, depots and other equipment will be owned by the City (with the PTA potentially representing the City) and leased out to operators as appropriate. The operators will be selected based on competitive tendering.

DAPM will be responsible for any revisions in plans or planning regulations which will all likely need to be approved by HPC. DONRE will be responsible for processing air quality monitoring

data. An emission control policy will be finalized with DONRE coordinating with other related agencies including traffic police, Vietnam Register and TUPWS.

HPC has established a counterpart working group with members from TUPWS, TRAMOC, HTP, and experts specialized in public transport. The Counterpart Group will participate in every stage of implementation especially the detailed Design stage to ensure the consensus on the design appropriateness and quality, and the ownership. (to be confirmed at appraisal).

Accounting, financial reporting and auditing arrangements. To ensure financial accountability, various steps will be taken: (a) The PMU will maintain a separate project account, including the special account; (b) the special account and project account, including documentation for Statements of Expenses, will be audited annually by independent external auditors acceptable to IDA and the Government, with the audit including a separate opinion on the Statements of expenses used as a basis for disbursements; and (c) detailed audit reports will be submitted by the PMU to IDA annually, within six months after the end of the city government's fiscal year.

7. Sustainability

The institutional and physical interventions in the bus system have been conceived to ensure physical and financial sustainability of recent increases in bus usage by addressing the key limitations of current operations: a fast increasing fiscal burden and capacity limitations related to shared-use road space. Fares were revised in 2005 leading to increased revenues. New routes are being franchised competitively and there is an increasing consensus towards extending this treatment to the existing routes under the control of Transerco. This is expected to lower the fiscal burden on the City of the services. The project is supporting the establishment and strengthening of a high level multi-modal Passenger Transport Authority with a mandate to ensure a level-playing field for potential operators.

8. Lessons Learned from Past Operations in the Country/Sector

- (a) **Critical to ensure that project concept and design has full support of the HPC.** Unlike UTIP which was prepared with the national level Ministry of Transport and handed over to the HPC for implementation, this project was prepared with the full support of the HPC. Besides the feasibility studies, HPC explicitly endorsed the BRT concept, corridor selection, and institutional arrangements for the public transport and air quality components.
- (b) **Political commitment, institutional acceptance and public support is critical to the success of a BRT.** To reflect this lesson, the technical work on the BRT feasibility study has been complemented by a study tour of successful BRT systems in Latin America, seminars highlighting the experiences of Bogotá (delivered by former Mayor Peñalosa) and Jakarta, and other studies validating the appropriateness of the BRT concept in Hanoi.

- (c) **Economic viability is distinct from financial viability.** Public transport is a vital public good with economic benefits related to improved air quality, reduced congestion, sustaining mobility for people without access to private vehicles, lower GHG emissions, and improved safety. Thus, public transport policy does not need to be dictated solely by financial viability criteria; **subsidies are not in themselves unsustainable** as long as they are supported by a stable political commitment and are affordable. In light of HPC's demonstrated strong commitment to public transport, the focus of the Bank appraisal has been on ensuring that institutional arrangements to ensure efficient operations (competitively tendered operating concessions, independent regulatory and planning body) rather than eliminating subsidies altogether. Further, **subsidies are most effective when targeted at specific user-segments with the cost of the social obligation being borne by government.** Much of the subsidy in Hanoi can be attributed to lower fares available to students, a targeted user group, and it is appropriate for the City to bear this cost.
- (d) **Procuring rolling stock.** In general, operators are best served by buying buses themselves. However, in Hanoi, where a single SOE dominates operations despite successful recent effort to broaden participation to the private sector, supporting the purchase of buses for the City, which would in turn resell them to all eligible operators on an equal footing, will actually help leveling the playing field in favor of new potential entrants.
- (e) **Land-use needs planning to be friendly to public transport.** Very few cities internationally (Singapore, Curitiba, Stockholm, Hong Kong) have been able to consistently grow in a manner that is compatible with the future growth of the city's public transport system. The project supports GEF-financed technical assistance to assist Hanoi in learning from these experiences in development of the western and north western parts of the City.
- (f) **Air Quality responsibilities need to be integrated.** It is critical that the agency responsible for monitoring air quality also has a role in devising and implementing emission control strategies. In this project, supporting DONRE to broaden their mandate from monitoring to control has been an integral element of the work.

9. Safeguard Policies (including public consultation)

A Resettlement Policy Framework and a Resettlement Action Plan (RAP) have been prepared following local laws and policies of the World Bank OP4.12. The RAP was prepared on the basis of a detailed impact inventory, a social assessment, a project resettlement policy framework and an extensive consultation process with the affected population as well as within relevant government agencies. The RAP describes in detail the project impacts, the resettlement policy framework, the compensation and rehabilitation approach, resettlement site development and relocation arrangements, institutional and implementation arrangements, consultation process, cost and budget and monitoring arrangements.

The project is classified as a Category A project under OP.4.01 Environmental Assessment, due to the disruption caused by the construction of a new road, bus rapid transit lanes and stations and a resettlement site in an urban setting. An International Consultant (MVA Asia) and the Hanoi Urban and Industrial Environment Research Center (CEETIA) prepared the Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) using a consultative process, as per the Bank Policy. These documents were disclosed locally and in the Bank's Infoshop.

The EIA identified potential negative environmental impacts associated with construction related disruption (temporary land occupation, generation of dust, soil erosion, spoil disposal, disruption of local traffic, sanitation of construction camps), noise (construction machinery and traffic), and the possibility of increased air pollution, and treatment of wastewater (primarily from the bus depot). However, these impacts are not significant and can be mitigated to acceptable levels through effective mitigation measures. It is concluded that the project will not have significant environmental impacts and all the adverse environmental impacts can be avoided, reduced and minimized provided the mitigation measures developed in EMP can be properly implemented.

10. List of Factual Technical Documents

A. Borrower's Documents

Strategic Options for Private Sector Participation for Urban Transport in Hanoi, Final Report. MVA Asia Limited, 18th Nov 2004.

Hanoi Urban Transport Development Project - Draft Feasibility Study and Preliminary Designs Volume 1 - BRT Component. MVA Asia Limited, January 2006.

Hanoi Urban Transport Development Project - Draft Feasibility Study and Preliminary Designs Volume 2 - Roads Component. MVA Asia Limited, January 2006.

EIA Draft Report. CEETIA, April 2006

Hanoi Urban Transport Development Project - Environmental Management Plan, MVA and CEETIA, April 2006.

Hanoi Urban Transport Development Project - BRT Component, Alternative Alignments and Bus Types. MVA Asia Limited, September 2006.

Hanoi Urban Transport Development Project - Draft Feasibility Study and Preliminary Designs, Volume 3 – Air Quality Management, Traffic Safety, and Institutional Strengthening and Capacity Building. MVA Asia Limited, April 2006.

Hanoi Urban Transport Development Project - Support Integrated Sustainable Urban Development and Transport Plan / Policy. Anthony Faud J. Mann and Hanoi Department for Architect & Planning Management, September, 2006.

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B. Bank Documents

Procurement Capacity Assessment, October 2006.

Financial Management Assessment, October 2006.

Study to Demonstrate the "Basic Case" for Bus Priority in Hanoi Final Report, Final Report, PADECO Co. Ltd., Japan, March, 2005.

The 2nd Ring Road and HQV Demand Forecasting Review, Working Progress Report. PADECO Co. Ltd., Japan, July, 2005.

Transport Strategy - Transition, Reform, and Sustainable Management. The World Bank, June 2006.

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Hanoi Sustainable Urban Transport Study, Final Report. Swedish International, Development Agency, Asian Development Bank, Hanoi People's Committee, *EMBARQ*, The World Resources Institute Centre for Transport and the Environment, December 2005

The Comprehensive Urban Development Program in Hanoi Capital City, Draft Report. Jica and Hanoi PC, February 2006

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