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Report No: PAD2030

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT PAPER

ON A

PROPOSED RESTRUCTURING AND AN ADDITIONAL CREDIT

IN THE AMOUNT OF SDR 9.5 MILLION (US\$ 13 MILLION EQUIVALENT)

AND A

PROPOSED SCALE UP FACILITY CREDIT

IN THE AMOUNT OF US\$ 40 MILLION

TO THE

SOCIALIST REPUBLIC OF VIETNAM

FOR AN

ADDITIONAL FINANCING OF THE MEDIUM CITIES DEVELOPMENT PROJECT

May 18, 2017

Social, Urban, Rural and Resilience Global Practice  
EAST ASIA AND PACIFIC REGION

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## CURRENCY EQUIVALENTS

(Exchange Rate Effective April 30, 2017)

Currency Unit = Vietnamese Dong (VND)

VND22,743 = US\$1

US\$1.37102 = SDR1

## FISCAL YEAR

January 1 – December 31

## ABBREVIATIONS AND ACRONYMS

AF	Additional Financing
CF	Counterpart Funds
DA	Designated Account
EIRR	Economic Internal Rate of Return
EMDP	Ethnic Minority Development Plan
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
FM	Financial Management
GoV	Government of Vietnam
GRS	Grievance Redress Service
IDA	International Development Association
IDA SUF	International Development Association Scale Up Facility
IEMC	Independent Environmental Monitoring Consultant
INT	Integrity Vice Presidency
MCDP	Medium Cities Development Project
MOC	Ministry of Construction
MOF	Ministry of Finance
MPI	Ministry of Planning and Investment
O&M	Operation and Maintenance
PDO	Project Development Objective
PMU	Project Management Unit
PPC	Provincial People's Committee
RF	Results Framework
RP	Resettlement Plan
RPF	Resettlement Policy Framework
TA	Technical Assistance
VOT	Value of Travel
TOR	Terms of Reference
WWTP	Wastewater Treatment Plant

Regional Vice President:	Victoria Kwakwa
Country Director:	Ousmane Dione
Senior Global Practice Director:	Ede Jorge Ijjasz-Vasquez
Practice Manager/Manager:	Abhas K. Jha
Task Team Leader:	Huyen Thi Phuong Phan

**VIETNAM  
ADDITIONAL FINANCING FOR VIETNAM MEDIUM CITIES DEVELOPMENT PROJECT**

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## ADDITIONAL FINANCING DATA SHEET

### Vietnam

### Vietnam – Proposed Restructuring and an Additional Financing for Medium Cities Development Project (P159426)

### EAST ASIA AND PACIFIC

### GSU08

#### Basic Information – Parent

Parent Project ID:	P116398	Original EA Category:	A - Full Assessment				
Current Closing Date:	30-Dec-2017						
Basic Information – Restructuring and Additional Financing (AF)							
Project ID:	P159426	Additional Financing Type (from AUS):	Cost Overrun, Scale Up				
Regional Vice President:	Victoria Kwakwa	Proposed EA Category:					
Country Director:	Ousmane Dione	Expected Effectiveness Date:	01-Aug-2017				
Senior Global Practice Director:	Ede Jorge Ijjasz-Vasquez	Expected Closing Date:	31-Dec-2020				
Practice Manager/Manager:	Abhas Kumar Jha	Report No:	PAD2030				
Team Leader(s):	Huyen Thi Phuong Phan						
Borrower							
Organization Name	Contact	Title	Telephone	Email			
Government of Vietnam	Mr. Le Minh Hung	Governor	84439343361	anh.doanhoai@sbv.gov.vn			
Project Management Unit (PMU) of Lao Cai	Mr. Nguyen Quang Binh	PMU Director	020 3849 655	dawblc@gmail.com			
PMU of Phu Ly	Mr. Nguyen Van Hoc	PMU Director	0351 3 883232	banodaphuly.wb@gmail.com			
PMU of Vinh	Mr. Nguyen Trung Dung	PMU Director	038 3 553 678	pmuvinh.wb@gmail.com			
Project Financing Data - Parent (Medium Cities Development Project-P116398) (in USD Million)							
Key Dates							
Project	Ln/Cr/TF	Status	Approval Date	Signing Date	Effectiveness Date	Original Closing Date	Revised Closing Date
P116398	IDA-50310	Effective	15-Dec-2011	12-Jan-2012	11-Apr-2012	30-Dec-2017	30-Dec-2017

Disbursements									
Project	Ln/Cr/TF	Status	Currency	Original	Revised	Cancelled	Disbursed	Undisbursed	% Disbursed
P116398	IDA-50310	Effective	XDR	132.50	132.50	0.00	85.79	46.71	64.75
<b>Project Financing Data - Additional Financing Vietnam - Additional Financing for Medium Cities Development Project (P159426)(in US D Million)</b>									
<input type="checkbox"/>	Loan	<input type="checkbox"/>	Grant	<input type="checkbox"/>	IDA Grant				
<input checked="" type="checkbox"/>	Credit	<input type="checkbox"/>	Guarantee	<input type="checkbox"/>	Other				
Total Project Cost:		68.06		Total Bank Financing:		53.00			
Financing Gap:		0.00							
Financing Source – Additional Financing (AF)								Amount	
BORROWER/RECIPIENT								15.06	
International Development Association Scale Up Facility (IDA SUF)								40.00	
International Development Association (IDA)								13.00	
Financing Gap								0.00	
Total								68.06	
<b>Policy Waivers</b>									
Does the project depart from the CAS in content or in other significant respects?							No		
Explanation									
Does the project require any policy waiver(s)?							No		
Explanation									
<b>Team Composition</b>									
<b>Bank Staff</b>									
Name	Role	Title	Specialization	Unit					
Huyen Thi Phuong Phan	Team Leader (ADM Responsible)	Senior Urban Development Specialist	Urban Development	GSU08					
Kien Trung Tran	Procurement Specialist (ADM Responsible)	Senior Procurement Specialist	Procurement	GGO08					
Ha Thuy Tran	Financial Management Specialist	Sr Financial Management Specialist	FM	GGO20					

Chau-Ching Shen	Team Member	Senior Finance Officer	FM	WFALN	
Chi Kien Nguyen	Team Member	Transport Specialist	Transport	GTI02	
Giang Thi Huong Nguyen	Team Member	Senior Program Asst.	Program Support	EACVF	
Hoa Thi Mong Pham	Safeguards Specialist	Senior Social Development Specialist	Social Development	GSU02	
Nina Masako Eejima	Counsel	Senior Counsel	Law	LEGES	
Ninh Quang Nguyen	Team Member	Operations Analyst	Operations Analysis	EACVF	
Noreen Beg	Team Member	Regional Safeguards Adviser	Safeguards	OPSPF	
Sarah Xinyuan Lin	Team Member	Urban Analyst	Operations Analysis	GSU08	
Son Van Nguyen	Safeguards Specialist	Senior Environmental Specialist	Environment	GEN2B	
Thao Thi Do	Team Member	Finance Analyst	Finance Analysis	WFALN	
Thu Ha Le	Team Member	Associate Counsel	Law	LEGES	
Thuy Cam Duong	Safeguards Specialist	Environmental Specialist	Environment	GEN2B	
<b>Extended Team</b>					
<b>Name</b>		<b>Title</b>		<b>Location</b>	
Andre Oosterman		Senior Economist		Vietnam	
Hien Thi Phuong Nguyen		Economics & Financial Consultant		Vietnam	
Trinh Quoc Khanh		Water and Sanitation Specialist		Vietnam	
<b>Locations</b>					
<b>Country</b>	<b>First Administrative Division</b>	<b>Location</b>	<b>Planned</b>	<b>Actual</b>	<b>Comments</b>
Vietnam	Tinh Nghe An	Vinh		X	
Vietnam	Tinh Ha Nam	Phu Ly		X	
Vietnam	Tinh Lao Cai	Lao Cai		X	
<b>Institutional Data</b>					
<b>Parent ( Medium Cities Development Project-P116398 )</b>					
<b>Practice Area (Lead)</b>					
Social, Urban, Rural and Resilience Global Practice					
<b>Contributing Practice Areas</b>					

<b>Additional Financing Vietnam - Additional Financing for Medium Cities Development Project (P159426)</b>
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<b>Practice Area (Lead)</b>
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Social, Urban, Rural and Resilience Global Practice
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<b>Contributing Practice Areas</b>
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Transport & ICT, Water
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<b>Consultants (Will be disclosed in the Monthly Operational Summary)</b>
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Consultants are required.
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## I. Introduction

1. This Project Paper seeks the approval of the Executive Directors to provide an additional IDA SUF credit in an amount of US\$40million and an additional credit of US\$13million to the Socialist Republic of Vietnam for the Medium Cities Development Project (MCDP, P116398, Cr-5031-VN). The proposed Additional Financing (AF) will: (i) close a financing gap caused by the appreciation of the US Dollar (US\$) against the Special Drawing Rights (SDR); and (ii) enable scaling-up of activities in two of the three project cities (Lao Cai City in Lao Cai Province, and Phu Ly City in Ha Nam Province). Concurrently, it is proposed a level I restructuring, which includes modifications of the Project Development Objectives (PDO) and Results Framework (RF) of MCDP as set forth in Section III below and to extend the closing date of the original IDA credit (Cr-5031-VN) to June 30, 2018 and the closing date of MCDP to December 31, 2020.

## II. Background and Rationale for Additional Financing in the amount of US\$53 million

2. **Country Context.** Vietnam has sustained rapid economic growth since the Doi Moi reforms, enabling the country to transform from a poor nation to a middle-income country in one generation. Urban growth has accompanied Vietnam's rapid economic expansion, with a steady urban population growth rate of 3.1%, and half the country's population expected to live in urban areas by 2040<sup>1</sup>. While Vietnam has made universal improvements in basic service provision and housing conditions, disparities remain in the quality and quantity of services provided, especially in regions outside of the main cities of Hanoi and Ho Chi Minh City.

3. The GoV has taken a strategic stance on urbanization. The "Adjustment of the Master Plan for Urban Development in Vietnam to 2025 and Vision to 2050" emphasizes that Vietnam's urban transition must take place through well-balanced and strategic growth of cities. The MCDP cities of Lao Cai, Phu Ly and Vinh are broadly representative of Vietnam's medium-sized cities and support for infrastructure development and capacity-building under MCDP reflects the important role that medium cities can play in Vietnam's urbanization and development, as well as the need to ensure balanced and equitable growth throughout the country.

4. The proposed AF is aligned with the World Bank Group's 2016 Systematic Country Diagnostic (SCD) for Vietnam, which prioritizes poverty reduction, shared prosperity and sustainability and will inform the new World Bank Country Partnership Strategy for 2017-2021. The AF, together with the parent project, is well aligned with the following three priorities of the current SCD: (i) build productive infrastructure and competitive cities; (ii) augment resilience to climate change and benefits from mitigation; and (iii) adapt service delivery to new expectations and to an aging population, through improved municipal infrastructure services for the urban poor, attention to sustainable urban development of secondary cities and greater citizen participation in the local planning process. It is also consistent with the recommendations made under the *Vietnam 2035 Towards Prosperity, Creativity, Equity and Democracy* to promote the development of secondary cities in an environmentally sustainable manner as well as to enhance equity and social inclusion in urban areas. In addition, the proposed AF will continue to be aligned with the World Bank's twin goals of ending extreme poverty and boosting shared prosperity. Investments financed by both the parent project and the AF explicitly target wards where the bottom 40% of the population are concentrated, as a means to reduce the poverty gap within the cities. Investments in strategic roads in all cities also help to improve connectivity and enable economic growth.

5. **Sector Context.** Overall, the Government has a clear policy on urban development. This is particularly so for the water, wastewater, and drainage aspects of urban development, for which the Government has clearly enunciated its policies, specifically Decision No. 1929 (water) and 1930 (wastewater and drainage). For water, the Government intends to: (i) increase coverage to 90% by 2020 for cities of classes I to IV and to 70% for class V towns; (ii) increase cost recovery through user charges; (iii) create an environment for the utilities to operate on commercial principles; (iv) modernize the technology used in the sector; and (v) protect water

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<sup>1</sup> Vietnam Urbanization Review (World Bank 2011); World DataBank World Development Indicators <http://databank.worldbank.org/data/reports.aspx?source=2&country=VNM&series=&period=>



sources and improve the environment. For wastewater and drainage, the Government intends to: (i) expand drainage coverage to 80% by 2020; (ii) increase coverage of wastewater collection and treatment to 60% for class I to III cities, and 40% for class IV and V cities; (iii) over time replace subsidies with user charges; and (iv) increase the coverage of wastewater treatment to cities and towns that presently do not have wastewater collection and treatment facilities. At present, however, each sector faces challenges, including intermittent water supply and inadequate coverage, and improper treatment of wastewater. Operations and maintenance costs for wastewater are not fully recovered and are financed through subsidies from the province.

6. For urban roads, which typically account for the bulk of cities' public infrastructure investment, there is no equivalent policy framework. The roads are designed and constructed, in terms of lane widths, pavement structures, drainage provisions, etc., generally in accordance with the standards prescribed by the Ministry of Transport. The designs for urban areas, for which cities and towns have more latitude based on their approved master plans.

7. **MCDP Background.** MCDP was approved by the Board on December 15, 2011 and became effective on April 11, 2012. The current closing date of the project is December 31, 2017. The PDO is "to increase access to improved urban infrastructure services in Lao Cai City, Phu Ly City, and Vinh City in a sustainable and efficient manner". The project comprises four components in each of the three cities: (i) Urban Basic Infrastructure Upgrading and Service Improvement; (ii) Urban Water Supply and Environmental Sanitation; (iii) Urban Roads and Bridges; and (iv) Project Management Support and Technical Assistance. As of April 30, 2017, the project had committed 96.2% of the total credit, and disbursement stood at 71.61% (Phu Ly, Lao Cai, and Vinh had disbursed 77.89%, 82.56%, and 65.47% of their respective allocations).

8. **MCDP Implementation Status.** Overall, MCDP is on track to achieve its PDO-level targets. Project performance as a whole has been adversely impacted by delays in Vinh, where issues in securing timely counterpart funding and carrying out land acquisition activities have been encountered since the start of project implementation. However, corrective actions taken have significantly improved implementation over the past 12 months. Achievement of the PDO and Implementation Performance (IP) were rated "Moderately Satisfactory" until March 2016, when both were upgraded to "Satisfactory". The project is in compliance with the Bank's fiduciary and safeguard policies, as well as all other legal covenants. There are no overdue audits and no unresolved audit or internal control issues. The implementation status of individual project components, by city, is detailed below.

9. *Implementation status in Lao Cai City (Lao Cai Province).* Implementation of the Lao Cai part of the project has been rated "Satisfactory" throughout project implementation, and works are expected to be completed by November 2017, ahead of the project's current closing date of December 30, 2017. The project has benefitted over 45,000 people, exceeding the target set. Project investments have improved city scenery, reduced flooding in the city center, and improved sanitary conditions. Households affected by the project have been resettled and have recovered their livelihoods in the project resettlement sites. Three schools constructed by the project in the resettlement areas are recognized as the best schools of the province. Investments in public toilets and school sanitation facilities have positively impacted public health. Project's investments have contributed to the upgrading of Lao Cai from Class 3 to Class 2 city in 2014.

10. Implementation status of each of the four project components in Lao Cai City is as follows:

- Component 1: Urban Basic Infrastructure Upgrading and Service Improvement. All of the seven contract packages have been completed and handed over for operation.
- Component 2: Urban Water Supply and Environmental Sanitation. Two of the four contracts have been completed and handed over, while the other two packages are currently under construction. An additional small package (using procurement savings) to expand the water supply distribution network was awarded in January 2017. Because of funding shortages, the rehabilitation of drainage on several existing roads was adjusted; these are now proposed for inclusion in the AF.

- Component 3: Urban Roads and Bridges. All sections 1 of D1 Road have been completed and handed over for operation. The construction of Ngoi Duong Bridge is targeted for completion in November 2017.
- Component 4: Project Management Support and Technical Assistance. Most of the consulting service contracts are currently being implemented. An international consultant will be mobilized to review the existing Urban Master Plan of the City and develop an Urban Planning Strategy for Lao Cai. The PMU is implementing the capacity building program for officials of relevant departments and PMU staff.

11. *Implementation status in Phu Ly City (Ha Nam Province).* Implementation of the Phu Ly part of the project has also been rated “Satisfactory” throughout project implementation. As of November 2016, the Phu Ly subproject has benefitted around 25,000 people in the Quang Trung, Hoa Lac and Me Noi wards through improvements in basic infrastructure, such as water supply, sewerage, electricity supply, new road and upgrading of existing roads. Flooding and pollution caused by storms and wastewater have been addressed through sub-project investments, in particular, the recently completed retention lake in Quang Trung.

12. Implementation status of each project component in Phu Ly City is as follows:

- Component 1: Urban Basic Infrastructure Upgrading and Service Improvement. Infrastructure in the Hoa Lac and Me Noi residential areas has been upgraded and handed over for operation, including the Quang Trung Primary School, Kindergarten and Luong Khanh Thien Secondary School. Construction of other schools was postponed due to shortage of funds.
- Component 2: Urban Water Supply and Environmental Sanitation. Upgrading of technical infrastructure for Quang Trung ward was completed in May 2016. Construction of the Lam Ha 2 Regulation Lake is targeted for completion in August 2017. The last civil works package of construction of wastewater treatment plant (WWTP) in North Chau Giang was awarded and the constructor has commenced the works. Due to funding shortages, construction of the Lam Ha 1 regulation lake and upgrading of drainage along Bien Hoa Street have been removed from the parent project and are proposed for inclusion in the AF.
- Component 3: Urban Roads and Bridges. Part 1 of the D4-N7 Road has been handed over for operation, while Part 2 of the D4-N7 Road plus the Chau Giang Bridge are scheduled to be completed in July 2017.
- Component 4: Project Management Support and Technical Assistance. This sub-component has made similar progress as in Lao Cai City, with most consulting services and capacity-building programs being implemented. Phu Ly will also mobilize a consultant to develop a detailed Drainage and Wastewater Plan for the south Chau Giang River catchment.

13. *Implementation Status in Vinh City (Nghe An Province).* Until mid-2015, implementation progress of the Vinh City subcomponent of MCDP was rated either “Moderately Unsatisfactory” or “Moderately Satisfactory”, primarily because of major shortages of counterpart funds and difficulties in identifying land ownership, which resulted in delays in land acquisition and compensation. The provincial and city governments have since taken corrective actions to resolve these problems, and have committed to ensuring that all necessary land clearance is completed by February 28, 2017. At this stage there are still areas that have not fully acquired, Nghe An PPC and Vinh city are expedite all necessary actions to ensure the construction sites will be acquired and by June, 2017. Vinh City is expected to complete all Component 2 contracts by December 2017. However, most Component 3 contracts would need an extension of 3-4 months. Vinh has proposed an extension of the original credit closing date for six months (i.e. to June 30, 2018) to fully complete and hand-over all civil works packages. Completion of the Bac channel and interceptor system has improved sanitation and scenery in the city. Households affected by the project have been resettled and have recovered their livelihoods in the project resettlement sites, while investments in school sanitation facilities have helped to improve public health.

14. Implementation status of each of the four components in Vinh City is as follows:

- Component 1: Urban Basic Infrastructure Upgrading and Service Improvement. The Nghi Phu Resettlement Site and school sanitation facilities have been handed over for operation. Construction of the Quan Bau Resettlement Site is expected to be completed by July 2017.
- Component 2: Urban Water Supply and Environmental Sanitation. The following have been completed: Upgrading of Drainage Channel No. 3; two of the three packages for the construction of the Bac Channel (the third package is expected to be completed by June 2017); and upgrading of wastewater pumping station. Regulation lake construction, Upgrading of Cua Nam Lake and Upgrading Technical Infrastructure around the Ancient Citadel are behind schedule and may only be completed by end 2017.
- Component 3: Urban Roads and Bridges. Civil works packages for the two roads under this component are currently behind schedule. Sites have not been fully cleared and handed over and therefore works are expected to be completed only in early 2018.
- Component 4: Project Management Support and Technical Assistance. Similarly to other cities, Vinh has mobilized consultants to implement all consulting service contracts, especially in Vinh, a consultant has been mobilized to develop an Urban Public Transport Strategy and Plan. Other consultant will be mobilized in late 2017 to prepare a completion report for Vinh sub-project.

15. **Rationale for Additional Financing.** The appreciation of the US dollar against the SDR resulted in a decrease of US dollar IDA funds for the project, from the original US\$210 million to US\$184 million (a reduction of 12%). In the case of Vinh City, the biggest sub-project, the impact was mitigated by reducing the scope of road investments and the use of contingencies. In the cities of Lao Cai and Phu Ly, however, major investments have been affected by the reduced availability of funds. The cancellation of these investments would adversely affect the achievement of the PDO, unless corrective action is taken through the AF. The requested AF of US\$53 million would: (i) close a financing gap resulting from exchange rate losses (~US\$13 million); and (ii) scale-up investments in critical areas (which were omitted from MCDP) to enhance project benefits (~US\$40 million). The proposed scaled-up activities are aligned with MCDP's existing components, and will enhance the provision of basic urban services (including water and wastewater infrastructure, as well as new and rehabilitated roads) in the cities of Lao Cai and Phu Ly.

16. The proposed AF is considered the optimal means of meeting the financing gap and enhancing the achievement of MCDP's objectives, as using a freestanding operation for the scale up activities would be time consuming and potentially duplicative of existing project implementation arrangements. The Government has therefore sought AF for MCDP instead of requesting a free-standing Bank operation or enlisting support from other development partners.

17. The proposed AF would finance investments in Lao Cai City and Phu Ly City that: were excluded from the scope of MCDP because of the financing gap arising from the appreciation of the US Dollar vis-à-vis the SDR (~US\$13 million); and will strengthen the achievement of the PDO (~US\$40 million). The total AF proposal is US\$68.06 million, of which US\$53 million will be provided from IDA, and US\$15.06 million from counterpart funds (CF)<sup>2</sup>. IDA will provide a credit in the amount of SDR9.5 million (US\$13 million equivalent), on blend terms, and a credit from the IDA Scale-Up Facility (SUF) in the amount of US\$40 million equivalent. The IDA SUF credit will be extended to the Recipient (Socialist Republic of Vietnam) with a fixed rate of interest of 4.38%, and with final maturity of 27 years, including a grace period of 8 years, and then will be partially on lent to the two provinces.

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<sup>2</sup> Figures refer to costs including contingencies and taxes.

AF Structure

18. **Proposed AF Structure.** The scope of activities to be financed under the proposed AF remains within the framework of the parent project, and covers Lao Cai City and Phu Ly City. Each part is divided into four components, as described in detail in Section III and Annex 2.

19. The AF costs by project stage and by component are presented in Table 1 below. Detailed sub-project costs and revised total project costs are presented in Annex 2.

**Table 1: Additional Financing Costs and Financing by Component  
(US\$ '000)**

TT	Description	WB cost			Total CF	Total Project cost
		IDA	IDA SUF	Total		
<b>A</b>	<b>Preparation step</b>				<b>510.38</b>	
<b>B</b>	<b>Implementation step</b>					
1	Component 1: Urban Basic Upgrading and Service Improvement	7,285.39	6,644.91	13,930.30	6,091.74	20,022.04
2	Component 2: Urban Water Supply and Environmental Sanitation	2,991.65	14,112.97	17,104.62	2,639.73	19,744.35
3	Component 3: Urban Roads and Bridges	-	6,405.96	6,405.96	2,087.82	8,493.78
4	Component 4: Project Management Support and Technical Assistance	-	1,963.08	1,963.08	2,008.72	3,971.81
	<b>Total of basic expenses:</b>	<b>10,277.04</b>	<b>29,126.92</b>	<b>39,403.96</b>	<b>13,338.40</b>	<b>52,231.98</b>
	Volumes contingencies	513.85	1,456.35	1,970.20	871.41	2,841.61
	Price contingencies	1,027.70	3,268.62	4,296.32	729.52	5,025.84
	<b>Total 1:</b>	<b>11,818.60</b>	<b>33,851.88</b>	<b>45,670.48</b>	<b>14,939.33</b>	<b>60,099.43</b>
	<b>VAT: (10%)</b>	<b>1,181.86</b>	<b>3,385.19</b>	<b>4,567.05</b>	<b>120.86</b>	<b>4,687.91</b>
	<b>Total 2:</b>	<b>13,000.46</b>	<b>37,237.07</b>	<b>50,237.52</b>	<b>15,060.19</b>	<b>65,297.72</b>
<b>C</b>	<b>Capitalized credit fees and interest during implementation</b>					
1	Front-end & commitment fees	-	100.00	100.00		100.00
2	Commitment fee and Interest occurred during construction period	-	2,662.94	2,662.94		2,662.94
	<b>Total 3:</b>	<b>-</b>	<b>2,762.94</b>	<b>2,762.94</b>	<b>-</b>	<b>2,762.94</b>
	<b>Cost estimate</b>	<b>13,000.46</b>	<b>40,000.01</b>	<b>53,000.46</b>	<b>15,060.19</b>	<b>68,060.66</b>
	<b>Rounded:</b>	<b>13,000.00</b>	<b>40,000.00</b>	<b>53,000.00</b>	<b>15,060.00</b>	<b>68,060.00</b>

20. *Institutional and Implementation Arrangements.* The AF proposes to retain the implementation and institutional arrangements currently in place for MCDP as they have proven to be satisfactory.

21. *Readiness for Implementation.* The AF proposals were approved by the Deputy Prime Minister, in his decision letter No. 2003/Ttg-QHQT, on November 8, 2016. Investments Policies have been approved by Deputy Prime Minister in his decision letter No. 351/Ttg-QHQT dated March 21, 2017. Accordingly the Feasibility Study reports and Basic Designs of the investments under AF have been approved by the respective PPCs in April, 2017. Detailed designs of some investments under the parent project had already been prepared, and detailed designs for the remaining investments will be ready for bidding upon AF effectiveness.

### III. Proposed Changes

<b>Summary of Proposed Changes</b>	
<b>In addition to AF, it is proposed that the PDO and Results Framework (RF) be modified in order to better measure the outcomes of the project.</b>	
Change in Implementing Agency	Yes [ <input type="checkbox"/> ] No [ <input checked="" type="checkbox"/> ]
Change in Project's Development Objectives	Yes [ <input checked="" type="checkbox"/> ] No [ <input type="checkbox"/> ]
Change in Results Framework	Yes [ <input checked="" type="checkbox"/> ] No [ <input type="checkbox"/> ]
Change in Safeguard Policies Triggered	Yes [ <input checked="" type="checkbox"/> ] No [ <input type="checkbox"/> ]
Change of EA category	Yes [ <input type="checkbox"/> ] No [ <input checked="" type="checkbox"/> ]
Other Changes to Safeguards	Yes [ <input type="checkbox"/> ] No [ <input checked="" type="checkbox"/> ]
Change in Legal Covenants	Yes [ <input type="checkbox"/> ] No [ <input checked="" type="checkbox"/> ]
Change in Loan Closing Date(s)	Yes [ <input checked="" type="checkbox"/> ] No [ <input type="checkbox"/> ]
Cancellations Proposed	Yes [ <input type="checkbox"/> ] No [ <input checked="" type="checkbox"/> ]
Change in Disbursement Arrangements	Yes [ <input type="checkbox"/> ] No [ <input checked="" type="checkbox"/> ]
Reallocation between Disbursement Categories	Yes [ <input type="checkbox"/> ] No [ <input checked="" type="checkbox"/> ]
Change in Disbursement Estimates	Yes [ <input checked="" type="checkbox"/> ] No [ <input type="checkbox"/> ]
Change to Components and Cost	Yes [ <input checked="" type="checkbox"/> ] No [ <input type="checkbox"/> ]
Change in Institutional Arrangements	Yes [ <input type="checkbox"/> ] No [ <input checked="" type="checkbox"/> ]
Change in Financial Management	Yes [ <input type="checkbox"/> ] No [ <input checked="" type="checkbox"/> ]
Change in Procurement	Yes [ <input checked="" type="checkbox"/> ] No [ <input type="checkbox"/> ]
Change in Implementation Schedule	Yes [ <input checked="" type="checkbox"/> ] No [ <input type="checkbox"/> ]
Other Change(s)	Yes [ <input type="checkbox"/> ] No [ <input checked="" type="checkbox"/> ]
<b>Development Objective/Results</b>	
<b>Project's Development Objectives</b>	
Original PDO The project development objective is to increase access to improved urban infrastructure services in Lao Cai City, Phu Ly City, and Vinh City in a sustainable and efficient manner.	
<b>Change in Project's Development Objectives</b>	
Explanation: MCDP components/ activities do not directly contribute to the delivery of urban infrastructure services in a sustainable and efficient manner. In addition, the proposed AF is limited to two of the three MCDP cities. In view of this, it is proposed to amend the PDO as indicated below.	
Proposed New PDO - Additional Financing (AF)	
The development objective of the project is to increase access to improved urban infrastructure services in selected medium-sized cities in Vietnam.	

<b>Change in Results Framework</b>		
<p>Explanation:</p> <p>The results framework for the proposed Additional Financing comprises two sets of revisions to the MCDP RF: (i) addition of three years (2018, 2019 and 2020) to account for the increased duration of the project, (ii) addition (or modification) of indicators to better measure the achievement of the PDO (notably with respect to sustainability). The key modified/new indicators are:</p> <p>PDO level result indicators:</p> <ul style="list-style-type: none"> <li>• Revise Indicator #4 to read as “Implementation of a comprehensive and sustainable urban asset management plan with an approved annual budget for adequate O&amp;M”;</li> <li>• Additional Indicator #5 “students provided with access to newly built or improved classrooms”.</li> </ul> <p>Core indicators added to the RF:</p> <ul style="list-style-type: none"> <li>• Length of roads constructed or improved, non-rural;</li> <li>• Number of direct project beneficiaries;</li> <li>• Percentage of female beneficiaries;</li> <li>• Beneficiaries involved in consultation of planning/ implementation/ evaluation of project (to measure degree of citizen engagement); and</li> <li>• Percentage of female beneficiaries involved in consultation process.</li> </ul> <p>Intermediate Results:</p> <ul style="list-style-type: none"> <li>• The original indicator “length of wastewater pipeline laid” is proposed to be revised to “Length of combined drainage-sewer pipeline laid”; the original indicator “Length of roads and bridges constructed or improved” is proposed to be revised to “Length of primary roads and bridges constructed or improved”. Additional indicators: (i) “Length of new or upgraded local roads” is proposed to be added for all cities; (ii) and (ii) “Classrooms built or rehabilitated” is proposed to be added for Lao Cai and Phu Ly parts.</li> </ul>		
<b>Compliance</b>		
<b>Change in Safeguard Policies Triggered</b>		
<p>Explanation:</p> <p><b>Natural Habitats OP/BP 4.04.</b> Environmental and social screening and scoping of the sub-projects confirmed that natural habitats are present in the project areas, including the Red River, Nhac Son lake, Ngoi Dum stream in Lao Cai; the Chau Giang River and Lam Ha 1 lake in Phu Ly. Construction of embankments and dredging activities would have some potential adverse impacts on natural habitats of the rivers and lakes, including loss of benthic habitats and disturbance of benthic organisms.</p>		
<b>Current and Proposed Safeguard Policies Triggered:</b>	<b>Current(from Current Parent ISDS)</b>	<b>Proposed(from Additional Financing ISDS)</b>
Environmental Assessment (OP) (BP 4.01)	Yes	Yes
Natural Habitats (OP) (BP 4.04)	No	Yes
Forests (OP) (BP 4.36)	No	No
Pest Management (OP 4.09)	No	No
Physical Cultural Resources (OP) (BP 4.11)	Yes	Yes
Indigenous Peoples (OP) (BP 4.10)	Yes	Yes

Involuntary Resettlement (OP) (BP 4.12)	Yes	Yes
Safety of Dams (OP) (BP 4.37)	No	No
Projects on International Waterways (OP) (BP 7.50)	Yes	Yes
Projects in Disputed Areas (OP) (BP 7.60)	No	No

**Covenants - Additional Financing (Vietnam - Additional Financing for Medium Cities Development Project - P159426)**

Source of Funds	Finance Agreement Reference	Description of Covenants	Date Due	Recurrent	Frequency	Action
				<input type="checkbox"/>		

**Conditions**

Source of Fund	Name	Type
IDA SUF/IDA	Execution of Subsidiary Agreements	Disbursement

**Description of Condition**

The Recipient has furnished to the Association evidence acceptable to the Association that a Subsidiary Agreement has been duly authorized or ratified by the Recipient, through its Ministry of Finance, and the respective Project Province.

**Risk**

Risk Category	Rating (H, S, M, L)
1. Political and Governance	Moderate
2. Macroeconomic	Moderate
3. Sector Strategies and Policies	Substantial
4. Technical Design of Project or Program	Low
5. Institutional Capacity for Implementation and Sustainability	Low
6. Fiduciary	Substantial
7. Environment and Social	Substantial
8. Stakeholders	Low
9. Other	
<b>OVERALL</b>	Moderate

**Finance**

**Loan Closing Date - Additional Financing (Vietnam - Additional Financing for Medium Cities Development Project - P159426)**

<b>Source of Funds</b>	<b>Proposed Additional Financing Loan Closing Date</b>
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International Bank for Reconstruction and Development	31-Dec-2020									
International Development Association (IDA)	31-Dec-2020									
<b>Loan Closing Date(s) - Parent (Medium Cities Development Project - P116398)</b>										
Explanation: The closing date of original credit (Credit No. 5031) is proposed to be extended by six months, i.e., to June 30, 2018, to ensure the completion of the Vinh sub-project and to allow adequate time for the AF to be approved and declared effective.										
<b>Ln/Cr/TF</b>	<b>Status</b>	<b>Original Closing Date</b>	<b>Current Closing Date</b>	<b>Proposed Closing Date</b>	<b>Previous Closing Date(s)</b>					
IDA-50310	Effective	30-Dec-2017	30-Dec-2017	30-Jun-2018						
<b>Change in Disbursement Estimates (including all sources of Financing)</b>										
Explanation: Disbursement estimates have been revised to incorporate MCDP disbursements to date and till its completion by the proposed revised closing date, as well as the disbursement projections for the AF.										
<b>Expected Disbursements (in USD Million) (including all Sources of Financing)</b>										
Fiscal Year	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Annual	25.00	35.80	23.00	22.00	10.00	0.00	0.00	0.00	0.00	0.00
Cumulative	25.00	60.80	83.80	105.80	115.80	0.00	0.00	0.00	0.00	0.00
<b>Allocations - Additional Financing (Vietnam - Additional Financing for Medium Cities Development Project - P159426)</b>										
<b>Source of Fund</b>	<b>Currency</b>	<b>Category of Expenditure</b>	<b>Allocation</b>		<b>Disbursement % (Type Total)</b>					
			<b>Proposed</b>		<b>Proposed</b>					
IDA SUF	USD	Goods, works, non-consulting services, and consultants' services for Parts A.1, A.2, A.3, A.4(a) and A.4(b) of the Original Project	19,088,000		100.00					
		Goods, works, non-consulting services, and consultants' services for Part B.1, B.2, B.3, B.4(a) and B.4(b) of the Original Project	18,149,000		100.00					
		Front-end Fee	100,000		100.00					
		Interest and other charges on the Loan accrued on or before the last Payment Date immediately	2,663,000		100.00					

		preceding the Closing Date		
		Sub-total:	40,000,000.00	100.00
IDA	XDR	Goods, works, non-consulting services, and consultants' services for Parts A.1, A.2, A.3, A.4(a) and A.4(b) of the Original Project	4,750,000	100.00
		Goods, works, non-consulting services, and consultants' services for Part B.1, B.2, B.3, B.4(a) and B.4(b) of the Original Project	4,750,000	
		Sub-total:	9,500,000.00	100.00
IDA and IDA SUF	USD (equivalent)	<b>Total:</b>	53,000,000.00	100.00

### Components

#### Change to Components and Cost

##### Explanation:

The scope of activities to be financed under the proposed AF remains within the framework of the parent project, and covers Lao Cai City and Phu Ly City. Each part is divided into four components, as outlined below and described in more detail in Annex 1.

**Part A: - Lao Cai City.** Total AF cost for Lao Cai is US\$35.15 million, of which the proposed IDA contribution is US\$6.5 million equivalent and the proposed IDA SUF contribution is US\$20.5 million; and Counterpart Funds of US\$8.15 million will provide the balance of funds required.

1. **Component 1: Urban Basic Infrastructure Upgrading and Service Improvement** (~US\$14.06 million<sup>3</sup>, IDA: US\$5.14 million, IDA SUF: US\$3.30 million, and CF: US\$5.6 million) includes upgrading secondary and tertiary infrastructure for the Van Hoa community (including water supply, electricity, drainage and sewer collection, rehabilitation of local roads and lighting) to improve the living conditions of local people and enhance environmental sanitation.
2. **Component 2: Urban Water Supply and Sanitation** (~US\$9.93 million, IDA SUF: US\$9.93 million) consists of: (i) dredging, embankment and rehabilitation of the central regulation lake to separate sewage and storm water (sewage will be collected by interceptors and transferred to the WWTP that is under construction); and (ii) rehabilitation of drainage and sewer pipes along streets to prevent flooding and improve sanitary conditions, and the resurfacing of these streets.
3. **Component 3: Urban Roads and Bridges** (~US\$0.87 million of IDA SUF) to construct Ngoi Dum Bridge.
4. **Component 4: Project Management Support and Technical Assistance** (~US\$1.94 million, IDA SUF: US\$1.04 million and CF: US\$0.90 million) will support (i) project monitoring and evaluation, (ii) independent monitoring of environmental and social safeguards; (iii) independent financial audits, and (iv) construction supervision and management.

<sup>3</sup> Component costs mentioned in this section refer to base costs, and exclude VAT and contingencies.

**Part B: Phu Ly City.** Total AF cost for Phu Ly is US\$32.91 million, of which the proposed IDA contribution is US\$6.5 million and the proposed IDA SUF contribution is US\$19.5 million; Counterpart Funds (CF) of US\$6.91 million will provide the balance of funds required.

1. **Component 1: Urban Basic Infrastructure Upgrading and Service Improvement** (~US\$5.96 million, IDA: US\$2.14 million, IDA SUF: US\$3.34 million, and CF: US\$0.47 million) includes upgrading secondary and tertiary infrastructure for: (i) Northern Quang Trung Ward; (ii) Duong Am Community - Lam Ha Ward; and (iii) Quynh Chan Community - Lam Ha Ward. It will provide basic services, including water supply, electricity, drainage and sewer collection, rehabilitation of roads and lighting. The Tran Quoc Toan primary school will be upgraded to accommodate more students in an increased number of classrooms and the Phu Van kindergarten will be constructed.
2. **Component 2: Urban Water Supply and Sanitation** (~US\$9.80 million, IDA: US\$2.99 million, IDA SUF: US\$4.17 million and CF: US\$2.64 million) comprises: (i) dredging, embankment and rehabilitation of the Lam Ha 1 regulation lake; (ii) rehabilitation of drainage systems and related infrastructure along Bien Hoa Road to increase drainage capacity, which were deferred because of budget shortfalls under MCDP; and (iii) embankment of the southern part of Chau Giang River for flood control.
3. **Component 3: Urban Roads and Bridges** (~US\$7.62 million, IDA SUF: US\$5.53 million and CF: US\$2.08 million) consists of the rehabilitation of 1.6 km of Tran Hung Dao Road to increase connectivity from the city to the Ninh Binh-Cau Gie Expressway.
4. **Component 4: Project Management Support and Technical Assistance** (~US\$1.22 million, IDA SUF: US\$0.92 million and CF: US\$1.10 million) will support: (i) project monitoring and evaluation, (ii) independent monitoring of environmental and social safeguards; (iii) independent financial audits, and (iv) construction supervision and management.

The table below summarizes the current costs of MCDP as well the revised costs, including the proposed AF activities indicated above. See Table 4 of Annex 2 for more details of costs and financing of MCDP and MCDP + AF.

Current Component Name	Proposed Component Name	Current Cost (US\$M)	Proposed Cost (US\$M)	Action
Basic Urban Infrastructure Upgrading and Service Improvement	Basic Urban Infrastructure Upgrading and Service Improvement	19.41	33.34	Revised
Urban Water Supply and Environment Sanitation	Urban Water Supply and Environment Sanitation	60.80	77.9	Revised
Urban Roads and Bridges	Urban Roads and Bridges	65.87	72.27	Revised
Project Management Support and Technical Assistance	Project Management Support and Technical Assistance	13.72	15.68	Revised
	<b>Total:</b>	159.80	199.19	
<b>Other Change(s)</b>				
Implementing Agency Name	Type	Action		

<b>Change in Procurement</b>						
Explanation: Procurement for the proposed AF will be carried out in accordance with the World Bank's "Guidelines: Procurement of Goods, Works and Non-Consulting Services Under IBRD Loans, IDA Credits & Grants by World Bank Borrowers" dated January 2011, revised July 2014 and "Guidelines: Selection and Employment of Consultants Under IBRD Loans, IDA Credits & Grants by World Bank Borrowers" dated January 2011, revised July 2014. The applicable methods of procurement remain unchanged. National Competitive Bidding procedures set forth in the original Financing Agreement are proposed to be updated to reflect the changes and modifications in the national Procurement Law that became effective in July 2014.						
<b>Change in Implementation Schedule</b>						
Explanation: The implementation schedule is proposed to be revised to reflect the time required to complete MCDP activities and the implementation of the activities under the proposed AF.						
<b>Appraisal Summary</b>						
<b>Economic and Financial Analysis</b>						
Explanation: An economic analysis was carried out for the proposed AF investments in Components 1, 2 and 3, using the same methodology that was used for MCDP. The results of the economic analysis are shown in the table below, and confirm that the proposed investments are economically viable. <sup>4</sup>  The cities have been assessed as being able to financially afford the new proposed investments.						
<b>Summary Results of the Economic Analysis for AF Investments</b>						
Subproject	Base Case		Sensitivity Analysis (Worst Case)**			
	EIRR (%)	ENPV (US\$ m)	EIRR (%)	ENPV (US\$ m)	SI	SV (%)
<b>Component 1: Urban Basic Infrastructure Upgrading and Service Improvement</b>						
Lao Cai City (AF)	15.0	3.2	12.1	1.4	-5.6	18.7
Phu Ly City (AF)	13.8	0.9	11.1	0.3	-7.0	12.0
<b>Component 2: Urban Water Supply and Environmental Sanitation</b>						
Lao Cai City (AF)	13.0	2.6	10.5	0.4	-8.3	14.5
Phu Ly City (AF)	20.6	7.4	17.3	5.3	-2.8	41.7
<b>Component 3: Urban Roads and Bridges</b>						
Lao Cai City						
- Ngoi Dum Bridge (AF)	35.7	1.6	30.3	1.3	1.4	73.7
Phu Ly City						
- Tran Hung Dao Road (AF)	16.4	8.4	12.7	3.5	4.6	21.7
<b>Technical Analysis</b>						
Explanation:						

<sup>4</sup> A financial feasibility analysis was not carried out, because none of the activities to be financed from the proceeds of the AF would generate incremental financial revenue from tariffs or user charges.

Designs for the AF are consistent with those of MCDP and apply current Vietnamese technical standards for urban investments. Relevant technical options were compared and analyzed in the feasibility study, and the outcome is reflected in the additional works that have been selected for the AF.

**Component 1.** This component follows MCDP, which focuses on improving existing low income urban areas in the cities. The works consist of relatively simple activities, such as improving local roads, water supply, drainage and electricity supply. MCDP has encountered no major technical issues, and the proposed AF works are expected to be satisfactorily implemented by readily available national contractors, with appropriate supervision as received under the MCDP.

**Component 2.** Drainage and wastewater investments originally excluded due to funding shortages will be implemented under AF. These include:

- (i) Upgrading drainage and storm water collection pipes. In older urban areas where land is limited, a combined wastewater and drainage system has been adopted, while in new areas a separate system has been adopted where appropriate.
- (ii) Dredging and embankments of regulation lakes to increase water storage capacity and to control flooding.
- (iii) Expanding the existing wastewater collection network in each city and transferring wastewater to WWTPs built by the parent project or existing WWTPs. The treatment facilities in Phu Ly and Lao Cai were designed based on the findings of urban sanitation strategy studies in in the two cities, and make use of affordable and low cost technology appropriate for the capacity of the managing agencies, available land for the plants, and the likely medium and long term wastewater flows.

**Component 3.** The new bridge to be constructed in Lao Cai and the road to be rehabilitated in Phu Ly have been designed in accordance with national standards, as required by the Ministry of Transport for road specific features (lane widths, pavement and structural designs, etc.,) and by the Ministry of Construction for urban features (e.g., footpaths, pedestrian facilities, and drainage). These designs provide for staged construction, since the initial traffic demand will be relatively low, and subject to an extensive review and adjustment during the feasibility studies, with particular emphasis on cost effectiveness, traffic and pedestrian safety, and ease of maintenance.

## Social Analysis

### Explanation:

The proposed AF investments will bring significant positive social impacts, including improved health outcomes in areas provided with treated water and wastewater collection services; reduced flooding in low lying areas of the project cities; and more efficient transport services in areas of the cities that at present have poor or non-existent roads or access to transport networks.

**OP/BP 4.12 Involuntary Resettlement.** About 30.4 ha needs to be acquired for the new investments in the two project cities (including 3 ha of residential and 11 ha of agricultural land), which would result in 347 households being affected. Resettlement plans (RPs) have been developed for each of the city's additional investments in line with OP4.12.

There is a linked activity in Phu Ly (Liem Chinh resettlement site), and a due diligence review of land acquisition activities has been included in the RP. Most of the land acquisition and site clearance activities (affecting 32 households) were completed in 2005, with the remaining land acquired between April – June, 2016 (affecting 23 households). All 55 households were marginally affected. Site clearance and compensation activities were assessed as having been carried out in line with prevailing GoV regulations, but the 23 households affected in 2016 did not receive compensation in line with OP 4.12 policies. Phu Ly city will thus ensure that the AF compensation plans will compensate the previously-affected households in compliance with the OP 4.12.

**OP/BP 4.10 Indigenous Peoples.** About 18 ethnic minority households in Lao Cai city will be affected by land acquisition; in addition, impacts during construction such as labor influx, road accidents or traffic safety concerns may be felt. As such, OP/BP4.10 is triggered. An ethnic minority development plan (EMDP) has been prepared to ensure the full inclusion of ethnic minority households in the project development process, and to minimize any identified adverse impacts on them.

The prepared RPs and EMDP were disclosed locally and in the Portal on November 29, 2016 prior to AF appraisal. The final documents were cleared by the Bank and approved by the PPCs in early April, and have been re-disclosed both locally and in Portal on April 28, 2017. Both Lao Cai and Phu Ly PPMUs have experienced social safeguards staff to implement the RPs and EMDPs; however, Phu Ly still has some challenges in fully implementing the RP and will require closer supervision from the Bank.

**Gender.** MCDP is gender informed at two levels: analysis, and gender-disaggregated monitoring and evaluation. The socio-economic survey analyzed gender aspects, including: (i) participation of women in the community activities and local organizations; and (ii) meaningful consultation with women during project implementation. In Lao Cai men are more active in community activities and local organizations, while in Phu Ly women often participate more in community activities. The AF will continue to monitor beneficiaries on a gender-disaggregated basis, as is currently the case under the MCDP Results Framework (RF). The PPMUs will monitor a gender-disaggregated database of project beneficiaries (PDO indicator) and intended beneficiaries who are aware of project information and project investment.

Gender gaps relevant to the MCDP occur in the water and sanitation sectors. The 2016 Country Gender Assessment by UN Women Vietnam pointed out that only six percent of households in the poorest quintile have access to tap water at home and that women and girls are typically responsible for obtaining and treating water. In urban areas, the percentage may be higher than the national average, but the labor division (i.e., the gender responsible for obtaining and treating water) remains the same. Water infrastructure implemented as part of the project is likely to bring greater benefits to women; this is true of sanitation as well, thereby reducing the burden on women to care for sick family members and freeing them for more productive activity.

**Citizen Engagement.** Both the MCDP and the proposed AF will continue to engage citizens as required under Vietnamese law. Public consultation was conducted during AF design and will continue to be conducted during the construction and completion stages. Beneficiary surveys were conducted in the project areas and are described in the Project Feasibility Study Reports.

## **Environmental Analysis**

Explanation:

MCDP is an environmental Category A project, that triggered the following Bank safeguard policies: OP4/BP 4.01 Environmental Assessment; OP/BP 4.11 Physical and Cultural Resources; OP/BP 7.50 International Waterways; OP/BP 4.12 Involuntary Resettlement; and OP/BP 4.10 Indigenous Peoples.

As with MCDP, the AF is expected to have positive impacts on the environment: (i) improved environmental sanitation and urban landscape; (ii) increased wastewater collection and urban drainage capacity; (iii) reduced discharge of untreated wastewater into the environment; (iv) reduction of public health risks associated with water-borne diseases and related healthcare costs; (v) reduction of safety risks and asset loss caused by inundation; and (vi) increased accessibility of local people to nearby areas.

**Impacts.** Investments under the AF are of a smaller scale compared to the larger and more complex civil works under MCDP. The ESIA's of the proposed AF activities in Phu Ly and Lao Cai confirmed that the potential adverse environmental and social impacts are less adverse compared to those of MCDP, and are

site-specific. Few, if any, of them are irreversible and in most cases mitigation measures can be readily designed. Therefore, the AF sub-projects are classified as Category B. However, to continue rigorous monitoring and supervision during implementation, and to ensure satisfactory environmental and social performance of the project, it is proposed to retain the Category A classification for the entire Project, i.e., MCDP plus the AF.

**Projects on International Waterways OP/BP 7.50.** Under the parent project, this policy was triggered by the Lao Cai subproject investment where the project-financed wastewater treatment plant (WWTP) will discharge into the Red River downstream of the border with China, which is about 5 km upstream of the plant. The Red River is considered an international waterway to which the World Bank's Operational Policy OP 7.50, Projects on International Waterways applies. OP 7.50 requires that a notification of such projects be made to all riparian states, in this instance to China. At the request of the Government of Vietnam, the World Bank undertook such notification to China in accordance with Paragraph 4 of OP 7.50.

Under the AF, OP 7.50 is also applicable since some of the proposed interventions under Component 1, namely upgrade to secondary and tertiary infrastructure for the Van Hoa community (particularly sewer infrastructure), will be on or along a tributary of the Red River. By introducing sewer systems, the project will greatly improve existing schemes for wastewater sewerage, which is currently not treated. The Environmental & Social Impact Assessment (ESIA) prepared for the Lao Cai subproject confirmed that the additional discharge of treated wastewater (260 m<sup>3</sup>/d) from the existing wastewater treatment plant is minor, and would not have appreciable harm to the Red River flow (about 10-29 million m<sup>3</sup>/d) and water quality. Furthermore, the proposed subproject area is located in the downstream of the Red River. Therefore, the investment will not affect the water quality or flow in the upstream riparian countries. It is thus assessed that the project falls within the riparian notification exception under paragraph 7(a) of OP 7.50, and that no riparian notification is required. The riparian notification exception was approved by the Regional Vice President, as required under OP/BP 7.50.

**Potential impact on Natural Habitats.** The embankment of Chau Giang river in Phu Ly and the collection and treatment of wastewater in Van Hoa Commune in Lao Cai city before discharging into Red River will bring about positive impacts, i.e., reduced soil erosion and reduced pollution load to these watercourses. However, the impacts of during the dredging of the Lam Ha 1 Lake and Nhac Son Lake include the loss of benthic habitat and disturbance of benthic organisms during the construction period. As such, the AF triggers the Bank Natural Habitats safeguards policy. These impacts are assessed as temporary and mitigation measures to address them have been included in the sub-project ESIA and ESMPs.

**Potential impacts on Physical Cultural Resources (PCRs):** The AF will lead to the relocation of five graves in Lao Cai and 1 ten graves in Phu Ly subprojects, which are considered PCRs in the Vietnam context. The AF therefore triggers the Bank safeguard policy on Physical Cultural Resources. The cities' ESMPs have included site-specific measures to reduce the impacts of grave relocation. In addition, since the AF includes dredging and excavation activities, which may result in chance finds of PCR, a "chance finds" procedure has been included in the sub-project ESMPs, and for construction-related impacts to the adjacent PCRs.

**Public Consultation and Information Disclosure.** Two rounds of consultations were organized in August and October 2016 and affected people and communities and other relevant stakeholders have been consulted on the sub-project RPs, EMDP, and ESIA. Feedback from the consultations have been incorporated into sub-project design, the final draft sub-project RPs, EMDP, and ESIA. The draft version of the AF project ESIA Executive Summary, and the sub-project RPs, EMDP, and ESIA were disclosed at the sub-project PMUs and subproject areas, as well as through the World Bank Operations Portal on November 29, 2016. These final environmental and social safeguards instruments were approved by PPCs and have been disclosed locally and at the Bank Operations Portal on April 28, 2017.

**Lessons learned:** Under the parent MCDP, the environmental safeguard implementations of the three participating cities have been assessed as "Moderately Satisfactory" or better. Drawing on the experience

gained so far in environmental management and supervision, the following lessons will be applied for the AF project during implementation:

- From an early stage, close monitoring and guidance from the Bank’s safeguards team is necessary to ensure proper functioning of the safeguards management system;
- Full supervision of ESMP implementation by Construction Supervision Consultant (CSC) is necessary to ensure project progress in accordance with the necessary requirements;
- Close monitoring and enforcement by PMUs is important in ensuring compliance with safeguards standards. Each MCDP city has established an Environmental and Social Unit (ESU), with which the Bank team will continue to work closely to ensure continued compliance and maintenance of adequate safeguards standards;
- Close coordination between PMU and the Independent Environmental Monitoring Consultant (IEMC) is necessary and should be enhanced in order to ensure that all findings from the IEMC are shared with CSCs and contractors in a timely manner;
- While compliance of contractors has increased over time, the recurrence of several safeguards issues over the monitoring period necessitates more stringent monitoring by CSCs and PMUs. A safeguards compliance framework has been included in the AF ESMPs to better enhance compliance;
- In terms of land acquisition and resettlement, working closely with local authorities to understand outstanding issues or complaints from affected households and full understanding and implementation of RPFs/RPs is critical;
- Technical Assistance (TA) activities are important to ensure sustainability of infrastructure constructed, e.g. TA to support the development of urban sanitation strategies, comprehensive O&M plans and drainage and wastewater plans under the parent MCDP.

**Client capacity.** Environmental health and safety (EHS) standards are generally high at work sites in and around Lao Cai, and worker camps and waste disposal are for the most part adequate (any shortfalls noted during supervision are being quickly addressed). Phu Ly City has faced more of a challenge in terms of environmental compliance. The Bank will therefore ensure close follow-up during supervision that environmental safeguards are complied with.

**Screening for Climate and Disaster Risk.** MCDP and the AF have Moderate risk to climate change and disasters; details of the screening are in the Project Files. Phu Ly, situated in the lowland of river basins, is at higher risk of flooding and the project area will be exposed to increasingly heavy downpours and more sustained periods of rainfall, which can potentially result in larger storm surges associated with typhoons. Lao Cai, situated in the more mountainous North-West, faces risks related to increased rainfall and strong wind. Projected increases in summer and winter rainfall, runoff, rainfall variability, and the proportion of rain falling in heavy events will have profound implications for flooding.

The Task Team has considered the need for the design of physical infrastructure to accommodate future climate change risks. While this may entail higher costs upfront, the benefits may outweigh the future costs of damage to infrastructure, injuries and/or loss of life. Detailed designs for the AF sub-components will carefully assess the mitigation measures to be implemented upfront. To reduce flooding, for instance, the project will include structural components to reinforce river embankments and enhance the storage capacity of regulation lakes. Where feasible, drainage and storm water collection pipes will also be designed to accommodate medium to long-term rainfall projections. In addition, non-structural components to promote consultations and dialogue with stakeholders during preparation and implementation of works have also been included to enhance capacity in responding to these risks.

**Risk**

Explanation:

Given the nature of activities proposed under the AF, the SORT table will be largely the same as for MCDP (except for “Sector strategies and policies”) and the overall risk of the AF will remain “Moderate”. Two AF



sub-projects have potentially substantial environment and social risks, particularly from construction activities and the associated disposal of sediments to be dredged from the lakes and drainage systems, as well as from land acquisition and resettlement activities. Clear mitigation measures, training programs and close Category A-level monitoring will be carried out to mitigate against the project risks.

### **Fiduciary**

**Procurement.** The Procurement Plans for the AF have been prepared and agreed on with the Bank in December 2016. Consultant contracts for the preparation of detailed designs and bidding documents for the outstanding contracts under the AF are expected to be signed by February/March 2017. The PMUs have adequate capacity to implement AF procurement. However, there is a risk of delay if detailed designs and bidding documents are not completed in time. PMU procurement staff will continue to be regularly trained on procurement and contract management during AF implementation.

**Financial Management (FM).** FM arrangements (including FM staff, financial planning and budgeting, accounting procedures, internal audit and financial audit) will remain unchanged under the proposed AF. FM risk remains Substantial, considering the complexity of contract management issues and the need for timely allocation of counterpart funds for the AF. These risks will be mitigated through continued strengthening of contract management capacity, as well as strengthening of internal control procedures and internal audit activities. The FM capacity of the PMUs has been significantly improved through the implementation of MCDP.

**Disbursement.** A new segregated designated account for each of Lao Cai and Ha Nam Province may be opened in USD at a commercial bank or financial institution acceptable to the Association for receipt of the Association's funds under the additional financing, including IDA SUF and IDA blend credits. The Project will have a Disbursement Deadline Date (final date on which the Bank will accept applications for withdrawal from the borrower or documentation on the use of loan/credit proceeds already advanced by the Bank) four months after the Closing Date. This "Grace Period" is granted in order to permit the orderly project completion and closure of the Loan/Credit Account via the submission of applications and supporting documentation for expenditures incurred on or before the Closing Date. Expenditures incurred between the Closing Date and the Disbursement Deadline Date are not eligible for disbursement.

Bank financing for the Project will be at 100%, inclusive of taxes, for eligible expenditures including goods, works, consulting services, non-consulting services. Government counterpart funds of US\$15.06 million will be used to finance items such as compensation and resettlement, salaries, salary allowances or supplements for civil servants working on the project, incremental operating costs and training and workshops.

**Fraud and Corruption.** The Bank has received several procurement complaints, including fraud and corruption allegations, in connection with MCDP. The World Bank Integrity Vice Presidency (INT) conducted an investigation that substantiated fraudulent practices by an international consulting firm during the procurement and implementation of a consultancy contract that was financed under preparation activities of the parent project, other case were found to be unsubstantiated. To reduce and mitigate the risk of fraud and corruption under the proposed AF, preventive measures in place under MCDP (including training, having independent consultants participate in bid evaluation for complex contracts, and having bid evaluators sign and execute a Code of Conduct Declaration, as well as increased use of national e-procurement system) will continue to apply. In addition, internal audit activities will continue to be implemented to provide an effective FM internal control and monitoring mechanism for the proposed AF. The Bank will also implement the relevant project-specific actions indicated in *Vietnam Strategic Action Plan to Address Fraud and Corruption Risks*.

## **V. World Bank Grievance Redress**

Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit <http://www.worldbank.org/GRS>. For information on how to submit complaints to the World Bank Inspection Panel, please visit [www.inspectionpanel.org](http://www.inspectionpanel.org).

## Annex 1 – Revised Project Results Framework

<b>Project Development Objective (PDO):</b> The project development objective is to increase access to improved urban infrastructure services in Lao Cai City, Phu Ly City, and Vinh City in a sustainable and efficient manner.														Revised/Changes		
<b>Revised Project Development Objective (PDO):</b> The objective of the project is to increase access to improved urban infrastructure service in selected medium-sized cities in Vietnam.																
PDO Level Results Indicators	Core	Unit of Measure	Baseline	Cumulative Target Values								Frequency	Data Source/Methodology	Responsible for Data Collection	Description (indicator definition etc.)	
				YR 1	YR 2	YR3	YR 4	YR5	YR6*	YR7*	YR8*					
<b>Indicator One: Water Supply</b> People provided with access to improved water sources under the project (number)	√	People	0				LC: 6,000	35,000	35,000	37,000	40,000	Annual	PMU/consultant reports	PMU/consultant and/or Water Supply Company	Connections – for Lao Cai only. Future connections that the project-financed increase in supply of treated water – 6,000m <sup>3</sup> - will make possible.	Additional values for YR6 and YR7
<i>Shared Female</i>	√	Percentage	0					50	50	50	50	Annual	PMU/Consultant reports	PMU/consultant		.Additional
<b>Indicator Two: Sanitation</b> People provided with access to improved sanitation under the project (number)	√	People	0				VH:0 PL: 0 LC: 0  Σ0  <b>(VH: 40,170 PL: 6,000 LC: 28,000 Σ 74,170)</b>	VH:125,000 PL: 30,000 LC: 36,000  Σ191,000	VH:125,000 PL: 30,000 LC: 36,000  Σ191,000	VH:125,000 PL: 44,000 LC: 38,500  Σ207,500	VH:125,000 PL: 59,700 LC: 38,500  Σ223,200	Annual	PMU/Consultant reports	PMU/consultant	Connections –, future connections that the project-financed increase in wastewater treatment capacity will make possible as well as persons with access to public toilets and school children benefiting from school sanitation	.Additional values for YR6 and YR7 .Changes in indicators definition
<i>Shared Female</i>	√	Percentage	0					50	50	50	50	Annual	PMU/Consultant reports	PMU/consultant		.Additional
<b>Indicator Three: Roads</b> Reduction in vehicle travel time on new and improved roads under the project.		% Reduction in vehicle travel times	0%				PL: 15% LC: 15%	VH: 30% PL: 30% LC: 30%	VH: 30% PL: 30% LC: 30%	VH: 30% PL: 30% LC: 30%	VH: 30% PL: 30% LC: 30%	Initial: when road enters service; Annually thereafter for 5 years	PMU/Consultant surveys when roads enter service, annually thereafter	PMU/consultant	Travel time between the beginning and end point of the new roads on completion, compared with travel time for	.Additional values for YR6 and YR7

															the journey on existing roads for the without project situation.	
<b>Indicator Four: Institutional</b> Implementation of a comprehensive and sustainable urban asset management plan with an approved annual budget for adequate O&M.		Number	0			0	3	3	3	3	At project completion	PMU/ Consultant reports	PMU/ consultant	Urban infrastructure Management Plan adopted and implemented annually by the city	.Additional values for YR6 and YR7 .Changes in indicators definition	
<b>Indicator Five: Schools</b> Students provided with access to newly built or improved classrooms.		Students				(PL: 860 LC: 795 Σ1,655)	PL: 860 LC: 815 Σ1,675	PL: 860 LC: 815 Σ1,675	PL: 2,540 LC: 835 Σ3,375	PL: 2,540 LC: 900 Σ3,440	Annual	PMU/ Consultant reports	PMU/ consultant	For Lao Cao and Phu Ly only	.Additional values for YR6 and YR7 .Changes in indicators definition	
<i>Shared female student</i>		Percentage	0				50	50	50	50	Annual	PMU/ Consultant reports	PMU/ consultant		.Additional	
<b>INTERMEDIATE INDICATORS</b>																
<i>Roads constructed or improved, non-rural (Core)</i>	√	Km	0		VH: 4.4	(VH: 6.4 PL: 6.8 LC: 31.1 Σ44.3)	VH: 21.8 PL: 12.5 LC: 35.6 Σ67.4	VH: 32.5 PL: 12.5 LC: 35.6 Σ80.6	VH: 32.5 PL: 17.7 LC: 82.6 Σ132.8	VH: 32.5 PL: 25.0 LC: 87.7 Σ145.2	Annual	PMU/ Consultant reports	PMU/ consultant		. Revised target values to actual design .Additional values for YR6 and YR7	
<i>Direct project beneficiaries (Core)</i>	√	Number	0		VH: 36,100	(VH: 40,170 PL: 25,000 LC: 45,000 Σ110,170)	VH: 125,500 PL: 40,000 LC: 45,000 Σ210,500	VH: 125,500 PL: 40,000 LC: 45,000 Σ210,500	VH: 125,500 PL: 58,700 LC: 65,000 Σ249,200	VH: 125,500 PL: 79,720 LC: 95,000 Σ300,220	Annual	PMU/ Consultant reports	PMU/ consultant		.Additional values for YR6 and YR7	
<i>Female beneficiaries (Core supplement)</i>	√	Percentage	0		VH:48.1	(VH: 50.6 PL: 52.0 LC: 49.0 Σ50.0)	VH:50.0 PL: 52.0 LC: 49.0 Σ50.0	VH:50.0 PL: 52.0 LC: 49.0 Σ50.0	VH:50.0 PL: 52.0 LC: 49.0 Σ50.0	VH:50.0 PL: 52.0 LC: 49.0 Σ50.0	Annual	PMU/ Consultant reports	PMU/ consultant		.Additional values for YR6 and YR7	
<i>Degree of citizen engagement - Beneficiaries involved in consultation of planning/</i>		Number	0				VH: 125,500 PL: 22,400 LC: 36,000 Σ183,900	VH: 125,500 PL: 27,900 LC: 45,000 Σ198,400	VH: 125,500 PL: 36,200 LC: 57,300 Σ219,000	VH: 125,500 PL: 47,000 LC: 74,500 Σ246,500	Annual	PMU/ Consultant reports	PMU/ consultant		.New indicator	

<i>implementation/ evaluation of project.</i>																
<i>Shared female beneficiaries involved in consultation process</i>		Percentage	0				VH:50.0 PL: 50,5 LC: 49.5 Σ50.0	VH:50.0 PL: 50,8 LC: 49.6 Σ50.0	VH:50.0 PL: 51,2 LC: 49.5 Σ50.0	VH:50.0 PL: 51,7 LC: 49.6 Σ50.0	Annual	PMU/ Consultant reports	PMU/ consultant			.New indicator
<b>LAO CAI CITY</b>																
<i>Length of water supply pipeline laid – all</i>		km	0	10.0	20.0 (7.15)	30.0 (20.0)	36.0	36.0	36.0	40.0	Qtr	PMU/ Consultant reports	PMU/ consultant	Km completed and put into service		.Additional values for YR6 and YR7
<i>Length of waste water pipeline laid – all</i>		Km	0	(12.6)	(23.0)	(31.7)	36.0	36.0	36.0	55.0	Qtr	PMU/ Consultant reports	PMU/ consultant	Km combined pipe completed and put into service		.New indicator .Additional values for YR6 and YR7
<i>Length of new or upgraded local roads</i>		Km	0	(22.7)	(28.0)	(28.0)	28.0	28.0	75.0	80.0	Qtr	PMU/ Consultant reports	PMU/ consultant	Km completed and put into service		. Revised definition and values .Additional values for YR6 and YR7
<i>Additional treated water supply capacity made available</i>		m <sup>3</sup> /day	0				6,000	6,000	6,000	6,000	Qtr	PMU/ Consultant reports	PMU/ consultant	Additional treated water supply added to the water supply network		No change
<i>Additional wastewater treatment capacity made available</i>		m <sup>3</sup> /day	0			- (-)	4,300	4,300	4,300	4,300	Qtr	PMU/ Consultant reports	PMU/ consultant	Cumulative additional treated water supply added to the water supply network		.Revised value to actual design
<i>Length of primary roads and bridges constructed or improved</i>		Km	0		3.0 (3.1)	6.0 (3.1)	7.6	7.6	7.6	7.7	Qtr	PMU/ Consultant reports	PMU/ consultant	Km completed or improved and put into service		. Revised indicator name .Revised the value to actual design .Additional values for YR6 and YR7
<i>Schools with completed sanitation facilities</i>		Number	0	4 (18)	10 (23)	18 (23)	27	27	27	27	Qtr	PMU/ Consultant reports	PMU/ consultant	Number of schools with sanitation facilities completed and put into service		No change

<i>Classrooms built or rehabilitated.</i>		Number	0			(38)	38	38	38	38	Qtr	PMU/ Consultant reports	PMU/ consultant	Classrooms built or rehabilitated and put into service.	.New indicator .Additional values for YR6 and YR7
<b>PHU LY CITY</b>															
<i>Length of water supply pipeline laid – all</i>		Km	0	5.0 (7.5)	10.0 (19.0)	20.0 (19.1)	20.0	20.0	25.0	40.0	Qtr	PMU/ Consultant reports	PMU/ consultant	Km completed and put into service	.New indicator .Additional values for YR6 and YR7
<i>Length of new or upgraded local roads</i>		Km	0	(-)	1.75 (1.75)	3.0 (3.0)	6.8	6.8	12.0	18.0	Qtr	PMU/ Consultant reports	PMU/ consultant	Km completed and put into service	. New indicator .Additional values for YR6 and YR7
<i>Length of waste water pipeline laid – all</i>		Km	0	4.0 (3.26)	8.0 (8.7)	11.5 (9.5)	12.0	12.0	18.0	30.0	Qtr	PMU/ Consultant reports	PMU/ consultant	Km completed and put into service	.New indicator .Additional values for YR6 and YR7
<i>Additional wastewater treatment capacity made available</i>		m <sup>3</sup> /day	0			1,500	1,500	1,500	1,500	1,500	Qtr	PMU/ Consultant reports	PMU/ consultant	Additional wastewater treatment capacity	.Revised the value to actual design
<i>Length of primary roads and bridges constructed or improved</i>		Km	0		3.0 (3.8)	3.8 (3.8)	5.7	5.7	5.7	7.0	Qtr	PMU/ Consultant reports	PMU/ consultant	Km completed or improved and put into service	Revised indicator name
<i>Classrooms built or rehabilitated.</i>		Number	0	25 (25)	25 (25)	41 (41)	41	41	92	92	Qtr	PMU/ Consultant reports	PMU/ consultant	Classrooms built or rehabilitated and put into service.	.New indicator .Additional values for YR6 and YR7
<b>VINH CITY</b>															
<i>Length of water supply pipeline laid – all</i>		Km	0	4 (1.5)	8.0 (5.5)	12.0 (9.3)	9.5	9.5	9.5	9.5	Qtr	PMU/ Consultant reports	PMU/ consultant	Km completed and put into service	Revised target value to actual design
<i>Length of new or upgraded local roads</i>		Km	0	0	4.4 (4.4)	6.4 (6.4)	18.0	18.0	18.0	18.0	Qtr	PMU/ Consultant reports	PMU/ consultant	Km completed and put into service	.New indicator
<i>Length of waste water pipeline laid</i>		Km	0	4.0 (6.2)	8.0 (15)	16.0 (18.4)	24.0	24.0	24.0	24.0	Qtr	PMU/ Consultant reports	PMU/ consultant	Km completed and put into service	Revised values

<i>Length of drainage channel constructed or rehabilitated (incl. interceptors)</i>		Km	0		2.0 (0)	4.0 (0)	6.0 (4.6)	9.8	9.8	9.8	9.8	Qtr	PMU/ Consultant reports	PMU/ consultant	Km completed and put into service	No change
<i>Length of primary roads and bridges constructed or improved</i>		Km	0		2 (0)	4 (0)	12 (0)	3.8	14.5	14.5	14.5	Qtr	PMU/ Consultant reports	PMU/ consultant	Km completed or improved and put into service	Revised indicator name
<i>Schools with completed sanitation facilities</i>		Number	0		10 (0)	20 (27)	27 (27)	27 (27)	27 (27)	27 (27)	27 (27)	Qtr	PMU/ Consultant reports	PMU/ consultant	Number of schools with sanitation facilities completed and put into service	Revised value to actual design

\* Vinh City, which does not receive AF, is expected to achieve its targets at the end of YR5.

\*\* Figures in brackets include actual achievements (for YR4, actual achievements were reported until the end of October 2016).

## Annex 2: Detailed Description of Modified/New Activities and Revised Project Cost

1. The AF project consists of two parts: Lao Cai City in Lao Cai Province and Phu Ly City in Ha Nam Province. Vinh City in Nghe An Province, which is the third part of MCDP is not covered under the proposed AF. Vinh City in Nghe An Province, which is the third part of MCDP is not covered under the proposed AF.

### Part A: Lao Cai City

2. MCDP investments in Lao Cai included: rehabilitation of infrastructure in the old part of the city; construction of the city's first wastewater treatment plant; and extension of infrastructure and services to the parts of city which lacked basic infrastructure. The AF will support the city in completing the originally designed activities for which there is a financing gap and will finance scale up activities which are city's priority within the framework of MCDP components.

**Table 1. Activities by the AF in Lao Cai**

No.	Investments	Detailed description
<b>1</b>	<b>Component 1</b>	<b>Urban Basic Infrastructure Upgrading and Service Improvement (US\$14.06 million)</b>
1.1	Upgrading infrastructure of Van Hoa Commune	<p>Construction and rehabilitation of 6.1 km of nine main internal roads, with widths ranging from 16.5 to 24.0 m.</p> <ul style="list-style-type: none"> <li>• Construction of the separate drainage systems along the main road.               <ol style="list-style-type: none"> <li>1. Storm water drainage for a total length of 11.0 km including 7.9 km of box culvert and 3.1 km of pipes.</li> <li>2. Wastewater collection pipe of 4.0 km, pressure wastewater pipelines connecting 3.7 km, and two pumping stations to convey wastewater to the Dong Pho Moi Waste Water Treatment Plant (WWTP).</li> </ol> </li> <li>• Construction of 3.7 km of water supply distribution system.</li> <li>• Power supply, lighting and trees for the constructed road.</li> </ul>
<b>2</b>	<b>Component 2:</b>	<b>Urban Water Supply and Environmental Sanitation (US\$9.94 million)</b>
2.1	Rehabilitation of the central lake of Lao Cai city.	<ul style="list-style-type: none"> <li>• Dredging the lake bed to a depth of 5.2 m.</li> <li>• Repairing damaged sections of the lake embankment (estimated total length of 100 m).</li> <li>• Constructing a drainage system for the lake including: 539 m interceptor; an overflow chamber; 149 m box culvert; a pumping station with capacity 324 m<sup>3</sup>/h; and 1.5 km wastewater pressure sewer pipe to convey wastewater to Ngoi Dum WWTP (which is being constructed under MCDP).</li> </ul>
2.2	Rehabilitation of drainage system and resurfacing the remaining streets roads	<ul style="list-style-type: none"> <li>• Rehabilitation of 71 km of existing drainage.</li> <li>• Construction of 5.2 km drainage at flooding locations, associated with resurfacing of 48 km of the remaining streets roads in the wards of Duyen Hai, Kim Tan, Bac Cuong, Nam Cuong, Coc Leu, Pho Moi, Binh Minh, Bac Lenh, and Pom Han.</li> </ul>
<b>3</b>	<b>Component 3</b>	<b>Urban Roads and Bridges (US\$0.87 million)</b>
3.1	Construction of a bridge across Ngoi Dum stream.	The bridge is 48 m long, with 62 m of approach roads at the two ends.
<b>4</b>	<b>Component 4</b>	<b>Project Management Support and Technical Assistance (US\$1.94 million)</b>



No.	Investments	Detailed description
4.1	Construction supervision and contract management	Supporting for the PMU in construction supervision and contract management.
4.2	Independent environmental and social safeguard monitoring	Independent monitoring of environmental and social safeguards.
4.3	Independent financial audit	Independent financial audit as per the agreed schedule.
4.4	Project Monitoring and Evaluation	Monitoring and evaluation of project implementation and at closing.

3. **Cost.** The AF cost for Lao Cai is US\$35.15 million, of which the proposed IDA contribution is US\$6.5 million and the proposed IDA SUF contribution is US\$20.5 million. Counterpart Funds (CF) of US\$8.15 million will finance the remainder. Table 2 below provides the details of the costs and financing of the Lao Cai part of the AF.

**Table 2. Lao Cai: Additional Financing by Components (US\$ '000)**

TT	Description	LAO CAI							
		Total investment	WB			CF/other source			
			Total	IDA	IDA SUF	Total	Central	Local	
<b>A</b>	<b>Preparation step</b>	<b>494.37</b>	<b>0.00</b>				<b>494.37</b>	<b>128.90</b>	<b>365.47</b>
<b>B</b>	<b>Implementation step</b>								
1	Component 1: Urban Basic Upgrading and Service Improvement	14,060.95	8,442.73	5,138.64	3,304.09	5,618.22	3,268.67	2,349.55	
2	Component 2: Urban Water Supply and Environmental Sanitation	9,937.37	9,937.37		9,937.37	-			
3	Component 3: Urban Roads and Bridges	873.30	873.30	-	873.30	-			
4	Component 4: Project Management Support and Technical Assistance	1,947.73	1,042.93		1,042.93	904.79	723.84	180.96	
	<b>Total of basic expenses:</b>	<b>27,313.71</b>	<b>20,296.32</b>	<b>5,138.64</b>	<b>15,157.68</b>	<b>7,017.39</b>	<b>4,121.41</b>	<b>2,895.98</b>	
	Volumes contingencies	1,365.69	1,014.82	256.93	757.88	350.87	206.07	144.80	
	Price contingencies	2,649.33	1,950.98	513.86	1,437.12	698.35	408.75	289.60	
	<b>Total 1:</b>	<b>31,328.73</b>	<b>23,262.12</b>	<b>5,909.43</b>	<b>17,352.69</b>	<b>8,066.61</b>	<b>4,736.23</b>	<b>3,330.38</b>	
	<b>VAT: (10%)</b>	<b>2,409.62</b>	<b>2,326.21</b>	<b>590.94</b>	<b>1,735.27</b>	<b>83.41</b>	<b>66.73</b>	<b>16.68</b>	
	<b>Total 2:</b>	<b>33,738.36</b>	<b>25,588.34</b>	<b>6,500.38</b>	<b>19,087.96</b>	<b>8,150.02</b>	<b>4,802.96</b>	<b>3,347.06</b>	
<b>C</b>	<b>Capitalized credit fees and interest during implementation</b>								
1	Front-end & commitment fees	51.25	51.25	-	51.25				
2	Commitment fee and Interest occurred during construction period	1,360.80	1,360.80	-	1,360.80				
	<b>Total 3:</b>	<b>1,412.05</b>	<b>1,412.05</b>	<b>0.00</b>	<b>1,412.05</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	
	<b>Cost estimate</b>	<b>35,150.40</b>	<b>27,000.38</b>	<b>6,500.38</b>	<b>20,500.00</b>	<b>8,150.02</b>	<b>4,802.96</b>	<b>3,347.06</b>	
	<b>Rounded:</b>	<b>35,150.00</b>	<b>27,000.00</b>	<b>6,500.00</b>	<b>20,500.00</b>	<b>8,150.00</b>	<b>4,800.00</b>	<b>3,350.00</b>	

## **Part B: Phu Ly City**

4. MCDP supports infrastructure rehabilitation and improvement in the old part of the city, including: surfacing existing roads and lanes in selected urban areas; extending water supply and drainage networks and linking the latter to a new wastewater plant (also to be constructed under the project); and expanding and improving several small lakes that will become part of the city's green space, while also serving an important flood mitigation and retention purpose. In the new urban area the project finances construction of the core access road mentioned above, with a bridge across the Chau Giang River that will provide a strong connection between the new northern and old southern parts of the city. The road is incorporate water supply and drainage/wastewater pipe networks within its corridor, the latter connecting to the project-financed wastewater plant that is to be constructed in the northwest of the expanded city area. The project also supports the city in improving social infrastructure, including the construction and rehabilitation of schools in the area that do not have adequate classrooms. The proposed AF will support the city in completing MCDP activities for which there is a financing gap and finance scale up actives which are the city's priority within the framework of MCDP components.

**Table 3. Activities financed by the AF in Phu Ly**

<b>No.</b>	<b>Item</b>	<b>Description</b>
<b>1</b>	<b>Component 1</b>	<b>Urban Basic Infrastructure Upgrading and Service Improvement (US\$5.96 million)</b>
1.1	Upgrading infrastructure for the residential area in the North Quang Trung ward	<ul style="list-style-type: none"> <li>• Construction of a 254 m long and 11.5 m wide road as per the approved plan.</li> <li>• Upgrading a 1.9 km existing internal road within the existing width of 1.5 – 4.0 m.</li> <li>• Installing .17 km of combined drainage-sewer pipelines.</li> <li>• Power supply for lighting system at low-voltage power poles and adding new poles at planned routes.</li> </ul>
1.2	Upgrading infrastructure in Duong Am, Lam Ha ward	<ul style="list-style-type: none"> <li>• Upgrading about 1.8 km of existing internal roads within the existing width of 1.5 – 4.0 m.</li> <li>• Installing about 2.1 km of combined drainage-sewer pipelines.</li> <li>• Installing about 4.6 km of water supply network connecting to the existing main supply network.</li> <li>• Power supply for lighting system at low-voltage power poles and adding new poles at planned routes.</li> </ul>
1.3	Upgrading infrastructure in Quynh Chan residential group, Lam Ha ward	<ul style="list-style-type: none"> <li>• Upgrading about 3 km of existing internal roads within the existing width of 1.5 – 4.0 m.</li> <li>• Installing about 3 km of combined drainage-sewer pipelines.</li> <li>• Installing about 6.5 km of water supply network connecting to the main supply network.</li> <li>• Power supply for lighting at low-voltage power poles and adding new poles at the planned routes.</li> </ul>
1.4	Upgrading Tran Quoc Toan primary school, Hai Ba Trung ward	Construction of two blocks and upgrading of a block of Tran Quoc Toan Primary School with total area of 3,221 m <sup>2</sup> for 1,200 pupils.
1.5	Construction of Phu Van kindergarten in Phu Van commune, Phu Ly city	Construction of 9,935 m <sup>2</sup> kindergarten for 500 pupils, including areas for outdoor activities of children (Bio-landscape garden, sand playground, water-splash tank, green vegetable garden) and concrete access road 170 m long and 3.75 m wide.

<b>No.</b>	<b>Item</b>	<b>Description</b>
<b>2</b>	<b>Component 2</b>	<b>Urban Water Supply and Environmental Sanitation (US\$9.80 million)</b>
2.1	Upgrading Lam Ha 1 regulation lake, Lam Ha ward	<ul style="list-style-type: none"> <li>• Lake embankment, interceptors and protected road (1,702 m)</li> <li>• Tree, lighting system</li> </ul>
2.2	Upgrading drainage and technical infrastructure system for Bien Hoa road	<ul style="list-style-type: none"> <li>• Rehabilitation of about 923 m of water and combined drainage-sewer pipeline.</li> <li>• Re-surfacing of about 906 m of road and intersections.</li> <li>• Rehabilitation of lighting system,</li> <li>• Rehabilitation of sidewalk and green tree system.</li> </ul>
2.3	Construction of Chau Giang river southern embankment from Liem Chinh bridge to Cau Gie- Ninh Binh expressway	Construction of the 3.25 km Chau Giang River southern embankment from Liem Chinh bridge to Cau Gie-Ninh Binh expressway and construction of the 1.8 km long and 13.5 m wide road along the embankment.
<b>3</b>	<b>Component 3</b>	<b>Urban Roads And Bridges (US\$7.62 million)</b>
3.1	Upgrading Tran Hung Dao road	Upgrading of 1.6 km of Tran Hung Dao road from Liem Chinh bridge to Cau Gie-Ninh Binh expressway with four standard lanes, sidewalk, drainage/lighting system, and facilities for pedestrians.
<b>4</b>	<b>Component 4</b>	<b>Project Management Support and Technical Assistance (US\$1.22 million)</b>
4.1	Construction supervision and contract management	Support to the PMU for construction supervision and contract management.
4.2	Independent environmental and social safeguard monitoring	Independent monitoring of environmental and social safeguards.
4.3	Independent financial audit	Independent financial audit as per the agreed schedule.
4.4	Project Monitoring and Evaluation	Monitoring and evaluation of project implementation and at closing.

5. **Costs.** The AF cost for Phu Ly is US\$32.91 million, of which the proposed IDA contribution is US\$6.5 million and the proposed IDA SUF contribution is US\$19.5 million. Counterpart Funds (CF) of US\$6.91 million will provide the remainder. Detailed costs by component are presented in Table 4 below.

**Table 4. Phu Ly: Additional Financing by Components (US\$ '000)**

TT	Description	PHU LY						
		Total investment	WB			CF/other source		
			Total	IDA	IDA SUF	Total	Central	Local
<b>A</b>	<b>Preparation step</b>	<b>16.00</b>	-	-	-	<b>16.00</b>	-	<b>16.00</b>
<b>B</b>	<b>Implementation step</b>							
1	Component 1: Urban Basic Upgrading and Service Improvement	5,961.09	5,487.57	2,146.75	3,340.82	473.52	83.07	390.45
2	Component 2: Urban Water Supply and Environmental Sanitation	9,806.98	7,167.25	2,991.65	4,175.60	2,639.73	609.19	2,030.54
3	Component 3: Bridge and urban roads.	7,620.49	5,532.66	-	5,532.66	2,087.82	313.17	1,774.65
4	Component 4: Project Management Support and Technical Assistance	1,224.88	920.15	-	920.15	1,103.93	220.59	883.34
	<b>Total of basic expenses:</b>	<b>24,629.44</b>	<b>19,107.63</b>	<b>5,138.40</b>	<b>13,969.23</b>	<b>6,321.01</b>	<b>1,226.02</b>	<b>5,094.98</b>
	Volumes contingencies	1,475.93	955.38	256.92	698.46	520.55	100.93	419.61
	Price contingencies	2,376.51	2,345.34	513.84	1,831.50	31.17	6.64	24.54
	<b>Total 1:</b>	<b>29,281.08</b>	<b>22,408.35</b>	<b>5,909.16</b>	<b>16,499.19</b>	<b>6,872.72</b>	<b>1,333.59</b>	<b>5,539.13</b>
	<b>VAT: (10%)</b>	<b>2,278.28</b>	<b>2,240.84</b>	<b>590.92</b>	<b>1,649.92</b>	<b>37.45</b>	<b>7.63</b>	<b>29.82</b>
	<b>Total 2:</b>	<b>31,559.36</b>	<b>24,649.19</b>	<b>6,500.08</b>	<b>18,149.11</b>	<b>6,910.17</b>	<b>1,341.22</b>	<b>5,568.95</b>
<b>C</b>	<b>Capitalized credit fees and interest during implementation</b>							
1	Front-end fee	48.75	48.75	-	48.75			
2	Commitment fee and Interest occurred during construction period	1,302.14	1,302.14	-	1,302.14			
	<b>Total 3:</b>	<b>1,350.89</b>	<b>1,350.89</b>	<b>-</b>	<b>1,350.89</b>	<b>-</b>	<b>-</b>	<b>-</b>
	<b>Cost estimate</b>	<b>32,910.26</b>	<b>26,000.08</b>	<b>6,500.08</b>	<b>19,500.00</b>	<b>6,910.17</b>	<b>1,341.22</b>	<b>5,568.95</b>
	<b>Rounded:</b>	<b>32,910.00</b>	<b>26,000.00</b>	<b>6,500.00</b>	<b>19,500.00</b>	<b>6,910.00</b>	<b>1,340.00</b>	<b>5,570.00</b>

**Table 5. Total AF Project Cost and Financing**

(US\$ million)

Name of subprojects	Original Cost	Original Financing		Actual Financing		Proposed AF		Updated project cost with AF	
		IDA	Counterpart funding	IDA	Counterpart funding	IDA/IDA SUF	Counterpart funding	IDA/IDA SUF	Counterpart funding
<b>Component 1: Urban Basic Upgrading and Service Improvement</b>									
1. Lao Cai	8,25	8,25		9,11		8,44	5,62	17,55	5,62
2. Phu Ly	3,86	3,86		3,21		5,49	0,47	8,70	0,47
3. Vinh	7,30	7,30		6,40				6,40	0,00
<i>Subtotal 1</i>	<i>19,41</i>	<i>19,41</i>	<i>0,00</i>	<i>18,72</i>	<i>0,00</i>	<i>13,93</i>	<i>6,09</i>	<i>32,65</i>	<i>6,09</i>
<b>Component 2: Urban Water Supply and Environmental Sanitation</b>									
1. Lao Cai	15,44	15,44		11,40	0,34	9,94	0,00	21,34	0,34
2. Phu Ly	14,35	14,35		8,93		7,17	2,64	16,10	2,64
3. Vinh	31,01	31,01		31,40				31,40	0,00
<i>Subtotal 2</i>	<i>60,80</i>	<i>60,80</i>	<i>0,00</i>	<i>51,73</i>	<i>0,34</i>	<i>17,10</i>	<i>2,64</i>	<i>68,83</i>	<i>2,98</i>
<b>Component 3: Urban Roads and Bridges</b>									
1. Lao Cai	16,56	16,56		17,77		0,87	0,00	18,64	0,00
2. Phu Ly	21,51	21,51		30,43		5,53	2,09	35,96	2,09
3. Vinh	27,80	27,80		26,60				26,60	0,00
<i>Subtotal 3</i>	<i>65,87</i>	<i>65,87</i>	<i>0,00</i>	<i>74,80</i>	<i>0,00</i>	<i>6,41</i>	<i>2,09</i>	<i>81,21</i>	<i>2,09</i>
<b>Component 4: Project Management Support and Technical Assistance</b>									
1. Lao Cai	5,18	3,98	1,20	5,04	1,20	1,04	0,90	6,08	2,10
2. Phu Ly	5,28	3,86	1,42	3,43	1,42	0,92	1,10	4,35	2,52
3. Vinh	7,64	5,89	1,75	4,80	1,57			4,80	1,57
<i>Subtotal 4</i>	<i>18,10</i>	<i>13,73</i>	<i>4,37</i>	<i>13,27</i>	<i>4,19</i>	<i>1,96</i>	<i>2,01</i>	<i>15,23</i>	<i>6,20</i>
<i>Land acquisition and resettlement</i>	<i>35,02</i>	<i>0,00</i>	<i>35,02</i>	<i>0,00</i>	<i>57,76</i>	<i>0,00</i>	<i>10,82</i>	<i>0,00</i>	<i>68,58</i>
1. Lao Cai	8,13		8,13		9,43		5,62	0,00	15,05
2. Phu Ly	7,08		7,08		9,48		5,20	0,00	14,68
3. Vinh	19,81		19,81		38,85			0,00	38,85
Total basis cost	199,20	159,81	39,39	158,52	62,29	39,40	13,34	197,92	85,94
Lao Cai	53,56	44,23	9,33	43,32	10,97	20,30	7,02	63,62	23,11
Phu Ly	52,08	43,58	8,50	46,00	10,90	19,11	6,32	65,11	22,41
Vinh	93,56	72,00	21,56	69,20	40,42	0,00	0,00	69,20	40,42
Contingencies	39,85	31,97	7,88	8,43	3,88	6,27	1,60	14,70	5,48
Lao Cai	10,72	8,85	1,87	1,99		2,97	1,05	4,96	1,05
Phu Ly	10,42	8,72	1,70	0,00	0,00	3,30	0,55	3,30	0,55
Vinh	18,71	14,40	4,31	6,44	3,88			6,44	3,88
Total cost before tax	239,03	191,75	47,27	168,65	66,17	45,67	14,94	214,32	81,11
Lao Cai	64,27	53,07	11,20	47,01	10,97	23,26	8,07	70,27	19,04
Phu Ly	62,49	52,29	10,20	46,00	10,90	22,41	6,87	68,41	17,77
Vinh	112,27	86,39	25,87	75,64	44,30			75,64	44,30
VAT	19,87	18,25	1,62	16,86	5,43	4,57	0,12	21,43	5,55
Lao Cai	4,43	4,43		4,70		2,33	0,08	7,03	0,08
Phu Ly	6,21	5,21	1,00	4,60	1,00	2,24	0,04	6,84	1,04
Vinh	9,23	8,61	0,62	7,56	4,43			7,56	4,43
Capitalized credit's fees and interest	0,00	0,00	0,00	0,00	0,00	2,76	0,00	2,76	0,00
Lao Cai						1,41		1,41	0,00
Phu Ly						1,35		1,35	0,00
Vinh								0,00	0,00
Total	258,90	210,00	48,89	185,51	71,60	53,00	15,06	238,51	86,66
Lao Cai	68,70	57,50	11,20	51,71	10,97	27,00	8,15	78,71	19,12
Phu Ly	68,70	57,50	11,20	50,60	11,90	26,00	6,91	76,60	18,81
Vinh	121,50	95,00	26,49	83,20	48,73			83,20	48,73

### Annex 3: Economic Analysis

1. The Additional Financing has two expected impacts on the continued economic justification of MCDP. First, the AF would help secure the economic benefits of subprojects that could not be completed (or completed in full) because of the financing gap arising from exchange rate losses. Second, the AF would increase the total economic benefits of the project, as the new sub-projects would generate net economic benefits in their own right and also enhance the benefits of MCDP sub-projects to which they are linked. An economic feasibility analysis was carried out for sub-projects proposed in Components 1, 2 and 3, using the methodology used for MCDP. In addition, the economic feasibility analysis for the MCDP Component 3 sub-projects was updated. This annex outlines the methodology and presents the results of the analyses; details of the analysis are available in the Project files.

#### Methodology and Key Assumptions

2. **Methodology.** For each sub-project, incremental quantifiable economic costs and benefits (i.e., the difference in costs and benefits between the “with sub-project” and “without sub-project” scenarios) were estimated for a benefit period of 20 years, starting in 2017 for sub-projects financed under MCDP, and starting in 2020 for sub-projects financed exclusively by the AF. A subproject was deemed economically feasible if its EIRR exceeded the economic opportunity cost of capital (EOCC).<sup>5</sup> Following a recently issued Bank guideline, EOCC was estimated at double the long-term per capita economic growth of Vietnam (i.e., at  $2 \times 5.0\% = 10\%$ ).<sup>6</sup> The robustness of the analyses was tested through sensitivity analysis, by assuming an increase in costs by 10%, a decrease in benefits by 10%, and a combination of these. Sensitivity indicators and switching values were also computed. Because the methodology for estimating net economic benefits is different for Component 3 than for the other two components, they are discussed separately.<sup>7</sup>

3. **Quantifiable economic benefits of Components 1 and 2.** The quantifiable economic benefits of investments in these components are shown in Table 1 below.

**Table 1: Unit Benefits of Component 1 and 2**

Type of Benefit	Benefit Driver	Unit	Lao Cai	Phu Ly
Health benefit	Improved infrastructure	US\$/person/year	13.2	16.0
Productive time saving	Improved infrastructure	US\$/person/year	16.7	20.2
Flood reduction	Improved drainage	US\$/person/year	31.4	25.4
Land appreciation*	Improved infrastructure	US\$/m <sup>2</sup>	7.6	5.0

Source: World Bank estimates (2016)

\* Only directly impacted land is taken into account; the increase constitutes about 5% of land baseline values.

4. The number of beneficiaries from Components 1 and 2 was estimated based on the estimated population in the first year of full operation, subject to the capacity of the relevant sub-projects; these are shown in Table 2 below.

<sup>5</sup> If the EIRR of a subproject exceeds the EOCC, the economic net present value (ENPV) of the subproject, discounted at the EOCC, will exceed zero. The statements “EIRR > EOCC” and “ENPV > 0” are thus equivalent.

<sup>6</sup> The recently issued guideline is *Discounting Costs and Benefits in Economic Analysis of World Bank Projects* (World Bank OPSPQ, May 2016). The long-term per capita growth rate was the unweighted average of Vietnam’s per capita economic growth rate during 2006-2015, according to Bank’s database (<http://data.worldbank.org>).

<sup>7</sup> A financial feasibility analysis was not carried out, because none of the activities to be financed from the proceeds of the AF would generate incremental financial revenue from tariffs or user charges.

**Table 2: Number of Beneficiaries (in ‘000) of Components 1 and 2\***

Project Town	<u>Component 1</u>			<u>Component 2</u>			TOTAL
	Direct	Indirect	Total**	Direct	Indirect	Total**	
Lao Cai	5.2	23.2	16.8	6.0	26.8	19.4	36.2
Phu Ly	3.0	3.0	4.5	12.0	12.0	18.0	22.5

Source: World Bank estimates (2016)

\* Number of beneficiaries per year upon completion of construction

\*\* Weighted number of beneficiaries (with indirect beneficiaries weighted at 0.5 of direct beneficiaries)

5. **Quantifiable economic benefits of Component 3.** At appraisal in November 2011, estimates were prepared for two main conventional economic benefits of road sub-projects: savings in vehicle operating costs (VOC) and savings in passenger travel time (VOT). VOC costs for project roads were estimated using the HDM4-VOC model with 2010 market prices for gasoline, lubricants, vehicles, and other parameters. In October 2016, VOCs were updated using parameter values for 2016. Similarly, estimates for average speed and the average value of passenger time were updated.

6. At appraisal, traffic demand was estimated using the JICA System for Traffic Demand Analysis (STRADA), a package for transport forecasting that is widely used in Vietnam. In October 2016, the same model was applied for traffic assignment of additional sub-projects. For evaluation purposes, each road sub-project was divided in sections that are broadly homogeneous in terms of road condition and traffic volume.

7. At appraisal in November 2011, the evaluation models used in the analysis compared “with project” and “without project” economic costs and benefits. Using the same method, economic benefits were evaluated using parameters that were updated in October 2016.

### Results of the Economic Analysis

8. **Table 3 summarizes the results of the economic analysis, including the results of the sensitivity analysis.** For all three components, the EIRR of investments to be financed from the proceeds of the AF (as well the original roads component) are higher than the estimated EOCC of 10%. The updated EIRRs for the sub-components are between 13.0 and 35.7%, compared to between 13.7 and 33.8% at MCDP appraisal.

9. **Sensitivity analysis.** The sensitivity indicator compares the percentage change in capital costs and project benefits with the percentage change in the NPV. It is, in effect, the elasticity of the EIRR with respect to the economic investment cost and economic benefits. The switching value is the percentage change in investment costs and project benefits for the NPV to become zero, i.e., for the EIRR to decrease to its minimum required value 10% (beyond which the sub-project ‘switches’ from being economically feasible to economically not feasible). As shown in Table 10, even if the assumed adverse changes would materialize, the EIRRs of all subprojects remain above the hurdle rate of 10%. In general, the net economic benefits of road sub-projects are higher than those of Components 1 and 2.

**Table 3: Results of Economic Analysis, October 2016\***

Subproject	Base Case		Sensitivity Analysis (Worst Case)**			
	EIRR (%)	ENPV (US\$ m)	EIRR (%)	ENPV (US\$ m)	SI	SV (%)
<b>Component 1: Urban Basic Infrastructure Upgrading and Service Improvement</b>						
Lao Cai City (AF)	15.0	3.2	12.1	1.4	-5.6	18.7
Phu Ly City (AF)	13.8	0.9	11.1	0.3	-7.0	12.0
<b>Component 2: Urban Water Supply and Environmental Sanitation</b>						
Lao Cai City (AF)	13.0	2.6	10.5	0.4	-8.3	14.5
Phu Ly City (AF)	20.6	7.4	17.3	5.3	-2.8	41.7
<b>Component 3: Urban Roads and Bridges</b>						
Lao Cai City						
- Road D1 (Nov11)	16.1	9.3	13.6	3.7	3.4	29.3
- Road D1 (Oct16)	16.7	18.6	14.1	11.9	2.5	40.0
- Ngoi Dum Bridge (AF)	35.7	1.6	30.3	1.3	1.4	73.7
Phu Ly City						
- Road D4N7 (Nov11)	20.9	22.7	18.2	16.1	2.1	48.7
- Road D4N7 (Oct16)	19.2	30.7	16.7	23.2	2.1	47.3
- Tran Hung Dao Road (AF)	16.4	8.4	12.7	3.5	4.6	21.7
Vinh City						
- Vinh-Hung Tay Road (Nov11)	14.6	5.8	12.0	0.0	4.3	23.4
- Vinh-Hung Tay Road (Oct16)	14.2	12.1	11.9	5.5	3.0	33.0
- Lam Riverside Road (Nov11)	18.1	7.2	13.4	1.5	2.7	36.2
- Lam Riverside Road (Oct16)	17.5	9.9	14.0	5.4	2.4	41.9

Source: World Bank estimates (2016), based on PMU records.

\* EIRR: economic internal rate of return; ENPV: economic net present value; SI: sensitivity indicator; SV: switching value

\*\* Defined as a 10% increase in investment cost and 10% decrease in benefits relative to the base case.