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INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED LOAN

IN THE AMOUNT OF US\$200 MILLION

IBRD FINANCING WITH THE CONCESSIONAL FINANCING FACILITY SUPPORT

TO THE

LEBANESE REPUBLIC

FOR A

ROADS AND EMPLOYMENT PROJECT

January 24, 2017

Transport and ICT
Middle East and North Africa

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CURRENCY EQUIVALENTS

Exchange Rate Effective December 31, 2016

Currency Unit = Lebanese Pounds (LBP)

LBP 1508.09 = US\$1

FISCAL YEAR

January 1 – December 31

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ABBREVIATIONS AND ACRONYMS

ARAP	Abbreviated Resettlement Action Plan
CDR	Council for Development and Reconstruction
CFF	Concessional Financing Facility
CPF	Country Partnership Framework
DA	Designated Account
ECOP	Environmental Codes of Practice
EIRR	Economic Internal Rate of Return
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
FBS	Selection Under a Fixed Budget
FM	Financial Management
FO	Financial Officer
GDP	Gross Domestic Product
GOL	Government of Lebanon
GRS	Grievance Redress Service
GRSF	Global Road Safety Facility
ILO	International Labour Organization
IPSAS	International Public Sector Accounting Standards
IRAP	International Road Assessment Program
IRI	International Roughness Index
ISF	Internal Security Forces
IUFR	Interim Unaudited Financial Report
LCS	Least-Cost Selection
MENA	Middle East and North Africa
MoF	Ministry of Finance
MPWT	Ministry of Public Works and Transport
NPV	Net Present Value
NRSC	National Road Safety Council
OP	Operational Policy
PDO	Project Development Objective
PFS	Project Financial Statement
PIM	Project Implementation Manual
PIU	Project Implementation Unit
PPSD	Project Procurement Strategy for Development
QCBS	Quality-and-Cost-Based Selection
RAP	Resettlement Action Plan
RPF	Resettlement Policy Framework

SAP	Safeguards Action Plan
SNRSC	Secretariat of the National Road Safety Council
SOE	Statement of Expenditure
UNHCR	United Nations High Commissioner for Refugees
UTDP	Urban Transport Development Project
VAT	Value-added Tax
WA	Withdrawal Application
WEF	World Economic Forum
WHO	World Health Organization



BASIC INFORMATION

Is this a regionally tagged project? No	Country(ies)	Lending Instrument Investment Project Financing
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Situations of Urgent Need of Assistance or Capacity Constraints

Financial Intermediaries

Series of Projects

Approval Date 06-Feb-2017	Closing Date 30-Jun-2022	Environmental Assessment Category B - Partial Assessment
Bank/IFC Collaboration No		

Proposed Development Objective(s)

The Project Development Objectives (PDOs) are to: (i) improve transport connectivity along select paved road sections; and (ii) create short term jobs for Lebanese and Syrians.

Components

Component Name	Cost (US\$, millions)
Component 1: Roads Rehabilitation and Maintenance	185.00
Component 2: Improving Road Emergency Response Capacity	7.50
Component 3: Capacity Building and Implementation Support	7.50

Organizations

Borrower : Lebanese Republic

Implementing Agency : Council for Development and Reconstruction

Safeguards Deferral



Will the review of safeguards be deferred?

Yes No

PROJECT FINANCING DATA (IN USD MILLION)

<input type="checkbox"/> Counterpart Funding	<input checked="" type="checkbox"/> IBRD	<input type="checkbox"/> IDA Credit <input type="checkbox"/> Crisis Response Window <input type="checkbox"/> Regional Projects Window	<input type="checkbox"/> IDA Grant <input type="checkbox"/> Crisis Response Window <input type="checkbox"/> Regional Projects Window	<input checked="" type="checkbox"/> Trust Funds	<input type="checkbox"/> Parallel Financing
Total Project Cost: 200.00		Total Financing: 200.00		Financing Gap: 0.00	
		Of Which Bank Financing (IBRD/IDA): 154.60			

Financing (in US\$, millions)

Financing Source	Amount
Concessional Financing Facility	45.40
IBRD-87050	154.60
Total	200.00

Expected Disbursements (in US\$, millions)

Fiscal Year	2017	2018	2019	2020	2021	2022
Annual	20.00	50.00	60.00	30.00	20.00	20.00
Cumulative	20.00	70.00	130.00	160.00	180.00	200.00



INSTITUTIONAL DATA

Practice Area (Lead)

Transport & ICT

Contributing Practice Areas

Gender Tag

Does the project plan to undertake any of the following?

a. Analysis to identify Project-relevant gaps between males and females, especially in light of country gaps identified through SCD and CPF

Yes

b. Specific action(s) to address the gender gaps identified in (a) and/or to improve women or men's empowerment

Yes

c. Include Indicators in results framework to monitor outcomes from actions identified in (b)

Yes

SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)

Risk Category	Rating
1. Political and Governance	● Substantial
2. Macroeconomic	● Substantial
3. Sector Strategies and Policies	● Moderate
4. Technical Design of Project or Program	● Moderate
5. Institutional Capacity for Implementation and Sustainability	● Substantial
6. Fiduciary	● Moderate
7. Environment and Social	● Substantial
8. Stakeholders	● Substantial
9. Other	
10. Overall	● Substantial



COMPLIANCE

Policy

Does the project depart from the CPF in content or in other significant respects?

Yes No

Does the project require any waivers of Bank policies?

Yes No

Safeguard Policies Triggered by the Project

Yes No

Environmental Assessment OP/BP 4.01

✓

Natural Habitats OP/BP 4.04

✓

Forests OP/BP 4.36

✓

Pest Management OP 4.09

✓

Physical Cultural Resources OP/BP 4.11

✓

Indigenous Peoples OP/BP 4.10

✓

Involuntary Resettlement OP/BP 4.12

✓

Safety of Dams OP/BP 4.37

✓

Projects on International Waterways OP/BP 7.50

✓

Projects in Disputed Areas OP/BP 7.60

✓

Legal Covenants

Sections and Description

1. The Project Implementing Entity (“PIE”) shall not later than (2) months after the Effective Date, establish and thereafter maintain, at all times during the implementation of the Project, the Project Implementation Unit (“PIU”).

Sections and Description

2. The Project Implementing Entity shall not later than (1) month after the Effective Date prepare a project implementation manual.



Sections and Description

3. The Project Implementing Entity shall not later than (6) months after the Effective Date, recruit and thereafter maintain an external auditor, with qualifications and terms of reference acceptable to the Bank.

Sections and Description

4. The Project Implementing Entity shall not later than (1) month after Effective Date submit, a comprehensive list of targeted primary, secondary and tertiary roads, satisfactory to the Bank.

Sections and Description

5. The Project Implementation Entity shall not later than (1) month after the Effective date, prepare in form and substance acceptable to the Bank, an ESMF.

Sections and Description

6. The Project Implementation Entity shall not later than (1) month after the Effective date, prepare in form and substance acceptable to the Bank, a Resettlement Policy Framework (“RPF”) setting forth the modalities for resettlement and compensation of Affected Persons under the Project.

Sections and Description

7. no withdrawal shall be made:

(a) for payments made prior to the date of the loan agreement signing, except that withdrawals up to an aggregate amount not to exceed US\$20,000,000 may be made for payments made prior to this date but on or after March 15, 2017, for Eligible Expenditures; or

(b) from the Loan Account unless each withdrawal is made on a pari passu basis and at a 77.25%:22.75% ratio between the amount of the non-concessional portion of the loan allocated and the amount of the concessional portion of the loan allocated.

**Conditions**

Type
Effectiveness

Description

That the Subsidiary Agreement has been executed on behalf of the Borrower and the Project Implementing Entity.

PROJECT TEAM**Bank Staff**

Name	Role	Specialization	Unit
Ziad Salim EL Nakat	Team Leader(ADM Responsible)		GTI05
Lina Fares	Procurement Specialist(ADM Responsible)		GGO05
Rima Abdul-Amir Koteiche	Financial Management Specialist		GGO23
Abdulhakim Ali Ahmed Al-Aghbari	Team Member		GTI05
Andrianirina Michel Eric Ranjeva	Team Member		WFALN
Chaogang Wang	Team Member		GSU05
Christine Makori	Counsel		LEGAM
Colin Andrews	Team Member		GSP01
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Haneen Ismail Sayed	Team Member		MNC02
Khalid Boukantar	Team Member	Team Assistant	GTI05
Konjit Negash Gebreselassie	Team Member		GTI08
May Ibrahim	Team Member		MNC02
Mei Wang	Team Member		LEGAM
Michelle P. Rebosio Calderon	Safeguards Specialist		GSU05
Mouna Couzi	Team Member		MNCLB
Nabil Samir	Team Member		GTI05



Rene Antonio Leon Solano	Team Member		GSP05
Rock Jabbour	Team Member		GGO23
Rodrigo Archondo-Callao	Team Member		GTI03
Rola Assi	Team Member	Team Assistant	MNCLB
Saba Nabeel M Gheshan	Team Member		LEGAM
Sepehr Fotovat Ahmadi	Team Member		GGO05

Extended Team

Name	Title	Organization	Location
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LEBANON
ROADS AND EMPLOYMENT PROJECT

TABLE OF CONTENTS

ABBREVIATIONS AND ACRONYMS	3
I. STRATEGIC CONTEXT	10
A. Country Context	10
B. Sectoral and Institutional Context	12
C. Higher Level Objectives to which the Project Contributes	17
II. PROJECT DEVELOPMENT OBJECTIVES	19
A. PDO.....	19
B. Project Beneficiaries.....	19
C. PDO-Level Results Indicators.....	20
III. PROJECT DESCRIPTION	20
A. Project Components.....	20
B. Project Cost and Financing	25
C. Lessons Learned and Reflected in the Project Design	26
IV. IMPLEMENTATION	28
A. Institutional and Implementation Arrangements.....	28
B. Results Monitoring and Evaluation	29
C. Sustainability	30
D. Role of Partners.....	32
V. KEY RISKS	32
A. Overall Risk Rating and Explanation of Key Risks.....	32
VI. APPRAISAL SUMMARY	34
A. Economic and Financial (if applicable) Analysis.....	34
B. Technical.....	37
C. Financial Management.....	37
D. Procurement	38
E. Social (including Safeguards).....	39
F. Environment (including Safeguards)	41



G. Other Safeguard Policies.....	42
H. World Bank Grievance Redress.....	42
VII. RESULTS FRAMEWORK AND MONITORING	43
ANNEX 1: DETAILED PROJECT DESCRIPTION	51
ANNEX 2: IMPLEMENTATION ARRANGEMENTS.....	56
ANNEX 3: IMPLEMENTATION SUPPORT PLAN.....	65
ANNEX 4: SAFEGUARD ACTION PLAN (SAP)	68



I. STRATEGIC CONTEXT

A. Country Context

1. **Lebanon is a small open country—culturally, politically and economically—of upper middle-income status with a population of 4.5 million people in 2015, not taking into account the approximate 1.5 million Syrian refugees and 450,000 Palestinian refugees residing in the country.** Lebanon's diverse sectarian make up has, at the best of times, served as a conduit for cultural and religious variety as well as socio-political liberties, and at worst, accentuated domestic linkages to regional and international conflicts resulting in civil strife. Lying at the epicenter of one of the most volatile regions in the world, Lebanon is continuously exposed to sizable political and security shocks but has developed a level of resilience that is difficult for outsiders to envisage. This resilience, however, is not a guarantee against internal tensions, as evidenced by the devastating civil war that lasted from 1975 to 1990 and fundamentally altered conditions across sectors—governance, infrastructure, and the macro-economy—compromising the country's development path.¹

2. **Real gross domestic product (GDP) growth for 2016 was estimated at 1.8 percent, reflecting the impact of regional turmoil and the absence of reforms.** Since the end of the civil war, the Lebanese economy has expanded at a moderate pace, but with high volatility due to frequent shocks. While real GDP grew by an estimated 4.8 percent on average from 1993 to 2015, the volatility around that average was large at 3.7 percent (one standard deviation). The services sector—historically a key growth driver²—has been severely impacted by the Syria conflict and has contributed significantly to Lebanon's low growth in recent years. Tumbling growth since 2011 and the large fiscal burden associated with Syrian refugees' access to public services and infrastructure have pushed the debt-to-GDP ratio higher again (around 140 percent as of end-2015), resulting in a marked deterioration of the country's macroeconomic environment. Meanwhile, the growth outlook remains subdued given the ongoing conflict in Syria and the domestic political impasse. The World Bank projects real growth between 2 to 2.5 yearly over the medium term.

3. **Lebanon faces stark and pressing development challenges, however, the reform efforts to improve the quality of institutions and promote growth have been limited.** The difficulty in reaching consensus in Lebanon delays decision-making processes and leaves Lebanon vulnerable to external influences. This has left important economic reforms and projects unaddressed, and has resulted in missed reform opportunities especially since in many cases the technical solutions are well known. This is clearly visible in the deteriorating infrastructure sectors, the poor quality of public institutions and service delivery, and a challenging macroeconomic environment.

4. **Lebanon's pressing reform and development needs are particularly evident in its very poor infrastructure which represents a key constraint to growth.** Despite being an upper middle-income country, Lebanon's infrastructure is in a very bad condition. According to the World Economic Forum's

¹ The World Bank Group. Lebanon Country Partnership Framework (CPF). 2016.

² Between 1997 and 2011—latest utilized final national accounts—the services sector accounted for an average of 74 percent of real GDP.



(WEF) Competitiveness Index,³ Lebanon's infrastructure is the second main constraint to growth and its supply and quality is materially below various sets of comparator countries. Among the nine infrastructure sub-indicators WEF uses, Lebanon has two among the bottom 10 percent of world ranking (out of 144 countries) and four are at the bottom 25 percent of the world. Specifically, for the quality of electricity supply, Lebanon ranks as the second worst country in the world, while it ranks 120th for quality of roads, and 114th for mobile phone subscriptions.

5. **Meanwhile neighboring Syria is suffering the biggest conflict and the worst humanitarian and refugee crisis of the 21st century, with large regional and global ramifications and spillover effects.** The conflict in Syria, which started in 2011, is currently the largest active conflict in the world, involving and impacting multiple regional and global players, and resulting in massive destruction and the largest refugee crisis of this century. According to the United Nations High Commissioner for Refugees (UNHCR), the number of registered Syrian refugees in 2016 reached 4.8 million. There are currently an estimated 2.7 million Syrian refugees in Turkey, 1 to 1.5 million in Lebanon,⁴ and 0.7 to 1 million in Jordan. In addition, according to estimates, there are about 8.7 million internally displaced Syrians in 2016. Hence, for a population of about 22 million before the war, it is estimated that about 60 percent of Syria's population is displaced (refugees and internally displaced), representing a massive humanitarian crisis. While some of the refugees in neighboring countries live in camps, the majority of refugees live generally in difficult conditions within various urban and rural host communities, putting excessive strains on existing infrastructure and services within these communities. The incapacity of neighboring countries to deal with such large influx of refugees, in addition to the refugees' search for safety and better livelihood, have been driving a large number of refugees to migrate formally and informally to global destinations, particularly in Europe. UNHCR estimates the number of Syrians seeking asylum in 2016 at about 1 million. The Syria crisis has therefore become a major regional and global challenge requiring concerted global efforts to seek political, developmental, and humanitarian solutions.

6. **The Syrian refugee crisis has resulted in unprecedented social and economic challenges to Lebanon, putting further stains on its decaying infrastructure.** Lebanon hosts 450,000 Palestinian refugees and the conflict in Syria has brought an additional 1.5 million Syrian refugees, placing Lebanon as the country with the highest number of refugees per capita in the world at an estimated one-third of the country's population. This dramatic surge in population is putting a strain on the country's resources, public services, and infrastructure. The fiscal costs related to the Syria crisis have also been considerable, amounting to an estimated US\$2.6 billion over the 2012–2014 period alone.⁵ This situation poses the risk of further destabilizing the country's fragile political, social, and economic situation. As the influx of Syrian refugees continues to increase, the capacity of the existing and decaying infrastructure will no longer be sufficient to meet the excess demand, and urgent public investments will be needed – imposing further and potentially substantial burdens on Lebanon's already stretched public finances. In the road sector alone, the investment needs to cope with the influx of Syrian refugees are estimated at about US\$50 million per year for road rehabilitation and road capacity increase.

³ World Economic Forum. Global Competitiveness Index 2014/2015.

⁴ UNHCR refers to 1 million registered Syrian refugees in Lebanon, however, there are many Syrians in Lebanon who have not registered as refugees, bringing the estimated number of total Syrians in Lebanon to about 1.5 million.

⁵ The World Bank. Lebanon Economic and Social Impact Assessment of the Syrian Conflict. 2013.



7. **Meanwhile, the Syria conflict has also exacerbated the labor market situation.** Since the refugee influx, the labor force in Lebanon increased by as much as 35 percent. Because of the low level of education of the Syrian refugees - 87 percent of working age refugees have less than a secondary level education - the refugee crisis has also led to an oversupply of low skilled workers and to an increase in informality. Almost all Syrian refugees are working informally. The construction sector is the second largest employer of Syrian refugees in Lebanon (24.1 percent), after household work (26.5 percent), and is followed by wholesale/retail (11.1 percent), manufacturing (10.6 percent), agriculture (9.1 percent), food and beverages (4.9 percent), and others. The lack of opportunities for unskilled and low-skilled Lebanese and refugee workers is important, given that unemployment that affects specific social groups more than others (in this case refugees and lower-skilled Lebanese males, and youth within both groups) can lead to inter-group grievances that in turn fuel extremism and conflict.

8. **To weather the crisis, Lebanon is adopting a two-pronged approach aimed at programs to stimulate the economy and create jobs, while meeting Lebanon's longer-term development needs particularly in the infrastructure sectors.** Given the slowing economy and the impact of the Syria conflict, Lebanon is in urgent need to rapidly inject investments to stimulate its economy and create jobs as the presence of a large number of unskilled and unemployed Lebanese and Syrians has a significant negative social, economic, and security impacts that could further destabilize the country. The Government of Lebanon's (GOL) strategy is to rapidly increase its public investments in key sectors, particularly the infrastructure sectors, to stimulate the economy and create jobs while also meeting its longer-term development needs therefore ensuring the sustainability of these investments. The GOL has therefore put in place a priority investment program of about US\$2.5 billion primarily focused on the infrastructure sectors, especially energy and transport. The transport sector's share of the program is about US\$1 billion, of which about US\$510 million for improving the main road network given its bad condition and its high importance for the development of regions and local economies, and for the rapid creation of jobs.

B. Sectoral and Institutional Context

9. **The road network in Lebanon is generally in poor condition due to years of underinvestment and inefficient spending.** The Lebanese road network consists of a total of about 21,705 km of roads. The main (or national) road network consists of about 6,380 km of mostly paved roads classified as: (a) International Roads (529 km), (b) Primary Roads (1,673 km), (c) Secondary Roads (1,367 km), and (d) Internal Roads (2,811 km). Municipal and other local roads are also mostly paved and represent the remaining 15,325 km of the Lebanese road network. While there is no accurate survey of road conditions (the last survey was done in 2000) the Ministry of Public Works and Transport (MPWT) estimates that about 15 percent of the main network is in good condition, 50 percent in fair condition, and 35 percent in poor condition. The condition of the road network is hindering local economic development particularly in rural and lagging regions where the condition of the main network is worse than the national average.

10. **Road rehabilitation needs have been heightened by the influx of Syrian refugees, which has substantially increased traffic demand and the utilization of the road network.** Refugees are meeting their mobility needs using small motorbikes, purchasing second hand vehicles, and/or using existing public transport such as minibuses and taxis. Due to different income levels, the number of trips generated by a given population of Syrian refugees is generally lower than the number of trips generated by an equal population of a host community. Nevertheless, traffic increase has been sharp, in the range of 15 to 20



percent nationally, with regions of high concentration of refugees witnessing much higher increases. It is also worthwhile noting that the composition of traffic generated by refugees includes a larger share of heavy trucks carrying supplies, equipment, and construction materials, which cause disproportionately higher damage to the roads. It is estimated that the influx of refugees have increased the rehabilitation and upgrade needs of the road network by about US\$50 million yearly.⁶

11. The road network is primarily managed by the MPWT and by the Council for Development and Reconstruction (CDR). Several agencies are involved in the management of the network. The main road network is under the responsibility of the MPWT. Meanwhile, given CDR's capacity in executing large projects, it is usually entrusted at the request of the Council of Ministers with the construction and maintenance of international roads and some of the primary roads. At the municipal and local level, the delineation of the road sector's responsibilities between the MPWT and municipalities remain unclear in many cases. MPWT is often compelled, by request from municipalities or in response to political pressure, to manage the construction and maintenance of a significant portion of the municipal and local road networks given the lack of adequate financial and human resources in the municipalities. This diverts important resources from MPWT's budget (about 25 percent) that is allocated for the management of the national network.

12. Weak capacity and the absence of asset management tools further undermine the proper preservation and maintenance of Lebanon's road network. The selection and prioritization of road construction and maintenance is generally done based on political preferences, rather than adequate road asset management. While an advanced asset management system was installed in the 1990s, it was not used since year 2001 for road works prioritization. Government agencies generally do not have the capacity or in-house equipment to directly undertake road works, with the exception of a small number of equipment used by MPWT for emergency repairs and for snow removal. This applies to both maintenance and new construction, which are instead executed by local contractors under the supervision of CDR and/or MPWT's offices in the regions (Muhafazat). While the capacity of local contractors is generally adequate, the works are rarely executed to high quality standards due to the lack of financial resources (which oblige to build to lower standards and subsequently do more repairs), poor design and supervision, political interference and procurement inefficiencies. The substantial lack of resources, the lack of incentives, and the strong political interference in the road sector have largely limited the capacity of MPWT and CDR to properly manage the road network and prioritize investment resources.

13. Inadequate investments and poor road maintenance have also resulted in a large maintenance backlog, a serious deterioration in road quality, and costly repairs. In the past decade, Lebanon did not spend enough on road maintenance to sustain its main road network at acceptable standards of quality. It is estimated that about US\$1.3 billion are needed today to remove all backlog rehabilitation and maintenance on the main network alone. During 2008-2012, the MPWT has significantly increased its spending on road maintenance from US\$39 million in 2008 to US\$175 million in 2012, while CDR's expenditures in the road sector have almost doubled during the same period, from US\$110 million in 2008 to US\$210 million in 2012, of which about one third for urban roads construction and maintenance in Greater Beirut. Road expenditures, however, have substantially decreased after 2012 (estimated at about US\$70 million for MPWT in 2016) given the country's deteriorating fiscal and political conditions. Road

⁶ The World Bank. Lebanon Economic and Social Impact Assessment of the Syrian Conflict. 2013.



works are generally financed from either the budget or borrowing. Although road transport is already costly as Lebanon has relatively high taxes on gasoline and on vehicle registration, these taxes are not dedicated or linked to expenditures in the road sector and are mainly used to reduce the gap in the national fiscal balance. The legacy of underinvestment and poor maintenance has also resulted in costly retrofitting of the network with little resources allocated to routine and periodic maintenance, therefore increasing inefficiency of expenditures.

14. **Weak road safety management, including poor road infrastructure quality, together with bad behavior and lack of enforcement, has had detrimental effects on road safety in Lebanon.** Lebanon road safety record is among the worst globally. Traffic related accidents and injuries have been increasing at a high rate in the past few years, from 508 fatalities and 6,050 injuries in 2012 to 655 fatalities and 6,472 injuries in 2014, as reported by the Internal Security Forces (ISF). These figures cover all accidents in Lebanon, including those involving Syrians. Syrians in Lebanon have witnessed a particularly sharp increase in their reported fatalities between 2012 and 2014, from 52 fatalities to 162 fatalities. The ISF's figures however are widely considered to be underreported. The World Health Organization (WHO) estimates the total number of road traffic fatalities in Lebanon in 2015 at 1,088 and the associated economic cost between 3 to 5 percent of GDP, higher than most other countries in the world.⁷

15. **To deal with increasing road traffic and safety challenges, the Lebanese Parliament has passed in October 2012 a new and modern traffic law.** Several key actions of the law are now under implementation, in particular the creation of the National Road Safety Council (NRSC) chaired by the Prime Minister and with the participation of relevant ministers (Ministers of Interior, Transport and Public Works, Education, and Justice). The NRSC held its first working meeting in December 2015. The Secretariat of the National Road Safety Council (SNRSC) was also established in December 2015 as a technical secretariat to support the Council. The SNRSC is now active with an operating budget and has been reaching out to donors for technical and financial support to develop and implement road safety measures.

16. **The GOL is also putting in place a US\$510 million investment program to improve the condition and capacity of the road network over the next five years.** A five-year program estimated at US\$510 million is planned to improve road condition and safety and to create short-term employment (table 1). Given the largely adequate extent and coverage of the road network in Lebanon, the focus of the program is primarily on the rehabilitation of the existing main network (primary, secondary, and tertiary roads), while possibly widening and upgrading select road sections, at later stages, to accommodate the increased traffic demand. The GOL is looking to finance this program with assistance from the donor community to benefit from international experience in road sector reforms, including road works prioritization, asset management techniques, and road safety; which will significantly improve the efficiency of road sector expenditures, and will put in place sustainable mechanisms for proper road asset preservation.

17. **Investing in the road sector will also create jobs, as the road sector creates the highest number of jobs among infrastructure investments in the Middle East and North Africa (MENA) region.** A World Bank study estimates that for every US\$1 billion invested in road and bridge construction in different countries in the MENA region, between 100,000 to 650,000 direct, indirect, and induced jobs are created.

⁷ WHO. Global Road Safety Status Report. 2015.



The study also shows that for a similar level of US\$1 billion investment per sector, road investments create the highest number of jobs among all infrastructure sectors (table 2).⁸ A recent study by the International Labor Organization (ILO) that assessed the employment impact of infrastructure projects in MENA also confirms that roads and transport projects create jobs.⁹ The study found that the direct labor content, as a percentage of contract value, was the highest for transport projects (13 to 21 percent), followed by environment (1 to 19 percent), then sanitation (4 to 11 percent) and energy (3 to 11 percent), despite these projects being highly mechanized (table 3). The study also found that direct jobs created by transport projects represent only about 50 to 60 percent of total jobs, with the remaining jobs being created in the supply chain industries and other induced economic activities. While the labor content of infrastructure projects is rarely above 25 percent, the large size of these projects and their ability to disburse within a short to medium period of time create a large number of jobs. The ILO study also found that laborers represent about 70 percent of total number of employees/jobs created and that there is roughly an equal split between permanent and temporary jobs in construction as contractors prefer to retain their supervisory staff and skilled laborers such as masons and bar-benders.

Table 1. Planned Lebanon Roads Rehabilitation and Upgrade Government Program

	Cost in US\$, millions					
	Phase I			Phase II		
	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Roads Rehabilitation and Equipment	78	108	108	53	53	400
Roads Upgrade				50	50	100
Capacity Building	2	2	2	2	2	10
Total	80	110	110	105	105	510

Table 2. Number of Direct, Indirect, and Induced Jobs Generated per US\$1 Billion of Spending in Various Infrastructure Sectors

Construction							
	Electricity	Building	Roads and Bridges	Water and Sewage	Electricity Stations	Others	Transport and Communications
Djibouti	86,000	105,000	654,000	254,000	122,000	120,000	59,000
Egypt	46,000	56,000	350,000	136,000	65,000	64,000	31,000
Jordan	25,000	30,000	189,000	73,000	35,000	34,000	17,000
Lebanon	13,000	16,000	97,000	38,000	18,000	18,000	9,000
Morocco	37,000	73,900	283,000	109,000	52,000	52,000	25,000
Tunisia	28,000	34,000	210,000	81,000	39,000	38,000	19,000

⁸ The World Bank. Infrastructure, and Employment Creation in the Middle East and North Africa. 2013.

⁹ ILO. Employment impact of European Investment Bank infrastructure investments in the Mediterranean Partner Countries, Executive Summary. June 2015.



Table 3. Technology Choice and Wage Proportion of Total Costs¹⁰

Transport	Energy	Sanitation	Environment
Mainly equipment-based operation, but potential for increase of labor, particularly in rural areas	High technology requiring specialists in larger numbers, potential for more engagement of women	Mainly equipment-based operation, but potential for increase of labor in urban settings	Mainly high technology requiring specialist inputs, alternative fuels (reuse of waste) have a high labor component
13 to 21%	3 to 11%	4 to 11%	1 to 19%

18. **The influx of Syrian refugees has exacerbated the challenges Lebanon was facing before the Syria conflict in providing adequate job opportunities.** Even before the crisis, economic growth did not translate into sufficient job creation. Between 1997 and 2009, employment growth elasticity was only 0.2, lower than that of other countries in the region. Insufficient job creation is one of the main causes of persistently high unemployment rates, estimated at 11 percent in 2009, and as high as 20 percent by the end of 2014. The majority of jobs created in Lebanon are in low productivity sectors. Between 2004 and 2009, the main contributors to net job creation were trade (61 percent) and low productivity services sectors (33 percent), followed by construction (10 percent). The Syria conflict has exacerbated the job and labor market situation. Since the refugee influx, the labor force in Lebanon increased by as much as 35 percent. Lebanese male labor force participation and employment rates have fallen by 3 percentage points since 2010. As mentioned earlier, because of the low level of education of the Syrian refugees - 87 percent of working age refugees have less than a secondary level education - most joined the supply of low skilled workers, and informality has increased as a result.

19. **The road construction sector has historically been a major employer for the low skilled Lebanese and Syrians in Lebanon.** Before the Syria conflict, the construction sector employed more than 100,000 workers (approximately 10 percent of the labor force). The construction sector is also the second largest employer of Syrian refugees in Lebanon (24.1 percent), after household work (26.5 percent). The employment of Syrians in the construction sector does not displace the Lebanese labor force since over the past decade, the skilled labor force in construction has been Lebanese while the unskilled labor force has been generally Syrian. In poorer areas of Lebanon, the unskilled labor force in the construction sector include a broader mix of Lebanese and Syrians. It is important to note that substantial supply chain jobs are also created in supporting industries and services (quarries, cement, trucking), which employ low skilled Lebanese and Syrians. Road investments also generate broader socio-economic benefits in terms of improved access to markets and services for the host and refugee communities.

20. **Lebanese labor regulations allow for Syrians to work in construction, agriculture, and cleaning services.** As mentioned above, Syrian workers have historically been the backbone of the construction labor force, especially for low skilled tasks. In light of the large influx of Syrians following the crisis, the Ministry of Labor has issued a decision¹¹ to define and restrict the jobs that can only be occupied by Lebanese. The article 2 of this decision explicitly exempts Syrians working in construction, cleaning, and

¹⁰ ILO. Employment impact of European Investment Bank infrastructure investments in the Mediterranean Partner Countries, Executive Summary. June 2015.

¹¹ Ministry of Labor Decision reference 197/1 of December 2014.



agriculture from these restrictions therefore allowing Syrians to work in these three sectors. The above decision confirms a situation that pre-existed the Syria crisis, and which continues today, where Syrians represent a large part of the workforce in the three above-mentioned sectors.

21. **A US\$100 million investment in road works is expected to create 500,000 to 750,000 labor-days of direct short-term jobs for Lebanese host communities and Syrian refugees in Lebanon.** An ongoing joint World Bank-ILO assessment estimates that about 500,000 labor-days of short-term direct jobs are created for every US\$100 million invested in roads. These figures were estimated based on actual road contracts within the Greater Beirut region. A similar road investment in rural areas, where wages and cost of living are lower, is expected to create a higher number of jobs in the range of 750,000 labor-days. In addition, and while difficult to estimate with confidence, about 100,000 to 500,000 labor-days of indirect and induced jobs will also be created (production of construction materials at local shops and factories, transportation of materials, maintenance of equipment). While having very high labor-intensive projects is difficult in an upper middle-income country like Lebanon given existing modern construction practices, the labor content of construction projects in Lebanon could be increased if additional necessary civil works such as culverts and drainage, retaining walls, and sidewalks are included. Meanwhile, routine maintenance have the highest labor content for road works and is essential to increase the durability and efficiency of roads investments. An important dimension for job creation programs, especially in the emergency context, is to execute projects in a relatively short period of time therefore benefiting more people (a form of “cash transfer” involving more beneficiaries) rather than creating fewer permanent jobs over a long implementation period.

22. **Investing in the rehabilitation of the road network in Lebanon therefore leads to several important results.** Such investments: (a) meet the development needs of the Lebanese economy and strengthen the government presence and its commitments to lagging regions; (b) allow the quick injection of investments to stimulate the economy and contribute to political stability and social cohesion; (c) provide substantial direct and indirect employment opportunities for low skilled Lebanese and Syrians in the poorer communities; (d) benefit both the Lebanese host communities and the Syrian refugees in terms of improved access to markets and services; and (e) can have a wide coverage in the different regions of Lebanon therefore benefiting a wide spectrum of communities, including in the lagging regions.

C. Higher Level Objectives to which the Project Contributes

23. **This project is designed to meet Lebanon’s developmental needs in the road sector while also stimulating the economy and creating jobs.** The project design follows a “win-win” rationale to help Lebanon meet its important needs in the infrastructure and road sectors, and to create jobs for Lebanese and Syrians therefore easing the economic and social pressures from the Syrian refugee crisis. This project also highlights Lebanon’s continuous efforts to weather the Syrian refugee crisis, and the country’s increasing needs for assistance from the international community to support it in providing a global public good.

24. **The project was prepared under the World Bank’s condensed procedures to meet Lebanon’s urgent needs to stimulate its economy and create jobs, and to contribute to the easing of social and political tensions.** Lebanon’s political, economic, and social conditions have been gradually and significantly eroding since the beginning of the Syria crisis, and have now reached quite difficult levels



with low GDP growth, high unemployment, increasing political paralysis, and increased social and security tensions. The risk of the country destabilizing under these pressures has been substantially increasing, therefore requiring immediate actions. To timely respond to these challenges and quickly inject much needed investments to stimulate economic growth and create jobs, this project was prepared and will be implemented according to paragraph 12 of the World Bank's Operational Policy (OP) 10.00 (*projects in situations of urgent need of assistance or capacity constraints*). The evolving situation in Lebanon reflects both the impact of conflict (in neighboring Syria) and of a man-made disaster (resulting from the influx of refugees fleeing the conflict) – two of the specific situations that the provisions were developed to address. Activities in the range of US\$60 million (about 30 percent of the loan) are expected to be committed and start disbursing in the first year of the project implementation resulting in the initiation of the rehabilitation of about 100 km of roads, creating about 300,000 to 500,000 labor-days of jobs in the first couple of years. While most project investment activities are expected to be undertaken within the first two to three years of the project implementation, additional important institutional activities linked to the reform and sustainability of the sector, including capacity building and development of the road maintenance system will require additional time to materialize therefore justifying a five-year project implementation period. This is particularly necessary for routine maintenance contracts which are essential for efficient road sector management, and which typically extend over a period of two to three years after a road is rehabilitated (hence, a year or two for road rehabilitation, then additional three years for pilot routine maintenance contract).

25. **The project contributes to the World Bank Group's twin goals of eliminating extreme poverty and boosting shared prosperity in a sustainable manner.** The project will primarily create short-term jobs for low skilled and poor Lebanese and Syrians working in Lebanon, therefore providing them with better income. The project will also improve the quality and safety of the road network, particularly in lagging regions, therefore improving connectivity, reducing transport costs, and developing local economies through better access to markets and services.

26. **The project also contributes to the Lebanon CPF by meeting its objectives regarding expanding access to and quality of service delivery (focus area 1 of the CPF).** The new CPF for Lebanon for 2017-2022 was discussed by the World Bank Group's Board of Executive Directors on July 14, 2016. With the aim of building resilience and fostering opportunities for all, the CPF centers around the two focus areas that reflect a holistic approach to addressing the impact of the refugee crisis while meeting Lebanon's development needs. The two focus areas of the CPF are to: (a) expand access to and quality of service delivery, and (b) expand economic opportunities and increase human capital. This project will particularly help in meeting objective 1.c of the CPF regarding "improved access to and quality of infrastructure" and will contribute to the overarching principles of the CPF to improve service delivery, meet the medium and long-term development needs of Lebanon, and assist Lebanon deal with the impact of the Syria crisis. This project will also contribute to the inclusion agenda and the development of lagging regions by providing reliable and low cost access to markets, jobs, and services for the rural poor.

27. **The project contributes to implementation of the World Bank Group's MENA strategy.** This project contributes directly to the pillar on resilience to refugee shocks by helping Lebanon deal with the impact of the Syrian refugee crisis and by creating short-term jobs for Lebanese host communities and for Syrian refugees. It also contributes to the pillar on renewing the social contract through improved infrastructure services and the development of Lebanon's lagging regions. Finally, the project will also



reinforce the construction skills of Syrian refugees, which would be needed later for Syria's reconstruction.

28. **The project is the first project Lebanon submitted to the MENA Concessional Financing Facility (CFF).** The CFF was established by the international community to help Lebanon and Jordan deal with the Syrian refugee crisis by providing grant financing that complements loans provided by multilateral development banks. A list of projects has been identified by the Lebanese government as high priority development projects to mitigate the impact of the refugee crisis and to potentially benefit from the CFF. The identified projects are of various level of complexity and some still require significant preparation efforts. The proposed project is the first one presented by Lebanon based on its readiness, relative ease of implementation, and its important short-term job creation potential.

II. PROJECT DEVELOPMENT OBJECTIVES

A. PDO

The Project Development Objectives (PDOs) are to: (i) improve transport connectivity along select paved road sections; and (ii) create short term jobs for Lebanese and Syrians.

B. Project Beneficiaries

29. The project beneficiaries consist of the following:
1. **Lebanese and Syrian low skilled labor force participants.** The project is expected to create about 1.5 million labor days of direct short-term jobs in the construction industry, most of it for low skilled Lebanese and Syrians. Substantial additional jobs will also be created in the supply chain industries as well as the engineering and consultancy services in Lebanon. The project will also encourage participation and broader benefits for women.
 2. **Lebanese and Syrian households, particularly the poor and lower middle class.** The project will rehabilitate select road sections in all regions of Lebanon. The Lebanese population as a whole and the Syrians in Lebanon, including women, will benefit from the project through improved connectivity, lower transport costs, and improved road safety. Transport costs and poor road safety disproportionately affect the poor and lower-income groups.
 3. **Local industries and economies.** The project will also benefit local industries supporting the construction sector (quarries, transportation, and cement). Local economies will also benefit from improved connectivity and increased demand for local goods and services.
 4. **Medium and small contractors.** The project will benefit about 10 to 15 midsize contractors for road rehabilitation works, and about 10 small contractors and SMEs all over Lebanon for routine maintenance works.
 5. **Lebanese government agencies active in the road sector.** The project will significantly contribute to building the capacity of the MPWT, the CDR, and the SNRSC in the planning



and management of road assets.

C. PDO-Level Results Indicators

30. Progress toward the PDO will be monitored through the following key indicators (see section VII for further details):
- a) Number of direct project beneficiaries, including percentage of female beneficiaries;
 - b) Percentage reduction in average travel time on five priority road sections; and
 - c) Number of labor-days of short-term jobs created for Lebanese and Syrians.

III. PROJECT DESCRIPTION

A. Project Components

31. **The proposed World Bank and CFF-funded project of US\$200 million will support Phase I of the US\$510 million government's roads program.** The first phase of the government program, estimated at US\$300 million, is planned to be executed during three years and will focus on: (a) the rehabilitation and maintenance of existing roads, including road safety improvements; (b) the purchase of equipment for emergency roads works; and (c) capacity building in the sector. The financing of Phase I will consist of a US\$200 million financing from the World Bank (including an IBRD loan and CFF) and described here as "the project", and a US\$100 million loan sought by the Government from other donors on concessional terms. The World Bank will coordinate the project implementation with parallel-financed projects under Phase I to ensure the overall success of the government program, although these projects will be executed separately.

32. **The selection of the program's priority road sections, including for the World Bank-funded project, is ongoing based on a number of criteria.** Given the important size and scope of the program, and to objectively prioritize and select the road sections to be rehabilitated, a number of selection criteria was agreed that take into account the road condition, the level of traffic, the balancing of roads between regions and communities, the balancing of road sections by categories (primarily, secondary, and tertiary), and the labor creation potential and broader socioeconomic impacts. A visual survey is currently ongoing to assess the road condition of the network (about 6,000 km of primary, secondary, and tertiary roads are being covered), as well as to produce a road safety rating of the network based on the methodology of International Road Assessment Program (IRAP). The visual survey will also produce some indication and verification of current traffic volumes. Meanwhile, the World Bank and the ILO are producing estimates on the direct and indirect job creation potential of road investments for various road types, works, and categories; as well as the broader socioeconomic benefits of such investments. The finalization of the program's priority road sections selection is expected by the end of February 2017.

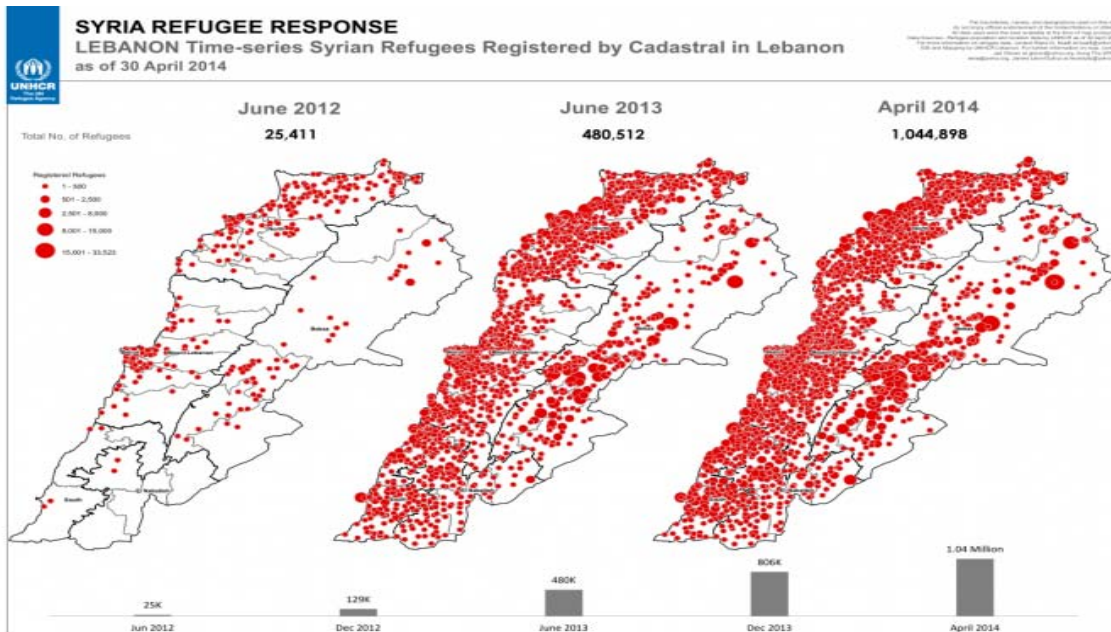
33. **Meanwhile the project first year's work program is being identified for timely start of project implementation.** To move quickly with project implementation, immediate road works of about US\$50



million in contract value are being discussed for priority rehabilitation during the first year of the project based on existing government priorities and a Council of Ministers’ decision in February 2016, the condition of the roads, and their readiness for implementation. In addition, the purchase of equipment and the selection of some required consultancy services (about US\$10 million) will also be initiated within the first year of the project implementation. The World Bank is working closely with CDR, MPWT, and the SNRSC to help them quickly initiate the required activities.

34. **The project will include the rehabilitation of non-urban road sections from all Lebanese regions, particularly in rural areas and lagging regions.** The project will mainly target the rehabilitation of primary, secondary and tertiary roads in non-urban/rural areas. The project coverage is national and will benefit communities in various parts of the country and all Lebanese regions, outside the big cities. While the project will rehabilitate a number of primary road sections given the high traffic volumes and their high importance to the Lebanese economy, over two-thirds of the roads (in km) will be secondary and tertiary roads and in rural areas therefore benefiting rural communities in various lagging regions of Lebanon. In addition, while certain regions have a higher concentration of refugees and will be benefitting from the project (such as Akkar), Syrian refugees are dispersed in large numbers throughout Lebanon (see map below). Lebanon’s very small territory (10,452 square kilometers) and the large number of refugees all over the country, means that host communities and refugees are likely to benefit from any road rehabilitation sub-project given most communities live within only few minutes from such sub-projects. Investments in road rehabilitation will have large direct (jobs) and indirect (reduced transport costs) benefits to host communities and refugees.

Figure 1. Syrian Refugees Distribution in Lebanon¹²



35. **The proposed project will target both the Lebanese and Syrian labor.** It is worth noting that Syrians generally comprise between 70 to 80 percent of the total number of workers of similar projects in

¹² UNHCR, April 2014.



the roads and construction sector in Lebanon. Typically, contractors select the low-skilled labor force from available able-bodied workers, primarily on a first-come first-serve basis, living in the community around the project's selected roads. Wages are set by the existing market and will not be distorted. Workers may receive overtime pay as well as wage premiums that reflect the location/type of project sites as well as the qualification of those workers. Following ongoing practices, there is generally no contractual arrangements between the contractor and the worker, however, the contractor which is generally qualified and certified by CDR and other relevant ministries will abide by local labor laws, particularly regarding health and safety. While women participation in direct construction job is not common in Lebanon, women are generally employed in much of the supporting industries that will directly and indirectly benefit from the project (such as consultancy services, manufacturing of supply chain material...).

Box 1. The Project Preparation Key Drivers

The project design, undertaken under emergency conditions, aims at producing good road rehabilitation and asset management practices while increasing the labor content of the project. The project preparation was dictated by three drivers, mainly: (a) a project design that allows speedy preparation and implementation to meet the urgent needs stemming from the Syria conflict and refugee crisis, (b) a project that delivers good quality infrastructure and asset management practices, and (c) a project that creates significant number of short-term jobs for Lebanese and Syrians. These drivers are further described below.

- **Design for speedy preparation and implementation:**
 1. Prepare the project under emergency procedures while deferring exact projects/roads selection and associated safeguards to implementation;
 2. Agree on the first-year road works program to speed up implementation;
 3. Include the purchase of necessary equipment which can be implemented quickly; and
 4. Introduce retroactive financing to support timely project implementation and initiate procurement activities and required studies.
- **Deliver good quality infrastructure and asset management practices:**
 1. Prepare procurement strategy and packages to ensure a wider participation of local contractors (hence, broader benefits in different areas/communities) while maintaining well qualified contractors to guarantee proper rehabilitation works in accordance with existing Lebanon's high road rehabilitation design standards;
 2. Introduce proper and objective road prioritization measures through the visual survey of the network's condition and safety, which will also later inform the creation of a new and integrated road asset management system for Lebanon;
 3. Introduce road safety and climate resilient improvements to improve existing road design and construction standards and practices in Lebanon; and
 4. Introduce routine maintenance contracts as an important and efficient asset preservation measure (including possibly the piloting of performance-based contracts).
- **Create significant number of short-term jobs for Lebanese and Syrians:**
 - Select road sections with required civil works such as drainage and slope stabilization structures to increase the labor content of contracts;



- Include a larger number of tertiary roads, therefore providing a wider coverage of the network, particularly in rural areas as well as more kilometers of roads to rehabilitate;
- Introduce routine maintenance which is very labor intensive and will be undertaken by small local contractors;
- Include provisions to revise designs and technical specifications to increase labor content (such as use of concrete channels instead of pipes for drainage, use of masonry walls and/or vegetation on low volume tertiary roads);
- Include training activities, particularly on new practices and maintenance techniques (such as slope stabilization and routine maintenance).

36. The World Bank-funded project of US\$200 million will therefore have the following components.

Component 1: Roads Rehabilitation and Maintenance (US\$184.6 million)

37. This component will primarily finance works for the rehabilitation and maintenance of about 500 km of primary, secondary, and tertiary roads, including road safety and spot improvements; as well as supporting consultancy services. The investments under this component will improve transport connectivity and create direct and indirect jobs for Lebanese and Syrians. The works include asphalt overlays, drainage works, base and subbase reconstruction on selected sections, slope stabilization works, retaining walls, as well as roadside improvements on sections crossing towns (sidewalks, planting trees). Most road works will be within the existing right of way. Road rehabilitation activities are estimated at US\$150 million and will be financed under about 15 different local contracts, ranging in value between US\$5 million to US\$15 million each, which will allow the participation of medium and small size contractors in the various regions of Lebanon. The component will also finance consultancy services for the design and supervision of the rehabilitation works described above, estimated at about US\$8 million. This component will also finance the required safeguards instruments such as the Environmental and Social Management Plan (ESMP), Environmental and Social Impact Assessment (ESIA), and Resettlement Action Plan (RAP) estimated at about US\$1 million. It will also finance the piloting of multi-year routine maintenance contracts (two or three-year contracts), estimated at a total of about US\$15 million, to be undertaken by small local contractors on a select number of the newly rehabilitated road sections. Finally, this component includes US\$10.6 million as price contingencies.

Component 2: Improving Road Emergency Response Capacity (US\$7.5 million)

38. Lebanon is primarily a mountainous country and has been recently witnessing more extreme weather with shorter yet more severe winters and snow periods. MPWT has currently insufficient number of vehicles particularly for snow removal, and most of the existing equipment is outdated with an average age of 20 years. MPWT is having difficulty deploying them timely to all mountain roads and regions in Lebanon during extreme weather and snow events during winter which can cover a large part of Lebanon's national and local road networks. This is resulting in some mountain villages and towns, primarily in lagging regions and including some with significant number of refugees, being inaccessible for several days during the winter season with detrimental effects on livelihoods and services in these communities. In addition, some major highways, such as the one linking Beirut to the Bekaa, is often cut



by snow resulting in large economic losses.

39. This component is therefore aimed at improving the capacity of the MPWT to deal with road emergency works, especially those induced by snow and climate extremes. This component will finance the purchase of road vehicles and equipment, particularly those needed for snow removal and landslides repairs. This component will finance the purchase of 15 wheel loaders, 10 snow blowers, 5 salt spreaders, and 10 four wheel drive vehicles. This component will also assist in revising the existing emergency procedures of MPWT, and its capacity to plan for extreme weather event, including the timely and proper mobilization and dispatching of its equipment. Given its strong linkages to the climate change agenda, this component could also benefit at later stages from support from disaster risk management and climate adaptation funds.

Component 3: Capacity Building and Implementation Support (US\$7.5 million)

40. This component is aimed at building the capacity of the Lebanese agencies in the planning and management of the road sector. It will also contribute to the training and capacity building of contractors and workers on new and improved road construction and maintenance techniques. This component will finance consultancy services and related software and IT equipment, to support the following subcomponents:

41. **Subcomponent 1.** Strengthen national road asset management (US\$2 million). This subcomponent will finance the creation of a road asset database for the trunk network in Lebanon, the collection of the basic information for the database (such as road condition visual surveys, IRAP assessment of road safety, and traffic counts on select road sections), and the revision of design and maintenance standards to reflect changing climate conditions, particularly related to drainage and slope protection/stabilization. This subcomponent will also finance the preparation of bidding documents and training on performance-based contracts for road maintenance.

42. **Subcomponent 2.** Support the planning and implementation of road safety measures (US\$2 million). This subcomponent will benefit the SNRSC and will primarily finance the elaboration of a national strategy and action plan on road safety, as well as the implementation of select priority road safety measures in collaboration with other interested donors. This subcomponent could also benefit at later stages from grants from the Global Road Safety Facility (GRSF) as well as other interested donors.

43. **Subcomponent 3.** Support planning and design studies (US\$2 million). This subcomponent will finance studies undertaken by CDR to prepare the required planning and design studies for critical transport projects identified as priorities by the Lebanese government.

44. **Subcomponent 4.** Support training activities (US\$0.5 million). This subcomponent will support training activities to build the technical skills of MPWT and CDR staff as well as workers and small contractors. It will support training on soft skills as well as technical skills related to the work to be carried out at selected project sites. In particular, this subcomponent will also support the training of small local contractors and microenterprises and their workers on proper routine maintenance requirements and techniques, environmental and social aspects, and health and safety aspects. The implementation of this



subcomponent could be in collaboration with other interested donors such as the ILO.

45. **Subcomponent 5.** Support for project Implementation (US\$1 million). This subcomponent will finance the hiring of required experts by the implementing agency to properly undertake the implementation and monitoring of the project.

B. Project Cost and Financing

46. **The project financing will be US\$200 million, and the financing instrument is an Investment Project Financing (IPF).** The financing will be supported by an IBRD Loan in the amount of US\$154.6 million and the Concessional Financing Facility will extend US\$45.4 million on concessional terms approved by the CFF Steering Committee on October 29, 2016. This concessional portion of the loan shall be made on a grant basis. The amount of US\$154.6 million will be a non-concessional IBRD loan provided on the financial terms chosen by the Government: 32.5 year maturity, including 7 years of grace period, fixed-spread reference rate, commitment-linked with a level repayment. The Front-end Fee equals to one quarter of one percent (0.25 percent) of the non-concessional portion of the loan amount would be financed out of the non-concessional loan proceeds.

Box 2. Concessional Financing Facility

The Concessional Financing Facility is a partnership sponsored by the World Bank, the UN, and the Islamic Development Bank Group to mobilize the international community to address the financing needs of middle-income countries hosting large numbers of refugees. By combining donor contributions with multilateral development bank loans, the CFF enables eligible middle-income countries that are facing refugee crises to borrow at concessional rates for providing a global public good. The CFF represents a coordinated response by the international community to the Syrian refugee crisis, bridging the gap between humanitarian and development assistance and enhancing the coordination between the UN, donors, multilateral development banks, and benefitting (hosting) countries. The CFF is currently supported by Canada, Denmark, the European Commission, Germany, Japan, Netherlands, Norway, Sweden, the United Kingdom, and the United States.

47. All project components will be 100 percent funded from the IBRD and CFF financing package of US\$200 million. Project costs and financing, including retroactive financing of US\$20 million, were agreed with the Ministry of Finance (MoF) and CDR and are detailed in table 4.

Table 4. Project Costs (US\$)

	Retroactive (March 2017 – September 2017) (US\$)	Prospective September 2017 – June 2021 (US\$)	Total Project Costs	IBRD/CFF Financing
Component 1: Roads Rehabilitation and Maintenance				
Road Rehabilitation	14,000,000	136,000,000	150,000,000	150,000,000
Routine Maintenance		15,000,000	15,000,000	15,000,000



Design and Supervision	2,500,000	5,500,000	8,000,000	8,000,000
Safeguards Instruments		1,000,000	1,000,000	1,000,000
Price contingencies		10,613,500	10,613,500	10,613,500
Total component 1	16,500,000	168,113,500	184,613,500	184,613,500
Component 2: Improving Road Emergency Response Capacity				
Wheel loaders	3,000,000		3,000,000	3,000,000
Snow blowers		2,000,000	2,000,000	2,000,000
Salt Spreaders		2,000,000	2,000,000	2,000,000
Four Wheel Drive Vehicles		500,000	500,000	500,000
Total component 2	3,000,000	4,500,000	7,500,000	7,500,000
Component 3: Capacity Building and Implementation Support				
Subcomponent 1: Strengthen road asset management.		2,000,000	2,000,000	2,000,000
Subcomponent 2: Support the planning and implementation of road safety measures.	50,000	1,950,000	2,000,000	2,000,000
Subcomponent 3: Support the design and planning of transport projects		2,000,000	2,000,000	2,000,000
Subcomponent 4: Support training activities.		500,000	500,000	500,000
Subcomponent 5: Support for Project Implementation.	50,000	950,000	1,000,000	1,000,000
Total component 3	100,000	7,400,000	7,500,000	7,500,000
Front End Fees		386,500	386,500	386,500
Total Financing Required	19,600,000	180,400,000	200,000,000	200,000,000

C. Lessons Learned and Reflected in the Project Design

48. In emergency situations and economic downturn cycles, public investments in infrastructure are common instruments to stimulate economic growth and provide temporary employment for poor households. Creating short-term temporary jobs, through public investments in needed infrastructure, can act as social safety nets for poor and low skilled households while meeting the country’s long-term development needs. Almost all investments in the road sector require local skills and materials, creating



direct and indirect jobs within the national and local economies, hence having important multiplier benefits to stimulate economic growth.

49. **Reliance on existing structures and tested implementation approaches during a crisis facilitates a rapid and effective response.** Evaluation of the World Bank's experience in responding to the global financial crisis indicates that, in the interest of providing timely assistance, 74 percent of responses were channeled through existing instruments and programs. In the case of this operation, the project will rely on CDR as the main implementing agency as it has a long experience working with the World Bank and donors on implementing large infrastructure programs. In addition, the project implementation will rely on the existing and well developed construction industry, while introducing the adjustments to increase labor content and improve road asset preservation techniques. It is important to note that the speedy implementation of the project will by far have larger economic and employment benefits than introducing new technologies, complex procedures, and labor market adjustments, which will require major efforts, and a longer implementation period, with doubtful and likely unsustainable results.

50. **Effective and timely implementation requires intensive and sustained World Bank support.** Experience from rapid responses emphasizes the importance of sustained implementation support from the World Bank. Similar operations needed careful implementation support to introduce project flexibility and modifications and to resolve unanticipated issues. In Lebanon, the World Bank's existing working relationship with the government agencies and CDR is expected to permit the necessary sustained technical and fiduciary implementation support. In addition, the World Bank expects to provide intensive and frequent implementation support throughout the project drawing primarily on staff based in the Lebanon Country Office.

51. **Flexibility of project design to accommodate possible changes during implementation.** The inherent flexibility of OP10.00 helped expedite the proposed project preparation and enabled the World Bank to respond to this situation of urgent need of assistance. The imperative to respond quickly in fragile situations places a particular premium on speed in an overall attempt to build confidence in the state's ability to respond to challenging circumstances. The project has been specifically designed to minimize the need for time-intensive procurement and make use of the country systems to the degree possible. The additional flexibility permitted under these provisions and streamlined processing enabled the World Bank to pivot effectively in responding to Lebanon's need for assistance.

52. **The project will be implemented primarily within existing "right of way", therefore avoiding land expropriation and associated delays.** Various infrastructure projects in Lebanon have experienced substantial implementation delays due to land expropriation issues. These delays are generally linked to the lengthy procedures in deciding on expropriation and compensation value and the general unavailability of government funds to cover such costs. Given that this project focuses on road rehabilitation and maintenance, however, it will primarily occur within the existing right of way, therefore requiring little, if any, land acquisition.

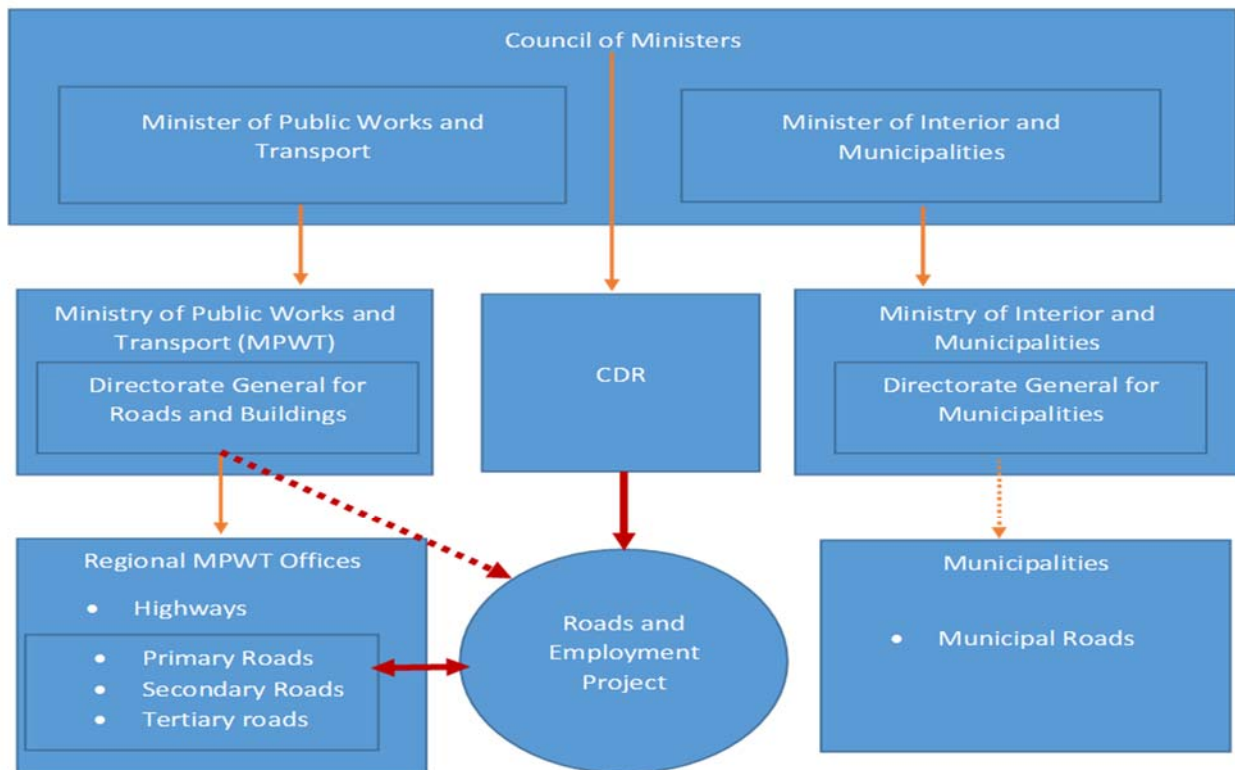


IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

53. **The project works will be executed on the main road network which is under the jurisdiction of the MPWT.** MPWT is in charge of the construction and maintenance of the main road network, consisting of the primary, secondary, and tertiary roads. Local or municipal roads are under the responsibility of municipalities and are not included under this project. Given MPWT lack of adequate resources and its little experience in implementing donor-funded projects especially emergency projects, it is customary that donor-funded road works projects are implemented by CDR upon the request of the Council of Ministers. CDR has been in fact for many years the main government agency in charge of the implementation of donor funded projects particularly in all infrastructure sectors. CDR will execute the project on behalf of the government/MPWT and will “return” the rehabilitated roads for MPWT’s management upon the completion of the project. To ensure sustainability beyond the project life, MPWT engineers will work closely with CDR during project implementation to ensure that important decisions (on road selection priorities, road designs, equipment specifications, and road asset management) are well coordinated, and that MPWT has the adequate knowledge and expertise to continue the management of the network beyond the project life.

Figure 2. Road Sector Responsibilities and Project’s Implementation Arrangements





54. **The project implementation entity is CDR that will coordinate with relevant government agencies.** This is a national project executed at the central level, and all technical, fiduciary, safeguards, and monitoring aspects will be executed directly by CDR, therefore avoiding the complication of multiple agencies' implementation. CDR has a long and well established cooperation with the World Bank and other donors, and its performance at project implementation has been generally satisfactory. CDR will ensure coordination with the relevant government agencies, particularly MPWT, regarding roads priorities, technical aspects, and project's requirements. The selection of priority roads for the program will be undertaken in consultation with the MPWT based on the results of the visual survey and the agreed criteria. MPWT will also identify and submit its needs for emergency equipment and the desired technical specifications to CDR that will undertake the procurement of such equipment. Meanwhile, the SNRSC will be the technical lead agency on road safety aspects and the SNRSC will inform CDR about its capacity building needs and will draft and review terms of reference for the required services, with Bank support, before CDR proceeds with the procurement of such services. The road asset management system and its supporting consultancy services will be procured by CDR and will be installed within both CDR and MPWT. The project will include capacity building of MPWT and CDR staff on the utilization of the new road asset management system, therefore reinforcing project's sustainability. CDR will therefore be the project implementing agency, and will coordinate with MPWT and SNRSC on various technical aspects as required.

B. Results Monitoring and Evaluation

55. **Project monitoring and verification will be undertaken by the implementing agency to ensure the project is being implemented in line with the proposed objectives and is on track to achieve expected results.** Project progress reports will be prepared by CDR, with inputs from MPWT and the SNRSC where needed, on a semi-annual basis and submitted to the Bank for review and comments within 45 days from the end of the reporting period. These reports shall include among others: (a) an update on the results achieved based on the indicators and target values established in the results framework; (b) breakdown of jobs created by type, location, gender, and nationality based on contractors' and supervision consultants' reports; (c) the activities carried out throughout the reporting period under each component; (d) key issues/constraints or risks affecting project implementation that require attention with corresponding proposed measures to address them; (e) disbursement calendar for the next six months; and (f) progress achieved in the implementation of the environmental and social safeguards instruments (ESMPs, RAPs, Abbreviated Resettlement Action Plans [ARAPs]). CDR will be responsible for project data collection and compilation as well as the overall project monitoring and evaluation. In addition, an in-depth project implementation progress assessment will be carried out at the midterm review; CDR will prepare a report and make a formal presentation of the progress made during the project life up to that point.

56. **The World Bank, with potential support from other donors, will ensure continuous implementation support.** The key World Bank specialists are based in Beirut and will have regular interaction with CDR and frequent field visits. This will allow the Bank to provide continuous monitoring and verification support far exceeding the regular one or two implementation support missions generally required for such projects. The World Bank will also consider the continuous collaboration with ILO, and possibly other donors, for the monitoring of the project, including the employment aspects such as the number and type of jobs created, the beneficiaries, and the technical expertise gained by workers and



contractors.

57. **The monitoring of results during implementation will include disaggregation of select indicators by region, type of roads and associated works, gender, and nationality.** The results framework include key project indicators to monitor project implementation success. It is designed to guarantee effectiveness in the measurement of key project outcomes and outputs based on simple and measurable indicators. Nevertheless, the monitoring of the project during implementation will include, through the implementing agency's reports and the Bank implementation status and results reports (ISRs), further information and disaggregation of some indicators by regions, nationality and gender, and the extent and type of road works, among others. All workers will be identified either through a form of ID or through their work permit numbers. Their work will be monitored using standard monitoring tools (daily time sheets that are filled, aggregated and logged into in a system every week by an onsite project supervisor, which will be then reviewed by the contractor's main offsite office). The implementing agency will ensure the overall quality control and monitoring through a dedicated Project Implementation Unit (PIU) staff supported by the project supervision consulting firm, that will visit project sites regularly and will ensure that reporting requirements (monthly technical and financial reports) are met by the contractor. A Grievance and Redress Mechanism (GRM) will be developed for the project, to ensure that any complaint is identified and handled properly, and to address possible tensions and feelings of exclusion.

58. **The project implementation manual (PIM) will detail information on project targeting and on project monitoring.** The PIM will include information on targeting, benefit levels, project selection, and worksite supervision. In addition, and to ensure high quality implementation, periodic spot checks of works sites will be conducted to ensure that subprojects are being implemented consistently, and will be used to monitor worker attendance and participation, as well as progress on asset rehabilitation.

C. Sustainability

59. **The project design will pursue the sustainability of road works through:** (a) the implementation of efficient rehabilitation and maintenance works on the road network based on proper assessment of actual needs; (b) activities to introduce and institutionalize national road safety planning and interventions; (c) the successful adoption of strategic planning tools and better road asset management practices; (d) the improvement of emergency procedures and climate resilience measures for the road network; and (e) the introduction of multi-year routine maintenance contracts on those road sections that have been rehabilitated. Working with both CDR and MPWT will ensure that the new planning tools and maintenance practices are adopted and mainstreamed by the two national agencies responsible for road construction and maintenance in Lebanon.

60. **The project has important climate change adaptation measures.** About one third to one half of the project activities contribute directly and indirectly to climate change adaptation. Lebanon is primarily a mountainous country and has been recently witnessing more extreme weather with less precipitation and shorter yet more severe winters and snow periods. The project is assisting Lebanon in adapting its infrastructure resilience to climate extremes through: (a) implementing no-regret actions in term of enhanced road rehabilitation and maintenance practices, particularly in relation to improved drainage and slope stabilization works; (b) the purchase of necessary equipment to respond to roads' snow related emergency works; and (c) technical assistance to establish a proper road asset management and revised



maintenance standards and techniques, including climate-related provisions.

61. **Meanwhile, on-the-job learning and training programs will strengthen workers’ skills and experience in road construction and maintenance, which is important to improve Lebanon’s road network and for the later reconstruction of Syria.** While the project’s employment impacts are generally short-term given the nature of the activities, the skills acquired by the workers through on-the-job learning and training programs will help them better find similar construction jobs in the future. This is particularly important for the Syrian workers who will need such skills for the anticipated reconstruction of Syria. In addition, the introduction of new planning, design, and maintenance practices will improve the capacity and learning of Lebanese contractors and consulting firms, further improving their competitiveness in the Lebanese and regional markets. Finally, the introduction of the routine maintenance practices to Lebanon will contribute to the development of small local contractors’ capacity to undertake these recurrent yearly works, therefore creating new and longer-term skills and road sector industry at the local level.

Table 5. Adaptation and Mitigation Co-benefits by Project Component

Component	Climate Related Activities	Component Total Cost (US\$, millions)	Adaptation Associated Costs (US\$, millions)	Mitigation Associated Costs (US\$, millions)
1: Roads Rehabilitation and Maintenance	Drainage structures and culverts; retaining walls; routine maintenance.	184.6	50	0
2: Improving Road Emergency Response Capacity	Increased MPWT’s capacity to deal with road emergency works; purchase of necessary equipment.	7.5	7.5	0
3.1: Strengthen Road Asset Management	The creation of a road asset database for Lebanon, and the revision of design and maintenance standards to reflect changing climate conditions.	2	2	0
3.2: Support the planning and implementation of road safety	n.a	2	0	0
3.3: Support Planning and Design Studies	Finance necessary studies to produce planning and design documents in the transport sector, particularly public transport.	2	0	2
3.4: Support training for workers and small contractors	n.a	0.5	0	0
3.5: Support for Project Implementation	n.a	1	0	0
Front End Fees		0.4	0	0
Total		200	59.5	2



D. Role of Partners

62. **The projects financed by the World Bank and by the potential other donor under Phase I of the roads program will be implemented in parallel, yet separately.** While similar in scope and content, these projects will be separate and executed under parallel arrangements, therefore resulting in clear separation of project activities and responsibilities. Nevertheless, given the World Bank’s strong technical expertise and presence in Lebanon, there will be close coordination between the World Bank and the other donors, including coordinated implementation support to help resolve technical issues where possible. Also, since CDR will be the implementing agency for both the World Bank-funded and the other donor-funded projects, this will further facilitate the coordination of projects under Phase I.

V. KEY RISKS

A. Overall Risk Rating and Explanation of Key Risks

Risk Category	Rating
Political and Governance	Substantial
Macroeconomic	Substantial
Sector Strategies and Policies	Moderate
Technical Design of Project	Moderate
Institutional Capacity for Implementation and Sustainability	Substantial
Fiduciary	Moderate
Environment and Social	Substantial
Stakeholders	Substantial
Overall Risk	Substantial

63. **The overall risk rating is substantial taking into account the country risks and the generally slow implementation performance of Bank-funded projects in Lebanon.**

- **Political and governance risks** include: (i) possible delays in Parliament approval of the proposed loan which may significantly delay its effectiveness; (ii) political differences regarding priority roads’ selection; and (iii) security risks affecting the timely completion of works. Risk mitigation measures: Lebanese politicians at the highest level have committed to the donor community and the World Bank their readiness to expedite and facilitate the approval process of development projects, especially those linked to the CFF. Regarding road rehabilitation priorities, the selection of the first year’s road sections for the project is primarily based on priority road sections already approved by the Council of Ministers in February 2016. The rest of the program’s priority sections will be selected based on the visual survey of the network being undertaken by CDR and selection criteria described above in section III of this document. It should be noted that the visual survey’s results and associated priority road sections will be available in February 2017, hence in time for the



loan approval by the Council of Ministers and the Parliament. Finally, with regard to security risks, most road sections are in areas with no major security risks. Road sections in riskier areas will be deferred to later phases of the program, or substituted by other sections if security risks persist.

- **Macroeconomic risk.** Lebanon debt-to-GDP ratio has been rapidly increasing in the past few years. Risk mitigation measures: The project will contribute to stimulating growth and will be financed through a combination of IBRD loan and CFF grant, therefore largely increasing the concessional terms of the loan. The GOL has recurrent capital expenditures for the rehabilitation and maintenance of the road sector in the order of US\$100 million yearly. Due to large budget deficits, government expenditures are being primarily financed through government borrowing and the issuance of bonds, resulting in significant costs. In addition, the slowing economy requires investments to create jobs and stimulate growth. The proposed project will allow the GOL to continue and boost the required expenditures in the road sector while lowering its financing costs. This will create a short-term stimulus to economic growth, particularly in construction related jobs and industries. Road investments will also contribute to the economic development of the lagging regions, therefore reducing economic disparities and poverty.
- **Institutional capacity for implementation and sustainability risk** include: (i) slow approval process within most government agencies due to quasi paralysis of the executive and administrative bodies; (ii) and slow implementation and approval process within CDR. Risk mitigation measures: the project will include capacity building of MPWT and CDR staff, including on the utilization of the new road asset management system, therefore reinforcing project's sustainability. In addition, the implementing agency, with support from the Bank, has already started a number of activities required during project implementation, such as the preparation of the safeguards documents and procurement strategy. Finally, there will be no or little land acquisition, hence avoiding expropriation delays.
- **Environmental.** The negative impacts anticipated for the project activities are minor and of temporary nature, and mainly during the construction phase. This will include the generation of dust, air emissions and noise from construction machinery, solid and liquid waste generation from contractor site facilities, disruption to traffic and movement, and potential damages to existing utilities. To mitigate these risks, ESMPs will be prepared before initiating any civil works. The ESMPs will be publically consulted, disclosed in country, reviewed, and cleared by the Bank before starting the civil rehabilitation works. As part of the Environmental and Social Management Framework (ESMF), CDR will prepare terms of reference (ToR) for environmental consultants to undertake the ESMP's preparation and supervision process to ensure compliance with Bank safeguards requirements. CDR will seek Bank clearance on the ToRs before contracting any consultants.
- **Social.** Since the main project beneficiaries are vulnerable, unskilled or low-skilled Lebanese and Syrians, there are potential social risks related to this project: (i) labor conditions may be inadequate; (ii) gender-based violence towards female workers or women living in communities around roads being rehabilitated because of potential influx of male workers for construction activities; (iii) risk that young, underage youth are engaged as laborers in



project activities; and (iv) dissatisfaction of road selection and/or perceptions that jobs are allocated unfairly. Risk mitigation measures: the first risk will be mitigated through periodic monitoring of labor conditions and through specific required clauses within contracts that will be required to protect workers. The risk for female workers will be mitigated through periodic monitoring, while the risk for women in communities will also be monitored but is unlikely to materialize given that most labor (Lebanese and Syrian) is expected to be local and already living within communities and therefore a large influx of outsiders into communities will not occur. The project will also closely monitor the risk of underage labor and will have measures in contracts to ensure that construction firms do not hire individuals below the legal working age and follow labor law of Lebanon. Penalty provisions will be included in the contractors' agreement for hiring child labor. The project will communicate the road selection criteria during the consultations and dissemination of the project's safeguards instruments, and the potential impacts of perceptions that jobs are allocated unfairly will be mitigated during implementation, once more information is available, through the project social assessment. Finally, the multi-layer grievance redress mechanism will be established at the project level.

- **Stakeholders risk** include: (i) slow adoption and rollover of learned asset management techniques by MPWT and CDR; and (ii) weak coordination between CDR, MPWT, and SNRSC. Risk mitigation measures: the road asset management will be installed at both MPWT and CDR with staff from both agencies benefiting from training. Two road engineers from MPWT (one from planning and one from maintenance) will be primarily dedicated to support and coordinate with CDR in the implementation of the project, providing day-to-day on-the-job learning. The project will also fund one road engineer, through the PIU, who will be housed within MPWT working with the General Director for Roads and Buildings to ensure timely follow up and coordination. World Bank experts will provide capacity building and training to both agencies regarding the new standards and road maintenance approaches, such as routine maintenance and the Bank staff will regularly meet with MPWT, CDR, and SNRSC to follow up on project implementation progress. The introduction of routine maintenance for sections rehabilitated under the project will contribute to increasing project sustainability. MPWT and the SNRSC will contribute to drafting terms of reference and setting technical specifications for project components that directly benefit them (such as the national road safety strategy and the snow removal equipment), and representatives from these agencies will participate in CDR procurement committees to further ensure coordination.

VI. APPRAISAL SUMMARY

A. Economic and Financial (if applicable) Analysis

64. **A standard cost-benefit analysis for roads was used to assess the economic impact of the project.** The costs and benefits of the proposed road investments were quantified using the Highway Design and Management Model (HDM-4 model). This model simulates lifecycle conditions and economic costs and benefits to assess the overall economic returns of road rehabilitation and maintenance works. This analysis was primarily undertaken for Component 1 of the project that represents over 90 percent of



the project investment value. Given that the selection of road sections is not yet finalized, the analysis considered typical road sections per road category (primary, secondary, and tertiary). For each road category, unit costs and type of works (reconstruction, overlay, drainage, and so on) were provided, as well as the average condition index (International Roughness Index [IRI]), and traffic volume and composition. The economic analysis was done with a 6 percent discount rate and a 25-year evaluation period, in line with the Bank’s guidance. The cost-benefit analysis compared a do minimum scenario to the following two project scenarios: (a) applying periodic maintenance (6 cm overlay) on a project road, or (b) partially reconstructing a project road (assuming around 30 percent of road length requires full reconstruction and remaining 70 percent requires only overlay). Both project alternatives include annual routine maintenance and future periodic maintenance in the form of placing an overlay every 10 years.

65. **The results of the analysis show strong net economic benefits under various scenarios that are robust to variations in project costs and benefits.** The economic cost-benefit analysis of the proposed road works yielded an Economic Internal Rate of Return (EIRR) higher than 6 percent for all project alternatives, indicating they all are economically justified (table 6). The partial reconstruction option yields the highest net present value (NPV) for all road classes and compares favorably in the incremental IERR analysis, and thus is the preferred project alternative. This indicates that doing periodic maintenance (overlays) on bad roads with structural problems, while economically justified, is not the preferred economical option nor a good practice. The project alternative of partial reconstruction yields a total project NPV of US\$407 million, at a 6 percent discount rate, and an EIRR of 37 percent. As expected, these works will significantly decrease average travel times and vehicle operating costs. A sensitivity analysis was also undertaken for the partial reconstruction option with the results shown in table 7 below. The analysis simulated changes of a 15 percent increase in construction cost and a 15 percent decrease in project benefits. Under the worst case scenario of both occurring simultaneously, the project EIRR remains high at 30 percent.

Table 6. Economic Evaluation Results

Road Category	Periodic Maintenance		Partial Reconstruction	
	NPV (US\$, millions)	EIRR (%)	NPV (US\$, millions)	EIRR (%)
Primary	64	55	133	45
Secondary	119	57	136	41
Tertiary	134	44	138	27
Total	317	52	407	37

Table 7. Incremental EIRR or Partial Reconstruction Compared to Periodic Maintenance

	Partial Reconstruction
	Incremental EIRR
Road Category	(%)
Primary	28
Secondary	14
Tertiary	7

Table 8. Sensitivity Analysis Results



	Partial Reconstruction	EIRR Sensitivity		
	Base EIRR	A=Costs + 15%	B=Benefits - 15%	C=A & B
Road Category	(%)	(%)	(%)	(%)
Primary	45	40	41	36
Secondary	41	37	38	34
Tertiary	27	24	25	22
Total	37	33	33	30

66. **The analysis also shows that the project has minor greenhouse gas emissions’ benefits.** The evaluation shows that the partial reconstruction road works will decrease marginally the vehicle fleet CO₂ emissions over the evaluation period (0.53 percent reduction in CO₂ emissions). Over the evaluation period, the without project scenario CO₂ emissions are estimated to be 17,088 tons, while with the partial reconstruction alternative CO₂ emissions are projected at 16,998 tons. The decrease in CO₂ emissions under the project is due to the decrease in fuel consumption resulting from higher vehicle speeds.

67. **The project has also additional indirect economic benefits that were not quantified.** The project is expected to yield important socio-economic benefits in term of better access for communities and the development of local economies. Such benefits are being qualitatively assessed jointly by ILO and the World Bank. In addition, there are spill-over economic benefits from road investments related to the stimulation of the local supply-chain industries. Moreover, significant benefits are anticipated due to the increased income and cash generated from the direct jobs for Syrian refugees and host communities. Finally, the project is also expected to yield important road safety benefits, and while not quantified in this project, it is expected that every road crash fatality and road crash injury reduction in Lebanon will result in economic savings at about US\$560,000 and US\$140,000, respectively.

68. **Road rehabilitation and maintenance works are typical public sector intervention, especially in the context of situations in urgent need of assistance.** The requirement for public sector provision of roads to improve access and services to communities is well established all over the world and is often cited as an example of “public good” to be provided through public investments. The majority of the road sections under this project are secondary and tertiary roads in rural or peri-urban areas, which are typical areas for public service provision of infrastructure. In addition, the project was prepared to respond to the emergency needs to quickly inject investments in a slowing economy as a form of a stimulus package, and requires quick and proven implementation arrangements based on existing practices. Finally, given the important consideration to increase the labor content and employment of host communities and Syrian refugees, which have social and political implications, this further justifies a public investment.

69. **The Bank support to this project is very important to advance much needed road sector reforms.** This project is supporting road section improvements, job creation, as well as important sector reforms. In particular, this project is supporting the introduction of proper planning and asset management tools, which will largely increase the efficiency of road sector expenditures. In addition, the project is supporting important road safety improvements, which require the mobilization of international expertise. Finally, the project is also revising some of the technical standards to increase the labor content of road projects where possible, as well as to improve the adaptation of road standards to climate extremes.



B. Technical

70. **The project will finance rehabilitation and maintenance activities, including road safety interventions on the primary, secondary, and tertiary roads of the national paved network.** The works will be executed on existing paved roads and will include: (a) restoring base, pavement, and shoulder conditions; (b) rehabilitating of longitudinal and transversal drainage; (c) slope stabilization works, including concrete retaining walls (on primary and secondary) and masonry walls or vegetation (on tertiary roads); (d) roadside improvements such as sidewalks in towns and peri-urban areas; and (e) signaling, road curve improvement, speed calming, and other road safety interventions.

71. **Rehabilitation and maintenance activities include, but are not limited to the following technical requirements.** The road works will include the reconstruction of the base and sub-base where heavy structural weaknesses are observed and confirmed by geotechnical and coring tests, particularly on the primary and secondary roads, in addition to pavement rehabilitation with minor corrections, milling, patching, crack sealing, and applying different thicknesses of cold micro-agglomerates and hot asphalt mixtures. The design of the rehabilitation program is based on sound technical criteria and is in line with current international standards. The maintenance and rehabilitation strategies were selected with due consideration being given to the main factors that affect pavement performance, namely, surface condition, structural strength, traffic characteristics and climatic conditions. Sections that will be subject to routine maintenance alone are those that are rehabilitated under the project or that already exhibit good riding quality with little surface defects as well as sufficient structural capacity and are, generally speaking, traveled by low to medium traffic. They are not expected to show in the short to medium term signs of distress and high roughness values that would warrant excessive repairs or strengthening within the next 5 to 7 years. Sections that will undergo reconstruction and/or receive asphalt concrete overlays in thickness ranging from 3 to 6 cm have currently a weak structural capacity associated with severe surface distress and relatively high roughness values. The overlays have been designed to substantially enhance their structural strength and to provide good riding quality over the next 10 to 15 years.

72. **The technical standards of rehabilitation and maintenance works are revised to increase labor content.** The direct labor content of road works, as a percentage of contract value, ranges between 12 percent for just overlay works, to 20 percent for base and drainage works, and could reach the 50 percent range for routine maintenance, vegetation planting, and some slope stabilization works. The project includes measures to increase the direct labor impact, while also improving road condition, such as roadside works (sidewalks, vegetation) in towns and peri-urban areas, including civil works where necessary such as drainage and retaining walls, and the introduction of routine maintenance. Certain technical specifications will be selected in the design of road works with the aim to increase the labor content while ensuring quality works and the use of established and existing standards. For instance, the design will specify the utilization of concrete U-channels for drainage instead of pipes; and the construction of masonry walls and/or vegetation for slope stabilization on tertiary and lower volume roads instead of concrete walls.

C. Financial Management

73. **Project financial management (FM) arrangements, including accounting, reporting, and auditing functions will be centralized at CDR.** The flow of funds process will be undertaken through a Designated



Account (DA) to be opened for the project and managed by CDR. The consolidation of the project financial reports will be done by the PIU and submitted to the Bank along with the project progress reports.

74. **CDR has significant experience of implementing Bank-financed projects, including FM aspects.** CDR FM performance on past and current projects is considered satisfactory. CDR has a functional unit undertaking FM responsibilities, including funds flow management, accounting, reporting, and facilitating an acceptable external audit. CDR's external auditor will conduct the audit of the World Bank-financed projects. This functional unit consists of several financial officers (FOs) that have already gained adequate experience in carrying out the FM arrangements of World Bank-financed projects and one of them will be assigned to handle this project's FM arrangements implementation.

75. **CDR's main challenge related to FM is their lack of proper maintenance of asset lists.** CDR will operationalize the assets module of its accounting software to ensure proper management of assets purchased under the project to mitigate FM-related risks.

D. Procurement

76. **The implementing agency's procurement capacity is generally adequate given CDR extensive experience in implementing donor-funded projects.** The project will be implemented by CDR, which was recently managing the Urban Transport Development Project (UTDP) closed on December 31, 2015. CDR has a solid management structure and is staffed with adequate and experienced procurement and technical specialists. Additional specialists will be recruited in the PIU as needed. Diligence is also observed in record keeping and quality of evaluation. The procurement processing and contract management was rated satisfactory, and the Implementation and Completion Results Report of the UTDP rated the performance of the implementing agency, CDR, as satisfactory. The implementing agency is familiar with Bank's bidding documents and procedures and was trained on the new procurement framework and when local bidding is conducted, the standard documents will be reviewed to be acceptable to the Bank. Despite adequate capacity, the following risks are identified: (a) delays in procurement processing and implementation related to internal CDR approval process, (b) delays in design and technical work before works execution, and (c) supervision of contracts and contract management. To mitigate these risks, the following mitigation measures will be incorporated in the project: (a) Bank supporting the PIU team to expedite the internal approval process, (b) selection of priority road sections based on readiness for the initiation of the first-year program, and (c) assigning field consultants to monitor contracts and supervise works.

77. **The following project procurement arrangements, which follow the World Bank's new procurement framework that became effective on July 1, 2016, will apply during project implementation.** The World Bank procurement and anti-corruption guidelines will be used.

- **Selection methods for works.** The project is expected to use: (i) Request for Bids (for national markets for about 15 work contracts and other framework agreements for routine maintenance contracts. Other methods, where justified, include: (ii) Request for quotations; and (iii) Direct selection.
- **Selection methods for goods and non-consulting service.** The project is expected to



purchase road vehicles and IT equipment using: (i) Request for Bids for both international and national markets, (ii) Request for quotations; and (iii) Direct selection.

- **Procurement of consultants.** The project is expected to use request for proposals with the following methods: (i) Quality-and-Cost-Based Selection (QCBS), (ii) Selection under a Fixed Budget (FBS); (iii) Least-Cost Selection (LCS); (iv) Selection based on the Consultants' Qualification; (v) Direct Selection; (vi) Selection of Individual Consultants.
- **STEP.** An initial procurement plan for the life of the project is developed by the government through STEP. It defines the market approach options, the selection methods and contractual arrangements, and determines the World Bank's reviews. The initial procurement plan for the project was also discussed at negotiations of the loan.
- **Prior Review threshold.** Based on the satisfactory assessment, the project shall be subject to moderate risk prior review threshold, making the project mostly subject to post review.

78. **The procurement strategy is aimed to broaden the social and employment benefits of the project while ensuring quality project's execution.** Road rehabilitation and maintenance contracts are expected to be primarily undertaken by medium and small local contractors. Provisions will be also considered to ensure the awarded contractors work within their financial and technical capacity. Major work contracts are expected to be in the US\$5 million to US\$15 million range, allowing the participation and competition of firms from various regions of Lebanon and ensuring that works are undertaken by contractors with enough experience to deliver good quality works. International competition is expected for some of the contracts to supply goods, especially as regards maintenance equipment and vehicles, and IT equipment. Local and international consultants will be selected to support the project by: (a) strengthening road asset management, (b) supporting planning and implementation of road safety measures, (c) supporting training for maintenance activities, (d) road safety, and (e) preparation and evaluation of technical specifications for maintenance equipment and vehicles. In view of the emergency nature of the project, the Project Procurement Strategy for Development (PPSD) full version and resulting procurement plan will be finalized by the CDR and sent for Bank review by April 30, 2017. A preliminary procurement plan was also discussed at loan's negotiations.

E. Social (including Safeguards)

79. **The proposed project was prepared using condensed procedures (paragraph 12, OP10.00).** The Safeguards Action Plan (SAP) (see annex 4) provides a time-bound planning framework for the environmental and social safeguards instruments, the production of which has been deferred into the project implementation period under paragraph 12 of OP10.00, allowing for condensed procedures and deferral of the safeguards instruments in situations of urgent need of assistance or capacity constraints. ESMF, RPF, site specific ESIA/ESMP and RAP (if needed) will be prepared by client and cleared by the Bank and disclosed both in country and at the Bank before implementation of any works starts.

80. **The proposed project is expected to yield significant social benefits.** This will include increased access to remote rural areas, reduced travel time, and enhanced local economic development and



livelihood opportunities.

81. **The project will require little or no land acquisition.** The project will rehabilitate and maintain roads on the existing right of way. Minor realignments or other small-scale construction may require land, however, and could impact squatters or encroachers on government-owned lands or otherwise result in the involuntary taking of land. Therefore, the Bank policy on Involuntary Resettlement OP 4.12 has been triggered in this project. As the project is prepared under the provisions of paragraph 12 of OP10.00 for projects in situations of urgent need of assistance or capacity constraints, the preparation of safeguards instruments has been deferred into the implementation period, and a SAP has been developed. A RPF will be prepared in compliance with the Bank policy and relevant laws and regulations of Lebanon, approved by the Bank and disclosed in both country and the Bank's InfoShop within one month of the project's effectiveness. In the case that impacts are identified, a RAP or ARAP will be prepared by following the processes as set forth in the RPF before implementation of the activity or subproject starts. Upon Bank clearance, the social safeguards documents will be translated into Arabic and disclosed locally as well as in the Bank's InfoShop.

82. **The project will include a project-wide grievance redress mechanism (GRM) that will register and address grievances and complaints from individuals and households who are affected by the project.** The primary purpose of the GRM will be to provide clear and accountable means for project beneficiaries and affected persons to raise concerns of possible tensions and feelings of exclusion and complaints and seek remedies when they believe they have been harmed by the project. An effective and responsive mechanism also facilitates project progress by reducing the risk that unaddressed complaints eventually lead to construction delays, lengthy court procedures, or adverse public attention. The final design of the GRM will be developed during the course of project implementation in consultation with relevant stakeholders to ensure its relevance and ease of use. However, a designated social development officer will be assigned in PIU to be responsible for receiving and recording receipt of each complaint, whether received orally or in writing (the contact information of the person will be made publicly available before commencement of project implementation). The social development officer will direct the feedback received to the appropriate entity (contractor, department within CDR, municipality, and so on) for its resolution. At the same time, the officer will send written communication to the feedback provider indicating the expected timing of resolution. Grievances are expected to be addressed within a month unless under exceptional circumstances. The PIU's social development officer will report to the PIU director on the number and subject of complaints received, and the status of complaints, if any, that remain under resolution. Each semester the PIU will aggregate information received into the project implementation progress report, indicating the number and subject of complaints. The progress report also provides up-to-date information on the number and subject of complaints that have been resolved, and the manner in which they have been resolved. This information will be shared with the Bank.

83. **Public consultations will be held as part of the preparation of the safeguards instruments.** The project will engage citizens in project areas during the preparation of the social assessment that will form part of the project's ESMF and is also being used in preparation of the PIM. The consultations will be held with members of different social groups separately (Lebanese, Syrians, men, women, and others when relevant in the particular context) to understand whether specific activities can be adjusted to benefit a



larger group of people, or people who are more vulnerable within a specific geographic region.

84. **The project will ensure citizen engagement through multiple instruments.** First, the project will ensure local participation in the selection of road priorities, and a simple questionnaire will be addressed by CDR to all union of municipalities to consult with them on their priorities with regard to the rehabilitation of national roads crossing their respective towns/districts. The list of priority roads identified by municipalities will be checked against the results of the road condition survey and will be considered for selection under the project if justified on sound technical and economic basis. Second, the project will measure citizens' satisfaction with the implemented projects through a survey to assess the level of satisfaction of beneficiaries from the implemented projects; and third, the GRM will allow citizens to directly voice concerns or grievances to the implementing agency and ensure that these concerns are responded to and addressed in a timely manner.

85. **The project will particularly encourage broader participation and benefits for women.** The consultations will engage women in discussions on the types of jobs in construction or related supporting sectors they could most benefit from. Specific arrangements will also be made for women to be able to take on work directly and indirectly linked to the project activities. It is important to note, however, that among some social groups in Lebanon, including large segments of the refugee population, women's engagement in construction-related labor is not encouraged according to social and cultural norms. Changing these norms goes beyond the scope of the project, but these norms could in fact change due to measures put in place to encourage women's labor, if these measures are determined by women themselves. The project will also track the differential impacts of its activities on men and women. Results will be disaggregated by gender whenever feasible and reporting will look at whether gender gaps narrow throughout project implementation. During the midterm review, gender gaps within the project will be analyzed and activities to further address gender issues will be put in place. Data on women's participation and benefits from this project will be widely shared so that information can be used by other donors and agencies supporting the transport sector or otherwise aiming to promote gender equality in Lebanon.

F. Environment (including Safeguards)

86. **A SAP was prepared in accordance with the Bank policy (paragraph 12, OP10.00).** The project is classified as environmental category "B", in accordance with OP 4.01. Recognizing the need for providing urgent assistance, while at the same time ensuring due diligence in managing potential environmental and social risks, the SAP is based on the following principles (see annex 4):

1. The proposed operation will support multiple components, all within the transport sector, the detailed designs of which were not known at the stage of combined preparation and appraisal mission.
2. To ensure effective application of the World Bank's safeguard policies, the SAP provides guidance on the approach to be taken during project implementation for the selection and



design of subprojects and the planning of mitigation measures;

3. The proposed emergency operation will finance feasibility and detailed design studies for these investments, which will include environmental assessments required by World Bank's safeguard policies.

87. Consultation and disclosure requirements will be simplified to meet the special needs of these operations. This SAP is subject to public disclosure as part of the PAD. In addition, it will be disclosed both in-country (in the appropriate communication channels and CDR Webpage) as well as at the World Bank InfoShop.

88. **The project is not expected to have significant negative impacts on the environment.** The negative impacts anticipated for the project activities are minor and of temporary nature during the construction phase, including dust, noise, waste generation, disruption to traffic and movement, damages to existing utilities, and easily mitigated by the site specific ESMPs. Mitigation at construction stage will take place as part of the contracts for civil works which will require contractors to undertake impact mitigation according to the ESMPs. Lebanese regulations on EIA include a tool only for pre-assessment of projects based on preliminary environmental information. The provisions of the national laws on EIA will be complemented by those of the World Bank's OP 4.01.

G. Other Safeguard Policies

89. No other safeguard policies are triggered for the project.

H. 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/en/projects-operations/products-and-services/grievance-redress-service>. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.



VII. RESULTS FRAMEWORK AND MONITORING

Results Framework

COUNTRY : Lebanon

Roads and Employment Project

Project Development Objectives

The Project Development Objectives (PDOs) are to: (i) improve transport connectivity along select paved road sections; and (ii) create short term jobs for Lebanese and Syrians.

Project Development Objective Indicators

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
Name: Direct project beneficiaries	✓	Number	0.00	1000000.00	Annual	Based on Lebanese and Syrian population living in a casa that benefitted from road rehabilitation works, including women.	CDR
Female beneficiaries	✓	Percentage	50.00	50.00	Annual	Based on Lebanese and Syrian population living in a casa that benefitted from road rehabilitation works, including women.	CDR

Description: Direct beneficiaries are people or groups who directly derive benefits from an intervention (i.e., children who benefit from an immunization program; families that have a new piped water connection). Please note that this indicator requires supplemental information. Supplemental Value: Female beneficiaries



Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
(percentage). Based on the assessment and definition of direct project beneficiaries, specify what proportion of the direct project beneficiaries are female. This indicator is calculated as a percentage.							
Name: Reduction of average travel time on five priority road sections		Percentage	0.00	15.00	Annual	Based on vehicles' speed measures.	CDR
Description: This is one important measure of transport connectivity. It compares travel time on select road sections before and after the project.							
Name: Number of labor days of short term jobs created for Lebanese and Syrians		Number (Thousand)	0.00	1500.00	Annual	Contractors' reports compiled by CDR & supervision consultants and verified by World Bank & ILO missions and surveys.	CDR
Description: This is a measure of the jobs created under this project. This will primarily include direct jobs, but also supply chain/indirect jobs where possible to quantify.							

Intermediate Results Indicators

Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
Name: Roads rehabilitated, Rural	✓	Kilometers	0.00	500.00	Bi-Annual	Progress report compiled by CDR & supervision consultants.	CDR
Description: Kilometers of all rural roads reopened to motorized traffic, rehabilitated, or upgraded under the project. Rural roads are roads functionally classified in							



Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
various countries below Trunk or Primary, Secondary or Link roads, or sometimes Tertiary roads. Such roads are often described as rural access, feeder, market, agricultural, irrigation, forestry or community roads. Typically, rural roads connect small urban centers/towns/settlements of less than 2,000 to 5,000 inhabitants to each other or to higher classes of road, market towns and urban centers.							

Name: Reduction of road crash fatalities on five priority road sections		Percentage	0.00	15.00	Bi-Annual	Progress report compiled by CDR in collaboration with SF and the SNCRS.	CDR
Description: This is a measure of road safety conditions and improvements. It measures the number of fatalities from road accidents.							

Name: Number of person-days of training benefiting Lebanese and Syrians on road construction and maintenance methods		Number	0.00	1000.00	Bi-Annual	Progress report compiled by CDR & supervision consultants. Training material and attendance sheet included.	CDR
Description: A measure of the training of the labor force. Training programs could include new construction and maintenance techniques, health and safety measures in road construction, and training on the use of new equipment and material.							

Name: Number of routine maintenance contracts		Number	0.00	8.00	Bi-Annual	Progress report compiled by CDR, actual number of Bank reviewed contracts.	CDR
Description: Routine maintenance contracts are generally two to three years small contracts for the upkeep of roads that are generally in good condition. Routine							



Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
maintenance involve the patching of potholes, sealing cracks, cleaning vegetation, fixing signing among others. They are usually undertaken by local small contractors on newly rehabilitated roads. Roads in bad condition require rehabilitation and structural repairs first before routine maintenance is used/effective.							

Name: Complete IRAP star rating for the primary, secondary and tertiary road network		Yes/No	N	Y	Bi-Annual	IRAP star rating completed and available online and/or on software.	CDR
Description: IRAP is a visual inspection methodology for rating the severity of road sections' safety related risks and the associated fatality and injury hazards. IRAP allows the identification of priority road sections for road safety improvements and an indication on the type of the required improvements.							

Name: Complete visual survey of road condition for the primary, secondary, and tertiary road network		Yes/No	N	Y	Bi-Annual	Visual survey available online and/or on software.	CDR
Description: The visual survey involves camera recording of road network condition, in addition to other visual measures. The collected data will then be decoded in accordance of a road inspection manual that associates various aspects of the recording with a rating of the quality and condition of the network.							

Name: Number of wheel loaders purchased		Number	0.00	15.00	Bi-Annual	Progress report compiled by CDR. Bank implementation support mission.	CDR
Description: Necessary equipment for emergency road repairs.							



Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
Name: Roads with improved climate resilience and improved drainage and slope stabilization		Kilometers	0.00	100.00	Bi-Annual	Progress report compiled by CDR & supervision consultants on road works.	CDR
<p>Description: This is a measure of climate change adaptation of the road network. Lebanon is primarily a mountainous country with several roads at risk of flooding and slope failure requiring the improvement of drainage and infrastructure and supporting slope stabilization structures (retaining walls, masonry walls, vegetation).</p>							
Name: Percentage of consultation sessions focused on women only		Percentage	0.00	30.00	Bi-Annual	Progress report compiled by CDR; safeguards reports and documents.	CDR
<p>Description: Consultation aimed at assessing women specific needs and potential benefits from the project.</p>							
Name: Surveyed beneficiaries satisfied with the project results		Percentage	0.00	75.00	One time	A survey will be conducted on a sample of beneficiaries in the last year of the project to measure their satisfaction and assessment of the project performance.	CDR
<p>Description: This is a measure for citizen engagement and satisfaction with the project performance.</p>							
Name: Number of union of		Number	0.00	15.00	one time.	Letters and/or minutes of	CDR



Indicator Name	Core	Unit of Measure	Baseline	End Target	Frequency	Data Source/Methodology	Responsibility for Data Collection
municipalities consulted on road priorities						meetings from/to union of municipalities.	
Description: This indicators measure consultations with local authorities, and indirectly with the public, on their road rehabilitation priorities.							

**Target Values****Project Development Objective Indicators**

Indicator Name	Baseline	YR1	YR2	YR3	YR4	YR5	End Target
Direct project beneficiaries	0.00	200000.00	500000.00	700000.00	900000.00	1000000.00	1000000.00
Reduction of average travel time on five priority road sections	0.00	0.00	0.00	15.00	15.00	15.00	15.00
Number of labor days of short term jobs created for Lebanese and Syrians	0.00	400.00	800.00	1000.00	1200.00	1500.00	1500.00
Female beneficiaries	50.00	50.00	50.00	50.00	50.00	50.00	50.00

Intermediate Results Indicators

Indicator Name	Baseline	YR1	YR2	YR3	YR4	YR5	End Target
Roads rehabilitated, Rural	0.00	100.00	250.00	350.00	400.00	500.00	500.00
Reduction of road crash fatalities on five priority road sections	0.00	0.00	0.00	15.00	15.00	15.00	15.00
Number of person-days of training benefiting Lebanese and Syrians on road construction and maintenance methods	0.00	200.00	400.00	600.00	800.00	1000.00	1000.00
Number of routine maintenance contracts	0.00	0.00	2.00	4.00	8.00	8.00	8.00
Complete IRAP star rating for the primary,	N	N	N	Y	Y	Y	Y



Indicator Name	Baseline	YR1	YR2	YR3	YR4	YR5	End Target
secondary and tertiary road network							
Complete visual survey of road condition for the primary, secondary, and tertiary road network	N	N	N	Y	Y	Y	Y
Number of wheel loaders purchased	0.00	0.00	15.00	15.00	15.00	15.00	15.00
Roads with improved climate resilience and improved drainage and slope stabilization	0.00	20.00	40.00	60.00	80.00	100.00	100.00
Percentage of consultation sessions focused on women only	0.00	30.00	30.00	30.00	30.00	30.00	30.00
Surveyed beneficiaries satisfied with the project results	0.00	0.00	0.00	0.00	0.00	75.00	75.00
Number of union of municipalities consulted on road priorities	0.00	0.00	5.00	10.00	15.00	15.00	15.00

ANNEX 1: DETAILED PROJECT DESCRIPTION

COUNTRY : Lebanon Roads and Employment Project

1. The Project includes three components namely: (i) Road Rehabilitation and Maintenance; (ii) Improving Road Emergency Response Capacity; and (iii) Capacity Building and Implementation Support.

Project Component 1: Roads Rehabilitation and Maintenance (US\$185 million)

2. This component will include the rehabilitation and maintenance of 500 km of primary, secondary and tertiary roads, including road safety and spot improvement. The current road classification of the network depends on the roads' functional characteristics: A primary road is a road that connects two Lebanese regions, a secondary road connects to districts or Casa, and a tertiary road connects towns within a Casa. The geometric characteristics of the roads, and particularly road width, is a function of its classification. While not all roads characteristics are based on the same standards, even within the same category, the general width and observed/estimated road condition is according to table 1.1 below. The ongoing visual survey will permit a better assessment of these characteristics and conditions.

Table 1.1. National Road Categories, Characteristics, and Observed Traffic and Road Condition

Road Category	Definition	Width in Meters	Traffic Range (ADT)	Roughness Range (IRI)
Primary Road	Links two Lebanese Regions	14	>10,000, most sections in the 20,000 to 30,000 range	4 to 5
Secondary Road	Links two Lebanese Districts/Casa	9	5000–1000	5 to 6
Tertiary Road	Links towns within Casa	6	< 5,000	7 to 8

3. The rehabilitation works will generally comprise asphalt overlays, drainage structures, gabion protection, repair, and rehabilitation of some minor bridges and culverts, base and sub-base reconstruction, slope stabilization as well as shoulders and ditches improvements on sections crossing towns. Most of the works will be within the existing right-of-way. The technical standards for the project will generally be the same as currently being utilized in Lebanon, and which are primarily based on US road technical standards. The standards will be slightly revised where appropriate to increase the labor content where possible and to maximize the generation of skilled and semi-skilled employment opportunities, largely within existing construction practices.
4. The unit costs will vary with the condition of the targeted roads, their classification, related structure works, terrain, and prevailing climate condition. Tables 1.2 and 1.3 below provide average unit costs according to existing rehabilitation practices and recent contracts. Road rehabilitation works range between US\$150,000/km to US\$350,000/km for overlay works, and between US\$350,000 to

US\$600,000 for reconstruction works, including drainage and retaining structures. It is estimated that roughly about 30 percent of the Lebanese network requires full reconstruction.

Table 1.2. Current Asphaltting Unit Costs¹³

Type of Road Works	Description of Works
Pavement Overlay	Milling, tack coat, 6 cm asphalt overlay, marking, signing & lighting
Base work	Excavating 50 cm, putting 45 cm aggregate. Required on reconstruction works for parts of the network only.

Table 1.3. Drainage and Structure Unit Costs¹⁴

Type of Road Works	Description of Works
Drainage Channels	Excavation and construction of reinforced concrete U-channels.
Foot Walls	Reinforced concrete walls for slope stabilization, required on parts of the primary and secondary network only.
Masonry walls	Stone/masonry walls for slope stabilization of tertiary and low volume roads

- The total rehabilitation works under the World Bank-financed project are estimated at about **US\$150 million** and road rehabilitation contracts will be in the US\$5 million to US\$15 million range and will be financed under about 10 to 15 different local competitive bids to allow the participation of medium to small size local contractors in various regions of Lebanon.
- Road asphaltting and civil works are expected to generate substantial direct short-term employment, and are expected to be mainly carried out by local medium to small size contractors, and to be executed in 6 to 12 months per contract. The project is designed to allow more local Lebanese and Syrian labor force participation in the project. The project is expected to also generate indirect employment opportunities for material suppliers (Stones, Cement, Sand, Water, Fuel, and so on), shopkeepers, and transport providers in the project areas. Table 1.4 below provides estimates of the employment potential of different works under the project.

Table 1.4. Estimated Labor Content of Road Works as per Existing Construction Standards¹⁵

Type of Road Works	Percentage Direct Labor Content per Contract Value (%)	Local Supply Chain/indirect Labor Content (High, Medium, Low)
Pavement Overlay	13	Low as most cost is imported material cost such as asphalt.
Base Work	15	High due to equipment use and aggregate/gravel production
Drainage	20	Medium as combination of imported (steel) and locally produced material
Foot wall	25	Medium as combination of imported (steel) and locally produced material

¹³ Provided by CDR.

¹⁴ Provided by CDR.

¹⁵ Provided by CDR.



Sidewalks	25	High as most material locally produced
Masonry Wall	40	High as most material locally produced
Routine Maintenance	60	High as most equipment/material locally available
Planting trees/vegetation	75	High as most material locally produced

7. Targeted roads will be selected from a long priority list that will be finalized following the ongoing road condition visual survey. Candidate road subprojects will be screened, and subjected to environmental, social and economic analysis on the basis of procedures established under the project. The project will be part of a nationwide program, parallel financed by other donors with the Bank being the major donor, and the targeted roads may be located in any part of the Lebanese national road network.
8. This component will also finance the piloting of an innovative type of multi-year routine maintenance contracts (two to three years per contract) to be undertaken by small local contractors on a select number of the newly rehabilitated road sections, estimated at a total of about **US\$15 million**, and is designed to help the Lebanese government remedy the current weaknesses in the management of road maintenance and to increase the durability and efficiency of road investments. Component 1 of the project will also include **US\$12 million** as price contingencies.
9. Component 1 will also finance consultancy services for the design and construction supervision of road subprojects. The estimated cost of these services, which will be provided primarily by local consultants is estimated at **US\$8 million**. Under the project, an important job creation potential is also created for national engineers and local engineering firms who will find job opportunities in the design and implementation phases of the road subprojects. For each subproject a design and supervision consultant will be hired to ensure compliance with the technical specifications, quality standards, contractual arrangements, safeguard policies, and other aspects.
10. To accelerate the start-up and disbursement under the project, it is estimated that activities of about US\$60 million in contract value could be initiated in the first year of the project, of which up to US\$20 million will be started from March 2017 under retroactive financing arrangements. These activities include the procurement of consultants for technical designs, the procurement of equipment under component 2, the procurement of road contractors for about US\$50 million in contract value, and the procurement of the PIU and select consulting services under component 3.

Project Component 2: Improving Road Emergency Response Capacity (US\$7.5 million)

11. This component will finance the purchase of road vehicles for the benefit of the MPWT to increase their capacity in dispatching the necessary equipment to deal with emergency road works, particularly those induced by climate condition and extremes such as snow removal and landslides repairs. The component will finance the purchase of 15 wheel loaders, 10 snow blowers, 5 salt spreaders, and 10 four wheel drive vehicles. This component will also assist in revising the existing emergency procedures of MPWT, and its capacity to plan for extreme weather event including the timely and proper mobilization and dispatching of its equipment.



12. Lebanon is primarily a mountainous country and has been recently witnessing more extreme weather with shorter yet more severe winters and snow periods. MPWT has currently insufficient number of vehicles particularly for snow removal, and most the existing equipment is outdated with an average age of 20 years. MPWT has currently 60 wheel loaders, 25 snow blowers, and 7 salt spreaders and is having difficulty deploying them timely to all mountain roads and regions in Lebanon during extreme weather and snow events which can cover up to 70 percent of Lebanon national and local road networks during winter season. This results in some mountain villages and towns, and some primary roads and highways such as the Beirut-Damascus Highway, being inaccessible for substantial periods of time.
13. In addition to the purchase of vehicles, this component will assist MPWT revise its winter and snow emergency procedures to better plan, communicate, deploy, and respond to winter and snow emergencies. Given its strong linkages to the climate change agenda, this component could benefit at later stages from additional support from disaster risk management and climate adaptation funds.

Project Component 3: Capacity Building and Implementation Support (US\$7.5 million)

14. This component will finance consultancy services, and related software and IT equipment, to support the following subcomponents:
 15. **Subcomponent 1.** Strengthen national road asset management (US\$2 million). This subcomponent will finance the creation of a road asset database for the trunk network in Lebanon, the collection of the basic information for the database (such as road condition visual surveys, IRAP assessment of road safety, and traffic counts on select road sections), and the revision of design and maintenance standards to reflect changing climate conditions, particularly related to drainage and slope stabilization. This subcomponent will also finance the preparation of routine maintenance manual for small contractors, and bidding documents and training on performance-based contracts for road maintenance. This subcomponent could benefit at later stages from additional support from disaster risk management and climate adaptation funds.
 16. **Subcomponent 2.** Support the planning and implementation of road safety measures (US\$2 million). This subcomponent will benefit the Secretariat of the NRSC and will primarily finance the elaboration of a national strategy and action plan on road safety, as well as the implementation of select priority road safety measures in collaboration with other interested parties. This subcomponent could benefit at later stages from grants from the GRSF and/or other interested donors.
 17. It is important to note that Lebanon has one of the worst road safety records globally, and that road safety fatalities and injuries continue to rise. This has been affecting both Lebanese host communities and the Syrian refugees as evidenced in the road safety fatality and injury statistics prepared by the Lebanese traffic police (see table 1.5 below), which remain underreported compared to WHO and World Bank estimates, given differing methodologies for accounting for road safety fatalities and injuries.
 18. **Subcomponent 3.** Support planning and design studies (US\$2 million). This subcomponent will finance CDR studies to prepare the required planning and design studies for critical transport projects identified as priorities by the Lebanese governments.



19. **Subcomponent 4.** Support training activities (US\$0.5 million). This subcomponent will support training activities to build the technical skills of MPWT and CDR staff, as well as workers and small contractors. It will support training on soft skills as well as technical skills related to the work to be carried out at selected project sites. In particular, this subcomponent will also support the training of small local contractors and their workers on proper routine maintenance requirements and techniques, environmental and social aspects, and health and safety aspects. The implementation of this subcomponent could be in collaboration with other interested donors such as the ILO. This subcomponent could benefit from grants from interested donors. A technical supervision manual for CDR and MPWT regional offices will be prepared to improve their monitoring and supervision efforts of road condition.
20. **Subcomponent 5.** Support for Project Implementation (US\$1 million). This subcomponent will finance the hiring of required experts by the implementing agency (CDR) to properly undertake the implementation and monitoring of the project.

Table 1.5. Road Safety Fatalities and Injuries in Lebanon¹⁶

Year	Total Number of Fatalities	Number of Syrian fatalities	Percentage of Syrian Fatalities	Total Number of Injuries	Number of Syrian Injuries	Percentage of Syrian Injuries
2011	508	52	10.2	6050	418	6.9
2012	595	105	17.6	6697	614	9.1
2013	652	177	27.1	6225	890	14.2
2014	655	162	24.7	6472	935	14.4

¹⁶ Lebanese ISF.



ANNEX 2: IMPLEMENTATION ARRANGEMENTS

COUNTRY : Lebanon Roads and Employment Project

Project Institutional and Implementation Arrangements

1. The project implementation entity is CDR. All technical, fiduciary, safeguards, and monitoring aspects will be executed directly by CDR therefore avoiding the complication of multiple agencies' implementation. CDR has a long and well established cooperation with the World Bank and other donors, and its performance at project implementation has been generally satisfactory. CDR will, however, ensure coordination with the relevant government agencies, particularly the MPWT, regarding the priorities, technical aspects, and project requirements. The selection of priority roads for the project will be undertaken in consultation with MPWT based on the results of the visual survey and the agreed criteria. MPWT will also identify and submit its needs for emergency equipment and desired technical specifications to CDR who will undertake the procurement of such equipment. The SNRSC will inform CDR about its capacity building needs and will draft and review terms of Reference for the required services, with Bank support, before CDR proceeds with the procurement of such services. The same road asset management system will also be installed within both CDR and MPWT and will involve the joint participation and training of MPWT and CDR staff on the utilization of the new system, therefore reinforcing sustainability given both MPWT and CDR active responsibilities in the road sector in Lebanon.
2. To ensure further coordination and capacity building, two road engineers from MPWT (one from planning and one from maintenance) will be primarily dedicated to support CDR in the implementation of the project, providing day-to-day on-the-job learning. The project will also fund one road engineer, through the PIU, who will be housed within MPWT working with the General Director for Roads and Buildings. World Bank experts will provide capacity building and training to both agencies regarding the new standards and road maintenance approaches, such as on routine maintenance and the possible piloting of performance-based contracts; and Bank staff will regularly meet with MPWT and CDR to follow up on project implementation progress. MPWT and the SNRSC will contribute to drafting terms of reference and setting technical specifications for project components that directly benefit them and representatives from these agencies will participate in CDR procurement committees to further ensure coordination.

Financial Management

3. Project FM arrangements, including accounting, reporting, and auditing functions will be centralized at the PIU within CDR. The flow of funds process will be undertaken through a DA to be opened for the project. The project financial reports will be done by the PIU and submitted to the Bank along with the project progress reports.
4. CDR has significant experience of implementing construction components for Bank supported projects and its FM performance on past and current projects is considered satisfactory. More specifically, the CDR has implemented the UTDP and had an overall satisfactory rating for FM arrangements implementation though has some gaps regarding assets recording and registry. It



has a functional unit undertaking FM responsibilities, including funds flow management, accounting, reporting, and facilitating an acceptable external audit. CDR's external auditor will conduct the audit of the World Bank-financed projects. Nevertheless, the key FM issue for CDR is the lack of proper maintenance of asset lists (UTDP project had these issues) and the delay in submission of timely audit reports.

5. Thus, to mitigate FM-related risks CDR will ensure that the assets module of its accounting software is well operationalized and is able to capture the work in progress and the assets acquired under the project, will recruit an acceptable external auditor in the early stages of the project to enable constant audit compliance, and a Project Implementation Manual is being prepared, including a FM chapter that will detail the FM arrangements to be established for carrying out the project FM implementation and defining the roles and responsibilities. The FM chapter will include a detailed description of the process for expropriation and resettlement.
6. **Staffing.** The existing CDR FO has adequate experience in managing World Bank-financed projects and will thus manage the project FM arrangements. This FO will be supervised by the Head of Funding Division at CDR.
7. **Project Accounting Software.** CDR has in place customized accounting software that has been used for the FM implementation of the World Bank financed projects and can be used to record project's accounting transactions and generate the project's Interim Unaudited Financial Reports (IUFs). The FM team within the CDR PIU headed by the CDR Head of Funding Division will be responsible for accurate and complete recording of the daily transactions in the accounting system and ensuring that the required project IUFs are generated automatically from the system.
8. **Budgeting.** The loan will be issued through a law, allowing for the World Bank to include any risk mitigating measures into the arrangements that are deemed necessary to overcome any gaps in the Lebanese PFM system. Therefore, this project will be implemented using the World Bank's guidelines, policies, and procedures for financed projects. A set of FM arrangements will be undertaken to ensure proper project accounting, reporting, controls, and audits. A project quarterly and annual budget and disbursement plan will be maintained by CDR based on the project procurement plan and implementation schedule to ensure timely availability of funds. It will be used as an effective tool for comparing planned expenditures with actual ones and monitoring the existing variances.
9. **Internal controls.** CDR has adequate internal controls in place for preparation and approval of transactions and segregation of duties related to Bank-financed projects. CDR has significant experience of implementing construction components for Bank-financed projects and its FM performance on past and current projects is considered satisfactory.
10. **Flow of funds.** The World Bank FM, procurement, and anti-corruption guidelines will be used.
11. A DA for the project's loan funds will be opened at the Banque du Liban in US dollars. CDR will use this DA to pay for eligible expenditures related to components activities financed by the World Bank.



12. *In requesting replenishment into the DA for paid eligible expenditures, CDR will make use of a Statement of Expenditure (SOE) according to template attached to annex 4 of the Disbursement Letter. Records evidencing eligible expenditures, such as invoices, Interim Certificate Payments, will be required for payments against contracts subject to Bank's Prior Review. All payments will be made on a pari passu basis between the Non-Concessional Portion and the Concessional Portion of the Loan, in accordance to the ratio pre-determined in the Loan Agreement.*
13. **IUFRs.** The Project's IUFRs, prepared in accordance with International Public Sector Accounting Standards (IPSAS) – Cash Basis and generated through the Accounting System, will be sent to the Bank by no later than 30 days after the end of each quarter. The format and content of IUFRs have been discussed with CDR during negotiations. The IUFRs will be composed of: (a) Statement of Cash Receipts and Payments by category for the year then ending and cumulatively from inception date up till the year ending including funds received from third parties; (b) Accounting policies and explanatory notes including a footnote disclosure on schedules; (c) Statement of DA reconciling period-opening and end balances; (d) Statement of project commitments, showing contract amounts committed, paid, and unpaid under each project's signed contract; (e) SOEs by category for the quarter and cumulative, and (f) a comprehensive list of fixed assets.
14. **Project Financial Statements (PFSs).** The PFSs, prepared in accordance with IPSAS – Cash Basis - should contain the same information as the quarterly IUFRs but cover an annual period. The audited PFS would be submitted to the Bank no later than six months after the end of each fiscal year¹⁷ (see External Audit Arrangements below).
15. **External audit.** The PFSs will be audited by an independent private external auditor acceptable to the World Bank. The audit will cover all projects' activities financed by the loan, including review of effectiveness of the internal controls system, and compliance with the Financing Agreement. The audit will be carried out in accordance with International Standards on Auditing. The audit report and PFSs, along with management letter, will be submitted to the Bank no later than six months after the end of each fiscal year. In addition, the project management letter will contain the external auditor assessment of the internal controls, accounting system, and compliance with financial covenants in the Loan Agreement. The external auditor will be engaged not later than six months of project effectiveness.
16. Moreover, according to the Bank disclosure policy, the borrower through the Project Implementing Entity needs to make publicly available the audited annual financial statements for all World Bank-financed investment lending operations. Accordingly, this project's audited annual financial statements once issued and accepted by the Bank will be made available to the public on the CDR website.

Disbursements

17. The proceeds of the Loan will be disbursed in accordance with the Bank's disbursements guidelines for projects and as outlined in the Disbursement letter. Transaction-based disbursement will be used under this project. Accordingly, requests for payments from the Loan

¹⁷ Project fiscal year ends December 31.



will be initiated through the use of Withdrawal Applications (WAs) either for Advances, Reimbursements, and Replenishments to the DA. All WAs will include appropriate supporting documentation including detailed Statement of Expenses for reimbursements and replenishments to the DA. The DA ceiling will be set at US\$10,000,000.

18. The loan proceeds will be divided according to table 2.1.

Table 2.1. Categories and Division of Loan Proceeds

Category	Amount of the Non-Concessional Portion of the Loan Allocated (expressed in US\$)	Amount of the Concessional Portion of the Loan Allocated (expressed in US\$)	Percentage of Expenditures to be financed (inclusive of Taxes)
(a) Goods, works, non-consulting services, consulting services, Training and Operating Costs for the Project	154,213,500	45,400,000	100
(b) Front-end Fee	386,500	0	Amount payable pursuant to Section 2.03 of the Loan Agreement
(c) Interest Rate Cap or Interest Rate Collar premium	0	0	Amount due pursuant to Section 2.08(c) of the Loan Agreement
Total Amount	154,600,000	45,400,000	

19. **E-Disbursement.** The World Bank has introduced the e-disbursement for all Lebanon supported projects. Under e-disbursement, Project’s required transactions will be reported and associated supporting documents scanned and transmitted on line through the Bank’s Client Connection system. E-disbursement will considerably speed up disbursements and facilitate project implementation.

20. The disbursement methods will include: advance, direct payments, reimbursement, and special commitments. The minimum amount per WA for direct payments and reimbursements will be 20 percent of the outstanding DA advance. Project disbursement guidelines are documented in the disbursement letter. All documentation showing expenditures shall be retained by CDR and shall be made available to the Bank and its representatives for audit, if requested.

21. The Bank will honor eligible expenditures completed, services rendered and goods delivered by the Loan Closing Date. A four-month grace period will be granted to allow for the payment of any eligible expenditure incurred (that is, services, goods or works, received and accepted) before the Loan Closing Date.



22. Retroactive financing of up to US\$20,000,000 will be allowed for eligible expenditures paid on or after March 15, 2017 and up to the date of Loan Agreement signing. Payments for items procured must be in accordance with applicable Bank Procurement procedures.
23. **Authorized signatories.** Authorized signatories will be nominated by CDR to sign the WAs. Names and corresponding specimen of their signatures will be submitted to the Bank before the receipt of the first WA (advance to DA). Each WA will be approved and signed by the authorized signatories.
24. **Implementation support plan.** An implementation support mission will be conducted at least twice a year based on the risk assessment of the project. The implementation support objective is to ensure that strong FM systems are maintained throughout the life of the project. The IUFs will be reviewed on a regular basis by World Bank staff and the results and issues will be followed up during implementation support missions. Financial audit reports will be reviewed and issues will be identified and followed up by the project FO. Additionally, the Project's FM and disbursement arrangements (including a review of sample payments and financial movements of the DA) will be reviewed to ensure compliance with the Bank's minimum requirements.

Procurement

25. **Implementing agency.** CDR shall be in charge of implementing the project in close collaboration with the MPWT. The Public Accounting Law of 1963, supplemented by several decrees, constitutes the legal foundation of Lebanon's organizational and institutional framework for procurement. The current system has remained entirely centralized, with the Central Tender Bureau in the General Inspection, being in charge of public procurement. CDR constitutes an exception to the Public Accounting Law of 1963. Since its establishment in 1977 as a legally and financially autonomous state agency, CDR has operated under special procurement regulations. This was formalized in 1980 through a decree covering CDR's financial and accounting transactions assigned to CDR by the Minister of Finance. CDR is permitted by the decree to establish its own financial, accounting and procurement regulations. However, the procurement methods adopted by CDR are similar to the ones in the country's general procurement framework. CDR has managed to follow international financiers' procurement guidelines to handle the Bank-financed projects.
26. **The implementing agency has a good past experience in internationally funded projects.** CDR has extensive experience in implementing donors' funding (EU, IBRD, EIB, and so on). CDR has proven that it is capable of handling large and complex projects. The institution has adopted a strong matrix organization project management capacity by delegating the responsibility of each project to a team headed by an experienced manager, who deals with all aspects of project and contract management. CDR also has a unit for monitoring and evaluation. The project will be implemented through a PIU similarly to the implementation scheme observed for the UTDP closed on December 31, 2015. CDR has a solid management structure and is staffed with adequate and experienced procurement and technical specialists as required by the project design. Additional specialists will be hired in the PIU as needed. Diligence is also observed in record keeping and quality of evaluation. The procurement processing and contract management was rated satisfactory, and the Implementation Completion and Results Report of UTDP rated the



performance of the implementing agency, CDR, as satisfactory. The implementing agency is familiar with Bank's bidding documents and procedures and was trained on the new procurement framework and when local bidding is conducted, the standard documents will be reviewed to be acceptable to the Bank.

27. **Audit.** The institution exercises internal audit and appoints an External Independent Auditor that reviews all World Bank financed projects. Audit reports are received on time and of satisfactory quality.
28. **Applied taxes:** The GOL observes the following taxation: (a) Stamp Duties of (a) three per thousand of the contract price for contract registration at MoF, and (b) three per thousand on each payment; (b) value-added tax (VAT) of 10 percent applied on consultants and contractors who are registered and eligible for VAT; and (c) Income Taxes that are a flat rate of 7.5 percent for non-registered consultants and variable for registered consultants (Taxpayer Identification Number-TIN), depending on their job classification at MoF. Exemption of consultants from Income Taxes may be observed if they are registered in countries that have entered with Lebanon into agreements prohibiting double taxation. Contracts financed by international donor proceeds are exempted from VAT (Law No 379 dated December 14, 2001).
29. **Overall procurement risk assessment.** Despite CDR's general adequate capacity, the following risks are identified: (a) delays in procurement processing and implementation related to internal CDR approval process, (b) delays in design and technical work before works execution, and (c) supervision of contracts and contract management. To bring these risks down to moderate, the following measures will be incorporated in the project: (a) Bank supporting the PIU to expedite the internal approval process, (b) selection of priority road sections based on readiness for the initiation of the first-year program, (c) assigning field consultants to monitor contracts and supervise works.
30. **Proposed procurement arrangements.** Following the New Procurement Framework of the World Bank that became effective on July 1, 2016, the project will observe the below arrangements:
 - (a) Procurement methods for works: The project is expected to use: (i) Request for Bidding (RFB) for national markets for about 15 work contracts and other framework agreements for routine maintenance contracts. Other Methods, where justified, are: (ii) Request for quotations; and (iii) Direct contract.
 - (b) Procurement methods for goods and non-consulting service: The project is expected to purchase road vehicles and IT equipment using: (i) Request for Bidding (RFB) for both international and national markets, (ii) Request for quotations; and (iii) Direct contract.
 - (c) Procurement of consultants: the project is expected to use request for proposals with the following methods (i) Quality-and-Cost-Based-Selection (QCBS), (ii) Selection under a Fixed Budget (Fixed Budget Based Selection or FBBS); (iii) Least-Cost-Based-Selection (LCBS); (iv) Consultants' Qualifications Based Selection (CQBS); Quality Based Selection (QBS); (v) Direct Selection (DS); and (vi) Selection of Individual Consultants.



31. **STEP.** An initial procurement plan for the life of the project is developed by the government through STEP. It defines the market approach options, the selection methods and contractual arrangements, and determines the World Bank's reviews. The preliminary procurement plan was discussed during negotiations. .
32. **Prior review threshold.** Based on the satisfactory assessment, the project shall be subject to moderate risk prior review threshold, making the project mostly subject to post review.
33. **The PPSD is aimed to broaden the social and employment benefits of the project while ensuring quality project's execution.** Road rehabilitation and maintenance contracts are expected to be primarily undertaken by medium and small local contractors. Provisions will be also considered to ensure the awarded contractors work within their financial and technical capacity. Major work contract sizes are expected to be in the US\$5 million to US\$15 million range, allowing the participation and competition of firms from the various regions of Lebanon and ensuring that works are undertaken by contractors with enough experience to deliver good quality works. International competition is expected for some of the contracts to supply goods, especially in regards with maintenance equipment and vehicles, and IT equipment. Local and international consultants will be selected to support the project by: (a) strengthening road asset management, (b) supporting planning and implementation of road safety measures, (c) training workers and small contractors for maintenance activities, (d) road safety, and (e) preparation and evaluation of technical specifications for maintenance equipment and vehicles. In view of the emergency nature of the project, the PPSD full version and resulting procurement plan will be finalized by the CDR and sent for Bank review by April 30, 2017. A preliminary procurement plan was also discussed during the loan negotiations.

Environmental and Social (including safeguards)

34. CDR will be responsible for implementing the provisions of the SAP, ESMF, RPF, and all other safeguards-related instruments and monitoring the compliance of contractors with the provisions of the projects.
35. An environmental and social consultant will be recruited by CDR to support the PIU on all matters related to the mitigation of social and environmental risks. This includes the preparation of the ESMF, site specific ESMPs and RAPs as needed, ensuring proper consultations are conducted, monitoring compliance of municipalities and their contractors with the provisions of the site specific ESMPs and related provisions in the bidding documents, and regular reporting to CDR on environmental compliance. The World Bank environmental and social safeguard specialists will provide guidance to CDR on these matters.
36. The key document governing the further implementation of the Bank's safeguards policies in this project is the SAP at this stage and will be followed by an ESMF. The SAP will provide a time-bound planning framework for the environmental and social safeguards instruments, the production of which has been deferred into the project implementation period under paragraph 12 of OP10.00, allowing for condensed procedures and deferral of the safeguards instruments in situations of urgent need of assistance or capacity constraints. This SAP provides general policies, guidelines, codes of practice and procedures to be integrated into the implementation of the World Bank-



financed Lebanon Roads and Employment Project. Two safeguards policies apply to this project: OP 4.01 Environmental Assessment and OP 4.12 Involuntary Resettlement.

37. **OP 4.01 Environmental Assessment.** The proposed project will mainly focus on the rehabilitation of rural and peri-urban roads in deteriorated conditions; rehabilitation of access roads, and the rehabilitation of bridges and culverts including linking agricultural areas. The work in these areas will be done under OP 4.01 and it is not anticipated that OP 4.04, OP 4.10, OPN 4.37, and OP 7.50 would be triggered.
38. Considering the nature and magnitude of potential environmental impacts from relatively limited scale and magnitude of rehabilitation and improvement works, the proposed operation is classified as category 'B'. Environmental safeguards documents (ESMF and Site Specific ESMP) will be developed during project implementation. At the same time, the implementing agency will agree to apply the following minimum standards during implementation: inclusion of standard environmental codes of practice (ECOP) in the rehabilitation, improvement and construction bid documents of all components and subcomponents; review and oversight of any major reconstruction works by specialists; implementation of environmentally and socially sound options for disposal of debris; and provisions for adequate budget and satisfactory institutional arrangements for monitoring effective implementation. *No sub-components or subprojects of category "A" will be eligible for funding.*
39. For all project components/subcomponents which may include civil works (mainly component 1), a social and environmental safeguards screening tool will be applied, along with the specific sub-project level instruments that will be necessary to cover both social and environmental aspects, including ESIA for project activities if determined necessary, and ESMPs. Additional measures will support the implementation, monitoring, and compliance to the ESMF, including; (a) annual fiduciary audits/post-review of a subset of sub-projects with respect to design and implementation of site specific ESMPs, and (b) project implementation support missions by the Bank will include social and environmental implementation expertise to support client during the entire project cycle.
40. **OP 4.12 Involuntary Resettlement.** The need for involuntary resettlement or land acquisition in specific project areas, while minimal if any, will only be known during project implementation, when site-specific plans are available. Therefore, project activities will be screened for applicability of the resettlement policy and any activities involving involuntary resettlement or land acquisition will only be approved after preparation of a resettlement plan acceptable to the Bank. Several issues will increase the complexity of land acquisition - the lack of reliable land record systems, and the inability of people losing land to either document ownership or be physically present to make their claims for eligibility. The safeguards framework will therefore include procedures for identifying eligible project-affected people, calculating and delivering compensation, and mechanisms for land dispute grievance redress.
41. OP 4.12 covers those persons displaced by the project activities. Given the current refugee crisis and possible land disputes between residents and to ensure effective poverty reduction, CDR will undertake a social assessment as part of the ESIA and implement measures to minimize and mitigate adverse social impacts, particularly on poor and vulnerable groups. Well documented



consultation mechanisms will be required to establish eligibility for compensation. Refugees who may later claim compensation will require clear legal remedies to resolve or adjudicate disputes.

42. **Consultations and Disclosure.** Due to the emergency nature of this project, the formal consultation process with the public will take place during the preparation of the ESMF and RPF at a later stage. However, the project's SAP will be shared with relevant government agencies, nongovernmental organizations and development partners of Lebanon. The SAP will also be disclosed in country (on CDR website) and at the World Bank's InfoShop as part of the PAD.
43. The proposed operation will support a number of detailed design studies for future infrastructure investments for which World Bank's safeguard policies relating to consultation and disclosure will apply. In particular, the implementing agency will consult, during the ESMF and RPF preparation stage, with the project-affected groups and local nongovernmental organizations on the project's environmental and social aspects, and will take their views into account. The implementing agency (CDR) will initiate these consultations as early as possible, and for meaningful consultations, will provide relevant material in a timely manner before consultation, in a form and language that are understandable and accessible to the groups being consulted with.

Monitoring and Evaluation

44. Every six months CDR will submit to the Bank project progress reports summarizing all project aspects and progress achieved in project implementation and in meeting the PDOs. CDR will be supported by supervision consultants who will regularly monitor works' and contracts' progress and implementation, as well as consultants who will prepare and monitor the site specific ESMP and the RAP (if one is needed). CDR will also have a strong PIU with five staff which give them largely adequate capacity to monitor and evaluate the project.
45. Meanwhile, the World Bank will perform regular site visits and meetings with counterparts. The presence of Bank key specialists, including the Team Leader, in the field office in Beirut allows more regular and timely project monitoring.

Role of Partners (if applicable)

46. The World Bank and other donor-financed projects under Phase I of the roads program will be implemented in parallel, yet separately. The World Bank and other donor-financed projects will be separate and executed under parallel arrangements, with CDR being the implementing agency for both projects, therefore resulting in clear separation of project activities and responsibilities. Given the World Bank's strong technical expertise and presence in Lebanon, there will be close coordination between the World Bank and other donors to support them technical and coordination issues where possible, and provide timely and regular project monitoring with CDR.
47. The World Bank is also currently collaborating with ILO regarding the assessment of the labor content of the project and the types of jobs created and beneficiaries. This collaboration is likely to be extended during project implementation regarding aspects of workers skills, training, and safety.



ANNEX 3: IMPLEMENTATION SUPPORT PLAN

COUNTRY : Lebanon Roads and Employment Project

Strategy and Approach for Implementation Support

1. The strategy for implementation support has been developed based on the project design and its risk profile, as well as particular mitigation measures required during implementation. The strategy remains a flexible tool that may be amended during project implementation in response to the Borrower's and project's evolving needs.
2. There is a continuous partnership between the Bank and the GOL, including CDR and MPWT, in the transport sector. CDR has been most recently responsible for the implementation of UTDP. Building on past experiences, the project has been designed to correct some observed shortfalls, while also attempting to address some challenges identified in this operation. The Implementation support strategy envisages taking advantage of existing knowledge, partnerships, and experiences, and supporting further strengthening during the course of the Project.
3. **Technical.** While the activities financed through the project are generally not novel to consultants and contractors in Lebanon, and to CDR, there are nevertheless areas that require further assistance such as: (a) the execution of road works in accordance with good and international standards; (b) the design and implementation of a simple road asset management, including climate variables; (c) a road safety strategy and road safety design measures; (d) routine maintenance contracts including performance based-contracts; and (e) the review of rehabilitation and maintenance practices to increase labor content and provide training to contractors and workers. To support the implementation of the project with regard to these technical items, the following measures will be undertaken:
 - a. The project will finance specialized consulting firms to undertake the required technical designs, which will be reviewed the by Bank. In addition, specialized road engineering consultants will be financed from the loan to ensure that road works are implemented according to design standards.
 - b. As data availability and data collection practices is weak in Lebanon, and given the shortcomings of previous projects to establish a sustainable asset management system despite heavy investments in software and laboratory equipment, the project will design a simple and rather basic asset management system which requires little data collection and low cost data collection techniques (visual survey of the road condition, IRAP safety rating, and traffic data). The asset management system will be implemented in collaboration with international consultants and universities, who will also provide capacity building to Lebanese consultants on data collection and update methodology. The asset management system will be installed within both CDR and MPWT, with IT linkages, therefore ensuring redundancy and sustainability. Finally, an engineer will be financed from the loan to be part of the PIU and in charge of the maintenance and update of the asset management system to support CDR and MPWT staff. The World Bank will bring international experience in best practices regarding road asset management systems and will mobilize resources and expertise to assess the network vulnerability and improve its



resilience to climate conditions with expected supported from the Global Facility for Disaster Reduction and Recovery and climate funds.

- c. The World Bank will mobilize international experts to support the development of a national road safety strategy and action plan, as well as the implementation of select key measures. In addition, the IRAP review of the safety conditions of the existing road network will help feed in the design and execution of the planned road rehabilitation works to include better road safety improvements.
 - d. The World Bank will provide technical assistance on routine maintenance in the form of training to CDR/MPWT and consultants, sharing of TORs and standard bidding documents for such contracts, and training of select small contractors and their staff on the actual implementation of such activities. The project will attempt to pilot performance based contracts on select few roads to gradually introduce such practices to Lebanon;
 - e. The World Bank, in collaboration with other donors and through discussions with CDR, will review with consulting firms the designs and technical specifications of the planned road works to increase their labor content while ensuring proper works. The revision of technical standards, while working with design firms, CDR, and MPWT, will help introduce new and better road rehabilitation and maintenance practices in Lebanon which will become mainstreamed in all road works. In addition, the Bank and other donors will provide on-the-job practical training to workers to improve and broaden their skill sets regarding road works construction techniques and the use of different material and equipment, as well as to improve worksites' health and safety measures.
4. **Fiduciary and safeguards management support.** The Bank task team includes fiduciary management staff and safeguards specialists, currently based in Beirut, to provide routine supervision of FM and procurement activities as well as safeguards issues. Since CDR is wholly familiar with relevant Bank rules and guidelines on fiduciary aspects and safeguards, major issues are not anticipated. In addition, Bank's fiduciary staff will provide guidance on FM guidelines, preparation of IUFRs and WAs, compliance with the Bank guidelines and other issues as they arise during the implementation.
 5. **Environmental and Social Safeguards.** The project is not expected to have major environmental and social safeguards challenges. The implementation support strategy aims at assuring that the environmental and social capacity for project implementation is fully maintained, through Bank's hands-on support, if needed. Besides, basic due-diligence required to ensure compliance with the environmental and social management instruments of the project, particular attention will be placed during project implementation to: (a) ensure that contractors are following the environmental and social specifications in the contracts; (b) monitoring implementation of road safety interventions to ensure benefits to the population are being achieved; (c) monitor the implementation of citizen engagement mechanisms; (d) monitor gender impacts; and (e) monitor risks related to labor.
 6. **Monitoring and verification support.** The mainstay of monitoring will be semi-annual progress reports as well as annual third party technical and fiduciary audits. The Bank will provide support to organize these audits, including inputs for the preparation of terms of reference and support to CDR to monitor the work of the audit firms. Several consulting firms will be supporting CDR in the implementation and monitoring of the project and road supervision consultants will follow up on the actual progress and all aspects of road works.



Finally, impact evaluations will be carried out by the Bank independently using external resources, in collaboration with other agencies such as the ILO.

Implementation Support Plan and Resource Requirements

Skills Mix Required			
Skills Needed	Number of Staff Weeks	Number of Trips	Comments
Task team Leader	10 in first year, then 8 annually	Semiannual mission, field visit as required	Country office-based
Transport Specialist - Support team	10 in first year, then 8 annually	Semiannual mission, field visit as required	HQ-based
Consultant - Support team	10 in first year, then 8 annually	Semiannual mission, field visit as required	Country office-based
Highway Engineer	6 in first year, then 4 annually	Semiannual mission, field visit as required	HQ or Country office-based
Road Equipment Consultant	3 in first year, then 1 annually		HQ-based
Labor Specialist (Bank or ILO)	3 in first year, then 1 annually	Annual mission; field visit as required	HQ-based
Procurement Specialist	4 in first year, then 3 annually	Semiannual missions	Country office-based
FM Specialist	3 annually	Semiannual missions	Country office-based
Social Development Specialist	4 in first year, then 3 annually	Semiannual missions	Country office-based
Environmental Specialist	4 in first year, then 3 annually	Semiannual missions	Country office-based
Road Safety Specialist/STC	4 in first year, then 1 annually	2 missions	HQ-based
Road Asset Manag.Specialist/STC	4 in first year, then 1 annually	2 missions	HQ-based



ANNEX 4: Safeguard Action Plan (SAP)

COUNTRY : Lebanon Roads and Employment Project

Objectives

1. The SAP provides a time-bound plan for the environmental and social safeguards instruments, the production of which has been deferred into the project implementation period under paragraph 12 of OP10.00, allowing for condensed procedures and deferral of the safeguards instruments in situations of urgent need for assistance. This SAP provides general policies, guidelines, codes of practice and procedures to be integrated into the implementation of the World Bank-financed Lebanon Roads and Employment Project.
2. The objective of the SAP is to ensure that the planned project activities and related Environmental and Social (E&S) assessment and management instruments and processes will be in compliance with the national legislation of Lebanon, as well as the World Bank's safeguards policies, and are duly and diligently implemented in a logical sequence with the environmentally and socially relevant project activities. This means that, as a general principle, E&S assessments and instruments should be completed, disclosed and consulted on before: (a) project-funded activities with relevant E&S footprints may commence; and (b) in case of more complex/large scale activities, before designs are finalized and contracts awarded.
3. This SAP prepared by the Bank complies with World Bank's safeguards policies, specifically OP10.00, paragraph 12, and OP4.01.

Project Scope and Context

4. The project scope is described in detail in the PAD in section III A, as well as Annex 2. In summary, the proposed World Bank-funded project of US\$200 million will be part of Phase I of the US\$510 million government's roads rehabilitation and upgrade program in Lebanon. This program will help in the prioritization of road works and the improvement of road asset management techniques, therefore largely improving the efficiency of road sector expenditures. Given the largely adequate extent and coverage of the road network in Lebanon, the focus of the program is primarily on the rehabilitation of the existing trunk network (primary, secondary, and tertiary roads), while possibly widening and upgrading select road sections, at later stages, to accommodate the increased traffic demand. Finally, with regard to security risks, most road sections are in the areas with no major security risks
5. Country Context and Syrian Refugees Influx. Lying at the epicenter of one of the most volatile regions in the world, Lebanon is continuously exposed to sizable political and security shocks but in the meantime has developed a high level of resilience. This resilience, however, is not a guarantee against internal tensions, as evidenced by the devastating civil war that lasted from 1975 to 1990 and



fundamentally altered conditions across sectors—environmental and social baseline conditions, governance, infrastructure, the macro-economy—compromising the country’s development path. Also, the presence of a large number of unskilled and unemployed Lebanese and Syrians has a significant negative social, economic, and security impacts that could further destabilize the country. In addition, the difficulty in reaching consensus in Lebanon is primarily due to a confessional system of governance that delays decision-making processes and leaves Lebanon vulnerable to external influences.

Compliance with World Bank Safeguards Policies

6. Considering the nature and magnitude of potential environmental impacts from relatively limited scale and magnitude of rehabilitation and improvement works, ***the proposed operations is classified as category ‘B’***. Activities supported by the proposed operation are expected to have certain site-specific adverse environmental and social impacts. This SAP has been developed specifically for these proposed activities to ensure due diligence, to avoid causing harm, and to ensure consistent treatment of environmental and social issues by the GOL. The purpose of this plan is also to assist the CDR in screening all the subprojects for their likely environmental and social impacts, identifying E&S management requirements and prioritizing the investments. The World Bank’s policies on Environmental Assessment (OP/BP 4.01) and Involuntary Resettlement (OP/BP 4.12) are triggered for this Project. ***No sub-components or subprojects of category “A” will be eligible for funding.***
7. For an emergency operation, an ESMF and RPF to guide the preparation of further safeguards documents (site specific ESMPs, RAPs, ARAPs) will be completed not later than one month after project effectiveness. At the same time, before sub-project appraisal the implementing agency will agree to apply the following minimum standards during implementation: inclusion of standard ECOP in the rehabilitation, improvement and construction bid documents of all components and subcomponents; review and oversight of any major reconstruction works by specialists; implementation of environmentally and socially sound options for disposal of debris; and provisions for adequate budget and satisfactory institutional arrangements for monitoring effective implementation.
8. For all project components/subcomponents which may include civil works (mainly component 1), a social and environmental safeguards screening tool, as part of the ESMF, will be applied, along with the specific sub-project level instruments that will be necessary to cover both social and environmental aspects, including sub-projects ESIA if determined necessary, site specific ESMPs and RAPs/ARAPs. Additional measures will support the implementation, monitoring, and compliance to the ESMF and RPF, including; (a) annual fiduciary audits/post-review of a subset of sub-projects with respect to design and implementation of site specific ESMPs, RAPs/ARAPs and (b) project implementation support missions by the Bank will include social and environmental implementation expertise to support client during the entire project cycle.
9. **OP 4.01 Environmental Assessment.** The proposed project will mainly focus on the rehabilitation and maintenance of rural and peri-urban roads in deteriorated conditions, rehabilitation of access roads, and rehabilitation of culverts and small bridges. The work in these areas will be done under OP 4.01 and it is not anticipated that OP 4.04, OP 4.10, OP 4.11, OP4.37 and OP 7.50 would be triggered.



10. **OP 4.12 Involuntary Resettlement.** OP 4.12 covers those persons displaced by the project activities. Given the current refugees' crisis and possible land disputes between residents and to ensure effective poverty reduction, it is good practice for the borrower through the Project Implementing Entity to undertake a social assessment and implement measures to minimize and mitigate adverse social impacts, particularly on poor and vulnerable groups. Well documented consultation mechanisms will be required to establish eligibility for compensation. Refugees who may later claim compensation will require clear legal remedies to resolve or adjudicate disputes.
11. **OP 4.11 Physical Cultural Resources.** Since the proposed operations will not entail new construction and focus only on rehabilitation and improvement of existing roads, it is not expected that any damage of physical cultural resources to take place.
12. **OP 4.37 Safety of Dams.** The proposed project does not include construction of any dams and therefore this OP would not be triggered.
13. **OP 7.50 Projects on International Waterways.** The proposed project does not include any subprojects that would trigger this OP.
14. The Bank has not identified any meaningful alternatives to the current project design, as the project content, geographic scope and activities are predefined by pre-existing infrastructure. There is some scope for variation in identifying subprojects; the identification of the actual areas to be included into the project will be based on extensive guidance by an ongoing needs assessment.

Sequencing and Tentative Implementation Schedule for Safeguards Processing

15. As a general principle, the implementing agency (CDR) will agree to apply the following minimum standards during implementation: (1) inclusion of standard ECOP (Attachment 4) in the bid documents for rehabilitation, improvement and reconstruction activities for all subprojects; (2) review and oversight of any major reconstruction works by specialists; (3) implementation of environmentally and socially sound options for disposal of any hazardous waste (for example, debris or drain spoils, oil-contaminated soils or rubble); and (4) provisions for adequate and satisfactory budget and institutional arrangements for monitoring effective implementation.
16. The following time-bound deployment of the above described safeguards instruments is anticipated to manage and mitigate the potential adverse impacts:
 - (a) **During project preparation,** a conceptual approach and draft TOR for an ESMF was shared with the Client to swiftly initiate the preparation of this safeguards instrument after project effectiveness.
 - (b) **Not later than one month after project effectiveness.** Completion of an ESMF and RPF, which will be the overarching safeguards document governing approach, processes and specific instruments for sub-projects. The ESMF will cover the following topics: (i) scope of project activities; (ii) typologies of expected impacts, as well as magnitudes and durations; (iii) types of E&S assessment/management instruments including the range of mitigation measures tailored to the identified sub-project/impact typologies; (iv) methodology for sub-



project E&S screening, classification and allocation of specific E&S instruments; (v) review of relevant institutions, key players, roles and responsibilities and administrative processes; (vi) capacity analysis and training requirements; (vii) update of cost estimates for E&S management measures. The ESMF will also contain a positive and negative list of eligible/non-eligible subprojects. The RPF will cover the following topics: (i) a brief description of project activities; (ii) Principles and objectives governing resettlement preparation and implementation; (iii) a description of the process for preparing and approving resettlement plans; (iv) Eligibility criteria and estimated resettlement impacts; (v) legal framework; (vi) methods of valuing affected assets; (vii) institutional arrangements of resettlement planning and implementation; (viii) Grievance redress mechanism; (ix) Consultation; and (x) Arrangements for monitoring and evaluation.

- (c) **During implementation phase, from Year 2 onwards.** Continuous development of E&S management instruments for the expected typologies (for example, repair/reconstruction of housing, roads, transmission lines, municipal infrastructure, as well as the restoration of public services). For the expected scope of subprojects freestanding, comprehensive ESIAAs will mostly not be required, as all structures and installations will have existed before, and the project would only finance their repair, reconstruction or reinstatement. The expected typologies (for example, repair/reconstruction of housing, roads, transmission lines, municipal infrastructure, as well as the restoration of public services would mostly require simple, checklist-type ESMPs (E&S management plans) that would become part of the works contracts, set the E&S standards and compliance mechanisms, and serve as a contractual basis for supervision and enforcement of good E&S practice during the works. Comprehensive ESIAAs will be not be required, as the structures and installations are existing, and the project would only finance their repair, reconstruction, or reinstatement.
- (d) **For some larger projects (for example, bridge reconstruction),** a targeted ESIA may be required, which would be integrated into an expanded ESMP, as the works would be more substantial in scale, and rivers may be more sensitive and vulnerable to environmental impacts which would be integrated into the ESMP. Further, the ESMPs would be more specific on measures to protect water quality, riverine/aquatic ecosystems, and retain the hydrological regime around the bridge. Additional social considerations such as continued access to the river for fishing and water abstraction may become relevant.

17. Preparation time for safeguards instruments including Bank review, revisions, clearance, and approval steps. The preparation of the ESMF and RPF is estimated to require about 3 – 4 months, including Bank review and approval, disclosure, consultations and finalization. The preparation of limited ESIAAs as the case maybe, and the ESMPs, as well as RAP/ARAP if needed, will range from 2 to 3 months including Bank review and approval, disclosure, consultations and finalization.

18. Consultations and Disclosure. The ESMF and RPF will be disclosed in-country and at the Infoshop, after World Bank review and after the Client has organized consultations with the affected stakeholders. The consultation mechanism for the sub-project specific ESMPs and limited ESIAAs as well RAP/ARAP if needed will be designed with appropriate depth and breadth depending on the specific situation's complexity and dimensions. For some large structures (for example, bridge reconstruction) disclosure and consultations will follow the standard approach for typical Category B projects, with 15 to 30 day



time window between disclosure and consultations to be undertaken before design finalization. For smaller works, such as the repair of roads, consultations will be for portfolios of multiple projects, based on large scale planning documents and generic E&S sample instruments.

19. Implementation of safeguards instruments, if applicable, development of secondary instruments (for example, subproject ESMPs or RAPs to be developed, by whom and by when). After finalization of the ESMPs, no further safeguards instruments will be required. No tender package will be issued without an attached ESMP and no contract signed without respective clauses obliging the Contractor to the ESMPs use and implementation.
20. **Implementation Monitoring.** The monitoring of safeguards compliance will be carried out during project implementation. CDR will dedicate environmental and social field officers to ensure compliance with the E&S safeguards requirements. In addition, safeguards monitoring will be considered to be included into the TOR for a third party monitoring consultant, who will also be responsible for technical quality, measurements, procurement and fiduciary compliance. The TOR will specify that the Consultant will have strong field presence via local agents, and will cover all key areas and construction activities. The TOR will further specify detailed methodology and approach for safeguards monitoring, recording and reporting, as well as measures for rectification in case of non-compliance.

Consultation and Disclosure of SAP

21. This SAP is subject to public disclosure as part of the PAD. The SAP will be shared with the relevant government agencies, concerned nongovernmental organizations and development partners of Lebanon. In addition, the SAP will be disclosed both in-country (in the appropriate communication channels and CDR Webpage) as well as at the World Bank InfoShop.
22. The proposed operation will support a number of feasibility and detailed design studies for future infrastructure investments for which World Bank's safeguard policies relating to consultation and disclosure will apply. The ESMF and RPF will be prepared and consulted upon not later than one month after project effectiveness. Before the commencement of any civil works, site specific ESMPs and RAPs/ARAPs will be prepared and consulted upon with the project-affected groups and local nongovernmental organizations on the project's environmental and social aspects, and will take their views into account. The implementing agency (CDR) will initiate these consultations as early as possible, and for meaningful consultations, will provide relevant material in a timely manner before consultation, in a form and language that are understandable and accessible to the groups being consulted with.

Roles and Responsibilities, including Supervision Arrangement for Safeguards Preparation, Implementation, and Monitoring

23. The responsibility for the implementation of the above described safeguards instruments and processes will be with CDR that will be responsible for compliance with national environmental regulations, as well as the Bank's E&S safeguards policies. CDR will be staffed with qualified environmental and social specialists that will follow-up with the preparation and implementation of the safeguards instruments.



24. The Bank will be responsible for ensuring the timely commencement of the preparation of ESMF, RPF and site specific ESMPs, RAPs/ARAPs as needed. The Bank will ensure that no contracts for works that have a physical impact are signed or reconstruction, or rehabilitation of proposed activities start without the required safeguards instruments in place.
25. The Bank will also review ToRs (as well as the ESMF, RPF and site specific safeguards instruments for example, ESMPs, RAPs/ARAPs, to ensure that their scope and quality are satisfactory to the Bank. In addition, the Bank will review tender documents and construction contracts regarding due consideration of the safeguards instruments, and the inclusion of effective and enforceable contractual clauses. Finally, the Bank will also monitor the implementation of the different prepared instruments through regular implementation support missions (which will include an environmental and/or social specialist) during which document reviews, site visits and spot-checks will be conducted.

Estimated Costs for Safeguards Preparation and Implementation Process

26. The cost of preparing the required safeguards instruments is estimated to be about US\$60,000 for the ESMF and RPF, and about US\$900,000 for the subsequent safeguards instruments (assuming ca. 40 ESMPs, 20 RAPs/ARAPs at US\$15,000 per document).
27. The implementation of ESMPs is expected to cost only a small fraction of design and construction cost, as most mitigation measures will be very generic, off-the-shelf, and implementable without specialized skills, experience or equipment. It is estimated that about US\$1,000,000 would be spent for environmental mitigation and management measures.

Safeguard Screening and Mitigation

28. The selection, design, contracting, monitoring and evaluation of the project components and subcomponents will be consistent with the following guidelines, codes of practice and requirements. The safeguard screening and mitigation process will include:
 - (a) A list of negative characteristics rendering a proposed subcomponents ineligible for support, Attachment 1;
 - (b) A proposed checklist of likely environment and social impacts to be filled out for each subcomponent or group of subcomponents, Attachment 2;
 - (c) Guidelines for land and asset acquisition, entitlements and compensation, Attachment 3;
 - (d) Procedures for the protection of cultural property, including the chance discovery of archaeological artifacts, unrecorded graveyards and burial sites, Attachment 4;
 - (e) Relevant elements of the codes of practice for the prevention and mitigation of potential environmental impacts, Attachment 5; and
 - (f) A sample Environmental Safeguards procedures for Inclusion in the Technical Specifications of Contracts, Attachment 6.



Attachment 1

List of Negative Subproject Attributes

Subcomponents with any of the attributes listed below will be ineligible for support under the proposed emergency infrastructure renewal project.

Attributes of Ineligible Subprojects
General Characteristics
<ul style="list-style-type: none"> Concerning significant conversion or degradation of critical natural habitats.
Damages cultural property, including but not limited to, any activities that affect the following sites: <ul style="list-style-type: none"> Archaeological and historical sites; and Religious monuments, structures and cemeteries.
Requiring pesticides that fall in WHO classes IA, IB, or II.
Drinking Water Supply
New, expansion or rehabilitation of piped water schemes.
Sanitation
New, expansion or rehabilitation wastewater treatment plants.
Solid Waste
New disposal site or significant expansion of an existing disposal site.
Irrigation
New, expansion or rehabilitation irrigation and drainage schemes.
Dams
Construction of dams more than 5 meters high. Rehabilitation of dams more than 15 meters high.
Power
New power generating capacity of more than 10 MW.
Income Generating Activities
Activities involving the use of fuelwood, including trees and bush.
Activities involving the use of hazardous substances.



Attachment 2

Checklist of Possible Environmental and Social Impacts of Projects

I. Subcomponent Related Issues

S No	ISSUES	YES	NO	Comments
A.	Zoning and Land Use Planning			
1.	Will the subproject affect land use zoning and planning or conflict with prevalent land use patterns?			
2.	Will the subproject involve significant land disturbance or site clearance?			
3.	Will the subproject land be subject to potential encroachment by urban or industrial use or located in an area intended for urban or industrial development?			
B.	Utilities and Facilities			
4.	Will the subproject require the setting up of ancillary production facilities?			
5.	Will the subproject require significant levels of accommodation or service amenities to support the workforce during construction (for example,, contractor will need more than 20 workers)?			
C	Water and Soil Contamination			
6.	Will the subproject require large amounts of raw materials or construction materials?			
7.	Will the subproject generate large amounts of residual wastes, construction material waste or cause soil erosion?			
8.	Will the subproject result in potential soil or water contamination (for example, from oil, grease and fuel from equipment yards)?			
9.	Will the subproject lead to contamination of ground and surface waters by herbicides for vegetation control and chemicals (for example, calcium chloride) for dust control?			
10.	Will the subproject lead to an increase in suspended sediments in streams affected by road cut erosion, decline in water quality and increased sedimentation downstream?			
11.	Will the subproject involve the use of chemicals or solvents?			
12.	Will the subproject lead to the destruction of vegetation and soil in the right-of-way, borrow pits, waste dumps, and equipment yards?			
13.	Will the subproject lead to the creation of stagnant water bodies in borrow pits, quarries, and so on, encouraging for mosquito breeding and other disease vectors?			
D.	Noise and Air Pollution Hazardous Substances			
14.	Will the subproject increase the levels of harmful air emissions?			
15.	Will the subproject increase ambient noise levels?			
16.	Will the subproject involve the storage, handling or transport of hazardous substances?			
E.	Fauna and Flora			
18.	Will the subproject involve the disturbance or modification of existing drainage channels (rivers, canals) or surface water bodies (wetlands,			



	marshes)?			
19.	Will the subproject lead to the destruction or damage of terrestrial or aquatic ecosystems or endangered species directly or by induced development?			
20.	Will the subproject lead to the disruption/destruction of wildlife through interruption of migratory routes, disturbance of wildlife habitats, and noise-related problems?			
F.	Destruction/Disruption of Land and Vegetation			
21.	Will the subproject lead to unplanned use of the infrastructure being developed?			
22.	Will the subproject lead to long-term or semi-permanent destruction of soils in cleared areas not suited for agriculture?			
23.	Will the subproject lead to the interruption of subsoil and overland drainage patterns (in areas of cuts and fills)?			
24.	Will the subproject lead to landslides, slumps, slips and other mass movements in road cuts?			
25.	Will the subproject lead to erosion of lands below the roadbed receiving concentrated outflow carried by covered or open drains?			
26.	Will the subproject lead to long-term or semi-permanent destruction of soils in cleared areas not suited for agriculture?			
27.	Will the subproject lead to health hazards and interference of plant growth adjacent to roads by dust raised and blown by vehicles?			
G.	Cultural Property			
28.	Will the subproject have an impact on archaeological or historical sites, including historic urban areas?			
29.	Will the subproject have an impact on religious monuments, structures and/or cemeteries?			
30.	Have Chance Finds procedures been prepared for use in the subproject?			
H.	Expropriation and Social Disturbance			
31.	Will the subproject involve land expropriation or demolition of existing structures?			
32.	Will the subproject lead to induced settlements by workers and others causing social and economic disruption?			
33.	Will the subproject lead to environmental and social disturbance by construction camps?			



II. Site Characteristics

S.No	ISSUES	YES	NO	Comments
1.	Is the subproject located in an area with designated natural reserves?			
2.	Is the subproject located in an area with unique natural features?			
3.	Is the subproject located in an area with endangered or conservation-worthy ecosystems, fauna or flora?			
4.	Is the subproject located in an area falling within 500 meters of national forests, protected areas, wilderness areas, wetlands, biodiversity, critical habitats, or sites of historical or cultural importance?			
5.	Is the subproject located in an area which would create a barrier for the movement of conservation-worthy wildlife or livestock?			
6.	Is the subproject located close to groundwater sources, surface water bodies, water courses or wetlands?			
7.	Is the subproject located in an area with designated cultural properties such as archaeological, historical and/or religious sites?			
8.	Is the subproject in an area with religious monuments, structures and/or cemeteries?			
9.	Is the subproject in a polluted or contaminated area?			
10.	Is the subproject located in an area of high visual and landscape quality?			
11.	Is the subproject located in an area susceptible to landslides or erosion?			
12.	Is the subproject located in an area of seismic faults?			
13.	Is the subproject located in a densely populated area?			
14.	Is the subproject located on prime agricultural land?			
15.	Is the subproject located in an area of tourist importance?			
16.	Is the subproject located near a waste dump?			
17.	Does the subproject have access to potable water?			
18.	Is the subproject located far (1–2 kms) from accessible roads?			
19.	Is the subproject located in an area with a wastewater network?			
20.	Is the subproject located in the urban plan of the city?			
21.	Is the subproject located outside the land use plan?			

Signed by Environment Specialist:

Name: _____

Title: _____

Date: _____

Signed by Project Manager:

Name: _____

Title: _____

Date: _____



Attachment 3

Guidelines for Land and Asset Acquisition, Entitlements and Compensation

I. Objectives

1. Resettlement and land acquisition will be kept to a minimum, and will be carried out in accordance with these guidelines. Subproject proposals that would require demolishing houses or acquiring productive land should be carefully reviewed to minimize or avoid their impacts through alternative alignments. Proposals that require more than minor expansion along rights of way should be carefully reviewed. No land or asset acquisition may take place outside of these guidelines. A format for Land Acquisition Assessment Data Sheet is attached as Attachment 3(i).
2. These guidelines provide principles and instructions to compensate negatively affected persons to ensure that they will be assisted to improve, or at least to restore, their living standards, income earning or production capacity to pre-project levels regardless of their land tenure status.

II. Categorization

3. Based on the number of persons that may be affected by the project, Project Affected People (PAPs) and the magnitude of impacts, projects will be categorized as follows:
 - a. Projects that will affect more than 200 PAPs due to land acquisition and/or physical relocation and where a full RAP must be produced. If the RAP cannot be prepared before project appraisal, a waiver can be provided by the World Bank Managing Director (MD) in consultation with the Resettlement Committee. In such cases, the TT should agree with the Borrower on a timetable for preparation of the RAP.
 - b. Projects that will affect less than 200 persons require the following documentation: (i) a land acquisition assessment, (ii) the minutes or record of consultations which assess the compensation claimed and agreement reached, and (iii) a record of the receipt of the compensation, or voluntary donation, by those affected (see below).
 - c. Projects that are not expected to have any land acquisition or any other significant adverse social impacts; on the contrary, significant positive social impact and improved livelihoods are expected from such interventions.

III. Eligibility

4. PAPs are identified as persons whose livelihood is directly affected by the project due to acquisition of the land owned or used by them. PAPs deemed eligible for compensation are:
 - a. those who have formal legal rights to land, water resources or structures/buildings, including recognized customary and traditional rights;
 - b. those who do not have such formal legal rights but have a claim to usufruct rights rooted in customary law; and



- c. those whose claim to land and water resources or building/structures do not fall within (a) and (b) above, are eligible to resettlement assistance to restore their livelihood.

IV. Compensation Principles

- 5. The project implementation agencies will ensure timely provision of the following means of compensation to affected peoples:

- a. Project affected peoples losing access to a portion of their land or other productive assets with the remaining assets being economically viable are entitled to compensation at a replacement cost for that portion of land or assets lost to them. Compensation for the lost assets will be made according to the following principles:

- (i) replacement land with an equally productive plot, cash or other equivalent productive assets;
- (ii) materials and assistance to fully replace solid structures that will be demolished;
- (iii) replacement of damaged or lost crops and trees, at market value;
- (iv) other acceptable in-kind compensation;
- (v) in case of cash compensation, the delivery of compensation should be made in public, that is, at the Community Meeting; and
- (vi) in case of physical relocation, provision of civic infrastructure at the resettlement sites.

- b. Project affected peoples losing access to a portion of their land or other economic assets rendering the remainder economically non-viable will have the options of compensation for the entire asset by provision of alternative land, cash or equivalent productive asset, according to the principles in (a) i–iv above.

V. Consultation Process

- 6. The PIU and the concerned implementing entity will ensure that all occupants of land and owners of assets located in a proposed subproject area are consulted. Community meetings will be held in each affected district and village to inform the local population of their rights to compensation and options available in accordance with these Guidelines. The Minutes of the community meetings shall reflect the discussions held; agreements reached, and include details of the agreement, based on the format provided in Attachment 3(ii).

- 7. The PIU and the concerned implementing entity shall provide a copy of the Minutes to affected people and confirm in discussions with each of them, their requests and preferences for compensation, agreements reached, and any eventual complaint. Copies will be recorded in the posted project documentation and be available for inspection during supervision.



VI. Subproject Approval

8. In the event that a subproject involves acquisition against compensation, the PIU through the concerned implementing entity shall:

- (a) not approve the subproject unless satisfactory compensation has been agreed between the affected person and the local community; and
- (b) not allow works to start until the compensation has been delivered in a satisfactory manner to the affected persons.

7. Complaints and Grievances

9. Initially, all complaints should be registered by the PIU and the concerned implementing entity as the case maybe, which shall establish a register of resettlement/compensation related grievances and disputes mechanism. The existence and conditions of access to this register (where, when, how) shall be widely disseminated within the community/town as part of the consultation undertaken for the sub-project in general. A committee of knowledgeable persons, experienced in the subject area, shall be constituted at a local level as a Committee to handle first instance dispute/grievances. This group of mediators attempting amicable mediation/litigation in first instance will consist of the following members: (a) Head of District; (b) Legal advisor; (c) Local Representative within the elected Council; (d) Head of Community Based Organization; and (e) Community leaders. This mediation committee will be set up at local level by the implementation agency on an “as-needed” (that is, it will be established when a dispute arises in a given community).

10. When a grievance/dispute is recorded according to above-mentioned registration procedures, the mediation committee will be established, and mediation meetings will be organized with interested parties. Minutes of meetings will be recorded. The existence of this first instance mechanism will be widely disseminated to the affected people as part of the consultation undertaken for the sub-project in general. It is important that these mediation committees be set up as soon as RAP preparation starts. Disputes documented for example, through socio-economic surveys should be dealt with by appropriate mediation mechanisms which must be available to cater for claims, disputes and grievances at this early stage. A template form for claims should be developed and these forms be collated on a quarterly basis into a database held at project level.

VIII. Verification

11. The Mediation Meeting Minutes, including agreements of compensation and evidence of compensation made shall be provided to the Municipality/district, to the supervising engineers, who will maintain a record hereof, and to auditors and socio-economic monitors when they undertake reviews and post-project assessment. This process shall be specified in all relevant project documents, including details of the relevant authority for complaints at the municipal/district or implementing agency level.



Attachment 3(i)

Land Acquisition Assessment Data Sheet

(To be used to record information on all land to be acquired)

- (a) Quantities of land/structures/other assets required:
- (b) Date to be acquired:
- (c) Locations:
- (d) Owners:
- (e) Current uses:
- (f) Users:
 - 1. Number of Customary Claimants:
 - 2. Number of Squatters:
 - 3. Number of Encroachers:
 - 4. Number of Owners:
 - 5. Number of Tenants:
 - 6. Others (specify): _____ Number: _____
- (g) How land/structures/other assets will be acquired (identify one):
 - a. Donation
 - b. Purchase
- (h) Transfer of Title:
 - c. Ensure these lands/structures/other assets are free of claims or encumbrances.
 - d. Written proof must be obtained (notarized or witnessed statements) for the voluntary donation, or acceptance of the prices paid from those affected, together with proof of title being vested in the community, or guarantee of public access, by the title-holder.
- (i) Describe grievance mechanisms available:



Schedule of Compensation of Asset Requisition

Summary of Affected Unit/Item	Units to be Compensated	Agreed Compensation
a. Urban/agricultural land (m ²):	_____	_____
b. Houses/structures to be demolished (units/m ²):	_____	_____
c. Type of structure to be demolished (for example, mud, brick, cement block, and so on)	_____	Not Applicable.
d. Trees or crops affected:	_____	_____
e. Water sources affected:	_____	_____

Signatures of local community representatives, Sheikh/Head of Tribe:

Include record of any complaints raised by affected persons:

Map attached (showing affected areas and replacement areas):



Attachment 4

Protection of Cultural Property

1. Cultural property include monuments, structures, works of art, or sites of significance points of view, and are defined as sites and structures having archaeological, historical, architectural, or religious significance, and natural sites with cultural values. This includes cemeteries, graveyards and graves.

Chance Find Procedures

2. Chance find procedures will be used as follows:
 - a. Stop the construction activities in the area of the chance find;
 - b. Delineate the discovered site or area;
 - c. Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be present until the responsible local authorities and the Ministry of Culture take over;
 - d. Notify the supervisory Engineer who in turn will notify the responsible local authorities and the Ministry of Culture immediately (within 24 hours or less);
 - e. Responsible local authorities and the Ministry of Culture would be in charge of protecting and preserving the site before deciding on subsequent appropriate procedures. This would require a preliminary evaluation of the findings to be performed by the archeologists of the Ministry of Culture (within 72 hours). The significance and importance of the findings should be assessed according to the various criteria relevant to cultural heritage; those include the aesthetic, historic, scientific or research, social and economic values;
 - f. Decisions on how to handle the finding shall be taken by the responsible authorities and the Ministry of Culture. This could include changes in the layout (such as when finding an irremovable remain of cultural or archeological importance) conservation, preservation, restoration and salvage;
 - g. Implementation for the authority decision concerning the management of the finding shall be communicated in writing by the Ministry of Culture; and
 - h. Construction work could resume only after permission is given from the responsible local authorities and the Ministry of Culture concerning safeguard of the heritage.
3. These procedures must be referred to as standard provisions in construction contracts, when applicable, and as proposed in section 1.5 of Attachment 6. During project supervision, the Site Engineer shall monitor the above regulations relating to the treatment of any chance find encountered are observed.



4. Relevant findings will be recorded in World Bank Project Supervision Reports, and Implementation Completion and Results Reports will assess the overall effectiveness of the project's cultural property mitigation, management, and activities, as appropriate.



Attachment 5

Codes of Practice for Prevention and Mitigation of Environmental Impacts

Potential Impacts	Prevention and Mitigation Measures
Roads a. Rehabilitation/improvement of urban roads. b. Rehabilitation/improvement of access road /bridges	
Disruption of drainage: a. Hampers free drainage, causes stagnant pools of water. b. Increased sediments into ponds, streams and rivers due to erosion from road tops and sides. c. Increased run-off and flooding.	a. Design to provide adequate drainage and to minimize changes in flows, not limited to the road reserve. b. Provision of energy dissipaters, cascades, steps, and checks dams. c. Provision of sufficient number of cross drains. d. Balancing of cut and fill. e. Revegetation to protect susceptible soil surfaces. f. Rehabilitation of borrow areas.
Erosion: a. Erosion of land downhill from the road bed, or in borrow areas. b. Landslides, slips or slumps. c. Bank failure of the borrow pit.	d. Design to prevent soil erosion and maintain slope stability. e. Construction in the dry season. f. Protection of soil surfaces during construction. g. Physical stabilization of erodible surfaces through turfing, planting a wide range of vegetation, and creating slope breaks. h. Rehabilitation and re-grading of borrow pits and material collection sites.
Loss of vegetation	a. Balancing of cut and fill. b. Revegetation to protect susceptible soil surfaces. c. Minimize loss of natural vegetation during construction. d. Revegetation and replanting to compensate any loss of plant cover or tree felling.
Loss of access	a. Design to include accessibility to road sides in case roadbed is raised. b. Alternative alignments to avoid bisecting villages by road widening.



Potential Impacts	Prevention and Mitigation Measures
Impacts during construction: c. Fuelwood collection. d. Disease due to lack of sanitation. e. Introduction of hazardous wastes. f. Groundwater contamination (oil, grease). g. Accidents during construction. h. Potential impacts to cultural property.	i. Provision of fuel at work camps to prevent cutting of firewood. j. Provision of sanitation at work camps. k. Removal of work camp waste, proper disposal of oil, bitumen and other hazardous wastes. l. Management of construction period worker health and safety. m. Use archaeological chance find procedures and coordinate with appropriate agencies.
a. Increased migration from nearby cities.	b. Provide comprehensive community participation in planning, and Migration issue to be resolved through local conflict resolution system.



Attachment 6

Safeguards Procedures for Inclusion in the Technical Specifications of Contracts

I. General

1. The Contractor and his employees shall adhere to the mitigation measures set down and take all other measures required by the Engineer to prevent harm, and to minimize the impact of his operations on the environment.
2. The Contractor shall not be permitted to unnecessarily strip clear the right of way. The Contractor shall only clear the minimum width for construction and diversion roads should not be constructed alongside the existing road.
3. Remedial actions which cannot be effectively carried out during construction should be carried out on completion of each Section of the road (earthworks, pavement and drainage) and before issuance of the Taking Over Certificate:
 - a. these sections should be landscaped and any necessary remedial works should be undertaken without delay, including grassing and reforestation;
 - b. water courses should be cleared of debris and drains and culverts checked for clear flow paths; and
 - c. borrow pits should be dressed as fish ponds, or drained and made safe, as agreed with the land owner.
4. The Contractor shall limit construction works to between 6 am and 7 pm if it is to be carried out in or near residential areas.
5. The Contractor shall avoid the use of heavy or noisy equipment in specified areas at night, or in sensitive areas such as near a hospital.
6. To prevent dust pollution during dry periods, the Contractor shall carry out regular watering of earth and gravel haul roads and shall cover material haulage trucks with tarpaulins to prevent spillage.

II. Transport

7. The Contractor shall use selected routes to the project site, as agreed with the Engineer, and appropriately sized vehicles suitable to the class of road, and shall restrict loads to prevent damage to roads and bridges used for transportation purposes. The Contractor shall be held responsible for any damage caused to the roads and bridges due to the transportation of excessive loads, and shall be required to repair such damage to the approval of the Engineer.
8. The Contractor shall not use any vehicles, either on or off road with grossly excessive, exhaust or noise emissions. In any built up areas, noise mufflers shall be installed and maintained in good condition on all motorized equipment under the control of the Contractor.
9. Adequate traffic control measures shall be maintained by the Contractor throughout the duration



of the Contract and such measures shall be subject to prior approval of the Engineer.

III. Workforce

10. The Contractor should whenever possible locally recruit the majority of the workforce and shall provide appropriate training as necessary.

11. The Contractor shall install and maintain a temporary septic tank system for any residential labor camp and without causing pollution of nearby watercourses.

12. The Contractor shall establish a method and system for storing and disposing of all solid wastes generated by the labor camp and/or base camp.

13. The Contractor shall not allow the use of fuel wood for cooking or heating in any labor camp or base camp and provide alternate facilities using other fuels.

14. The Contractor shall ensure that site offices, depots, asphalt plants and workshops are located in appropriate areas as approved by the Engineer and not within 500 meters of existing residential settlements and not within 1,000 meters for asphalt plants.

15. The Contractor shall ensure that site offices, depots and particularly storage areas for diesel fuel and bitumen and asphalt plants are not located within 500 meters of watercourses, and are operated so that no pollutants enter watercourses, either overland or through groundwater seepage, especially during periods of rain. This will require lubricants to be recycled and a ditch to be constructed around the area with an approved settling pond/oil trap at the outlet.

16. The contractor shall not use fuel wood as a means of heating during the processing or preparation of any materials forming part of the Works.

17. The contractor shall not recruit workers that are under age and shall put in place pro-active mechanisms to verify and screen that workers are not under age.

IV. Quarries and Borrow Pits

18. Operation of a new borrow area, on land, in a river, or in an existing area, shall be subject to prior approval of the Engineer, and the operation shall cease if so instructed by the Engineer. Borrow pits shall be prohibited where they might interfere with the natural or designed drainage patterns. River locations shall be prohibited if they might undermine or damage the river banks, or carry too much fine material downstream.

19. The Contractor shall ensure that all borrow pits used are left in a trim and tidy condition with stable side slopes, and are drained ensuring that no stagnant water bodies are created which could breed mosquitoes.

20. Rock or gravel taken from a river shall be far enough removed to limit the depth of material removed to one-tenth of the width of the river at any one location, and not to disrupt the river flow, or damage or undermine the river banks.



21. The location of crushing plants shall be subject to the approval of the Engineer, and not be close to environmentally sensitive areas or to existing residential settlements, and shall be operated with approved fitted dust control devices.

V. Earthworks

22. Earthworks shall be properly controlled, especially during the rainy season.

23. The Contractor shall maintain stable cut and fill slopes at all times and cause the least possible disturbance to areas outside the prescribed limits of the work.

24. The Contractor shall complete cut and fill operations to final cross-sections at any one location as soon as possible and preferably in one continuous operation to avoid partially completed earthworks, especially during the rainy season.

25. To protect any cut or fill slopes from erosion, in accordance with the drawings, cut off drains and toe-drains shall be provided at the top and bottom of slopes and be planted with grass or other plant cover. Cut off drains should be provided above high cuts to minimize water runoff and slope erosion.

26. Any excavated cut or unsuitable material shall be disposed of in designated tipping areas as agreed to by the Engineer.

27. Tips should not be located where they can cause future slides, interfere with agricultural land or any other properties, or cause soil from the dump to be washed into any watercourse. Drains may need to be dug within and around the tips, as directed by the Engineer.

VI. Historical and Archeological Sites

28. If the Contractor discovers archeological sites, historical sites, remains and objects, including graveyards and/or individual graves during excavation or construction, the Contractor shall:

- a. Stop the construction activities in the area of the chance find.
- b. Delineate the discovered site or area.
- c. Secure the site to prevent any damage or loss of removable objects. In cases of removable antiquities or sensitive remains, a night guard shall be present until the responsible local authorities and the Ministry of Culture take over.
- d. Notify the supervisory Engineer who in turn will notify the responsible local authorities and the Ministry of Culture immediately (less than 24 hours).
- e. Contact the responsible local authorities and the Ministry of Culture who would be in charge of protecting and preserving the site before deciding on the proper procedures to be carried out. This would require a preliminary evaluation of the findings to be performed by the archeologists of the Ministry of Culture (within 72 hours). The significance and importance



of the findings should be assessed according to the various criteria relevant to cultural heritage, including the aesthetic, historic, scientific or research, social and economic values.

- f. Ensure that decisions on how to handle the finding be taken by the responsible authorities and the Ministry of Culture. This could include changes in the layout (such as when the finding is an irremovable remain of cultural or archeological importance) conservation, preservation, restoration and salvage.
- g. Implementation for the authority decision concerning the management of the finding shall be communicated in writing by the Ministry of Culture; and
- h. Construction work will resume only after authorization is given by the responsible local authorities and the Ministry of Culture concerning the safeguard of the heritage.

VI. Disposal of Construction and Vehicle Waste

29. Debris generated due to the dismantling of the existing structures shall be suitably reused, to the extent feasible, in the proposed construction (for example, as fill materials for embankments). The disposal of remaining debris shall be carried out only at sites identified and approved by the project engineer. The contractor should ensure that these sites (a) are not located within designated forest areas; (b) do not impact natural drainage courses; and (c) do not impact endangered/rare flora. Under no circumstances shall the contractor dispose of any material in environmentally sensitive areas.

30. In the event any debris or silt from the sites is deposited on adjacent land, the Contractor shall immediately remove such, debris or silt and restore the affected area to its original state to the satisfaction of the Supervisor/Engineer.

31. Bentonite slurry or similar debris generated from pile driving or other construction activities shall be disposed of to avoid overflow into the surface water bodies or form mud puddles in the area.

32. All arrangements for transportation during construction including provision, maintenance, dismantling and clearing debris, where necessary, will be considered incidental to the work and should be planned and implemented by the contractor as approved and directed by the Engineer.

33. Vehicle/machinery and equipment operations, maintenance and refueling shall be carried out to avoid spillage of fuels and lubricants and ground contamination. An oil interceptor will be provided for wash down and refueling areas. Fuel storage shall be located in proper bounded areas.

34. All spills and collected petroleum products shall be disposed of in accordance with standard environmental procedures/guidelines. Fuel storage and refilling areas shall be located at least 300m from all cross drainage structures and important water bodies or as directed by the Engineer.