Combined Project Information Documents / Integrated Safeguards Datasheet (PID/ISDS)

Appraisal Stage | Date Prepared/Updated: 18-Oct-2017 | Report No: PIDISDSA23215
## BASIC INFORMATION

### A. Basic Project Data

<table>
<thead>
<tr>
<th>Country</th>
<th>Project ID</th>
<th>Project Name</th>
<th>Parent Project ID (if any)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lebanon</td>
<td>P160224</td>
<td>Greater Beirut Urban Transport Project</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Region</th>
<th>Estimated Appraisal Date</th>
<th>Estimated Board Date</th>
<th>Practice Area (Lead)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIDDLE EAST AND NORTH AFRICA</td>
<td>10-Nov-2017</td>
<td>08-Feb-2018</td>
<td>Transport &amp; ICT</td>
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</table>

<table>
<thead>
<tr>
<th>Financing Instrument</th>
<th>Borrower(s)</th>
<th>Implementing Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Investment Project Financing</td>
<td>Lebanese Republic</td>
<td>Council for Development and Reconstruction</td>
</tr>
</tbody>
</table>

### Proposed Development Objective(s)

The Project Development Objective (PDO) is to improve the speed, quality and accessibility of public transport for passengers in the city of Beirut and at the city’s northern entrance.

### Components

- BRT infrastructure, fleet and systems
- Feeder and regular bus services and integration in urban environment
- Capacity building and project management

### Financing (in USD Million)

<table>
<thead>
<tr>
<th>Financing Source</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concessional Financing Facility</td>
<td>70.50</td>
</tr>
<tr>
<td>International Bank for Reconstruction and Development</td>
<td>224.50</td>
</tr>
<tr>
<td><strong>Total Project Cost</strong></td>
<td><strong>345.00</strong></td>
</tr>
</tbody>
</table>

### Environmental Assessment Category

A - Full Assessment

### Decision

Other Decision (as needed)
B. Introduction and Context

Country Context
Lebanon is a small and densely populated upper middle-income country. Lebanon’s very poor infrastructure represents a key constraint to growth. According to the World Economic Forum’s (WEF) Competitiveness Index1 Lebanon’s infrastructure is the second main constraint to growth. The Syrian refugee crisis has resulted in unprecedented social and economic challenges to Lebanon, with about 1.5 million Syrian refugees in Lebanon in addition to about half a million Palestinian refugees, putting further stains on its decaying infrastructure. To weather the regional crisis and achieve growth, 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.

Sectoral and Institutional Context
The total population living now in Lebanon, including refugees, is around 7 million. More than 87 percent of the resident population lives in urban areas, with more than half in the capital city of Beirut. Traffic congestion is undoubtedly one of Beirut’s most serious urban development problems: a study by the Ministry of Environment in 2005 put the cost of urban congestion at about 8 percent of Lebanon’s GDP at the time, when traffic volumes would have been lower than today. The addition of 1.5 million Syrian refugees from the neighboring conflict has only exacerbated congestion problems. It is estimated that the influx of Syrian refugees has resulted in sudden traffic increases in the Greater Beirut Area (GBA) in the range of 15-25%. In the absence of reliable and affordable transport alternatives, transportation currently represent a significant 15% of households’ expenditures.

The Government of Lebanon (GOL) has decided to go ahead with a comprehensive public transport program for GBA that will focus on a network of Bus and Bus Rapid Transit (BRT) solutions for the medium term. The program has been endorsed by the Council of Ministers and the Parliamentary Committee for Transport and Public Works as one of the country’s economic priority projects. The proposed project requested by GOL represents a first phase in this comprehensive public transport program, while the second and third phases of the program will extend the BRT lines to the southern and eastern suburbs of Beirut. This ambitious project will be the first mass-transit and regular transport system in Lebanon for over 50 years, in a complex political-economy context in the country and the sector (alignment, informal operators, behavioral change, institutional). It is a vital project in tackling traffic congestion, contributing to growth and connectivity between various Lebanese regions, and in providing affordable and reliable transport.

C. Proposed Development Objective(s)

Development Objective(s) (From PAD)
The Project Development Objective (PDO) is to increase passenger transport’s mobility and accessibility on Beirut’s northern entrance and within the city of Beirut.

Key Results
The achievement of the PDO will be monitored through the following proposed key results indicators:

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(a) Number of passengers per weekday using the formal public bus (BRT and regular buses) as a measure of the direct beneficiaries of the project; sub-indicator: Percentage of female ridership in the formal public bus system (BRT and regular buses) per weekday;
(b) Percentage of population residing in Greater Beirut Area (GBA) with access to Beirut city center ("La place des martyrs") within 60 minutes commuting period using public transport;
(c) Average travel time by public transport from Tabarja station to Charles Helou terminal at morning peak hours;
(d) Satisfaction rating by passengers of the formal public bus system; sub-indicator: Satisfaction rating by female passengers of the formal public bus system.

D. Project Description
The proposed project is the first phase of a comprehensive national public transport program. The comprehensive public transport program will consist of a BRT network of three trunk BRT lines in the center of the highway on the Northern, Southern, and Eastern approaches to Beirut; with BRT lines extending within Beirut to connect the three trunk lines, and to improve connectivity between Beirut and the regions as well as within Beirut. The BRT network will be also complemented by about 20 lines of a regular and feeder bus network as well as investments to improve access (bus stops, sidewalks, park and ride). The program will be executed in three phases/stages with phase one being a BRT on the northern highway and on the outer ring road of Beirut with complimentary feeder lines/buses (the proposed project); phase two being a BRT on the southern highway and two major arterials in Beirut connecting south, with a complimentary feeder lines/buses; and phase three a BRT on the eastern highway and additional arterial within Beirut with its feeder lines/buses.

The proposed project will directly benefit the Lebanese and Syrians living in Beirut, Mount Lebanon, and Northern Lebanon which represent over 50 percent of all Lebanese and Syrians in Lebanon. The subsequent implementation of the remaining of the program, expected to also start soon towards South Lebanon and the Bekaa, will deliver a reliable and affordable public transport services and jobs for most of the Lebanese and Syrian population in Lebanon. Counterparts are looking to accelerate the execution of the national program by starting the various phases within a short time from each other. Encouraged by the Bank involvement and leadership in the sector, multiple donors are interested to support this program.
The project will have the following three components:

<table>
<thead>
<tr>
<th>phase</th>
<th>BRT routes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-North</td>
<td>Blue</td>
</tr>
<tr>
<td>2-South</td>
<td>Orange</td>
</tr>
<tr>
<td>2-East</td>
<td>Black</td>
</tr>
</tbody>
</table>

Figure 1: Proposed National Program

Figure 2: Proposed National Program - zoom in BRT corridors in Beirut.
Component 1: BRT infrastructure, fleet and systems (Estimated cost: US$ 230 million, of which USD 180 million IBRD and GCFF financing)

This component will finance goods, works and consulting services for detailed design, construction and supervision of the BRT infrastructure on the Northern Highway and outer ring road of Beirut including stations, terminals, depots, park and ride facilities, intersections, pedestrian crossings and pedestrian bridges, corridor traffic management system, etc. This component will also finance necessary land acquisition for the widening of few sections along the highway, as well as land needed for select park and ride facilities and the terminal in Tabarja. Land acquisition requirements are expected to be up to USD $25 million.

This component will also finance goods and services for the provision of 120 BRT modern low floor left door articulated buses with a capacity of around 150 passengers each. Different bus technologies (CNG, hybrid, Euro IV, V or VI diesel) are being assessed to find the best environmentally friendly technology adapted to the context of Lebanon and its regulations. BRT buses will be financed under this component and the extent and modalities of private sector contribution to the financing of the BRT vehicle fleet is currently being assessed with the expectation of the private sector financing a part of the buses. Private operators will be in charge of operating and maintaining the system. PPP structuring is currently undertaken by an international consulting firm with the support of the Global Infrastructure Facility and IFC Advisory. The total cost for the fleet of BRT buses should amount to about USD $63 million for articulated BRT buses. Preliminary financial analysis shows that between 80 percent to 100 percent of the BRT bus fleet might be financed by the private sector as further explained in the financial analysis section.

This component will also finance the provision goods and services for ITS and fare collection systems. Fare collection based on smart card technology and operations control with automatic vehicle location based on GPS technology will enable centralized control of bus operations and fare management. The system will include CCTV surveillance (inter alia to make it more gender friendly). The total cost for ITS amounts to about USD$ 7 million.

Component 2: Feeder and regular bus services and integration in urban environment. (Estimated cost: USD 105 million, of which USD 105 million IBRD and GCFF financing)

This component will finance goods, works and services for bus stops and shelters, street furniture, and road works as needed along the bus roads. The total estimated bus fleet required for operating the 20 regular and feeder lines with high level of service is about 750 buses. Yet the Government’s plan is to start with the purchase of 250 buses and gradually build the fleet size as demand increases through incorporating existing operators into the scheme or the later purchase of additional buses. Feeder and regular bus system specifications include 10.5m long buses with GPS and fare collection equipment (about US$ 40 million for the whole fleet). This component will also finance additional investments for the control center and associated telematic system in buses and bus stops, and potentially two additional bus depots. This component will also finance technical assistances for better integration of BRT in the urban environment: Non-Motorized Transport (NMT) plan, fares integration, parking management, road safety, PT network restructuring, Master Plan, professionalization of local operators, licenses issuance reforms, among others.

As discussed, the government contribution to the purchase of the bus fleet, which will be totally made available from the World loan proceeds, is expected to be in the value of 250 buses. The modality of bus purchasing and financing and the mechanism for the loan financing of the government contribution are being assessed under the ongoing PPP studies (direct purchasing of 250 buses, capital grant from government to operators, availability payment to operators for the value of the 250 buses...). Private operators will be in charge of operating and maintaining the regular bus and feeder system.
Component 3: Capacity building and project management (Estimated cost: USD 10 million, of which USD 10 million IBRD and GCFF financing)

This component will finance consulting services for institutional strengthening for the supervision of BRT/feeder operations (primarily RPTA but also MOT and other relevant agencies). It will also finance a project implementation unit within CDR and other technical assistance and operational support for management of project implementation.

This component will also finance a communication campaign to promote public transport in Lebanon as well as measures to assist existing operators better integrate into the new system such as studies to reorganize the network in consultation with existing operators, improved regulation and management of permits and licensing, study of alternative enforcement measures, training to operators and drivers, and better users’ information systems.

Finally, this component will also finance additional studies to improve the planning and implementation of public transport in Lebanon and to further assess the potential and opportunities for private sector investments in the sector.

BANK AND MENA STRATEGY

This project is strongly linked to the World Bank MENA strategy in term of renewing the social contract, introducing PPPs, and helping Lebanon deal with the refugee crisis. The project will improve the delivery of affordable and reliable transportation to the middle income and poor population and create substantial jobs for low skilled Lebanese and Syrians in the construction of infrastructure. It will also substantially reduce the travel time between various Lebanese regions therefore improving connectivity and access to markets/jobs between Beirut and the country’s lagging regions in the North (first phase), South and Bekaa (later phases). Project will also include PPP arrangements with the mobilization of private operators. The project will also include strong climate benefits through the shift of users from private cars to new and cleaner public transport buses. The project is also aiming to maximize its leveraging potential of grants and private sector financing therefore minimizing to the extent possible government contribution in accordance with the principles of the cascade. Finally, the project has very important social benefits for the vulnerable, particularly the poor, disabled, and women by providing an affordable, accessible and safe mass-transit system.

E. Implementation

Institutional and Implementation Arrangements

The project implementation agency will be the Council for Development and Reconstruction (CDR). CDR has been for many years the main government agency in charge of the implementation of large donor funded projects particularly in all infrastructure sectors. CDR obtain its mandate to execute a specific project by a decision of the Council of Ministers. CDR has a long experience in implementing World Bank funded projects, including in urban transport with the successful implementation of the Urban Transport Development Project (UTDP) which closed in December 2015.

CDR will be responsible for executing all project components financed by the World Bank loan. While directly responsible for the project, CDR will coordinate project preparation and implementation with a steering committee including DGLMT, RPTA and the Municipality of Beirut, as well as other agencies where needed. CDR will be responsible for executing all project related infrastructure. In addition, the government contribution to the operators, which will be financed from the World Bank loan, will be channeled to operators through CDR to initiate consistency of financial statements. Through a memorandum of understanding, CDR will involve the MPWT, DGLMT and RPTA in the preparation and review of the technical specifications and contract conditions for operators, and will responsible for contract negotiations with the operators. Except for the RPTA experts who will be procured by RPTA, CDR will undertake all project related procurements as further discussed under the procurement and financial management sections of the PAD.
The system operation and maintenance will be undertaken by private operators, under the supervision of RPTA. Private operators will be responsible for the operation and maintenance of the buses, stations, ITS, and fare collection systems. In addition, they will be responsible for the maintenance of the BRT infrastructure and dedicated lanes. RPTA will have the mandate for the supervision and oversight of the private operators in accordance to the contracts/concession which will be approved by the Council of Ministers. RPTA will certify that operators are fulfilling their contractual obligations and will recommend payments and penalties based on the contract clauses and conditions.

**F. Project location and Salient physical characteristics relevant to the safeguard analysis (if known)**

The proposed project includes the construction of a new BRT system between Tabarja and Beirut, and an outer ring road within Beirut. This project includes a 22.7 km long corridor from Tabarja to Beirut, and a 20 km long corridor following the existing ring road in Beirut. The project also includes the establishment of the feeder bus services to the trunk BRT line along the existing feeder roads. Preliminary assessment of the route of the BRT system indicated that the majority of the route exists within the right of way of public roads. The route of the BRT (Tabarja- Beirut and within Beirut) will be within the existing highway and roads ROW (in the middle). On the majority of the ROW, the land is owned by the government; however, land acquisition will be needed for a terminal/bus depot in Tabarja and the widening of few sections along the highway. Also, there are a few encroachers and squatters in some sections. Although new buses will be purchased under Component 2, the scrapping of old buses will not be part of the project. Old buses are currently run by small operators and likely will continue service within Beirut and/or other parts of Lebanon.

**G. Environmental and Social Safeguards Specialists on the Team**

Chaogang Wang, Social Safeguards Specialist  
Zeyad Abu-Hassanein, Environmental Safeguards Specialist

**SAFEGUARD POLICIES THAT MIGHT APPLY**

<table>
<thead>
<tr>
<th>Safeguard Policies</th>
<th>Triggered?</th>
<th>Explanation (Optional)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental Assessment OP/BP 4.01</td>
<td>Yes</td>
<td>Per the World Bank Operational Policy OP 4.01 on Environmental Assessment, the proposed project is classified as category “A” project, requiring full Environmental and Social Impact Assessment (ESIA). The client has carried the ESIA in accordance to the Bank policies by an independent third party consultant. The ESIA studied project alternatives, and quantified the environmental and social impacts</td>
</tr>
</tbody>
</table>
during the construction and operation phases of the project, devised an Environmental and Social Management Plan (ESMP) to minimize expected risks, a monitoring plan with clear responsibilities of the mitigation measures. The ESIA was prepared based on the feasibility study (FS), therefore some variations in the scope of activities might occur once final designs are furnished. CDR committed that site-specific ESIA/ESMPs will be prepared as part of the final design packages to cater for closing any gaps which might arise during implementation. These safeguards instruments would be expected to update the existing ESIA based on any changes or gaps resulting from final design and include: (i) livelihoods restoration plan, (ii) physical cultural resources management plan, and (iii) ambient air quality monitoring program during operations. In addition, CDR committed to employ the World Bank Safeguards Policies (or equivalent) for the activities carried out in parallel to the BRT system, particularly the A1 highway. Furthermore, the TAs under component 3 of the project will incorporate the necessary safeguards aspects in the ToRs for the studies including the necessary stakeholder consultations.

The ESIA showed the project is not expected to have significant negative impacts on the surface water resources, natural habitats in the area of influence of the project. Noise, vibrations, and dust construction waste and debris are expected during the construction phase, and mitigation measures have been detailed in the environment management plan to reduce the residual impacts to a minimum level. For the above reasons, the ESIA indicated that a Traffic Management Plan (TMP) to minimize traffic congestions and a Waste Management Plan (WMP) prepared by bidders as part of their technical proposal should be considered as key ingredients of the evaluation criteria.

<p>| Natural Habitats OP/BP 4.04 | No | construction of the BRT road from Beirut to Tabarja is mainly within the ROW of the existing road with widening of a few sections in certain locations, and the inner and outer ring roads are entirely within |</p>
<table>
<thead>
<tr>
<th>Policy Area</th>
<th>Condition</th>
<th>Impacts and Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Forests OP/BP 4.36</td>
<td>No</td>
<td>Policy does not apply as the project will not be implemented in any forested areas.</td>
</tr>
<tr>
<td>Pest Management OP 4.09</td>
<td>No</td>
<td>Policy is not triggered as the project will not procure any pesticides nor will it induce an increase in the current non-existent to low levels of pesticide use.</td>
</tr>
<tr>
<td>Physical Cultural Resources OP/BP 4.11</td>
<td>Yes</td>
<td>The project covers a large area with a high potential of archaeological remains, whether on the Tabarja-Beirut course or within Beirut. Beirut is classified as a very sensitive archaeological and historical area. Tabarja, Maameltein, Nahr el-Kalb, Dbayeh, Antelias and Charles Helou have revealed archaeological features during previous excavation works. Archaeological findings have been discovered in most of the areas where the works are planned within Beirut. Therefore, the ESIA confirmed a high likelihood of chance findings during excavation works and included a chance-find procedure. In addition, the ESIA requested close coordination between CDR and the Directorate General Of Antiquities during all phase of the project planning and implementation. The ESIA was prepared based on the feasibility study (FS), therefore some variations might occur once final designs are furnished. Site-specific ESIA/ESMPs will be prepared as part of the final design packages to cater for closing any gaps which might arise during implementation and include a physical cultural resources management plan.</td>
</tr>
<tr>
<td>Indigenous Peoples OP/BP 4.10</td>
<td>No</td>
<td>Policy is not triggered as indigenous people as defined in the policy are not present in project areas.</td>
</tr>
<tr>
<td>Involuntary Resettlement OP/BP 4.12</td>
<td>Yes</td>
<td>One main adverse social impacts are related land acquisition. The BRT lane will be within the ROW of the existing roads and highway. The permanent land acquisition will be involved in widening of the highway (A1) in a few sections from Tabarja to Beirut, the bus depot and terminal in Tabarja. The road works along the feeder roads to be financed under Component 2 are mainly some stop signs and furniture on existing roads. It will not involve in any additional land expropriation and no</td>
</tr>
</tbody>
</table>
encroachers/squatters have been identified in these areas.

The resettlement impacts include permanent acquisition of 22,244 square meter of land, which will affect 24 plots land owned by 10 landowners. In addition, it will also affect 5 households of encroachers and squatters with 26 persons in total. To mitigate the adverse impacts involved in land acquisition, a RAP has been prepared by following the Bank Policy on Involuntary Resettlement OP 4.12 and relevant laws and regulations in Lebanon. The RAP will be approved by the Bank and disclosed at the Bank external website and in country in both English and Arabic.

A service road to be financed by the EIB might be implemented along the same corridor during the same period of time as BRT. The Bank team determined the service road will not be considered as associated activities because the following: i) the service road is not planned in anticipation to the BRT; ii) construction and operation of BRT does not need the construction of the service road; iii) the achievement of the PDO of the BRT will not be affected without implementation of the proposed the service road. Thus the RAP of BRT will not cover the land acquisition for the service road. CDR has confirmed that same approach will be applied in managing the land expropriation and relevant environmental and social risks involved in two projects.

<table>
<thead>
<tr>
<th>Safety of Dams OP/BP 4.37</th>
<th>No</th>
<th>Policy is not triggered as the project will not include construction of dams as defined by the policy. Project facilities and activities are not impacted by existing dams.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Projects on International Waterways OP/BP 7.50</td>
<td>No</td>
<td>Policy is not triggered as the project will not undertake any activities in the catchment areas of international waterways and shared aquifers.</td>
</tr>
<tr>
<td>Projects in Disputed Areas OP/BP 7.60</td>
<td>No</td>
<td>Policy is not triggered as project activities will not be implemented in any disputed areas.</td>
</tr>
</tbody>
</table>
KEY SAFEGUARD POLICY ISSUES AND THEIR MANAGEMENT

A. Summary of Key Safeguard Issues

1. Describe any safeguard issues and impacts associated with the proposed project. Identify and describe any potential large scale, significant and/or irreversible impacts:

One main adverse social impacts are related land acquisition. The BRT will likely be within the ROW of the existing roads and highway. The permanent land acquisition will be involved in widening of the highway (A1) in a few sections from Tabarja to Beirut, the bus depot and terminal in Tabarja. The road works along the feeder roads will not involve in any additional land expropriation and no encroachers/squatters have been identified in these areas. To mitigate the adverse impacts involved in land acquisition, a RAP has been prepared by following the Bank Policy on Involuntary Resettlement OP 4.12 and relevant laws and regulations in Lebanon. The resettlement impacts include permanent acquisition of 22,244 square meter of land, which will affected 24 plots land owned by 10 landowners. In addition, it will also affected 5 households of encroachers and squatters with 26 persons in total.

The ESIA showed the project is not expected to have significant or major negative impacts on the surface water resources, natural habitats, or physical and cultural resources in the area of influence of the project. The project site is a developed urban area in Beirut and the highway connecting northern Beirut to Tabarja. The construction of the BRT system will mainly utilize the ROW of existing roads and highways with a few expansions in a few sections. Noise, vibrations, and dust construction waste and debris are expected during the construction phase, and mitigation measures have been detailed in the environment management plan to reduce the residual impacts to a minimum level. For the above reasons, the ESIA indicated that a Traffic Management Plan (TMP) to minimize traffic congestions and a Waste Management Plan (WMP) prepared by bidders as part of their technical proposal should be considered as key ingredients of the evaluation criteria.

The project covers a large area with a high potential of archaeological remains, whether on the Tabarja-Beirut course or within Beirut. Beirut is classified as a very sensitive archaeological and historical area. The ESIA confirmed a high likelihood of chance findings during excavation works and included a chance-find procedure. In addition, the ESIA requested close coordination between CDR and the Directorate General Of Antiquities during all phase of the project planning and implementation. The ESIA was prepared based on the feasibility study (FS), therefore some variations might occur once final designs are furnished. Site-specific ESIA/ESMPs will be prepared as part of the final design packages to cater for closing any gaps which might arise during implementation and include a physical cultural resources management plan.

The ESIA has assessed the labor-influx related impacts not to be significant and this will be further assessed as detailed designs are finalized.

2. Describe any potential indirect and/or long term impacts due to anticipated future activities in the project area:

As a result of the project implementation, the potential adverse social impacts would include the following: i) loss of sources of income or livelihood of existing bus/public transportation operators; ii) inconvenience to current users of street parking because of reduced parking spaces on the street; and iii) dissatisfaction of existing motor vehicle drivers because of reduced space for car lanes and street parking.
The ESIA indicated that the project will result in positive impacts on air quality, reduced GHG emissions, and reduced noise levels once the BRT system is fully operational. The ESIA studied the different atmospheric emissions resulting from the operation of the transportation fleet with and without the BRT System for the year 2023 in the project influence zone. The study consisted of assessing the future incremental emissions due to the project while taking into consideration the anticipated change in traffic circulation and modal shares due to the operation of the BRT System. The comparison of the two scenarios resulted in the net emissions budget. Scenario S1 comprises the emissions from the whole fleets when the BRT System is in operation which includes the new buses and induced traffic (passenger cars, taxis, and trucks). Scenario S2 comprises the emissions of the present Public Transport system (PT) and the induced traffic in the absence of the BRT System. The comparison is undertaken for the year 2023 for CO, NOx, PM10, SO2 and GHGs.

The implementation of the BRT System will decrease the emissions of pollutants in Lebanon. For the year 2023, the annual emissions reduction in the project area would be of 1,232.39 t/yr, 641.89 t/yr, 35.26 t/yr, and 35.63 t/yr for CO, NOx, SO2, and PM10 respectively. The model also showed that no increase in the emission of any pollutant is observed in any locality that will be served by the BRT System. The model results showed that the shift in the mass transport system from the current Public Transport to the New System will reduce GHG emissions in 2023 of around 590 Gg/yr of CO2eq in Lebanon which is higher than the impact of the implementation of the BRT System on the emissions reduced from the PC, Taxis and trucks. When all categories are considered, a total of 713.67 Gg/yr of CO2eq. are reduced in 2023. Based on the traffic study outputs, the proposed project will reduce the number of vehicles on the streets thus reduce traffic-related noise. The project will help in maintaining constant vehicles flow which will reduce the stop-and-go traffic related noise.

3. Describe any project alternatives (if relevant) considered to help avoid or minimize adverse impacts.

Three options including BRT, LRT and heavy rail have been studied. BRT option is selected based on the study. In terms of the social safeguards impacts, the BRT option is the least adverse social impacts in comparison with other two options.

The design of the BRT infrastructures and stations puts a strong emphasis on accessibility by pedestrians, safety, and inter-exchange with other transport modes through two passenger terminals, park and rides facilities and well-integrated feeder routes.

4. Describe measures taken by the borrower to address safeguard policy issues. Provide an assessment of borrower capacity to plan and implement the measures described.

Per the World Bank Operational Policy OP 4.01 on Environmental Assessment, the proposed project is classified as category “A” project, requiring full Environmental and Social Impact Assessment (ESIA). The client has carried the ESIA in accordance to the Bank policies by an independent third party consultant. The ESIA showed the project is not expected to have significant or major negative impacts on the surface water resources, or natural habitats. The project site is a developed urban area in Beirut and the highway connecting northern Beirut to Tabarja. The construction of the BRT system will mainly utilize the ROW of existing roads and highways with a few expansions in a few sections. Noise, vibrations, and dust construction waste and debris are expected during the construction phase, and mitigation measures have been detailed in the environment management plan to reduce the residual impacts to a minimum.
level. For the above reasons, the ESIA indicated that a Traffic Management Plan (TMP) to minimize traffic congestions and a Waste Management Plan (WMP) prepared by bidders as part of their technical proposal should be considered as key ingredients of the evaluation criteria. The ESIA stipulated that earth works expected during the construction of the BRT line might pose a risk of chance finds, documented consultations with the Lebanese Department of Antiquities, and outlined a detailed chance-find procedure that will be part of the bidding documents. The ESIA was prepared based on the feasibility study (FS), therefore some variations in the scope of activities might occur once final designs are furnished. CDR committed that site-specific ESIA/ESMPs will be prepared as part of the final design packages to cater for any gaps which might arise during implementation. These safeguards instruments would be expected to update the existing ESIA based on any changes or gaps resulting from final design and include: (i) livelihoods restoration plan, (ii) physical cultural resources management plan, and (iii) ambient air quality monitoring program during operations. In addition, CDR committed to employ the World Bank Safeguards Policies (or equivalent) for the activities carried out in parallel to the BRT system, particularly the A1 highway.

To mitigate the adverse impacts of land acquisition and resettlement, a resettlement action plan (RAP) has been prepared and cleared by the Bank and disclosed. To mitigate the potential indirect adverse social impacts, traffic management plan and communication strategy with different stakeholders will be developed along with the project preparation and implementation.

The capacity of CDR to implement the Environmental and Social Management Plan (ESMP) was assessed to be satisfactory in previous projects. During the implementation of the Urban Transport Development Project (UTDP) financed by the Bank, CDR had employed competent staff to oversee the implementation of the ESMP of the project, and adequately managed and monitored the compliance of contractors. The Urban Transport Development Project had mainly focused on improving traffic flow in certain congested sections in Beirut via grade separations and included construction of bridges and minor tunneling. To handle the larger scope of the current BRT system, CDR will employ a full-time staff environment and social specialists dedicated to the project and their performance will be enhanced and monitored closely.

5. Identify the key stakeholders and describe the mechanisms for consultation and disclosure on safeguard policies, with an emphasis on potentially affected people.

The key stakeholders consist of project beneficiaries—mainly the public transport users; the people potentially adversely affected such as people affected by land acquisition, existing bus/public transport operations, street parking users; and relevant government agencies and NGOs.

Two Stakeholder consultations rounds were carried out during the ESIA preparation. The first consultation was held during the scoping phase of the ESIA on January 19, 2017 and the second consultation was held once a final draft ESIA has been furnished on September 7, 2017. The consultations rounds were announced publicly in the media and attended by concerned authorities, government including the Lebanese Ministry of Environment, academia, NGOs, and the public. The ESIA report (with executive summary in Arabic and English) are disclosed on CDR website and made available in hard copies at the premises of CDR. The final ESIA report has been also disclosed on the Bank external website.

A Stakeholder Engagement and Consultation Plan (SECP) has been developed and included in the ESIA and includes details on stakeholders’ identification and communication tools. As part of the ESIA and RAP process, consultations have been carried out through individual interviews, focused group discussion and public meetings. In addition to consultation carried out in preparation of the ESIA and RAP, consultations will continue during the project.
In addition to consultations, a grievance redress mechanism has been established and included in the RAP and ESIA. The project beneficiaries and/or affected persons can send their complaints, concerns and suggestions in an oral and/or written to the concerned municipalities, PIU and CDR. The detailed grievance redress mechanism has been included in the ESIA and RAP.

B. Disclosure Requirements

<table>
<thead>
<tr>
<th>Environmental Assessment/Audit/Management Plan/Other</th>
<th>Date of receipt by the Bank</th>
<th>Date of submission for disclosure</th>
<th>For category A projects, date of distributing the Executive Summary of the EA to the Executive Directors</th>
</tr>
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"In country" Disclosure
Lebanon
20-Oct-2017

Comments

<table>
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<tr>
<th>Resettlement Action Plan/Framework/Policy Process</th>
<th>Date of receipt by the Bank</th>
<th>Date of submission for disclosure</th>
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<td>02-Sep-2017</td>
<td>20-Oct-2017</td>
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</table>

"In country" Disclosure
Lebanon
20-Oct-2017

Comments

C. Compliance Monitoring Indicators at the Corporate Level (to be filled in when the ISDS is finalized by the project decision meeting)

OP/BP/GP 4.01 - Environment Assessment

Does the project require a stand-alone EA (including EMP) report?
Yes
If yes, then did the Regional Environment Unit or Practice Manager (PM) review and approve the EA report?
Yes

Are the cost and the accountabilities for the EMP incorporated in the credit/loan?
Yes

**OP/BP 4.11 - Physical Cultural Resources**
Does the EA include adequate measures related to cultural property?

Does the credit/loan incorporate mechanisms to mitigate the potential adverse impacts on cultural property?

**OP/BP 4.12 - Involuntary Resettlement**
Has a resettlement plan/abbreviated plan/policy framework/process framework (as appropriate) been prepared?
Yes

If yes, then did the Regional unit responsible for safeguards or Practice Manager review the plan?
Yes

**The World Bank Policy on Disclosure of Information**

Have relevant safeguard policies documents been sent to the World Bank for disclosure?
Yes

Have relevant documents been disclosed in-country in a public place in a form and language that are understandable and accessible to project-affected groups and local NGOs?
Yes
All Safeguard Policies

Have satisfactory calendar, budget and clear institutional responsibilities been prepared for the implementation of measures related to safeguard policies?
Yes

Have costs related to safeguard policy measures been included in the project cost?
Yes

Does the Monitoring and Evaluation system of the project include the monitoring of safeguard impacts and measures related to safeguard policies?
Yes

Have satisfactory implementation arrangements been agreed with the borrower and the same been adequately reflected in the project legal documents?
Yes

CONTACT POINT

World Bank
Ziad Salim EL Nakat
Sr Transport. Spec.

Borrower/Client/Recipient
Lebanese Republic

Implementing Agencies
Council for Development and Reconstruction
Wafaa Charafeeddine
Funding Division Director
wafac@cdr.gov.lb
FOR MORE INFORMATION CONTACT

The World Bank
1818 H Street, NW
Washington, D.C. 20433
Telephone: (202) 473-1000
Web: http://www.worldbank.org/projects

APPROVAL

Task Team Leader(s): Ziad Salim EL Nakat

Approved By

<table>
<thead>
<tr>
<th>Safeguards Advisor:</th>
<th>Nina Chee</th>
<th>24-Oct-2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Practice Manager/Manager:</td>
<td>Olivier Le Ber</td>
<td>25-Oct-2017</td>
</tr>
<tr>
<td>Country Director:</td>
<td>Saroj Kumar Jha</td>
<td>26-Oct-2017</td>
</tr>
</tbody>
</table>