

## **Environmental and Social Data Sheet**

### **Overview**

Project Name:	PUNE METRO RAIL PROJECT
Project Number:	2016-0327
Country:	India
Project Description:	Construction of two metro lines with 31 km length and purchase of a fleet of metro cars in Pune, Maharashtra, western India.
EIA required:	No
Project included in Carbon Footprint Exercise <sup>1</sup> :	No

### **Environmental and Social Assessment**

#### **Environmental Assessment**

The project is consistent with the draft Comprehensive City Development Plan to 2041 for Pune, that was subject to consultation of stakeholders and the Comprehensive Mobility Plan, 2008, that was also subject to consultation incl. public workshops. The latter is currently being revised.

If located in the EU, the project would fall under Annex II of EIA Directive 2011/92/EU, in which case it would be subject to screening by the Competent Authority which would decide whether an EIA procedure is required or not. As per provisions of the Indian EIA Notification dated September 2006, any new project or the expansion or modernization of any existing industry or project listed in Schedule I of the notification shall submit an application for clearance to the Ministry of Environment and Forests (MOEF), Government of India. Since metro rail projects are not included in Schedule I of the Notification, the project does not require an environmental clearance certificate from the MOEF nor a related EIA procedure.

Nevertheless, the Promoter has voluntarily carried out an Environmental Impact Assessment (EIA) in line with EIB standards and prepared an EIA report consistent with the requirements of the EIA Notification, 2006. The EIA report has been disclosed locally and on the EIB website.

The EIA covers all elements of the project, which is a major element of the first phase of the staged construction of a longer network of metro lines in the city. The project concerns the construction of two new metro lines (the North-South corridor and the East-West corridor), together with the necessary metro fleet. Roughly 5 km of the line and 5 stations will be underground and the balance 26 km of the line and 25 stations are elevated. Two maintenance depots are to be constructed at Hill Range Station of about 11.5 hectares approx and Kothrud Depot near Vanaz Station of about 12.1 hectares approx.

During the earlier planning stages of the project, the relevant local authorities based on traffic and engineering studies considered the feasibility of several metro corridors. The criteria for selecting the now proposed corridors included: traffic demand/ridership, accessibility and integration with existing public transport nodes, available right of way within major roads, ground conditions, capital and operating costs, availability of land for the depots and stations

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as well as minimum disturbance/avoidance of heritage structures. The selected alignment follows mostly the central median of a major road artery in the north and east-west corridor of the city whilst in the most densely populated central and southern area the alignment is underground. Station locations have been selected to maximise ridership and ease intermodal connections.

The main residual negative environmental impacts of the project include: (i) permanent conversion of about 23.6 ha of open land to depots; (ii) cutting down of about 685 trees; (iii) building within the 'blue line' (flooding area) of the river Mutha, (iv) finite use of scarce, sometimes carbon intensive, materials, such as cement; and (v) noise, vibration and visual intrusion for properties adjacent to the alignment. All other negative impacts are temporary and localised. According to the ESIA there are no National Parks, Wildlife Sanctuary and Biosphere reserves, etc. found within 5 km on either side of the metro corridors.

The East-West corridor has a 1.45 km stretch along the Mutha river bed. After consultations showed concerns regarding this stretch, the impacts have been analysed in more depth (which included field testing) and were reported in a separate EIA document. The findings were that the design (metro on pillars which will not obstruct the flow of (flood)water) sufficiently mitigates the identified risks of erosion, higher risks of flooding, water and air pollution, damage to biodiversity and trees.

There was a court case at the National Green Tribunal (NGT - a special tribunal to handle cases pertaining to environmental issues) due to biodiversity concerns. The NGT ordered an expert committee to investigate the impacts of the alignment and the report concluded that the metro pillars would not damage the biodiversity of the river and the impact of construction of piers for metro rail on river hydrology was insignificant. The Promoter had no objection to the recommendations of the expert report and the project would proceed fully complying with it. In the Order of the Tribunal dated on 03 August 2018, the NGT concluded that it would not be in public interest to prohibit the project. However, the project shall be completed by following all the safeguards suggested by the Expert Committee. Therefore, the NGT has recommended the strict compliance of Environmental Management Plan (EMP) as per EIA during construction and operation phases of the project. The NGT ruling was in favour of the Promoter.

The main mitigants proposed are as follows: (i) compensatory reforestation in line with national legislation; (ii) various energy saving measures such as regenerative braking and use of solar panels; (iii) noise reduction measures (i.e. rubber dampers on the rails and use of a U girder for the elevated part of the alignment which acts in part as a noise barrier); and (iv) reuse of excavated material where feasible and disposal to waste in a regulated manner.

Environmental measures are documented in an Environmental Management Plan (EMP) and as appropriate, have been and will be included as part of the works contract conditions. Potential settlement of buildings situated above the tunnels will be monitored and adequate insurance cover put in place to compensate or address potential damage, if any.

The main positive environmental impacts of the project, resulting from reduced private vehicle use include: reduction in local polluting air emissions, road noise and vibration; road safety improvements; and a modest reduction in greenhouse gas emissions compared to a situation without building the metro.

The ESIA concludes that there are no natural hazards due to climate change foreseen that might affect the project.

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### **Social Assessment**

The main adverse social impact is related to involuntary resettlement. Assessment indicates that the Pune Metro Project shall require permanent acquisition/transfer of the total land of 40.96 hectares (ha), of which 37.25 ha is government land and 3.70 ha is private land impacting around 688 households. A complete assessment of land acquisition and resettlement will be known once the design and census of affected households for all sections is completed. All attempts will be made during the final execution of the project to minimize land acquisition, resettlement and adverse impacts on people in the project area through careful localised engineering design.

The promoter has prepared a Resettlement Policy Framework (RPF) consistent with EIB requirements. A draft RPF has been subject to consultation with Project Affected Persons and disclosed on the website of the Promoter and EIB. A final RPF will be disclosed before contract signature. To avoid any disproportionate negative environmental and/or livelihood impacts on vulnerable groups, identified vulnerable households will receive additional financial and in-kind assistance.

A Resettlement Action Plan (RAP) is under preparation consistent with EIB requirements. This RAP is being prepared in consultation with all project-affected persons and will be disclosed on the website of the Promoter and EIB. The RAP for the East-West and North South corridor, consistent with the RPF, is being developed concurrently with the detailed designs. The RAP is to be implemented in a manner consistent with the handover of site to works contractors.

In addition to private commercial and residential buildings, there are some common property assets such as religious structures and local utilities that may be affected due to the proposed alignment – approximately 52 in all. The unavoidable loss of such assets will be compensated through replacement elsewhere or a suitable financial mechanism.

The project does not impact any other religious/cultural or archaeological assets.

Other potential social risks arising due to the project are: (i) poor application of relevant labour standards related to employee working conditions during construction and operation; and (ii) poor occupational and community health and safety during construction. These will be addressed primarily through the inclusion of contractual obligations for the first tier suppliers and contractors, which will be enforced by the Promoter's supervision team.

### **Public Consultation and Stakeholder Engagement**

The promoter has performed several rounds of administrative consultation as well as several rounds of public consultation during the preparation of the various design and EIA reports in 2017 and 2018. The draft RPF was subject to consultation in 2017. The issues raised by the public focused on resettlement and construction management aspects which are being addressed by the Promoter.

The EIA report, along with a non-technical summary, have been made public on the website of the Promoter and EIB.

### **Other Environmental and Social Aspects**

The Promoter will be responsible for overseeing and ensuring implementation of the EMP and RAP(s). The Promoter has sufficient qualified staff within the organisation many of whom have gained experience from implementation of other metro projects, like in Nagpur. An independent monitoring and evaluation consultant will be commissioned, who will periodically

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monitor and report on delivery of the EMP and RAP as well as perform a mid and end of term evaluation of RAP implementation.

### **Gender impact**

The Promoter has agreed to establish a quantitative target for employment of women during project construction and implementation (in other metros, it has been foreseen for example that a significant proportion of metro drivers are women). In addition, the project is expected to have a strong positive impact for female travellers in terms of security and safety and therefore encourage ridership among female travellers. This can be seen as being especially beneficial for poorer travellers, for whom other more expensive means of transport are less accessible, and for whom the metro therefore opens new opportunities in terms of access to education and employment.

## **Conclusions and Recommendations**

The EIB will condition its loan disbursements on:

- A) Before signature, the promoter will provide to the satisfaction of the Bank a copy of final RPF.
- B) Before first disbursement, the promoter will provide to the satisfaction of the Bank a copy of the North-South and East West corridor RAP.
- C) Before any disbursement: (i) the promoter will ensure that the project implementation team includes environmental and social experts to implement the EMP and RAP.

In addition, the Bank will seek commitments from the Promoter to: (i) ensure that the EMP and relevant Bank's social and environmental standards are included in the tender documents of the main work contracts; (ii) implement the project in accordance with the agreed EMP, RPF and RAP; (iii) report regularly on the status of RAP and EMP implementation; (iv) comply with Bank's social and environmental standards and will monitor and report on its implementation regularly, to the Banks satisfaction; and (iv) present mid and end of term evaluation of RAP(s) implementation prepared by a third party.

Subject to the above mentioned environmental and social conditions being met, the overall residual environmental and social impacts of the Project are expected to be acceptable.