

## Environmental and Social Data Sheet

### Overview

Project Name:	BOSPHORUS TUNNEL TRANCHE B
Project Number:	2013-0129
Country:	TURKEY
Project Description:	The Project involves the additional financing of the Bosphorus Tunnel Project which consists of a rail tunnel crossing underneath the Bosphorus Strait to link the existing commuter lines on the European and Asian sides of Istanbul. It also includes the upgrading of existing lines and the procurement of new rolling stock. The investment will constitute the first seamless mass transit system in Istanbul to cross the Bosphorus and link the two sides of the city along 76 km of its southern shores. It will also enable high-speed intercity trains to cross the Bosphorus and reach the city centre.
EIA required:	yes
Project included in Carbon Footprint Exercise <sup>1</sup> :	yes

(details for projects included are provided in section: "EIB Carbon Footprint Exercise")

### Summary of Environmental and Social Assessment, including key issues and overall conclusion and recommendation

If located within the EU, the project would fall under Annex I of the EIA Directive 2011/92/EU and would require an Environmental Impact Assessment (EIA), including assessment against the Habitats and Birds Directives. Under prevailing national legislation at time of the project preparation, an EIA was not mandatory.

The project was appraised by the EIB in 2004 for compliance to the then prevailing EIB environmental policy and found to be acceptable subject to conditions. However, the promoter (AYGM), at the request of the Bank, undertook an EIA procedure. The EIA covered the content as prescribed in the EIA Directive and was subject to adequate disclosure and public consultation. A Non-Technical Summary (NTS) was disclosed in 2007 covering the project. The Bank requires detailed Environmental Mitigation and Monitoring Plans (EMMP) for each work contract for which its finance is being used. An independent Tunnel Safety Audit was conducted before starting the limited operation service in October 2013 under the Bosphorus Strait.

There are no protected areas traversed by the route alignment. The Competent Authority for Nature Conservation has given its opinion that the project, for its whole alignment, is not likely to have a significant effect on protected sites. This has been confirmed by the Competent Authority in a formal statement.

Works commenced in 2004 and the project is being implemented as originally intended and in accordance with relevant original environmental decisions. All environmental conditions have been met and all permits have been obtained.

Environmental impacts are mostly positive related to modal shift from road to rail, thus contributing to a more sustainable transport system. It is estimated that the project will save about 30,000 tons of CO<sub>2</sub> emissions annually, mostly thanks to the transfer of some private car passengers into the railway commuter trains. Overall, the project is acceptable to the Bank.

<sup>1</sup> Only projects that meet the scope of the Pilot Exercise, as defined in the EIB draft Carbon Footprint Methodologies, are included, provided estimated emissions exceed the methodology thresholds: above 100 000 tons CO<sub>2</sub>e/year absolute (gross) or 20,000 tons CO<sub>2</sub>e/year relative (net) – both increases and savings.

## Environmental and Social Assessment

### Environmental Assessment

Due to the fact that this project was put in the Turkish Development Plan before 1993, the Ministry of Transportation and Communication formally does not require a full EIA procedure according to Turkish legislation, even though nowadays it falls into a category of project that requires such an assessment. However, in practice, a lot of environmental information has been collected and approvals have been obtained from the relevant Turkish authorities, covering in substance the requirements of an Environmental Impact Assessment (EIA) according to good international practice.

In-line with the Bank's environmental policy, the promoter was informed that all environmental information should be organized into a comprehensive and systematic document to be produced encompassing in substantive form the requirements of the European guidelines on Environment. Disclosure of the EIA study was a requirement, which the EIB endorsed as a step toward a form of public consultation. The promoter agreed to produce such a comprehensive and systematic document. The draft documents were submitted to the Bank and after few revisions were found to be in line with the Bank's environmental policy and in conformity with the requirements of the EIA Directive. The final EIA reports were prepared in November 2006 and submitted to the Ministry of Environment and Forestry, the Competent Authority. The NTS was published in June 2007 on the Bank's webpage.

The EIA has given special attention to issues such as the screening of alternatives, impact assessment and the proposed mitigation/compensation measures, the appropriateness of the public consultation process as well as the arrangements for environmental management during project implementation and operation.

The adverse environmental impacts of the project during construction are linked to air pollution, marine dredging and disposal of contaminated (and non-contaminated) materials, turbidity and settlement of sediments, drilling and blasting, excavation and disposal of materials, historical and cultural heritage, land acquisition and re-settlement, protected habitat areas. For all these impacts mitigation and monitoring of activities have been foreseen. Most of the new commuter railway route follows the existing alignment. Noise barriers will be required and some ground water protection measures were implemented during the construction of the now completed tunnel. Historical buildings will, if affected, be moved and rebuilt in other areas. Historical/Archaeological experts are part of the Monitoring team and follow closely all excavations as they are performed.

Overall, the project is likely to have a positive environmental impact. Traffic congestion in Istanbul will be reduced and there should be a significant reduction in the accident rate. Effects on air pollution with reduction in congestion should be broadly positive. Noise impact should be reduced compared to the present situation. There will be an increased accessibility to public transport.

### EIB Carbon Footprint Exercise

It is estimated that annual greenhouse emissions with an average distance trip (12 to 13 km) in the baseline is about 500 kilotonnes (kt) CO<sub>2</sub> equivalent per year. Due to the project this would reduce to 470 kt CO<sub>2</sub> emissions annually, which implies a reduction of 30 kt CO<sub>2</sub> equivalent per year.

In the baseline, transport would have to make use of the existing road bridges and ferry services. The estimate of the CO<sub>2</sub> emissions in this scenario is based on assumptions regarding traffic and traffic growth in the project corridor as well as assumptions about CO<sub>2</sub> emissions for cars and trains, average distance travelled and infrastructure capacity. For the annual accounting purposes of the EIB Carbon Footprint, the Project emissions will be prorated according to the EIB lending amount signed in that year, as a proportion of Project cost.

### **Social Assessment**

Workers at the construction site are ensured of adequate facilities of water, sanitation and liveable quarters by the Contractor's management in accordance to health and safety standards as well as labour requirements of Turkey. This is included in works contract conditions.

All works undertaken by the responsible contractor shall be carried out in such a way as not to cause danger or harm to public or breach regulations protecting the public. This includes, but is not restricted to, aspects such as: (i) requiring drivers to obey the speed limits on rural roads, and to take due care and attention; (ii) preventing dangerous road conditions such as mud and dust on road; (iii) minimizing dust generation; and (iv) preventing release of any noxious, toxic or radioactive substances which may harm public health.

Should complaints arise, the project promoter and all responsible parties are to set up a "complaints procedure" that will enable complaints or inquiries to be made directly to a nominated individual (normally the Community Liaison Officer). Proper communication channels are established to ensure prompt actions on any complaints from the public.

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

Part of the EIA preparation was to conduct Public Consultation and Disclosure (PCD) meetings to address the social impact scope of the project at the sections where major construction activities were projected to be undertaken. Several meetings were held well in advance of the final project definition to present the project to the affected stakeholders at key locations along the alignment. The meetings were attended by representatives from the Regional Chamber of Commerce and Trade, Ward associations, local NGOs like cultural and social support associations and local residents. Questions revolved around noise and operational concerns. In the meetings it was observed that there was clear support on the project coming from the participants. Overall, no negative sentiments were communicated during the meetings by those who attended.

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

During the implementation, the promoter had tendered a contract for consultancy services for a General Consultant/Supervising Consultant, in which a major part of the service is to perform environmental monitoring for the project.

The Environmental Mitigation and Monitoring Plan (EMMP) processes and protocols adhered to the EIA in conformity with to Turkish legislation and EU regulations and directives. Monitoring is being done at various levels: (i) the Supervising Consultant environmental specialist undertakes weekly monitoring; (ii) PCIU Environmental Expert performs periodic monitoring; and (iii) the Contractor also does its own self-monitoring and environmental parameter measurements.