



Luxembourg, 15 November 2023

Environmental and Social Data Sheet

Overview

Project Name:	TEL AVIV LRT GREEN LINE
Project Number:	20190281
Country:	Israel
Project Description:	The project concerns the design, finance, construction, and maintenance of the LRT Green Line (Tel Aviv Light Rail).
EIA required:	yes
Project included in Carbon Footprint Exercise ¹ :	yes

Environmental and Social Assessment

The Green Line is a 39 km long, electrically powered light rail line designed to link the western areas of Herzliya and the north-eastern areas of Tel Aviv with Holon and the eastern area of Rishon LeZion through Tel Aviv city centre. The Green Line is mostly at-grade with some short sections on bridges, or at low level, except the segment in central Tel Aviv, where there is a 4.2 km long tunnel section. The line will connect the southern and northern parts of the metropolis with the Tel Aviv centre, supporting the future development of the main business district in northwest Tel Aviv and western Herzliya and allowing access to business centres in Ramat Hahayal, Tel Aviv University, Holon, Rishon LeZion, and Herzliya Pituah. The Green Line is entirely planned in current or future urban areas. The project promoter is the NTA Metropolitan Mass Transit System, a government company responsible for the design and construction of a mass transit system for the Tel Aviv metropolis.

The project is being implemented in stages. The first stage is ongoing and consists of early works contracts which include clearing the swept path of the LRT lines of utilities and constructing key elements such as bridges and tunnels. The second stage is the completion of the line, by constructing the remaining civil and structural works and installing mechanical, electrical, and plumbing (MEP) works, railway systems and the provision of rolling stock. The second phase works have recently been awarded to a private concessionaire under a Design, Build, Finance and Maintenance (DBFM) contract.

Environmental Assessment

The Israeli EIA system is materially consistent with the EIA Directive (2014/52/EU amending the EIA Directive 2011/92/EU) in terms of the methodology and scope of the studies. EIA documents in Israel are prepared under the Planning and Building Law (1965).

The Green Line is one of the planned light rail lines as part of the public transportation system in the Tel Aviv Metropolitan area, as outlined in the National Outline Plan 23/4, and National Infrastructure Plan (NIP) 71. The project has been subject to an EIA in 2015/2016. The reporting

¹ Only projects that meet the scope of the Carbon Footprint Exercise, as defined in the EIB Carbon Footprint Methodologies, are included, provided estimated emissions exceed the methodology thresholds: 20,000 tonnes CO₂e/year absolute (gross) or 20,000 tonnes CO₂e/year relative (net) – both increases and savings.



Luxembourg, 15 November 2023

and approval of this EIA was split in three parts A, B and C, covering respectively the northern (Herzliya city), central (Tel Aviv Yafo city), and southern (Rishon LeZion /Holon city) sections of the project. Public consultations hearings were held in 2016 and 2017, and a consolidated consultation report was produced with recommendations for amendments. These amendments were considered by the competent authority, which is in this case VATAL, the National Committee for Infrastructure. The EIAs were subsequently approved in May and October 2017 (Decision No. 7510 and Decision No. 7597).

Impact Assessment

Several route alternatives to sections of the LRT were investigated, as part of the EIA. Where possible, tunnel or bridge alternatives were chosen to reduce impacts, for instance around the Shalom Rosenfeld Street, where a 500-meter tunnel was chosen instead of bridge to preserve ecological and archaeological qualities in the Tel Monis area. The EIA identified the following key construction and/or operation impacts:

- *Soil and groundwater*: The railway track is located close to the coast and there is a risk on saltwater intrusion from the west and contamination intrusion from southeast. Recharge wells are planned in order to provide a buffer for saltwater intrusion and recharge water values are constantly checked. Detailed contaminated soil surveys and sampling were done along the alignment, and any contaminated soil will be treated as hazardous waste. One segment (Harkavyat Street and Carlebach Street) passes through an area where there is an obligation to test soil gases. Accordingly, specific sealing measures will be implemented to prevent the infiltration of soil gases in the underground passenger stations. In addition, active soil gas sampling will be carried out.
- *Noise*: Where possible, the contractor will reduce noise emission by used the best technology available. Construction equipment will not be operated in residential areas in the evening and at night. In addition, based on measurements done during the EIA, the project has executed acoustical insulation of approximately 1500 apartments, at a cost of over 120 million NIS prior to the start of works, mainly around the work sites of the underground stations. During operation, direct noise from the light rail will be limited.
- *Vibration/electromagnetic radiation*: No deviations from the vibration criterion were found, and radiation close to sensitive nearby buildings such as hospitals and university buildings is estimated to remain below the national thresholds.

There is continuous measurement of key impacts such as noise, vibration, radiation, and if needed implementation of additional measures, in coordination with the competent authority.

The project does not pass by any areas defined as nature reserves and national parks. The closest national park is the Apollonia natural park, app. 8 km north of the northern terminal stop of the LRT.

Climate risk assessment/Paris Alignment

The project is Paris aligned according to the criteria set out in Annex 2 of EIBs Climate Bank Roadmap, and contributes to climate action objectives, given its potential to reduce GHG emissions of the transport sector through modal shift towards electrified collective transport.

The project is sensitive to flooding and heat waves. The city experienced severe flooding in 2020 and in accordance to the flood map of the city some of the alignment is at medium risk. Pumping stations are therefore part of project scope. Station entrances are protected for flood cycle of 1:100 years. The area is characterized by an elevation ranging from 3+ to 30+ meters above sea level, at a distance varying from a few hundred meters to several kilometres east of the coast. Sea level rise impacts are deemed negligible. Heat waves are not uncommon in Tel Aviv and underground metro stations are therefore airconditioned, and at-grade and elevated stops are fitted with canopies.



Luxembourg, 15 November 2023

EIB Carbon Footprint Exercise

The annual emissions stemming from project's operation, in a standard year of operation, were estimated at 7 Kt CO₂ equivalent per year (absolute emissions). The change in annual emissions, for all other modes, stemming from the reduction of mileage of competing road modes resulting from the shift in demand to the project, were estimated at 30 Kt equivalent per year (baseline emissions).

Therefore, the net change of emissions across the transport network due to the project operation, in a standard year of operation, were estimated to be approximately (-) 23 Kt of CO₂ equivalent per year (relative emissions), a reduction of 76%. These calculations are based on the current country grid².

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

Expropriations: At the timing of the project appraisal by the EIB, land acquisition was completed, and Bank due diligence was based on a completion report from the promoter. The project is largely built inside existing road corridors, and thus on government or municipal land. Nevertheless, some private land was required.

- The expropriations were carried out pursuant to three National Infrastructure Plans approved by the Israeli Government. Affected people were informed prior to the project approval and given the opportunity to comment. . After approval of the project, expropriations were carried out under the Lands Ordinance, following a regulated procedure and Israeli law. Compensation and additional support were given following NTAs internal procedures.
- About 900 privately owned plots were affected and expropriation of these have been completed (except for one yard which will be transferred in October 2023). It concerned mostly small parts of land plots, which could be acquired without the land owner needing to move. . In a few cases, eviction was required, it concerned a total of six plots with 65 housing units as well as five plots with 38 temporary stalls (about half were non-title holders) and one permanent business building.
- Compensation was determined according to the market value of the land and structures, plus an availability incentive of 25% in circumstances where the landowner cooperates with the procedure. Market value was based on a real estate appraisal for each expropriated plot and conducted in accordance with the Israel's Real Estate Appraiser defined rules. The detailed estimate is reviewed by an independent auditor who examines the reasonableness of the estimate. Affected persons have the right of appeal to either the Appeal Committee for Compensation and Improvement Charges, or to a competent court. NTA's Community and Public Relations Department accompanied the affected people throughout the process and in cases where social assistance was required, the support was provided in cooperation with the Welfare Department of the applicable municipality.
- In accord with the principles of NTA's expropriation and eviction procedure, most of the expropriation procedures were carried out in agreement with the rights holders, both in relation to the expropriation itself and in relation to the compensation amounts, and in most cases no additional legal processes were required. In total, as part of the proceedings, nineteen objections were submitted, of which fourteen ended in a decision being made by the relevant tribunal and five are still awaiting a decision regarding the appropriate amount of compensation. Also, six lawsuits regarding evictions were conducted, all of which ended in an agreed compromise under the auspices of the relevant court.

Occupational Health and Safety/labour standards:

² EIB Carbon Footprint Methodologies



Luxembourg, 15 November 2023

- Israel is a member of the ILO since 1949 and signatory of all eight fundamental ILO conventions. These have been ratified and transposed into national legislation.
- Israel has extensive occupational health and safety legislation in place, modelled on recognised international health and safety standards. The compliance with both labour and occupational health standards during construction and operation are part of the contractual obligations of the concessionaire and on a back-to-back basis of all first-tier suppliers and contractors. The concessionaire has a Construction Phase Health and Safety Management Plan in place.
- Site inspections and reporting on compliance with occupational health safety and security requirements is carried out by the Project Management Consultant supervision team, as well as the Labour Inspectorate of the Ministry of Labour, Social Affairs and Social Services.

Gender Equality

Women make up a clear majority - 60% - of the users of intracity lines of public transportation in Israel. Tel Aviv-Yafo Municipality has defined a five year Plan for Advancing Gender Equality in the Municipality which includes action Items such as applying a gender lens when planning light rail stations, improving connectivity and optimizing routes and the location of the stations – as well as increasing the personal safety of women in municipal parking lots.

Public Consultation and Stakeholder Engagement

Public hearings were held in 2016 and 2017 for each of the three sections of the LRT (northern, central, and southern sections). At the end of the process, a consolidated report was drafted by a consultant appointed by the competent authority with recommendations regarding each comment. This report was then considered by the competent authority, and its decisions were relayed to the promoter.

The NTA has dedicated department established for the purpose of liaising with the public, and which is supported by a community and public relations consultant for this purpose. An assessment of the degree of disruption of the expected works to the local population was made and a reference to this assessment was included in an outreach plan. A community and public relations representatives are available on a daily basis for the local population to contact, policies are in place that require NTA to regular update the population on the project progress and potential impacts. The promoter has a hotline and telephone service center to receive questions and comments and a grievance mechanism that handles all requests in accordance with the promoters "Procedure for handling public inquiries" and Israel's "Freedom of Information Law".

Other Environmental and Social Aspects

The promoter established and is maintaining an environment management system for the project. The system will be periodically documented by an authorized third party or by the environmental unit of the promoter. Everyone involved with the project are required to the establish and integrate an environmental management system in accordance with ISO 14001, implement NTA's policies, improve environmental performance and minimize environmental impact.

The concessionaire is supported by specialist environmental experts, and works are monitored by the promoter, which has a dedicated environmental unit for this purpose and which is assisted by Project Management Company for daily supervision, as well as by the competent authority VATAL which has procured its own consultant to do regular spot checks. As part of the execution preparations, the contractor will prepare an emergency procedure in accordance with the procedure of the Ministry of Environmental Protection and will appoint an emergency team to handle emergencies and environmental events.



Luxembourg, 15 November 2023

Conclusions and Recommendations

An EIA has been completed for the project, and after public consultation, the EIA was approved by the competent authority in 2017. The project is largely built inside existing road corridors, and thus on government land. Some private land was required, and these have been expropriated following a legal procedure, and compensating affected people based on market prices, as required by the Bank standard. Following NTA policies, expropriation was done in close communication with the affected people.

Extensive occupational health and safety legislation is in place, modelled on recognised international health and safety standards and the concessionaire has put suitable Health and Safety Management Plans and monitoring in place. The concessionaire is required to implement the project in accordance to the Bank's E&S standards, and the Environmental and Sustainability Management Requirements that were part of the tender documents.

With above conditions in place, the Project is acceptable for financing in environmental and social terms.