



Project Information Document (PID)

Concept Stage | Date Prepared/Updated: 14-Aug-2025 | Report No: PIDDC01238

**BASIC INFORMATION****A. Basic Project Data**

Project Beneficiary(ies)	Operation ID	Operation Name	
Türkiye	P509952	Istanbul North Rail Crossing Project	
Region	Estimated Appraisal Date	Estimated Approval Date	Practice Area (Lead)
EUROPE AND CENTRAL ASIA	02-Feb-2026	26-Mar-2026	Transport
Financing Instrument	Borrower(s)	Implementing Agency	
Investment Project Financing (IPF)	Republic of Türkiye	Ministry of Transport and Infrastructure	

Proposed Development Objective(s)

To improve the cross-Bosphorus railway connectivity of Türkiye's main national and intercontinental transport corridors.

PROJECT FINANCING DATA (US\$, Millions)**Maximizing Finance for Development**

Is this an MFD-Enabling Project (MFD-EP)? Yes

Is this project Private Capital Enabling (PCE)? Yes

SUMMARY

Total Operation Cost	8,119.00
Total Financing	8,119.00
of which IBRD/IDA	2,000.00
Financing Gap	0.00

DETAILS**World Bank Group Financing**

International Bank for Reconstruction and Development (IBRD)	2,000.00
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Non-World Bank Group Financing

Counterpart Funding	1,869.00
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National Government	1,869.00
Other Sources	4,250.00
Asian Development Bank	1,500.00
Asian Infrastructure Investment Bank	1,000.00
Islamic Development Bank	750.00
OPEC FUND	500.00
European Bank for Reconstruction and Development	500.00

Environmental and Social Risk Classification

Substantial

Concept Review Decision

The review did authorize the preparation to continue

B. Introduction and Context

1. **The Istanbul North Rail Crossing Project (INRAIL or the Project) is a crucial infrastructure initiative aimed at enhancing Türkiye's connectivity across three major international trade corridors and improving transport services essential to boosting economic competitiveness and increasing productivity.** It will significantly reduce logistics costs and improve transport services, thereby strengthening economic competitiveness and productivity. By shifting freight transport from road to rail, INRAIL will lower carbon emissions, supporting Türkiye's climate goals. The Project addresses the Marmaray undersea tunnel bottleneck, by providing a higher-capacity overland alternative to cross the Bosphorus Strait by rail, improving logistics network resilience and efficiency. It is expected to set the enabling conditions to attract private sector investment and to foster innovation in logistics services, and generate substantial employment opportunities through construction and increased freight volumes. INRAIL is set to transform Türkiye's role as a Eurasian logistics hub, driving economic growth and supporting sustainable transport solutions. Given the criticality of INRAIL for the Turkish economy and the need to complete the Project to fulfill international commitments, the Government of Türkiye (GoT) has decided to develop this multi-billion dollar project with public finance on a fast-track basis. The GoT sought and secured the support of six international financial institutions (IFIs), with the World Bank as the lead financier, to supplement domestic budget financing.

2. **Türkiye's development achievements since the early 2000s have been remarkable—and closely tied to its growing status as a trading nation.** Real gross domestic product (GDP) growth averaged 5.3% between 2002 and 2024, resulting in a more than twofold increase in income per capita in real terms over the same period. Growth was accompanied by a rapid decline in poverty, with the poverty rate (US\$6.85 2017 PPP poverty line) dropping from 20.1% in 2007 to 16.0% in 2012, and further to 7.8% in 2022—a more than 60% reduction over this period.

3. **However, Türkiye's recent and expected pace of growth has moderated, in part due to declines in productivity.** Economic growth in 2024 (3.2%) was below that of the previous 3 years, and growth prospects going forward (3.5% per year through 2030) are considerably below the country's long-term expansion rate (5.3% over the past 22 years). Measures to facilitate trade and increase firm-level productivity growth will be needed to bridge this gap.



4. **Better connectivity and improvements in transport services are essential to securing economic competitiveness and higher productivity.** In line with evidence found in other countries, Turkish firms engaged in import-export activity or linked to cross-border value chains are more productive than those not exposed to international trade.¹ Furthermore, the cost of logistics to the private sector in Türkiye, estimated at 14% of sales, is well above that of the EU (10%). Efforts to reduce transport and logistics costs with trade partners in Europe, the South Caucasus, Central Asia, and the Gulf region can enhance international competitiveness, increase exposure to international trade, and lead to higher productivity

5. **The removal of the Bosphorus Strait railway bottleneck will increase the potential of several transport corridors that have so far shown a limited track record of rail cargo capture.** Türkiye's geographic location places it at the center of three rail-served trade corridors: (i) **the Trans-Caspian Middle Corridor (MC)** linking China and Central Asia with the rest of Europe via rail and short-sea shipping connections; (ii) **the proposed Iraq Development Road (IDR) corridor**, which would link Asia and the European Union (EU) via the Middle East and Türkiye by rail; and (iii) **the Türkiye-EU corridor**, which accounts for a third of Türkiye's international trade and, while served by multiple modes, is intense in commodities that are routinely transported by rail in the international experience. Yet, Türkiye's current participation in the MC, and its rail-based participation in the Türkiye-EU corridor, are marginal, due most immediately to infrastructure capacity constraints. Its eventual ability to serve the proposed IDR corridor will also depend, as a first step, on investments to build or expand railway infrastructure capacity in key sections across its length. As all three corridors traverse Istanbul, the one unaddressed infrastructure capacity constraint that is shared by all of them is the lack of an overland railway link across the Bosphorus Strait. Providing this missing link is at the top of the GoT's logistics investment agenda and is the central objective of the proposed project. It is also a policy priority for the countries that are investing in enabling or decongesting other segments of these corridors. The proposed project responds to this multi-country, multi-regional need shared by Europe, Asia, and the Middle East.

Sectoral and Institutional Context

6. **Türkiye's economic profile and geography are compatible with the use of rail in international and domestic freight markets.** Türkiye's exports play a significant role in global markets of various bulk and non-bulk commodities, many of which are compatible with rail freight logistics. Moreover, the country's size, spatial distribution of production, and location of attraction centers for domestic and import-export markets make Turkish logistics both transport intensive and compatible with multimodality. For example, the average truck trip distance in Türkiye (354 km) is more than double that of the EU (142 km), where multimodality is a major policy goal.

7. **The expansion of rail freight is consistent with the country's climate goals.** Türkiye's updated First Nationally Determined Contribution (NDC)² confirmed its commitment to reaching Net Zero by 2053, and its intention to reach peak emissions by 2038. Achieving these goals will depend on taking concerted action early in the country's decarbonization trajectory—i.e., in the 2020s and 2030s—including actions to decarbonize the transport sector: trucking in Türkiye generates 2.6x more well-to-wheel carbon dioxide (CO₂) emissions per ton-km transported than diesel-fueled rail freight and 6.3x more than electric rail freight. This calls for: (i) ensuring a balanced utilization of transport modes; (ii) expanding rail freight and passenger transport; and (iii) increasing the efficiency and coverage of the intercity/international railway network and its electrification.

8. **However, despite its rail potential, Türkiye's freight transport is dominated by trucking.** Of the 348 billion non-pipeline inland ton-km transported in Türkiye in 2023, 96% took place by truck and only 4% by rail.³ That is well below the rail freight market share of other upper middle-income countries of similar commodity mix and length-of-haul profile as Türkiye, such as South Africa (37%), China (29%), and Mexico (25%). It is also less than a third of that of the EU (17%). In

¹ World Bank (2019), *Firm Productivity and Economic Growth in Türkiye*, Türkiye Productivity Report 2019.

² Republic of Türkiye (2023), *Republic of Türkiye Updated First Nationally Determined Contribution*.

³ Non-pipeline inland freight refers to all freight transported by trucks, rail, or inland waterways.



2024 less than 1% of Türkiye's foreign trade flows used railway border crossings as entry-exit gateways. This is costly, as trucking in Türkiye is 2.8x more expensive per ton-km transported than rail freight and generates higher CO₂ emissions.

9. **Seeking to increase rail modal share, the GoT is rebalancing transport investments towards rail.** Under the U2053 plan, the Ministry of Transport and Infrastructure (MoTI) envisions an expansion of the national railway network of more than 8,550 km by 2053, nearly doubling its current length. It also seeks to more than quintuple the national rail freight modal share—to 22%—by 2053. A particularly promising way to achieve Türkiye's rail freight modal share aspirations is to invest in the development of long-haul international rail freight corridors.

10. **The GoT has embarked on an ambitious, highly prioritized, sequenced investment program to develop rail infrastructure connectivity along its three rail-served international trade corridors—MC, IDR, and Türkiye-EU—with significant backing by international financial institutions (IFIs).** The program kicked off with the greenfield construction, ongoing since 2019, of the 230km Halkali-Kapikule railway line. Located at the westernmost end of the national railway network, linking Türkiye with the EU's TEN-T network at the Türkiye-Bulgaria border, this line is shared by all three of Türkiye's rail-served international trade corridors and is thus essential to their viability—especially and most immediately by the Türkiye-EU corridor. The line has an estimated cost of US\$1.1 billion and is being financed, in part, by the EU, the European Bank for Reconstruction and Development (EBRD), and the Asian Infrastructure Investment Bank (AIIB). The program continued in 2024 with the US\$1.6 billion expansion and modernization of the 660km Divriği-Kars-Georgia border railway line at the network's easternmost end, linking Türkiye with Georgia and the South Caucasus via the Baku-Tbilisi-Kars (BTK) railway line. This ongoing investment is being co-financed by the World Bank, AIIB, and the Islamic Development Bank (IsDB) under the Eastern Türkiye Middle Corridor Railway Development Project (ETMIC). Its sequencing stems from the fact that by 2023 this line was the single most capacity-constrained railway section of the entire MC.⁴

11. **The next major bottleneck in the sequence is the rail crossing of the Bosphorus Strait in Istanbul, which will be addressed through the Project.** The rail crossing of the Bosphorus Strait—currently reliant on the inherently constrained Marmaray undersea rail tunnel—is the textbook definition of a logistics infrastructure chokepoint. Operational since 2013 and the deepest immersed tube tunnel in the world, the Marmaray was conceived primarily to carry passenger trains across the Bosphorus, including commuter and inter-city rail services. As a result, freight trains are allowed to use the tunnel for only a handful of hours at night, which (i) significantly constrains its freight carrying capacity, expected to be reached by the mid-2030s; and (ii) prevents adequate provision of routine maintenance due to the tunnel's 24/7 operations. Moreover, as the Marmaray is located at the heart of the Istanbul metropolitan area, the freight terminals to which it connects are in dense urban locations that constrain their expansion and expose them to intra-terminal congestion, further limiting the amount of freight that can be carried through the tunnel. Aware of these limitations, rail shippers often choose to bypass the Marmaray altogether, by transshipping freight from rail to trucks at either end of the Bosphorus, traversing the Bosphorus by truck, and transferring the freight back to rail (or staying on trucks) at the other side of the Strait. This transshipment is highly inefficient, increases logistics costs, and makes Türkiye's railway corridors less competitive. It also generates congestion and other negative externalities in Istanbul. The upshot is that Türkiye's main rail-served trade corridors cannot depend on the Marmaray tunnel. Instead, a higher-capacity, *overland* rail alternative across the Strait, and specifically one that bypasses central Istanbul, is needed to preserve the corridors' operational viability and boost their competitiveness.

12. **The Project will also contribute to solidifying Istanbul's position as an air transport hub of global importance.** Istanbul is among the most important air transport hubs in the world thanks to Istanbul Airport (IST) and Istanbul Sabiha Gökçen International Airport (SAW). In June 2025, IST was the busiest airport in Europe by total seats, while SAW was the 10th busiest⁵ (and the second fastest-growing airport in Europe).⁶ In 2024 IST served more destinations (324) than any

⁴ World Bank (2023), [Middle Trade and Transport Corridor: Policies and Investments to Triple Freight Volumes and Halve Travel Time by 2030](#).

⁵ OAG (2025), [Busiest Global Airports in the World June 2025](#).

⁶ Airports Council International (2025), [Airport Traffic](#).



other airport globally, making it the world's best-connected airport.⁷ Both airports, and particularly IST, are important air freight terminals for Türkiye. In 2023 IST handled 1.6 million tons of freight, 97% of which being international shipments. That year IST alone accounted for a staggering 93% of all air freight handled at Turkish airports, and 96% of all international air freight volumes. SAW was the second largest air freight terminal in the country in 2023, accounting for 3.0% of national volumes. Despite their strategic relevance, these airports are not directly connected to each other by rail, nor is either of them directly connected to the national inter-city railway network. There is therefore a need to connect the airport to Türkiye's main *national* passenger transport corridor—**Ankara-Istanbul**—. As IST is located on the European side of Istanbul and SAW on the Asian side, connecting the airports to each other by rail—which would also facilitate inter-airport itineraries currently unfeasible—as well as connecting IST to the national railway network east of Istanbul would require an overland railway connection across the Bosphorus that is also linked to the airports.

13. **Anticipating the need for an overland rail connection across the Bosphorus, the design of Istanbul's most recently constructed bridge across the Bosphorus Strait—the Yavuz Sultan Selim Bridge (YSS Bridge), also known as Istanbul's 'Third Bridge'—is rail-compatible.** In operation for road vehicle crossings since 2016 as part of Istanbul's North Marmara motorway, the Third Bridge was designed with the capacity and space to incorporate a complementary double-track heavy rail crossing across its span, but the associated track and systems infrastructure, including the approach railway line on either side of the bridge, is yet to be built. In addition to comprising the rail-ready YSS Bridge, the North Marmara motorway connects to IST, follows an alignment that is substantially compatible with linking IST with SAW, and has been granted a right-of-way that generally provides sufficient space to build railway tracks adjacent to the motorway.

14. **MoTI and Turkish State Railways (TCDD) jointly plan and develop Türkiye's railway network, which is open to both public and private operators.** TCDD was established as a wholly government-owned holding company under MoTI in 2016. As the national rail infrastructure manager, TCDD is responsible for managing and maintaining the railway network, and for providing access to the network to licensed public and private railway undertakings, subject to payment of track access charges. MoTI's Directorate-General of Infrastructure Investments (AYGM) develops new, publicly financed network extensions/improvements, which it transfers to TCDD for operations and maintenance once these projects are built. In addition to TCDD Transport, the incumbent public railway undertaking providing passenger and freight services and part of the TCDD holding, there are several active licensed private operators in the market, with a 2022 market share of 18% up from no private service provision prior to 2018.

Relationship to CPF

15. **The proposed Istanbul North Rail Crossing Project (INRAIL) is aligned with the World Bank's Country Partnership Framework (CPF) for Türkiye for the FY24-28 period.**⁸ The Project will support the CPF's High Level Outcome (HLO) of *High and Sustainable Productivity Growth*, specifically Objective No. 3 on *Promoting Logistics and Connective Infrastructure*. By expanding connective railway infrastructure across the Bosphorus and reducing logistics costs in transit and import-export freight itineraries, INRAIL will help secure the long-term operational viability of Türkiye's main international freight corridors, will make these corridors more competitive, and will expand Türkiye's international connectivity and trade routes. The Project will increase the accessibility of IST and SAW, including through (i) inter-airport rail connections, (ii) rail connections between the airports and cities across the country along the national railway network, and (iii) the facilitation of rail freight-air freight logistics operations, further enhancing Türkiye's multimodal logistics. INRAIL will reduce GHG emissions for both domestic and international freight shipments through truck-to-rail modal shift, as well as reduce negative externalities in the metropolitan area of Istanbul from freight-related logistics impacts like local pollution and urban congestion. INRAIL also supports the CPF's HLO of *strengthened resilience*, in particular CPF Objective No. 7 on *Supporting Disaster Resilience and Preparedness*, by providing a higher-capacity alternative to the only existing

⁷ OAG (2024), [Top 50 Global Airport Megahubs](#).

⁸ Report No CPF0000004-TR; April 8, 2024.



rail connection across the Bosphorus, which will be built with fit-for-purpose design parameters to withstand extreme weather events and natural hazards like earthquakes.

C. Proposed Development Objective(s)

16. The Project Development Objective is to improve the cross-Bosphorus railway connectivity of Türkiye's main national and intercontinental transport corridors.

Key Results (From PCN)

17. Achievement of the PDO will be evaluated through the following proposed PDO-level indicators, among others:

- (a) Rail freight carrying capacity between Çayırova and Çatalca (tons per year);
- (b) Rail freight travel time between Çayırova and Çatalca (hours);
- (c) GHG emissions per ton-km transported between Çayırova and Çatalca (grams of CO₂ per ton-km transported);
- (d) Rail passenger travel time between IST and SAW (minutes); and
- (e) People benefiting from improved access to sustainable transport infrastructure and services (number of people), of which female and youth.

D. Concept Description

18. The Project will finance the construction of a 122-km greenfield railway line that will serve as a bypass of the Istanbul Metropolitan Area and provide a high-capacity overland crossing across the Bosphorus. The proposed railway line will start at the Çayırova station on the Asian side and end at the Çatalca station on the European side, crossing the Bosphorus Strait using the existing track space allocated for this purpose on the YSS Bridge, at the Bosphorus' northern end. The line's current alignment is almost entirely within the right-of-way of the existing North Marmara motorway, thereby minimizing the need for land acquisition. Furthermore, its technical design, which is intense in tunnels and viaducts, expressly minimizes environmental and social impacts and improves safety.

19. The target line will be double-tracked, electrified, fully signalized, and mixed-used, designed to carry passengers and freight. Between Çayırova and Çatalca, the line will connect IST on the European and SAW on the Asian side to the urban and inter-city railway network, thus facilitating (i) domestic and international air and rail passenger connectivity, and (ii) urban mobility within the Istanbul Metropolitan Area.

20. The Project has an estimated cost of US\$8.1 billion, including VAT and contingencies, construction supervision, and project management (US\$6.8 billion excluding VAT).

Legal Operational Policies

Policies	Triggered?
Projects on International Waterways OP 7.50	No
Projects in Disputed Area OP 7.60	No

Summary of Screening of Environmental and Social Risks and Impacts



21. The overall environmental and social (E&S) risk is classified as Substantial. Component 1 of the project will finance the construction of an approximately 122-km greenfield railway that will serve as a bypass for the Istanbul Metropolitan Area and provide for an overland crossing over the Bosphorus, including infrastructure and superstructure works, installation of signalization and electrification systems, and construction of new stations. The Component 2 activities, focusing on design supervision and construction supervision services include desk-based analytical and design work that will not induce direct adverse impacts on physical and social environment.

22. During the construction activities, the infrastructure and superstructure works for the construction of the railway may cause potential negative impacts on land use, soil disturbance and loss during earth-moving activity; minor loss of vegetation; impacts related to improper waste management and improper construction camp management; labor conditions and labor influx; occupational and community health and safety risks; and potential impacts on cultural heritage in case of chance finds. Due to the already existing motorway within the same transport corridor, there will be no negative impacts on nature protected areas, habitat fragmentation, water bodies and migratory birds. Linear transport infrastructure (railway) implementation associated civil works in scope of the project are likely to result in potentially negative impacts on air, noise, soil damage as well as impacts related to construction waste and hazardous waste generation and disposal, if not properly managed. Additionally, resource consumption during the Project implementation (water, electricity, construction materials, soil, gravel, steel etc.) will be of concern. These risks and mitigation measures will be further detailed in ESIA and managed by applying the ESMP prescribed measures.

23. During the operational phase, key environmental risks will include air pollution, noise and vibration, as well as hazardous substances management in case of incidents. Occupational and community health and safety risks will be of concern during both civil works implementation and operation of the railway infrastructure. As the Project preparation progresses and additional information becomes available, the environmental risk will be reviewed and modified as necessary.

24. Several potential social risks and impacts have been identified during construction phase, which are mostly temporary and predictable. There are opportunities to mitigate or reverse these risks with resources and time in terms of effective management strategies and stakeholder engagement. These risks are related to labor and working conditions during construction, health and safety hazards for workers, as well as community health and safety during both the construction and operational phases, which may involve increased traffic, noise and dust emissions. Since INRAIL's current planned alignment minimizes the need for land expropriation (not required for 81% of the alignment) by using land already within the right of way of the existing motorway corridor (27% of alignment) and public land (22% of alignment) and making use of tunnels and viaducts (32% of the alignment), risks to community health and safety; land acquisition; restrictions on land use; physical displacement and livelihood impacts are expected to be limited given the low presence of population settlements along the proposed alignment. While significant physical displacement is not expected for the project, the extent of potential economic displacement remains uncertain. There are also potential risks regarding damage to tangible cultural heritage and inadequate stakeholder engagement and grievance management. Other risks encompass the potential for sexual exploitation, abuse, and harassment during construction—particularly depending on the size and sourcing of the workforce and labor influx.

25. The E&S documents to be prepared for the Project include: Draft Environmental and Social Impact Assessment (ESIA), Environmental and Social Management Plan (ESMP), a Stakeholder Engagement Plan (SEP), a Labor Management Procedure (LMP), and a Resettlement Framework (RF). These will be prepared, disclosed and consulted prior to the Project Appraisal. Once the Project design is finalized, the detailed footprint and necessity of land acquisition will be known, Resettlement Plans (RP) will be prepared and implemented prior to commencement of construction activities. Other E&S documents including site-specific, or section-specific Environmental and Social Impact Assessment (ESIA) and Environmental and Social Management Plan (ESMP) will be developed and finalized before the commencement of



construction activities of subprojects/sections. These documents and processes will be captured in the Environmental and Social Commitment Plan (ESCP).

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APPROVAL

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