



Project Information Document (PID)

Appraisal Stage | Date Prepared/Updated: 24-Dec-2020 | Report No: PIDA30551

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

Country Egypt, Arab Republic of	Project ID P175137	Project Name Railway Improvement and Safety for Egypt	Parent Project ID (if any)
Region MIDDLE EAST AND NORTH AFRICA	Estimated Appraisal Date 04-Jan-2021	Estimated Board Date 01-Mar-2021	Practice Area (Lead) Transport
Financing Instrument Investment Project Financing	Borrower(s) Arab Republic of Egypt	Implementing Agency EGYPTIAN NATIONAL RAILWAYS, Ministry of Transport	

Proposed Development Objective(s)

To improve safety and service quality of the railway services along the Alexandria-Cairo-Nag Hammadi corridor.

Components

Safe System Signaling Modernization
Safe System Asset Management Improvement
Project Delivery, Institutional and Human Resource Development

PROJECT FINANCING DATA (US\$, Millions)**SUMMARY**

Total Project Cost	681.10
Total Financing	681.10
of which IBRD/IDA	440.00
Financing Gap	0.00

DETAILS**World Bank Group Financing**

International Bank for Reconstruction and Development (IBRD)	440.00
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Non-World Bank Group Financing



Counterpart Funding	241.10
Borrower/Recipient	241.10

Environmental and Social Risk Classification

Substantial

Decision

The review did authorize the team to appraise and negotiate

Other Decision (as needed)

B. Introduction and Context

Country Context

1. **Economic activity has slowed down significantly due to the negative repercussions of the COVID-19 pandemic.** Prior to this crisis, Egypt’s macroeconomic stabilization program has been largely successful in supporting growth, generating a solid primary budget surplus, reducing the debt-to-GDP ratio, and replenishing reserves. Real Gross Domestic Product (GDP) growth had reached 5.6 percent in fiscal year (FY) 2019, compared to an average of 4.6 percent over the previous three years. Yet, with the implementation of several containment measures, growth is estimated to have declined to 3.4 percent in FY 2020 (July 1 to June 30). Non-oil private sector activity slowed down significantly, as evidenced by the decline of the Purchasing Managers’ Index — to its lowest level on record (38.3 percent) during April to June 2020, indicating a large contraction. Job losses were around 2.7 m in Q4-FY2020, pushing unemployment to 9.6 percent (from 7.7 percent in the previous quarter). The job losses were mainly reported in the retail and wholesale trade, manufacturing, tourism, transport, and construction sectors.

2. **External and fiscal balances have been adversely impacted, with a deterioration in the balance of payments position notably at the outset of the crisis.** Foreign reserves started depleting rapidly, affected by the large-scale capital outflows, in addition to the sharp drop in tourism receipts, Suez Canal revenues, and merchandise export proceeds. Reserves declined to US\$38.2 b in end-FY2020 (7 months of merchandise imports), well below its pre-crisis peak of US\$45.5 b in end-February 2020. The exchange rate depreciated marginally from EGP15.7/US\$ in February 2020 to around EGP16/US\$ as of August 2020. Fiscal consolidation has also been disrupted, with a widened budget deficit estimated at 8.2 percent of the FY2020 projected GDP, up from 8.1 percent of GDP a year earlier. The deterioration in fiscal accounts was mainly caused by the decline in the tax-to-GDP ratio (even prior to the crisis), which was exacerbated by the economic contraction and the postponed tax payments during Q4-FY20. Government debt level remains elevated at 90.2 percent in end-FY2018/19, despite its significant reduction from 108.0 percent of GDP two years earlier. Government level debt is estimated to have further declined to 88 percent in end-FY2020.

3. **The Government of Egypt (GoE) has undertaken several measures in 2020 to mitigate the impact of the crisis.** These include allocation of an emergency response package worth EGP100 b (1.6 percent of GDP), in part to scale up health expenditures and augment social protection programs. Forbearance measures were



introduced in the form of delayed tax filing and loan repayments, in addition to subsidized credit to targeted sectors to alleviate immediate financial pressures on individuals and businesses. The Central Bank of Egypt eased monetary policy by slashing key policy rates by 350pb. This year, Egypt has also mobilized external financing. This financing includes a US\$2.8 b stopgap loan under the IMF’s Rapid Financing Instrument, a US\$5.2 b Stand-by Arrangement (of which the first US\$2 b tranche was disbursed), as well as a US\$5 b sovereign Eurobond issuance and a US\$750 m green bond issuance.

4. The outlook for the Egyptian economy is highly uncertain, and the impact will depend on the duration and severity of the pandemic and the speed of global recovery. Under the scenario that the pandemic persists through early-2021, growth is expected to further decline to 2.7 percent in FY2021. Private consumption is expected to remain constrained by falling households’ incomes and job losses. Private investments will remain subdued, especially under the current circumstances of low demand, uncertainty, and disrupted production and international trade, possibly counterbalanced by a rise in public investments. Ongoing pressures on the external accounts are expected to persist, as the current account deficit is projected to widen, and FDI is expected to further decline from 2.7 percent of GDP in FY2019 to below 1.5 percent during FY2020—FY2021, amidst the global slowdown.

5. The multi-dimensional health and economic crisis caused by the pandemic will increase socio-economic hardship. The erosion of real incomes (following the 2017 and 2018 inflation shocks) will intensify. The latest official statistics on poverty – released in December 2020 - indicate that 29.7 percent of the population live below the poverty line. This indicates a decline compared to the 32.5 percent poverty rate of FY2019, yet it does not capture the effect of the pandemic since the survey was conducted during the period October 2019 - March 2020. The number of employed individuals decreased by 2.7 m during Q4-FY2019/20 because of the measures to curb the Covid pandemic. To mitigate the social impact on the vulnerable groups, the cash transfer programs *Takaful* and *Karama* were extended to another 160,000 families, and increased payments to women leaders in rural areas. An exceptional grant of EGP500 per person was disbursed for three months to registered casual workers and covered approximately 2 m individuals.

6. The “Sustainable Development Strategy (SDS): Egypt Vision 2030”, enacted by the GoE in 2016, targets economic inclusiveness and sustainability as it focuses on economic, social and environmental dimensions. The main objective of the SDS is to “achieve a competitive, balanced, diversified and knowledge-based economy, characterized by justice, social integration and participation, with a balanced and diversified ecosystem, benefiting from its strategic location and human capital to achieve sustainable development for a better life to all Egyptians.” The SDS emphasizes principles of “inclusive sustainable development” and “balanced regional development,” as it considers equal opportunities for all, closing development gaps, and the efficient use of resources to ensure the rights of future generations (CAPMAS, 2016). The SDS has three dimensions and ten pillars: Economic Dimension: (i) Economic Development, (ii) Energy, (iii) Knowledge, innovation and scientific research, and (iv) Transparency and efficient government institutions; Social Dimension: (v) Social justice, (vi) Health, (vii) Education and Training, and (viii) Culture, and; Environmental Dimension: (ix) Environment, and (x) Urban Development.

Sectoral and Institutional Context

Egypt National Railways (ENR): background and current situation

7. Poor transport infrastructure and services hurt economic growth and disproportionately damage the bottom 40 percent. Poor transport hinders Egypt’s pursuit of the objectives set in its SDS. Egypt is the third most populous country in Africa, after Nigeria and Ethiopia, and is the largest Arab country, with 101.1 m inhabitants, which grows at 2 percent annually (CAPMAS, 2020). Almost half of the population lives in urban



areas, and the rest resides in compact rural settlements surrounded by intensively cultivated and irrigated land in the Nile River basin. Thus, the transport network is concentrated around the River Nile with roads and railways following the course of the river, while the river itself is under-utilized.

8. The ENR plays a critical role in passenger transport in Egypt in the main urban areas and for interurban trips, but remains a marginal player for freight. The ENR network, comprised of over 5,000 km of rail tracks – of which a third is double track and two thirds are concentrated in the Nile River Delta – offers primarily passenger services for low-income Egyptians. About 270 m passengers took trains in FY2019, up from 228 m in FY2015 and 247 m in FY2010 (Egyptian National Railway, 2020). ENR provides primarily passenger transport services, representing over 90 percent of the ENR’s total operational activity (IDE-JETRO, 2020). This network is one of the highest traffic density railways in the world, transporting 1.4 m passengers per weekday and logging in a total of more than 32 b passenger-km per year in 2016/2017 (Egyptian National Railway, 2020) (World Bank, 2018). Rail transport plays a marginal role for freight with 3 m tons (1.46 b ton-km carried in 2016), accounting for 4 percent of the ENR’s overall traffic and 1 percent of all cargo moved nationwide, after years of decline.

9. Urban transport and railway sectors suffer from chronic financial distress due to below cost tariff for users and inefficient subsidy allocation that lead to weak accountability. The ENR, the Cairo Transport Authority (CTA), and the Metro have significant yearly deficits of US\$500 m, US\$400 m, and US\$500 m, respectively (2016/17) (World Bank, 2018), aggravated by the pandemic due to lower ridership. Fares structures are set low on the grounds of public transport user affordability. For example, Greater Cairo Area’s (GCA) minimum wage earners spend in public transport the same fraction of their income as those in London (7.3 percent) and slightly more than in Mexico City (5.7 percent) (Transport for Cairo, 2019). Subsidies are allocated to cover operational losses. Subsidies in other countries are allocated against measurable performance to incentivize efficiency. Absent this modern approach, subsidies can become unsustainably high, coupled to political pressure to avoid fare increases, which creates long-term funding instability, underinvestment, and unreliable low-quality services. As explained below, the RISE project seeks to introduce a performance-based funding for ENR.

10. ENR suffers from heavy operating losses, considerable maintenance backlog, poor customer service, and poor safety record: (i) *Operating losses:* The operating costs far outweigh the commercial revenue, so that for the last period available, 2018-2019 costs totaled EGP 15.8 b while the corresponding revenue was EGP 2.5 b (ENR, 2019). The measures to curb the pandemic aggravated this situation, but the impact will only be known in next year’s reports; (ii) *Maintenance backlog:* The chronic shortfall of the necessary funds for regular operations continues to result in severe maintenance backlogs in both infrastructure and rolling stock. The deferred track renewal works is reported at 800km.¹ In the period 2013-2019, ENR maintained on average 100 km of track per year—insufficient for the size of the network; (iii) *Insufficient customer-orientation:* ENR is established as the main provider for interurban passenger transport. In the absence of any competition, ENR fully controls its operations, manages its infrastructure and determines its services to the customers unilaterally. However, the factors that favored this practice no longer exist, and in the presence of aggressive competition from the roads sector, ENR cannot ignore the need to design services to meet customer needs.

11. The following three additional key barriers continue to impede the ENR’s performance: (i) *Unresolved funding of passenger services:* Similar to many passenger railways worldwide, ENR is asked by the

¹ The figure amounts to 27 percent of ENR’s Category 1 Lines, that are most frequently used in the network and indicates the length of lines where renewal works have not been undertaken when required (data source: ENR, 2019).



government to provide railway passenger services but fares do not cover costs and subsidies are not linked to performance; (ii) *Insufficient funding of operating expenditures*: given the historic shortage of funds for operations, ENR uses about 6-10 percent of its approved capital investment budget for funding of operational expenditures. Funding for capital investments, when not sourced from IFI loans, is sourced from the budget. Further analysis on the subject is necessary to identify the hidden operating costs for materials, spare parts or consumables in the capital investment expenses, in order to be able to estimate more precisely the real operating costs of each of the business units of ENR; (iii) *Unit costs lack clarity*: the current methods of recording and allocation of costs do not meet the international good practice standards because: (1) the ledgers do not record all operating costs, (2) not all direct operating costs recorded in the ledgers are allocated to the unit incurring them, and (3) the allocation keys used to allocate indirect costs to the productive units do not reflect the actual use of assets or the productive outputs of these units. This makes it impossible to calculate any indicator concerning the operational or financial performance of the different businesses within ENR.² The RISE project seeks to address these problems as explained below.

12. **Aging and poorly maintained railway infrastructure and the lack of a safety culture result in frequent collisions, crashes and delays, all of which disproportionately impact Egyptian society's poorest sectors.** Statistics on fatalities or seriously injured are not robust, and occurrences often remain underreported. The main causes of safety incidents are people getting on/off a moving train, illegal crossing incursions, and poor training leading to human error/malpractice. These reasons are common to many other countries (UIC Safety Report, Nov 2020). Incidents claimed multiple lives and tarnished the ENR's reputation (Egypt Today, 2018). Independent reporting and research on fatalities and severely injured passengers (Badr-El-Din & Fathy, 2015) position Egyptian railways with one of the worst safety records worldwide. For 2019, ENR reported 693 serious injuries (requiring hospitalization) and 452 fatalities. Overall, safety statistics show that Egypt has a rate of approximately 5 times as many serious incidents as European railways, about seven times that of the UK, and 20 times that of Japan (European Union Agency for Railways, 2020). The RISE project centers on improving railway safety in a systemic, holistic manner, as explained below.

13. **ENR is poorly integrated with other public transport because it lacks connections and fare integration.** Energy-intensive road-based transport predominates in this environment. There are nine public transport systems in Greater Cairo: ENR passenger trains, metro (a 78-km, three-line network with 65 stations moving 4 m. daily passengers), tram, buses (standard, executive, mini), taxis (collective, standard), and ferries. Yet, there is no proper fare, physical, and schedule integration. Intermodal transfers are expensive and inconvenient. This lack of integration is problematic, particularly for people who live in small settlements along the Nile River Delta as well as suburban New Urban Communities in Cairo. Women are also affected by the lack of integration because they need to transfer from one mode to another more frequently than men. Poorly coordinated land-use policies have resulted in residential new cities located far away from employment centers such as downtown Cairo. Construction of the New Urban Communities initially anticipated locally available activity centers to become economically independent (CODATU, 2017). In reality, the unintended result was the exact opposite: distant, dispersed, and disconnected urban development patterns with serious implications for environmental sustainability, especially with their transport needs (Transport for Cairo, 2019).

Railway Reform and Modernization

14. **The railways in Egypt operate under the full supervision of the Ministry of Transport (MoT).** The MoT must endorse decisions made by ENR's Board that have political or social impact such as tariff setting

² These include for example, unit costs per ton-km or passenger-km, asset productivity, profit/loss of Freight, PLD or PSD, etc.



and/or affect national debt. Matters involving general policy, administration, governing ENR staff, are overseen by the ENR Chairman. In 2019, a small unit within the MoT was established, responsible for safety regulation in the railway sector (Railway Safety Regulatory Unit – RSRU).

15. **The MoT sees the modernization and reform of its railways as critical to meeting the travel needs of the low-income population, accessing the country’s abundance of natural resources, and boosting the overall economy.** Rail is one of the lowest emitting modes of Green House Gases (GHG). Improving the service for millions of passengers per day is a priority, particularly because these riders depend on ENR to access jobs and other opportunities. Likewise, increasing freight transport is a critical yet difficult objective. The ENR has set an ambitious target to carry approximately 25 m tons of freight annually by 2022 (equivalent to 5 percent of total freight carried in Egypt), up from 4.6 m tons carried in 2017-18. For now, the Government intends to spend EGP141 b (US\$9 b) on overhauling the country’s railway system through 2022.

16. **The government of Egypt decided recently to accelerate the modernization pace by introducing a set of measures for mitigating the historical debts ENR accumulated to cover deficits and to avoid accumulating more debt.** Starting with the next financial year (July 1, 2021), the Ministry of Finance (MoF) will exempt ENR from paying interests for the existing debts, the existing debts will be frozen and will be accounted separately from the accounts of the ENR. Recognizing and resolving the historical debt issue is a pace other countries followed as part of their reform efforts (see Box 1, below). In addition, the public funds MoF annually allocates for the railway activities (operating and investments) will reach 5.5 billion EGP, which is a substantial increase compared with the current public contribution. Finally, also in line with international best practice, the government of Egypt works to define and implement the instruments for the financial compensation of the ENR for the reduced-price tickets paid by special categories of passengers protected by special laws in Egypt (children, students, retired persons, military, police, etc.). The line ministries and other governmental entities in charge will include in their budgets the funds for the compensation of the ENR for the privileged categories of passengers (e.g. Ministry of Education for students, Ministry of Defense for the military, etc.).

17. **The MoT has also been implementing an important program to increase the safety of the railway mainly by reducing the maintenance backlogs and modernizing the obsolete assets, especially with its track renewal and signaling modernization programs.** The World Bank has focused on improving railway signaling, because signaling allows trains to operate safely and reliably, as explained below. Other development institutions provide financial support to ENR that builds on the existence of an upgraded signaling. For example, for replacing locomotives and passenger rolling stock, including by the European Bank for Reconstruction and Development (EBRD), European Investment Bank (EIB), African Development Bank (AfDB), and *Agence Française de Développement* (See end of Annex 1 for a list of loans ENR has with these agencies).

The Egypt National Railways Restructuring Project (ENRRP): background and current situation

18. **The World Bank has been supporting the GoE and the ENR through policy dialogue with extensive analytical engagement in the sector as well as through a long-standing operational experience working with the ENR on the soon to close Egypt National Railway Restructuring Project (ENRRP, P101103).** The ENRRP was approved in 2009 with a first loan (IBRD-76560) for US\$270 m. In 2010 the Board approved an additional financing for US\$330 m (IBRD-79820) for total US\$ 600 m. The ENRRP development objective is to improve the reliability, efficiency, and safety of the railways’ services on targeted sections of the rail network. The ENRRP supports investments in rail infrastructure and signaling systems to improve efficiency, service levels, and operational safety on some of ENR’s most heavily transited segments (Alexandria – Cairo, and Beni Suef – Asyut – Nag Hammadi). The ENRRP closes on December 31, 2020.



19. **The ENRRP is a complex project which generated major improvements in the railway transport sector in Egypt.** This project introduced measures to strengthen ENR's management capacity and operational and financial restructuring. The institutional reform part was also supported by Italian Cooperation. In addition, the track upgrade component showed ENR that private contractors can deliver works below estimated cost –which allowed to increase the scope above original the target of 200 km to 296 km. Several signaling segments are commissioned thus allowing ENR to train staff and see the benefits of the upgrades. However, as with many complex projects involving reform agenda, complex civil works, and change of culture, the overall implementation was not always smooth.

20. **The ENR's Signaling modernization works experienced significant completion delays.** The project faced a number of challenges along the way. These were not caused by a single event but by a combination of at times unrelated circumstances and failures, including managerial, technical, and political. A more detailed account of the ENRRP, its implementation status, and lessons learned are presented in Annex 1. Despite major efforts by the ENR to accelerate track upgrade works, the overall scope of the outstanding works is too large and will not be finalized by the project closing date on December 31, 2020. The installation of signaling cannot be properly completed without the necessary upgrades and essential complementary track infrastructure. Should installation be interrupted, crashes will likely occur, which goes against the key benefits of the project: safe operations at high speeds, improved reliability, higher capacity, and overcrowding reduction.

21. **The ENRRP included some of reforms because investments in infrastructure alone will not reverse the decline of ENR unless internal reforms are enacted and supported by an adequate legal framework with proper accountability of ENR management and at arm-length from political interference.** However, these reforms did not materialize because of three key reasons: 1) frequent changes at the MoT level minimized the role of the reform owner and allowed ENRRP to proceed without suitable reform oversight; 2) MoT did not establish a Steering Group comprising the Ministry of Finance (MoF) and MoT to guide the reform at a higher level; 3) under the ENRRP, the ENR hired a consultant on October 2016 to assess the ENR's performance and propose the reform agenda. The consultant could not develop the required financial model, so that costs, risks, impact, and benefits could be identified along with the resources required to deliver the reform. The institutional changes were simply copied from the EU without articulating why Egypt should consider such solutions in the first place. All these events finally prevented the key stakeholders (MoF, MoT) from properly considering the reform proposals and convincing ENR of undertaking them. ENR closed the contract with this consultant late in 2019. The RISE projects builds on lessons from this experience to achieve the reform effort, as explained below in this section, plus in the Lessons Learned section and in Annex 1.

Gender and Transport

22. **Globally, real and perceived threats of violence and harassment in transport and broadly in public space represent one of the biggest mobility barriers affecting women and girls, disproportionately more than it affects men and boys, and Egypt is not an exception** (World Bank, 2018a). ENR has been working to address this issue by identifying ways to make its transport service safer for everyone. In the country when only 22 percent of females aged 15 and above participate in the labor force compared to 71 percent (World Bank, 2019) of males, addressing mobility challenges is critical to enhance female labor force participation and boost economic growth.

23. **In addition, only about 3 percent of about 45,000 ENR employees are women with more than half engaged in administration** (Menarail Transport Consultants, 2020). For example, 215 out of 886 engineers are women. Albeit low, the higher share of women engineers compared to the overall share of



women in ENR reflects remarkable success that women achieved in the Science, Technology, Engineering and Mathematics (STEM) fields of education: almost half STEM graduates are female in Egypt (Bank, 2018). Still, there are ample opportunities to improve gender balance in technical roles in ENR. As it is generally the case in the transport sector, the most common issues that typically impede women's access to employment in ENR include: (i) perceptions that refer to the image of the sector as highly male-dominated, which can dissuade women from even thinking of applying for a job in the sector, or physically strenuous, as well as gender stereotypes about the specific roles and capabilities of men and women; (ii) the prevalence of a male-dominated working culture; (iii) inflexible and generally unattractive terms and conditions of employment, e.g. many jobs in the sector involve the need for spatial mobility and irregular and/or atypical working hours, including shift work, which are often difficult to reconcile with family life and represent an obstacle to the employment of women –and also men– with caring responsibilities; (iv) workplace health and safety issues, which commonly stem from a lack of appropriate facilities and equipment for women, e.g. toilets, changing rooms or gender-specific personal protective equipment, and (iv) lack of clear career trajectories and opportunities. International experience shows that lack of gender-responsive transport services and lack of women in the sector reinforce each other. Lack of women contributes to women's safety concerns and their voices as transport users not being heard, with often little incentives for transport services to respond to the particular needs of women service users. Employing more women in the transport sector in those roles that are traditionally male-dominated can lead to more inclusive transport service development –in addition to the obvious benefits of providing women with income-generating opportunities.

Railways and climate change risks

24. The project area is exposed to high climate change risks, and the project will accelerate climate change adaptation by improving resilient railway service. The project extends from the humid and wet Nile River Delta region on the north to dry desertic areas along the Nile River on the south, and ENR's railway service benefit broader areas beyond the corridor itself. The ENR network connects dense urban areas of Greater Cairo (population: 20 m), Alexandria (5 m), Asyut (4 m), and rural cities along the corridor running parallel to the Nile to economic opportunities and government and social services. The Bank team conducted a disaster risk screening, which resulted in a rating of "high" for extreme climate conditions including extreme temperature, extreme precipitation and flooding, drought and strong winds, as well as "moderate" for earthquakes. The risks of these climate events in the future years will be higher: mean annual temperature is expected to increase by 2 to 3°C by 2050 (more rapidly in the interior regions); the frequency of extreme storm events is projected to increase with greater flooding and storm damages, and an increase in the frequency of sandstorms. The rural population of 13 governorates along the corridor exceeds 32 m or 49.7 percent of the population as of 2016, and climate change will also affect some traditional professions in rural areas, notably agriculture. Women are identified as particularly vulnerable to impacts from climate hazards: the agriculture sector, known for its low and unstable earnings, employs over 40 percent of Egypt's working women. Thus rural women in agriculture, usually seasonable workers with unstable earning, are vulnerable to food insecurity, particularly in light of the expected impact of climate change on the sector (Kandeel, 2017). With the Bank's support to improve its safety and inclusiveness, railways can provide reliable and resilient means of transport to the population at risk since technologies have evolved over the decades to ensure operational continuity and safety even in the event of disruptions by excessive heat events and floods. The project will adapt to climate change by improving safety of the railway network to ensure that the rural population will have resilient access to services such as medical specialists and doctors at large hospitals, education opportunities at universities, and government services. The project will also strengthen the resiliency of access to economic opportunities, such as farmers' access to transport goods to broader markets.



The Proposed RISE Project

25. **The GoE requested a new loan from the International Bank for Reconstruction and Development (IBRD) in the amount of US\$440 m for the “modernization of railway signaling and communication on the Cairo - Giza – Beni Suef segment of the Egyptian National Railways (ENR) network.”**

The loan request for US\$440 m includes finishing the elements not completed by closing date in the ENRRP plus additional scope. The loans in the ENRRP and the RISE project will have separate accounting and no funds will be rolled over, only activities. The rolled over activities will be eligible for financing under the RISE project owing to full compliance with the World Bank procurement, financial management, and safeguards requirements, as explained below in detail.

26. **Transferring of the unfinished signaling works and continuing the reform effort started under the ENRRP to the proposed RISE is vital and time-sensitive.** The RISE project is proposed to finalize the signaling modernization works started by the ENRRP, which will be rolled over, and to modernize the section Cairo – Giza – Beni Suef (see Annex 4 Map). The RISE project includes a comprehensive approach for improving safety and asset management, including bringing state of the art approach on the use of big data and other analytics.³ The project seeks to create an enabling environment for changing the culture around safety at the ENR by introducing a systemic vision of safety. Gender, disability, and resilience and adaptation to climate change are also included. Interrupting World Bank’s support at this time would leave the ENR with a poorer safety standard than before the ENRRP’s inception because old controlling systems were dismantled to allow installing the new system which is not yet operational. Halting works now will carry significant economic costs because train operations will be disrupted with de facto manual signaling. Cost of intercity travels will increase, users will lose time, particularly damaging the economic welfare of the poor who depend more on railways than other income classes. Some users might switch to more polluting modes such as motorcycles or cars. Moreover, the AfDB approved in October 2020 a EUR 145 m loan to install the European Train Control System Level 1 (ETC-1) on the same segments where RISE plans to upgrade the railway signaling. ETC-1 needs the upgraded signaling to function properly. The proposed RISE thus becomes indispensable for the sustainability of the ENR’s network safety as the installation of ETC-1 is only possible on railway segments where signaling has been upgraded. The MoT will coordinate these two key investment activities, plus others shown in Annex 1.

27. **The proposed RISE Project will help the MoT deepen its reform efforts by introducing performance-based funding, in accordance with best international practices (see Box 1).** The RISE project includes a strategic study that will design this reform that will allow the GoE to transition away from providing contributions and enter a modern practice for procuring railway and infrastructure services, as a rail customer, under a Public Service Obligation Contract (PSOC) and a Multi-Annual Infrastructure Contract (MAIC) with the ENR. In consequence, the GoE will ensure the delivery of socially beneficial services, which are otherwise unprofitable. In addition, funding of the ENR’s non-commercial activities (funding of railway infrastructure and necessary services for passenger transport) will no longer be perceived as a subsidy because: first, public funding to ENR will be partially linked to the PSOC and MAIC to cover capital, operation

³ As part of project preparation the Bank assessed Egypt data privacy and data management policies. The conclusion is that all data that are collected for the purpose of this project shall be anonymous. The project's implementing entity will liaise with Egypt's Personal Data Protection Center in case a license or permit is required to ensure compliance with Egypt's Data Protection Law (DPL) which came into force in October 2020. Any personal data transferred, shared or stored to a country outside Egypt shall be subject to Articles 14, 15 and 16 of the DPL where an external country shall guarantee a level of protection of personal data which does not fall below that stipulated in the DPL. In particular, for the user satisfaction survey and the staff satisfaction survey in the Results Framework, the project will apply Article 6 of Egypt's Data Protection Law in that the consent of survey participants shall be sought.



and maintenance costs of the fleet and the infrastructure. PSOC and MAIC include key performance indicators (KPI) to incentivize good performance. ENR will therefore be funded through a performance-based mechanism. These incentives will generate better management of ENR's operations, demand-based investment and transparency of public expenditures. Second, operation of unprofitable but socially beneficial railway passenger services will be contracted to service providers such as ENR under a PSOC. While ENR is the single operator at the moment, in the future, private sector providers could also be contracted because the playing field will be leveled. The related contracts will be part of the government policy to make the mobility of the population more financially sustainable. This will eventually reduce public funding for the PSOC. RISE will help the modernization reach international best practices that have shown positive results in Europe and other places. To ensure the implementation of this reform, RISE includes a Steering Committee with MoT, MoF, and the Ministry of International Cooperation (MoIC) plus a Performance Based Condition.

28. The RISE Project will improve safety and quality of service in the Alexandria – Cairo – Nag Hammadi corridor of the ENR. Related, the RISE project will introduce performance-based funding to complement the modernization efforts led by the MoT. The project also has gender considerations, stakeholder engagement, plus contributions to mitigation and adaptation to climate change.

C. Proposed Development Objective(s)

Development Objective(s) (From PAD)

The project's development objective is to improve safety and service quality of the railway services along the Alexandria-Cairo-Nag Hammadi corridor.

Key Results

The key results that will measure the achievement of the PDO are as follows:

1. **Railway Accident Risk (safety):** The project will reduce from 0.562 to 0.440 the Fatalities and Weighted Serious Injuries (FWSI) per billion passenger kilometers (km). FWSI is the way EU railways measure the railway accident performance and this is a measure of risk. By reducing risk, the project improves safety in the Alexandria-Cairo-Nag Hammadi corridor.
2. **Occupational Health & Safety Risk for ENR employees (safety):** The Project will reduce the Lost Time Injury Frequency Rate (LTIFR) from 0.303 to 0.209 per 100,000 hours worked. By reducing risk to ENR employees, the project improves safety. This indicator also reflects the holistic and systemic view of safety embedded in the project.
3. **Train Punctuality (service quality):** The project will improve the punctuality of trains by increasing on-time arrivals from 75 percent to 90 percent by improving the reliability of line infrastructure.
4. **User Satisfaction with ENR passenger services (service quality):** The project will increase user satisfaction levels because of a safer and more punctual service.
5. **Performance-based funding for ENR (safety and service quality):** The project will promote a major reform to improve the efficiency and accountability of ENR through the implementation of PSOC and MAIC which leads to performance-based funding for ENR by MoF. Better incentives will improve safety and service quality. A performance based condition is linked to the achievement of this indicator. See project description and results framework.



D. Project Description

B. Project Components

29. Component 1: Safe System Signaling Modernization (Total cost: US\$602 m, IBRD: US\$402 m; GoE: US\$200 m. Of total cost, the equivalent of US\$ 135 m in works not completed under ENRRP are included in the sub-component 1.2 and US\$200 m of GoE funds in the sub-component 1.3):

30. Sub-component 1.1. This sub-component will finance the upgrading of the railway signaling system along the Cairo-Giza-Beni Suef line consisting of: (a) an automatic block signaling system (on an open line); (b) electronic interlocking systems (in stations); (c) a level-crossing protection system; (d) installation of additional automatic train control wayside equipment; and (e) track upgrades at priority stations for the safe functioning of the upgraded railway signaling system.

31. Sub-component 1.2. This sub-component will finance the 1.2 completion of upgrades of the railway signaling system along the Alexandria-Arab El Raml; Beni Suef-Asyut; and Asyut-Nag Hammadi lines commenced under the ENRRP, and consisting of, respectively: (a) an automatic block signaling system (on an open line); (b) electronic interlocking systems (in stations); (c) a level-crossing protection system; and (d) installation of additional automatic train control wayside equipment.

32. Sub-component 1.3. This sub-component will finance the 1.3 the completion of track upgrades at priority stations for the safe functioning of the upgraded railway signaling system along the Alexandria-Arab El Raml; Beni Suef-Asyut; and Asyut-Nag Hammadi lines commenced under the ENRRP.

33. Component 2: Safe System Asset Management Improvement (Total cost: US\$54 m, IBRD: US\$14 m; GoE: US\$39 m):

34. Sub-component 2.1. This sub-component will support carrying out of the following safety improvement works at stations, tracks, crossroads and locomotives, namely: (a) upgrading safety in railway stations such as physical improvements to platforms, station buildings and their environs, with additional focus on female and vulnerable passengers including persons with disabilities; (b) upgrading level pedestrian and vehicular crossings (in coordination with signaling installation in Component 1); (c) upgrading visibility of railway assets such as improvements in lighting at stations, their environs and at level crossings together with improved visibility of rolling stock; (d) development of a railway asset management system with a view to improving the existing ENR system; (e) supporting the implementation of the safety management system including proper data management as well as safety and security protocols (see also Annex 2), and (f) undertaking a range of infrastructure and service upgrades to improve safety of rail users, both male and female, such as, ensuring well-lit, secure and separate toilets for males and females, improving surveillance systems and enforcement mechanisms, and training both female and male security personnel on how to respond to the sexual harassment complaints. The detailed description of the proposed gender interventions is included in the Gender section of the Appraisal Summary.

35. Sub-component 2.2. This sub-component will support 2.2 implementing priority activities under the Stakeholder Engagement Plan with a view to strengthening stakeholder engagement, such as establishment and operationalization of user committees along the railway lines and development of a citizen's charter.

36. Component 3: Project Delivery, Institutional and Human Resource Development (Total cost: US\$24 m; IBRD: US\$22.9 m; GoE: US\$1 m. Of total cost, US\$10 m of IBRD lending are rolled over from ENRRP in sub-component 3.1 project supervision):



37. 3.1 Sub-component 3.1. This sub-component will finance the implementation of the following project-delivery activities: (a) financing of the project management consultant for supervision, management and monitoring of activities under Part Sub-component 1.1 of the Project; (b) financing of the owner’s engineer for supervision, management and monitoring of activities under Part Sub-component 1.2 of the Project; (c) financing of a Technical Audit of the implementation of activities under Part Sub-component 1.1 of the Project; (d) financing procurement support consultant and financial external auditor; and (e) reviewing and improving a range of human resources policies and practices of ENR in order to provide equal employment and career advancement opportunities to men and women.

38. Sub-component 3.2. This sub-component will also support institutional development of the railway sector through: (a) undertaking a policy reform study with a view to developing and rolling out of performance-based funding of railway operations (public sector obligations) contracts; infrastructure expansion and maintenance (multi-annual infrastructure) contracts; development of appropriate key performance indicators for said contracts; and development of rolling business plans for each ENR unit including, among others, human resource training needs; and (b) supporting the preparation of priority public private partnerships investments in the transport sector such as dedicated freight lines, last mile railway infrastructure connectivity or right of way all through the carrying out of feasibility studies, carrying out of environmental and social impact assessments and preparation of detailed designs.

39. **To strengthen the Project’s support for institutional reform and to specifically motivate the introduction of performance-based funding at ENR via the implementation of subcomponent 3.2 (a), this Project includes a Performance Based Condition (PBC).** The PBC is linked to the government achieving the outcome indicator titled “Performance-based funding for ENR” in the results framework. This indicator will be met when ENR and the MOT and/or MoF sign PSO and MAI contracts that meet the intended scope and KPIs. The PBC is for US\$29 m of loan proceeds associated with the final payments to the contractor for the works in subcomponent 1.1 for the railway signaling system upgrade along the Cairo-Giza-Beni Suef line. (See the Performance Based Conditions Matrix after the Results Framework for a detailed explanation of the PBC).

Legal Operational Policies

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

Summary of Assessment of Environmental and Social Risks and Impacts

40. Environmental and Social Risk Classification (ESRC) for the project is Substantial for both environmental and social risks. This classification is based on the assessment of environmental and social risks and impacts of the Project's planned interventions, nature and scale as well as the institutional capacity of the PMU to manage the anticipated environmental and social risks and impacts. At this stage, the relevant Environment and Social Standards (ESSs) are determined to be: ESS1, ESS2, ESS3, ESS4, ESS5, ESS6, ESS8 & ESS10.

41. The project will have a number of positive environmental and social impacts through



improvements in overall safety performance of ENR, with resulting benefits for public safety. There are measures specifically designed for safety of women and people disabilities through Component 2. The project will also reduce (1) fatalities and serious injuries from railway accidents, and (2) GHG emissions comparing to other freight and transport models.

42. Environmental risks: The civil works and activities will take place within the same footprint of existing Railway infrastructure and is not anticipated to extend beyond ENR's existing Right of Way. The main contributing risk factors during the construction phase of the project are: (1) Occupational health and Safety (OHS) risks for workers including Physical and Chemical hazards, there is medium probability of OHS risks due to the accidents but reliable mechanisms are available to prevent or minimize such incidents; (2) Hazardous material management and hazardous waste disposal generated from different activities and especially track renewal; (3) Traffic impacts associates with level crossing upgrades; (4) waste and wastewater disposal. Most of the identified impacts are site-specific, short term (i.e. limited to construction phase) and reliable mechanisms are available to prevent and mitigate those impacts, given the PMU and contractors experience in ENRRP project. During the implementation of the ENRRP (P101103), four fatalities occurred, one fatality in 2015; two off-site fatalities in February 2020 in a traffic crash; and one fatality in November 2020. The Root Cause Analysis and Safeguard Corrective Action Plan (SCAP) were prepared for February 2020 fatalities and most of the agreed actions have been implemented. Currently the RCA and SCAP preparation is underway for the latest fatality.

43. Social Risks: Acquisition of new land is not anticipated under RISE and land impacts within ENR's Right of Way, are limited in scale. Social risks for RISE relate to ENRs track record for screening and managing land-related risks to land tenants and informal users within ENR's Right of Way, over a large project area. Outstanding land issues from ENRRP, that will carry forward to RISE, include retroactive documentation, and corrective actions where necessary, for 3 sites for the economic displacement of 53 land tenants who partially lost rented plots without adequate prior assessment and documentation of the livelihood impact in accordance with the ENRRP RPF. The World Bank has also received documentation for 3 other sites for the economic displacement of 8 PAPs, and these are under review by the Bank; while issues at one site (6 PAPs) have been resolved. All remaining land issues under ENRRP will continue to be supervised beyond ENRRP closing date. The outstanding Resettlement Plans are also reflected as commitments in the ESCP for RISE. The updated Resettlement Framework for RISE addresses procedural deficiencies for screening of impacts.

44. Other social risks for RISE include: labor and working conditions, particularly for contracted workers; and community health and safety risks for communities living adjacent to physical works, as well as contextual risks stemming from ENR's operations and current safety performance (to which the project contributes improvements) The COVID-19 pandemic also introduces potential risks of community exposure through contagion pathways such as meetings, stakeholder engagement sessions and construction sites, and train travel in general.

45. Environmental and social instruments: ENR hired an independent consultancy firm to prepare the following project environmental and social instruments which consists of: (1) Environmental and Social Assessment (ESA) consisting of environmental and social impact assessment (ESIA) and Environmental Social Management Plans (ESMPs) for Component 1, and Environmental and Social Management Framework (ESMF) for Component 2; (2) Updated Resettlement Framework (RF); (3) Stakeholder Engagement Plan (SEP); (4) Labor Management Procedures (LMP); and (5) Environmental and Social Commitment Plan (ESCP). The environmental and social risks and impacts of the project were identified, and mitigation measures proposed for the identified interventions. For interventions that are not identified at this stage, the ESMF sets out the principles, rules, guidelines and procedures to assess the environmental and social risks and impacts of the



activities to be implemented under component 2. The prepared documentation were consulted upon and disclosed in-country in December 2020.

46. **Technical Assistance (TA)** under the project will focus on capacity building activities as well as identifying future investments to enable institutional reforms in ENR and enhance ENR staff capacity to deliver safety and operational efficiency. At this stage, the type and scale of the projects, which the TA will support developing their feasibility studies and E&S instruments, are not identified. The application of the outcomes of the TA outcomes, if implemented, might entail environmental and social implications depending on the scale, type and location of the future projects. Therefore, the Environmental and Social Commitment Plan (ESCP) includes a commitment to undertake the TA according to the WB requirements. The ToR will include the requirement of assessing the environmental and social risks associated with the application of the TA in accordance with the relevant ESSs.

47. The ESCP lists all environmental and social instruments to be prepared, adopted and implemented, during project implementation, the timeframe for their completion, and the assigned responsibilities. The ESCP requires commitments for adequate environmental, social and health and safety staffing within a dedicated PMU to manage the environmental and social risks and impacts. As listed in the ESCP, all contractors involved in the project implementation will update or prepare and implement Contractors Environment, Social and Health and Safety (ESHS) Management Plans that meet ESF requirements. Also, ENR will include the relevant E&S requirements derived from the cleared instruments into the ESHS specifications of the procurement documents with contractors through amending the existing works and supervision contracts under Component 1 and including the requirements in the procurement documents for future contractors.

A gender-based violence (GBV) analysis was carried as part of preparation. This assessment indicated a moderate risk for GBV. Safeguards instruments considered GBV aspects.

E. Implementation

Institutional and Implementation Arrangements

48. **Implementation period:** The implementation period for the Project is estimated to take 72 months (6 years). The estimated completion dates of individual components are presented in Annex 2.

49. **Responsibilities and Executing Agency:** The overseeing power and associated responsibility lie with the MoT, as the head of the transport sector in Egypt. ENR will act as the Project Implementing Entity and manage the implementation of all components, in close coordination with the MoT. ENR will carry out all procurement, financial management (FM), and internal auditing for the project. ENR is in charge of safeguards implementation and will report on all Environmental and Social Framework (ESF) requirements.

50. **ENR will implement the RISE Project through the Project Management Unit (PMU) created originally for the implementation of ENRRP.** The PMU will work in coordination with five ENR's departments: signaling system, track works renovation, telecommunication system, power supply system, and centralized train control. The RISE project incorporates lessons learned from the ENRRP on procurement, project implementation, financial management, and safeguards. As key risk mitigation, ENR will reinforce the PMU with the necessary resources exclusively dedicated to RISE Project and arrangements to tap into a wider pool of ENR experts throughout the period of RISE's delivery. The PMU will need to strengthen its capacity in procurement, financial management, and safeguards. The implementation arrangements for sub-component



3.2 include MoT and a Steering Committee created to help prepare and implement this part. The following paragraph clarifies some responsibilities. The Financial Management and Procurement sections below offer more details in those areas.

- 1. Components 1 and 2 will be implemented by the PMU.** The PMU will (i) select the signaling contractor for sub-component 1.2 whose bid matches the ENR needs in a most advantageous way; (ii) manage the implementation of this contract and of the contracts rolled over (sub-components 1.2 and 1.3), according to the contracted scope; and (iii) procure safety improvement works at stations, tracks, crossroads, and locomotives in component 2.

2. Component 3 will be implemented by the PMU at ENR and the MoT as follows:

- (i) The PMU will carry out the procurement and supervision for all elements of sub-component 3.1.

51. The MoT will be responsible for the direction of sub-component 3.2, design of terms of reference, day-to-day coordination of their work, and approval of their deliverables. ENR will carry out procurement for items in 3.2 using terms of reference provided by MoT. The MoT will arrange for a Steering Committee (SC) for the reform work to be established. The SC, under the direction of the MoT, will include representatives of the Ministries of Finance and International Cooperation. The SC will be created soon after effectiveness. The SC will be responsible for (i) providing strategic guidance for the strategic study for the reform; (ii) recommending to approving authorities the implementation of the reform including the PSOC and MAIC. The Project Operational Manual will further develop the tasks and responsibilities of the SC. The RF also includes an intermediate indicator to track SC performance, building on lessons from many Bank-financed projects where the SC is not functional. In parallel, the PMU will work with the consultant to develop rolling business plans for its business units, which align with the objectives set by the PSOC and MAIC for ENR. In addition to leading the Steering Committee, the MoT will establish its own dedicated team to support the reform. Since the MoT lacks practical experience in railway reform, the project will support with (i) developing capacity within MoT, (ii) identifying the reform champion and reform agents in MoT, and (iii) deploying them on catalyzing the reforms agreed with the MoT.

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