Report Number: ICRR0024226

## 1. Project Data

| | | |
|---|---|---|
| **Project ID**<br>P144489 | **Project Name**<br>EC Quito Metro Line One | |
| **Country**<br>Ecuador | **Practice Area(Lead)**<br>Transport | |
| **L/C/TF Number(s)**<br>IBRD-82850,IBRD-88890 | **Closing Date (Original)**<br>31-Dec-2018 | **Total Project Cost (USD)**<br>431,966,061.92 |
| **Bank Approval Date**<br>25-Jul-2013 | **Closing Date (Actual)**<br>31-Dec-2023 | |

| | IBRD/IDA (USD) | Grants (USD) |
|---|---|---|
| Original Commitment | 205,000,000.00 | 0.00 |
| Revised Commitment | 435,000,000.00 | 0.00 |
| Actual | 432,201,785.75 | 0.00 |

| Prepared by | Reviewed by | ICR Review Coordinator | Group |
|---|---|---|---|
| Natalya Stankevich | Vibecke Dixon | Avjeet Singh | IEGSD (Unit 4) |

## 2. Project Objectives and Components

### a. Objectives

The Project Development Objective (PDO) as in the PAD (p. 4) is to improve urban mobility in the city of Quito, serving the growing demand for public transport. The Loan Agreement (LA, Schedule 1, p. 6) defines the PDO as follows **"to improve urban mobility in the Borrower's territorial jurisdiction serving the growing demand for public transport".** Both the PAD and LA further expand on how the PDO would be achieved in the project: "The Project will reduce travel time, decrease operational costs of the transport service, improve connectivity, security and comfort of the current system and reduce emissions of pollutants and greenhouse gases."

The PDO was not revised.

The ICRR applies the PDO formulation from the LA for the purpose of this assessment.

### b. Were the project objectives/key associated outcome targets revised during implementation?

Yes

### Did the Board approve the revised objectives/key associated outcome targets?

Yes

### Date of Board Approval

22-Jun-2018

### c. Will a split evaluation be undertaken?

Yes

### d. Components

**1. Construction of two Metro Stations of the Quito Metro Line One.** (Cost at appraisal: US$ 83.91 million, of which the IBRD Loan was US$ 0.00 million; cost at the Additional Financing (AF)/First Restructuring in 2018: US$ 124 million; actual cost: US$124 million and IBRD Loan: US$0.00 million). This component was to construct the metro stations of La Magdalena and El Labrador.

**2. Infrastructure and Equipment Investment for the Quito Metro Line One.** (Cost at appraisal: US$ 1,355.18 million, of which the IBRD Loan was US$ 200.00 million; cost at the Additional Financing (AF)/First Restructuring in 2018: US$ 1,650.2 million, of which the IBRD Loan was US$ 425.00 million; actual cost: US$1,651.2 million, of which the IBRD Loan was US$ 425.00 million). This component was to:

- Construct 23 km of tunnel linking the Quitumbe and El Labrador metro stations,
- Construct 13 metro stations,
- Construct a yard and maintenance shops at the Quitumbe metro station, and
- Provide and install metro system-wide facilities (including the permanent way, fare collection and ticketing system, and other systems and equipment) for the operation of Quito Metro Line One.

**3. Provision of Train Sets to Operate in the Quito Metro Line One.** (Cost at appraisal: US$ 192.82 million, of which the IBRD Loan was US$ 0.00 million; cost at the Additional Financing (AF)/First Restructuring in 2018: US$ 183.59 million, of which the IBRD Loan was US$ 0.00 million; actual cost: US$ 183.59 million, of which the IBRD Loan was US$ 0.00 million). The component was to:

- Provide at least 18 6-car train sets with 4 automotive cars per train,
- Provide auxiliary vehicles for track maintenance and yard work, and
- Provide workshop equipment.

**4. Project Management.** (Cost at appraisal: US$ 47.25 million, of which the IBRD Loan was US$ 0.00 million; cost at the Additional Financing (AF)/First Restructuring in 2018: US$ 47.03 million, of which the IBRD Loan was US$ 0.00 million; actual cost: US$ 46.06 million, of which the IBRD Loan was US$ 0.00 million). This component was to provide technical assistance (TA) for the management oversight and supervision of the Project.

**5. Technical Studies to Support Project Implementation.** (Cost at appraisal: US$ 5.00 million, of which the IBRD Loan was US$ 5.00 million; cost at the Additional Financing (AF)/First Restructuring in 2018: US$ 10.00 million, of which the IBRD Loan was US$ 10.00 million; actual cost: US$ 7.2 million, of which the IBRD Loan was US$ 7.2 million). This Component was to initially finance demand-driven technical studies to support the implementation of the Project, including a financial management and cost recovery study of the Integrated Mass Transit System (Sistema Integrado de Transporte de Pasajeros, SITP) and a study to design a fare collection system for the SITP to be compatible with the fare collection system for the metro. During the AF in 2018, different categories of technical studies were included in this component such as (i) TA studies to support project management; (ii) TA studies to support the implementation of SITP; and (iii) implementation of social and environmental (ESS) measures and TA.

## e. Comments on Project Cost, Financing, Borrower Contribution, and Dates

**Project Cost.** The total cost at appraisal was US$ 1,684.16 million. During the AF and first restructuring in June 2018, the project cost was revised and increased to US$2,014.87 million. The actual total project cost at the closing was US$ 2,128.61 million. Out of the original project cost of US$ 1,684.16 million, the World Bank (WB) committed to finance Components 2 and 5 through an IBRD loan in the amount of US$ 205.00 million. During the approval of the AF and first restructuring in 2018, the WB's commitment increased to US$ 435 million, along with the revision of the contributions from other financiers, due to the increase of the project cost. At the closing, the IBRD loan was disbursed in the amount of US$ 432.2 million.

**Financing.** This project was co-financed by four multilateral development banks (MDBs) who co-signed the Principles of Collaboration, dated December 6, 2013, and confirmed their commitment to finance certain activities as per their respective financing agreements either signed or to be signed with the Republic of Ecuador and the Municipality of Quito. Those co-financiers included the Interamerican Development Bank (IDB), the International Bank for Reconstruction and Development (IBRD), the European Investment Bank (EIB), and the Development Bank of Latin America and the Caribbean (CAF). The below table (ICR, Annex 3) summarizes the original, revised and final contributions of all the institutions that provided co-financing for this project.

| Source of financing | Cost at appraisal in 2013, US$ million | AF in 2018, US million | Revised Cost in 2018, US$ million | Actual cost in 2023, US$ million |
|---|---|---|---|---|
| Government of Ecuador (GoE) | 40.69 | 0 | 40.69 | 40.69 |
| Municipio del Distrito Metropolitano de Quito (MDMQ) | 536.37 | -336.46 | 199.91 | 316.98 |

| | | | | |
|---|---|---|---|---|
| Spanish Fund for Corporate Internationalization (Fondo para la Internationalización de la Empresa, FIEM) | 192.82 | -9.23 | 183.59 | 183.59 |
| European Investment Bank (EIB) | 259.28 | 44.20 | 303.48 | 303.15 |
| Interamerican Development Bank (IDB) | 200.00 | 250.00 | 450.00 | 449.80 |
| Development Bank of Latin America and the Caribbean (CAF) | 250.00 | 152.20 | 402.20 | 402.20 |
| World Bank (WB) | 205 | 230 | 435 | 432.2 |
| **Total** | **1,684.16** | **330.71** | **2,014.87** | **2,128.61** |

**Borrower Contribution.** The GoE's original commitment was US$40.69, which was actually realized by the end of the project. According to the Bank team's clarification of October 25, 2024, the Municipality of the Metropolitan District of Quito's (MMDQ) original commitment was US$120 million from its resources, and the Municipality's actual contribution was US$ 316.98 million (excluding loans). The MMDQ's commitment in the table above includes several commercial loans and revenue securitization from Quito Airport, which eventually did not materialize. (There is discrepancy with regards to these figures in the ICR datasheet and Annex 3.)

**Dates.** The project was approved on July 25, 2013; became effective more than two years later - on September 25, 2015; carried out its mid-term review (MTR) on October 9, 2017; had an AF approved on June 22, 2018, and closed on December 31, 2023 as opposed to its original closing date of December 31, 2018. The project was thus extended for a total of 5 years.

**Restructurings**. The project underwent 4 restructurings, including AF during the first restructuring in 2018. The Project closing date was extended four times for a total of five years (60 months) under the following restructurings: (1) in June 2018 with AF by two years (from December 31, 2018 to December 31, 2020); (2) in December 2020 by 12 months (from December 31, 2020 to December 31, 2021); (3) in October 2021 by 12 months (from December 31, 2021 to December 31, 2022); and (4) in December 2022 by 12 months (from December 31, 2022 to December 31, 2023).

The multiple extensions of the closing date were made to ensure a capable operator was in place and respond to implementation delays caused by the COVID-19 pandemic, which delayed civil works and affected the manufacturing, shipping, and supply of equipment for crucial systems, and caused by social unrest as well as high turnover of authorities and managers of the metro (ICR, para 24).

**First Restructuring and AF in June 2018 (disbursement at 98% of the original loan of US$205 million).** The project received an AF of US$230 million to partially cover a financing gap of the investment components and scale up of the project's TA in response to implementation issues. The gap was due to a combination of higher-than-estimated project costs and non-materialization of contribution from the two financing sources who had initially committed at appraisal (Project Paper, PP, para 2, ICR, para 19). This

AF also implemented a Level-II restructuring, which introduced several changes, and was approved by the Board on June 22, 2018. The following changes were made:

- Triggering of new safeguard policies - Pest Management (OP 4.09) and Indigenous Peoples (OP/BP 4.10), which also led to change in legal covenants;
- Extension of the closing date by 24 months till December 31, 2020;
- Scale up of component 5 (Refer to Section d. above);
- Update of the costs of the components (Refer to Section d. above);
- Improvement of the description and methodology of the PDO outcome indicators (ICR, Table 2 and Annex 6);
- Decreasing the end target of the PDO outcome indicator related to daily ridership from 369,000 to 295,999 passengers per day in PLMQ;
- Decreasing the end target of the PDO outcome indicator related to reduced operating costs of Quito's vehicle fleet from US$60,000,000 to US$59,400,000;
- Increasing the end target of PDO outcome indicator related to reduction in GHG emission from 47,000 m tons per year to 58,170 m tons per year;
- Introduction of two new PDO outcome sub-indicators – percentage of users satisfied with overall metro service, its security and comfort for females and low-income users, respectively;
- Adding a new PDO outcome indicator – percentage of jobs accessible in 60 minutes of travel time;
- Update of the procurement and implementation schedules.

**Second Restructuring in December 2020.** This restructuring supported the loan extension closing date which would allow to complete the execution of the civil works (with physical progress at 96%), and provide the technical and financial support required for the definition and implementation of the operation and maintenance (O&M) business model. The restructuring also updated the implementation schedule and end dates for project indicators in the RF.

**Third Restructuring in October 2021.** This restructuring extended the closing date till December 31, 2022, updated the implementation schedule and end dates for project indicators in the RF.

**Forth Restructuring in December 2022.** This restructuring only extended the loan closing date till December 31, 2023.

**Split Rating.** This validation applies a split rating of the PDO because the project reduced the end targets of the two PDO outcome indicators during the 2018 Additional Financing (AF) and associated project restructuring, when the project cost increased. The split rating will therefore consider the project's end achievements against: (a) the original targets, and (b) the 2018 revised targets of the PDO indicators.

## 3. Relevance of Objectives

### Rationale

**Country and Sector Context at Appraisal.** Ecuador experienced a period of political stability and significant investment in infrastructure and social services which resulted in a substantial poverty reduction between 2006 and 2012. However, challenges remained, particularly in improving the quality of services, including public transportation, which was crucial to the poor to access social services and economic opportunities. Despite the construction and expansion of the Bus Rapid Transit (BRT) network since the 1990s, Quito, the country capital, still faced a major public transportation challenge because of the growing population and suburbanization. In 2010, households with the lowest living conditions in the city lived far from the city center which concentrated economic opportunities and social services. Households with the lowest living conditions had access to almost half the economic and social opportunities within 30-minute travel compared to households with the highest living conditions. The city's BRT had reached its capacity, while the city center as a UNESCO World Heritage Site could not be reconstructed to accommodate wider streets for a new BRT line. The Municipality of Quito enacted a city law in 2012 to create an integrated mass transit system to expand the coverage and improve coordination among transport services in the city, including the construction of an underground Metro.

**Alignment with Government Strategies.** The Quito Metro Line One (*PLMQ in Spanish*) project was fully aligned with the Government priorities at appraisal and at closing. At the time of appraisal, the 2012 City Law created Quito's Integrated Mass Transit System (*SITP*), which also included the construction of Quito Metro to improve public transportation quality and reduce travel time, particularly for low-income users to enhance access to jobs and services. During the country's political crisis in 2023, the project remained aligned to national priorities about providing public transportation, particularly mass transportation. As per Article 394 of The Constitution of the Republic of Ecuador, "The State shall guarantee freedom of transportation by land, air, sea and river within the national territory, without privileges of any kind. The promotion of mass public transport and the adoption of a policy of differentiated transport fares will be a priority." The GoE's Development Plan for the New Ecuador for 2024-2025 re-emphasizes this through its objective 8 "Promote connectivity as a source of economic and sustainable development and growth".

**Alignment with Bank Strategies.** This PDO was fully aligned with all three main areas of the WB's Interim Strategy Note (ISN) for Ecuador for FY14-15 (para 5): "(i) sustainable and inclusive growth; (ii) access to social protection and quality basic services for all; and (iii) strengthening public sector capacity to provide access to quality services". The ISN identified transport and access to basic services at the subnational level as key priorities for further reduction of poverty and an opportunity for the WBG's strategic re-engagement with the country. This project was a strategic opportunity for the World Bank Group (WBG) to re-engage with the Government of Ecuador (GoE) through partnership with other MDBs, since the cancellation of all World Bank ongoing lending operations in the country by the new government and expelling the World Bank representative from the country in 2007. The PDO was fully aligned with the WB's Ecuador Systematic Country Diagnostic (SCD) for 2018, as this project directly contributed to the SCD Pillar 3 "Expanding Economic Opportunities" by providing more inclusive and sustainable access to jobs and social services. This PDO remained fully aligned with the Country Partnership Framework (CPF) FY19-23, which was extended to 2025 with the completion of a Performance and Learning Review (PLR). This project directly contributed to the CPF's three main objectives of (i) supporting the foundations for inclusive growth, (ii) boosting human capital development and protecting vulnerable populations, and (iii) enhancing institutional and environmental sustainability. It further contributed to the PLR's Objectives: (i) Objective 1 "Improve Revenue Mobilization and Quality of Spending" by financing the construction and launch of the Metro operation which is cheaper to operate and maintain than bus services and could reduce the burden of road expansion and maintenance in the city, and (ii) Objective 7 "Increase Climate Change Adaptation and Mitigation" by reducing the GHG emissions associated with urban transport.

**Previous Sector Experience.** At the time of appraisal, the WB did not have any programs or projects under implementation since all WB loans had been cancelled by the GoE in 2007. This project was built on the dialogue between the WB and GoE at the subnational level on urban infrastructure and disaster risk management during FY2011-13. Following a good-practice exchange on urban transportation financing organized by the WB, the GoE requested municipal transportation assistance, which resulted in a series of workshops and a report highlighting regional financing plans for municipal transportation. As a result, WB support at the municipal level to the Quito Metro Line One Project became a key entry point for the WB's lending reengagement.

**The relevance of the Objective is rated as High.** The PDO "to improve urban mobility in the city of Quito" addresses accessibility gap to jobs and services for Quito's poor. This PDO was and is in full alignment with the country and WB strategies. The PDO is outcome-oriented, clearly formulated to demonstrate a meaningful contribution to the development problem identified in the city during the project preparation and at the closure. The PDO was pitched at an outcome level to address a development problem of limited urban mobility in the city of Quito, with an emphasis on reduction of travel time and operating costs, improved security, safety, comfort and reduced emissions of air pollutants. This is an appropriate level for the context of the country and the city of Quito.

**Rating**

High

## 4. Achievement of Objectives (Efficacy)

### OBJECTIVE 1

**Objective**

To improve urban mobility in the Borrower's territorial jurisdiction.

**Rationale**

The project did not present a theory of change (ToC) at appraisal because none was required at the time. The results framework (RF) provided the causal logic that linked the original inputs to outputs and outcomes. The ICR created a TOC retrospectively, based on the PAD.

The project was to use the project's inputs, i.e., MDB's loans with a sovereign guarantee and Municipality of Quito's resources, to finance such activities as (i) construction of metro stations , (ii) construction of a tunnel linking metro stations, (iii) construction of a yard and maintenance shops , (iv) provision and installation of metro system-wide facilities for the operation of a Metro Line, (v) provision of train sets, auxiliary vehicles for track maintenance and yard work, and workshop equipment; (vi) restructuring of bus routes to feed into the metro line; (vii) implementation of unified fare collection system for the metro and feeder buses; (viii) provision of technical assistance for the management oversight and supervision of the project. As a result, these activities would lead to such outputs as (i) completed metro stations, (ii) completed tunnel connecting metro stations, (iii) completed yard and maintenance shops, (iv) availability of metro system-wide facilities for the operation of a metro line, (v) availability of train sets, auxiliary vehicles for track maintenance and yard work, and workshop equipment; (vii) completed restructuring of bus routes feeding into the metro line; (viii) functioning unified fare collection system for the metro and feeder buses; (ix) completed technical assistance for the management oversight and supervision of the project. In terms of outcomes, these were to result into improved urban mobility measured through (i) certain number of passengers transported per day, (ii) reduced travel time for public transportation users, (iii) reduced operating costs of vehicle fleet, (iv) reduced air pollutant and greenhouse gas (GHG) emissions from transport, (v) comfortable level of metro passenger occupancy, (vi) certain percentage of users satisfied with metro service, security, comfort, differentiated by gender and income; (vii) percentage of metro feeder routes in operation, and (viii) percentage of bus fleet under unified fare collection system.

The causal links between most of project activities, outputs and intermediate outcomes were logical, clear and convincing and do not have any logical gaps. There is a logical gap between the project activities and two outputs - percentage of metro feeder routes in operation, and percentage of bus fleet under unified fare collection system. Activities to deliver these two outputs were not included in this project's scope but were to be implemented by the Quito Municipality with its own resources outside this project's scope. The other indicators identified for the outputs and outcomes are measurable and logical. The main assumptions were that the underground metro infrastructure would be constructed with good quality and completed on time, the rolling stock with adequate capacity and necessary equipment would be procured and placed in operation on time, and integration activities such as restructuring of metro feeder bus routes and implementation of a unified fare collection system for metro and buses would be timely completed by the Municipality before the launch of the Metro Line One operation.

**Outputs**

The following outputs were delivered by the project under the original targets

- 99.98 percent of physical work progress in civil works other than stations was achieved. This refers to the completed construction of the 23-km tunnel linking the Quitumbe and El Labrador stations and the at-grade segment to the yards. **The target of 100 percent was almost achieved.**
- 100 percent of physical work progress in stations and universal access achieved. Construction of 15 stations – 2 under Component 1 and 13 under component 2 - was completed. **The target of 100 percent was achieved.**
- 100 percent of physical work progress in rail yard achieved. **The target was achieved.**
- 99.35 percent of progress in installation of power supply, auxiliary, signaling and telecom systems achieved. **The target of 100 percent was almost achieved.**
- 100 percent of rolling stock completed and available to operate in the Quito Metro Line One. **The target was achieved.**
- 100 percent of fare-collection system installed. **The target was achieved.**
- 100 percent of progress in installation of permanent way achieved. **The target was achieved.**

The following outputs were not produced at the end of the project as no relevant activities were included in the project scope because they were to be implemented by the Municipality of Quito with its resources outside this project's scope:

- None of the metro feeder routes were restructured and placed in operation. **The original target of 90 percent was not achieved**, and
- None of MDMQ bus fleet were placed under unified fare collection system. **The original target of 90 percent was not achieved**.

**Outcomes**

The outputs discussed above were expected to result in the improved mobility in the Borrower's territorial jurisdiction serving the growing demand for public transport. The following outcomes were achieved:

- 152,610 passengers were transported per day in PLMQ, which is 41 percent of the original target of 369,000. **The original target was not achieved.**
- There was a 23-minute reduction in travel time for public transportation users. **The original target of 23 minutes was achieved.**
- A US$58.50 reduction in operating costs of Quito's vehicle fleet was achieved. **The original target of US$ 60.00 was almost achieved.**
- 64,056 metric ton reduction of GHG emissions per year from transport in DMQ was achieved. This indicator measured the achievement of emission reduction of pollutants, in addition to reduction of GHG emissions. **The original target of 47,000 metric tons per year was exceeded.**
- Adequate passenger capacity (i.e., equal or less than 6 passengers per square meter) was achieved by PLMQ. Morning peak (6:00-9:00 am) occupancy was measured at 4.48 passengers/m2 and evening peak (4:00-7:00 pm) occupancy was measured at 4.82 passengers/m2 (footnote 17, p. 14). This indicator assessed the achievement of comfort of the new metro system. **The original target of equal or less than 6 passengers per square meter was achieved.**
- 97.80 percent of users satisfied with overall metro service, its security and comfort. **The original target of 65 percent was exceeded.**
- 97.9 percent of users were very satisfied or satisfied with metro security and 95.4 with safety (zero harassment), that included 97.5 percent of female users being very satisfied or satisfied with metro security and 97.5 percent of female users being very satisfied or satisfied with safety (ICR, p. 48, Table 12). **No separate targets for security and safety were set up in the RF.**
- **No indicator was included to measure transport connectivity in the RF,** but reduction of travel time makes it plausible that improved connectivity was achieved.
- It is plausible that the air quality was improved in the Quito because 152,610 passengers who used Metro Line One and avoided using private vehicles or buses on a daily basis contributed to the reduction of pollutants, because the Quito Metro is powered by electric power. **There was no air quality indicator set in the RF.**

At the output level, most of the original targets were either achieved or almost achieved, except for the two which did not have associated project activities but would have be direct contributors to the daily ridership increase outcome - none of the metro feeder routes were restructured and placed in operation and none of MDMQ bus fleet were placed under unified fare collection system. At the outcome level, the project achieved or exceeded the targets for reduced travel time, security and comfort of the current system and reduced emissions of greenhouse gases (as defined in the PAD, p. 4, para 14 and LA, Schedule 1, p. 6). The project achieved the original target for reduced operating costs at 98 percent (US$58.50 vs $60.00). It is plausible that connectivity was improved, and emissions of air pollutants were reduced as discussed above. However, the project achieved the daily ridership at 41 percent of its original target (152,610 vs 369,000 passengers daily) which is a significant underachievement. Thus, **the original objective is rated as Modest.**

**Rating**

Modest

## OBJECTIVE 1 REVISION 1

### Revised Objective

The Objective was not revised. It remained: “To improve urban mobility in the Borrower's territorial jurisdiction”, but the targets of the two PDO indicators - passengers per day in PLMQ and reduction in operating costs of Quito vehicle fleet - were revised and downsized, and a new PDO outcome indicator - percentage of jobs accessible in 60 minutes of travel time - was added, along with two sub-indicators of percentages of female and low-income users satisfied with the Metro services.

### Revised Rationale

The TOC was discussed above under the Original Objective and remains valid under the Revised Targets. During the first restructuring/AF, additional activities were included that were expected to contribute to the achievement of the Objective and those included to carry out: (i) update of the demand model for the PLMQ, (ii) urban development study related to the PLMQ and public transport system, (iii) study on intermodality and promotion of public transport, (iv) development of the strategy for the promotion of Metro culture, (v) incorporation of the gender perspective in the integrated public transport system of the Quito Metropolitan District, (vi) implementation of prevention mechanisms for addressing and reporting violence and sexual harassment against women and girls in the Integrated Public Transportation System of the Quito Metropolitan District. In addition to the expected outputs that were listed above under the Original Objective, additional outputs were expected, such as (i) completed update of the demand model for the PLMQ, (ii) completed urban development study related to the PLMQ and Public Transport System, (iii) completed study of intermodality and promotion of public transport, (iv) completed development of the strategy for the promotion of Metro culture, (v) completed study on the incorporation of the gender perspective in the Integrated Public Transport System of the Quito Metropolitan District, (vi) completed Implementation of prevention mechanisms for addressing and reporting violence and sexual harassment against women and girls in the Integrated Public Transportation System of the Quito Metropolitan District. In addition to the outcomes discussed under the Original Objective, the outputs described in this section and under the Original Objective were (i) certain percentage of female users satisfied with overall metro service, its security and comfort; (ii) certain percentage of low-income users satisfied with overall metro service, its security and comfort; and (iii) certain percentage of jobs accessible in 60 minutes of travel time. In addition to the assumptions mentioned under the Original Objective, the following additional assumptions were used: the new technical assistance studies which were included during the first restructuring/AF would be completed and inform the decisions of the Municipality of Quito and the Metro Operator in promoting the use of the newly constructed Metro Line One and feeder buses among potential users.

The same points about the causal links, logical gap, and assumptions as discussed in the above section are applicable here.

**Outputs**

The following outputs were delivered by the project:

- **The achievements reported under the Original Objective, for which targets were not revised during the first restructuring/AF, are valid here**, too.

- Completed implementation of a reporting mechanism for cases of violence against women and girls in the Quito Metro Line One. **The target (Yes) for this new indicator introduced during the first restructuring/AF, was achieved.**
- 41.01 percent of technical and professional staff, directly employed by the operator of the Quito Metro Line One are female. **The target of 20 percent for this new indicator, which was introduced during the first restructuring/AF, was exceeded.**

In addition, the project also delivered the below list of studies which contributed to the project outcomes but were not covered by the RF and, hence, had no target values:

1. Completed update of the demand model for Quito Metro Line One;
2. Completed study about incorporating gender perspective into the Integrated Public Transportation System;
3. Completed development of the strategy for the promotion of Metro Culture;
4. Availability of an advisor for the selection of the operator of the Quito Metro Line One;
5. Completed technical structuring of the operation and maintenance of the Quito Metro Line One;
6. Completed development of Sustainable Mobility Master Plan;
7. Completed study to structure and establish the Administrative Entity of the Integrated Public Transport System (Single Transport Authority);
8. Completed update of the fare integration model (Phase II). Determination of the revenue distribution formula;
9. Completed Rolling Stock Tuning Service, which started in September 2023 and ended in February 2024, and
10. Completed analysis, evaluation, and formulation of project alternatives for exclusive public transport bus lanes and demand management measures that contribute to strengthening the metropolitan public transportation system, which started in December 2023 and ended in March 2024.

The following outputs were not produced at the end of the project as no relevant activities were included in the project scope during the first restructuring/AF because they were to be implemented by the Municipality of Quito with its resources outside this project's scope:

- None of the metro feeder routes were placed in operation. **The revised target of 15 percent was not achieved,** and
- None of MDMQ bus fleet were placed under unified fare collection system. **The revised target of 25 percent was not achieved.**

**Outcomes**

The above listed outputs lead to the following outcomes:

- The targets were not revised for travel time reduction, adequate passenger capacity occupancy, share of metro users satisfied with overall metro service, share of female users satisfied with overall metro service. **Please refer to the discussion under the Original Objective which reports that the targets for those indicators were either achieved or exceeded**.
- **Please also refer to the discussions under the Original Objective on the two plausible achievements related to improved connectivity and air quality, which did not have indicators in the RF.**

- 152,610 passengers transported per day in PLMQ, which is 52 percent of the revised target of 295,999. **The revised target was not achieved**.
- US$58.50 reduction in operating costs of Quito's vehicle fleet. **The revised target of US$ 59.40 was almost achieved**.
- 64,056 metric ton reduction of GHG emissions per year from transport in DMQ. This indicator measured the achievement of emission reduction of pollutants, in addition to reduction of GHG emissions. **The revised target of 58,170 metric tons per year was exceeded**.
- **In addition to the high share of satisfied users and female ones with metro security and safety reported under the Original Objective,** which did not have separate targets in the RF, the ICR referred to 6 cases of sexual harassment out of over 20 million trips on the PLMQ during its first 5 months of operation. , only (ICR, p. 18, para 44). According to the monthly beneficiary survey results of August 2024, users rate sexual reporting mechanisms 9 out of 10 in July 2024 and 9.5 out of 10 in August of the same year. **No separate targets for security and safety were set up**.
- 50.8 percent of jobs accessible in 60 minutes of travel time. **The target of 50.8 percent for this new indicator was achieved**.

No data was collected to report on the percentage of low-income users satisfied with overall Metro services, its security and comfort at the time of the ICR preparation. The Bank team informed the IEG that after the Municipality of Quito adjusted the sensitive language of the income-related question, this question was only introduced during the 2024 September beneficiary survey. The data was not yet matched against the answers of low-income metro users, and the methodology is further being refined by the Municipality.

The ICR reported on the following additional achievements which were not included in the RF and did not have end target values:

- The metro is providing fast and high-quality service to around 4 million trips per month. The average ridership was calculated for the first five month of the Metro operation. The Task Team also shared with the IEG the result of the August monthly survey which showed a growing trend in the monthly ridership – about 4.7 million trips in July and over 4.6 million in August.
- The highest daily ridership reached 183,204 in July and 199,899 in August 2024.
- The PLMQ has surpassed expectations in inducing modal shift away from private vehicles. From January through April 2024, 13.7 percent of riders of the PLMQ reported that they would otherwise have made the journey by private car (compared to 10 percent assumed ex-ante), 4.2 percent by taxi, 2.5 percent by motorcycle, and 79.0 percent by BRT or local buses (ICR, p. 13, para 28 and Annex 4, p. 43, table 10). About the same modal shift trends were reported for July and August 2024: 12.1% of riders switched from private cars in July and 14.1 percent in August, 5.4 percent from taxi in July and 4.1 percent in August, 79.3 percent from BRT or local buses in July and 77.7 percent in August.
- Over half of metro riders are female users – from 49 percent in December 2023 to 54 percent in April 2024. The same August survey again confirmed that over half of the riders are female ones as the survey reported female riders representing 52.3 percent in July and 59 percent in August 2024.

**The efficacy of the objective under the revised targets is rated as Substantial.** At the output level, the project exceeded, achieved or almost achieved most of the targets, except for the revised targets of the same two indicators as discussed under the original objective. At the outcome level, the project either achieved or exceeded the (unrevised) targets for overall Metro services, its security and comfort, and targets for reduced travel time, improved connectivity, security and comfort of the current system and reduced emissions of pollutants and greenhouse gases (as defined in the PAD, p. 4, para 14 and LA, Schedule 1, p. 6). The project almost achieved the revised target for the reduction of operating costs (US$58.50 vs US$59.40) and achieved the revised end target for daily ridership at 52 percent (152,610 vs 295,999 passengers transported per day), which was backed-up by additional evidence showing a growing trend in the daily ridership since the completion of the ICR. The mass transit project tends to require a few years of operation before reaching the expected ridership/passenger volumes. No evidence was provided on the share of low-income users satisfied with overall Metro services, as the relevant question is very sensitive for a local-income target group and is being adjusted not to discourage this target group from using the metro line.

**Revised Rating**
Substantial

## OVERALL EFFICACY

**Rationale**
**The overall efficacy under the original targets is rated as Modest** due to significant underachievement.

**Overall Efficacy Rating**
Modest

**Primary Reason**
Low achievement

## OVERALL EFFICACY REVISION 1

**Overall Efficacy Revision 1 Rationale**
**The overall efficacy under the revised targets is rated as Substantial** due to the project achieving or exceeding almost all targets and is likely to achieve the daily ridership target as the latest evidence confirms a growing trend since the ICR completion.

**Overall Efficacy Revision 1 Rating**

Substantial

## 5. Efficiency

The efficiency of the project was evaluated based on an economic evaluation and a financial assessment of project implementation. The ex-post analysis used the same cost-benefit analysis (CBA) model used at project appraisal that was updated in 2018 (AF) and in 2020 (restructuring). Model parameters in the ICR were updated to the most recent available values.

At the time of appraisal, a standard CBA was carried out for the project. The main benefits included time savings, reduction in vehicle operating costs (VOCs) and reduction in carbon dioxide emissions. Other benefits like transport-related local emissions, accidents, and noise reduction could not be measured with enough certainty and thus were not considered. The main costs considered were investment costs, operation and maintenance costs, and impacts of works during construction, for example, on traffic. The CBA results showed a NPV of US$391 million at a 12 percent discount rate and the EIRR of almost 14.9 percent for the evaluation period of 30-year period. A sensitivity analysis was carried out and considered the combined impact of lower demand (26 percent decline) and higher costs (40 percent increase), and still produced a positive NPV.

At the time of AF, the project's economic analysis was updated to include the increase in civil works (the lowest bid for Component 2 being 44.7 percent higher than estimated at appraisal) and under conservative assumptions, the project's updated net present value (NPV) was US$4.315 billion, with an EIRR of 12.09 percent for a 35-year evaluation period (including five years of construction and 30 of operation). The sensitivity analysis for the updated model calculated the switching values for demand decrease and cost overruns. The sensitivity analysis showed that the project would still remain viable with a combined 150 percent cost increase and a 20 percent demand decrease. The CBA methodology used at the AF time was aligned with the WB Guidelines. The main changes included (a) the updated project cost to reflect the higher-than-estimated cost; (b) the improved definition and justification of a new discount rate; (c) the improved estimate of a new social value of time; and (d) the updated CO2 price.

The ex-post CBA showed that the project achieved an EIRR of 6.42 percent and an NPV (US$ 2016 millions) of US$618 million at the discount rate of 4.8 percent.

| | Discount rate, % | EIRR, % | NPV (US$2016 million) |
|---|---|---|---|
| At appraisal | 12 | 14.9 | 391 |
| At AF | 4.65 | 12.09 | 4,315 |
| At completion | 4.8 | 6.42 | 618.7 |

The ICR (para 41 and table 5) also compared per-km cost with other recent metro projects while admitting the challenge of comparing different design parameters and construction periods. As a result of this comparison, the ICR the Quito Metro Line One’s cost is one of the lowest with high-quality construction. The 22.9-km Quito Metro Line One cost US$93.07 million per km, while the 12-km Sao Paulo Metro Line 5 cost which preceded the Quito project by 3 years cost US$314.57 million per km. However, per-km costs cannot be really compared because of different design parameters used in different metros in those countries.

**Administrative Efficiency**

The project experienced a substantial cost increase and substantial schedule delay (by 60 months) due to the higher-than-estimated costs resulting in the AF and extended implementation schedule (AF PP, p. 36).. Despite extensive value engineering/cost optimizations and renegotiation of the contract to reduce its scope, the final contract price for Component 2 financed by the Bank was 30 percent higher than originally estimated. This higher cost was anticipated at appraisal and the risk considered acceptable. The AF found that the primary cause was an underestimation of indirect costs in the context of Ecuador compared to other countries in the region given relatively high costs of doing business, different profit structures, and potentially higher political and other risk perceptions on the part of bidders. The analysis at the time of the AF also showed that, despite the differences in indirect costs, the price per km of the lowest-evaluated bid was within the lower range in the market for recent metro projects and within the cost variance expected at appraisal.

**The efficiency is rated as Modest** due to (i) substantial cost increases resulting in the AF, (ii) significant (60-months) delay in the project completion and (iii) lower ex-post EIRR than the EIRR which was recalculated at the time of the AF.

### Efficiency Rating

Modest

a. If available, enter the Economic Rate of Return (ERR) and/or Financial Rate of Return (FRR) at appraisal and the re-estimated value at evaluation:

| | Rate Available? | Point value (%) | *Coverage/Scope (%) |
|---|---|---|---|
| Appraisal | ✓ | 14.90 | 70.00<br>☐ Not Applicable |
| ICR Estimate | ✓ | 6.42 | 92.00<br>☐ Not Applicable |

* Refers to percent of total project cost for which ERR/FRR was calculated.

## 6. Outcome

The relevance of the PDO to the current Bank strategy and Government strategy is rated as High; the efficacy of the Original Objective is rated as Modest, and the Revised Objective is rated as Substantial; and efficiency is rated as Modest. Considering these ratings and weighting by the share of disbursements before and after the restructuring, the overall outcome is moderately satisfactory.

| | **PDO and targets before the 2018 restructuring** | **PDO and targets after the 2018 restructuring** |
|---|---|---|
| Relevance of Objective | High | |
| Efficacy | Modest | Substantial |
| Efficiency | Modest | |
| Numeric value of outcome rating | 3<br>(Moderately Unsatisfactory) | 4<br>(Moderately Satisfactory) |
| Disbursements | 200.15 | 232.05 |
| Share of disbursements | 46% | 54% |
| Weighted value | 1.38 | 2.16 |
| Final overall outcome rating | 1.38 + 2.16 = 3.54, rounds up to 4<br>4 (Moderately Satisfactory) | |

a. **Outcome Rating**
Moderately Satisfactory

## 7. Risk to Development Outcome

**Government commitment**. The main risk of sustaining the achieved outcomes lies in the municipality's ability to implement the remaining integration of the surface transport systems with the metro and other complementary investments in land use and transit-oriented development. The municipality has recently approved the Urban Mobility Master Plan which outlines a phased approach for multimodal integration, but it may take a longer time to initiate and eventually implement this Plan in several phases. If the WB proceeds with financing the Quito Metro Line One extension project, the integration activities could be incorporated into the project design either through direct investment or legal covenants to mitigate this risk.

**Social and political risks.** The restructuring of feeder bus routes and inclusion of regular buses into the unified fare collection system cannot be implemented without the support of key stakeholders, i.e., local bus operators. The bus operators have a strong political influence. Substantial efforts and resources would be required from the Municipality to convince the operators in the potential economic benefits of these critical reforms and gain their cooperation and agreement for their implementation.

**Financial sustainability**. Due to the lower than estimated daily ridership at present, the metro is unlikely to recover its operations and maintenance expenses from the fares only. The Municipality of Quito is also highly dependent on the central government's budgetary support. While the municipal government may resort to subsidies, this may not be sufficient in light of the plan for the Line One extension construction and other integration activities yet to be implemented with the government financing.

## 8. Assessment of Bank Performance

### a. Quality-at-Entry

The WB demonstrated its pro-active engagement and flexibility when invited to join a group of the project key stakeholders who were already in an advanced stage of the project preparation. The Bank prepared this complex project with multiple co-financiers in a record time (five months from the concept review meeting to the Board approval) and showed flexibility through the use of the IADB procurement guidelines. It also convinced the IADB to accept the WB's approach to open international bidding for contracts instead of limiting the competition to only firms from member countries of the IADB. The WB recognized the client's weakness in lack of experience in implementing and operating a metro project and included a technical assistance component which was entirely financed by the IBRD loan. the WB recognized a risk of project cost underestimate.

However, due to an extremely short preparation time of this complex project and joining multiple MDBs in an advanced preparation stage, the Bank had little time to reflect and remedy deficiencies in the project design, M&E arrangements, and to advise the client to include critical activities in the identification of an operation model . In addition, the implementation time was overly ambitious for such a complex mass transit project. The Bank also overestimated the client's ability to fully and timely implement some complementary activities outside the project's scope that were critical for the ridership increase. **The Bank performance in ensuring quality at entry is rated as Moderately Satisfactory** with moderate shortcomings.

### Quality-at-Entry Rating
Moderately Satisfactory

## b. Quality of supervision

The Bank demonstrated its proactive engagement during project implementation. It promptly prepared an AF to respond to the cost overruns, triggered new safeguards policies to properly address emerging risks and issues, adjusted the end targets of several indicators to reduce the risk of the PDO underachievement and scaled up the technical studies component (Component 5) to help the client define the operator business model and support the compliant implementation of the safeguards. In addition, the WB also provided significant technical support through mobilization of 9 trust fund grants to support the implementation of this project. These grant-funded activities directly influenced a number of critical outputs and outcomes in the project. One of these activities advised the client in its decision about an operator business model, facilitated the hiring of a Metro operator and carry out preparatory activities to launch the metro services. The WB also played an instrumental role in guiding the client on how to address safeguards issues in a proper and compliant manner, which helped minimize the scale of the issues and prevent them from recurring. For instance, after four fatalities involving the operation of trucks transporting the excavated soil, the WB helped the Municipality and the contractor identify the right measures to improve road and work zone safety and reduce accidents risks. Another trust fund activity executed by the Bank supporting this dialogue and conducted a road safety audit around the metro areas, which led to tangible improvements in street designs for vulnerable road users. The relocation of the last Task Team Leader (TTL) to Quito allowed the TTL to more efficiently and promptly respond to the project's performance and implementation issues.

The project had four restructurings, mainly for the reason of the closing date extension. Since the metro line was not yet launched during those restructurings, the Bank had no opportunity to evaluate the project's progress towards the achievement of the expected outcomes. During those restructurings the Bank failed to realistically predict the impact of complementary activities that were not implemented by the municipality on the Metro ridership, when the Metro would start operating. Despite of the Bank's awareness about the client's inability to implement the two pending integration activities, the Bank did not consider including any adequate measures to mitigate this risk during either of the four restructurings. The technical assistance activities to define an operator business model and advise in the selection of a metro operator were brought into the project scope under the WB's guidance only during the AF in 2018 and were implemented only from 2020. Such a late execution of this critical activity led to multiple project extensions due to the significantly delayed launch of the metro services in the absence of an operator on the ground.

**The Bank performance in the quality of supervision is rated as Moderately Satisfactory** with moderate shortcomings.

### Quality of Supervision Rating
Moderately Satisfactory

### Overall Bank Performance Rating

Moderately Satisfactory

## 9. M&E Design, Implementation, & Utilization

### a. M&E Design

The TOC was not required at the time of project preparation. The RF was well defined and included 14 indicators. Most of the intermediate indicators adequately captured the contribution of the project's activities and outputs toward the achievement of the project's outcomes. Most of the indicators were measurable and had realistic targets. Baseline values were determined for all outcome and intermediate indicators at appraisal. It was agreed that Quito Metro Company who was the main implementing entity would prepare semi-annual progress reports and the municipality would submit those reports to the WB.

The shortcomings included (i) lack of an indicator to measure the air quality improvement which was included in the expanded definition of the PDO (ii) lack of indicators to monitor the progress of the technical assistance activities (Component 5) and their contribution to the outcomes, (iii) two intermediate indicators not linked to any of the project activities, and (iv) unrealistic end targets of the daily ridership outcome.

### b. M&E Implementation

The project regularly reported on the progress towards the achievement of intermediate indicators but not on the outcome-oriented indicators, until the launch of the metro operation. The AF/First Restructuring partially corrected some of the M&E design weaknesses, as it slightly reduced the end target of the outcome-oriented ridership indicator and introduced two new important outcome-oriented indicators. However, the end target of the ridership indicator was never revised and reduced during the last three restructurings despite lack of progress in the two complementary investment activities which were supposed to be executed by the Municipality outside this project's scope. None of the restructurings introduced (i) an indicator to monitor the air quality, which was explicitly referred to in the expanded definition of the PDO, and (ii) indicators to monitor the progress of activities under Component 5, despite a scale up of Component 5 and its contribution to the PDO.

### c. M&E Utilization

The regularly monitored intermediate indicators allowed the project stakeholders to evaluate the progress of the associated components. As lack of progress was noted in the two intermediate indicators linked to the two complementary activities outside the project scope, the end targets for those indicators were downsized, but did not prompt the project stakeholders to either drop them and also reduced the end target of the ridership outcome indicator to which those intermediate indicators were supposed to contribute. The Quito Metro Company continues monitoring most of the outcome-oriented indicators through beneficiary surveys on a monthly basis after the completion of this project. Moreover, the Metro Company continues making improvements in the data collection and monitoring as it appreciates the value of these data for maintaining the high quality of its services and increasing the ridership. The project's M&E design and arrangements are being further refined and improved as the Municipality and the WB are discussing the preparation of a follow-on project which will support the extension of Metro Line One.

### M&E Quality Rating

Substantial

## 10. Other Issues

### a. Safeguards

The project was classified as Category A. The following safeguards policies were triggered: Environmental Assessment (OP/BP 4.01), Physical and Cultural Resources (OP/BP 4.11), and Involuntary Resettlement (OP/BP 4.12). The draft EIA was made available to the public on the WB website on January 10, 2013 and published on the website of the Quito Metropolitan Public Metro Company in 2012 as a part of project preparation with the other MDBs. As a result of a change in the original project design (a new location of 2.6 km line section from the Quitumbe Station), an Environmental and Social Impact Assessment (ESIA) was prepared for this new alignment, disclosed on the client's website on March 24, 2017 and the WB's website on November 21, 2017 (AF PP, p.40). The Resettlement Policy Framework was disclosed both in the country and on the WB's website on June 17, 2013. During the interview, the Task Team informed the IEG that the Project did not have any physical resettlement, but only limited economic resettlement. According to the Task Team, the Resettlement Action Plan (RAP) was disclosed by the Borrower in May 2018 and the RAP Completion Report was disclosed by the Borrower in October 2023 and by the WB on December 15, 2023. The AF/first restructuring triggered Indigenous Peoples (OP/BP 4.10). The Indigenous Peoples Policy Framework was disclosed on the WB's site on May 10, 2018. According to the Task Team, this policy was triggered as a result of the presence of a vulnerable population — Comuna Pagulo —near the Casantopamba 3 landfill. The "Casantopamba Closure Plan" outlines all the mitigation measures implemented. As there was no impact on this community, no Indigenous Peoples Policy Plan was required. Neither the PAD nor the ICR discuss the dates of public disclosures for the project's safeguards documents.

Environmental and social risks remained high throughout the project implementation given the magnitude and complexity of this project. The ICR's conclusion about the safeguards implementation (p. 23, para 70) is that "the environmental and social risks and impacts caused by the project were duly managed and all environmental and social management plans and mitigation actions have been completed in line with Bank applicable safeguard policies, except for three outstanding actions that will be included in a post-closure action plan". Those outstanding issues concern structural and non-structural damages to several houses in the Solanda neighborhood that are allegedly partially caused by the project construction activities and two pending payments of the compensations to the two project-affected people. As both cases are pending the court decision, the amounts have been deposited in the escrow.

The ICR notes 9 work-related fatalities (para 49); four fatalities involved the operation of trucks transporting excavated soil to the landfill. Specific Environmental and Social Corrective Action Plans were developed and implemented to mitigate increased road safety risks from the movement of large trucks on city streets and landfills. The ICR does not report if those accidents were managed in line with the WB's Environment and Social Incident Response Toolkit (ESIRT).

The project was in compliance with the triggered safeguards policies.

## b. Fiduciary Compliance

**Procurement**

The project received waivers from the WB procurement guidelines which authorized the use of IDB procurement guidelines for the single contract in component 2. The PAD confirmed that the IDB procurement guidelines were very well synchronized with the WB's ones and did not increase the level of overall risk. The technical assistance activities under Component 5 were implemented in compliance with the WB Procurement Guidelines for Selection and Employment of Consultants Services.

**Financial Management**

The Task Team informed IEG on September 24, 2024 that most of the external independent audit reports were submitted on time, except for one or two, and no qualified opinions were raised. The fiduciary risk rating was maintained at "high" throughout project implementation in order to maintain continued attention to financial management and compliance with fiduciary standards given a large amount of funds to be disbursed and complexity of co-financing arrangements.

The fiduciary aspects were overall managed in compliance with the FM and procurement guidelines (with the necessary waivers obtained) and adequate attention was given to managing fiduciary risks.

## c. Unintended impacts (Positive or Negative)

**Gender**

The Project paid significant attention to gender issues through addressing sexual harassment in public transport and in contributing to closing the employment gender gap in the transport sector. The project supported a number of technical studies to guide the Borrower on how to address gender related issues.

Specifically, the project supported the implementation of the Zero Acoso Strategy targeting sexual harassment in public spaces. All metro cars were equipped with alert buttons which can be activated by victims or witnesses. When the button is pressed, the communication reaches the station agents and Metro Police, and at the next station, the control agent and police officer will enter the car to help the victim and deal with the harasser. The harassment is administratively sanctioned with a fine equivalent to one unified basic wage, which is around US$460, even if the victim decides not to file a formal complaint. In the first 5 months of the Metro operation with over 20 million trips, only 6 cases of sexual harassment were reported and the metro users rated security 9 out of 10 (ICR, p. 18, para 44). According to the August beneficiary survey conducted by the Municipality, the beneficiaries continue rating security 9.5 out of 10, while women continue representing more than half of the metro riders. This is a major achievement of this project, given that sexual harassment remains a major risk for women on buses.

In terms of closing the employment gender gap, the project included in the Metro operator's contract the requirement to create an organizational and employment plan that would promote equal opportunities for women. The operator's plan included gender-sensitive actions starting from recruitment through career development to encourage a more diverse workforce, strategic partnerships with national universities, and adoption of response protocols and ethics codes of conduct to prevent and address violation of women's rights within the organization. As a result, the operator has achieved positive results: 41.01 percent of employees are women (ICR, Annex 1), which exceeded the project's target of 20 percent, and 50 percent of management positions are taken by women.

### d. Other

**Diversity in the employment in the public transportation**

Due to the operator's commitment to diversity, recruitment efforts were expanded to indigenous people and indigenous women. The ICR (p. 18, footnote 23) reported that as of April 2024, about 8 percent (9 out of 113) of technical positions in the organization were held by indigenous employees and all but one were indigenous women.

**Poverty reduction and shared prosperity**

The ICR (para 48) reported that the PLMQ increased the accessibility of all residents between 8–11 percent. However, this improvement occurred in shorter trips (up to 40 minutes) for higher-income populations living near the city center and in the vicinity of metro stations with greater baseline accessibility and in longer trips (between 60 and 80 minutes) for the lower-income population on the periphery of the city with lower baseline accessibility. The population living in peripheral areas, particularly in the south, saw increases of 9 percent on longer trips of 50 minutes or more, allowing them to access more than 3,000 additional opportunities with the completion of the PLMQ than they could before the project in the same amount of travel time.

## 11. Ratings

| Ratings | ICR | IEG | Reason for Disagreements/Comment |
|---|---|---|---|
| Outcome | Moderately Satisfactory | Moderately Satisfactory | |
| Bank Performance | Moderately Satisfactory | Moderately Satisfactory | |
| Quality of M&E | Substantial | Substantial | |
| Quality of ICR | --- | Substantial | |

## 12. Lessons

**If a project has multiple co-financiers, the availability of a well-defined framework with their clear responsibilities and commitments from the start may contribute to effective coordination between co-financiers and reduce the risk of implementation delays due to possible disagreements on key issues.** This Quito Metro project had several financiers who, together with the Quito Municipality and GoE, co-signed the Principles of Coordination (PoC) at the launch of this project, while each of these financiers signed separate financing agreements with the Municipality. The PoC laid out a clear framework for the fiduciary and safeguards implementation arrangements, as well as integrity and conflict resolution mechanisms. It was the first project where the WB agreed to use another MDB's procurement guidelines (IDB's in this case), while the other MDB agreed to waive its procurement provision that only firms from member countries could participate in the bidding process and accepting the WB's approach to an open international bidding. Close and effective coordination between the financiers was critical in the implementation of this mega project.

**If a TA to identify a business operator model and select a metro operator is not defined upfront to help the Borrower which has never implemented a similar metro project, the project risks delaying the launch of the metro services and achievement of the expected outcomes.** Because such a TA was included only during the first restructuring in 2018 and implemented later during 2020-2022, the metro services could not be launched due to the absence of a metro operator. Hence, the project required three more extensions of the closing date after the first restructuring, until the metro started its operation and the expected benefits could be realized.

**Well-prepared safeguards assessments may minimize implementation delay risks.** Because not only feasibility studies and detailed designs, but also safeguards assessments underwent independent reviews, that allowed carefully selecting the alignment that minimized social impacts and avoided physical resettlements. As no large-scale resettlements were needed, the construction works started on time and, in general, went through any

**If the project's expected outcome is dependent on complimentary investment activities to be financed/implemented outside the project scope, there is a high risk of that outcome may not be achieved due to lack of the project's direct control of those activities.** Restructuring of metro feeder routes and the integration of entire bus fleet operating under the unified fare collection system are important to increase metro ridership. However, these activities were supposed to be executed by the Municipality outside this project's scope and eventually did not happen, which negatively affected the achievement of several dependent outputs and increase in the daily ridership outcome. The end targets of relevant outcome and interim indicators shall be set realistic and not dependent on the delivery of activities outside the project's scope.

## 13. Assessment Recommended?

Yes

Please Explain

This project is a good candidate for thematic or cluster evaluation on a modal shift. This project was designed to and supported a modal shift from private vehicles and buses to the metro. The results for modal shift reported in the first five months of the metro operation were again confirmed 8-9 months later after the Metro service launch. The Quito Municipality conducts monthly surveys to assess trends in ridership, modal shifts and levels of satisfaction among metro users in different aspects.

This project is also recommended for evaluation of gender-related impacts: employment and travel safety. The project made impressive achievements in addressing gender issues within less than a year since the launch of the Metro operation. Female employees represent 40 percent of the Metro operator's workforce, with 50 percent of management positions taken by women. Moreover, the evaluation can expand to assess the employment impact on indigenous people, as 8 percent of technical positions were taken by indigenous people in the Metro operator company and all, but one, of these positions were taken by indigenous women.

Safety for female riders on public transportation is a serious issue in the Latin American countries. This project made a commitment through its outcome indicators to ensure safety and security for all metro riders, including women. The results reported in the ICR confirmed a high level of satisfaction with safety and security among women – 97.50 percent. With alert buttons installed in every train, only six sexual harassment cases were reported out of over 20 million trips in the first 5 months of the Metro operation. The August 2024 survey reported that users who were surveyed online and in person continued rating metro safety and security at 9.5 on the scale from 1-10, which is an increase by half point from the first five months. As the share of female riders has increased from 49 to 59 percent as reported in the August 2024 survey, along with the increase in the overall ridership, that confirms that women feel safe to use the metro.

Learning from this transport operation on how to increase female employment in the male-dominated transport sector and improve safety and security for female riders on the public transportation is important for future operations in the public space not only in this country but also for other countries experiencing similar gender issues. Evaluations of modal shift and gender related experiences in this project would benefit the Transport GP's urban mobility pipeline which keeps growing.

## 14. Comments on Quality of ICR

Overall, the ICR is well and clearly written, follows the majority of the guidelines, provides a detailed overview of the project, focuses on results and uses a lot of evidence from many credible sources, appropriately referenced, to analyze the efficacy and efficiency of the project. The project's TOC is well reconstructed and is helpful to understand how the ratings have been reached. The ICR is candid in the assessment of factors during the project preparation and implementation, development risks, M&E shortcomings, and Bank performance. The ICR provides specific and useful recommendations for future projects based on the project's experience.

The ICR has some minor shortcomings. The safeguards section lacks conclusion if the project was in compliance with all triggered policies. It would have been also useful to include in the financial management discussion regarding the timeliness of external audits and if there were any qualified opinions.

**The overall quality of the ICR is rated as Substantial**.

### a. Quality of ICR Rating

Substantial