Report Number: ICRR0021923

1. Project Data

Project ID P117731	**Project Name** Ethiopia-Transport Sector Project	
Country Ethiopia	**Practice Area(Lead)** Transport	
L/C/TF Number(s) IDA-51550	**Closing Date (Original)** 30-Apr-2019	**Total Project Cost (USD)** 262,666,330.62
Bank Approval Date 25-Sep-2012	**Closing Date (Actual)** 26-Oct-2018	

	IBRD/IDA (USD)	Grants (USD)
Original Commitment	415,000,000.00	0.00
Revised Commitment	290,905,980.56	0.00
Actual	262,666,330.62	0.00

Prepared by	Reviewed by	ICR Review Coordinator	Group
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2. Project Objectives and Components

a. Objectives

The Project Development Objective (PDO) as stated in the Credit Agreement (Schedule 1, page 5) and the Project Appraisal Document (PAD, page 4) was **"to improve the condition of priority regional corridors and link roads, being upgraded under the project".**

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

No

c. Will a split evaluation be undertaken?

No

d. Components

There were two components (PAD, page 6).

1**. Upgrading of Regional and Link Roads**. The cost at appraisal was US$374.02 million (US$336.6 million from IDA financing and US$37.4 million from counterpart funding); actual cost was US$259.7 million. (The actual cost was lower for reasons discussed below in section e). This component provided financing for upgrading five selected regional and link roads, for a total length of 434.5 kilometers (Km). The roads were: (a) Ambo - Weliso, 63.8 km to Asphalt Concrete (AC) standard; (b) Debre Birhan - Ankober, 42.0 km to AC standard;(c) Kombolcha - Bati - Mille, 130 km to AC standard;(d) Mizan - Dima, 91.6 km to AC standard; and (e) Konso - Yabelo, 107.1 km to AC standard.

2. Support to modernize the Ethiopian Roads Authority (hereafter referred to as the ERA). The cost at appraisal was US$10.0 million (US$9.0 million from IDA financing and US$1.0 million from counterpart funding); actual cost was US$3.0 million. This component aimed at strengthening ERA's implementation capacity in following areas: contract management, audits, asset management through output and performance-based contracting and support for preparing follow-on projects, including environmental and social impact assessments.

The project also included physical contingencies (US$38.4 million) and price contingencies (US$ 38.9 million).

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

Project cost. The estimated cost at appraisal was US$461.1 million. Revised estimate was US$290.9 million. The reasons for the revision are provided below. The actual project cost was US$262.7 million.

Project financing. The project was financed by an IDA grant of US$415.0 million. About 25% of the grant (US$103.2) was cancelled. Revised estimate of the grant was US$290.9 million. The amount disbursed was US$262.6 million. The reason for the discrepancy between the revised estimate and actual disbursement was due to significant exchange rate changes during implementation.

Borrower contribution. Counterpart funding was estimated at US$46.1 million. According to the clarifications provided by the team, the Borrower contributed US$13.3 million during implementation for activities pertaining to resettlement.

Dates. The project was approved on September 25, 2012, became effective four months later on January 25, 2013 and was scheduled to close on April 30, 2019. The project closed six months earlier than the scheduled closing date on October 26, 2018.

Other changes.These changes were made through a Level 2 restructuring on October 24, 2018.

(i) There were major environmental and social safeguards issues with the road upgrading activities on a road segment - Mizan-Dima road (discussed in section 10a). The ERA prepared a new environmental and social safeguards plan, that was approved by the Bank. Due to delays in implementing the plan, the Bank in January 2018, suspended disbursements on the grant. This resulted in the cancellation of 25% of the grant.

(ii) The poor performance of the contractors led to the termination of the contract on the Ambo- Wolliso road. Following this termination, the ERA decided to procure new contracts and complete the activity using its own resources.

(iii) The closing date for the project was preponed by six months, at government request.

3. Relevance of Objectives

Rationale

Country context. Ethiopia, a landlocked country in the Horn of Africa, with a per capita income of US$377.0 in 2009/2010, is one of the poorest countries in the world. Ethiopia's economy is mainly agrarian and 80% of its export earnings come from the agricultural sector. Given its geographical location, road sector investments were a crucial component of the government's program for sustained poverty reduction at the household, regional and national levels.

Government strategy. The PDO was well aligned with the government's five-year plan, articulated in the " *The Growth and Transformation Plan* " for 2010-2015. The plan highlighted the need for expanding the road network, as central to the growth agenda. The PDO was consistent with the government's Road Sector Development Program (RSDP). This program identified the priority investments in the road sector and highlighted the need for reforms to modernize the sector.

Bank strategy. The PDO continues to be relevant to the Bank’s strategy. The first pillar of the Country Partnership Strategy (CPS) for 2013-2016, highlighted the need for fostering competitiveness and employment, through increasing and improving delivery of infrastructure (CPS, page iii).The PDO was also consistent with the Bank's New Africa Strategy issued on February 2011. A pillar of the strategy highlighted the need for improving competitiveness and employment at the regional level by improving the key transport and trade corridors. The First Focus Area of the Bank's current Country Partnership Framework (CPF) for the 2018-2022 period, underscored the need for boosting productivity and private sector development for structural transformation, through improving spatial connectivity and through connecting production centers to markets and connecting secondary cities (CPF, page 30).

Previous Sector Experience. The Bank has a long history of engagement with Ethiopia, including through financing five road sector projects. The prior road projects financed by the Bank and other donors primarily focused on rehabilitating federal roads. This project focused on the government's priorities of improving regional arterial and link roads, including through the trade corridors. This project was built on the Bank’s long-standing partnership with Ethiopia in the transport sector and intended to form an integral part of the Bank’s assistance program to continue progress made under the preceding APL series and to support the Roads Sector Development Program in its fourth stage (ICR para 2).

Although the project activities were relevant to the government and Bank strategy, the PDO did not capture activities associated with the institutional strengthening of the project. There were no key outcome indicators for activities pertaining to modernization of the Ethiopian Roads Authority. Because of this shortcoming, the relevance of PDO is rated as substantial.

Rating

Substantial

4. Achievement of Objectives (Efficacy)

OBJECTIVE 1

Objective

To improve the condition of priority regional corridors and link roads, being upgraded under the project.

Rationale

Theory of change. The project activities combined civil works activities (upgrading regional and link roads) with institutional strengthening activities (modernizing the ERA). The causal links between the project activities, their outputs and outcomes were logical. Upgrading regional and link roads along with capacity building of ERA, were likely to improve the condition of priority regional trade corridors and link roads and thereby contribute to the long-term development outcome of improving connectivity to the secondary cities and enhancing regional growth. One shortcoming in design was the lack of key outcome indicators associated with the institutional dimension of the project.

Outputs (ICR, page10-11 and 24-29).

- 320 kilometers (km) of roads in total were upgraded to date. This represented 73% of the target of 434.5 km. Of the five road segments one segment - the Kombolcha - Burka - Millie road (133 km) was fully completed; and two were partly completed. These were: Mizan-Dima road (77 km against the target of 92 km) and Konso -Yabello road (95 km against the target of 105 km). The contracts for the remaining two segments - the Ambo-Wolliso and the Debre Birhan - Ankober roads - were terminated. The ICR reports that the contracts for these roads were re-bid and are expected to be completed using government funding.

- Five supervision contracts were awarded as targeted and all contracts were delivered within 25% of the originally estimated time and cost.

- These technical assistance activities were delivered as targeted: (i) Manual of quality assurance and supervision services; (ii) Guidelines of risk management, price adjustment, gap analysis and works contract management; (iii) Manuals of claim and dispute management; (iv) Guidelines of work program evaluation and monitoring; (v) Report on technical auditing of selected design and construction projects; (vi) Report on review of design documents and identifying major gaps; (vii)

Procurement manual and guidelines; and (viii) Report on review of the current quality of design and accountability of the systems for the completed works. The outputs of these technical assistance activities were used for re-contracting the works following the termination of the previous contractors.

- Four contracts for the repair and maintenance of four roads using the output and performance based road contract, were not implemented using Bank financing as envisioned. These activities are expected to be completed using government financing.

- Feasibility studies and designs for follow-on projects (including environmental and social impact assessments) were not implemented, due to the delays in identifying priority projects.

- 18 people were trained at project closure, slightly short of the target of 20.

Outcomes

- As a result of institutional strengthening and project investments, the rural accessibility index increased from 17.8% (baseline) to 37% at project closure, sightly short of the target of 40%.
- 1,983,357 people benefited from project activities at closure, slightly above the baseline of 1,943,400 and short of the target of 2,325,900 (beneficiaries were mostly rural population, and to a limited extent, urban population in the vicinity of the road corridors). About 50% of beneficiaries were women.
- The target for “travel and turnaround time of heavy goods vehicle on the Addis-Mille Djibouti trade route” was not achieved, despite improvements on this road segment. The ICR (paragraph 22) notes that other parts of the Addis-Djibouti corridor (in the territory of Djibouti) had deteriorated during the project period, and hence there was no reduction on the total travel and turnaround time on this route.
- Average travel speed measured on the completed road sections (excluding the two roads terminated at closing), improved from 23 km per hour at the baseline to 70 km/hour, short of the target of target of 80 km/hour.
- As indicated above, there were no key outcome indicators associated with the institutional strengthening dimension of the project.

Rating
Modest

OVERALL EFFICACY
Rationale
At project closure, given that three of the five road segments were not fully completed and the works on the fifth one had not begun, most of the original targets were not realized. The unfinished work on two corridors were expected to be completed by the ERA.

Overall Efficacy Rating	**Primary Reason**
Modest	Low achievement

5. Efficiency

Economic analysis. At appraisal, a cost-benefit analysis was conducted for the five road segments, using the Highway Design Model (HDM-4). These segments accounted for 81% of the appraisal estimate and 99% of the actual cost. The expected economic benefits were assumed to come from savings in vehicle operating costs and travel time savings on the Addis-Djibouti corridor route. The *ex-ante* Economic Rate of Return (ERR) was 14.2% for asphalt concrete option and 15.9% for surface treatment option (PAD Annex 6, page 80). The PAD noted that despite the higher economic justification of the surface treatment option, the project would finance an asphalt concrete pavement on these roads because the project roads were in areas with long wet seasons and some stretches of expansive soil. Hence, there is higher tendency for surface water to percolate into the pavement structure leading to earlier deterioration of the road. The *ex-post* ERR for the three completed road segments (the Kombolcha-Burke- Mille Road, the Mizan-Dima road and the Konso-Yabello road), were 29%, 32% and 45%, as compared to their *ex ante* EIRR of 15%. While the efficiency was higher on the completed roads, the other roads were not complete when the project closed, undermining the efficiency of the entire project.

Administrative and Operational inefficiencies. Although the project was prepared in short time (project concept note in January 2012, appraisal in July and Bank approval in September), there were major delays with all five contracts in the initial years. The delays were due to a combination of factors, including poor contractor performance, environmental issues, safeguards compliance issues at a quarry site which caused a partial suspension of the credit in January 2018 and this continued till the project closed. The delays contributed to the termination of contracts for two of the five road segments, which are now expected to be completed using government funds. These delays contributed to the cancellation of part of the Bank credit and non-realization of outcomes. According to the clarifications provided by the team, about 98% of the Debre-Birhan-Ankober road and 52% of the Ambo-Wolliso road has been completed to date. There were pending issues when the project closed, such as compensation to the family of victims of fatal accidents (discussed in section 10a).

In sum efficiency is rated as modest, mainly on account of the administrative and operational inefficiencies, which contributed to the non-completion of activities and partial achievement of all the PDO indicators.

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	✓	15.00	81.00 ☐ Not Applicable

ICR Estimate	✓	35.30	0 ☑ Not Applicable

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

6. Outcome

Relevance of the PDO to the government and Bank strategy is rated as substantial. Efficacy of the single objective - "to improve the condition of priority regional corridors and link roads, being upgraded under the project "is rated as modest, given that only 73% of the targeted length of roads at appraisal were improved, and partial achievement of all the PDO indicators. Efficiency is rated as modest, given the administrative and operational inefficiencies during implementation. Taking these ratings into account, outcome is rated as moderately unsatisfactory, reflecting significant shortcomings in the project's achievement of its objectives and in its efficiency.

a. Outcome Rating

Moderately Unsatisfactory

7. Risk to Development Outcome

There are three key risks to development outcome:

Technical risk. Although performance-based maintenance contract was not signed under this project, the Ethiopian Roads Authority (ERA) has prepared and awarded four contracts in 2016 for the repair and maintenance of four roads using an output and performance based roads contracts, from another project supported by the Bank (RSSP – P13118). However, although the technical consultants had delivered a number of reports to enhance the capacity of ERA with respect to contract and project management practices, technical audits and quality management, it is not evident that the capacity of ERA has been enhanced.

Institutional risk. There is ongoing risk to project activities, given that two of the five road segments were terminated. This risk is rated as moderate, given that the contracts were rebid and awarded and are to be completed with funding from the Ethiopian Roads Authority.

Government ownership and commitment. There are risks associated with the sustainability of the improved road network, as it is not clear if there are appropriate arrangements for maintenance of the rehabilitated road network.

8. Assessment of Bank Performance

a. Quality-at-Entry

This project was prepared based on the lessons from the prior five Bank-financed Road Sector Development projects (including three stand-alone Investment Financing Projects and two stages of Adaptable Program Lending in 2012). Lessons incorporated at design, included addressing issues associated with a frequent staff turnover of ERA, through outsourcing more services to external consultants with technical expertise. Several risks were identified at appraisal, including substantial risks associated with design (prior projects had cost overruns) and compliance with environmental and social safeguards. The Ethiopian Roads Authority (ERA), a legally autonomous federal road agency, was in charge of implementing the project (PAD, paragraph 26). This arrangement was appropriate, given ERA's good track record of implementing Bank-financed projects. Appropriate arrangements were made at appraisal for fiduciary compliance (discussed in section 10b).

There were major shortcomings at Quality-at-Entry. One, as discussed in Section three, although support to modernization of the ERA was an integral project component, the PDO statement “to improve the condition of the priority regional trade corridors and link roads, being upgraded under this project”, was not outcome-oriented but output-based. There were no key outcome indicators aimed at monitoring the institutional dimension of the project. Two, there were other shortcomings in M&E design (discussed in section 9a). and Three, several roads projects financed by the Bank in the past In Ethiopia, had revealed gaps in Environmental and Social (E&S) safeguards management due to a combination of factors, including delays and shortcomings in the adequacy and quality of compliance in civil works contracts, weakness in contractor's organizations and quality of supervision. These risks were sought to be mitigated in this project through mitigation measures such as, early preparation of safeguard documents during implementation and technical assistance for enhancing ERA's capacity for monitoring compliance with E&S safeguards. These measures proved to be inadequate and compliance with E&S safeguards was a major issue during implementation. Environmental issues during implementation, led to complaints from a nearby village on resettlement compensation values about excessive dust emissions, blasting impacts from a quarry site and physical loss to properties during November 2015 to April 2016 and issues relating to occupational health and safety, some of which resulted in fatal accidents The delay in the completion of the Action Plan requested by the Bank to address these critical issues eventually led the Bank's decision to partially suspend disbursements on January 2018 (also discussed in detail in section 10a).

Quality-at-Entry Rating
Unsatisfactory

b. Quality of supervision

There was regular supervision during implementation. The location of the supervision team in Addis Ababa allowed the team to follow up on safeguards issues (regarding Mizan-Dima contract) and conduct safeguards training and diagnostic reviews. The ICR notes that the team spent substantial time reporting and discussing with Bank Management to advise ERA on how to address the issues (ICR para 61). The supervision team supported the ERA in addressing technical issues and monitoring fiduciary and safeguards aspects throughout implementation.

However, there were significant shortcomings in supervision associated with procedural issues: (i) During the six years of implementation, there were only five aide-memoires and mission records, and there was no record of discussions of the team since the last aide-memoire in December 2016, until project closing in

October 2018. This timing (late 2016) coincides with time that the key project ratings (PDO and Implementation Progress) had started to be downgraded to show warning signs about the project, at which time the supervision records of the project activities should have been strengthened, rather than loosened. According to the clarifications provided by the team, although Implementation Status Results Reports were not recorded frequently, supervision missions were held in January 2017, October 2017, February 2018 and June 2018) with correspondence and meetings with the client, and further technical site visits associated with the Mizan-Dima road; (ii) The scheduled Mid-Term Review was not conducted, and this precluded the scope for addressing critical issues and taking corrective action during implementation: and (iii) Despite the Bank taking actions for correcting the environmental issues in the Mizan-Dima quarry site, these were not fully resolved when the project closed (discussed in section 10a).

Quality of Supervision Rating
Unsatisfactory

Overall Bank Performance Rating
Unsatisfactory

9. M&E Design, Implementation, & Utilization

a. M&E Design
Of the five key outcome indicators associated with monitoring performance of the civil works aspects of the project, four were appropriate. This included three core indicators - the percentage of population within two kilometers of an all reason road, direct project beneficiaries disaggregated by gender and the indicator for measuring the average travel time on subject roads at completion compared with pre-construction baseline.

The indicator "reduction in the travel and turnaround time of heavy goods on the Addis-Mille-Djibouti trade route" was inappropriate, given that the reduction would also depend on the condition of the road network on the other part of the corridor which was in Djibouti. There were no key outcome indicators (such as a beneficiary survey) for monitoring activities associated with strengthening the capacity of ERA.

The PAD (paragraph 32) notes that with finance from the European Commission and from the Government, ERA had engaged a consultant to update the Road Sector Development Program (RSDP) performance and Millennium Development Goals transport indicators and that total of 47 indicators were now monitored annually.

b. M&E Implementation
The project team clarified that ERA produced Annual reports that monitored the overall performance of the RDSP. The ICR (paragraph 50) notes that although the data collected by the ERA were deemed to be adequate, lack of a clearly defined methodology undermined the reliability of the data.

c. M&E Utilization

The ICR (paragraph 50) notes that the M&E data utilization for assessing the intermediate performance and results was not effective as most of the indicators were associated with the final outputs (that is, road improvements) and could not capture the outcome.

M&E Quality Rating

Modest

10. Other Issues

a. Safeguards

The project was classified as a Category A project for the World Bank's safeguard policies; Five safeguard policies were triggered at appraisal: Environmental Assessment (OP/BP 4.01): Natural Habitats (OP/BP 4.04): Forests (OP/BP 4.36): Physical Cultural Resources (OP/BP 4.11): and Involuntary Resettlement (OP/BP 4.11). Environmental and Social Impact Assessments (ESIA) and Resettlement Action Plans (RAP) was prepared for each of the road segments and publicly-disclosed at appraisal (PAD, paragraph 58).

Environmental Safeguards. The ICR (paragraph 52) notes that the environmental and social management was deemed to be unsatisfactory. The ICR (paragraph 42) notes that there were major environmental aspects related to the crusher plant at the quarry site of Biftu. Complaints were received from the nearby village on resettlement compensation values, the impact of excessive dust emissions, and damages to properties during November 2015- April 2016. The Bank, following the complaints, requested for a full assessment and a time-bound Action Plan to address the issues. The ICR (paragraph 53) notes that some of the critical actions of the plan were not implemented and this eventually led to the partial suspension of disbursements in January 2018 and this suspension continued until the closing of the credit in October 2018.

There were several issues in other contracts relating to occupational health and safety, some of which resulted in fatal accidents. The ICR (page 19) notes that there were 19 fatal accidents during the construction period (2 fatalities under Kombolcha-Mille, 4 fatalities under Konso-Yabello, 7 fatalities under Mizan-Dima, 6 fatalities under Ambo-wolliso during the construction periods). A Health and Safety Action Plan was prepared to improve the situation. The ICR (paragraph 45) notes that the implementation of the plan was expected to be completed by the end of March 2019.

Involuntary resettlement. The ICR (paragraph 42) notes that following the complaints by the nearby village, more that 95% of the complainants obtained appropriate compensation for the damages.

The ICR does not report on implementation status of other safeguards such as Natural Habitats (OP/BP 4.04); Forests (OP/BP 4.36):); Physical Cultural Resources (OP/BP 4.11).

b. Fiduciary Compliance

Financial management. An assessment of ERA's financial management capacity was conducted at appraisal (PAD, paragraph 29). ERA had prior experience with implementing Bank-financed projects. The assessment concluded that the financial management arrangements of ERA were deemed to be satisfactory.

The ICR (paragraph 58) notes that financial management was satisfactory. The ICR (paragraph 58) notes that the financial management system provided reasonable assurance that the credit proceeds were properly recorded, although there were some issues during implementation, such as: (i) maintaining expenditure budget in addition to cash budget; (ii) financial reporting with budget variances in the statement of budget versus uses of funds; and (iii) closure of entity audit issues.

Procurement. An assessment of the ERA's procurement capacity was conducted at appraisal. This assessment concluded that the procurement risk was substantial, and a procurement plan was prepared at appraisal (paragraph 70 and 71.

The ICR (paragraph 56) notes that procurement performance was satisfactory.

c. Unintended impacts (Positive or Negative)

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d. Other

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11. Ratings

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

12. Lessons

The ICR draws the following main lessons from the experience of implementing this project, with some adaptation of language.

(1) The civil works contracts, pertaining to social safeguards (such as land acquisition, resettlements and compensation), and utility relocation timeframe and arrangements need to be thoroughly assessed at preparation, to avoid suspension of works during implementation. At the time of appraisal, the three contracts were ready for implementation. However, there were delays in executing all contracts for different reasons such as environmental issues at the quarry site and delays due to right of way issues. These factors eventually led to the termination of contracts and cancellation of the part of the credit.

(**2) Opportunities for partial cancellation/extension need to be carefully considered, in case of "multi-packaged independent road sub-projects”.** This project entailed rehabilitation of five independent road segments. When some of the sub-projects caused delays or serious problems to the whole project, the possibility of a partial cancellation needs to be considered before closing the entire project. This project was closed six months earlier than the original closing date due to the substantial delays and terminations of contracts for two road segments. Partial cancellation for these sections, would have enabled financing for the rest of the project roads toward the original closing date.

(3) The PDO indicators need to be designed to reflect only the achievements under control of the project. One of the key indicators in this project “travel and turnaround time of heavy goods on Addis-Mille Djibouti trade route” was clearly outside the project scope (in the territory of Djibouti). The results indicator should be designed to reflect the intervention under the project’s control.

(4) The institutional strengthening aspect of the project should be captured in the PDO. In this project, there were no key indicators for monitoring the project activities associated with strengthening the ERA's institutional capacity.

13. Assessment Recommended?

No

14. Comments on Quality of ICR

The ICR is concise and well-written. The ICR candidly discusses the issues associated with safeguards compliance and the failure to follow procedural aspects during supervision. It also acknowledges that this was a serious shortcoming, given the experience of prior Bank-financed road sector projects in Ethiopia. The various parts of the report are well integrated. The lessons are based on clear analysis and drawn from the specific experiences of the project. The ICR is consistent with the guidelines, both with respect to ratings and the performance narrative.

On the other hand, the details provided in the ICR on M&E implementation and fiduciary management is very sparse. More details on these aspects would have contributed to a better and comprehensive ICR. The ICR does not report on implementation status of other safeguards such as Natural Habitats (OP/BP 4.04); Forests (OP/BP 4.36); Physical Cultural Resources (OP/BP 4.11).

a. **Quality of ICR Rating**
Substantial