Report Number : ICRR0021110

1. Project Data

Project ID	Project Name
P090135	NG-Federal Roads Development
Country	**Practice Area(Lead)**
Nigeria	Transport & Digital Development

L/C/TF Number(s)	Closing Date (Original)	Total Project Cost (USD)
IDA-44150,TF-56896	31-Dec-2016	365,000,000.00
Bank Approval Date	**Closing Date (Actual)**	
03-Apr-2008	30-Jun-2017	

	IBRD/IDA (USD)	Grants (USD)
Original Commitment	330,000,000.00	3,000,000.00
Revised Commitment	330,000,000.00	2,379,121.82
Actual	301,133,498.55	2,379,121.82

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

a. Objectives

According to the Financing Agreement dated November 24, 2008 (page 5), the objectives of the project were to:
(i) reduce passenger travel times, road related fatalities and vehicle operating costs on targeted federal roads in the Recipient’s territory; and
(ii) strengthen the Recipient’s capacity to manage its federal road infrastructure and assets in a sustainable manner.

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

Did the Board approve the revised objectives/key associated outcome targets?
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c. Will a split evaluation be undertaken?
No

d. Components

Component A: Rehabilitation, Upgrading and Maintenance of Phase I Unity Roads Program (original cost US$329 million, revised allocation after restructuring US$281 million, actual cost US$252.66 million). This component consisted of rehabilitation, upgrading, and maintenance of 636 km of the federal road network under the Output and Performance-based Road Contract (OPRC). This component would also provide: (i) consultancy services for preparation (design and engineering) packages for the three unity program roads, i.e., Lagos-Shagamu-Ibadan road (126.5 route km); Abuja-Kaduna-Zaira-Kano road (402.5 route km); and Enugu-Abakaliki-Mfum road (140 route km); (ii) monitoring consultancy services for OPRC when awarded; and (iii) annual technical and financial audits and institutional review/audit.

Revised component

The project was restructured in 2011 and the OPRC contracting approach was dropped in favor of the approach of the Internationale des Ingénieurs Conseils (FIDIC) (International Federation of Consulting Engineers). The revised component included:
(i) Rehabilitation of 442 km of the federal road network to be constructed under FIDIC method. Also, the two original roads “Lagos-Ibadan” and “Abuja-Kaduna-Kano” were withdrawn.

(ii) Upgrading and maintenance of 340 km of the federal road network spread over the country along 14 road sections. These roads were selected from a long list of roads based on strategic importance, which included the ability to improve access to agricultural communities along the road, and improved transportation of food items and other natural resources.

Component B: Institutional Strengthening and Policy Reform (original cost US$36.0 million, revised allocation after restructuring US$29 million, actual cost US$28.89 million). This component would support the implementation of the long overdue road sector reform, including: (i) the setting up of a Road Fund, the National Roads Board, and a Federal Roads Authority; (ii) strengthening and capacity building of the new institutions to provide effective and efficient management of Nigeria’s road assets; (iii) assisting in the creation of the enabling environment for long-term Output and Performance-based Road Contracts; and (iv) strengthening of the Federal Road Safety Commission to increase enforcement of safety-related laws in areas like speeding, seatbelt usage and impaired driving.

Revised component

The project was restructured in 2011 and the creation of the Road Fund, the National Roads Board and a Federal Roads Authority was dropped. This component was revised to provide support for institutional strengthening and policy reforms in the road sector including:

- development of a road sector policy program and setting up of a road sector database to document the inventory of the Recipient's road assets,
- carrying out of road sector management reform,
- carrying out urban transport and other relevant studies,
- carrying out of a program of activities to strengthen the institutional capacity of governmental institutions and relevant professional bodies,
- development of an asset management system in the Federal Roads Maintenance Agency,
- implementation of the Road Sector Governance and Integrity Action Plan,
- review and implementation of national road design standards and axle load control,
- calibration and adaptation of "Highway Development and Management Model 4", and
- provision of technical assistance, goods and operating costs to the Recipient to coordinate the day-to-day implementation, procurement, financial management, monitoring, evaluation and auditing of the Project.

Component C: Road Safety Improvement (no original allocation, allocation after restructuring US$20 million, actual cost US$19.67 million). Road safety improvement, which was a sub-component of the original Component B, was scaled up to a full component when the project was restructured. The component would support the Federal Road Safety Corporation (FRSC) to pilot the "safe corridor" approach on the project roads, as well as other high traffic roads. The safety component of the safe corridor approach would finance training, capacity development, vehicle and other equipment, with a specific focus on: (a) safe corridor intervention on four project corridors; (b) safe corridor intervention in Abuja-Kano Expressways; (c) safe corridor intervention on Abuja City Expressways; and (d) capacity building and training for FRSC staff.

The project would also finance: (a) pedestrian over-bridges at six locations; and (b) investments in traffic management, including street markings, intersection improvements, street lighting, etc., with the objective of improving road safety and traffic flow.

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

Project Cost: The actual cost was US$301.3 million, lower than the appraisal estimate of US$330.0 million. The ICR does not discuss the reasons for the decrease in costs.

Financing: The actual IDA financing was US$301.12 million, lower than the appraisal amount of US$330.0 million. The government of Japan provided a grant of US$2.49 million, slightly lower than the appraisal commitment of US$3.0 million.

Borrower Contribution: The total actual borrower contribution was US$31.34 million, slightly lower than the appraisal commitment of US$32.0 million.

Dates: The project was extended by six months and closed on June 30, 2017 to allow for the completion of the Road Asset Management Systems sub-component under Component B.

3. Relevance of Objectives

Rationale

The first objective of the project--to “reduce passenger travel times, road related fatalities and vehicle operating costs on targeted federal roads in the Recipient’s territory”--is aligned with the first strategic cluster of Nigeria’s Country Partnership Strategy (CPS) for the period FY14-17. This cluster aims at promoting diversified growth and job creation by reforming the power sector, enhancing agricultural productivity and increasing access to finance. The CPS identified improvements in road infrastructure (together with energy information and communication technology among others) as one of the binding constraints to Nigeria’s economic development. Deteriorated infrastructure increases transport costs for farmers and agro-business, which in turn lowers their productivity. It also affects human capital, as poor households can neither send their children to local schools nor access social services provided in health or community centers.

Under the third strategic cluster "strengthening governance and public sector management", the CPS focuses on improving efficiency of the government machinery at both federal and state levels. This is directly related to the project's second objective--to “strengthen the Recipient’s capacity to manage its federal road infrastructure and assets in a sustainable manner”.

The project was closely aligned with the government’s priority in the roads sector and supported the first phase of the government’s Unity Roads Program.

Rating
Substantial

4. Achievement of Objectives (Efficacy)

Objective 1
Objective
Reduce passenger travel times, road related fatalities and vehicle operating costs on targeted federal roads in the Recipient’s territory.

Rationale
The results chain underlying the theory of change indicated that the rehabilitation and upgrading of selected unity roads and adoption of safe corridor approach, are causally linked and would lead to the reduction in passenger travel times, road-related fatalities, and vehicle operating costs.
Outputs

Rehabilitation and upgrading of roads:

- The project investments rehabilitated 300 km of roads, which was lower than the target of 442 km. About 70% of the rehabilitation target was achieved. One out of the five federal roads selected (Gombe-Biu, 117km) could not be rehabilitated because of insufficient funds.

- The project investments upgraded 288 km of roads, which was lower than the target of 340 km. About 85% of the upgrading target was achieved. According to the ICR (page 26), the actual length on the ground was lower than what was appraised.

Road safety:

- The Federal Road Safety Corporation (FRSC) implemented the safe corridor approach in four out of five corridors. The fifth could not be implemented due to shortage of funds.

- Six pedestrian over-bridges were constructed as targeted.

- Traffic management measures to improve road safety were implemented. These included: road markings and solar powered road studs and upgrading of existing traffic signals to solar powered signals.

- A comprehensive training programme was implemented for 216 Federal Road Safety Commission (FRSC) officers of varying cadres over a period of six months, covering a total of 47 courses.

- FRSC officers completed an Advanced Highway Patrol Enforcement training programme at the California Highway Patrol Academy, USA.

- One hundred FRSC officers completed a first responder/paramedic training course at the new trauma center, at National Hospital Abuja (the first of such facility in the country).

Outcomes

The project achieved the sub-objective of reducing passenger travel times. The average travel time per

100 kilometers of project roads was reduced from 120 minutes in 2011 (baseline) to 60 minutes in 2017 surpassing the original target of 90 minutes and revised target of 80 minutes.

The project achieved the sub-objective of reducing vehicle operating costs. The average Vehicle Operating Cost (VOC) per vehicle-km on project roads decreased from US$0.40 in 2011 (baseline) to US$0.38 in 2017, achieving the target of US$0.38.

The project reduced road fatalities substantially, but the target was not achieved. The fatality rate measured as the "number of accident deaths per 10,000 vehicles" was reduced from 161 in 2011 (baseline) to 143 in 2017, but the target of 120 was not achieved. The reduction in road fatalities is not wholly attributable to the project, as there was a coalition of road safety partners including Global Road Safety Facility and Arrive Alive Road Safety Initiative, who were collaborating on the implementation of a Safer Corridor Approach in Nigeria.

The project investments resulted in the reduction in passenger travel times and vehicle operating costs, although the reduction in traffic-related fatalities was partially achieved. Overall, the achievement of this objective is rated substantial.

Rating
Substantial

Objective 2

Objective
Strengthen the Recipient's capacity to manage its federal road infrastructure and assets in a sustainable manner.

Rationale
Although, two indicators relating to the institutional reforms were dropped as the corresponding activities were dropped, no split evaluation is conducted because the PDO was not revised.

The original Theory of Change signified that: (i) the use of Output and Performance-based Road Contract (OPRC) would demonstrate the benefits of private sector participation in provision and upkeep of roads; and (ii) the institutional reforms such as the creation of an autonomous Federal Roads Authority and a Road Fund would strengthen the capacity to manage road infrastructure in a sustainable manner.

Due to (i) poor response of contractors to the OPRC approach and (ii) a change in the government's approach to institutional reforms by carrying out road sector reform (i.e., the creation of a National Roads Board, Road Fund, and Federal Roads Authority was dropped from the project), the theory of change was adversely impacted as the needed institutional architecture could not be set up to promote the sustainable management of the road sector as envisaged in the original project design. Briefly, the much-needed institutional reforms did not materialize.

Outputs

The institutional reform activities related to the establishment of Federal Roads Authority, Road Fund and Road Board were dropped during restructuring. New activities were added and the following outputs were achieved:

- HDM 4 model was calibrated for Nigeria and is now available for users on the Roads Sector Development Team (RSDT) website.
- An asset management system was developed for the federal road network. However, it was applied to 3,000 km of the network, representing just 44% of the targeted federal roads.
- A road sector database was put in place, but only 30% of the targeted network had been rolled into it at the time of project closure.
- The national road design standards manual was upgraded. However, axle load control standards are not in place.
- The strategic urban transport plans for Abuja and Kano was initiated under the project but was later transferred to the state level. The ICR reports (para 37) that this was completed.
- National Road Traffic Crash Data Management System was developed.

Outcomes

The targeted outputs were only partially achieved at best, and there is no evidence on the achievement of capacity strengthening for sustainable road management, partly because there is no indicator to measure outcomes. The achievement of this objective is therefore rated modest.

Rating
Modest

Rationale
While there was substantial progress in the achievement of the first objective, the significance and limited performance of the project in achieving the second objective means the overall Efficacy rating is Modest.

Overall Efficacy Rating
Modest

Primary reason
Insufficient evidence

5. Efficiency

Economic Analysis
At appraisal, an economic evaluation was carried out for the three main roads to be implemented under Output and Performance Based Road Contract (OPRC). After failure of the OPRC bidding process, the project was restructured in February 2011 with two roads sub-components to be implemented under the traditional International Federation of Consulting Engineers (FIDIC) method. These were rehabilitation and upgrading/periodic maintenance. A fresh economic analysis was carried during the restructuring and yielded and economic rate of return (ERR) of 53% for rehabilitation sub-component and 46% for upgrading/periodic maintenance sub-component.

Ex-post economic analysis was conducted for each road under the rehabilitation and periodic maintenance sub-components using HDM-4 software (acquired and calibrated under the project financing). The main benefits included were the reduction in road user costs both in terms of vehicle operating cost and passenger time as a result of the improved roads. The ex-post ERR for rehabilitation was 58.1%, slightly higher than 53% estimated at restructuring. For upgrading/periodic maintenance it was 47.6%, very close to 46% estimated at restructuring. The ICR reports (para 40) that the travel time was reduced along the project roads, the passenger transport service fares declined by up to 30%, and the trucks rates reduced by up to 15% on the rehabilitated roads.

Operational Efficiency

The project civil works experience delays due to the changes in project scope and components. There was a long delay before the first civil works packages were signed. The cost associated with changes in project scope were significant. On the road rehabilitation sub-component, contract prices from the FIDIC-based bids emerged as higher than estimated at appraisal, which were derived from the generally lower OPRC contract prices. This resulted in dropping of Gombe–Biu road (117km). The project closed after a six-month delay.

In light of the long delays, significant cost increases, and downsizing of the project scope, overall efficiency is rated modest.

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	✓	50.00	85.00 ☐Not Applicable
ICR Estimate	✓	52.00	84.00 ☐Not Applicable

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

6. Outcome

The relevance of project objectives is rated substantial. Efficacy is rated modest. Efficiency of the project investments is also rated modest. The outcome of the project is rated moderately unsatisfactory.

a. Outcome Rating

Moderately Unsatisfactory

7. Risk to Development Outcome

Financial: Lack of timely and sustainable financial resources to maintain existing road assets is a significant risk. The ICR reports (para 86) that current budgetary constraints pose a substantial risk for the preservation of road assets.

Institutional: Lack of the appropriate institutional set up to maintain the road assets is a significant risk. The Federal Roads Authority (FRA) was established on June 8, 2017. However, the Road Fund bill is still pending. The ICR reports (para 87) that unless the Road Fund bill is passed quickly, the essence of the FRA as road asset managers will quickly diminish.

8. Assessment of Bank Performance

a. Quality-at-Entry

The project was highly ambitious as it aimed at creating three new road management agencies as well as implementing a new and complex Output and Performance-based Road Contracts (OPRC) methodology. However, no supply side capacity assessment and market assessment for the envisaged OPRC methodology was done and OPRC had to be dropped in favor of the traditional International Federation of Consulting Engineers (FIDIC) method at restructuring. The proposed institutional reforms were quite formidable in the context of a well-developed federal government system in Nigeria and require broad and robust stakeholder engagement and wide acceptance of the new thinking across the highest levels of the political divide (ICR, paras 55 and 79).

The project's quality at entry had a major shortcoming - the bidding documents were prepared based on “fast track” pre-feasibility studies that lacked in-depth technical and financial analysis. The complex nature of the new OPRC contracting methodology required that the private sector be aware and fully understand the change in approach. But the contractor's risk was not properly defined, leading to deficient bid documents and the resulting lack of interest from potential bidders (ICR para 56).

Quality at entry is rated moderately unsatisfactory.

Quality-at-Entry Rating

Moderately Unsatisfactory

b. Quality of supervision

During the nine years of implementation there was a high turnover of Task Team Leaders (TTLs) and core team members. The project had 6 TTLs, 4 social safeguards specialists and 4 environmental specialists. The ICR reports (para 81) that sometimes there were inadequate transition arrangements. Given that the institutional reforms require longer implementation period, the change in TTLs adversely affected the consistency of dialogue and technical inputs to government (ICR, para 83).

During the project's lifecycle, the project experienced four administration changes in Nigeria: (i) the *Olusegun Obasanjo*, PDP administration (29 may 1999 to 29 may 2007); (ii) *Umaru Yar'Adua* (29 May 2007 – 5 May 2010, PDP); (iii) *Goodluck Jonathan* (6 May 2010 – 29 May 2015 PDP) and (iv) *Muhammadu Buhari* (29 May 2015 to date APC). This exposed the project to changing priorities in terms of both the institutional reforms and the road links to be improved with the project's support (ICR, para 57).

Although, the Road Sector Development Team (RSDT) was established at the onset of the project, the Bank did not provide technical assistance to build RSDT capacity to handle issues relating to the reforms and various challenges that were bound to emanate as the process went forward (ICR para 62).

Although the Bank responded to implementation challenges by restructuring the project, the Bank failed to reconsider the approach to the project. Options for greater private sector involvement should have been explored as part of the restructuring, to align with broader government strategy (ICR para 66).

Quality of supervision is rated moderately unsatisfactory.

Quality of Supervision Rating

Moderately Unsatisfactory

Overall Bank Performance Rating

Moderately Unsatisfactory

9. M&E Design, Implementation, & Utilization

a. M&E Design

The three outcome indicators: (i) average passenger travel times, (ii) average vehicle operating cost, and (iii) number of annual traffic related fatalities, clearly measured the first PDO "reduce passenger travel times, vehicle operating costs and traffic related fatalities on targeted federal roads". It should be noted that the road safety outcome for fatalities could not be wholly attributed to the project as there were other players such Global Road Safety Facility and Arrive Alive Road Safety Initiative, who were collaborating on the implementation of a Safer Corridor Approach in Nigeria. These indicators were measurable and baseline data was collected except for accident data on some road. Overall, RSDT was responsible for M&E.

For the second objective "strengthen the Recipient's capacity to manage its federal road infrastructure and assets in a sustainable manner", no outcome indicator such as the "condition of roads" was included. There were two output indicators: (i) the Federal Roads Authority, National Roads Board, and Road Fund are established and functional with successful monitoring of policies by Federal Ministry of Transport as evidenced by its active presence on their management boards; and (ii) *Roads Sector Development Team* and Federal Roads Authority monitor and enforce long term output and performance based contracts as evidenced by the success of at least 500 route km of federal roads under such contracts.

While sustainability of road assets was one of the fundamental project development outcome, neither the Project Appraisal Document nor the Restructuring Paper addressed the related outcome indicator. Therefore, there were significant weaknesses in the M&E design.

b. M&E Implementation

Although the PDOs were not revised at the time of restructuring in 2011, the two indicators related to the institutional reforms were dropped as the corresponding activities were dropped. No new indicators were added to monitor the achievement of this objective.

M&E results were published by Roads Sector Development Team in its "*Yearly Profile Publication*" and presented in two sections: "*Status & Results in Pictures*" and "*Summary of the Progress Reports by Components*". These sections focused on project outputs such as a summary of the civil works and consultancies related to rehabilitation and periodic road maintenance and Pedestrian Bridges; and safety measures and ambulance points.

c. M&E Utilization

The ICR reports (para 71) that the evidence gathered from M&E exercise was used to communicate implementation progress to the project stakeholders.

M&E Quality Rating
Modest

10. Other Issues

a. Safeguards
The project was classified as an Environmental Category B as limited adverse environmental and social impacts were expected from project activities. The project supported the maintenance and rehabilitation of existing roads, therefore the impacts were expected to be site-specific and mitigation measures were to be part of the contractor's contract. The following safeguards policies were triggered: Environmental Assessment (OP/BP 4.01) and Involuntary Resettlement (OP/BP 4.12). The project was not expected to result in loss of land. However, a Resettlement Policy Framework (RPF) was prepared in case relocation of businesses was necessary during construction. The RPF stipulated that the contractor selected for the civil works of the roads would prepare a detailed Resettlement Action Plan (RAP). At appraisal, an Environmental and Social Management Framework was also prepared.

Environmental safeguards: During implementation, site-specific Environmental and Social Impact Assessments and Environmental Management Plans were also prepared. All these were disclosed in-country and in the Bank's InfoShop. The ICR reports (para 72) that the monitoring and reporting on compliance with the environmental safeguard was initially weak but improved through the project life with additional oversight by Bank's environmental safeguards specialists. Overall environmental compliance is rated satisfactory by the ICR.

Social safeguards: A total of 675 Project Affected Persons (PAPs) had to relocate their businesses during construction. There were delays in payments for some business owners on the Akure-Ilesha road. The business owners had not been compensated even after the road works were completed. The delays were mainly due to non-availability of funds for payment of resettlement activities, which was partly due to teething problems in the adoption of single treasury accounting system by the government of Nigeria in 2012. The ICR reports (para 74) that all owners of the businesses were compensated. The compliance with Bank's social safeguard policy is rated satisfactory by the ICR.

b. Fiduciary Compliance

Financial management: Financial management compliance is rated satisfactory by the ICR (para 75). The Roads Sector Development Team was established under the project. The team had qualified staff and carried out the financial management function effectively. Quarterly Financial Management Reports were submitted in a timely manner. Annual audits were performed by an independent auditor, who expressed opinion on the project's financial statements (ICR para 75). The Auditor General took over this responsibility in 2015. The ICR does not provide details on "auditors opinion" or why the Auditor General took over and how the audits were thereafter.

Procurement: The ICR reports (para 76) the procurement was carried out according to IDA guidelines and the 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	Moderately Unsatisfactory	Moderately Unsatisfactory	---
Quality of M&E	Modest	Modest	---
Quality of ICR		Substantial	---

12. Lessons

- **Private sector participation in the provision of infrastructure should be approached incrementally to allow both public and private entities to absorb the associated learning effectively, especially regarding the risks associated with these contracts**. While the Bank has gained experience on the application of Output and Performance-based Road Contract (OPRC) in developing countries it would be useful to test the appetite of the construction industry with OPRC-type contracts with the correct allocation of risks between the Government, as employer, and the Contractors. Response of the private sector was assumed after the interest was shown at the prequalification stage, whereas a market sounding on the approach would have been a good indicator of the risks to be mitigated.

- **In countries where almost all roads are in poor condition, the selection of roads should be sufficiently robust to appeal to decision makers irrespective of political interests**. In this project, the choice had to be made whether priority should be given to high capacity highways to serve the fast-growing traffic or other lower-class roads; whether the criteria for decision within each class of road be based on the impact of the interventions on reducing the cost of doing business and enhance economic growth or include other consideration such as maintaining regional balance as a basis of decision. Once the roads are prioritized, there should be a consensus on the high priority roads to be included in the project, so that irrespective of the political change, the priority would be maintained.

13. Assessment Recommended?

No

14. Comments on Quality of ICR

The ICR is reasonably well-written. It is candid while discussing the issues that arose during implementation. However, it was sometimes confusing to follow the changes that happened to the institutional component, especially what activities were dropped. Similarly, under the M&E, the ICR does not clearly specify what new indicators were added at restructuring. On efficiency, the ICR could have provided more detailed information on why ex-post ERRs were higher compared to the restructuring estimate.

a. Quality of ICR Rating
Substantial