



PERFORMANCE AUDIT REPORT



State Audit Office of Georgia

N 26/36

„Approved By”

Head of Economic Activities Audit Department

Tornike Shermadini

„30 “ 03 “ 2018 Year

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Roads Department of Georgia
Secondary Road Asset Management Project

Independent Performance Audit Report
for the period of 6 July 2016 – 31 December 2017

Abbreviations and Acronyms

AADT	Annual Average Daily Traffic
COSO	The Committee of Sponsoring Organizations
CW	Civil Works
DLIs	Disbursement Linked Indicators
ETCIC/TRRC	LEPL Eurasian Transport Corridor Investment Centre
FPU	Foreign Project Unit
HDM4	Highway Development and Management Model
IBRD	International Bank for Reconstruction and Development
IFR	Interim Financial Report
iRAP	International Road Assessment Programme
ISSAI	International Standards of Supreme Audit Institutions
ITB	Instruction to Bidders
M&E	Monitoring and Evaluation
MRDI	Ministry of Regional Development and Infrastructure of Georgia
OPRC	Output and Performance Based Road Contract
PAD	Project appraisal document
POM	Project operations manual
QCBS	Quality and Cost-based Selections
RAMS	Road Asset Management System
RD	Roads Department of Georgia
SAO	State Audit Office of Georgia
SLRP-II	Second Secondary and Local Roads Project
SLRP-III	Third Secondary and Local Roads Project
SRAMP	Secondary Road Asset Management Project
TOR	Terms of Reference for Consultant Services for Independent Performance Audit and Verification of Disbursement-Linked Indicators

Cover Letter

The State Audit Office of Georgia (SAO) has conducted an independent Project Performance Audit (Independent Audit) of the Secondary Road Asset Management Project (SRAMP) funded by the World Bank and implemented by the Roads Department of Georgia (RD). The Audit was requested in January 2018 and covered the period of July 6, 2016 to December 31, 2017.

Following the completion of Independent Audit by the SAO, the RD will submit the audit report to the World Bank and request the disbursement of loan amount eligible under the SRAMP as at 31 December 2017 and verified by the Independent Audit as per Terms of Reference for Independent Audit.

As a result of Independent Audit, the SAO identified no breaches to the adherence and implementation of procedures, manuals and guidelines agreed between the RD and the World Bank. The SAO has however, identified two areas where performance could be further enhanced:

- a) The SAO has identified no clear evidence of the top management's involvement in updating the Five-Year Rolling Program and the annual plan. The SAO recommends that the Five-Year Rolling Program be formally approved by the RD top management.
- b) The SAO established that the assessment of expected useful life of secondary roads is not being performed by the RD. The SAO believes, that the RD needs to implement mechanisms to estimate useful life of roads before launching their periodic maintenance.

Beyond the above findings and recommendations, no performance-related shortcoming or breaches have come to SAO's attention.

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Executive Summary

The Government of Georgia, represented by the Roads Department of Georgia (RD), has started a results-based Secondary Road Asset Management Project (SRAMP or “the Project”) which will be implemented until 31 December 2021. The Project is financed by the Government and the World Bank through an International Bank for Reconstruction and Development (IBRD) loan (Loan # 8599-GE).

The objectives of the Project are: (i) to improve road users’ access to social services and markets through the Project Roads in a sustainable manner; and (ii) to enhance road asset management for the Secondary Roads Network in Georgia. Pursuant to the Loan Agreement dated 28 March 2016, RD shall ensure independent monitoring and evaluation of the project by carrying out an independent performance audit. The State Audit Office of Georgia (SAO) has been requested to conduct the Independent Project Performance Audit (Independent Audit) for the period of July 6, 2016 to December 31, 2017.

The SAO audit team consisting of Bitchiko Zarkua, the Chief Auditor, Tengiz Tevdoradze, the Senior Auditor and Nino Kashibadze, the Auditor examined the Interim Financial Reports (IFRs), payment orders, invoices and signed contracts in order to verify the expenditures incurred within the project. The audit team has also reviewed the consultant selection and the procurement processes of six design-build contracts and their compliance with the Project Operational Manual and Project Appraisal Document. The updated Five-Year Rolling Program and the second year plan have also been examined for their consistence with the “Handbook for the preparation of Multi-Year Rolling Plan for road asset preservation and improvements”.

As a result of Independent Audit, the SAO identified no breaches to the adherence and implementation of procedures, manuals and guidelines agreed between the RD and the World Bank. The SAO has however, identified two areas where performance could be further enhanced:

Audit Finding 1

The SAO has identified no documented evidence of the top management’s involvement in updating the Five-Year Rolling Program and the annual plan. As explained by the RD, the members of the top management are involved in preparation process, however their decisions are not being documented. As a result, preparation process lacks transparency. In addition, the audit team was unable to observe and assess the management’s awareness of top priorities, criteria and amendments included in the rolling program and the annual plan.

Recommendation for the Audit Finding 1

In order to emphasize significance of the Five-Year Rolling Program/Annual Plan and to increase transparency of an amendment process the SAO recommends that both documents and subsequent amendments be formally approved by the RD’s top management.

Audit Finding 2

Useful life of roads varies according to several factors, including: type of works done, traffic intensity and regional climate. The SAO established, that the assessment of expected useful life of secondary roads is not being performed by the RD during the annual planning process. As a result, RD doesn’t have an opportunity to justify that it identifies the best option between a maintenance, periodic maintenance and rehabilitation.

Recommendation for the Audit Finding 2

In order to increase effectiveness of the secondary road asset management, the RD should design and implement mechanisms which will allow the estimation of a road's useful life consequent to the type of work. Estimation can be done based on the past experiences, types of work, AADT and regional climate. The expected outcomes of the different types of works need to be compared and the most effective and efficient type of work should be selected (maintenance, periodic maintenance, rehabilitation).

Introduction

The Government of Georgia represented by RD, has started a results-based Secondary Road Asset Management Project financed by the Government and the World Bank through IBRD loan (Loan # 8599-GE) which will be implemented until December 31, 2021. The Project Development Objectives are: (i) to improve road users' access to social services and markets through the project roads in a sustainable manner, and (ii) to enhance road asset management for the secondary roads network in Georgia.

The primary project beneficiaries will include road users and communities living along the project secondary roads. The project area covers four regions, namely Mtskheta-Mtianeti, Racha-Lechkhumi, Shida Kartli, and Guria. Road users are expected to benefit from improved conditions of the project roads through reduced travel time and vehicle operating costs, and improved road safety. The Project is also expected to offer more long-term direct employment opportunities in low-skilled routine maintenance activities in Guria region and short-term opportunities in rehabilitation activities in Racha-Lechkhumi, Mtskheta-Mtianeti, and Shida Kartli regions. In the medium to long run, communities will also benefit from more reliable access to socio-economic centers which offer employment opportunities outside agriculture and social services to enhance health and education.

The secondary group of the project beneficiaries will include RD and the local construction industry. Through technical assistance, RD will further enhance its capacity in secondary road assets planning, budgeting, execution and monitoring. The Project is expected to boost the capacity of the local construction industry for managing and implementing of contracts with an increased range of risks transferred to the private sector and getting prepared for longer-term public-private partnerships, including Output- and Performance-based Road Contracts (OPRC).

The Project is designed as a results-based Investment Project Financing, with disbursement linked indicators for almost 100 percent of the loan. The Project has two components with a total investment of USD 48 million (including IBRD financing of USD 40 million):

Component 1: Secondary Road Assets Improvement and Preservation (estimated cost USD 46.40 million; IBRD financing: USD 38.66 million). The objective of this component is two-fold: (i) to support the improvement and preservation of secondary roads assets and (ii) improve access of citizens to social services and economic activities in less connected and poor regions through innovative performance based contracting methods: OPRC and design-build contracts. This is a Disbursement Linked Indicators DLI-based component, and its financing is linked to the achievement of agreed disbursement linked indicators (DLIs are presented in Appendix A).

Component 2: Enhanced Secondary Road Assets Planning and Management (estimated cost USD 1.5 million; IBRD financing: USD 1.25 million). The objective of this component is to support institutional reforms aimed at integrating innovative management practices in RD's overall road assets management and enhancing RD's capacity in multi-year programming and annual planning for secondary road assets on a country level, not project level. It is a DLI-based component, and financing will be linked to the achievement of the agreed DLIs. This Component will build on a number of activities which are being

implemented under the ongoing Bank-funded projects and involve (i) the development of Road Asset Management System (RAMS) under Second Secondary and Local Roads Project (SLRP-II), (ii) improvement of RD's methodology for and the preparation of a five-year rolling program and annual plans for the secondary road assets, and (iii) piloting of International Road (Safety) Assessment Program (iRAP) under SLRP-III.

Pursuant to the Loan Agreement dated 28 March 2016, the RD shall ensure independent monitoring and evaluation of the project through carrying out an independent performance audit.

Objectives, Scope and Methodology of Independent Audit

The objective of the independent performance audit covering the period of July 6, 2016 to December 31, 2017 was limited to the two main sub-objectives:

- (i) **Verification of eligible expenditures under the project.** The objective of this task was to confirm that expenditures under this Project have been eligible for reimbursement and have been incurred in compliance with the procurement arrangements provided for in the Loan Agreement dated 28 March 2016 between Georgia and the IBRD. As no detailed designs of the contractors were accepted by RD and no civil works were commenced in 2017, this IPA did not need to verify if expenditures were incurred in compliance with the safeguards arrangements provided for in the same Loan Agreement.
- (ii) **Verification of progress and levels of achievement against DLIs as at 31 December 2017.** The objective of this task was to determine the extent to which the DLIs have been met and make an assessment of the loan amount to be formally converted into disbursement. Disbursement Linked Indicators relevant as at 31 December 2017 were determined as follows:
 - Consultant for preparation of detailed design and bidding documents for rehabilitation and maintenance of project roads under Output and Performance Based Road Contract (OPRC) and provision of supervision/monitoring services selected;
 - Six Design-build contracts signed and design phase commenced;
 - Update of a Five-Year Rolling Program and preparation of year 2 (2018) plan.

DLIs 1.2 *Routine maintenance targets achievements under OPRC*, 2.2 *Integration of road safety in asset management* and 2.3 *Introduction of climate resilience practices in RD's road asset management* were not effective for the audit year (Year 1).

The Independent Audit was conducted in accordance with the SAO's Performance Audit Methodology compliant with International Standards of Supreme Audit Institutions. The audit employed three methods, including: document analysis, data analysis and semi-structured interviews with the staff of RD.

Review of Project's Operational Process

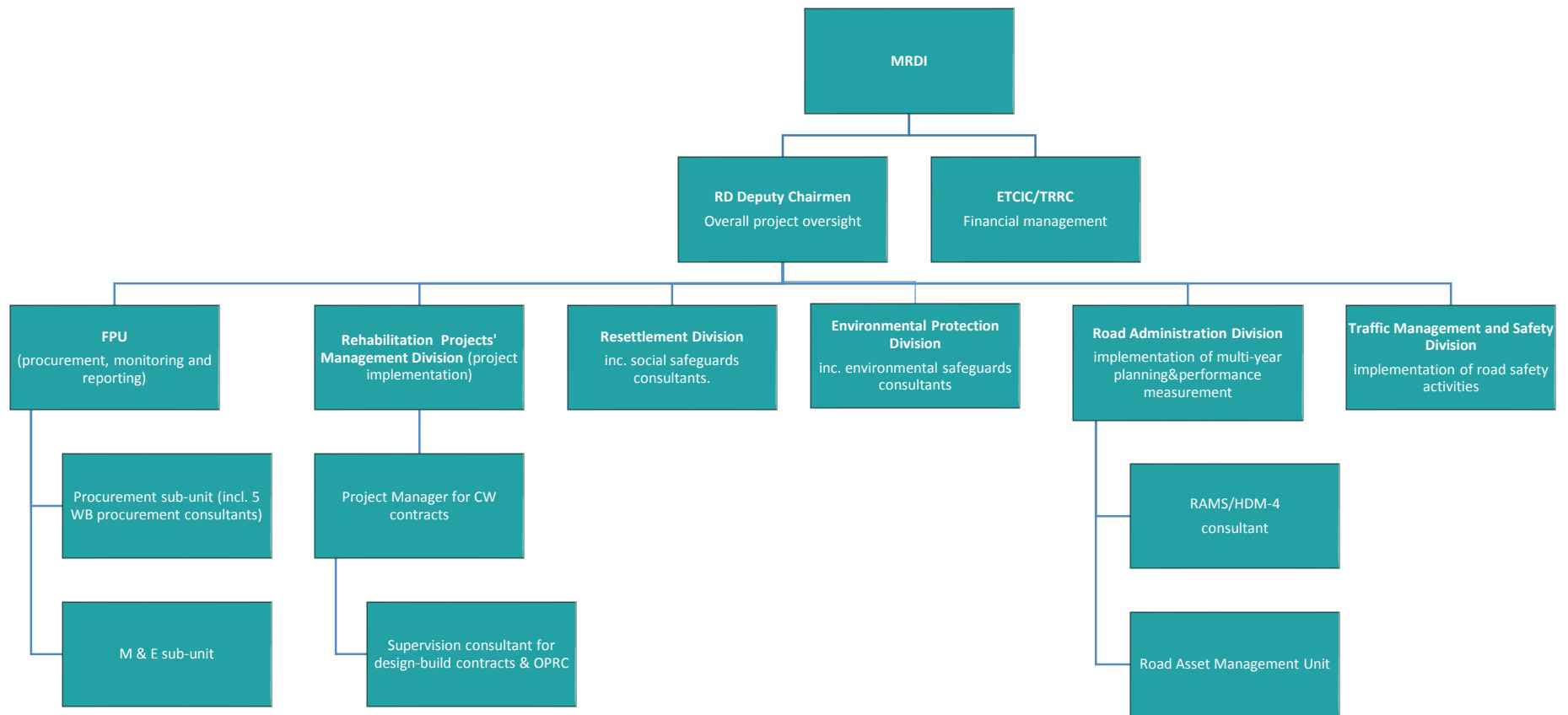
RD is subordinated to the Ministry of Regional Development and Infrastructure of Georgia (MRDI) and is financed from the State Budget. RD's main tasks include:

- Raising the quality of road safety in Georgia
- Reducing the travel time
- Increasing the transit traffic
- Rational management/improvement of road infrastructure
- Improvement of road infrastructure administration

RD is responsible for overall management and implementation of SRAMP. RD's Deputy Chairmen are vested with project management functions. They are being supported by the Foreign Project Unit (FPU), responsible for procurement, monitoring and evaluation and by the LEPL Eurasian Transport Corridor Investment Center (ETCIC/TRRC), responsible for financial management including flow of funds, accounting and financial reporting. Other RD units are also involved in planning, road safety, and management of safeguards. The organizational arrangements for the SRAMP are shown in Figure 1.

ETCIC/TRRC cooperates with the Treasury Service of the Ministry of Finance of Georgia for the administration of the project's Designated Account.

Figure 1. Organizational Arrangements



(i) Verification of expenditures

ETCIC/TRRC is responsible for preparation and submission of financial reports. Expenditures are reported in IFRs for each calendar quarter and comprise of the following statements:

- Summary of Project Sources & Uses of Funds;
- Summary of Uses of Funds by Project Components;
- Balance Sheet;
- Designated Account (DA) Statement;
- Statement of Expenditure (SOE), Withdrawal Schedule;
- Project Cash Forecasts;
- Summary of Eligible Financing Project Expenditures according to DLI Audit.

During the audit period, six IFRs were prepared and presented to the World Bank. According to the ETCIC/TRRC's financial management manual for SRAMP, expenditures in Financial Reports are recognized on cash basis, which is in line with the World Bank requirements.

The audit team reviewed all IFRs covering period from 6 July 2016 to 31 December 2017, reviewed and examined the expenditure invoices, payment orders, signed contracts and the procurement plan. The Independent Audit verified the eligibility of expenditure incurred during the reporting period. Please see the details of incurred expenditure below (extract from the IFRs is presented in Appendix B):

Table 1 – Details of expenditures

Date of payment	Payment Order	Recipient	Contract #	Amount USD
23-Jun-17	00016	AGT Management, Consulting and Construction LTD	SRAMP/CW/NCB-05	255,323
23-Jun-17	00017	AGT Management, Consulting and Construction LTD	SRAMP/CW/NCB-01	786,598
2-Aug-17	00067	Road Rehabilitation and Modernization Supervision Direction LTD	SRAMP/CS/QCBS-02	13,743
2-Aug-17	00074	Road Rehabilitation and Modernization Supervision Direction LTD	SRAMP/CS/QCBS-02	29,190
29-Sep-17	00174	Road Rehabilitation and Modernization Supervision Direction LTD	SRAMP/CS/QCBS-02	32,453
9-Oct-17	00222	Road Rehabilitation and Modernization Supervision Direction LTD	SRAMP/CS/QCBS-02	57,639
11-Dec-17	00338	Sakmilsadenmsheni LTD	SRAMP/CW/NCB-03 L1	316,338
22-Dec-17	00373	Road Rehabilitation and Modernization Supervision Direction LTD	SRAMP/CS/QCBS-02	63,067
22-Dec-17	00372	Road Rehabilitation and Modernization Supervision Direction LTD	SRAMP/CS/QCBS-02	29,531
25-Dec-17	00382	Road Rehabilitation and Modernization Supervision Direction LTD	SRAMP/CS/QCBS-02	109,528
28-Dec-17	00403	Road Rehabilitation and Modernization Supervision Direction LTD	SRAMP/CS/QCBS-02	28,814
29-Dec-17	00419	Orientiri LTD	SRAMP/CW/NCB-03 L2	91,523
Total				1,813,747¹

(ii) Verification of Disbursement Linked Indicators (DLIs)

The project is designed as a results-based Investment Project Financing, and particular DLIs are determined by the Loan Agreement. According to the Notice to the Borrower issued by the World Bank, which is in line with the Section IV.B.6 of Schedule 2 of the Loan Agreement, initial DLIs were adjusted on 20 December 2017 (See Appendix A).

The base year (Year 1) DLIs, were determined as follows:

DLI 1.1 - *Consultant for preparation of detailed design and bidding documents for rehabilitation and maintenance of project roads under OPRC and provision of supervision/monitoring services selected.*

¹ In addition, Front End Fees totaling USD100,000 is recognized as expenditures in IFRs.

The Independent Audit team examined the consultant selection process and reviewed the following documents:

- Procurement plan;
- Advertisement;
- Shortlist Evaluation Report;
- Letters of Invitation;
- Minutes of Public Opening of Technical and Financial Proposals;
- Technical and Combined Evaluation Reports;
- Letter of Acceptance;
- Correspondence between the RD and the World Bank.

Request for expressions of interest was advertised on March 30, 2017 and four companies out of twenty-eight were shortlisted with the World Bank's "no objection" status. The shortlisted companies and their respective scores as per Combined Evaluation Report are provided below:

Table 2 – The shortlisted companies

Consultant	Technical Score	Financial Score	Final Score (80% of Technical + 20% of Financial)
TNM – Technology and management Ltd (Israel)	77.50	77.41	77.48
Egis International (France)	70.46	100.00	76.37
JV Renardert S.A. & Partners Consulting Engineers L.L.C., Renardet S.A and Dohwa Engineering Co. Ltd Oman/Switzerland/Korea)	72.50	88.75	75.77
JV IRD Engineering S.r.l. and SPEA Engineering S.P.A (Italy/Italy)	70.80	85.06	73.65

The winner consultant, "TNM Limited", was selected on November 3, 2017. The Independent Audit verifies that the Consultant selection process was carried out in accordance with the guidelines on "Selection and Employment of Consultants under IBRD Loans and IDA Credits and Grants by World Bank Borrowers, January 2011, revised July 2014". Based on the procedures performed, the audit team verifies that the DLI 1.1 has been achieved.

DLI 1.3 - Six Design-build contracts signed and design phase commenced.

The audit team reviewed and examined the contracts and the respective procurement processes together with the following documents:

- Procurement plan;
- Advertisement;
- Invitation for Bids;
- Letters of Bid;
- Bid Security Declarations;
- Bid Opening Minutes;
- Bid Evaluation Reports;

- Letter of Acceptance;
- Performance Security (submitted by the winner);
- Correspondence between the RD and the World Bank.

The Independent Audit verifies that the procurement procedures have been carried out in accordance with the World Bank's guidelines on "Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits and Grants, January 2011, revised July 2014". Based on the procedures performed, the audit team verifies that no issues affecting the achievement of DLI were identified and the DLI 1.3 has been achieved. The details of the signed contracts are in the table below:

Table 3 – Details of the signed contracts

Contract No	Contract Date	Winner Company	Activity	Contract Amount GEL
SRAMP/CW/NCB-05	2-May-17	AGT Management, Consulting and Construction LTD	Design-Build and Take-Over of Khidstavi-Ateni-Boshuri Road Section Rehabilitation from km 12.4 to km 22.5, under OPRC	6,155,842
SRAMP/CW/NCB-01	2-Jun-17	AGT Management, Consulting and Construction LTD	Design-Build and Take-Over of Tianeti-Akhmeta-Kvareli-Ninigori Road Section Rehabilitation from km 1 to km 30, under OPRC	18,964,874
SRAMP/CW/NCB-04 LOT 1	4-Sep-17	AZ-INSHAAT LTD	Design-Build and Take-Over of Zhinvali – Barisakho - Shatili Road Section Rehabilitation from km 16 to km 25.5, under OPRC	6,853,447
SRAMP/CW/NCB-04 LOT 2	4-Sep-17	AZ-INSHAAT LTD	Design-Build and Take-Over of Zhinvali – Barisakho - Shatili Road Section Rehabilitation from km 25.5 to km 32, under OPRC	5,111,547
SRAMP/CW/NCB-03 LOT 1	1-Nov-17	Sakmilsadenmsheni LTD	Design-Build and Take-Over of Chrebalo-Nikortsminda Road Section Rehabilitation from km 1 to km 14.6, under OPRC	8,769,412
SRAMP/CW/NCB-03 LOT 2	6-Nov-17	JV "Orientiri Ltd & Sakmilsadenmsheni Ltd & Arnabi 21 LTD"	Design-Build and Take-Over of Chrebalo-Nikortsminda Road Section Rehabilitation from km 14.6 to km 25.8, under OPRC	9,764,269
Total				55,619,391

Contract 1: SRAMP/CW/NCB-05 (Estimated cost GEL7,728,553) – Request for Bids was advertised through National e-procurement system (SPA) on October 27, 2016. Deadline for submission of Bids was November 25, 2016. According to the Bid Opening Minutes dated November 25, 2016 bids were submitted by the following four bidders:

1. AGT Management, Consulting and Construction LTD (Azerbaijan) – GEL6,182,842
2. Ibolia LTD (Georgia) – GEL6,249,892
3. Azeri Service LTD (Azerbaijan) – GEL6,955,616
4. Company Black Sea Group LLC (Georgia) – GEL7,555,555

The contract was awarded to AGT Management, Consulting and Construction LTD. The company was a responsive bidder and offered the lowest price. The contract price was adjusted according to the Bill of Quantities.

Contract 2: SRAMP/CW/NCB-01 (Estimated cost GEL23,792,513) - Request for Bids was advertised through National e-procurement system (SPA) on December 19, 2016. Deadline for submission of Bids was January 30, 2017. According to the Bid Opening Minutes dated January 30, 2017 bids were submitted by the following five bidders:

1. AGT Management, Consulting and Construction LTD (Azerbaijan) – GEL18,989,011
2. Az-Inshaat LLC (Azerbaijan) – GEL20,801,971
3. Qarachay Individual Company (Azerbaijan) – GEL22,686,696
4. Company Black Sea Group LLC (Georgia) – GEL27,850,000
5. Korpu-Bina-Tikinti LLC (Turkey) – Failed to submit the price

The contract was awarded to AGT Management, Consulting and Construction LTD. The company was a responsive bidder and offered the lowest price. The contract price was adjusted according to the Bill of Quantities.

Contract 3: SRAMP/CW/NCB-04 Lot 1 (Estimated cost GEL8,916,575) - Request for Bids was advertised through National e-procurement system (SPA) on May 1, 2017. Deadline for submission of Bids was May 30, 2017. According to the Bid Opening Minutes dated May 30, 2017 bids were submitted by the following seven bidders:

1. Az-Inshaat LLC (Azerbaijan) – GEL6,853,447
2. AGT Management, Consulting and Construction LTD (Azerbaijan) – GEL7,757,421
3. Technocomspetsstroy LLC (Russian federation) – GEL7,933,292
4. Construction and mounting Operational company Chelyabinsk Transsignal (Russian Federation) – GEL8,363,747
5. JV Company Tsekuri LTD and Arsakidze-200 LTD (Georgia) – GEL8,776,667
6. JV Build Industry LTD, P.I. IMB Podbeskidzie LLC – World Acoustic Group S.A (Georgia, Poland, Poland) – GEL10,262,656
7. Ariana Tunnel Dam Co (Iran) – GEL11,452,514

The contract was awarded to Az-Inshaat LLC. The company was a responsive bidder and had the lowest price.

Contract 4: SRAMP/CW/NCB-04 LOT 2 (Estimated cost GEL6,718,475) - Request for Bids was advertised through National e-procurement system (SPA) on May 1, 2017. Deadline for submission of Bids was May 30, 2017. According to the Bid Opening Minutes dated May 30, 2017 bids were submitted by the following eight bidders:

1. Az-Inshaat LLC (Azerbaijan) – GEL5,111,547
2. AGT Management, Consulting and Construction LTD (Azerbaijan) – GEL6,248,182
3. Technocomspetsstroy LLC (Russian federation) – GEL6,292,148
4. Construction and mounting Operational company Chelyabinsk Transsignal (Russian Federation) – GEL6,301,930
5. Road Construction Administration N1 LTD (Georgia) – GEL6,529,766
6. JV Company Tsekuri LTD and Arsakidze-200 LTD (Georgia) – GEL6,577,006
7. JV Build Industry LTD, P.I. IMB Podbeskidzie LLC – World Acoustic Group S.A (Georgia, Poland, Poland) – GEL7,350,070
8. Ariana Tunnel Dam Co (Iran) – GEL8,234,606

The contract was awarded to Az-Inshaat LLC. The company was a responsive bidder and offered the lowest price.

Contract 5: SRAMP/CW/NCB-03 LOT 1 (Estimated cost GEL9,700,123)- Request for Bids was advertised through National e-procurement system (SPA) on May 1, 2017. Deadline for submission of Bids was May 30, 2017. According to the Bid Opening Minutes dated May 30, 2017 bids were submitted by the following four bidders:

1. Technocomspetsstroy LLC (Russian federation) – GEL8,289,248
2. Sakmilsadenmsheni LTD (Georgia) – GEL8,730,127
3. Construction and mounting Operational company Chelyabinsk Transsignal (Russian Federation) – GEL9,098,715
4. Ariana Tunnel Dam Co (Iran) – Failed to submit the price

Technocomspetsstroy LLC was rejected because the Performance Security was not furnished in accordance with the ITB. As a result, the company was suspended from being eligible for bidding in any contract financed by the World Bank for the period of 1 year starting from May 30, 2017.

The contract was awarded to Sakmilsadenmsheni LTD. The company was a responsive bidder and offered the second lowest price. The contract price was adjusted according to the Bill of Quantities.

Contract 6: SRAMP/CW/NCB-03 LOT 2 (Estimated cost GEL10,747,033) - Request for Bids was advertised through National e-procurement system (SPA) on May 1, 2017. Deadline for submission of Bids was May 30, 2017. According to the Bid Opening Minutes dated May 30, 2017 bids were submitted by the following four bidders:

1. Technocomspetsstroy LLC (Russian federation) – GEL9,155,836
2. JV “Orientiri Ltd & Sakmilsadenmsheni Ltd & Arnabi 21 LTD (Georgia) – GEL9,764,269
3. Construction and mounting Operational company Chelyabinsk Transsignal (Russian Federation) – GEL10,080,717
4. Ariana Tunnel Dam Co (Iran) – GEL13,892,457
5. Az-Inshaat LLC (Azerbaijan Republic) - Failed to submit the price

Technocomspetsstroy LLC was rejected because the Performance Security was not furnished in accordance with the ITB. The company was suspended from being eligible for bidding in any contract financed by World Bank for the period of 1 year starting from May 30, 2017.

The contract was awarded to JV “Orientiri Ltd & Sakmilsadenmsheni Ltd & Arnabi 21 LTD. The company was a responsive bidder and offered the second lowest price.

Supervision contract: RD selected the consultant for supervision of rehabilitation of 4 road sections (under Design and Build Contracting Methodology) in accordance with QCBS procedures.

The request for expression of interest was advertised on March 18, 2016 and six companies out of twenty-six were shortlisted in line with the World Bank’s - “no objection” confirmation.

Five companies submitted their technical and financial proposals before the deadline. After opening of the technical proposals, one of the companies – “Gentek Consult Ltd” (Turkey) was rejected, since the proposal was non-compliant with the Terms of Reference. In particular, it requested 10 key staff, 6 different specialists and 4 local supervision engineers – each per separate road section. The bidding consultant, “Gentek Consult Ltd” included only 6 key staff in the FORM TECH 6 and 4 local supervision engineers as non-key experts. Please see the remaining 4 companies and their respective scores as per Combined Evaluation Report below:

Table 4 - The shortlisted companies

Consultant	Technical Score	Financial Score	Final Score (80% of Technical + 20% of Financial)
Dongsung Engineering co. LLC with sub-consultant Dohwa Engineering & Consulting Co. Ltd (Korea, Republic)	76.98	54.97	72.57
EPTISA Servicios de Ingenieria, S.L (Spain)	73.54	96.02	78.04
JV Road Rehabilitation and Modernization Supervision Direction LTD / Nievelt Ingenieur GmbH / Centralna Punta laboratorija Doo LTD (Georgia, Austria, Serbia)	80.41	100	84.33
Temelsu International Engineering Services Inc (Turkey)	82.85	45.80	75.44

The contract (SRAMP/CS/QCBS-02) with selected consultant (“JV Road Rehabilitation and Modernization Supervision Direction LTD / Nievelt Ingenieur GmbH / Centralna Punta laboratorija Doo LTD”) was signed on May 2, 2017 for the amount of EUR 805,255.6 and GEL 2,285,070. Based on the procedures performed, the Independent Audit verifies that the DLI 1.3 has been achieved.

DLI 2.1 - Update of a Five-Year Rolling Program and preparation of Yr2 plan.

The audit team reviewed the “Handbook for the preparation of Multi-Year Rolling Plan for road asset preservation and improvements” designed for the World Bank financed project SLRP-III on November 4, 2016. The audit has also assessed and reviewed the prepared Five-Year Rolling Program and year 2 plan. All the criteria indicated in the handbook were considered in the program and plan preparation process. Based on above mentioned procedures the Independent Audit verifies that the DLI 2.1 has been achieved. The primary criteria are described below:

Population density – The indicator expresses the number of persons living within a 2 km buffer from homogenous section, in relation to its length (km). In total 888 homogenous sections (of total 1020, identified homogenous sections) have been identified as the best samples describing the population density along the secondary road network. These sections have been divided into 4 priority classes after statistical analysis. These priorities are shown in the below table:

Table 5 – Priority classes

Population density	Number of Sections	Population Density	Total length	Priority Classes
≥ 1800	124	4975	386	1
≥ 700; < 1800	211	1127	901	2
≥ 300; < 700	224	491	1178	3
< 300	329	120	1625	4

Cost- benefit analysis - reduction in road user costs (NPV) in relation to the costs of road works (capital cost).

Annual Average Daily Traffic (AADT) – is calculated as the total volume of vehicles along a road section during one year, divided by 365. Currently, there are five traffic classes, determined for the secondary road network. These are shown in the table below:

Table 6 – Assigned Traffic Classes

Traffic Class (TC)	TC 1	TC 2	TC 3	TC 4	TC 5
Annual Average Daily Traffic	< 300	> 300; < 1000	> 1000; < 2000	> 2000; < 4000	> 4000

Traffic data along the secondary road network has been collected for approximately 42% of the total road network for road sections with higher traffic volumes. In cases where traffic measurements were not conducted, the volumes for roads in traffic class 1 were assumed to be 250 vehicles/day in HDM4.

International Roughness Index (IRI²) - RD conducts road condition surveys, using laser cameras on a regular basis. This data is stored in a GIS database and form the basis for the HDM4 Road network model. The conditions of the secondary Road Network are classified into four classes, from Good to Bad. This classification is based on the measured magnitude of the International Roughness Index (IRI). The IRI values for each corresponding condition are shown in the table below:

Table 7 – Condition classes

Condition	Good	Fair	Poor	Bad
International Roughness Index (IRI)	IRI < 4	4 < IRI < 6	6 < IRI < 8	IRI > 8

Climate zones – Definition of accurate climate zones for each section is very important as HDM4 deterioration rates are affected by respective parameters. Climate zone codes and definitions are shown in the table below:

Table 8 – Climate zones and definition

Code	Definition	HDM4-CZ
A	North subtropical humid	CZ1
D	Subtropical semi-arid plain	CZ2
K	North sub-Mediterranean semi-humid	CZ3
M	Subtropical arid mountain	CZ4
U	Temperate semi-arid mountain	CZ5
X	High-mountain meadow	CZ6

In addition to the criteria above, RD considers the following social aspects: distance to touristic sights, regional centers or hospitals, number of schools in the area and available budget.

² M. W. Sayers, T. D. Gillespie, and W. D. Paterson, "Guidelines for the conduct and calibration of road roughness measurements," World Bank Technical Paper 46, The World Bank, Washington, DC, USA, 1986.

Audit Findings and Recommendations

In addition to DLI 2.1 verification, the audit team reviewed RD’s internal control mechanisms related to updating of the Five-Year Rolling Program and the annual plan.

Criteria 1

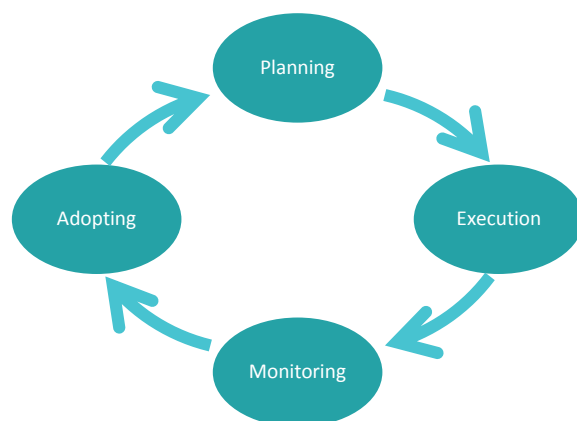
In order to prevent and detect possible deficiencies in the above mentioned process, the Five-Year Rolling Program and the annual plan should be formally approved by the management. This would ensure the transparency of the preparation/amendment process and verify the management involvement and awareness.

The Committee of Sponsoring Organization's (COSO) Contextual Business Model³ is a simple but holistic view of governance and management processes (see Figure 2) to illustrate the integration of the COSO frameworks into the core activities of a business. This general business model encompasses most management processes.

The model begins with **governance**, which starts with the organization’s vision and mission and consists of oversight from the directors of the organization’s planning and operations. Also includes the activities of executive management in ensuring the effectiveness of strategy setting and the organization’s other management processes.

Next is **strategy setting**, which is the process by which executive management articulates a high-level plan for achieving one or more goals consistent with the organization’s mission. Together, the two elements of governance and strategy setting provide direction to the organization and clearly have a place in ensuring the organization’s success in meeting the demands and expectations of stakeholders.

Figure 2: Contextual Business Model



Inside the business model are four elements based on the time-honored concept of the “Plan, Do, Check, Act Cycle”. COSO describes these elements as business planning, execution, monitoring and adapting.

³ USA, Improving Organizational Performance and Governance, James DeLoach & Jeff Thomson <https://www.coso.org/Documents/2014-2-10-COSO-Thought-Paper.pdf>

These elements are essentially what operating management does in managing the execution of the strategy **approved by executive management**.

The audit team believes that the Five-Year Rolling Program and the annual plan are the constituents of RD's strategy and their adoption/approval process should be formalized.

Audit Finding 1

The SAO has identified no documented evidence of the top management's involvement in updating the Five-Year Rolling Program and the annual plan. As explained by the RD, the members of the top management are involved in preparation process, however their decisions are not being documented. As a result, preparation process lacks transparency. In addition, the audit team was unable to observe and assess the management's awareness of top priorities, criteria and amendments included in the rolling program and the annual plan.

Recommendation for the Audit Finding 1

In order to emphasize significance of the Five-Year Rolling Program/Annual Plan and to increase transparency of an amendment process, the SAO recommends that both documents and subsequent amendments be formally approved by the RD's top management.

Criteria 2

In order to meet Value for Money objectives, RD should beforehand be aware of expected outcomes of decisions made in relation to the road improvements and their preservation (maintenance, periodic maintenance and rehabilitation). The audit team reviewed researches⁴ related to the road asset management in different countries. According to researches, the expected useful/service life of roads is the major indicator in identification of the best type of work (e.g. maintenance vs. periodic maintenance vs. rehabilitation) to be performed at a given period of time. Selection of the most appropriate type of work ensures the highest Value for Money.

Audit Finding 2

Useful life of roads varies according to several factors, including: type of works done, traffic intensity and regional climate. The SAO established, that the assessment of expected useful life of secondary roads is not being performed by the RD during the annual planning process. As a result, RD doesn't have an opportunity to justify that it identifies the best option between a maintenance, periodic maintenance and rehabilitation.

Recommendation for the Audit Finding 2

In order to increase effectiveness of the secondary road asset management, the RD should design and implement mechanisms which will allow the estimation of a road's useful life consequent to the type of work. Estimation can be done based on the past experiences, types of work, AADT and regional climate. The expected outcomes of the different types of works need to be compared and the most effective and efficient type of work should be selected (maintenance, periodic maintenance, rehabilitation).

⁴ USA, City of Bloomington Public Works Department, <https://www.bloomingtonmn.gov/sites/default/files/media/PMP%20Brochure.pdf>;

Australia, City Council, <http://www.orange.nsw.gov.au/site/index.cfm?display=329376>;

Conclusion

This Independent Audit verifies that the expenditure incurred during the period of 6 July 2016 to 31 December 2017 represent the eligible expenditure and the Roads Department of Georgia has achieved the base year (Year 1) targets set forth. The audit team advises that the loan amount of USD 1,813,747 be converted into disbursement. For the details see the table below:

Table 9 – Conversion into disbursement

DLI targets, 2016-2017	Achieved DLI results, %	Loan amount assigned to DLI, (US\$)	DLI loan amount eligible for conversion into disbursement, (US\$)	%	Total eligible expenditures reported in IFRs, (US\$)	DLI loan amount recommended for conversion into disbursement, (US\$)	DLI loan amount that could be recommended for conversion into disbursement in the next reporting period of Jan 1 - Dec 31, 2018, (US\$)
<i>Consultant for preparation of detailed design and bidding documents for rehabilitation and maintenance of project roads under OPRC and provision of supervision/monitoring services selected</i>	100	395,200	395,200	17.3%	1,813,747	313,695	81,505
<i>Six Design-build contracts signed and design phase commenced</i>	100	1,810,000	1,810,000	79.21%		1,436,710	373,290
<i>Update of a Five-Year Rolling Program and preparation of Yr2 plan</i>	100	79,800	79,800	3.49%		63,342	16,458
Sum	100	2,285,000	2,285,000	100%	1,813,747	1,813,747	471,253

Table 10 – Advances received and carried forward

Description	Amount (US\$)
Sum of advances received (6 July 2016 - 31 December 2017)	6,403,471
Disbursements (6 July 2016 - 31 December 2017)	(1,813,747)
Advances to be carried forward as at 31 December 2017	4,589,724

Auditor signatures

Tengiz Tevdoradze
(Senior Auditor)

Nino Kashibadze
(Auditor)



Appendix A – Disbursement Linked Indicators (DLIs)

DLI	Unit of Measurement	Year 1	Year 2	Year 3	Year 4	Year 5	Total amount allocated to each achieved DLI
		From Effective Date to December 31, 2017	From January 1, to December 31, 2018	From January 1, to December 31, 2019	From January 1, to December31, 2020	From January 1, to December31, 2021	
Target							
1.1. Project Roads rehabilitated and periodically maintained under OPRC	Share (%) of Project Roads rehabilitated and/or periodically maintained under OPRC	Consultant for preparation of detailed design and bidding documents for rehabilitation and maintenance of project roads under OPRC and provision of supervision/monitoring services selected	Detailed design and bidding documents for rehabilitation and maintenance of project roads under OPRC prepared	10% rehabilitated	60% rehabilitated	30% rehabilitated	100%
	Loan amount, US\$	395,200	395,200	4,200,000	7,580,000	5,389,600	17,960,000
1.2. Routine maintenance targets achieved under OPRC	Percentage of the aggregate OPRC amount paid for routine maintenance	-	-	On average at least 80%	On average at least 80%	On average at least 80%	
	Loan amount, US\$	-	-	747,000	747,000	498,000	1,992,000
1.3. Targets of the Design-build Sub-program achieved	Length (Km) of roads rehabilitated under Design-build Sub-program	Six Design-build contracts signed and design phase commenced	60	40	-	-	100
	Proportion of Loan amount, US\$	1,810,000	9,927,000	6,223,000	-	0.00-	17,960,000

DLI	Unit of Measurement	Year 1 From Effective Date to December 31, 2017	Year 2 From January 1, to December 31, 2018	Year 3 From January 1, to December 31, 2019	Year 4 From January 1, to December 31, 2020	Year 5 From January 1, to December 31, 2021	Total amount allocated to each achieved DLI
		Target					
2.1. Preparation of fully-costed Five-Year Rolling Program using the improved methodology	Preparation of fully-costed Five-Year Rolling Program	Update of a Five-Year Rolling Program and preparation of Yr2 plan	Update of a Five-Year Rolling Program and preparation of Yr3 plan	Update of a Five-Year Rolling Program and preparation of Yr4 plan	Update of a Five-Year Rolling Program and preparation of Yr5 plan	Update of a Five-Year Rolling Program and preparation of Yr6 plan	
	Proportion of Loan amount, US\$	79,800	79,800	79,800	79,800	79,800	399,000
2.2. Integration of road safety in asset management	Scaling up of GeoRAP and improved GeoRAP starting on Guria roads	-	Scaling up of GeoRAP to Mtskheta-Mtianeti	Scaling up of GeoRAP to Racha-Lechkhumi	Scaling up of GeoRAP to Shida Kartli	Better starting on Guria secondary roads network	
	Proportion of Loan amount, US\$	-	99,750	99,750	99,750	99,750	399,000
2.3. Introduction of climate resilience practices in RD's road asset management	Introduction of climate resilience practices in RD's road asset management	-	Detailed Design and Bidding Documents for priority Climate Resilience Measures prepared and tendered out	Implementation of priority climate resilient measures in Racha	Implementation of priority climate resilient measures in Racha	-	
	Loan amount US\$	-	416,500	416,500	357,000	-	1,190,000
PROPORTION OF LOAN AMOUNTS FOR EACH DLI PER YEAR, US\$		2,285,000	10,918,050	11,766,050	8,863,550	6,067,350	39,900,000

Appendix B – Extract from the IFRs

Summary of Uses of Funds by Project Components – for the period from 1/10/2017 to 31/12/2017

Project Components/Activities	Actual			Planned			Variance			Life of project
	Current Quarter	Year to Date` YTD	Cumulative to Date	Current Quarter	Year to Date` YTD	Cumulative to Date	Current Quarter	Year to Date` YTD	Cumulative to Date	
1. Component 1 Road Asset Improvement and Preservation										
<u>Component 1.1 Improvement and Maintenance of Secondary Roads in Guria through OPRC</u>										
<u>DLI 1.1</u>	-	-	-	-	-	-	-	-	-	17,960,000
<u>DLI 1.2</u>	-	-	-	-	-	-	-	-	-	1,992,000
<u>Component 1.2 Rehabilitation and Improvement of Secondary Roads Assets through Design-Build Contracts</u>										17,960,000
<u>DLI 1.3</u>	407,862	1,449,783	1,449,783	404,199	1,449,783	1,449,783	(3,663)	-	-	
<u>Component 1.3 Supervision and Monitoring Services of Civil Works</u>										
<u>DLI 1.3</u>	321,032	363,964	363,964	142,137	465,104	465,104	(178,895)	101,140	101,140	
<u>DLI 1.3</u>	-	-	-	-	-	-	-	-	-	
<u>Total Component 1</u>	728,894	1,813,747	1,813,747	546,336	1,914,887	1,914,887	(182,558)	101,140	101,140	

Project Components/Activities	Actual			Planned			Variance			Life of project
	Current Quarter	Year to Date` YTD	Cumulative to Date	Current Quarter	Year to Date` YTD	Cumulative to Date	Current Quarter	Year to Date` YTD	Cumulative to Date	
2. Component 2 Enhanced Secondary Road Assets Planning and Management										
<u>Component 2.1 Enhancement of RAMS and Improved Assets Programming and Planning</u>										
<u>DLI 2.1</u>	-	-	-	-	-	-	-	-	-	399,000
<u>Subcomponent 2.2 Integrated Road Safety Management</u>										
<u>DLI 2.2</u>	-	-	-	-	-	-	-	-	-	399,000
<u>Component 2.3 Climate Resilience Technical Assistance</u>										
<u>DLI 2.3</u>	-	-	-	-	-	-	-	-	-	1,190,000
<u>Total by Component 2</u>	-	-	-	-	-	-	-	-	-	
<u>Total by Category (1) Goods, Works, Non-Consulting Services, and Consultants' Services for Part 1 and Part 2 of the Project, and Training for Part 2 of the Project.</u>	728,894	1,813,747	1,813,747	546,336	1,914,887	1,914,887	(182,558)	101,140	101,140	
<u>Category (2) Front End Fees</u>	-	-	100,000	-	-	100,000	-	-	-	100,000
<u>Total by Category (2) Front-End Fee</u>	-	-	100,000	-	-	100,000	-	-	-	
<u>Category (3) Interest Rate Cap or Interest Rate Collar Premium</u>	-	-	-	-	-	-	-	-	-	-

<i>Project Components/Activities</i>	<i>Actual</i>			<i>Planned</i>			<i>Variance</i>			<i>Life of project</i>
	<i>Current Quarter</i>	<i>Year to Date` YTD</i>	<i>Cumulative to Date</i>	<i>Current Quarter</i>	<i>Year to Date` YTD</i>	<i>Cumulative to Date</i>	<i>Current Quarter</i>	<i>Year to Date` YTD</i>	<i>Cumulative to Date</i>	
<u>Total by Category (3) Interest Rate Cap or Interest Rate Collar Premium</u>	-	-	-	-	-	-	-	-	-	
Total Project Activities	728,894	1,813,747	1,913,747	546,336	1,914,887	2,014,887	(182,558)	101,140	101,140	40,000,000

Appendix C – Methodology and list of documents reviewed during the audit

The Independent Audit was conducted according to the SAO’s Performance Audit Methodology compliant with International Standards of Supreme Audit Institutions. It employed three methods including: document analysis, data analysis and semi-structured interviews with the staff of RD.

OBJECTIVES OF THE ASSIGNMENT	METHODOLOGY AND PROTOCOLS	LIST OF DOCUMENTS
Verification of expenditures	<p>The Independent Audit team obtained and reviewed the six quarterly IFRs covering period 6 July 2016 to 31 December 2017 and appropriate documentations.</p> <p>The audit approach for determining Loan amount for disbursement was based on TOR and were determined by applying the sum of amounts corresponding to the share of DLI targets achieved to actual eligible expenditures reported in IFRs for the period.</p>	<ul style="list-style-type: none"> - All six IFRs covering period 6 July 2016 to 31 December 2017; - Invoices; - The Payment Orders; - The signed contracts; - The Procurement Plan.
Verification of DLI 1.1 - Consultant for preparation of detailed design and bidding documents for rehabilitation and maintenance of project roads under OPRC and provision of supervision/ monitoring services selected.	<p>The Independent Audit team examined the compliance of the selection process with the World Bank’s guidelines on “Selection and Employment of Consultants under IBRD Loans and IDA Credits and Grants by World Bank Borrowers, January 2011, revised July 2014”.</p> <p>The Independent Performance Audit, including verification of DLIs, confirmed the percentage achievement of the DLI multiplied by the value of the DLI amount.</p>	<ul style="list-style-type: none"> - The Procurement Plan; - Advertisements; - Shortlist Evaluation Report; - Letters of Invitation; - Minutes of Public Opening of Technical and Financial Proposals; - Technical and Combined Evaluation Reports; - Letter of Acceptance; - Correspondence between RD and the World Bank.
Verification of DLI 1.3 – Six Design-build contracts signed and design phase commenced.	<p>The Independent Audit team examined the compliance of the procurement process with the World Bank’s guidelines on “Procurement of Goods, Works, and Non-Consulting Services under IBRD Loans and IDA Credits and Grants, January 2011, revised July 2014”.</p> <p>The Independent Performance Audit, including verification of DLIs, confirmed the percentage achievement of the DLI multiplied by the value of the DLI amount.</p>	<ul style="list-style-type: none"> - The Signed Contracts; - The Procurement Plan; - Advertisements; - Invitation for Bids; - Letters of Bid; - Bid Security Declarations; - Bid Opening Minutes; - Bid Evaluation Reports; - Letter of Acceptance; - Performance Security (submitted by the winner); - Shortlist Evaluation Report; - Letters of Invitation; - Minutes of Public Opening of Technical and Financial Proposals; - Technical and Combined Evaluation Reports; - Correspondence between RD and the World Bank.
Verification of DLI 2.1 - Update of a Five-Year Rolling Program and preparation of Yr2 plan.	<p>The Independent Audit team obtained the prepared Five-Year Rolling Program and year 2 plan for confirmation of physical existence and analyzed the criteria used in update and preparation process.</p> <p>The Independent Performance Audit, including verification of DLIs, verified that the update of the multi-year rolling program has been done and the annual plan for the next fiscal year has been prepared in accordance with the improved methodology suggested under the ongoing SLRP-III.</p>	<ul style="list-style-type: none"> - The “Handbook for the preparation of Multi-Year Rolling Plan for road asset preservation and improvements” designed for the World Bank financed project SLRP-III on November 4, 2016. - The prepared Five-Year Rolling Program and year 2 plan.

