



OFFICE OF INSPECTOR GENERAL
U.S. Agency for International Development

MCC Has Opportunities To Enhance Guidance and Tools for Sustaining Results of Road Infrastructure Compacts

AUDIT REPORT M-MCC-20-001-P
OCTOBER 29, 2019

1300 Pennsylvania Avenue NW • Washington, DC 20523
<https://oig.usaid.gov> • 202-712-1150

The Office of Inspector General provides independent oversight that promotes the efficiency, effectiveness, and integrity of foreign assistance provided through the entities under OIG's jurisdiction: the U.S. Agency for International Development, Millennium Challenge Corporation, U.S. African Development Foundation, Inter-American Foundation, and Overseas Private Investment Corporation.

Report waste, fraud, and abuse

USAID OIG Hotline

Email: ig.hotline@usaid.gov

Complaint form: <https://oig.usaid.gov/complainant-select>

Phone: 202-712-1023 or 800-230-6539

Mail: USAID OIG Hotline, P.O. Box 657, Washington, DC 20044-0657



MEMORANDUM

DATE: October 29, 2019

TO: Millennium Challenge Corporation, Chief Executive Officer, Sean Cairncross

FROM: Assistant Inspector General for Audit, Thomas Yatsco /s/

SUBJECT: MCC Has Opportunities To Enhance Guidance and Tools for Sustaining Results of Road Infrastructure Compacts (M-MCC-20-001-P)

This memorandum transmits the final report on our audit of the sustainability of the Millennium Challenge Corporation's (MCC) road infrastructure projects. Our audit objectives were to examine the extent to which MCC effectively (1) identified and addressed sustainability risks for selected past road projects and (2) integrated sustainability lessons from past road projects into risk assessment policies, guidance, and procedures. In finalizing the report, we considered your comments on the draft, incorporated them where appropriate, and included them in their entirety, excluding attachments, in appendix C.

The report contains two recommendations to improve MCC's ability to address risks to sustainability of road investments. After reviewing information you provided in response to the draft report, we consider both recommendations resolved but open pending completion of planned activities.

For recommendations 1 and 2, please provide evidence of final action to OIGAuditTracking@usaid.gov.

We appreciate the assistance you and your staff extended to us during this audit.

CONTENTS

INTRODUCTION.....	1
SUMMARY.....	2
BACKGROUND.....	3
MCC’S EFFORTS TO ADDRESS RISKS TO SUSTAINABILITY ON SELECTED PAST ROAD PROJECTS WERE INADEQUATE	5
Sustainability Risk Mitigation Efforts Were Inadequate on Selected Past Projects and MCC Did Not Have Comprehensive Guidance at the Time.....	6
Post-Compact Inspections Revealed Poor Conditions on Some Sections of MCC-Funded Roads	8
MCC HAS INTEGRATED SUSTAINABILITY INTO ITS GUIDANCE, BUT HAS NOT FULLY ADDRESSED A KEY LESSON FROM PAST PROJECTS.....	11
MCC Modified Its Guidance and Related Tools To Address Risks to Sustainability ...	11
MCC’s Guidance Addresses Verifying Information but Has Not Fully Addressed a Key Lesson From Past Projects Regarding Economic Analysis	14
CONCLUSION.....	15
RECOMMENDATIONS.....	15
OIG RESPONSE TO AGENCY COMMENTS.....	16
APPENDIX A. SCOPE AND METHODOLOGY.....	17
APPENDIX B. EXCERPT OF A DOT TECHNICAL REPORT	19
APPENDIX C. AGENCY COMMENTS	26
APPENDIX D. MAJOR CONTRIBUTORS TO THIS REPORT.....	29

INTRODUCTION

Navigable roads contribute to economic progress by allowing businesses to obtain inputs and market their products efficiently and by improving access to schools and other institutions. Recognizing the importance of roads to economic development, MCC has invested approximately \$2.7 billion in developing countries' transportation sectors, 97 percent of it for roads. Yet a November 2017 MCC review, "Principles into Practice: Lessons from MCC's Investments in Roads" showed some roads that were just 5 or 6 years old had not been maintained and had deteriorated.

MCC advances its development goals through 5-year compacts—agreements that it signs with governments of eligible countries. Countries receiving MCC funds, known as partner countries, must establish accountable entities (called Millennium Challenge Accounts or MCAs) to implement the projects as mutually agreed to and manage all compact funds. In addition, MCC requires that each compact contain a strategy for sustainability. For compacts with road infrastructure projects, MCC has identified three factors critical for sustaining progress: laws, policies, and regulations; institutional capacity; and financial viability. Throughout compact development and implementation, MCC works with MCAs to address sustainability risks.

Because the sustainability of MCC road infrastructure projects is essential to their long-term impact, we sought to understand MCC's past and current processes for identifying and addressing risks to the sustainability of road projects.¹ Our objectives were to examine the extent to which MCC effectively (1) identified and addressed sustainability risks for selected past road projects and (2) integrated sustainability lessons from past road projects into risk assessment policies, guidance, and procedures.

We judgmentally selected four compacts with road projects in Georgia, Ghana, El Salvador, and Senegal, from 17 compact road projects in which MCC had invested \$2.4 billion as of January 2017.² The four compacts we selected accounted for more than 40 percent of that investment (\$1.01 billion). All four compacts were completed at the time of our audit. We conducted fieldwork and interviewed partner-country officials in these four countries to assess how effectively MCC had mitigated sustainability risks in completed road projects. We used licensed, independent U.S. Department of Transportation (DOT) engineers to conduct visual inspections during fieldwork. We

¹ For the purposes of this audit, we use the definition of sustainability developed during a series of audits conducted by the U.S. Government Accountability Office (GAO) of MCC compacts from 2010 to 2012 in Benin, Cape Verde, Georgia, and Honduras: Sustainability is the ability of MCC's partner-country governments to operate and maintain the new infrastructure in the condition required to produce the projected benefits for the period those benefits are expected. Related GAO reports include: "Millennium Challenge Corporation: Compacts in Cape Verde and Honduras Achieved Reduced Targets," (GAO-11-728), July 25, 2011; and "MCC: Georgia and Benin Transportation Infrastructure Projects Varied in Quality and May Not Be Sustainable," (GAO-12-630), June 27, 2012.

² Based on the data MCC provided in February 2017, MCC had 17 compacts with road projects, which included 2 compacts with El Salvador.

also analyzed MCC documents and interviewed MCC officials in Washington, DC, to understand the agency's process for identifying and managing sustainability risks to current and future road infrastructure projects. We evaluated MCC's past and current policies and procedures to see if changes to them addressed the sustainability risks. Appendix A contains the full scope and methodology.

SUMMARY

In all four of the past compacts we reviewed, which were initiated between 2006 and 2010, MCC identified risks to the sustainability of its road projects, but its efforts to mitigate or track the risks were inadequate in some cases. Because MCC relied on unverified or vague information in mitigating risks, some of the mitigating measures it created (known as conditions precedent or CPs) did not always work, and MCC did not consistently track countries' progress on the measures. For example, in Georgia, MCC created a CP that required the Government to budget and expend certain amounts on road maintenance during each of the compact's 5 years. However, MCC did not independently assess whether the Government's level of funding was adequate to address maintenance needs and could not demonstrate that it tracked the CP during compact implementation. In Senegal, MCC put in place a CP requiring the Government to eliminate the gap between funding available and funding needed for road maintenance. However, it was not until the fourth year of the compact that MCC discovered that the Government's estimate understated the maintenance gap by at least 54 percent. In response, MCC modified the CP to improve Senegal's ability to estimate its road maintenance needs through training, tools, and equipment. Further, post-compact road inspections revealed roads in a variety of conditions. Some sections were in good to excellent condition, while other road sections were in poor condition and require significant rehabilitation or replacement of road surface even though construction had been completed only 5 or 6 years earlier.

After the compacts we selected for this audit were underway, MCC reviewed past road projects and distilled lessons to improve its guidance and tools to manage and mitigate risks related to sustainability. MCC now requires verification of information from partner countries to ensure quality of the information being used to address sustainability risks during compact design and implementation. However, MCC's guidance does not fully incorporate a key lesson from past projects. MCC conducted a review in 2017 of 16 compacts with road projects and developed 7 lessons to consider in future work. We found that MCC addressed six of the seven key lessons. One of the review's recommendations was to develop standard guidelines to promote consistent application of economic analysis tools across road projects. MCC is currently developing, but has not yet completed, sector-specific economic analysis guidelines, which include the transportation sector. Further, MCC has updated its guidance, but it is still in draft. Without formalized guidance, MCC has less assurance that its staff will consistently use the guidance and tools at their disposal to help partner countries effectively mitigate risks to sustainability to achieve each project's intended long-term benefits.

We made two recommendations to improve MCC’s ability to address risks to sustainability. MCC generally agreed with our recommendations.

BACKGROUND

Established by the Millennium Challenge Act of 2003, MCC delivers foreign assistance through 5-year compacts—agreements that it signs with governments of eligible countries. Countries receiving MCC funds, known as partner countries, lead the development and implementation of the compacts. Partner countries must establish MCAs as accountable entities to implement the projects as mutually agreed on and manage all compact funds, which MCC must expend within 5 years. Table I shows the four compacts with road projects that we reviewed during the course of this audit.

Table I. Four Selected Compacts With Road Projects

Compact Country ^a	Dates	Funding for Road Projects	Compact Goals
Georgia I	April 2006-2011	\$213 million	The compact goal was to increase economic growth and reduce poverty in regions outside the capital through the rehabilitation and construction of roads and bridges. Technical assistance was also to be provided to the Road Department of the Ministry of Economic Development.
Ghana I	Feb. 2007-2012	\$284 million	The compact goals were to 1) increase the production of high-value cash crops and food staples and to enhance competitiveness in both local and international markets and 2) reduce transportation costs affecting agricultural commerce through rehabilitating and upgrading roads.
El Salvador I	Sept. 2007-2012	\$270 million	The compact goal was to advance economic growth and poverty reduction through reducing travel time and costs in the northern region.
Senegal I	Sept. 2010-2015	\$238 million	The compact goal was to improve agricultural productivity and access to markets and services through investments in roads. The project was designed to improve road quality and to reduce travel time and costs.

^a Our audit focused on the first of two compacts awarded to these four countries.

Source: OIG analysis of MCC documents.

Critical Sustainability Factors

The Millennium Challenge Act requires that each compact contain a strategy for sustainability.³ For road infrastructure projects, MCC's compact agreements with partner countries list three factors critical to sustaining progress:

1. **Laws, policies, and regulations.** Partner countries need laws, policies, and regulations to manage roads and to ensure funding to sustain road infrastructure projects. For example, partner countries need to generate funds via fuel levies, tolls, vehicle registration and licensing fees, national budgets, or other sources to pay for road maintenance.
2. **Institutional capacity.** Partner countries' road agencies need the ability to manage resources, use a system to determine road maintenance needs, and perform road maintenance.
3. **Financial viability.** Partner-country programs and systems responsible for maintaining the road infrastructure need sufficient funds for the physical upkeep of MCC-funded roads.

The Millennium Challenge Act also requires MCC to coordinate with other donors to the extent possible during the development and implementation of compact activities.⁴ MCC coordinates with other donors who also provide development assistance to partner countries' road sectors. For example, the World Bank, the African Development Bank, the U.K.'s Department for International Development, the Arab Bank for Economic Development, and others can build road sector institutional capacity, support institutional reforms, and fund road maintenance.

MCC's Risk Assessment Process

MCC identifies and addresses risks to sustainability, including sustainability of road infrastructure projects, using the process shown in figure 1 below. The process uses tools such as due diligence reports, investment memos, and CPs. During compact due diligence, MCC identifies risks to the eligible country's ability to sustain compact results. MCC then prepares an investment memo documenting risks and proposing measures to mitigate those risks. At compact approval, MCC establishes CPs that the eligible country must meet before funding is disbursed, as well as any other mitigation measures a country must take. During compact implementation, MCC tracks the partner country's compliance with CPs. MCC disburses funds when the CPs are met.

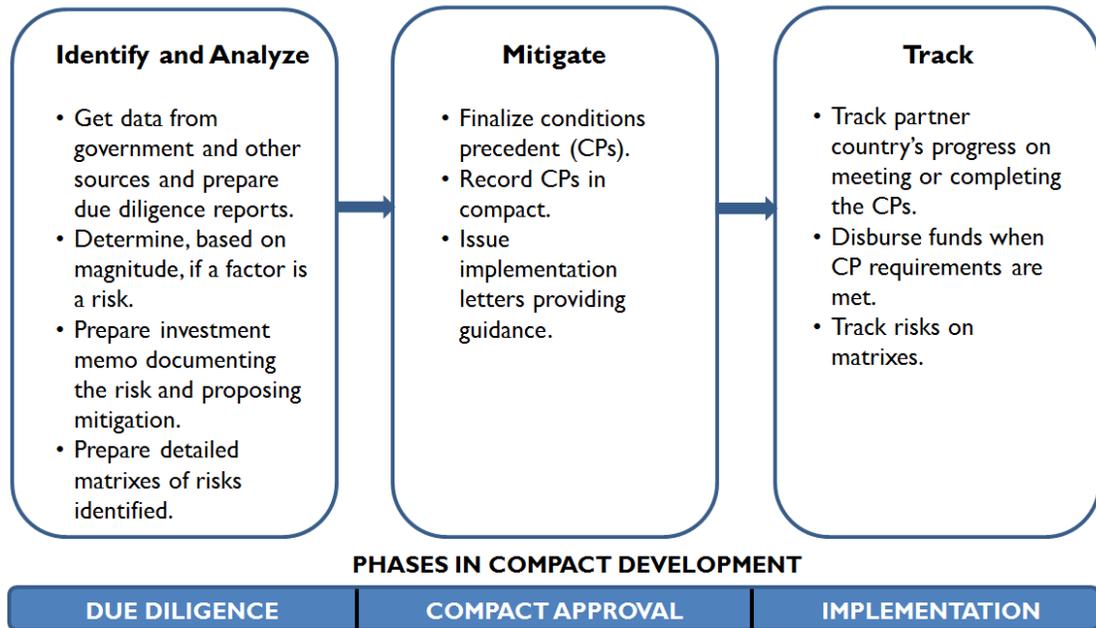
For the four compacts we reviewed, CPs were the main mechanism MCC said it used to mitigate sustainability risk. MCC said it also relied on additional tools to mitigate risk. During compact implementation, MCC said it issued implementation letters to provide

³ Section 609(b)(1)(J) of the Millennium Challenge Act, Public Law 108-199 (2004), Title 22 of the United States Code (U.S.C.), Section 7708(b)(1)(J).

⁴ Section 609(f) of the Millennium Challenge Act, 22 U.S.C. 7708(f).

guidance regarding emerging concerns. Beginning in 2010, MCC said it began using matrixes to identify risks and track risk mitigation.

Figure I. MCC’s Process for Identifying and Addressing Risks



Source: OIG’s analysis of MCC process based on documents and interviews.

MCC’S EFFORTS TO ADDRESS RISKS TO SUSTAINABILITY ON SELECTED PAST ROAD PROJECTS WERE INADEQUATE

Federal internal control standards require Federal agencies to identify, analyze, and respond to risks that could prevent them from meeting their objectives.⁵ MCC identified risks to the sustainability of its road projects. However, its efforts to mitigate or track the risks were inadequate in the four compacts we reviewed. At the time of MCC’s design and development of these compacts, MCC did not have comprehensive guidance for staff on how to develop, implement, and track risk mitigation measures to ensure sustainability. In addition, post-compact visual inspections of roads revealed that some were in poor condition.

⁵ See Principle 7 - Identify, Analyze, and Respond to Risks, sections 7.01-7.09 in GAO’s “Standards for Internal Control in the Federal Government” (GAO-14-704G), September 2014. The prior version of GAO’s Federal internal control standards (GAO/AIMD-00-21.3.1, published in 1999), which was in effect at the time the compacts were initiated, also required agencies to identify and analyze relevant risks and take actions to manage those risks.

Sustainability Risk Mitigation Efforts Were Inadequate on Selected Past Projects and MCC Did Not Have Comprehensive Guidance at the Time

Georgia. MCC identified sustainability risks but did not effectively track or verify information. MCC created two CPs designed to provide technical assistance to improve the Georgian Government road agency's ability to manage and maintain roads. Yet the plan for technical assistance was dropped in the third year of the compact, 2009. MCC did not provide documentation to support eliminating the planned assistance or the CPs. In 2018, MCC officials stated that the planned technical assistance and associated CPs were eliminated because of the Government's unwillingness to expend more resources at the time. Therefore, MCC officials said, they did not push the Government on the issue and never implemented the planned technical assistance.

MCC also designed a CP requiring the Government to budget and expend certain amounts on road maintenance during each of the compact's 5 years. However, contrary to MCC's due diligence guidance, MCC's due diligence review did not document the annual budget requirement for road maintenance in Georgia or how maintenance would be carried out.⁶ Moreover, MCC did not independently assess whether the level of funding required in the CP was adequate to address maintenance needs. MCC also did not have sufficient documentation or evidence to demonstrate that it was tracking the CP during compact implementation or that the Government met the CP by expending the required funds on maintenance.

Ghana. MCC identified sustainability risks in institutional capacity to plan, conduct, and fund road maintenance but did not take appropriate action to track progress on mitigating the risks. Building on the efforts of other donors to improve Ghanaian road agencies' capacity to do and fund maintenance, MCC designed a CP requiring the Government to report annually on its compliance with the other donors' agreements.⁷ Yet when we asked for evidence demonstrating that Ghana had satisfied the CP, MCC provided just one report related to donor coordination that was issued before the compact began. In the absence of compliance documentation, MCC had less assurance that other donors' efforts helped the Government reduce risks to sustaining the road investment.

El Salvador. MCC identified sustainability risks related to road maintenance funding but was not able to effectively mitigate those risks. In El Salvador, MCC created a CP requiring adequate funding for road maintenance. Yet during the third year of the

⁶ MCC Due Diligence for Georgia I Compact, part VIII, section A, "Samtskhe-Javakheti Road," questions 30 and 31.

⁷ There were 15 donors active in Ghana's road sector. Examples of donor organizations include the World Bank, the African Development Bank, the U.K.'s Department for International Development, and the Arab Bank for Economic Development. In addition to funding road maintenance and rehabilitation, donors supported institutional reforms such as improving the capacity of the road agencies, improving the accounting and financial management activities, and developing a sustainable framework for rural transport.

compact, MCC found that FOVIAL (El Salvador's road maintenance agency) had inadequate funding to maintain its roads.⁸ Because the Government had not met the CP, MCC began taking steps to suspend compact funding in the fifth year, and the Government increased maintenance funding. Despite these efforts, an MCA official reported that a funding gap remained.

Senegal. MCC also identified road maintenance funding as a sustainability risk to Senegal's road project, but it did not verify how the Government estimated its needs for road maintenance and funding until the last year of the compact. In 2009, MCC put in place a CP requiring the Government to eliminate the gap between funding available and funding needed for road maintenance. This CP was based on the Government's existing process for estimating road maintenance funding. At the time the CP was created, the Government's estimate of road maintenance funding was not based on an assessment of real road conditions. It was not until 2014 that MCC discovered the error in the Government's estimate, which understated the maintenance gap—the difference between funds available for maintenance and the cost of road maintenance—by at least 54 percent, creating a deficit of approximately \$44 million annually.⁹ MCC then modified the original CP to improve Senegal's ability to estimate its road maintenance needs through training, tools, and equipment.

At the time of MCC's design and development of the four compacts we reviewed, MCC did not have guidance for staff on how to develop, implement, and track risk mitigation measures to ensure sustainability. Consequently, staff did not always effectively perform comprehensive risk analysis, support risk analysis with verified information, and track mitigation measures in these countries. This is in contrast to Federal standards that require agency management to implement internal control activities such as assessing and mitigating risks, documenting responsibilities, and establishing standard procedures.¹⁰ Because it disbursed funds for road projects based on insufficient analysis, mitigation of risks, or tracking of remediation, MCC lacked assurance that the countries fulfilled CPs and, more importantly, that it had successfully mitigated risks to sustainability of road infrastructure investments.

⁸ FOVIAL is Fondo de Conservación Vial or Road Conservation Fund.

⁹ According to MCC's due diligence review of Senegal's compact proposal, the gap between road maintenance need and the annual budget was 13 billion Communauté Financière d'Afrique (CFA or West African) francs in 2009. MCC's independent engineer found that the annual gap was at least 20 billion CFA (approximately \$44 million on December 31, 2009).

¹⁰ GAO, "Standards for Internal Control in the Federal Government" (GAO-14-704G). Principle 12, sections 12.02 and 12.04. The prior version of GAO's Federal internal control standards (GAO/AIMD-00-21.3.1, published in 1999), which were in effect at the time the compacts were initiated, also required agencies to identify and analyze relevant risks, and take actions to manage those risks. In addition, these 1999 standards required detailed policies and procedures to carry out control activities which address risks and help achieve objectives.

Post-Compact Inspections Revealed Poor Conditions on Some Sections of MCC-Funded Roads

MCC chooses road projects based on their ability to promote economic growth in the partner country. For example, road projects in Ghana were designed to improve the cost of transporting goods and services from rural areas to markets. However, our road inspections by expert engineers from the U.S. DOT revealed some sections of roads were in poor condition. The DOT engineers inspected roads to determine whether they were being maintained and exhibiting normal aging, not to determine why the roads were in the conditions they were in.¹¹

As table 2 and the three following photos show, in three of the four countries visited during the audit, sections of MCC-funded roads were in poor condition, meaning they require significant rehabilitation or replacement of road surface—even though construction had been completed only 5 or 6 years earlier. Sections of road in Georgia, Ghana, and El Salvador had severe potholes and pavement problems. Even though fewer than 20 percent of roads in El Salvador and Georgia were in poor condition, MCC stated that it recognizes that failed sections of roads can affect the utility and economic benefits of the broader road network. In rural Ghana, which accounted for approximately 36 percent of the total expenditures on the MCC roads project in this country, some paved roads had no visible ditches for drainage, and gravel routes had little gravel. In some instances, we noted conditions that affected the safety of the traveling public, such as drop-offs that lacked warning signs. Our review found the 2-year-old roads in Senegal in good condition.

¹¹ Further details on the DOT engineers' findings and methodology can be found in appendix B.

Table 2. Observed Condition of MCC-Funded Roads in Selected Partner Countries

Compact Country	Kilometers Examined	% of Roads Examined	% of Kilometers Examined That Were in Poor Condition ^a
Georgia	222	100	17
Ghana ^b	290	65	52
El Salvador	205	100	19
Senegal	310	100	0

^a According to the DOT Pavement Distress Identification Manual (FHWA-HRT-13-092, revised May 2014), a road in poor condition requires considerable funds, materials, and labor hours to repair or reconstruct.

^b Because of the geographically dispersed roads in Ghana, we examined only 290 of 447 kilometers of MCC-funded roads (65 percent).

Source: Based on U.S. DOT engineers' visual inspections conducted for this audit.



On a road in Georgia near the Armenian border, broken pavement extends almost 13 kilometers. Photo: S. Deppmeier, DOT engineer (September 2017)



The paved edge of the Awutu-Breku-Bontrase-Obrakyire in Ghana is eroded, creating a drop-off. Photo: S. Deppmeier, DOT engineer (September 2017)



Along Route 3 in El Salvador, an embankment gives way. Photo: S. Deppmeier, DOT engineer (February 2018)

While better managing sustainability risk in the development and implementation of road projects would increase the likelihood that roads will last, it does not guarantee sustainability. According to DOT, factors such as unusual or sudden increases in traffic load or extreme temperature variations might account for the poor conditions observed.¹²

MCC has acknowledged the need to better understand the physical condition of MCC-funded roads after a compact ends. MCC also recognized that the condition of a road network could impact the economic goals of the project. The agency has begun to take steps to review the physical conditions of roads from past compacts and plans to assess the condition of MCC-funded roads during monitoring and evaluation of future compacts. MCC issued a review in November 2017 entitled, “Principles into Practice: Lessons from MCC’s Investments in Roads.” This report examined 16 compacts with road investments and found that some MCC-funded roads had deteriorated. In addition, MCC’s transportation monitoring and evaluation guidance now includes post-compact assessment of the physical condition of MCC-funded roads by MCC evaluators.

MCC HAS INTEGRATED SUSTAINABILITY INTO ITS GUIDANCE, BUT HAS NOT FULLY ADDRESSED A KEY LESSON FROM PAST PROJECTS

MCC reviewed past road projects and distilled lessons to improve its guidance and tools to manage and mitigate risks related to sustainability. Since the projects we reviewed began, MCC modified its guidance and tools to help mitigate and track risks in its compacts. MCC now requires verification of information from partner countries to ensure quality of the information being used to address sustainability risks during compact design and implementation. MCC has incorporated six of the seven lessons identified in its review of past road projects. However, MCC has not fully developed a standard set of guidelines for economic analysis of transportation sector projects, which was one of the lessons identified in its review.

MCC Modified Its Guidance and Related Tools To Address Risks to Sustainability

According to MCC, its model of foreign assistance is based on achieving and measuring results, being accountable for those results, transparently reporting its results data and evaluations, and learning from the evidence to improve future programs.¹³ This model aligns with Federal best practices in enterprise risk management, which include

¹² DOT, Federal Highway Administration, “Geotechnical Aspects of Pavements,” Reference Manual (FHWA NHI-05-037), chapter I, section I.4, “Pavement Performance with Ties to Geotechnical Issues,” May 2006.

¹³ “Next: A Strategy for MCC’s Future,” February 22, 2016.

incorporating feedback to better manage risks to an agency's mission.¹⁴ At the time the four compacts we reviewed began, MCC lacked comprehensive guidance related to sustainability and related tools to help MCC and MCA staff ensure sustainability of the road projects after compact completion. MCC developed the following guidance and tools since 2012 to specifically focus on sustainability.

Guidance

MCC issued or revised six pieces of guidance to help ensure that MCC and MCA staff consider risks to sustainability when developing and implementing road projects.

- “Compact Development Guidance,” 2012. This guidance included project development with a section on sustainability of roads.¹⁵ The goal of the revised guidance is for MCC staff and partner countries to include (1) clear objectives, (2) a benchmark to measure progress, (3) clear fiduciary oversight, and (4) a plan for effectively monitoring and evaluating compact program results. According to this guidance, compacts need to be financially and technically sustainable once MCC funding has ended. In addition, MCC required that project concept papers have details on the mechanisms to ensure assessments of financial and technical sustainability. The revised guidance also requires an analysis to explore whether private sector activities can help address constraints to economic growth, sustain development investments, and enhance compact outcomes. MCC updated this document in 2017 with additional guidance on partner-country funding to ensure the sustainability of compact objectives.
- “Roads Development and Implementation Guidelines,” November 2014. These guidelines described various steps to identify and mitigate risks to sustainability so that the target economic rate of return is achieved.¹⁶ The guidance describes the importance of MCAs and engineers taking steps to ensure sustainability of the project even after the MCA is no longer active.
- “MCC’s General Approach to Sustainability/Road Maintenance,” 2015. This two-page document provides several lessons from international best practices, as well as MCC’s own past experiences, to ensure the financial viability of road projects. For example, it suggests that the funding of road maintenance is more stable when the partner-country government uses multiyear performance contracts, creating a contractual commitment to fund road maintenance.
- “Quarterly Portfolio Review (QPR) Guidance,” 2011, revised in 2017. The QPR is a report prepared by MCC country staff for MCC management to track the

¹⁴ GAO, “Enterprise Risk Management: Selected Agencies’ Experiences Illustrate Good Practices in Managing Risks” (GAO-17-63), December 2016.

¹⁵ MCC initially issued “Compact Development Guidance” in 2007. However, this guidance was high-level and did not provide detail on sustainability.

¹⁶ MCC defines economic rate of return (ERR) as a single metric showing how a project’s economic benefits compare to its costs. MCC requires that its projects have an ERR above 10 percent to be considered for investment.

implementation and progress of compacts. It requires input from MCAs, including information on sustainability and other risks to programs.

- “Transportation Project Monitoring and Evaluation Guidance,” November 2018. This plan provides guidance for MCC evaluators of road projects, including guidance on indicators of road quality, standard evaluation questions to be addressed, and some procedures for data collection.
- “MCC Guidance on Quarterly Accountable Entity Disbursement Request and Reporting Package (QDRP),” 2018. The QDRP provides information on reports and forms that are to be completed on a quarterly basis by MCAs related to all relevant funding sources. QDRP documents provide information on execution of program activities, financial management, procurement actions, progress toward compact or threshold goals, and status of CPs.

Tools

According to MCC officials, the agency has created and has been using various tools to mitigate and track action on sustainability risks.

- Management Information System. Since 2014, MCC has used an automated management information system to improve how it tracks CPs, according to MCC officials. During compact implementation, MCC or MCA staff enter information and provide updates to the status of each CP. According to MCC officials, the system allows MCC to track the CP and MCA staff to record if every condition has been fulfilled.
- Star Report. Implemented in 2017 as part of the QPR process, this quarterly update of critical information for every compact allows MCC staff to:
 - document changes such as updates to the budget that may affect sustainability.
 - enter the status and a brief narrative related to conditions precedent, including any justifications of deferrals or waivers that may be related to sustainability.
 - determine if MCC’s investments have resulted in any changes, improvements, or additional investments, including any that may affect sustainability that were not part of the original compact.
- Risk Assessment Framework and Tool (RAFT). Implemented in 2017, the RAFT allows MCC and MCA staff to consistently document risk and track mitigation. According to MCC officials, the agency incorporated sustainability into compact implementation as a risk type under its RAFT.
- Conditions Precedent Report Template. Implemented in 2018 as part of the QDRP, the CP report template includes a section that lists CPs and their status (satisfied, not satisfied, or not applicable) as of a specific date. The template also includes documentation required by MCC as evidence for verification, the status of the required verification including review and approval of the provided data, and any requests for deferrals or waivers as well as the justification for such requests.

Four of these tools and pieces of guidance were put into place while the Senegal compact was underway, from 2010 through 2015:

- “Quarterly Portfolio Review Guidance,” 2011
- “Compact Development Guidance,” 2012
- “Roads Development and Implementation Guidelines,” 2014
- Management Information System, 2014

The remaining tools and guidance became active after completion of the four compacts we reviewed.

MCC’s Guidance Addresses Verifying Information but Has Not Fully Addressed a Key Lesson From Past Projects Regarding Economic Analysis

Federal internal control standards require management to use quality information.¹⁷ However, in our case study examples, we noted instances where a lack of verification of information on the risks to sustainability lessened MCC’s ability to mitigate those risks. In Senegal, MCC designed a CP but did not verify the data provided by the Government when designing the CP. MCC’s “Road Development and Implementation Guidelines,” developed in 2014, now requires the verification of partner country data during compact design. In Georgia and Ghana, we noted issues with MCC’s tracking of data for CP compliance. During our audit, MCC revised the QPR and created the QDRP and a CP report template to allow tracking and verification of data related to CPs.

Although MCC has updated its guidance and created tools to improve the sustainability of road projects, it has not fully incorporated a key lesson from past road projects. MCC uses a learning-from-evidence model to assess its programs, and in 2017, MCC issued “Principles into Practice: Lessons from MCC’s Investments in Roads” based on lessons from 16 past projects. According to MCC, the purpose of this review was to learn from its past experiences and perform better in the future. The review looked at all phases of the compact including design, implementation, and evaluation of the road projects.

“Principles into Practice: Lessons from MCC’s Investments in Roads” identified seven key lessons from investing in road projects that span project development, implementation, and evaluations. In our analysis of MCC’s “Road Development and Implementation Guidelines” and “Transportation Monitoring and Evaluation Guidance,” we found that MCC had addressed six of these seven key lessons. MCC has partially addressed one key lesson concerning the development of standard guidelines to promote consistent application of economic analysis tools across road projects. While

¹⁷ Principle 13, section 13.01, in GAO’s “Standards for Internal Control in the Federal Government” (GAO-14-704G), September 2014. The prior version of these standards (GAO/AIMD-00-21.3.1, published in 1999) also required agencies to have relevant, reliable, and timely information to achieve their objectives.

MCC guidance provides models for the consistent application of economic analysis across compacts, it does not have guidance providing details on applying economic analysis to the transport sector. An MCC official stated that MCC is developing sector-specific economic analysis guidelines, which includes the transportation sector; however, this has not yet been completed.

In addition, the “Road Development and Implementation Guidelines,” prepared in 2014, remain in draft and are not mandatory. MCC made the draft available to staff to help in the development and implementation of compacts that fund road infrastructure. However, MCC has chosen to keep its guidance related to road project development and implementation in draft. This guidance is meant to be a living document subject to changes to help capture knowledge learned from past performance. Without formalized guidance, MCC has less assurance that its staff consistently use the guidance and tools at their disposal to help partner countries effectively mitigate risks to sustainability.

The incomplete, draft guidance leaves the agency vulnerable to missing opportunities to effectively apply lessons from past projects in ongoing and future compacts. It also could limit MCC’s oversight, because the agency has less assurance that sustainability risks are being identified, mitigation strategies are in place, and measures to reduce those risks are taken.

CONCLUSION

In selected past compacts, MCC lacked assurance that the countries had successfully mitigated risks to sustainability of significant investments in road infrastructure. MCC has updated its guidance and tools to address risks to sustainability and require verifying and tracking of data. However, MCC has not developed guidelines to promote consistent application of economic analysis tools across road projects—a lesson from its review of past projects. MCC also has not finalized guidance that will allow it to capture quality information from partner countries on how they are addressing risks to the sustainability of roads. Until MCC finalizes its guidance, it will continue to face challenges in collecting quality information across all road projects and promoting the sustainability of road investments, project goals, and economic growth in the partner countries.

RECOMMENDATIONS

We recommend that MCC take the following two actions:

1. Based on the lessons learned from MCC’s “Principles into Practice: Lessons from MCC’s Investments in Roads,” develop guidelines to promote consistent application of economic analysis tools across road projects, and incorporate those guidelines into agency guidance.
2. Finalize and officially issue “Road Development and Implementation Guidelines.”

OIG RESPONSE TO AGENCY COMMENTS

We provided our draft report to MCC on July 18, 2019, and on September 11, 2019, received its response, which is included as appendix C. MCC also provided technical comments, along with additional information on its guidance for data verification and capturing lessons learned from past projects, which we considered and incorporated into the final report as appropriate.

The report included two recommendations. We consider both recommendations resolved but open pending completion of planned activities.

APPENDIX A. SCOPE AND METHODOLOGY

We conducted our work from April 2017 through July 2019 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Our objectives were to examine the extent to which MCC effectively (1) identified and addressed sustainability risks for selected past road projects and (2) integrated sustainability lessons from past road projects into risk assessment policies, guidance, and procedures.

To address our objectives, we selected four past compacts with road projects in Georgia, Ghana, El Salvador, and Senegal using a judgmental sample methodology from a total of 17 compact road projects that MCC had invested \$2.4 billion in, as of February 2017. MCC disbursed approximately \$1.01 billion (about 40 percent of the \$2.4 billion) for these four selected road projects. We used the following criteria to judgmentally select our sample: (1) the amount of funds expended; (2) the availability of compact records; (3) the extent to which MCC compact activities supported the partner country's capacity to perform operations and maintenance of the roads; (4) the partner country's status as a recipient of subsequent assistance from MCC; (5) previous GAO or OIG audit findings on MCC-funded road projects; and (6) allegations of fraud, waste, and abuse. We do not make generalizations from our nonprobability sample. Although the results from our audit are not generalizable to all past road projects, the four selected road projects provide context for understanding MCC's processes for identifying and addressing sustainability risks. We did not rely on computer-processed data to answer our audit objectives.

To examine the extent to which MCC effectively identified and addressed sustainability risks to past road projects, we used the Millennium Challenge Act of 2003 as amended, MCC's compact agreements, and GAO's Federal internal control standards as criteria to evaluate (1) MCC's process for identifying sustainability risks; (2) MCC's oversight framework for mitigating sustainability risks; (3) MCC's process for tracking and responding to sustainability risks; and 4) current physical conditions of MCC-funded roads for the four selected road projects.

To evaluate MCC's process for identifying sustainability risks to the four selected road projects, we reviewed internal and external due diligence reports, investment memorandums, and a feasibility study that MCC used to document its assessment of sustainability risks during compact development. We also interviewed MCC officials to confirm MCC's risk identification process during compact development. To determine if MCC's implementation framework included internal control procedures for mitigating sustainability risk, we reviewed compact grants, disbursement and program implementation agreements, implementing entity agreements, and memorandums of understanding. To evaluate MCC's process for tracking and responding to sustainability

risks, we reviewed CP reports and support documents MCC used to track risk mitigation, MCC's risk matrices, and reports prepared by MCC consultants. In addition, we reviewed MCC's implementation letters and guidance to MCAs as well as MCC consultant reports. We also interviewed MCC and MCA officials and officials from partner country governments.

To evaluate physical conditions of MCC-funded roads in the four selected countries, we used road engineering specialists through an interagency agreement with the U.S. DOT to conduct site visits to El Salvador in June 2017 and in February 2018, to Senegal in August 2017, and to Georgia and Ghana in September 2017. We used a pavement engineer and a licensed professional engineer from the Federal Highway Administration, a division of the DOT which conducts road inspections.¹⁸ The engineers assessed whether the pavements of MCC-funded roads had the degrees of distresses appropriate for their relative ages. They collected and recorded existing pavement condition along the routes examined and assigned index values to each distress type based on a visual evaluation of severity and extent (as described in appendix B). Their inspections were to determine whether the roads were being maintained and exhibiting normal aging, not to determine why the roads were in the conditions they were in. We also interviewed MCC officials, former MCA officials, and officials from the Governments of Georgia, Ghana, El Salvador, and Senegal about road project development, implementation, results, and sustainability.

To determine the extent to which MCC effectively integrated sustainability lessons from past road projects into its risk assessment policies and procedures, we used the Millennium Challenge Act of 2003 as amended and GAO's Federal internal control standards as criteria. We also reviewed the Millennium Challenge Act of 2003 as amended to determine MCC's role and responsibility for sustaining road investments after expiration of the compact. To identify MCC's lessons, we reviewed MCC's "Principles into Practice: Lessons from MCC's Investments in Roads," which the agency used to document learning from its past road projects. We also reviewed other MCC documents, such as its "Compact Development Guidance," "Roads Development and Implementation Guidelines," "QPR Guidance," and the Risk Assessment Framework and Tool to determine how MCC's approach to sustainability risk management of road projects evolved. We also reviewed these documents to determine the extent to which MCC incorporated what it had learned from past road projects into its guidance and compared the lessons with issues we identified during fieldwork.

¹⁸ DOT, "Technical Report for OIG-MCC Road Audits" (Pavement Report FY18-01), April 2018.

APPENDIX B. EXCERPT OF A DOT TECHNICAL REPORT

This is an excerpt from DOT's "Technical Report for OIG-MCC Road Audits" (Pavement Report FY18-01), April 2018. It contains details on the DOT engineers' findings and methodology for their visual inspections of the selected MCC past road projects reviewed in our audit.

INTRODUCTION

The U.S. Agency for International Development Office of Inspector General, with oversight authority over the Millennium Challenge Corporation (OIG-MCC), requested engineering assistance from the Federal Lands Administration (FHWA), Eastern Federal Lands Highway Division (EFLHD) to support their audit on MCC-funded road infrastructure projects in Senegal, Ghana, Georgia, and El Salvador. EFLHD Pavement Engineers accompanied OIG-MCC auditors to these countries and conducted visual road inspections to assess whether the pavements on the roads constructed for these Compacts had the degrees of distresses appropriate for their relative ages. For this report the age of the pavement is assumed to be the Compact completion date. Table I presents a summary of the Compacts, and the project contracts (designated as "Lots") within the Compacts.

Table I: Compacts Outline

Country	Compact Completion Date	Data Collection Date	Assumed Age of Pavement (years)	Lots Inventoried	Total Length Inventoried (kilometers)	EFLHD Engineer
Senegal	September 2015	August 2017	2	RN2 Lot 1, and RN6 Lots 1,2 & 3	310	O'Brien
Ghana	February 2012	September 2017	5 1/2	N1 Lots 1 & 2, EC 2&3, AF 1&2, EC 1, and VR 1, 5&6	290	Deppmeier
Georgia	April 2011	September 2017	6 1/2	1, 2, 3, 3A, 4, 5i, 5ii, 6-i, 6-ii, 6-iii, and 7	222	Deppmeier
El Salvador	September 2012	February 2018	5 1/2	2A, 2B1, 2B2, 3A, 3B, 4A, 4B, 4C, 5, 6, 7A, and 7B	205	Deppmeier

METHODOLOGY

EFLHD engineers collected and recorded existing pavement conditions along these routes for comparison with the expected levels of deterioration based on their respective ages. The pavement definitions and terminologies used in this report are in accordance with *Distress Identification Manual (DIM) for the Long-Term Pavement Performance Program (LTPP)*, Publication No. FHWA-HRT-13-092 Revised May 2014. The DIM was developed to provide a consistent and uniform basis for collecting pavement distress data and is commonly used in the pavement engineering industry for assessing roads.

The Federal Lands Highway Simplified Manual Pavement Condition Rating (PCR) Sheet was used to record the data collection. This Simple Method is based on the Distress Identification Manual and is used in road inventory of minor classified roadways. In addition, three gravel roads in Ghana were assessed using the companion form *Unpaved Road and Parking Condition Rating Criteria*.

The process used in this inventory data collection was modified for practical purposes to best fit the needs of this inspection. The aim of the OIG-MCC inventory data collection was to determine whether the roads were exhibiting normal aging distresses. For example, typical procedures assign a rating to the roads on a scale of 0 to 100. This is useful information for a pavement management system but is beyond the scope of this task. The Simple Method sheet documents the distresses observed as the road is driven. Engineering assessments beyond those distresses in the Simple Method sheet were also noted and provided in the following Road Inventory Observations section.

Task specific modifications to the Simple Manual form included:

Length in the procedure is limited to a ¼-mile (0.4 km). This is considered too short when attempting to inventory 200 or more kilometers in a week. For this inventory, lengths were determined by either a change in the pavement, a change in pavement conditions such as distresses, or otherwise limited by 5-kilometer lengths. If the total route length was between 5 and 13-kilometers with no change in conditions and an obvious single paving operation, then a single rating may have been assigned.

Ratings were determined by the lowest rating assigned to a distress, and in this inventory collection this includes the Roughness Index. The Roughness Index also referred to as the Quality of Ride or simply Roughness, is a functional distress that measures how bumpy or rough a road feels when driven at normal highway speeds. This can be very subjective but the Simple Manual form has an excellent description of how to apply a rating and has proven very replicable. Many routes in Ghana, El Salvador, and even in Georgia had insufficient structural distresses (e.g., cracking) to lower a road to a fair rating for the given length, however these routes still rated fair based on the Roughness. These routes were exhibiting distresses such as loss of surfacing aggregate or accelerated aging that can only be accounted for in the Roughness Index. The Roughness Index correlated well with current International Roughness Index (IRI) data provided by Georgia.

SUMMARY

The report assesses whether the pavements on the roads constructed under compacts in Senegal, Ghana, Georgia, and El Salvador had the degrees of distresses appropriate for their relative ages. In the following summary tables, Observed Condition is the rating of either: Poor, Fair, Good, or Excellent based on the Simple Manual form that measures distresses for alligator cracking, longitudinal cracking, transverse cracking, patching, rutting, and roughness. The lowest rating in any of the distress categories determines the roads overall rating which relates to level of service. For some roads, all the distresses were in excellent condition except for roughness that was recorded as 'Good'. This is to be expected as the criteria for roughness to be excellent is the "road feels perfectly smooth with no defects (probably recently paved)". Roughness is significant in that it is an early indicator of future road conditions with the other distresses following at that location. Bumps will crack, moisture then penetrates, and from there the cracks grow into potholes with the resulting negative road serviceability.

Senegal Compact Summary

Table 2: Senegal Compact Summary

Contract	Road	Representative of Age	Driven Length (km)	Observed Condition	Factor in Rating	Cause or Reason
Lot 1	RN2	Yes	122	Good to Excellent	Roughness	Expected
Lot 1	RN6	Yes	116	Good to Excellent	Roughness	Expected
Lot 2	RN6	Yes	72	Good to Excellent	Roughness	Expected
Lot 3	RN6	Yes	122	Good to Excellent	Roughness	Expected

Since the compact was only completed 2-years before the distress inventory collection date, the roads in Senegal were in Excellent Condition with only the Roughness distress determining the Good rating. Roughness rated 'Good' as defined by the Simple Manual form is "Road feels smooth with an occasional bump or defect".

100% of the observed kilometers of pavements in Senegal were in Good Condition as to be expected.

Ghana Compact Summary

Table 3: Ghana Compact Summary

Contract	Road	Representative of Age	Driven Length (km)	Observed Condition	Factor in Rating	Cause or Reason
Lot 1	NI	Yes	13	Good to Excellent	Roughness	Expected
Lot 2	NI	Yes	13	Good to Excellent	Roughness	Expected
EC2	multiple	No	51	Poor to Fair	Patching & Roughness	Multiple failures of BST

Contract	Road	Representative of Age	Driven Length (km)	Observed Condition	Factor in Rating	Cause or Reason
EC3	multiple	No	10	Poor	Patching	Multiple failures of BST
AF1	Agogo-Afrisere	No	33	Poor	Patching & Roughness	Multiple failures of BST
AF2	Afrisere-Dome	No	41	Poor	Patching & Roughness	Multiple failures of BST
EC1	multiple	No	31	Poor to Good	Patching & Roughness	Multiple failures of BST, failed gravel roads
VR3	multiple	No	29	Poor to Good	Patching & Roughness	Wet subgrade one route, Multiple failures of BST
VR1	multiple	No	21	Fair	Roughness	Large aggregate size in BST
VR5	multiple	No	28	Poor to Fair	Roughness	Large aggregate size in BST
VR6	multiple	No	20	Fair	Roughness	Large aggregate size in BST

Ghana roads were typically constructed of BST, a surfacing that will not provide a 20-years life.

Since the Lots in Ghana were of unequal lengths and of differing terrain and environmental factors, Figure 1 was created to provide a visual representation of the percentage of total kilometers in their respective condition of either: Excellent, Good, Fair, or Poor.

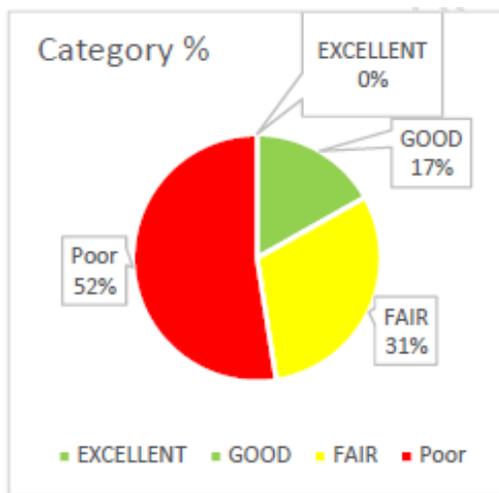


Figure 1: Ghana total kilometers

The roads were assumed to be 5 ½-years of age at the time of the inventory. Located in the tropics with limited quality aggregate sources Ghana does provide challenges for road building, but at this point in a 20-years life pavement surfacing, there should be no percentage of pavements in the Poor or even in the Fair category. The expectation would be all the roads are in the Good category which allows some tolerances for localized distresses, owing to more difficult terrain or environmental factors. But these factors are expected to be mitigated in the design process or by construction practices.

Georgia Compact Summary

Table 4: Georgia Compact Summary

Contract	Road	Representative of Age	Driven Length (km)	Observed Condition	Factor in Rating	Cause or Reason
1	Teleti Partskhisi	Yes	29	Good to Excellent	Roughness	Expected
2	Partskhisi Gokhnari	Yes	21	Fair to Good	Cracking	Expected
3	Gokhnari Tsalka	No	34	Fair	Patching, Cracking	Loss of aggregates in ACP, heavily oxidized ACP
3A	Tsalka Nardevan	No	14	Poor	Patching	Pavement Failure
4	Nardevan Satkhe	No	50	Fair	Roughness, Cracking	Loss of aggregates in ACP, heavily oxidized ACP
5i	Satkhe Ninotsmi	No	6	Fair to Good	Roughness, Cracking	Oxidized pavement
5ii	Ninotsmi Armenia	No	22	Poor	Patching	Pavement Failure
6-i	Akhalkala Sulda	No	16	Fair to Good	Roughness, Patching	Loss of surface fines in ACP
6-ii	Sulda Turkey	No	16	Fair to Good	Roughness, Patching	Loss of surface fines in ACP
6-iii	Akhalkala Bypass	No	2	Poor	Patching	Pavement Failure
7	Khertvisi Vardzia	Yes	12	Good	Cracking	Expected

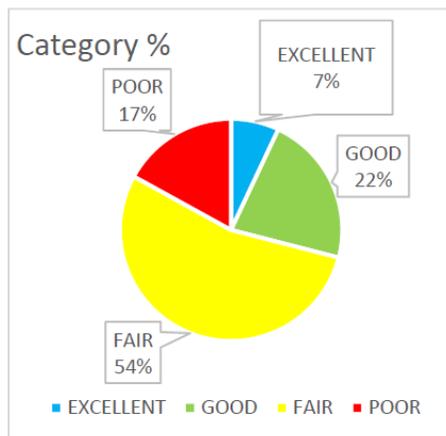


Figure 2: Georgia total kilometers

Likewise, the Lots in Georgia were of unequal lengths and terrains and so Figure 2 is presented for comparison and summary. Georgia roads were assumed to be 6 ½-years old.

It is acknowledged that the higher elevations, harsh climate and limited construction season in Georgia are a detriment to long lasting and well servicing roads, but design and construction should account for this. At 6 ½-years of age, all the roads should be in the Good Category. No road or road segment at this age should be in the Fair or Poor category.

El Salvador Compact Summary

Table 5: El Salvador Compact Summary

Contract	Road	Representative of Age	Driven Length (km)	Observed Condition	Factor in Rating	Cause or Reason
2A	Rte. 3	Yes	22	Good to Excellent	Roughness	Expected
Rio Lempa	Rte. 3	Yes	n/a-bridge	Good	Cracking	Expected
2B1	Rte. 3	Yes	7	Good to Excellent	Cracking	Expected
2B2	Rte. 3	No	12	Poor	Longitude cracking	Moisture in cracks
3A	CA 3E	Yes	13	Good to Excellent	Patching, Roughness	Been heavily maintained
3B	Rte. 3	No	24	Poor to Fair	Patching, Roughness	Heavily traveled ACP, maintenance overlays
Puente Nombre De Jesus	Rte. 3	No	n/a-bridge	Fair	Cracking	De-lamination
4A	Rte. 3	No	23	Poor to Good	Patching, Cracking	Heavily traveled ACP, big slide, maintenance repairs
4B	Rte. 3	Yes	12	Good	Cracking, Patching, Roughness	Expected
4C	Rte. 3	Yes	9	Good to Excellent	Roughness	Expected
Puente Nuevo Eden De San Juan	Rte. 3	No	n/a-bridge	Poor to Fair	Cracking	De-lamination
5	Rte. 3	No	31	Poor to Fair	Patching, Roughness	One poor section, aggregate loss in ACP
6	Rte. 3	No	34	Fair to Good	Roughness	Aggregates loss in ACP
7A	Rte. 3	No	11	Fair to Excellent	Roughness	Finishing of PCCP affecting Roughness only
7B	Rte. 3	No	8	Fair to Excellent	Roughness	Excessive PCCP surface wearing affecting Roughness only

Figure 3 represents El Salvador's total kilometers as a percentage of: Excellent, Good, Fair, and Poor.

At 5½-years of age, all of Route 3 should be in the Good category. Despite geological challenges and a tropical wet season, it is still expected that design and construction processes and practices would account for these challenges. No road segment should be in the Fair or Poor category.

Senegal, Ghana, Georgia, and El Salvador all were able to construct roads that were in appropriate condition or better for their age. Roads in or near the capitals and municipal areas were examples of this.

This makes the roads with noted degrees of distresses in the Fair category or even road failures all the more remarkable.

Outlying areas did have road conditions in Good Condition, but too often had road conditions that failed expectations or were even in unacceptable conditions and resulting level of service.

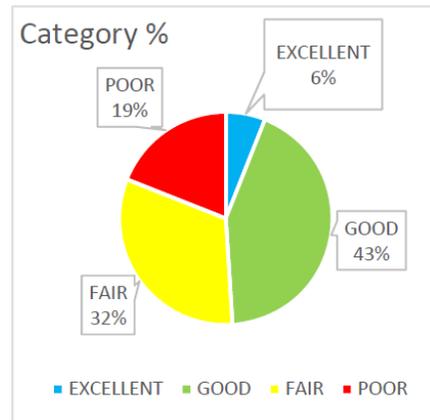


Figure 3: El Salvador total kilometers

APPENDIX C. AGENCY COMMENTS



To: Thomas Yatsco
Assistant Inspector General for Audit

From: Anthony Welcher /s/
Vice President, Department of Compact Operations
Millennium Challenge Corporation

Thomas J. Kelly
Vice President (Acting), Department of Policy and Evaluation
Millennium Challenge Corporation

Subject: MCC Management Response to Report No. M-MCC-19-001-P

The Millennium Challenge Corporation (“**MCC**”) appreciates the opportunity to respond to the draft report, “MCC has Opportunities to Enhance Guidance and Tools for Sustaining Results of Road Infrastructure Compacts”, as compiled by the Office of Inspector General (“**OIG**”). MCC agrees that continuous efforts to improve the sustainability of the agency’s investments, including those in roads infrastructure projects, are needed to ensure that its compact programs work effectively to improve economic growth and reduce poverty.

MCC wishes to highlight that the projects reviewed by the OIG represent the four earliest road infrastructure projects undertaken by MCC following its establishment. As MCC gained experience in road construction in subsequent investments, it introduced a variety of approaches in addition to linking conditions precedent to the disbursement of funding to mitigate risks to sustainability. Among these approaches, MCC regularly provides technical assistance to partner countries to improve their road maintenance practices and incentivizes partner countries to increase their contributions to road maintenance funds. In its recent compact programs in Liberia, Cote d’Ivoire and Nepal, MCC supports the implementation of cost-effective road maintenance techniques rather than new construction. Similar approaches to build long-term capacity in road maintenance practices and promote sustainability are being adopted in other compact programs. As a learning organization, MCC regularly updates its internal guidance documents to incorporate these types of lessons learned from recent projects, as well as other advances in technical fields. MCC and its partner countries are dedicated to delivering high quality and sustainable results on behalf of project beneficiaries. This

commitment is MCC's best assurance that sound technical advances and practices will be implemented, regardless of the status or semantics used to describe the MCC guidance documents.

In regards to the four road infrastructure projects reviewed in this report, MCC concurs with the OIG's finding that the sustainability of the rural roads in Ghana, particularly those constructed of gravel, presented a major challenge. However, MCC notes that the OIG found only 10 percent of the road kilometers in the other three countries to be in poor condition. MCC further notes that some of the examples cited by the OIG could be related to external factors not directly related to routine maintenance.

MCC's corrective action plan to address the report's recommendations is as follows:

1. Based on the lessons learned from MCC's "Principles into Practice: Lessons from MCC's Investments in Roads", develop guidelines to promote consistent application of economic analysis tools across road projects, and incorporate those guidelines into agency guidance.

MCC concurs with this recommendation. As noted in the draft audit report, MCC has partially addressed this key lesson by providing models for the consistent application of economic analysis across compacts in its "Roads Development and Implementation Guidelines". Additional guidelines for the application of economic analysis tools across transportation projects are currently under development and will be incorporated in MCC's "Transportation CDP", which will be completed and transmitted to MCC staff by not later than September 30, 2020.

2. Finalize and officially issue the "Road Development and Implementation Guidelines."

MCC partially concurs with this recommendation. As MCC explained to the OIG auditors throughout the audit process, MCC views its guidance materials as living documents that are regularly updated and improved to reflect the latest technical developments and lessons learned. MCC will retain this practice, but it will remove the reference to "draft" in the "Road Development and Implementation Guidelines" and rely upon version controls to identify the addition of new material and the most current edition.

MCC will complete updates to the "Roads Development and Implementation Guidelines" and issue these guidelines to MCC staff no later than September 30, 2020.

MCC appreciates the OIG's commitment to continually improving its process and products, and MCC shares the OIG's interest in the prudent use of the resources of both organizations. MCC looks forward to working more closely with the OIG auditors on future engagements to achieve timely audits with original solutions that enhance the benefits of MCC's investments for the beneficiaries in our partner countries.

If you have any questions, comments or concerns, please contact Jude Koval, Director of Internal Controls and Audit Compliance at 202-521-7280 or kovaljg@mcc.gov.

cc: Jonathan Richart, Deputy Vice President (DCO/IEPS), MCC
Mark Sundberg, Deputy Vice President (DPE/EA) and Chief Economist, MCC
Berta Heybey, Managing Director (DPE/ME), MCC
Heather Hanson, Managing Director (DCO/IEPS), MCC
Yohannes Abebe, Practice Lead Senior Director, (DCO/IEPS), MCC
Amanda Jennings, Managing Director (DCO/OVP), MCC
Alice Miller, Chief Risk Officer (AF), MCC

APPENDIX D. MAJOR CONTRIBUTORS TO THIS REPORT

The following people were major contributors to this report: Gary Middleton, audit director; Rhonda M. Horried, assistant director; Benjamin Patterson, analyst; Christopher Featherstone, auditor; Long Chen, auditor; Tifani Dyson, analyst; and David Weil, auditor.