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**Terminal Evaluation of the UN Environment-GEF Project  
“Promoting Sustainable Transport Solutions for East  
African Cities”**

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*Final report*



***Evaluation Office of UN Environment  
January 2019***



## ***Evaluation Office of UN Environment***

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## ***ABOUT THE EVALUATION<sup>1</sup>***

**Joint Evaluation:** No

**Report Language(s):** English

**Evaluation Type:** Terminal Project Evaluation

**Brief Description:** This report is a terminal evaluation of a UN Environment-GEF project implemented between 2011 and 2017. The project aimed to increase overall knowledge of planning, designing and implementing sustainable transport systems in developing cities in East Africa, and reduce GHG emissions from the transport sector globally. The evaluation sought to assess project performance (in terms of relevance, effectiveness and efficiency), and determine outcomes and impacts (actual and potential) stemming from the project, including their sustainability. The evaluation has two primary purposes: (i) to provide evidence of results to meet accountability requirements, and (ii) to promote learning, feedback, and knowledge sharing through results and lessons learned among UN Environment, the GEF and their executing partner UN Habitat and relevant agencies of the project participating countries.

**Key words:** Project Evaluation; Climate Change; TE; Terminal Evaluation; GEF; GEF Project; Transportation; Bus Rapid Transit; Non-motorized Transit, Sustainable Transport

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<sup>1</sup> This data is used to aid the internet search of this report on the Evaluation Office of UN Environment Website

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## List of acronyms and abbreviations

AACPPO	Addis Ababa City Planning Project Office
AACRA	Addis Ababa City Road Authority
AACTA	Addis Ababa City Transport Authority
AARTB	Addis Ababa Road Transport Bureau
AfDB	African Development Bank
AFD	Agence Française de Développement
BRT	Bus rapid transit
BSP	Bali Strategic Plan
CBA	Cost benefit analysis
CBD	Central business district
CO <sub>2</sub>	Carbon dioxide
CREC	China Railway Engineering Corporation
CSO	Civil Service Organization
DART	Dar es Salaam Rapid Transit
DMITS	Delhi Integrated Multi-Modal Transit System Ltd.
DTIE	Division of Technology, Industry and Economics of UN Environment
EO	UN Environment Independent Evaluation Office
EOP	End-of-Project
EPM	Environmental, Planning and Management
ESES	Environmental, social and economic sustainability framework
EST	Environmental Sustainable Transport
EU	European Union
FABIO	First African Bicycle Information Organization
FMO	Financial Management Officer
FOPS	BRT Feasibility and Operational Planning Study
FSP	Full-sized project
GEF	Global Environmental Facility
GHG	Greenhouse gas
GKMA	Greater Kampala Metropolitan Area
GTZ	German Technical Cooperation (GIZ after 2011)
ICCT	International Council on Clean Transportation
INDC	Intended Nationally Determined Contributions
INTP	Integrated National Transport Policy (Nairobi)
ITS	Intelligent Transportation Systems
ITDP	Institute for Transportation and Development Policy
ITP	Integrated Transport Planning
JICA	Japan International Cooperation Agency
KBS	Kenya Bus Service
KCCA	Kampala Capital City Authority
KeNHA	Kenya National Highways Authority
KIPPRA	The Kenya Institute for Public Policy Research and Analysis
KURA	Kenya Urban Roads Authority
LoA	Letter of Agreement
LRT	Light rail transit
M&E	Monitoring and Evaluation
MATA	Metropolitan Transport Authority in Kampala
MOA	Matatu Owners' Association (Kenya)
MoFED	Ministry of Finance and Economic Development of Ethiopia
MoTI	Ministry of Transport and Infrastructure (Kenya)
MoR	Ministry of Roads (Kenya)
MoWT	Ministry of Works and Transport (Uganda)
MRT	Mass rapid transit
MSP	Medium-Sized Project
MTS	UN Environment Medium-Term Strategy

MVOA	Matatu Vehicle Owners’ Association (Kenya)
MWA	Matatu Welfare Association (Kenya)
NAMA	Nationally Appropriate Mitigation Actions
NAMATA	Nairobi Metropolitan Area Transport Authority
NBRTP	Nairobi Metropolitan Region Bus Rapid Transit Program
NEMA	National Environmental Management Authority (Kenya)
NMR	Nairobi Metropolitan Region
NMT	Non-motorized transport
NMTA	Nairobi Metropolitan Transport Authority
NMTP	National Transport Master Plan (Uganda)
NSC	National Steering Committee
NTMP	National Transport Master Plan (Kampala)
NUTIP	Nairobi Urban Transport Infrastructure Project (World Bank-funded)
PCFV	UN Environment’s Partnership for Clean Fuels and Vehicles
PIR	Project Implementation Review
PMU	Project Management Unit
PPG	Project Preparation Grant
PRF	Project Results Framework
ProDoc	Project Document
ROtl	Review of Outcomes to Impacts
RSC	Regional steering committee
SACCO	Savings and Credit Cooperative (Kenya)
SMART	Specific, measurable, achievable, realistic, and time bound
SMT	Sustainable mass transport
SSCo	South-South Cooperation
STAP	Scientific and Technical Advisory Panel
SUSTRANS	UK’s sustainable transport network
SUT	Sustainable Urban Transport
TDM	Transportation demand management
TEEMP	Transport Emissions Evaluation Model for Projects
ToC	Theory of Change
TOD	Transit oriented development
TOR	Terms of Reference
TPMO	Transport Project Management Office (in Addis Ababa)
TRL	Transport Research Laboratory
UBOA	Uganda Bus Owners Association
UNEP	United Nations Environment Programme
UNEP/DTIE	UNEP Division of Technology, Industry, and Economics
UN-Habitat	United Nations Human Settlements Programme
UNRA	Uganda National Roads Authority
UTODA	Uganda Taxi Owners’ and Drivers’ Association



**Table 1: Project Identification Table**

Sub-programme:	Climate Change	Expected Accomplishment(s):	MTS 2010-2013: Para 35a <sup>2</sup> MTS 2014-2017: CC - EA 2 <sup>3</sup>
UN Environment approval date:	1 April 2011	Programme of Work Output(s):	PoW Output 3 <sup>4</sup>
GEF project ID:	3461	Project type:	Full-size project
GEF Operational Programme:	4	Focal Area(s):	Climate Change
GEF approval date:	10 November 2010	GEF Strategic Priority:	CC SP5: Promoting sustainable innovative systems for urban transport
<i>Expected</i> start date:	March 2011	Actual start date:	January 2011
<i>Planned</i> completion date:	February 2016	Actual completion date:	31 December 2017
<i>Planned</i> project budget at approval:	US\$ 7,185,000	Actual total expenditures reported as of 30 June 2017	US\$ 2,419,944
GEF grant allocation:	US\$ 2,850,000	GEF grant expenditures reported as of 30 June 2017:	US\$ 2,369,163
Project Preparation Grant - GEF financing:	US\$ 150,000	Project Preparation Grant - co-financing:	US\$ 0
<i>Expected</i> Full-Size Project co-financing:	US\$ 3,485,000 (cash) US\$ 850,000 (in-kind)	Secured Medium-Size Project co-financing:	US\$ 3,692,782
First disbursement:	5 April 2011	Date of financial closure:	n/a
No. of revisions:	3	Date of last revision	31 January 2017
No. of Steering Committee meetings:	0	National Steering Committee meetings:	Addis Ababa – 13.6.2017 Nairobi – 1/12/2016 Kampala – 31/5/2017
Mid-term Review/ Evaluation ( <i>planned date</i> ):	September 2013	Mid-term Review/ Evaluation (actual date):	To be discussed during evaluation
Terminal Evaluation ( <i>planned date</i> ):	June 2017	Terminal Evaluation (actual date):	May 2018
Coverage - Country(ies):	Global	Coverage - Region(s):	Global
Dates of previous project phases:	“Reducing Greenhouse Gas Emissions with Bus Rapid Transit and Non-Motorized Transport” (GEF Project ID 1917)	Status of future project phases:	BRT Cairo ongoing feasibility study in partnership with UN Women and GoE

<sup>2</sup> Expected Accomplishment in Para 35 (b) states that “countries make sound policy, technology and investment choices that lead to a reduction in GHG emissions and potential benefits, with a focus on clean and renewable energy sources, energy efficiency and energy conservation”.

<sup>3</sup> Expected Accomplishment 2: “Energy efficiency is improved and the use of renewable energy is increased in partner countries to help reduce greenhouse gas emissions and other pollutants as part of their low emission development pathways”.

<sup>4</sup> Output 3: “Tools and approaches designed and piloted in countries to develop mitigation plans, policies, measures, and low emission development strategies, and spur sector investment and innovation within and across selected sectors”.

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## Executive Summary

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### Project Background

The medium-size Global Environment Facility (GEF) Project entitled “Promoting Sustainable Transport Solutions for East African Cities” (herein referred to as “SusTrans” or the Project) was implemented by UN Environment with its partner, UN Habitat as the executing agency. The Project commenced operations in January 2011 but was not completed until December 2017, 1.75 years after the original planned completion date of February 2016. The SusTrans Project was initiated in response to growing concerns of the governments of Ethiopia, Kenya and Uganda of sustained population growth, increasing traffic congestion, and rapidly deteriorating conditions for urban mobility in their largest cities, representing a significant challenge to urban governments to ensure urban mobility and a healthy urban environment.

Moreover, lessons learned and demonstrations on modern sustainable urban transport (SUT) systems in Johannesburg, South Africa (the Rea Vaya Bus Rapid Transit (BRT) system), and more recently in Dar es Salaam, Tanzania (the DART BRT system) had become available to municipal officials from Addis Ababa, Kampala and Nairobi. These systems provide lessons learned and experiences for these officials to finance and develop modern urban transport systems that are based on best practices in their designs and operations, and ensure optimal ridership. These SUT systems included the increased use of low carbon intensity modes of transport such as BRT and non-motorized transport modes and measures to improve the efficiency of urban mobility (such as parking regulations), all of which have demonstrated positive environmental and economic impacts for cities in developing countries.

The primary objective of the SusTrans Project was to “*create the technical and institutional basis for implementing metropolitan sustainable transport networks and systems and establishing a demonstration corridor for sustainable urban mobility*”. To achieve this objective, SusTrans was designed to take advantage of the experiences of other successful SUT systems to build the capacity of municipal officials of these cities to plan, design, secure financing and implement SUT systems for their respective cities. SUT systems were to include modernized transit systems such as BRT, improved non-motorized transport (NMT) infrastructure, the application of travel demand management (TDM) measures and other supporting policies as deemed appropriate. Implementation of modernized SUT systems, however, would require the removal of barriers prior to any approved investments for SUT systems in these 3 cities including:

- a general lack of public awareness of modern urban transit systems and NMT infrastructure;
- lack of technical and institutional capacities to implement and operate a SUT systems;
- lack of a focal agency dedicated to improving urban mobility;
- lack of political will;
- lack of local operational and modern SUT systems in these 3 cities to demonstrate SUT feasibility under environmental and social conditions presented in Addis Ababa, Nairobi and Kampala; and
- cultural considerations that may constrain the pace of acceptance or utility of an SUT system.

### Purpose of Terminal Evaluation

This Terminal Evaluation was prepared in 2018 to assess the performance of the Project towards its intended objective of “*creating the technical and institutional basis for implementing metropolitan sustainable transport networks and systems and establishing a demonstration corridor for sustainable urban mobility*”. Key issues for this Terminal Evaluation include:

- The extent of capacity built within the national and municipal levels of government in the 3 cities. Notwithstanding that one of the SusTrans targets was to establish an SUT corridor, there were concerns over the institutional capacities and knowledge within these 3 cities to develop BRT and SUT systems within the 5-year project period of the SusTrans Project;
- The incremental benefit of detailed BRT designs developed during SusTrans that would include the increasing the likelihood of public transport investment by development banks;
- Effectiveness of awareness-raising on senior government officials in Addis Ababa, Nairobi and Kampala and its contribution to building political will for implementing BRT systems for the cities;
- The impact of the lessons learned from implementation of the BRT systems in Dar es Salaam, Johannesburg and other cities on SUT implementation progress for Addis Ababa, Nairobi and Kampala;
- Extent of knowledge product dissemination to other East African countries as a foundation for scaling up SusTrans Project results for the region;
- Details of the SusTrans exit strategy after 5 years of implementation.

To improve the understanding of SusTrans’ outputs, drivers and assumptions as contributors towards the intended long-term impacts, a Theory of Change approach was undertaken to strengthen the description of project logic from a baseline prior to the commencement of the Project, towards the intended long-term impact of “*reduced GHG emissions from transport sector globally*” that results from “*increased confidence in operational SMT systems through demonstrations in Addis Ababa, Kampala and Nairobi*”, “*replication of quality SMT Projects regionally in sub-Saharan Africa with regional SMT experts using experience from the demonstration corridor*”, and “*reduced use of fossil fuels from urban transportation, resulting in improvement in local air quality and quality of urban life*”. Four direct outcomes were identified:

- *Outcome 1: National governments advocate for comprehensive sustainable metropolitan transport system in Addis Ababa, Kampala and Nairobi with development banks and investors;*
- *Outcome 2: Detailed designs for implementation of a demonstration SUT corridor featuring BRT, NMT and TDM measures are available to the municipalities of Addis Ababa, Kampala and Nairobi;*
- *Outcome 3: Municipality authorities adopt appropriate clean vehicle and fuel technology initiatives in plans and investment strategies in Addis Ababa, Kampala and Nairobi;*
- *Outcome 4: Decision makers, municipal personnel and local urban transport professionals apply lessons and experiences learned from Addis Ababa, Kampala and Nairobi on the benefits, implementation modalities, financing and impacts of sustainable urban transport systems.*

### Evaluation Findings

Overall, the performance of the SusTrans Project is rated as ‘*Satisfactory*’. The SusTrans Project served as a necessary and useful contributor to the institutional development of sustainable transport systems in East African cities. There is little doubt that the SusTrans Project has built a critical mass of activities and momentum intended to boost the confidence of international donors and financial institutions for providing financial support for the construction of viable SMT systems for all 3 cities. The significance of SusTrans assistance has been to build institutional capacity for SUT developments in these cities and ensure pilot designs for BRT systems in these cities will maximize ridership and demonstrate the socioeconomic and environmental benefits of SUT systems (Paragraph 125). Notwithstanding the complexities and difficulties in developing SUT systems in 3 different countries, all 3 cities now have staff dedicated to the improvement of public urban transport, though challenges remain to maintain a level of capacity of these personnel to navigate the technical and administrative complexities in setting up and operationalizing modern SUT systems. The Project has also supported learning for these cities and other regional cities by organizing study tours to and inviting personnel from other cities with successful BRT operations (including Dar es Salaam, Johannesburg, and Istanbul), which have been useful in the development of SUT, particularly in Addis Ababa and Nairobi.

Moreover, Nairobi and Addis Ababa are poised to have operational systems within the next 2 to 4 years, but will require continued external support for their development and sustained optimal operations that meet

best international practices with Kampala behind these cities in their development curve. SUT development experiences of other regional cities (such as Johannesburg, Dar es Salaam, Lagos and Istanbul) have been used by the 3 SusTrans cities, allowing them to more effectively plan their implementation activities for developing SUT systems (Paragraph 81). There is a moderate likelihood that the impact of the SusTrans Project will lead to a shift towards less carbon intensive modes of urban transport, reduced traffic congestion, transit oriented development and a reduction in urban transport related GHG emissions. With SusTrans leaving an institutional and technical basis for implementation of pilot BRT systems in 3 cities in East Africa, external support is still required to ensure that demonstration SUT systems are developed as models for future SUT investments in the 3 SusTrans cities and other regional cities of developing countries.

The status of SUT system development in the 3 SusTrans cities can be summarized as follows:

- Addis Ababa. Detailed designs for the 15 km B2 BRT corridor were completed in late 2018 with construction of the corridor slated to commence in mid-2019. SusTrans contributions to this status included review of these designs (up to 2016) and ensuring the adoption of best practices into a comprehensive system that integrates BRT, LRT and NMT infrastructure, assistance to the Addis Ababa municipality on efficient operation of the “B2” BRT corridor, assistance to establish a dedicated transport authority, the Addis Ababa City Transport Authority (AACTA), collection of baseline GHG emissions data, prepare service and operational plans for the B2 BRT corridor, prepare audits for pedestrians and parking, and design of fare collection systems. SusTrans has also supported building the capacity of AACTA personnel to effectively manage and implement BRT systems to best international standards (Paragraph 79). The process for developing the B2 BRT corridor in many ways emulates the process followed in Dar es Salaam for the DART system, and has encouraged the municipality to plan a network of BRT corridors integrated with their existing LRT system (Paragraph 78);
- Kampala. Designs for SUT corridors in Kampala have not yet been finalized due to a 2016 SusTrans design review that recommended an overhaul of detailed designs to double the capacity of their BRT system (from the current 9,000 persons per day per direction) through the CBD of Kampala (Paragraphs 79 and 85). This is due to sufficient resources not being available in 2017 for this design overhaul despite concurrence from the Government of Uganda on this recommendation. The development of the Kampala SUT systems has also been hampered by difficulties in forming a metropolitan area transport authority (MATA) as described in Paragraph 84. Despite these difficulties and a government initiative for a pilot NMT corridor scheme in Kampala, there is momentum towards construction of SUT corridors in Kampala with significant development of this SUT system after 2022;
- Nairobi. Detailed engineering designs for the 15 km A104 BRT corridor are in progress with a slated completion date in 2019. SusTrans resources have been utilized since 2011 to provide ongoing support to World Bank-supported engineering teams and government agencies (such as KeNHA and NAMATA) to generate high quality engineering designs that integrate NMT infrastructure with BRT systems, optimize pedestrian access, and maximize ridership. SusTrans had also been providing oversight management of the detailed design process for 2 out of the 3 design packages for the A104 BRT corridor that converge into the CBD (Table 5 and Paragraph 79). SusTrans support has also been significant in the 2017 establishment of NAMATA as the designated future operator and manager of BRT network systems in Nairobi (Paragraphs 78 and 84), and emerging as a focal point for sustainable transport policies to improve Nairobi’s public transport. Despite this progress, outstanding issues still remain in Nairobi, however, related to the integration of matatu and bus owner associations with the new BRT system and its feeder routes (Paragraph 104), and to ensuring there are no compromises in the quality of other BRT corridors against political pressure to advance the dates of operational BRT systems in Nairobi (Paragraph 104).

### Recommendations and Lessons Learned

The SusTrans Project provided support to accelerate the development of modern SUT systems for Addis Ababa, Kampala, and Nairobi. With the end of the SusTrans Project, all recommendations of this Evaluation pertain to the continued support and oversight management for all 3 cities, all with different levels of progress in their SUT development:

- For the Government of Ethiopia, City Government of Addis Ababa and AACTA, continued involvement of ITDP in oversight management of the B2 corridor implementation and in providing consistent advice in operations management (to sustain and improve trip efficiencies and training for bus operators and maintenance personnel) is recommended for the benefit of the AACTA management and Government stakeholders of the Addis Ababa BRT (Recommendation #1);
- For MoWT and KCCA in Kampala, continued dialogue is required to establish a municipally-based agency for Kampala dedicated to improving urban transport, and to ensure local ownership of BRT investments and proper management (Recommendation #2);
- For the Government of Kenya and NAMATA in Nairobi, continued oversight management of NAMATA’s management activities is recommended considering the capacities of NAMATA (only established in 2016) in managing the complexities of modernizing Nairobi’s public transport system. Immediate technical assistance needs are required for the management of the tendering process for BRT and feeder operator contracts, enforcing standards of operator contracts, and building staff or teams for the collection and analysis of data to enable NAMATA to plan SUT investments (Recommendation #3).

Continued involvement of UN Environment and UN Habitat is strongly recommended:

- in Addis Ababa, Kampala and Nairobi to enhance their long-term development vision that includes modernized SUT systems with transit oriented development (TOD) as a means to encourage expansion of SMT networks throughout these cities, reduce trip distances, and accelerate lower carbon intensive modes of urban transport. The vision should include appropriate ministries that could execute plans for public housing for vulnerable groups along BRT corridors, and enhanced economic retail zones around BRT stations as is being done around the DART system in Dar es Salaam (Recommendation #4);
- in developing future transportation or green city projects with municipal governments of Addis Ababa as well as Kampala and Nairobi and other governments of developing countries using mechanisms for generating new revenue streams such as reducing the costs of municipal operations and green urban development. This may involve a review of municipal expenditures as a holistic approach to green urban development resulting in operational savings through energy efficiency of public assets, renewable energy development, and promotion of green construction and building materials, amongst others, all of which have the potential for the realization of cost savings to municipal operating budgets. These cost reductions can be utilized to augment, for example, existing BRT infrastructure and assets and its operational budget (Recommendation #5).

Key lessons learned from the SusTrans Project include:

- The input of professional transport specialists with successful experiences in SUT development is essential to accelerate the development of SUT systems to improve the quality of public transport services in cities in developing countries. Their involvement is essential in fostering and sustaining positive relationships with all stakeholders, most importantly, municipal governments and those involved with existing paratransit services who may be displaced with modernized SUT systems (Lesson #1);
- Sufficient resources are required for any future SUT project to support complex and sensitive engagement of existing paratransit operators (Lesson #2);
- Assistance of SUT projects is essential in defining the responsibilities of an integrated transport authority and enabling personnel within these authorities to carry out these responsibilities (Lesson #3);
- A clear vision of the municipal government is required for efficient and effective modernization of public transport services for cities in developing countries (Lesson #4);
- Technical assistance for the establishment of a dedicated integrated transport authority requires adaptive management and a high degree of flexibility of the donor project to accommodate the needs of the beneficiary city (Lesson #5);

- In developing countries where baseline information of urban transit services likely do not exist, SUT project designers should include efforts to map corridors where informal paratransit service providers are dominant (Lesson #6).

## 1 Introduction

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1. The UN Environment-GEF Project entitled “**Promoting Sustainable Transport Solutions for East African Cities**” (herein referred to as the “SusTrans Project”, or “Project”) was implemented by UN Environment and executed under its Economy Division, Energy & Climate Branch, Energy Unit, Division of Technology, Industry and Economics (DTIE) and executed by UN Habitat in Nairobi. The SusTrans Project was supported by a GEF grant of US\$2.85 million and commenced operations in January 2011 with a completion date of 31 December 2017. This was a 72-month project, 12 months longer than the planned duration of 60 months.
2. This GEF project Terminal Evaluation was conducted 8 months after the date of operational completion. The aim of this Evaluation is to assess the overall SusTrans Project as described in the September 2010 Project Document for “**Promoting Sustainable Transport Solutions for East African Cities**”. The Evaluation will consist of an evaluation of GEF Project support for:
  - technical assistance and institutional support for the development of comprehensive sustainable transport systems for Addis Ababa, Kampala and Nairobi;
  - the planning and detailed design of demonstration sustainable transport corridors, featuring bus rapid transit (BRT), non-motorized transport (NMT) and traffic demand measures (TDM) to be implemented in Addis Ababa, Kampala and Nairobi;
  - studying the feasibility of clean vehicles and clean fuel technologies that are appropriate to these 3 cities;
  - regional capacity building, awareness-raising and networking.
3. The Terminal Evaluation for the SusTrans Project was conducted by Mr. Roland Wong serving as the independent evaluation consultant.

### 1.1 Evaluation objectives

4. In line with the UN Environment Evaluation Policy<sup>5</sup>, the Terminal Evaluation was undertaken at completion of the SusTrans Project to assess its performance (in terms of relevance, effectiveness and efficiency), and determine outcomes and impacts (actual and potential) stemming from the activities of the Project including sustainability. The evaluation serves two primary purposes: (i) to provide evidence of results to meet accountability requirements, and (ii) to promote operational improvement, learning and knowledge sharing through results and lessons learned from UN Environment, UN Habitat and other executing partners. Therefore, the Evaluation is intended to identify lessons of operational relevance for future project formulation and implementation.

### 1.2 Evaluation approach and methodology

5. This Evaluation was conducted using a participatory approach where key stakeholders were kept informed and consulted throughout the process. To deliver evidence-based qualitative and quantitative information, the collection of data and information was sourced from available key project documentation, desk studies, literature reviews, meetings with individuals and focus groups, surveys and direct observations. Documentation was provided by the Project Manager in Nairobi. The evaluation methodology consisted of:
  - A review of Project documents;
  - Re-examination of the Project Results Framework (PRF) against which Project performance is evaluated, followed by the re-construction of a Theory of Change (a preliminary version of which was prepared for the Inception Report);

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<sup>5</sup> <http://www.unep.org/eou/StandardsPolicyandPractices/UNEPEvaluationPolicy/tabid/3050/language/en-US/Default.aspx>

- Briefings at UN Environment offices in Nairobi prior to mission travel to Addis Ababa, stakeholder meetings with Nairobi municipal stakeholders, and phone discussions with Kampala;
  - Interviews with the Project Management Unit (PMU) at the SusTrans Office at UN Habitat in Nairobi;
  - Mission travel and meetings with Addis Ababa stakeholders;
  - Meetings with Nairobi municipal stakeholders;
  - Phone discussions with Kampala municipal stakeholders;
  - De-briefing with UN Habitat and EO personnel in Nairobi on mission findings;
  - Follow-up phone conversations, emails and reporting writing from home base; and
  - A period of additional gathering of information, validation of findings and editing of the draft report to reflect factual accuracy of the findings.
6. Steps were undertaken to enhance stakeholder engagement and the quality of consultation: i) interviewees were informed about the Evaluation’s aims and informed of the expectations of the evaluation; ii) open-ended questions were used to promote balanced reflection, generate new insights, and yield higher quality information (as opposed to yes/no questions or an ‘audit’ approach); iii) interviewees were assured of the anonymity and confidentiality of their input whenever deemed appropriate.
7. This Terminal Evaluation also uses a modified **Review of Outcomes to Impacts (ROtI)**<sup>6</sup> method to assess the likelihood of impact that identifies project’s *intended impacts* against a *review of the project’s logical framework analysis*, followed by the analysis and modelling of the project’s *outcomes-impact pathways*. To analyze and model these pathways, the evaluation employs a **Theory of Change (ToC)** approach to depict the impact pathways of the project. With the logical framework analysis (or Project Results Framework or PRF) for the SusTrans Project requiring editing to overcome the lack of SMART indicators, a thorough review of the Project document was required to extract the Project’s intended impacts, outputs and outcomes.
8. Moreover, the Evaluation needed to revise the Project’s intended impacts to better reflect what was realistically achievable with this GEF grant. Based on global experiences in developing sustainable urban transport (SUT) and BRT systems in cities of developing countries, achieving the outcome of operational SUT systems within a period of 5 years was going to be difficult, if not impossible. For this reason, a ToC for this evaluation has been constructed as provided in Section 2.8.
9. The primary limitation to this Evaluation includes the limited time period to interview a critical mass of key stakeholders who could provide information on the effectiveness of technical assistance being provided by SusTrans in the context of establishing the relevant institutions (for advancing and modernizing public urban transport) and implementation of demonstration SUT corridors. Efforts were made under this Terminal Evaluation to consult with as many of these stakeholders as possible within a 10-day period covering the 3 cities. Due to this limitation, the Evaluation made additional efforts to assess the likelihood of impact of the operational SUT systems in Addis Ababa, Nairobi and Kampala, and more specifically, SUT systems where integration of NMT infrastructure was planned with BRT systems. These efforts consisted of drawing on the experiences of the evaluator with other SUT projects globally.

### 1.3 Main evaluation criteria and questions

10. The evaluation assesses the project performance against the following criteria: (1) strategic relevance; (2) quality of project design; (3) nature of external context; (4) effectiveness, which comprises assessments of the achievement of outputs, achievement of outcomes and likelihood of impact; (5) financial management; (6) efficiency; (7) monitoring and reporting; (8) sustainability; and (9) factors

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<sup>6</sup> GEF Evaluation Office (2009). ROtI: Review of Outcomes to Impacts Practitioners Handbook. [https://www.thegef.org/gef/sites/thegef.org/files/documents/M2\\_ROtI%20Handbook.pdf](https://www.thegef.org/gef/sites/thegef.org/files/documents/M2_ROtI%20Handbook.pdf)



affecting project performance. The Evaluation follows the guidance provided by the Evaluation Office of UN Environment in 2017 with evaluation criteria being adapted as required.

11. The assessment of Project performance was based on a set of key questions within the evaluation framework<sup>7</sup> including:
  - Did the Project design incorporate the realities of participating countries in terms of institutional and policy framework and if so, was the Project approach relevant in terms of linkages between outputs and outcomes?
  - Were all outputs and targets achieved and were there any deviations from planned activities?
  - What were the actual impacts of the Project against the targets and outcomes achieved against intended targets and outcomes as defined in the PRF?
  - What was the overall approach to risk management strategies of the Project?
  - To what extent will the generation of benefits from implementing the Project’s activities be sustained?
  - To what extent has the Project facilitated catalytic actions being taken resulting in replication and scale up?
  - To what extent has the Project been implemented in a cost effective and timely manner?
12. Responses to these key questions were influenced by the following Project specific factors:
  - The extent of capacity built within the national and municipal levels of government in the 3 cities. While one of the targets in SusTrans was to establish an SUT corridor, there are sustainability concerns that the relevant institutions in a particular city do not have the requisite capacity or knowledge to continue with the development of BRT and SUT systems within their cities;
  - The incremental benefit of detailed BRT designs that were developed during SusTrans. These designs were intended to boost the confidence of development banks on local government submissions requesting capital cost financing for SUT systems. This Evaluation examines the state of these negotiations, and the likelihood that these submissions would lead to investment in public transport solutions for these cities;
  - Effectiveness of awareness-raising on senior government officials in Addis Ababa, Nairobi and Kampala. Building strong awareness amongst the senior government officials was deemed to be important to the process of building political will for implementing BRT systems for the cities. The extent of their awareness was assessed under country ownership and driven-ness while the benefit of their strong awareness of the Project was to bring innovations to these BRT projects that would contribute to higher ridership;
  - The impact of the BRT system in Dar es Salaam as a driver towards SUT implementation progress for Addis Ababa, Nairobi and Kampala. The DART system in Dar es Salaam is an excellent system that is transforming the quality of life in Tanzania’s capital. The lessons learned from the implementation of DART should be applicable to the cities in the SusTrans Project;
  - Extent of knowledge product dissemination to other East African countries. The Evaluation assesses the knowledge products generated on SusTrans and the extent to which knowledge was disseminated to other Eastern African countries. Successful dissemination to these countries would set up the foundations for scaling up SusTrans Project results for the region;
  - SusTrans exit strategy. The Project Document was not clear on the extent of targets to be achieved on Output 2.5 on NMT improvements along SUT corridors. Project designers seemed unsure of whether or not the demonstration BRT corridors would be operational after 5 years. The Evaluation will clarify this target and exit strategy.

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<sup>7</sup> These questions were in line with the strategic questions provided in the evaluation ToR and were revised/ specified to better serve the purpose of the evaluation

## 2 Project Background

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### 2.1 Context

13. According to the Project Document, the SusTrans Project was initiated by the governments of Ethiopia, Kenya and Uganda in response to their growing concerns on sustained population growth and rapidly deteriorating conditions for urban mobility in their largest cities. With unprecedented growth rates and sustained population growth, motorization rates are rapidly rising exacerbating traffic congestion with deterioration of urban mobility and the urban environment. These trends represent significant challenges to urban governance in ensuring urban mobility and a healthy urban environment for all their residents.
14. The SusTrans Project has also been catalyzed by the successful completion of the Rea Vaya BRT system in Johannesburg, South Africa, and more recently, the DART BRT system recently completed in Dar es Salaam, Tanzania. These successful sustainable urban transport projects provide demonstrable examples for municipal officials from Addis Ababa, Kampala and Nairobi to pursue and finance modern SUT solutions. This would include BRT and associated NMT infrastructure and traffic demand measures, all of which have been demonstrated to be efficient and economical for cities in developing countries. The systems in Johannesburg and Dar es Salaam have demonstrated increased access for its citizens to modernized urban transport services, poverty alleviation, catalyzing economic growth along SUT corridors, and improved urban environmental conditions resulting from the increased use of low carbon intensity modes of transport.
15. According to the Project Document, the primary aim of the SusTrans Project was to reduce growth in private motorized vehicles, thus reducing traffic congestion and greenhouse gas (GHG) emissions in the three capital cities of Ethiopia, Uganda, and Kenya. To achieve this aim, SusTrans was designed to build the capacity of municipal officials of these cities that will enable them to plan, design and implement SUT systems for their respective cities. SUT systems were to include modernized transit systems, improved non-motorized transport (NMT) infrastructure, the application of travel demand management (TDM) measures and other supporting policies as deemed appropriate. The Project Document estimates GHG emission reductions from this GEF project to be in the order of 2.53 million tons of CO<sub>2</sub> by 2035 resulting from the development of an operational bus rapid transit (BRT) network in each city and citywide improvement of NMT infrastructure for pedestrians and cyclists, enforcement of parking policies, road pricing and transport-oriented development (TOD)<sup>8</sup>.
16. Implementation of modernized SUT systems, however, is complex. Prior to any investments being approved for SUT systems in these 3 cities, a number of risks were identified for mitigation including:
  - a general lack of public awareness of modern urban transit systems and NMT infrastructure;
  - lack of technical and institutional capacities to implement and operate a SUT systems;
  - lack of a focal agency dedicated to improving urban mobility;
  - lack of political will;
  - the lack of local operational and modern SUT systems in these 3 cities that can demonstrate SUT feasibility under the environmental and social conditions presented in Addis Ababa, Nairobi and Kampala; and
  - cultural considerations that may constrain the pace of acceptance or utility of an SUT system.

The level of mitigation of these barriers was assessed during the Evaluation.

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<sup>8</sup> This estimate on Pg 40 of the Project Document assumes BRT corridors are in place by 2020 for Addis Ababa (for 10 km), 2015 for Kampala (for 14 km), and 2018 in Nairobi (for 10 km).

### Baseline Scenarios for Addis Ababa, Kampala and Nairobi

17. Addis Ababa. In 2011 at the commencement of SusTrans, the municipal government of Addis Ababa had an “Addis Ababa Master Plan (2001 – 2010)” with the vision of “affordable transport, enhanced access and mobility”, and a goal “to plan, develop, operate and manage urban transport systems”. In October 2010, Addis Ababa was engaged with AFD for a feasibility study for an Addis Ababa BRT framework. This study was timely since the municipality needed to know next steps required for modernizing urban transport in Addis Ababa. This would have included the need to establish institutions required to oversee urban transport development and documentation required for contracting for vehicle operators and fare collectors. There had not yet been any engagement with existing minibus operators though the largest publicly-owned public transport operator in Addis Ababa, Anbessa, was interested in adopting a modern business model. Walking comprised 62% of the modal share of daily trips in Addis Ababa; however, over 60% of the street network lacks proper footpaths including poor access to bus stops. While car ownership was low in Addis Ababa in 2010 (below 100 vehicles per 1000 of population), it is rapidly increasing at roughly 12% annually mainly due to economic growth and the introduction of low cost private cars into the local market. Parking was managed by the informal sector with little government regulation leading to congested corridors from parked vehicles obstructing road spaces. In general, Addis Ababa’s fleet of vehicles is old and inefficient with few drivers being aware of low-carbon motor vehicles.
18. Kampala. Faced with a rapidly growing population and increasing congestion concerns, the Kampala Capital City Authority (KCCA) began planning a BRT system in 2009 with the assistance of the World Bank. With no dedicated institutions in 2010 to plan comprehensive implementation strategies for SUT systems with BRT, NMT and TDM, the World Bank funded a BRT pre-feasibility study, followed by engineering consultants for detailed designs and a conceptual BRT operational plan complete with sectoral restructuring with a dedicated BRT agency to oversee contracts for vehicle operators and fare collectors. In 2011, the Uganda Taxi Owners’ and Drivers’ Association (UTODA) was the only public transport operator aware of and willing to engage with efforts to modernize urban transport systems in Kampala. Similar to other East African cities, Kampala’s city sidewalks were poor in quality and did not serve the residents well in allowing them to walk between destinations.
19. Nairobi. In 2011, there were no institutions or agencies that could serve as a focal point for SUT developments in Nairobi. In 2007, the World Bank provided a concept for reforming the transport sector in Kenya through the creation of 3 transport agencies that included the Kenya Rural Roads Authority (KURA) and the Kenya National Roads Authority (KeNHA). With the Ministry of Transport (MoT) concerned with national transport policies and urban issues, KURA was setup to provide oversight of managing and planning city roads, and was requested by UN Habitat and the World Bank to manage SUT development using the World Bank-funded Nairobi Urban Transport Infrastructure Project or NUTIP as the project under which road expansion along one of the main corridors in Nairobi could be developed into a pilot SUT corridor. By 2012, the Ministry of Transport was deferred to as the oversight entity to NUTIP and SUT development in Nairobi.

## 2.2 Project Objectives and Components

### 2.2.1 Objectives

20. To mitigate the risks to sustainable urban transport development identified in Para 16, the SusTrans Project was designed with the **objective** of “*creating the technical and institutional basis for implementing metropolitan sustainable transport networks and systems and establishing a demonstration corridor for sustainable urban mobility*”. To achieve this objective, SusTrans sought to:
  - provide technical assistance and institutional support to develop comprehensive SUT systems for Addis Ababa, Kampala and Nairobi;
  - plan and provide detailed designs for implementing demonstration SUT corridors in Addis Ababa, Kampala and Nairobi that feature BRT, NMT and TDM measures;
  - prepare feasibility studies on the application of clean vehicles and fuel technology initiatives; and

- build regional capacity as well as raise awareness and networking to mobilize investments in SUT systems.

## 2.2.2 Components

21. The SusTrans Project consisted of 4 components:

- Component 1: Technical assistance and institutional support for the development of a comprehensive sustainable metropolitan transport system in Addis Ababa, Kampala and Nairobi: This component consisted of the provision of detailed advice and recommendations for delivering comprehensive concepts for a sustainable metropolitan transport network, with a focus on bus rapid transit systems and improvements in infrastructure for non-motorized modes and traffic demand management. In doing so, the Project was also seeking to strengthen the relationship between key stakeholders who oversee land-use planning and transport sectors, and to develop strategies upscaling the experiences from sustainable transport demonstration corridors to maximize GHG emission reductions by incorporating the wide range of opportunities in urban and transportation planning;
- Component 2: Planning and detailed design for implementation of demonstration sustainable transport corridors in Addis Ababa, Kampala and Nairobi featuring BRT, NMT and TDM measures: This component was designed to deliver the full suite of technical assistance that would result in a demonstration SUT corridor for each city. Activities included were:
  - the technical review of detailed design and operational planning for BRT systems;
  - assistance to form a dedicated public transit agency with staff capable of coordinating with related government agencies and managing contracts;
  - preparing an investor’s document that transparently articulates the institutional structure including revenue rights of each actor and the services they are supposed to provide (such as the bus operators, the fare collectors, fund managers);
  - assistance towards an operational BRT systems that potentially can transform urban transport from informal and poorly regulated to competitive businesses providing high quality service;
  - improvements in NMT infrastructure that would improve accessibility of pedestrians to BRT stops and other areas of interest; and
  - parking management study and measures that would only be implemented in Addis Ababa, building off past parking reform programs;
- Component 3: Feasibility of application of clean vehicles and fuel technology initiatives: This component was to provide cost-benefit analyses for clean technology assessments for BRT buses for each city, tailor-made assistance to each of these cities on the best available clean technologies for each city, and assistance on formulating strategies for applying these technologies to each of these cities;
- Component 4: Regional capacity building, awareness-raising and networking: This component provided incremental support to collate the results of the low carbon solutions for each of the 3 cities for the purposes of dissemination to the other cities and other cities in the African Region that could benefit and catalyze local interest in developing modern SUT systems for other cities in the region. This component would also support regional training initiatives for building capacity on BRT operations and NMT management as well as web-based toolkits for municipalities on linkages to financing for mobilizing SUT investment.

## 2.3 Target Areas/Groups

22. The stakeholders of the SusTrans Project were mainly public institutions in Addis Ababa, Nairobi and Kampala that could influence and successfully plan, design and develop modern SUT systems for

their respective cities. Most relevantly, these stakeholders were either national government agencies such as the Road Authorities, or had influence at the municipal level. In addition, civil society, academia and current groups that deliver public transport services, were deemed to be relevant target groups, all of whom were to be beneficiaries of SusTrans activities. Section 2.5 of the Project Document has an extensive listing of these stakeholders for each city that was identified in 2009. This Evaluation has grouped these stakeholders into municipal level institutions, national level institutions, CSOs and international organizations, and other donors. Some of the more important stakeholders listed in the Project Document are listed in the following paragraphs.

23. Personnel from municipal level institutions: The Project Document lists relevant agencies from each pilot city:
  - the Addis Ababa City Administration, Addis Ababa Road and Transport Bureau, Transport Programs Management Office, and the Addis Ababa City Planning Project Office;
  - the Nairobi City County; and
  - the Kampala Capital City Authority.
24. Personnel from national level institutions: The Project Document lists from national agencies from each of the countries where the pilot cities are located including:
  - the Ethiopian Ministry of Transport and Communication;
  - the Kenyan Urban Roads Authority (KURA), Kenya National Highways Authority (KeNHA), and the Kenyan Ministry of Transport and Infrastructure; and
  - the Ugandan Ministry of Works and Transport.
25. CSOs and international organizations: This would include:
  - the Transport Research Laboratory (TRL) based in the United Kingdom;
  - the Institute for Transportation and Development Policy (ITDP) based in the USA;
  - the sub-Saharan Africa Transport Policy Program based at the World Bank in the USA; and
  - the First African Bicycle Information Organization (FABIO) based in Uganda.
26. During the course of implementation of SusTrans, the relevance of several of these stakeholders had diminished in the context of planning and implementing SUT projects. Moreover, at the time of the SusTrans design, there were no government agencies responsible for SUT development and operations. As such, there was already a strong likelihood that the stakeholders named in the Project Document were going to change during the course of SusTrans implementation. These changes are further discussed in Sections 2.6, 3.7 and 3.9.3.

## **2.4 Milestones in Project Design and Implementation**

27. Table 2 presents the milestones and key dates in the SusTrans Project design and implementation.

**Table 2: Milestones and key dates in SusTrans Project design and implementation**

<b>Milestones</b>	<b>Applicable dates</b>
Preparation grant approved	11 September 2009
Concept approved (under GEF-4)	31 March 2010
Approval of Project by GEF	10 November 2010
Actual commencement date in Addis Ababa and Nairobi	January 2011
Inception workshop for Kampala	January 2012
Study tours to Johannesburg and Addis Ababa for Project partners	October 2012
PMU officially established at the Addis Ababa Roads and Transport Bureau to oversee BRT Feasibility and Operational Planning Study (FOPS) funded by AFD	Early 2013
SusTran role in guiding implementation of Nairobi BRT Pilot on Mombasa Road – Uhuru Highway – Waiyaki Way section of Northern Corridor	Early 2013
Clean component work (Component 3) was completed	Late 2013
Digital Matatu Maps” made available in Nairobi as a mobile phone app	January 2014
Cooperation agreement with GIZ on regional information dissemination	May 2014
Setup of Nairobi Area Metropolitan Transport Authority (NAMATA) commenced	October 2014
Study tour to Istanbul BRT organized by GIZ	March 2015
Government of Ethiopia signed credit agreement for \$50 million for B2 corridor development in Addis Ababa	April 2015
Feasibility and operational planning and preliminary design and appraisal for Addis Ababa BRT – B2 corridor completed	December 2015
Establishment of the Metropolitan Area Transport Authority (MATA) for Kampala approved by cabinet	May 2016
Completion of TRL works.	December 2016
Value engineering report completed with preliminary design concepts and operational plan for Addis Ababa B2 BRT corridor	March 2017
Formal establishment of NAMATA through an Executive Presidential Order	February 2017
Terminal date of SusTrans Project	31 December 2017

## 2.5 Implementation Arrangements and Project Partners

28. The SusTrans Project was implemented by UN Environment from its offices in Nairobi, Kenya. The role of UN Environment on the Project was to review project annual work plans, provide advances to its executing agency for carrying out planned works, and to report to GEF on project progress. In addition, UN Environment was to serve as an aggregator to other related programs on sustainable transport as listed in Section 2.7 of the Project Document. Some of these programmes includes UN Environment’s Partnership for Clean Fuels and Vehicles (PCFV), a prominent program for the promotion of clean fuels and vehicles in developing countries, and other UNEP-GEF projects in Sustainable Transport such as “Bus Rapid Transit and Pedestrian Improvements in Jakarta” (Indonesia FSP), “Reducing GHG Emissions with Bus Rapid Transit” (Tanzania and Colombia MSP). Through UN Environment’s network, linkages with these programs were to benefit the SusTrans Project by bringing together implementing personnel with common and shared objectives for information exchanges and participation at sustainable urban transport seminars and events.

29. The executing agency for SusTrans Project’s activities was UN Habitat who managed contracts for the planning and development of the pilot SUT systems in Nairobi, Addis Ababa and Kampala. The value of their role as the executing agency was their physical presence in Nairobi and Addis Ababa, and past cooperation between UN Habitat and UN Environment, notably in the area of sustainable urban planning and management. This includes the joint UN-HABITAT-UNEP Sustainable Cities Programme that has been promoting environmental, social and economic sustainability of cities through an Environmental, Planning and Management (EPM) approach characterized by a broad-based, participatory decision-making process.
30. Project Management Units (PMUs) were set up in Nairobi, Addis Ababa and Kampala with the relevant urban transport agencies directly developing sustainable urban transport projects for these cities.
31. Project execution was also to be supported by German International Cooperation (GIZ) and the Institute for Transportation and Development Policy (ITDP). GIZ has an extensive background in technical assistance on urban mobility to developing countries at local, regional and national levels for more than 25 years. This includes publications, training measures, project-related expert assignments and the organization of regional and international dialogues on urban mobility. ITDP is a leading organization in the promotion of environmentally-sustainable and equitable transportation policies and projects worldwide. ITDP has global outreach focusing on work with municipalities and non-governmental organizations in developing countries to implement sustainable urban transport projects to reduce air pollution, carbon emissions, and traffic congestion while improving the basic mobility of the poor.

## 2.6 Project Financing

32. The total Project cost in the 2010 Project Document was US\$7.185 million<sup>9</sup>. This cost has been broken down into the GEF grant of US\$2.85 million and co-financing of US\$4.335 million as detailed in Table 3. It is important to note that the financing discussed in this section only includes enhanced planning and design of BRT systems for Addis Ababa, Kampala and Nairobi, not any of the capital costs or equipment procurement of the pilot BRT systems.

**Table 3: Project budget summary**

Particulars	Amount (USD)
UN Habitat	635,000
UN Environment	70,000
ITDP	260,000
World Bank Kampala	3,200,000
GIZ	130,000
Transport Research Laboratory (TRL)	40,000
<b>Total Co-financing of the SusTrans Project</b>	<b>4,335,000</b>
GEF grant to UN Environment	2,850,000
<b>Total Cost of SusTrans Project</b>	<b>7,185,000</b>

## 2.7 Changes in design during implementation

33. Considering GEF resources were devoted to enhancing the planning of pilot BRT systems in 3 East African cities within a 5-year period of implementation and the political and financial uncertainties of implementing such projects, the design provided a basic framework towards achieving the developmental goals of the SusTrans Project. With this framework, implementation of the SusTrans Project was conducted without design changes. The only issues that could be considered as changes

<sup>9</sup> Excludes PDF funds of US\$150,000 from GEF.

during implementation are the activities of Component 2 that involved “transformation of the existing transport industry” (Subcomponent 2.4), “improvement and construction of NMT facilities” (Subcomponent 2.5) and “parking management study and measures” (Subcomponent 2.6). Due to the aforementioned political and financial uncertainties, the SusTrans Project never had any certainty on the extent of implementation of these subcomponents nor did the evaluation consider achievement of these subcomponents to be realistic within a 5-year period in consideration of the baseline scenario in the 3 cities. This is further discussed in Section 2.8 in the “Reconstructed Theory of Change”.

## 2.8 Reconstructed Theory of Change of the Project

34. A Theory of Change (ToC) for a project essentially describes the roadmap of development pathways driven by regulatory or market drivers in combination with project activities to reach intended project outcomes as well as long-term outcomes. It reflects the intentions of project activities. Although no ToC was prepared for SusTrans, a Project Results Framework (PRF) was prepared and assessed, with a conclusion that further adjustments were required in its wording of objectives, outcomes and outputs to meet best practices for preparing PRFs and before a ToC could be re-constructed. As mentioned in Para 58, this is one of the weaknesses of the SusTrans Project. Table 4 provides these language adjustments of the PRF converting “objectives and outcomes” to “outcomes and outputs”.
35. Figure 1 depicts a first draft of a ToC diagram for the SusTrans Project with development pathways. The logic of the ToC diagram flows in a vertical direction (upwards) from component and outputs (light green boxes) to long term impacts (dark green boxes) of global GHG emission reductions from the transport sector. In between, there are the SusTrans direct outcomes, medium term outcomes, and an intermediate state that leads to intended long-term impacts of the SusTrans Project, accompanied by external drivers that would include government commitments to low carbon urban transport.
36. Intended direct outcomes of SusTrans from the PRF also required rewording to clarify developmental pathways to intended long-term impacts. For the purposes of this Evaluation, re-worded outcomes are provided on Table 4 and are listed as follows:
  - *Outcome 1: National governments advocate for comprehensive sustainable metropolitan transport system in Addis Ababa, Kampala and Nairobi with development banks and investors;*
  - *Outcome 2: Detailed designs for implementation of a demonstration sustainable transport corridor featuring BRT, NMT and TDM measures are available to the municipalities of Addis Ababa, Kampala and Nairobi. This outcome somewhat differs from what is provided in the description of the outputs in the Project Document, including Output 2.5 where one of the outputs is actual “NMT improvements along SUT corridors” which assumes SUT corridors would be established by the Project, which in Para 8 has been determined to be difficult if not impossible to achieve within the 5-year implementation period of SusTrans;*
  - *Outcome 3: Municipality authorities adopt appropriate clean vehicle and fuel technology initiatives in plans and investment strategies in Addis Ababa, Kampala and Nairobi;*
  - *Outcome 4: Decision makers, municipal personnel and local urban transport professionals apply lessons and experiences learned from Addis Ababa, Kampala and Nairobi on the benefits, implementation modalities, financing and impacts of sustainable urban transport systems.*
37. Outcomes 1 and 2 are crucial to the SusTrans Project achieving its intended outcomes. These outcomes are crucial to the achievement of Medium-Term Outcomes 5 and 6, both of which are critical to intermediate states of “increased confidence in sustainable mass transport (SMT) systems” and “replication of quality SMT systems regionally in sub-Saharan Africa”, as illustrated on Figure 1. As such, a draft ToC has been reconstructed to:
  - clarify end-of-project (EOP) or direct outcomes of the SusTrans Project that would lead to medium term outcomes, which would include completion of an operational demonstration SUT corridor (which would realistically be completed in more than 5 years from the commencement of the SusTrans Project) and the Project objective of “technical and institutional basis for implementing metropolitan sustainable transport networks and systems has been created”;

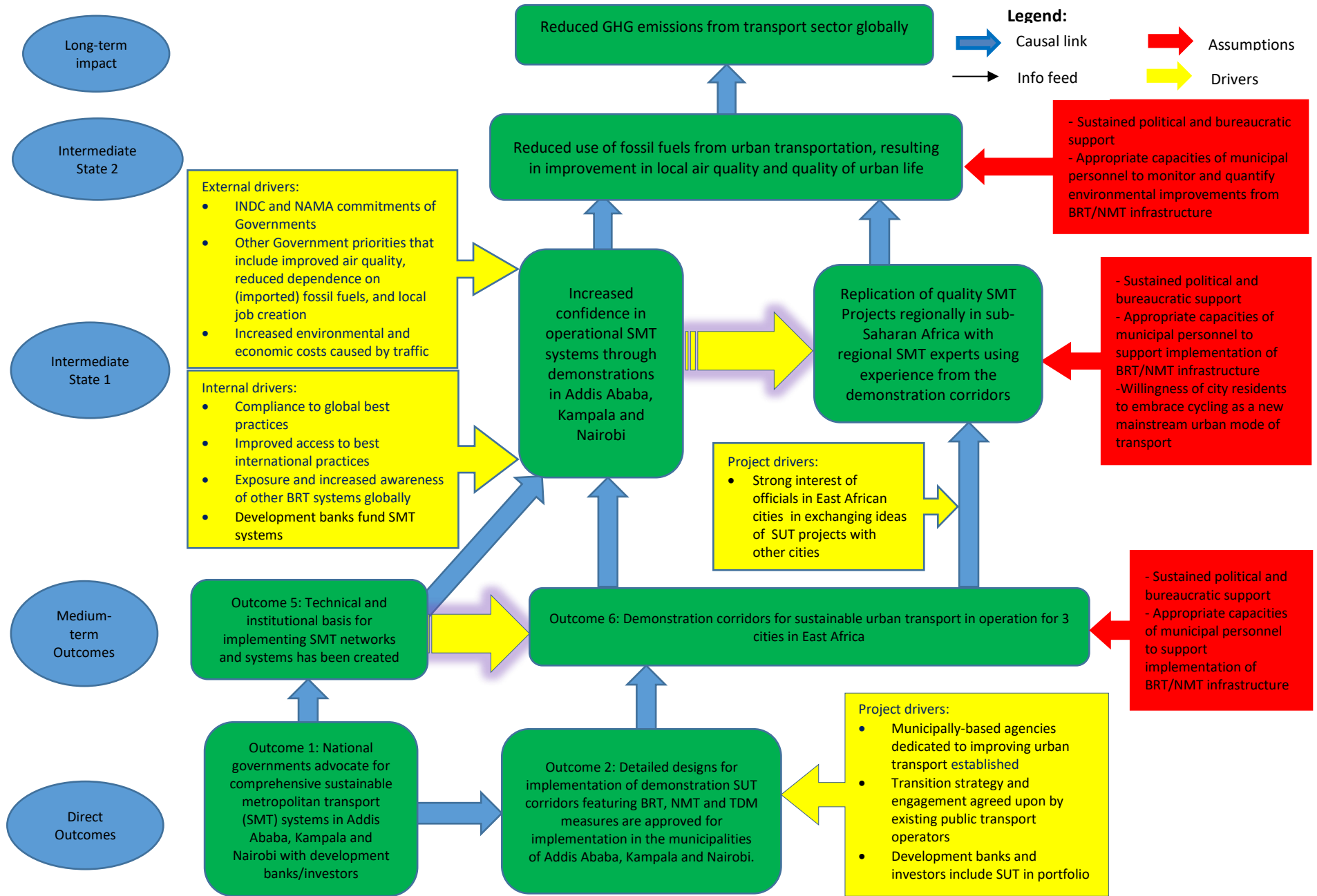


**Table 4: Proposed Changes in SusTrans Project Results Framework (PRF) Language**

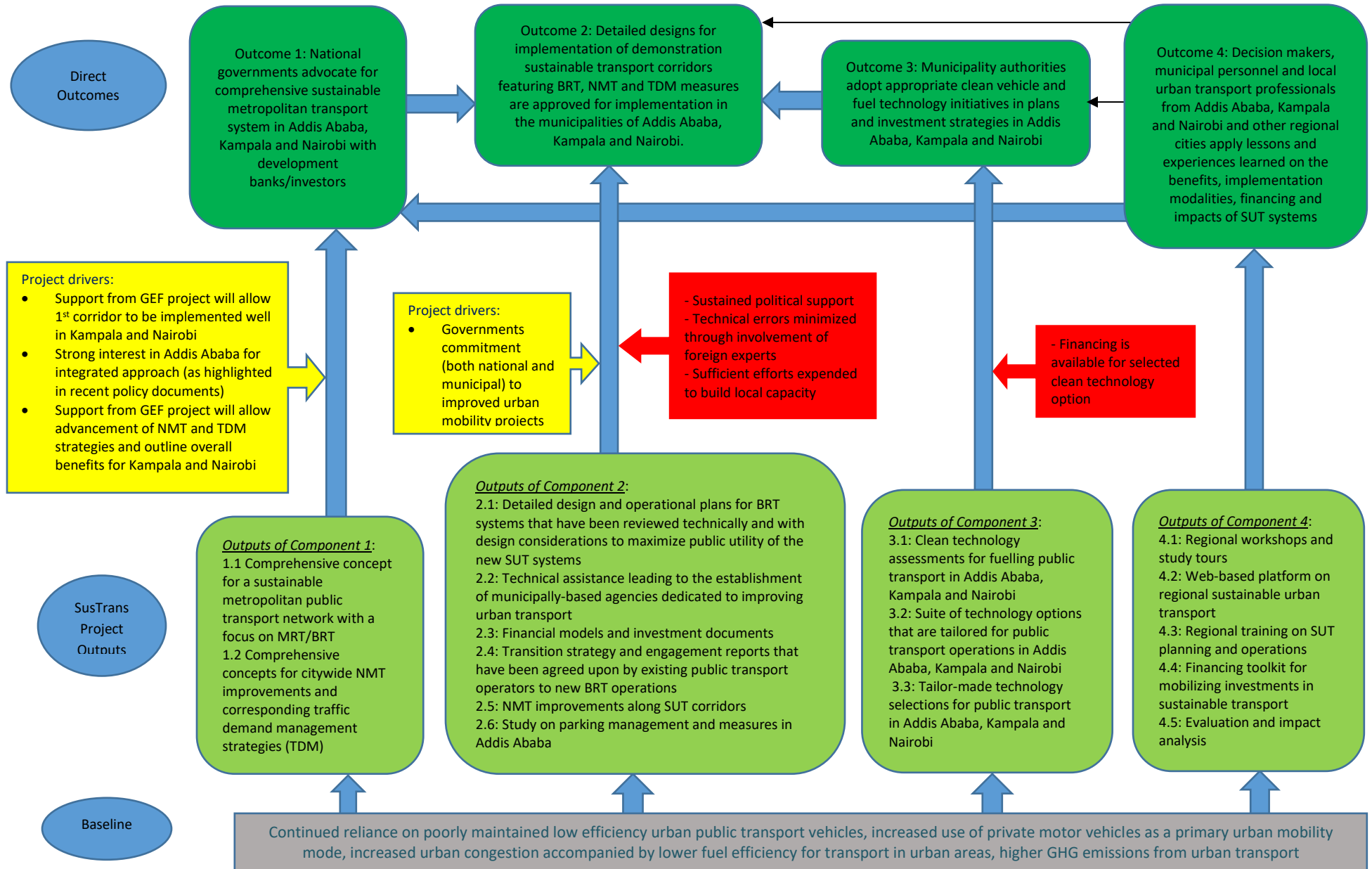
<b>Original PRF language</b>	<b>Corrective Action</b>	<b>Reconstructed ToC output and outcomes</b>
Objective 1: Technical assistance and institutional support for the development of a comprehensive sustainable metropolitan transport system in Addis Ababa, Kampala and Nairobi	This objective is actually Component 1 which contains a series of actions and outputs which would lead to improvements in the technical and institutional capacity of the 3 cities.	Outcome 1: National governments advocate for comprehensive sustainable metropolitan transport (SMT) system in Addis Ababa, Kampala and Nairobi with development banks and investors.
Outcome 1.1: Comprehensive concept for a sustainable metropolitan public transport network with a focus on MRT/BRT	This outcome is actually an output.	Output 1.1: Comprehensive concept for a sustainable metropolitan public transport network with a focus on MRT/BRT
Outcome 1.2: Comprehensive concepts for citywide NMT improvements and corresponding traffic demand management strategies (TDM)	This outcome is actually an output.	Output 1.2: Comprehensive concepts for citywide NMT improvements and corresponding traffic demand management strategies (TDM)
Objective 2: Planning and detailed design for implementation of a demonstration sustainable transport corridor in Addis Ababa, Kampala and Nairobi, featuring BRT, NMT and TDM measures	This objective is actually Component 2 where there are a number of actions and outputs that would lead to plans and detailed designs of a demonstration sustainable transport corridor that are available to the 3 cities.	Outcome 2: Detailed designs for implementation of demonstration SUT corridors featuring BRT, NMT and TDM measures are approved for implementation in the municipalities of Addis Ababa, Kampala and Nairobi.
Outcome 2.1: Technical review of detailed design and operational planning for BRT systems.	This outcome should be reworded as an output with considerations of the cultural acceptance of new SUT systems	Output 2.1: Detailed design and operational plans for BRT systems that have been reviewed technically and with design considerations to maximize public utility of the new SUT systems.
Outcome 2.2: Institutional structuring	This needs to be reworded as an output.	Output 2.2: Technical assistance leading to the establishment of municipally-based agencies dedicated to improving urban transport
Outcome 2.3: Investors document and financial modelling	This needs to be converted to an output.	Output 2.3: Financial models and investment documents
Outcome 2.4: Transformation of existing transport industry	This needs to be converted to an output that reflects the transformation of the existing transport industry. Unfortunately, the intended outcome and output appear to be overly ambitious. Regardless, the output needs to reflect the results described under Subcomponent 2.4 in the Project Document (pages 54-55)	Output 2.4: Transition strategy and engagement reports that have been agreed upon by existing public transport operators to new BRT operations
Outcome 2.5: Improvement and construction of NMT facilities	This needs to be reworded as an output	Output 2.5: NMT improvements along SUT corridors

Original PRF language	Corrective Action	Reconstructed ToC output and outcomes
Outcome 2.6: Parking management study and measures	This needs to be reworded as an output that is reflective of the target.	Output 2.6: Study on parking management and measures in Addis Ababa
Objective 3: Feasibility of application of clean vehicles and fuel technology initiatives in Addis Ababa, Kampala and Nairobi	This objective is Component 3 under which there are a number of actions and outputs that would lead to an increased understanding of the application of clean vehicles and fuel technology initiatives in the 3 cities.	Outcome 3: Municipality authorities adopt appropriate clean vehicle and fuel technology initiatives in plans and investment strategies in Addis Ababa, Kampala and Nairobi
Outcome 3.1: Clean technology assessment	This needs to be reworded as an output	Output 3.1: Clean technology assessments for fuelling public transport in Addis Ababa, Kampala and Nairobi
Outcome 3.2: Regional clean technology initiative	This outcome needs to be converted into an output that improves the description and purpose of these regional initiatives	Output 3.2: Suite of technology options that are tailored for public transport operations in Addis Ababa, Kampala and Nairobi
Outcome 3.3: Clean technology measures in project cities	This outcome needs to be converted into an output that reflects the actual selection of a clean technology measure to be used for public transport in the 3 cities.	Output 3.3: Tailor-made technology selections for public transport in Addis Ababa, Kampala and Nairobi.
Objective 4: Regional capacity building, awareness raising and networking	This objective is Component for which needs to be turned into an outcome that is a result of these regional capacity building activities based on the description of this component in the Project Document.	Outcome 4: Decision makers, municipal personnel and local urban transport professionals from Addis Ababa, Kampala and Nairobi and other regional cities apply lessons and experiences learned on the benefits, implementation modalities, financing and impacts of SUT systems
Outcome 4.1: Regional workshops and study tours for the exchange of information	This outcome should be converted into an output.	Output 4.1: Regional workshops and study tours
Outcome 4.2: Regional network and communication system on sustainable urban transport	This outcome needs to be converted into an output that better describes the proposed communication system.	Output 4.2: Web-based platform on regional sustainable urban transport
Outcome 4.3: Regional training on SUT-related and capacity building	This outcome needs to be converted into an output that improves the description of the training being provided.	Output 4.3: Regional training on SUT planning and operations.
Outcome 4.4: Financing toolkit for mobilizing investments in sustainable transport	This outcome needs to be converted into an output	Output 4.4: Financing toolkit for mobilizing investments in sustainable transport
Outcome 4.5: Evaluation and impact analysis	This outcome needs to be converted into an output	Output 4.5: Evaluation and impact analysis

**Figure 1: Re-Constructed Theory of Change Diagram for SusTrans Project**



**Figure 1: Re-Constructed Theory of Change Diagram for SusTrans Project (con'd)**



- illustrate an intermediate state resulting from the modernized SUT systems of the 3 cities that are replicated in other cities of sub-Saharan Africa. This would increase the number of cities in Africa with modernized SUT systems that would catalyse interest in other cities and generate tangible reductions in fossil fuel usage in urban transportation and related GHG emissions from transport globally;
  - harmonize the language between the ToC and the PRF. Changes in language were necessary to clearly state intended outcomes and outputs that are required from the Project, and to provide SMART indicators for the purposes of Project monitoring;
  - reflect the baseline conditions of the SusTrans Project.
38. Assuming sustainability of the SusTrans Project’s direct and medium-term outcomes, there will be expected “intermediate states” after the end-of-project (EOP), all of which would be driven by “internal drivers” that are considered here as “outcome by-products” of the SusTrans Project (that includes compliance to global best practices, improved access to best international practices and exposure and increased awareness of other BRT systems globally), and “external drivers” that are beyond the control of the Project and would include government commitments to low carbon development (that would generally be expressed as a NAMA or more recently, as INDCs) and the increasing national costs of using conventional and imported fossil fuel sources. A first level of intermediate states would include:
- Increased confidence in operational SMT systems through demonstrations in Addis Ababa, Kampala and Nairobi;
  - Replication of quality SMT Projects regionally in sub-Saharan Africa with regional SMT experts using experience from the demonstration corridors.
39. These first level intermediate states will then lead to a second level intermediate state of “reduced use of fossil fuels from urban transportation, resulting in improvement in local air quality and quality of urban life” or conditions within the country programs where there is reduced use of fossil fuels for urban transportation..
40. From this second level intermediate state, a long-term impact of “reduced GHG emissions from transport sector globally” can be achieved. A key assumption in the ToC diagram towards achievement of the medium-term outcomes and intermediate states from the SusTrans Project is sustained political and bureaucratic support, and appropriate capacities of municipal personnel to support implementation and operations of the BRT/NMT system that will sustain public utility of the SMT systems. Without political and bureaucratic support, public confidence of SMT systems and networks would be eroded with a stronger likelihood that GHG emission reductions may not be maximized due to creeping operational inefficiencies and increases in fossil fuel use in urban transportation.

## 3 Evaluation Findings

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### 3.1 Strategic Relevance

#### 3.1.1 Alignment with UN Environment’s strategy, policies and mandate

41. The SusTrans Project aligns with the UN Environment Medium-Term Strategy (MTS) of 2010 to 2013, specifically that “countries make sound policy, technology, and investment choices that lead to a reduction in greenhouse gas emissions and potential co-benefits, with a focus on clean and renewable energy sources, energy efficiency and energy conservation” to meet a climate change objective of

- “strengthening the ability of countries to integrate climate change responses into national development processes”<sup>10</sup>.
42. The SusTrans Project also aligns with the UNEP Medium-Term Strategy (MTS) 2014 to 2017 that specifies an Expected Accomplishment (EA2/low emission growth) through the use of renewable energy in partner countries to reduce GHG emissions and other pollutants as part of their low emission development pathways.
  43. The Bali Strategic Plan (BSP)<sup>11</sup> has objectives to “strengthen the capacity of governments of developing countries through targeted capacity building within the mandate of UN Environment, using and sustaining the capacity of technology obtained through training or other capacity building efforts, and developing national research, monitoring and assessment capacity that supports national institutions in data collection, analysis and monitoring of environmental trends and in establishing infrastructure for scientific development and environmental management (that will ensure sustainability of capacity building efforts)”.
  44. The BSP also has other specific objectives of “promoting, facilitating and financing as appropriate, access to and support of environmentally sound technologies and corresponding know-how, especially for developing countries as well as countries with economies in transition”, and “strengthening cooperation amongst UN Environment, multilateral agreement secretariats (that take into account their autonomous decision-making processes), and other bodies engaged in environmental capacity building including GEF”. The SusTrans Project was strongly aligned to the BSP through its emphasis and efforts to achieve these objectives through local capacity building activities, citing lost opportunities if planning for SUT developments were implemented solely by consultants. The results of local capacity building are discussed in the Section 3.4.4 of this report.
  45. With regards to South-South Cooperation (SSCo), the SusTrans Project was designed to utilize the lessons learned from implementing demonstration SUT corridors, and sharing them with the other cities on the Project as well as other regional African cities. In addition, expertise of BRT/NMT professionals from Johannesburg and Dar es Salaam was transferred to urban transport professionals in Addis Ababa, Kampala and Nairobi during their interactions (through study tours or regional workshops) with personnel from these cities.
  46. Safeguard management instruments were not completed for this Project at the time of its design in 2010. The UNEP ESES only came into effect in 2015. Despite the lack of compliance to the ESES, the SusTrans Project was designed to increase access to, introduce and sustain the use of international best practices for the planning, design and implementation of BRT systems and NMT infrastructure for developing countries.

***The overall rating for alignment to UN Environment’s strategic priorities is ‘Highly Satisfactory’.***

### 3.1.2 Alignment with GEF focal areas and strategic priorities

47. The GEF provides grants for projects in focal areas of biodiversity, climate change, international waters, land degradation, the ozone layer, persistent organic pollutants, and chemicals and waste. The GEF funds for the BRT Project were approved near the conclusion of the GEF-4 Operational Phase (2007 - 2010). As such, with the commencement of the SusTrans Project in January 2011, the SusTrans Project was to deliver outcomes consistent with the strategic programming objectives of the overlapping GEF-5 (2011 - 2014) and GEF-6 (2015-2018). For GEF-4, the SusTrans Project was highly relevant with Strategic Program 5 (SP-5) for “promoting sustainable innovative systems for urban transport”<sup>12</sup>. For GEF-5, the SusTrans Project was highly relevant to the Climate Change Objective 4: “Promote energy efficient low carbon transport and urban systems”. For GEF-6, the

<sup>10</sup> Page 26 on [http://www.preventionweb.net/files/14460\\_FinalMTSGCSSX81.pdf](http://www.preventionweb.net/files/14460_FinalMTSGCSSX81.pdf)

<sup>11</sup> <http://staging.unep.org/south-south-cooperation/pdfs/Bali-Strategic-Plan-GC23-6-add-1.pdf>

<sup>12</sup> See pg 39 on: [https://www.thegef.org/sites/default/files/documents/GEF4-Focal-Area\\_strategy.pdf](https://www.thegef.org/sites/default/files/documents/GEF4-Focal-Area_strategy.pdf)

SusTrans Project supports Climate Change Objective 2: “Demonstrate systemic impacts of mitigation options under its Program 3: Promote integration of low emission urban system”.

**The overall rating for alignment to UN Environment and GEF strategic priorities is ‘Highly Satisfactory’.**

### 3.1.3 Relevance to global, regional and national environmental issues and needs and complementarity to other interventions

48. In Ethiopia, the development of sustainable urban transport for Addis Ababa is relevant to the following urban transport related policies and plans:

- the “City Development Plan” (2002), provided a long-term vision of the city’s future development based on a mass transit backbone for a city of more than 10 million inhabitants. The plan created mass transit links connecting the central business district (CBD) and the main centres to the sub-centres;
- the “National Urban Transport Policy” (2004);
- the “Comprehensive Urban Transport Plan” (2006) funded by the World Bank. The Plan included a number of developments related to the improvement of public transport including the upgrading of the Anbessa Bus Service, introduction of BRT and LRT systems along major corridors, and the promotion of mini bus taxi services;
- the Transport Policy of Addis Ababa (2011)<sup>13</sup> that is managed at the city level by the Bureau of Roads and Transportation, responsible for the Addis Ababa City Road Authority (AACRA), the bus network managed through Anbessa and the Addis Ababa CityTransport Authority (AACTA). This Policy promotes the expansion of mass transport systems along with non-motorized mobility to achieve a more socially inclusive, economically affordable, environmental friendly and technologically advanced transport system. The policy sets the foundations for a renewed public transport system and the improvement of traffic management practices through the introduction of Intelligent Transportation Systems (ITS);
- the Addis Ababa Master Plan for urban development (2010-2015) that includes the mass transport systems in the aforementioned Transport Policy, rationalizes that these systems are crucial to sustainable and lasting socio-economic development of Addis Ababa<sup>14</sup>. These transport systems need to provide a reliable, safe, comfortable and accessible service.

49. In Uganda, the development of sustainable urban transport for Kampala is relevant to the following urban transport related policies and plans:

- the “Kampala Urban Transport Improvement Plan” (2003) funded by the World Bank that included detailed and low cost plans to improve the management of traffic in the central area of Kampala;
- the “National Transport Master Plan” (NTMP) that sets out a framework for the development of the transport sector in three-5-year phases from 2008 to 2023;
- the “Greater Kampala Metropolitan Area (GKMA) Transport Master Plan” (2004) which was updated in 2009 as a part of the aforementioned NTMP; and
- the “Ministry of Transport’s Strategy for the Improvement of Traffic Flow in Kampala” (2009).

50. In Kenya, the development of sustainable urban transport for Nairobi is relevant to the following urban transport related policies and plans:

- the “Kenya Urban Transport Infrastructure Programme” (1996-2005);

<sup>13</sup> <https://chilot.me/wp-content/uploads/2011/08/transport-policy-of-addis-ababa.pdf>

<sup>14</sup> <https://policytransfer.metropolis.org/case-studies/sustainable-transport-in-addis-ababa>

- “Transport Sector Policy and Roads Sub-Sector Policy and Strategy” (2004);
- the “Study on Master Plan for Urban Transport in the Nairobi Metropolitan Area” (2006);
- the “Integrated National Transport Policy” (2004); and
- the “Feasibility Study and Technical Assistance for Mass Rapid Transit System for the Nairobi Metropolitan Region” (2010).

***The overall rating for relevance to national issues and needs is Highly Satisfactory.  
The overall rating for complementarity to existing interventions is ‘Highly Satisfactory’.***

### 3.2 Quality of Project Design

51. A review of the SusTrans Project design is crucial towards a comprehensive understanding of intended SusTrans outcomes and the actual outcomes achieved. A summary of this review is contained in the following paragraphs.

#### SusTrans Project Design Strengths:

52. The SusTrans Project was designed in 2010, and was reasonably clear on its objectives in providing an institutional basis on which 3 East African cities, Addis Ababa, Nairobi and Kampala can design, implement and operate modernized sustainable urban transport systems. Considering the willingness of government officials in these 3 cities to modernize their urban transport systems, and their lack of capacities and knowledge to plan, design, secure financing, implement and operate these systems, the SusTrans Project served as a useful vehicle to build the knowledge for officials and stakeholders in these 3 cities on SUT and the means for its development.
53. The goal of the SusTrans Project was “*to create the technical and institutional basis for implementing metropolitan sustainable transport networks and systems and establish a demonstration corridor for sustainable urban mobility*”.
54. At the time design of the SusTrans Project, policy responses to the deteriorating urban mobility of the 3 cities was weak, in part due to the overwhelming growth of motor vehicles of the cities and the lack of funds to provide more roads. Moreover, the impact of the policy response was close to a business-as-usual scenario where the number of motor vehicles and urban transport-related GHG emissions have steadily increased. Exacerbating these issues was the increase in private car ownership as a direct result of expected improvements of socio-economic conditions of the middle class, their rising incomes that may lead to sprawling urban development, and a consequential dramatic increase in GHG emissions from urban transport.
55. As such, incremental activities strategically targeted by SusTrans were to provide support for:
- creating awareness and increased knowledge of modernized urban transport systems amongst relevant policymakers, stakeholders and the general public in East Africa with a focus on Addis Ababa, Nairobi and Kampala;
  - demonstrating low carbon alternatives to private motorized urban travel that BRT, NMT and TDM measures to the extent that these measures are competitive with the private motorized vehicle as an urban mobility option; and
  - local government efforts to secure financing with development banks including documentation for loan applications with international and well-qualified urban transport experts to provide technical assistance. BRT will serve as the main measure on which much of the technical assistance of SusTrans will be provided.
56. Considering the size of GEF support of US\$2.85 million over a period of 5 years, the design of the SusTrans Project was clearly scoped to provide incremental support to strengthen local capacities



and enable local officials to communicate with financial institutions on their needs for implementing and operating modernized SUT systems for their cities. In conclusion, the strength of the SusTrans Project is in its activities for building this capacity.

SusTrans Project Design Weaknesses:

57. The primary weakness of the SusTrans design is its lack of clarity on the Project’s exit strategy that may include completed and operational BRT systems in Addis Ababa, Nairobi and Kampala within a 60-month period. Considering a baseline where there is poor local understanding of SUT systems, the target of operational BRT systems by the end-of-project (EOP) after 5 years was not realistic. Global experience from the predecessor GEF-supported “BRT Project” in Dar es Salaam and Cartagena (Colombia) indicates that the gestation period of BRT systems in developing countries will likely be more than 10 years.
58. This primary weakness is rooted in the Project Results Framework (PRF) which was not prepared using best practices. The PRF contains 4 objectives, 14 outcomes and no outputs. As a GEF-4 project, no Theory of Change was required. The SusTrans PRF has been revised to conform with OECD-DAC definitions for results in this Evaluation by converting PRF outcome indicators into outputs, and the 4 objectives into outcomes, as detailed in Section 2.8.

***The overall rating for project design is ‘Moderately Satisfactory’.***

### 3.3 Nature of External Context

59. Project operations can be affected by externalities beyond the control of the Project. This may include externalities such as severe and unexpected climatic events, high-risk security situations, poor or lack of supporting infrastructure, economic instability, and politics. The nature of external context for the SusTrans Project was assessed for the 3 pilot cities of Nairobi, Addis Ababa and Kampala:
  - in Addis Ababa, the need for improved public urban transport has received strong support from the federal government which has translated into strong support from the City Government of Addis Ababa. This includes the approval of the selection of the demonstration corridor (B2) including all acquisition of land for the right-of-way for BRT and NMT infrastructure, and control over discussions with existing public transport operators (see Para 66 regarding management of public transport operators in Addis Ababa). Economic conditions are viewed as stable, and the political support for the planning of BRT operations in Addis Ababa were generally favorable. As such, the nature of the external context for Addis Ababa is assessed as *favorable*;
  - in Kampala, the Kampala Capital City Authority (KCCA) has experienced difficulties in establishing an SUT corridor that complies with best practices. To some extent, this has been manifested by the poorer economic conditions that have prevented KCCA from the acquisition of lands required to widen the corridor along certain critical reaches. While there is political support for useful SUT corridors, the City has experienced difficulties in the establishment of the Kampala Metropolitan Area Transport Authority (MATA) which can have an impact of accelerating SUT corridor development. As such, the nature of the external context for Kampala is assessed as *moderately favorable*;
  - in Nairobi, the design of BRT corridors is underway along a corridor from the airport to the CBD. The design process, however, was affected in a minor way by occasional security issues and political context where some of the choices for other proposed BRT and NMT corridor development were made due to political considerations accompanied by unrealistic time frames. While development of these politically motivated BRT corridors is highly unlikely within these short time frames, the energy spent on discussing these other corridors is disruptive to some extent on actual BRT planning and design activities from the airport to the CBD. As such, the nature of the external context for Nairobi is assessed as *moderately favorable*.

***The overall rating for nature of external context is ‘Moderately Favourable’.***

### 3.4 Effectiveness

60. Delivery of key incremental outputs as specified by the SusTrans Project Document related to Components 1 to 4 are described in Sections 3.4.1, 3.4.2, 3.4.3 and 3.4.4. The outputs mentioned in the Project Document were reworded according to best practices for preparing PRFs and summarized in Table 4.

#### 3.4.1 Delivery of Outputs for Component 1: Technical assistance and institutional support for the development of comprehensive SMT systems

61. Output 1.1: Comprehensive concept for a sustainable metropolitan public transport network with a focus on MRT/BRT:

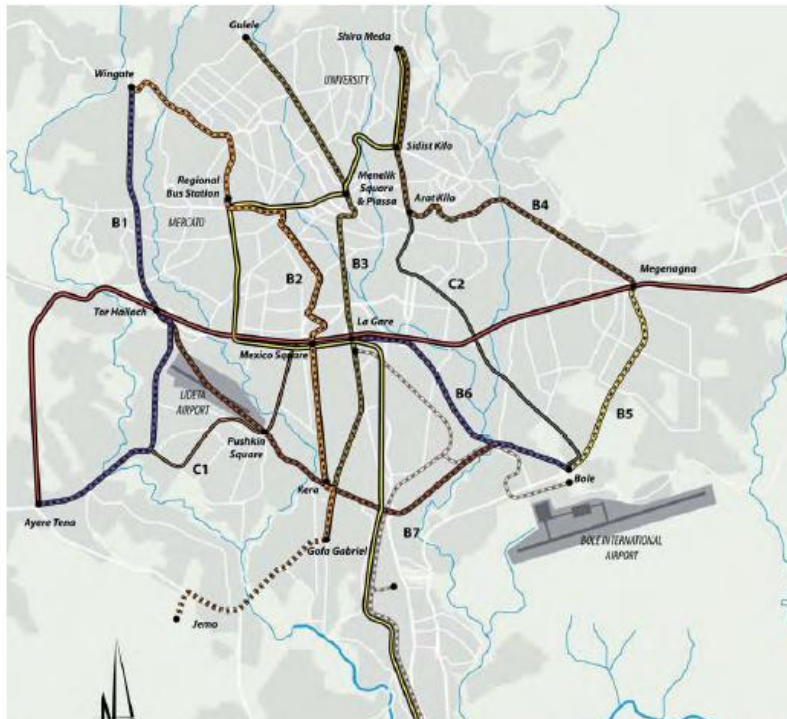
- The Addis Ababa City Authority completed a feasibility study in 2015 which made a recommendation to have further studies integrating LRT/BRT and NMT/BRT. Work to deliver this output commenced in 2012 with the assistance of the Project through the TRL. Included in the preparations for delivering a comprehensive concept for an SMT network for Addis Ababa were the review of a BRT feasibility study, NMT studies and audits, and meetings with the Addis Ababa City Planning Project Office (AACPPO) on technical recommendations in 2013 and 2014. This resulted in the Addis Ababa City Authority commissioning a feasibility study project in 2015 to integrate the BRT with the existing LRT system and planned NMT infrastructure. The Project assisted in the preparation of Phases 1, 2 and 3 of the BRT network for Addis Ababa. A total of 9 BRT routes now comprise the SMT network plan of the Addis Ababa Roads and Transport Bureau. Figure 2 provides a depiction of the B2 BRT corridor (from Wingate to Jemo), the first BRT line to be constructed in Addis Ababa;
- For Kampala, the BRT network has been identified within the new Kampala Transport Master Plan<sup>15</sup>. SusTrans support for preparing a comprehensive SMT network commenced in 2012 with inception workshops and technical briefings with stakeholders involving ITDP and the PMU for Kampala, setup at the Ministry of Works and Transport (MoWT). By 2014, the Project was supporting the preparation of detailed designs for a comprehensive BRT citywide network, NMT plan and a transport policy document for the Kampala Capital City Authority (KCCA). However, the 2014 designs were assessed as inadequate by ITDP due to the lack of NMT provisions and BRT corridor width at certain locations in the plan that would not cater to expected demand. The issue was essentially related to the ability of the Government to acquire costly land within the CBD along certain reaches of BRT corridors that would comply with best practices for BRT designs. This issue was addressed by preparing the “Kampala Mobility Map” using IT-based applications to facilitate a strengthened design for a city-wide public transport system for Kampala. A draft map was presented to stakeholders for initial inputs after which the Government would strengthen its designs. As of 2017, the Ugandan Government has set up an inter-agency BRT steering committee to review these plans. At the conclusion of SusTrans, KCCA were seeking new funding sources for the involvement of ITDP to upgrade these plans to comply with best international practices for SMT networks. As of September 2018, AFD has offered funding for this activity according to MoWT;
- For Nairobi, a citywide SMT network for Nairobi was endorsed by the Government of Kenya that proposed 5 BRT corridors in 2016 (through an AfDB MRT study). Development of the network plan commenced in 2012 with SusTrans review of the AfDB-funded MRT feasibility study and their preparation of a value-engineering exercise to guide investments in public transport. This was done in close collaboration with KeNHA, KURA and Nairobi City County for a conceptual MRT/BRT network. By 2014, the plan incorporated work by KeNHA on the pilot BRT corridor (from Airport to Uthiru, beyond James Gichuru Road referred to as the KeNHA A104 Corridor) and integration to the wider MRT city network. The plan was enhanced by the use of data collected by the Digital Matatus project<sup>16</sup>, a collaboration between students and professors at

<sup>15</sup> The network includes Jinja Road, Bombo Road and Entebe Road.

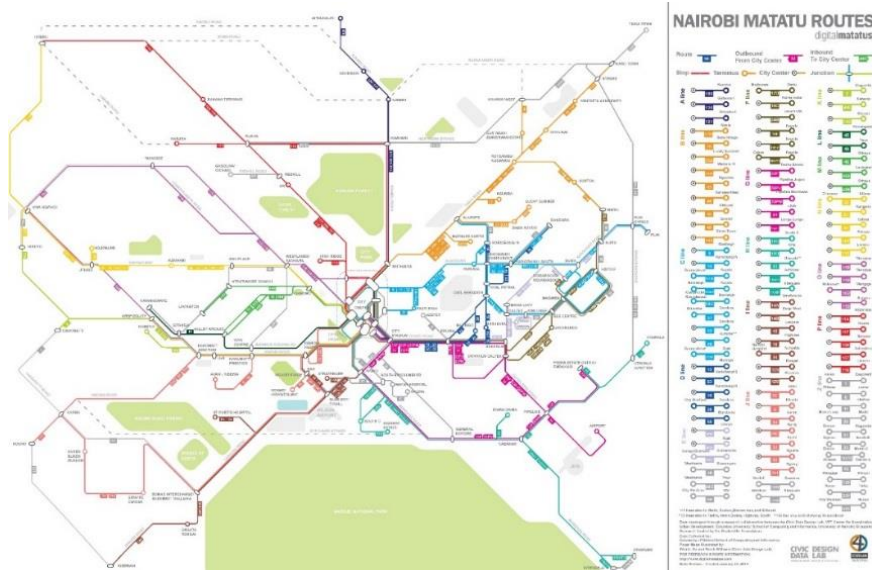
<sup>16</sup> <http://www.digitalmatatus.com/about.html>

Columbia, MIT, the University of Nairobi and design firm Groupshot, which published a map showing for the first time the routes and stops of Nairobi’s informal matatu minibus system as shown on Figure 3.

**Figure 2: Addis Ababa SMT network**



**Figure 3: Digital matatu map for Nairobi<sup>17</sup>**



<sup>17</sup> <https://www.itdp.org/2014/03/07/new-maps-and-open-data-pave-way-for-nairobi-brt/>

62. Output 1.2: Comprehensive concepts for citywide NMT improvements and corresponding traffic demand management strategies (TDM):

- In Addis Ababa, this output was delivered alongside of the delivery of Output 1.1 by the TRL. This includes the preparation of TDM strategies and NMT audits in 2012, ongoing technical assistance provided to AACPPO on the incorporation of NMT and TDM into the Master Plan, revisions to this plan in 2013 and 2014, and a workshop on NMT integration with BRT in 2015. Concepts for NMT and TDM measures were incorporated into the Master Plan for sustainable transport solutions for Addis Ababa in 2016. Subsequently, SusTrans assisted the Addis Ababa Road and Transport Bureau in the preparation of an NMT strategy, a 10-year roadmap for the expansion of NMT facilities and development of street design standards. UN-Habitat and ITDP also supported the development of project proposals on bicycle sharing schemes and parking management systems;
- In Kampala, a city-wide concept for NMT and TDM was developed by KCCA with a site for a pilot project identified in 2011. SusTrans involvement for the development of the NMT/TDM strategies commenced in 2012 with the involvement of GIZ and First African Bicycle Information Organisation (FABIO) for technical assistance. SusTrans provided technical assistance commencing in 2013 to prepare an NMT pilot project design along with a city-wide strategy for NMT investment as well as TDM strategies (parking reforms, road pricing/allocation, spatial planning for reduced travel demand). However, due to issues of the NMT designs raised by ITDP in 2014 and 2015, the city-wide concepts for NMT and TDM were not completed by the EOP due to lack of resources to retain ITDP to guide the process of preparing this city-wide strategy;
- In Nairobi, NMT and TDM strategies were delivered in 2015. This commenced in 2012 with the integration of NMT into the AfDB-funded MRT study and value engineering exercise in 2012. From 2013 to 2015, SusTrans provided support to Nairobi City County (NCC) to draft a sustainable mobility strategy for Nairobi for strategy for citywide NMT investment and corridor plans and TDM strategies (that also included parking reforms, road pricing and allocations, and spatial planning for reduced travel demand). In 2015, UN Environment supported the process to develop an NMT policy within the NCC’s master plans that contains a sustainable mobility strategy for Nairobi integrating NMT and TDM measures. The Government of Kenya allocated funds for NMT infrastructure in 2015. ITDP also provided technical assistance on NMT designs to consultants working on BRT Corridors 1 and 3.

***The overall rating for delivery of outputs for Component 1: Technical assistance and institutional support for the development of a comprehensive sustainable metropolitan transport systems is ‘Satisfactory’.***

### 3.4.2 Achievement of Outputs for Component 2: Planning and detailed design for implementation of demonstration SUT corridors

63. Output 2.1: Detailed design and operational plans for BRT systems that have been reviewed technically and with design considerations to maximize public utility of the new SUT systems:

- For Addis Ababa, the output of detailed designs and operational plans for the B2 BRT corridor (by the TRL along with DIMTS) were delivered in March 2017 and reviewed and delivered to the Addis Ababa Road Transport Bureau (AARTB). Activities for this output commenced in 2012 with the baseline activities of the AARTB having completed feasibility studies and operational plans of the B2 BRT corridor (by DIMTS), and AFD-financed detailed designs for this corridor. With the B2 BRT corridor design completed in 2014, the TRL provided comments to the feasibility studies and operational plans prepared by DIMTS. TRL also provided a report in March 2017 on modelling on the impact of the preliminary final BRT designs and GHG emissions;
- In Kampala, detailed designs and operational plans were delivered but deemed not feasible due to designs not including sufficient rights-of-way through several critical reaches of the BRT system. As of August 2018, revisions to these designs have yet to be sanctioned by the Ugandan Government. With consultants commencing detailed design of a BRT corridor in September

2011, a review of the detailed design and operational plan was conducted by ITDP with comments given to Government in 2015. ITDP’s recommendations were the flash point driving the need for revision of all detailed designs and operational plans for Kampala;

- In Nairobi, SusTrans provided comments (in 2016) for detailed designs of 2 corridors including the KeNHA A104 corridor. Detailed engineering designs for these 2 corridors were developed in 2014 with the technical assistance being provided to KURA to identify pilot corridors. Pilot corridors were identified and are being supported through KeNHA. By 2016, the NAMATA Secretariat was reviewing proposals on BRT operations on 5 priority corridors identified by the Government. In 2017, with detailed designs completed for 2 sections, ITDP gave basic training on the TEEMP methodology<sup>18</sup> with a focus on training NAMATA and their capacity to review overall design framework for optimized operations.

64. Output 2.2: Technical assistance leading to the establishment of municipally-based agencies dedicated to improving urban transport:

- In Addis Ababa, the SusTrans Project has provided technical assistance towards the establishment of Addis Ababa City Transport Authority (AACTA). A Project Management Unit (PMU) for the SusTrans Project as well as the agency in charge of MRT was established in 2013 as a precursor to the AACTA. From 2014 to 2015, the TRL provided technical assistance and capacity building for the future personnel of the AACTA. TRL technical assistance was designed in collaboration with AACTA and their identified needs for complying with best practices for developing SMT systems including the development of a BRT network map (for adoption by the City and implemented by the AACTA), creating new bus operator terms of reference (endorsed by the Government, the Addis Ababa City Council and the Mayor’s Cabinet in November 2014 and supported by AFD after October 2016), and management models for consideration when implementing reforms in developing SUT systems (this included the Sheger bus company as the preferred operator in Addis Ababa, and creating other complementary authorities in 2017: public and freight transport authority, traffic management agency, and a drivers and vehicles control authority);
- In Kampala, the Government of Uganda was in the process of finalizing the bill to Parliament for approval of the establishment of a Kampala Metropolitan Area Transport Authority (MATA) in 2017. SusTrans was involved in the setup of MATA beginning in 2012; the PMU was set up to evolve into MATA, which was to include a BRT agency in 2012. Technical assistance included agency structure with organogram and staffing profiles. This was presented to all relevant stakeholders, the Ministry of Finance, and Cabinet for approval in 2015;
- In Nairobi, there were initial efforts in 2012 to establish a municipally-based urban transport agency within the Kenyan Urban Roads Authority (KURA). With constraints on KURA to improve its capacity, the Project moved its technical assistance in 2013 to establish such an agency under the Public Transport Department in MoTI. In 2014, the Project along with Government-mobilized EU support focused on setting up a Nairobi Area Metropolitan Transport Authority (NAMATA) and prepared a draft cabinet memo and ToR on its formation for the Government’s consideration. The Project also organized a NAMATA steering committee which provided documents for the gazetting of NAMATA and the legal process of the Secretariat to establish NAMATA within MoTI. NAMATA was established in 2016 with agreement by the 5 governors in the Nairobi Metropolitan area for the primary purpose of improving public transport (that includes BRT) within the jurisdiction of the Nairobi Metropolitan area. SusTrans provided inputs for preparing guidelines on a framework for standardizing various design and operational aspects of MRT systems in the city and the wider metropolitan area, and delivered a training session for members of the secretariat. The Government was recruiting members to the NAMATA Board after recruiting its CEO in 2017.

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<sup>18</sup> For the estimation of GHG emission reductions from GEF sustainable transport projects.

65. Output 2.3: Financial models and investment documents:

- In Addis Ababa, financial models and investment documents were not delivered until April 2016 due to delays in the BRT design process. Despite commencing this work in 2014 and carrying it through into 2015, substantial progress could not be made until 2016 when the consultant did provide an interim but preliminary investor prospectus report;
- In Kampala, financial models and investment documents were not delivered due to current designs having serious technical flaws including the validity of the data that affects the operational plan for the system. The ITDP critique of the designs in 2015 led to an agreement between the World Bank and the MoWT to review the proposed BRT design prior to its approval and construction<sup>19</sup>;
- In Nairobi, financial models and investment documents were delivered by the SusTrans Project (through ITDP) by preparing draft ToRs for a business consultant to assist in developing the financial models for Government for the 2 corridors where construction has already been committed. The Project also prepared a basic business plan outlining the roles of government and the private sector in BRT operations, and assisted in developing the financial model for Government with the detailed model prepared by the Government’s consultants in 2015. The World Bank adopted ITDP’s ToR provided for the business plan consultant. In 2015, the World Bank recruited the services of a BRT advisor to prepare the investor’s document while assessing the financial and operations proposals for financial viability. This led to recommendations made in March 2017 on financial and operations model for BRT for investor prospectus.

66. Output 2.4: Transition strategy and engagement reports that have been agreed upon by existing public transport operators to new BRT operations:

- In Addis Ababa, these strategies and engagement reports were delivered after the completion of the BRT detailed designs in 2016. The TRL provided initial support to Anbessa on the expansion of the bus fleet, operations and Integrated Data Management System in 2012. However, paratransit operators were not yet engaged in 2013 and 2014. With Government setting up Addis Ababa City Transport Authority (AACTA) and its mandate on engaging para-transit operators, the TRL provided a broad framework of recommended reforms in the BRT Feasibility and Operational Planning Study (FOPS) review in 2015 for details on ticketing, bus fleet and operations. Since 2016, ITDP has been involved with the Addis Ababa BRT and dealing with Government changes that now involves Sheger as the preferred bus operator, whose operations need to align with the role of other public transport operators. With operation plans finalized for Addis Ababa in 2016, ITDP provided further guidance on the transition strategy into BRT operations to the EOP;
- In Kampala, delivery the Project delivered a transition strategy with stakeholder engagement in the BRT and NMT pilots in 2013. This has involved BRT sensitization through the initial mapping exercise by FABIO in 2014. For the transition strategy, the Project provided broad strategies that needed further elaboration and adoption by Government. In 2015, the Kampala Mobility Map delivered by ITDP provided valuable insights for BRT sensitization. By the EOP, the Government of Uganda was in the process of allocating additional financial resources to further develop these maps;
- In Nairobi, the process of engaging stakeholders on a transition strategy has been delivered by ITDP<sup>20</sup>. As early as 2012, the Project conducted workshops to engage matatu associations and Kenya Bus Services in BRT. ITDP has been constantly delivering transition strategy messaging in its quarterly reports and at regional workshops. By 2015, the Government of Kenya recruited a business consultant to sustain efforts on the transition strategy with Project (ITDP) support.

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<sup>19</sup> After the design flaws were revealed through the ITDP analysis, UN-Habitat proposed a methodology for a better understanding of public transport demand and use. This resulted in the “Kampala Mobility Map” mentioned in Para 66.

<sup>20</sup> Their report co-authored with NAMATA on “Transition to formal public transport services in Nairobi” dated February 2018

ITDP supported on-going data collection on para-transit along the A104 corridor and BRT sensitization at events where there was public sharing of concept designs and the preliminary BRT plans for LOT1 and LOT3. In April 2016, the World Bank recruited another consultant to assess the strategy based on the recommended service plan, and initial strategies for further development of NAMATA. This consultant held 4 stakeholder workshops during 2016 and 2017 with Government commitment for wider consultations in 2017.

67. Output 2.5: NMT improvements along SUT corridors:

- In Addis Ababa, NMT improvements were included in detailed designs at the EOP. NMT and pedestrian audits were conducted by the Project (through the TRL) and received institutional support in 2012. With the completion of the BRT FOPS for Addis Ababa in March 2015, NMT was integrated with BRT operations with the management of public spaces with assistance from UN Habitat (through TRL workshops on NMT Planning). Enhancement of NMT integration with BRT included parking reforms as covered under Output 2.6. In 2016, ITDP held a workshop on NMT integration with BRT conceptual designs, and later provided feedback on the NMT designs;
- In Kampala, NMT improvements were made in the BRT designs at the EOP. KCCA provided initial concepts on pilot NMT infrastructure integrated with their BRT designs for the city centre in 2014. The Project became involved with these designs through ITDP from 2014 to 2016. This included regional training organized by GIZ for Kampala for NMT and TDM strategies. With KCCA submitting a NMT pilot design in 2016 along the Namirembe Road - Luwum Street corridor, ITDP raised issues on city-wide plans for BRT/NMT designs not meeting best practices. With Project resources exhausted by 2017 for Kampala, KCCA had been seeking donor support for the continuation of ITDP’s oversight role in reviewing of the city-wide BRT designs and NMT strategies. At the EOP, these designs and strategies were still incomplete with no additional resources for ITDP involvement. By September 2018, KCCA was informed of AFD providing the necessary funds for ITDP’s continued involvement of an oversight role;
- In Nairobi, NMT improvements were made in the 2016 final designs of the A104 corridor. The inclusion of NMT designs commenced in 2014 with NMT integration with the BRT in the service plans for this corridor in 2014 through the services of ITDP. The Project was also involved in these NMT improvements and TDM strategies at the city level through a review of the integrated plan for the city. In March 2015, UN Environment undertook broad assessment of the NMT provisions and gaps towards the drafting of an NMT policy for the city. This resulted in the county pledging to set aside 20% of its annual budget for NMT implementation.

68. Output 2.6: Study on parking management and measures in Addis Ababa: This report was completed in 2015 by the TRL. Work commenced in 2012 with NMT and parking audits followed by recommendations on new parking policies which were shared with project partners in workshop settings. These were integrated into BRT detailed designs in 2014 and 2015. In 2017, the detailed design consultant under AFD funding incorporated appropriate parking designs in the final designs of the B2 BRT corridor, notably at the BRT stations.

***The overall rating for the delivery of outputs for Component 2: Planning and detailed design for implementation of demonstration sustainable transport corridors is ‘Moderately Satisfactory’.***

### 3.4.3 Achievement of Outputs for Component 3: Feasibility of application of clean vehicles and fuel technology initiatives

69. Output 3.1: Clean technology assessments for fuelling public transport in Addis Ababa, Kampala and Nairobi: These assessments were completed by ICCT in December 2012 for all 3 cities. Early completion of these assessments was critical to assist each city in identifying the appropriate technologies and fuels that would comprise the most cost efficient rolling stock to implement sustainable urban transport systems. These assessments included modelling of citywide pollutant emissions, trends in fuel consumption, health impacts, and overall benefits of BRT systems in each city. Most importantly, bus technologies for the proposed BRT systems for each city was assessed

taking into account the availability of fuels (for example, clean diesel, hydroelectricity, LPG), future availability of these fuels, and possible changes in technology choices within a 20-year horizon that should be based on planned future BRT systems for each city.

70. Output 3.2: Suite of technology options that are tailored for public transport operations in Addis Ababa, Kampala and Nairobi: Based on the clean technology assessment reports from Output 3.1, the findings of these reports (including the results of the cost-benefit analyses for a suite of specific technology options for each city) was disseminated at the October 2014 regional workshop and forum in Nairobi.
71. Output 3.3: Tailor-made technology selections for public transport in Addis Ababa, Kampala and Nairobi:
- In Addis Ababa, the PMU invited the TRL to conduct workshops on the requirements of a successful BRT operator and the scrappage scheme option in March 2016. This resulted report on options for the scrapping of old buses complete with an assessment of GHG impacts in a May 2016;
  - In Kampala, the suite of clean technology options for its BRT systems was completed in 2013. Although these options were disseminated during the October 2014 and November 2016 regional events, no decisions were made by the EOP on specific technology selections for public transport in Kampala due to the lack of finalization of BRT and NMT designs;
  - In Nairobi, the suite of clean technology options for its BRT systems was also completed in 2013 with options disseminated during the October 2014 and November 2016 regional events. With final detailed designs having been completed for the A104 corridor in late 2018, procurement of BRT buses with clean technologies will be using the outputs from this component to define the fuel and emission standards of the rolling stock.

***The overall rating for the achievement of outputs for Component 3: Feasibility of application of clean vehicles and fuel technology initiatives is ‘Satisfactory’.***

#### **3.4.4 Achievement of Outputs for Component 4: Regional capacity building, awareness raising and networking**

72. Output 4.1: Regional workshops and study tours. Although there were no targets provided in the PRF for the number of regional workshops and study tours, the Project provided a steady stream of support for workshops and tours mainly targeting stakeholders from the 3 pilot cities but providing access to persons from regional municipalities to raise their awareness on SUT issues. These activities did not commence until 2013 when the Project finalized an agreement with GIZ to coordinate and arrange such activities. Their involvement resulted in study trips to Istanbul, (March 2015), Dar es Salaam (December 2017), Bogota and Mexico City (February-March 2016), and regional workshops and conferences in Nairobi (October 2014 and November 2016).
73. Output 4.2: Web-based platform on regional sustainable urban transport. Websites on SUT were reactivated under the SUTP Website (<http://www.sutp.org/gefsustran>) which provides an excellent platform on the activities of the Project, developments SUT projects regionally, and newsworthy issues on SUT developments.
74. Output 4.3: Regional training on SUT planning and operations. SUT training sessions (in Addis Ababa and Nairobi in November 2014) invited personnel from the Johannesburg, Dar el Salam and Lagos transport authorities to present their experiences in the successful launching of BRT and SUT systems. These workshops were first developed in 2015 by consultations between government counterparts and UN Habitat on thematic issues to be delivered at these training workshops. This included themes such as the importance that transport plays in improving the liveability of cities, the inclusion of NMT and public transport with a specific focus on Bus Rapid Transit (BRT) in planning SUT, options of organizing and improving informal transport and integrating it in BRT business planning (as opposed to replacing informal transport operators), tools to promote sustainable transport



with a focus on TDM, parking management, and institutional framework for integrated transport planning<sup>21</sup>.

75. Output 4.4: Financing toolkit for mobilizing investments in sustainable transport. The TRL developed a financial toolkit for sustainable transport which was shared with other project partners in 2012 and 2013. By 2015, existing financial toolkits developed by GIZ/TRL were shared with the 3 cities in the 2016 regional workshop.
76. Output 4.5: Evaluation and impact analysis. The Project provided assistance to the 3 cities of this Project in the assessment of options for the collection of data for emissions and air quality monitoring as baselines for measuring impacts of SUT system implementation on air quality and GHG emissions:
- in November 2014, an introduction to measuring and monitoring impacts of SUT systems was delivered to municipal personnel of Addis Ababa, Kampala and Nairobi during country specific trainings;
  - For Addis Ababa, the Project assisted in the ToRs for developing an emissions baseline for the B2 BRT corridor to be used to facilitate evaluation of the GHG emission reductions impact and provide the fundamentals to register the corridor as a CDM project;
  - For Kampala, the TEEMP methodology was used to demonstrate methods for estimating GHG emission reduction impacts from implementation of BRT systems. More solid analysis will be generated when the Kampala finalizes their BRT/NMT systems designs. In September 2017, a workshop on public transport service planning and greenhouse gas emissions was conducted in Kampala demonstrating the use of the TEEMP model;
  - In Nairobi, ITDP conducted a one-day workshop in February 2018 on TEEMP methodology for personnel from various counties near Nairobi and within NAMATA on how to set up data collection for baseline emissions of urban transport systems;
  - All training events in 2014 were evaluated by participants as a means of improving the effectiveness of these events;
  - Full use of the TEEMP methodology cannot be achieved until all cities finalize their BRT system designs that will permit them to calculate GHG emission reductions resulting from more fuel efficient urban mobility.

***The overall rating for the achievement of outputs for Component 4: Regional capacity building, awareness and networking is ‘Satisfactory’.***

***The combined overall rating of the achievement of outputs for all four project components is ‘Satisfactory’.***

### 3.4.5 Achievement of direct outcomes as defined in the reconstructed TOC

77. As discussed in Section 2.8, the SusTrans Project sought to achieve outcomes that would contribute to an overall goal of “creating the technical and institutional basis for implementing metropolitan sustainable transport networks and systems and establish a demonstration corridor for sustainable urban mobility”. In the reconstructed ToC in Figure 1, this “goal” is placed as a “medium-term outcome” that is a part of the developmental pathway to the overall goal of the SusTrans Project which is “reduced GHG emissions from transport sector globally”, a stated goal of GEF-4 Strategic Program 5 of SP-5 (see Para 47). The evaluation of the effectiveness of the SusTrans Project consisted of the assessment of its performance in achieving intended direct outcomes from its implemented activities based on the reconstructed ToC (in Figure 1), and assessing causal pathways from the baseline to

<sup>21</sup> Specific workshops included Kampala Mobility Map workshops in December 2015 and November 2016, and Nairobi workshops for BRT planning (April 2017), Introduction to BRT for Matatu workers (July and September 2017), and Introduction to BRT for Women Matatu workers (September 2017).

the outputs of the Project that would generate intermediate and direct outcomes towards the long-term impacts of SP-5 (under GEF-4). As such, the intended direct outcomes of the SusTrans Project include:

- Intended Direct Outcome 1, “National governments advocate for comprehensive sustainable metropolitan transport (SMT) systems in Addis Ababa, Kampala and Nairobi with development banks/investors”;
- Intended Direct Outcome 2, “Detailed designs for implementation of demonstration SUT corridors featuring BRT, NMT and TDM measures are approved for implementation in the municipalities of Addis Ababa, Kampala and Nairobi”;
- Intended Direct Outcome 3, “Municipality authorities adopt appropriate clean vehicle and fuel technology initiatives in plans and investment strategies in Addis Ababa, Kampala and Nairobi”;
- Intended Direct Outcome 4, “Decision makers, municipal personnel and local urban transport professionals from Addis Ababa, Kampala and Nairobi and other regional cities apply lessons and experiences learned on the benefits, implementation modalities, financing and impacts of SUT systems”.

78. The achievement of the intended Direct Outcome 1 of “National governments advocate for comprehensive sustainable metropolitan transport (SMT) systems in Addis Ababa, Kampala and Nairobi with development banks/investors” can be described as follows:

- For Addis Ababa, institutional changes to manage the BRT system were catalyzed by Project inputs from the TRL and UN Habitat, which resulted in the endorsement of the “Reforms of the Addis Ababa Transport Bureau” by the GoE, the Addis Ababa City Council and the Mayor’s Cabinet in November 2014. This was followed with the appointment of a new leader to head the Addis Ababa City Transport Authority (AACTA) deemed as the focal public transport authority required as a centralized entity for the various modes of sustainable urban transport in Addis Ababa (from the LRT, the BRT, the other buses operators). The AACTA has since become the advocate for the development of a comprehensive SMT network for Addis Ababa (consisting of a vision of 15 BRT corridors in the Addis Ababa Master Plan) through which international donor agencies and investors can discuss funding for SMT projects;
- For Kampala, the initial focal agency for advocating SMT networks was the PMU of the Project for Kampala under MoWT. In 2015, efforts to establish the Metropolitan Transport Authority (MATA) were made to provide a focal point for funding agencies such as the World Bank and AFD to discuss financing of SMT networks for Kampala. By May 2016, the legal process of establishing the MATA was in progress including the approval of the principles to establish MATA. As of August 2018, the full establishment of MATA was awaiting approval of the Ugandan parliament;
- For Nairobi, ITDP was brought in to contribute to the institutional arrangements for developing urban transport based on their experience in Transmilenio and other projects globally. The World Bank had contributed to the setup of the Nairobi Metropolitan Authority, with ITDP providing PowerPoint presentations on various institutional arrangements for SUT developments under the Metropolitan Authority, and providing draft terms of reference for the roles and responsibilities of the BRT agency. These inputs resulted in 5 Governors within the Nairobi Metropolitan area in October 2014 proactively setting up of the Nairobi Area Metropolitan Transport Authority (NAMATA), an agency with whom development banks and donor agencies can discuss financing of SMT networks. These efforts resulted in the 2017 establishment of NAMATA (under the Ministry of Transport who finalized the legal framework prior to the Executive Presidential Order in February 2017). Since this date, NAMATA has appointed an acting CEO with a Board being recruited in 2017 to carry out the legal mandate of NAMATA. The NAMATA Secretariat has continued its coordination to develop the various mass rapid transit studies including the A104 pilot corridor development, and more importantly, formulated BRT guidelines to provide the

required framework to guide technology and design standards for the various corridors<sup>22</sup>. The contribution of SusTrans to the formation of NAMATA includes:

- NAMATA personnel attending SusTrans-supported regional forums and workshops, and the study tour to Bogota and Mexico City in 2016;
- review of the NAMATA BRT Design Framework resulting in the adoption of all SusTrans recommendations for edits;
- review of designs for BRT Corridor 5;
- facilitation of a consultation process on NAMATA design guidelines including two stakeholder workshops and the gathering of written feedback from the World Bank, EU, JICA, NCC, and Architects Association of Kenya;
- 2017 training of NAMATA personnel.

The World Bank and the EU have provided technical assistance towards establishment of NAMATA with the former taking the responsibility of covering the secretariats’ operational budget to accelerate the setting up process.

***The overall rating for achievement of Direct Outcome 1 of “national governments advocate for comprehensive sustainable metropolitan transport (SMT) systems in Addis Ababa, Kampala and Nairobi with development banks/investors” is ‘Satisfactory’.***

79. The achievement of intended *Direct Outcome 2 of “detailed designs for implementation of demonstration SUT corridors featuring BRT, NMT and TDM measures are approved for implementation in the municipalities of Addis Ababa, Kampala and Nairobi”* can be described as follows:

- For Addis Ababa, detailed designs by AFD-funded consultants for the B2 BRT Corridor are to be completed in late 2018, and issued with Bid Documents for 2019 construction. The contribution of SusTrans (through the TRL and ITDP) to this outcome included:
  - TRL review and provision of recommendations on the Request for Proposals and Terms of Reference for the BRT Feasibility and Operational Planning Study (FOPS) in 2013;
  - Overview of the AFD-funded FOPS<sup>23</sup>. Assistance in the creation of the Transport Project Management Office (TPMO) to oversee all mass rapid transit projects where the SusTrans-supported PMU would gradually feed into the TPMO. The TRL supported the PMU in reviewing the designs and providing technical advice throughout the entire process including the studies and reports on parking management, NMT facilities and TDM;
  - The TRL technical assistance in transport and mobility-related issues to AACPPO who were responsible for the Addis Ababa Master Plan since 2013. This included new Master Plan drafts, delivery of a series of coaching sessions, presentation on the integration of Transport Planning in Land Use Planning presented at the workshop on “Integrated Development Plan for Ethiopian Renaissance” (Adama in May 2013);
  - Initial pedestrian parking audits conducted in 2014;
  - UN-Habitat and PMU review of the TRL inputs in 2014 to align them to the current needs including ToRs for establishing bus operating arrangements (costs and benefits of different options), training of staff in Addis Ababa, and support for detailed design of infrastructure for BRT. The SusTrans incremental benefit was the continuity of inputs and availability for advice when needed, rather than on physical presence at all times;

<sup>22</sup> This is in reference to the document entitled the “BRT Design Framework” drafted by EU consultants. UN Habitat provided inputs towards finalizing the guidelines including a training session with members of the Secretariat.

<sup>23</sup> DIMTS and BEZA Consulting won the bid and commenced the study in July 2013

- The Review Report on the DIMTS Operational Study (July 2014) by the TRL that was based on the findings of the demand and forecasting report. Several areas for improvement were identified for further consideration such as integration with LRT, cost assumptions, and bus types;
- The Review Report on Preliminary Design and Appraisal (October 2014) by the TRL identifying the need for additional studies on detailed engineering and architectural designs for the system; procurement and implementation of the fare collection system, bus specification and procurement of the bus fleet. Specific suggestions were made to enhance the BRT by installing central rather than lateral platforms at all stops as well as public space provision, road safety improvements, NMT integration and sufficient pedestrian facilities, infrastructure tailored to future passenger demand or full segregation of the B2 BRT route;
- A March 2015 TRL report on NMT integration in March 2015 that was the outcome of a workshop on “Integration of NMT facilities in the BRT planning”. The March 2015 workshop aimed to help the practitioners within Addis Ababa to understand the needs and demands of pedestrians and cyclists which led to AFD funding the consultancy services for the detailed design and partial financing for the civil works, corridor, stations, depot, ITS equipment and rolling stock;
- TRL recommendations in December 2014 on details for integrating the BRT system with the actual LRT network to create an integrated network for public transport;
- With the strengthened capacities of the SusTrans-supported PMU and the AACTA, AFD was able to sign a credit facility agreement with the Ministry of Finance and Economic Development of Ethiopia (MoFED) in April 2015 worth €50 million to provide financial and technical support for the bus rapid transit (BRT) pilot corridor B2 in Addis Ababa. The selection of the B2 BRT corridor as the pilot demonstration corridor was to provide enhanced public transport services to one of the most heavily-travelled corridors in Addis Ababa that runs through lower income areas of the city and past many of the main educational institutions in Addis Ababa, with expectations that the BRT will improve urban quality and facilitate transit-oriented development along the corridor. Within this package, the TRL has provided inputs to a draft ToR on “Detailed Designs and Engineering”, which resulted in AACTA shortlisting six firms with local partners by July 2015;
- TRL inputs into the BRT day-to-day operations and fleet management analysed in a systematic way with costs and benefits of different options of the future BRT systems;
- TRL suggestions to build the BRT on concrete slabs that would allow the BRT roadways to be upgraded into a LRT system similar to that of the existing LRT system constructed by the China Railway Engineering Corporation (CREC);
- TRL overview of the development of detailed designs (managed by TPMO) with an emphasis on the flexibility in the operation of the BRT, integration with the LRT and other bus services (i.e. regional buses, mini-buses), integration of these services to operational planning (in the context of demand from feeder routes, common operational hours, automated fare collection). The TRL modelled different technology options for the B2 BRT corridor and the possible effects in reducing GHG emissions, provided comments on depot capacity design particularly the placement of fuelling stations, and promoted the concept of transport stations as inclusive and vibrant public spaces that serve the needs of the commuters and residents;
- Since January 2017, ITDP has been providing conceptual overviews of a BRT based public transport network and an NMT strategy for the city integrated with the railways network. This also included continued support in reviewing designs for the B2 BRT corridor;
- A June 2017 input by a joint Mission by UN-Habitat and ITDP to Addis Ababa on informing AFD design consultants of the need for median located stations, locating stations away from intersections, additional traffic surveys, and a revised and up-to-date demand forecast, all of which was to facilitate the completion of the detailed design process by a milestone completion date of August 2017. The recommendations were incorporated in the concept

designs before proceeding to the detailed design phase. The actual completion date was to be in late 2018 with the issuance of bid documents for construction of the pilot B2 corridor;

- For Kampala, detailed designs for implementing SUT corridors throughout Kampala City were not completed by the EOP. This was due to Project resources being exhausted for the continuation of ITDP in their overview of city-wide SUT designs (which has been resolved at the time of this Evaluation with AFD in agreement to provide this funding). The contribution of SusTrans to this outcome includes:
  - SusTrans support commencing in 2013 for the PMU<sup>24</sup> to manage implementation of the BRT pilot that runs from Bwaise to Kireka (via Bombo Road North), Yusufu Lule Road North, Haji Kasule Road, Bombo Road (South), Kampala Road and Jinja Road. This included the recruitment of ITDP to provide inputs on international best practices to the BRT pilot;
  - Review of draft urban transport policy in 2013 that includes provisions for the BRT Agency and a Metropolitan Area Transit Authority (MATA). The PMU was proposed as the group that would evolve into the MATA. This resulted in the Ugandan cabinet approving the principles for establishment of MATA in May 2016 to be an independent autonomous body for public transport in the Greater Kampala Metropolitan Area (GKMA) under MoWT focusing on national policy formulation and guidance on transport issues that includes effective coordination, planning, implementation and management of GKMA’s public transport. As of September 2018, the MATA Bill 2017 is expected to be approved by Parliament by late 2018;
  - Oversight review of BRT service plans, travel demand models, detailed designs and operational and financial plans in 2015 prepared by the JV-consortium of ROM Transport Engineering, ARUP and AH Consulting, who were selected by MoWT and AFD;
  - Support to KCCA for the pilot 3.5 km NMT corridor being done by KCCA. This includes assistance in identifying possible financing sources for its construction, capacity building support (by ITDP in 2015) to build local capacity on NMT planning in government to develop street designs that are safe and accessible for all the city residents, and initial public awareness activities in 2013 on the detailed designs for NMT in the CBD prepared by KCCA<sup>25</sup>;
  - Stakeholder engagement and information dissemination for the BRT pilot corridor since 2013 through SusTran and FABIO who were also supporting identification of current paratransit operators, who could potentially become part of the BRT agency either as feeder or actual operators;
  - ITDP raised specific design issues in early 2014 related to the need for median platforms (as opposed to side platforms which reduces the capacity of the system), and the lack of passing lanes at principle stations (which would have required costly land acquisition which was not included in the overall costs). This final design (with a capacity of 9,000 passengers/day in one direction) was identified as being insufficient to cater to forecasted passenger growth, placing the pilot project at a high risk of failing to meet urban mobility objectives<sup>26</sup>;
  - UN Habitat and ITDP supported development of the Kampala Mobility Map (the first ever comprehensive map of the public transport taxi routes in the city) with approval from KCCA and MoWT to address the aforementioned design issues. The SusTrans Project supported

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<sup>24</sup> This included increasing the number of staff dedicated to the BRT planning, and the recruitment of a National Project Officer to support in coordination of different project activities.

<sup>25</sup> The Project did not continue this activity after 2014 since there were insufficient resources to fully carry out this activity.

<sup>26</sup> The JV consultants had recommended placing parallel routes using local buses to complement the BRT system, deemed to not be practically feasible. These concerns were shared with the World Bank, mainly the failure of the JV consultants to comply with the ToR as instructed in May 2014 letter from MoWT. In addition, the World Bank stated that the establishment of MATA was a pre-requisite to accessing financing from the Bank. In early 2015, the draft bill for MATA had only received a go-ahead from the Ministry of Finance.

survey activities along the proposed BRT corridors, preparation of a more accurate service plan in the future, and preparation of a Kampala Mobility Map that was completed in August 2017. The Kampala Mobility Map benefitted from the experience of the Digital Matatu Mapping in Nairobi (Para 61) and contributed to up-scaling efforts of this innovative approach in cities where data on current transport network and demand is scarce. This constitutes an interesting lesson learned on the SusTrans Project (Lesson #6, Para 131);

- Continued technical support and engagement with the Government of Uganda including the capacity building workshops and study tours with the impact of shifting government priorities to implement BRT over LRT<sup>27</sup>. This was evidenced in 2015 where the BRT project profile prepared by the MoWT for submission to the MoF was approved as a priority over LRT. This facilitated the World Bank to finance a study on development of a multi-modal urban transport master plan for the GKMA that provides full integration of all transport modes. In addition, KCCA has reviewed street parking as a TDM measure in certain areas of the city to improve Kampala’s urban mobility.
- For Nairobi, detailed designs for implementing the A104 BRT Corridor are to be completed in late 2018 by World Bank-funded consultants. The contributions of SusTrans to this outcome includes:
  - ITDP brought in to provide conceptual designs for this corridor in 2011 after the World Bank had hired the consultants for similar services unsuccessfully. ITDP’s approach to the assignment was unique in that several appropriate government agencies were consulted on the concepts for their buy-in and influence. ITDP also provided services to estimate passenger demands for BRT, and to setup and implement a joint study between Columbia University and Nairobi University on a digital matatu guide to map all matatu routes in Nairobi including frequencies of this transport mode (Para 61). This would aid considerably in estimating demand of the systems and setting up service plans for Nairobi’s pilot BRT systems;
  - Assistance in 2012 in 2013 on the A104 BRT corridor consisting of the new road being built by KeNHA on the Mombasa Road - Uhuru Highway - Waiyaki Way corridor (financed under the World Bank’s NUTRIP Project). With the World Bank project needing assistance in its approaches to BRT, SusTrans through ITDP provided in oversight management on the highway expansions adapting them to BRT designs based on best practices. A key recommendation to the entire design team was to build a BRT system according to available resources, not Gold Standard BRT as originally intended by the Government of Kenya;
  - UN-Habitat organization of a side event during the UN-Habitat Governing Council in April 2014 attended by the newly elected Governor in Nairobi who strongly backed modernized public transport. The impact of this event catalysed political interest in BRT facilitating re-alignment of efforts to prioritize BRT. With changes in the national constitution and the process of devolution of power to local governments in 2014, there was a lack of clarity on which government agency would lead on mass rapid transit and BRT;
  - Training sessions in 2013 provided by ITDP to KURA on identification of BRT pilot corridor and BRT implementation. This included the BRT pilot corridor of the Juja Road to Jogoo Road corridor and the JKIA/Rironi spine on Mombasa road financed possibly to be financed by the AfDB;
  - An October 2014 report on “Infrastructure and Intersection Recommendations” to evaluate conceptual infrastructure design proposals for the A104 BRT project, with a particular focus on intersection design and CBD access. This facilitated added activities on BRT business planning, matatu industry transition, transit-oriented development, and parking leading to ITDP drafting of a basic business plan in February 2015 to catalyse the Government of Kenya

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<sup>27</sup> Government had initially chosen to pursue multiple transport systems including BRT and LRT as part of a regional standard gauge railway project.

- and its consultants on focusing their planning the business and administration side of the BRT system;
- ITDP completion of a Service Plan in December 2014 to guide the designs of the A104 corridor and provide policy guidance on the operational and institutional framework to manage a BRT project<sup>28</sup>;
  - Baseline data collection including GHG inventory for the A104 BRT corridor including the number of users and vehicles travelling along the corridor in 2015;
  - Assistance to engage potential investors for SUT infrastructure (commencing in 2012) including support for Public Private Partnership investors (through financial and operator documents), engagement of Kenya Bus Services and matatu associations on transitioning of existing industry to pilot corridors on BRT;
  - Assistance on institutional arrangements for BRT including establishing a PMU at the Kenya Urban Roads Authority (KURA) in 2013. Subsequently, the PMU function was taken over by the Transport Sector Working Group of the Ministry of Transport and Infrastructure in 2014. By October 2014, the five Governors within the Nairobi Metropolitan Area acceded to setting up of a Nairobi Metropolitan Transport Authority (NAMATA), details as provided in Para 78;
  - ITDP provision of a 2015 report “Integrated Urban Development Master Plan” on possible integration of various mass transit systems, parking reforms required and integration with the on-going BRT corridor development with an aim to revitalize the CBD. This report also allowed the Government to identify other BRT corridors for the city;
  - ITDP review in March 2015 of the NMT policy of Nairobi County to assist the County in linking information on NMT issues to the A104 BRT corridor and prioritize areas for implementation<sup>29</sup>;
  - Oversight of the 3 detailed design packages for KeNHA from 2015 to 2017 for the A104 corridor<sup>30</sup> are at different stages of completion. Issues addressed by the Project involve land acquisition and resettlement plans to avoid delays in executing corridor development, notably for the LOT 2 package in the CBD. This has allowed the Government of Kenya to finalize detailed design for LOT 2, the business model for the A104 BRT, a financial viability assessment, and elements of institutional and governance requirements for the BRT operations<sup>31</sup>. The Project has maintained consultations to harmonize designs to integrate with commuter railways to increase the multi-modal nature of SMT network services of Nairobi, to ensure efficient SUT system access to the CBD, and to ensure appropriate BRT station median designs have been favourably considered by the NAMATA secretariat. As of December 2018, LOT 1 designs are complete with the GoK seeking financing, LOT 2 designs

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<sup>28</sup> The Service Plan was informed by the “Digital Matatu Maps” that were funded through crowd-funding (via mobile phone apps) with the University of Nairobi (Kenya), and Columbia University, USA. The map released in January 2014 provided valuable insights into Nairobi’s bus network and informed public transport surveys conducted by ITDP, the proposal of for MRT routes in Nairobi, and the Service Plans for the A104 BRT corridor.

<sup>29</sup> This effort has synergized with the DFID-funded project on “Sustainable Urban Mobility Planning” for Ruiru, a small town in Kiambu County located in the Nairobi Metropolitan Area. This DFID project is expected to demonstrate how fast-urbanizing towns in the vicinity of larger cities can benefit from a better planned approach to improve accessibility of people. Ruiru Town is to be connected by BRT corridor No. 2 (“Simba Line”) illustrating an innovative and people-centered approach to transport planning through consultative and participatory planning sessions, and ensuring inclusion of all relevant stakeholders

<sup>30</sup> LOT 1 is JKIA turn-off to Likoni/Southern by-pass (funded by the AfDB), LOT 2 is Likoni to James Gichuru Road with a component of the CBD loop (funded by World Bank), and LOT 3 is James Gichuru to Rironi (funded by World Bank)

<sup>31</sup> LOT 2 concept designs were bolstered by a World Bank commissioned feasibility study of March 2017 for the BRT system along the A104 corridor through the Public-Private Infrastructure Advisory Facility (PPIAF). The study provided a preferred Service Plan for BRT from the plans identified by UN Habitat, determination of appropriate infrastructure, bus fleet, ITS and land acquisition in relation to the preferred service plan, an economic and financial justification of the proposed BRT service and its profitability.

are being finalized between KeNHA, NAMATA and Nairobi County, and LOT 3 is under construction with provisions in the design for a median along the BRT corridor;

- Contributing to the Government of Kenya’s stakeholder consultation in December 2016 bringing together all stakeholders of ongoing public transport projects in the Nairobi Metropolitan Area including the EU, GIZ, KfW, JICA, World Bank, consultants undertaking feasibility studies in public transport, and government stakeholders<sup>32</sup>.

***The overall rating for achievement of Direct Outcome 2 of “detailed designs for implementation of demonstration SUT corridors featuring BRT, NMT and TDM measures are approved for implementation in the municipalities of Addis Ababa, Kampala and Nairobi” is ‘Moderately Satisfactory’.***

80. The achievement of intended *Direct Outcome 3* “municipality authorities adopt appropriate clean vehicle and fuel technology initiatives in plans and investment strategies in Addis Ababa, Kampala and Nairobi” can be described as follows:

- By October 2014, the work on this component was finalized with the delivery of the ICCT reports on the “Cost and Benefits of Clean Technologies for BRT” for the 3 SusTrans cities and Project support for regional and local dissemination workshops to inform BRT stakeholders of these cities of the technologies and options available, as well as cost-benefit analyses and proposed scrappage schemes based on technologies selected;
- The cost-benefit studies by ICCT for various bus technologies and fuel scenarios made assumptions on the baseline scenario for each city which may not reflect the situation in each of these cities. As such, many of the stakeholders at the October 2014 regional workshops were of the opinion that there was still substantial work to be done prior to the procurement of BRT buses to ensure the best technologies are selected;
- With respect to the achievement of Direct Outcome 3 at the EOP, municipal authorities in each of the 3 SusTrans cities in September 2018 were at different stages of adoption of appropriate clean vehicle and fuel technologies:
  - In Addis Ababa, BRT operational planning has advanced to the extent that buses to be procured for the BRT are to be compliant with Euro III emission standards and chosen scrappage schemes were defined. The TRL delivered such a report in March 2016 on the options available for consideration by the Government;
  - In Kampala, there has been no analysis or adoption of any clean vehicle and fuel technologies since the BRT system designs are in the process of being revised;
  - In Nairobi, ITDP with Project support commenced a program for baseline data collection in 2015 that included data on GHG emissions. This activity was intended to generate baseline data on bus emissions from the current fleet, and provide BRT decision-makers sufficient information on which to select either Euro III or IV buses, subject to BRT system designs being finalized, scheduled for late 2018.

***The overall rating for achievement of Direct Outcome 3 of “municipality authorities adopt appropriate clean vehicle and fuel technology initiatives in plans and investment strategies in Addis Ababa, Kampala and Nairobi” is ‘Moderately Satisfactory’.***

81. The achievement of intended *Direct Outcome 4 of “decision makers, municipal personnel and local urban transport professionals from Addis Ababa, Kampala and Nairobi and other regional cities apply lessons and experiences learned on the benefits, implementation modalities, financing and impacts of*

<sup>32</sup> Includes the Principal Secretary and senior officials, NAMATA Secretariat, Kenya Railways Corporation, KENHA, KURA, and the five Counties in the Nairobi Metropolitan Area.



SUT systems” were influenced by several SusTrans sponsored workshops, seminars and study tours. This included:

- Two 4-day study tours for project partners to Johannesburg and Addis Ababa in October 2012. These tours exposed participants to implementation of public transport in African urban areas that included BRT and NMT strategies. The tours also provided points of discussion around the integration of transport planning and urban planning as well as opportunities for green transport funding, NMT projects and successful public transport projects in cities of developing countries;
- Study tour to Istanbul organized by GIZ in March 2015 for the 3 SusTrans cities. The tour provided practical experience with organizational issues of public transport, procurement, integrating para-transit entities, financial investment for the system, integration with the railway system and metropolitan transport agency operations. The tour included site visits to the BRT stations, bus depots, the Peninsula pedestrianization project, and discussions with EMBAKQ Turkey on road safety management;
- A regional forum and workshop organized by GIZ in October 2014 at the UN Headquarters in Nairobi, Kenya that included in-country training sessions. Topics covered included the Integrated Mass Rapid Transit planning, business planning and industry transition, presentations made on the experience in Lagos, Dar es Salaam and Johannesburg experiences in developing BRT and other SUT systems;
- A GIZ-organized regional workshop and conference in November 2016 in Nairobi. The major highlight was the presentation of the recently completed DART BRT system which is now operational after 14 years of planning. The details of the operational challenges provided lessons to inform SusTrans cities and reduce their BRT development time. The conference agreed that benchmarking tours should be made to DART as their experience is most applicable to the SusTrans cities;
- A study tour was organized to the DART system for Kampala and Addis Ababa in May 2017 where attendees observed the positive impacts of the BRT system on traffic reduction and the ease of boarding due to smart card mobile top up technology. This initial success has encouraged more investment by the World Bank to finance additional corridors, increased pedestrianization, bike sharing and park and ride facilities. Both SusTrans cities spoke highly of the study tour using the successful examples in Dar es Salaam for application to their own cities development of BRT. Furthermore the study tours also raised awareness of SusTrans cities to notable challenges faced including procurement failures, utility location, inadequate designs, implementation of the resettlement action plan, cost overruns and the transformation of the informal paratransit operations;
- A complementary activity was introducing the “Placemaking” week between 28th November and 4th December 2016. The event organized by the Nairobi City County with UN-Habitat attracted cyclists and pedestrians towards promoting sustainable transport. Activities included closing a major CBD street to vehicles<sup>33</sup>, street painting demonstrating various uses of the street and a Bus Rapid Transit exhibition. An Urban Dialogue took place bringing together inspiring talks by urban change makers from various backgrounds. whole.
- In conclusion, the SusTrans Project has provided an appropriate amount of knowledge sharing of best international practices for implementing SUT systems through workshops, seminars and study tours. This in turn as well as the experiences of other regional cities (such as Johannesburg, Dar es Salaam, Lagos and Istanbul) has been used by the 3 SusTrans cities, allowing them to more effectively plan their implementation activities for developing SUT systems.

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<sup>33</sup> The closed street loop was then used by cyclists who passed on the message that the sharing city streets is a consideration whose time has come

***The overall rating for achievement of Direct Outcome 4 of “decision makers, municipal personnel and local urban transport professionals from Addis Ababa, Kampala and Nairobi and other regional cities apply lessons and experiences learned on the benefits, implementation modalities, financing and impacts of SUT systems” is ‘Satisfactory’.***

***The overall rating for achievement of all Direct Outcomes is ‘Satisfactory’.***

### 3.4.6 Likelihood of impact

82. A modified “Review of Outcomes towards Impacts” (ROtI) approach was used to assess the likelihood of impact by using the reconstructed Theory of Change (Figure 1 and Section 2.8) and its outcomes (both direct and medium-term), intermediate states, and long-term impacts as a basis for assessment<sup>34</sup>. The ROtI approach in this section provides ratings for the likelihood of impact from actual medium-term Outcomes 5 and 6 achieved by the SusTrans Project and the pathways towards the intermediate states that includes “*increased confidence in operational SMT systems through demonstrations in Addis Ababa, Kampala and Nairobi*”, “*replication of quality SMT Projects regionally in sub-Saharan Africa with regional SMT experts using experience from the demonstration corridors*”, and “*reduced use of fossil fuels from urban transportation, resulting in improvement in local air quality and quality of urban life*” and the long-term impact of “*reduced GHG emissions from the transport sector globally*”.
83. The ROtI analysis is provided in Table 5. This includes an analysis of the likelihood of impact from medium-term outcomes of the “*technical and institutional bases for implementing SMT networks and systems demonstration SUT systems*” (Medium-term Outcome 5), and “*demonstration corridors for SUT in operation in the 3 East African cities*” (Medium-term Outcome 6). Details on the achievement of the medium-term outcomes from the direct outcomes is provided in the following paragraphs.
84. *Actual Medium-term Outcome 5 of “technical and institutional basis for implementing SMT networks and systems has been created”* was achieved to varying degrees of success as follows:
- For Addis Ababa, the Addis Ababa City Transport Authority (AACTA) was created in 2012 to serve as a focal point for the municipal and federal governments to promote and lead implementation of SMT networks for the city. Their responsibilities include the determination and assignment of public transport routes, selection of buses and operators, determination of fares, management and monitoring of public transport services, and regulation of the quality of services throughout the areas served by these public transport routes. With their current jurisdiction to oversee the public transport serving over 3 million passengers daily with demand of more than 5.6 million journeys from satellite cities of Addis Ababa, the AACTA through its leadership has contributed to the City’s vision of needing mass rapid transport solutions to service this demand that included BRT. As such, it is also responsible for strategic advice on improving public transport in Addis Ababa including increased pedestrian and public spaces within the public transport system. While AACTA has also significantly contributed to the City’s drive to implement the B2 BRT corridor as its pilot BRT system, it has recognized that sustained technical assistance is still required for the institution to improve its capacity for a growing SMT system network in Addis Ababa;
  - For Kampala, efforts to form a metropolitan area transport authority (MATA) for public transit were initiated in 2013 and completed in 2015 for Government approval. Unfortunately, the Government of Uganda has been opposed to the formation of additional government agencies and authorities since 2015. SusTrans supported a DART study tour to Dar-es-Salaam in May 2017 which had the impact of the Government of Uganda requesting acceleration of the process to establish MATA to manage the BRT project and replace the interim measure of a MoWT-led

<sup>34</sup> A modified ROtI approach was used considering the rating system conditions specified in the GEF guidance note did not exist on this Project, and hence, could not be applied in full.

**Table 5: ROTI Summary**

Actual Medium-Term Outcomes	Contribution towards Intermediate States	Assessment	Projected Long-Term Impact
<p><u>Actual Medium-Term Outcome 5:</u> Technical and institutional basis for implementing SMT networks and systems has been created for the 2 SusTrans cities (AACTA for Addis Ababa and NAMATA for Nairobi) with MATA to receive parliamentary approval in late 2018 for implementing SMT networks for Metropolitan Kampala (see Paragraph 85 for details)</p>	<p><u>For Addis Ababa</u>, AACTA (under the Addis Ababa Road and Transport Bureau) is the institutional basis for implementing the B2 BRT pilot corridor using best international practices, with construction slated for early 2019, and operations for late 2020. The AACTA has been leading City efforts to implement the business plan prepared by the Project for an operational BRT corridor, thus increasing its confidence in SMT systems in Addis Ababa. With AACTA promoting the successes of this pilot corridor, and lobbying for additional BRT corridors under the Addis Ababa City Transport Master Plan (with contributions from the Project’s TRL and ITDP in 2015), there should be an increased likelihood of the replication of SMT projects regionally, reduced use of fossil fuels in urban transportation, and an improved urban quality of life in Addis Ababa.</p> <p><u>For Kampala</u>, the lack of an approved metropolitan area transport authority (MATA) for public transit as of September 2018 will delay timely financing of SMT systems. This delay will also not contribute to “increased confidence in operational SMT systems nor will it lead to replication of SMT projects in sub-Saharan African cities.</p> <p><u>For Nairobi</u>, NAMATA serves as the institutional basis for SMT financing and implementation. Although NAMATA is relatively new, its capacity will need to be</p>	<p>Moderately Likely</p>	<p><u>For Addis Ababa</u>, the Project has provided some technical assistance to AACTA in the collection of baseline data including GHG emissions on which to base GHG emission reductions from implemented BRT systems. While the system to formally monitor and quantify GHG emission reductions from the B2 BRT system has not yet been formally developed, the B2 corridor, if implemented according to their business plan, will <u>likely</u> reduce GHG emissions from the urban transport sector for which AACTA will either use their own personnel for estimating GHG emission reductions generated from BRT systems, or they will outsource this estimation to local or international experts.</p> <p><u>For Kampala</u>, the Project has provided some technical guidance in the collection of baseline data including GHG emissions on which to base GHG emission reductions from implemented BRT systems. However, the impact of GHG emission reductions is <u>moderately unlikely</u> for Kampala given that there is still no institutional basis on which to manage and promote SMT networks in Kampala. This role is currently fulfilled by MoWT, which does not have the capacity nor mandate for managing or promoting SMT networks in Kampala.</p> <p><u>For Nairobi</u>, training has been provided to Nairobi for a system for quantifying GHG emission reductions from BRT systems using the TEEMP model. With BRT designs close to finalization and actual construction, NAMATA will have the capacity to calculate GHG emission reductions from the operations of the A104 BRT corridor. This should</p>

Actual Medium-Term Outcomes	Contribution towards Intermediate States	Assessment	Projected Long-Term Impact
	strengthened over the short term to more effectively contribute to operational BRT and SUT systems by late 2020 and be a contributor to positive experiences of implementing SUT systems to other sub-Saharan African cities.		lead to the impact of GHG emission reductions being <u>likely</u> for Nairobi given the strong implementation team in place and the strong likelihood that the A104 corridor will be properly implemented with international best practices.
<p><u>Actual Medium-Term Outcome 6:</u> Demonstration corridors for sustainable urban transport in operation for 3 cities in East Africa.</p>	<p><u>In Addis Ababa</u>, detailed designs for the B2 BRT corridor will be completed by late 2018, and tendered for construction commencing in mid-2019 and likely completed in 2020. This is a significant contribution to an operational BRT corridor thus increasing its confidence in SMT systems in Addis Ababa. The success of this pilot corridor and lessons learned from AACTA on its operations should lead to the increased likelihood of the replication of SMT projects regionally, reduced use of fossil fuels in urban transportation, and an improved urban quality of life in Addis Ababa.</p> <p><u>In Kampala</u>, feasibility design and detailed designs for a pilot BRT corridor have not been approved pending a major design review (see Paragraph 79) that has the impact of delaying the date for an operational SUT system in Kampala by several years. As such, this has not yet contributed to any increased confidence of operational SMT</p>	Moderately Likely	<p><u>For Addis Ababa</u>, the Project has provided some technical assistance in the collection of baseline data including GHG emissions on which to base GHG emission reductions from implemented BRT systems. While the system to formally monitor and quantify GHG emission reductions from the B2 BRT system has not yet been formally developed, the B2 corridor if implemented according to their business plan, will <u>likely</u> reduce GHG emissions from the urban transport sector. These GHG emission reductions have been crudely estimated (using the “short-cut” method in TEEMP) as 40,810 tonnes CO<sub>2eq</sub> in 2020 annually based on the passenger volume of 105,000 passengers/ day and the B2’s 15 km BRT corridor (see Annex IV for details), and setting another example in East Africa for development of BRT systems using best practices for replication in developing countries, and reducing GHG emission reductions from urban transport projects regionally and globally. This is based on the TEEMP methodology to roughly calculate these emission<sup>36</sup>.</p>

<sup>36</sup> The TEEMP model estimates the BRT emission reductions resulting from transport modal switches from private cars and inefficient paratransit vehicles to BRT buses that range from Euro 3 to 6 depending on the municipality’s choice of bus models. The traditional tools and methodologies for evaluating the emissions impacts of such projects require a lot of time, data requirements and financial resources which most Projects do not have. As such, the TEEMP model has been approved by GEF for use on GEF projects to enable a rapid but sound assessment of the emission impacts of transport projects using readily available data. The TEEMP model can make an estimation based on a “shortcut method” considering the availability of only passenger volumes and a length of BRT corridor for a BRT system.

Actual Medium-Term Outcomes	Contribution towards Intermediate States	Assessment	Projected Long-Term Impact
	<p>systems in Kampala. Furthermore, it likely will not catalyze replication of quality SMT systems in sub-Saharan Africa with experts from Kampala (as discussed in Paragraph 106).</p> <p>In Nairobi, ITDP have enhanced the planning process of the A104 corridor (in collaboration with KeNHA through the World Bank-funded National Urban Transport Improvement Project or NUTIP) through service plans. These plans sought to optimize BRT services to maximize ridership benefits from new BRT infrastructure that includes most importantly, the shortest possible journey times. In addition, ITDP have been providing oversight of 2 of the 3 detailed design packages (Lots 1 to 3) to ensure designs are compliant with best practices for BRT systems. This can be considered a positive contribution to increased confidence in SMT development for Nairobi, and has already influenced decisions in other African cities in replicating SMT projects using SMT experts<sup>35</sup>.</p>		<p><u>For Kampala</u>, the Project has provided some technical guidance in the collection of baseline data including GHG emissions on which to base GHG emission reductions from implemented BRT systems. However, the impact of GHG emission reductions is <u>moderately likely</u> for Kampala given the outstanding amount of work to agree on the final designs of the BRT corridors that are related to proper BRT corridor widths to permit passing lanes for buses at critical stations.</p> <p><u>For Nairobi</u>, the situation is similar to Addis Ababa in that the Project has provided technical assistance in TEEMP methodology<sup>37</sup> to determine GHG emission reductions from implemented BRT systems. While the system to formally monitor and quantify GHG emission reductions from the A104 BRT system has not yet been formally developed, the A104 corridor when completed (and if implemented according to their business plan), will <u>likely</u> reduce GHG emissions from the urban transport sector. This BRT project should also set another example in East Africa for development of BRT systems using best practices for replication in developing countries, and reducing GHG emission reductions from urban transport projects regionally and globally.</p>

<sup>35</sup> This would include several other ongoing initiatives including: i) UN-Habitat being invited by the New Urban Communities Authority (NUCA) of the Government of Egypt to present a way forward to build a BRT system in Cairo based on its ongoing experiences with other SUSTAN cities, notably Nairobi and Addis Ababa. This involved assistance in sketching a road map of the main steps towards implementing a BRT corridor in the western part of the city, an Origin-Destination study for an area, all in collaboration with ITDP; ii) Urban Pathways Project funded by the Germany Federal Ministry for the Environment Nature Conservation and Nuclear Safety under the International Climate Initiative to support preparation of national action plans and local implementation concepts with a focus on access to urban basic services (<https://www.urban-pathways.org/mobility1.html>) in key emerging economies that includes Kenya (amongst other countries globally) and; iii) “Scaling up Street Designs in Ethiopia” financed by the UN Road Safety Trust Fund to support capacity building in NMT design and implementation.

<sup>37</sup> Ibid 35

inter-agency BRT steering committee to oversee the preparatory activities for BRT implementation. As of 2018, the MATA still did not have parliamentary approval which does not provide an institutional basis for financing and implementing SMT systems. This has forced all stakeholders to reconsider alternate institutional arrangements for financing of SUT systems in Kampala. These alternative arrangements are being made in collaboration with the World Bank and AFD;

- For Nairobi, NAMATA received parliamentary approval in 2017 to serve as the institutional home for SMT financing and implementation including strategic urban transport planning, setting of standards for urban transport, determination of public transport routes, allocation of routes to public carriers, and enforcing standards for public transport service quality. Although NAMATA is relatively new, its capacity will be strengthened over the next 3 to 4 years with implementation experience of the A104 corridor and Government commitment for further expansion of the SMT network in Nairobi. NAMATA is currently undertaking efforts to establish standards for BRT and NMT systems for Nairobi, and to effectively engage Nairobi’s informal transport sector (that includes buses and matatus).

85. The actual *Medium-term Outcome 6 of “demonstration corridors for sustainable urban transport in operation for 3 cities in East Africa”* was not achieved at the EOP. However, this outcome is moderately likely to be achieved based on :

- For Addis Ababa, the municipal government has successfully leveraging funding from AFD for the planning and detailed design of the 16 km B2 BRT corridor. This funding has led to the municipality’s clear vision of Addis Ababa’s modernized public transport system, the preparation of the BRT network planning and feasibility studies, leading to service plans and operational studies for the B2 BRT corridor, the B2 preliminary design (or FOPS by DIMTS Consultants) in 2014, the “B2 Value Engineering Report – Preliminary Design” in 2016, and detailed engineering design for the B2 BRT corridor for the purposes of construction. Detailed engineering design is expected to be completed by late 2018 with the completion of construction tendering likely by early 2019. Based on these ongoing initiatives, the B2 BRT corridor is expected to be operational by 2020. To a large extent, ridership of the BRT will hinge on the success of the AACTA’s communication plan (outsourced to “C40 Cities”) to engage the public on BRT usage which according to AACTA is ongoing;
- For Kampala, evidence presented to the evaluation indicates that feasibility design and detailed designs for a pilot BRT corridor were prepared between 2012 and 2014 (funded by World Bank) in 2012. Furthermore, final designs for the pilot BRT systems in Kampala have not been approved pending a major design review (see Paragraphs 63 and 79) that would increase the system’s capacity, delaying the date for an operational SUT system in Kampala by several years. Furthermore, the source of capital financing for the system has not been finalized due to the lack of an approved authority dedicated to promoting and managing SUT systems in Kampala<sup>38</sup>. As such, this will further delay the outcome of demonstration corridor for sustainable urban transport in operation for Kampala.
- For Nairobi, the Project’s involvement with the planning phases of the BRT designs since 2011 (that included conceptual designs, service planning and infrastructure design reviews) has led to the issuance of 3 design packages being tendered out through KeNHA (through the World Bank-funded National Urban Transport Improvement Project or NUTIP) with the Lot 3 along the A104 corridor being the first package likely to become the demonstration corridor. The contribution of the Project through ITDP has been significant through the preparation of the corridor’s service plans in providing oversight to 2 of the 3 detailed design packages that will compliance with best practices for BRT systems, and maximize ridership of these systems in the future.

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<sup>38</sup> MoWT and KCCA are in discussion with both the World Bank and AFD. As of September 2018, AFD have provided a €1.5 million grant, of which the use of these funds are being discussed at this time, possibly for an assessment of existing paratransit services and feeder routes in Kampala (already done by the World Bank feasibility study of 2014) or for a review of the latest BRT designs with a view to increase the system capacity from 9,000 passengers/day per direction.

86. Both Addis Ababa and Nairobi had clear visions of their modernized public transport systems that included both BRT and LRT. On this basis, both cities had extensive planning phases that included baseline data collection of passengers and paratransit usage, trip destination surveys, conceptual designs, service and operational plans for a BRT corridor, and value engineering studies that has brought their process for modernized public transport development towards their current state of BRT corridor development, detailed designs that are being prepared for 2019 and 2020 construction. In Kampala, the absence of a clear vision for modernized public transport and a detailed process for the BRT corridor development has been a setback for the city’s SMT development. The actual construction of Kampala’s BRT corridors is likely 3 to 4 years behind those of Addis Ababa and Nairobi.

***The overall rating for likelihood of impact of the SusTrans Project is ‘Moderately Likely’.***

### 3.5 Financial Management

#### 3.5.1 Completeness of project financial information

87. The following financial information was made available to the Evaluation:
- Cash advance requests for each calendar year from the UN Environment-DGEF’s FMO. A total of 7 such requests were made during Project implementation resulting in GEF funds being made available to UN Environment and UN Habitat for SusTrans activities based on annual work plans prepared by each agency, and the terms and conditions of the March 2011 Letter of Agreement (LoA) between UN Habitat and UN Environment;
  - Annual and semi-annual expenditure statements prepared by UN Habitat against UNEP budget lines and cash remaining at the end of the reporting period;
  - Annual expenditure reports by TRL submitted to UN Habitat on their expenditures between March 2014 to 2016;
  - A January 2016 internal financial audit of TRL that determined Project charges were correctly assigned in terms of personnel and non-staff costs (such as hotels and flights) were at reasonable market rates;
  - A report on cumulative co-financing report by UN Habitat from June 2018.
88. Overall, the completeness of financial information for the Project is rated **satisfactory**. The only issues related to the information made available to the Evaluation (in Para 87) was the lack of annual co-financing reports that were to be prepared by UN Habitat for UN Environment, as stipulated by the LoA. Otherwise, most of the financial information including expenditures was complete including detailed project expenditures by UNEP budget line which were not allocated into specific component expenditures<sup>39</sup>. This includes all financial information listed in UN Environment’s Evaluation Criteria from 2017 as further detailed in Annex V.

***The rating for completeness of financial information is ‘Satisfactory’.***

#### 3.5.2 Communication between finance and project management staff

89. In rating the communication between UN Environment finance personnel and project management staff of UN Habitat, the Evaluation made an effort to assess the communication aspects between finance and project management staff through information presented that included:
- work plans, annual budgets and cash advance requests that were prepared by UN Habitat on an annual basis and submitted to UN Environment’s DGEF for approval and transmission of operational funds to UN Habitat for implementing the Project;

<sup>39</sup> Component level expenditures have not been a requirement in the past, and the existing UMOJA system used by UN Environment for managing GEF projects was not setup in a way that allows monitoring component expenditures.

- adjustments being made by UN Habitat financial office to align actual expenditures with reported expenditures that clarify GEF expenditures to UN Environment’s DGEF;
- UN Habitat communications with UN Environment to inform them of:
  - the necessity of reporting expenditures and re-allocating future expenditures in 2013 for the purposes of re-phasing the project;
  - a need for a no-cost extension from December 2015 to December 2016. This April 2015 request was supported by an update on progress, updated expenditure reports, and updated work plans for the remainder of the Project;
  - a need for a second no-cost extension from December 2016 to December 2017. Similar to the report in April 2015, this October 2016 request was also supported by an update on progress, updated expenditure reports, and updated work plans for the remainder of the Project.

The aforementioned provides sufficient evidence that communications between the UN Habitat FMO (within DGEF), the UN Habitat Project Manager and UN Environment Task Manager all being aware of the financial status of the Project.

***The rating for communication between finance and project management staff is ‘Satisfactory’.***

## 3.6 Efficiency

### 3.6.1 Timeliness

90. The Project was originally scheduled for a period of 5 years (from March 2011 to April 2016 in the Project Document but changed to January 2011 to December 2015 when the Project commenced 2 months earlier than the Project Document). As mentioned in Paragraph 89, two “no-cost extensions” were requested and approved:

- The first request was in April 2015 of a need for a no-cost extension from December 2015 to December 2016. Reasons provided included the need to complete the detailed designs for SUT systems under Component 2 which were delayed by a lack of time to review critical detailed design features, investor’s documents and financial modeling, transformation of the existing urban transport industry, and NMT and TDM measures that were to be improved under the Project. In addition, all 3 cities were in preliminary stages of forming a suitable institution to address transformative measures for urban transport issues (an outcome from support provided in Component 1) that required continuation with remaining SusTrans resources;
- The second request was in October 2016 of a need for a second no-cost extension from December 2016 to December 2017. Reasons provided included the use of remaining GEF funds to:
  - continue establishment of institutional arrangements in each of the 3 cities (under Component 1) for management of urban transport transformation in the 3 cities;
  - continue support for oversight review under Component 2 of detailed designs and possible construction of SUT corridors, notably designs to integrate NMT infrastructure with BRT designs in the 3 cities;
  - provide assistance to the 3 cities under Component 3 for the selection of appropriate bus and fuel technologies based on BRT design considerations and fuel availability;
  - continue regional learning of SUT development experiences globally through a regional conference in November 2016 and e-learning courses on BRT for cities of developing countries.

91. By the EOP, the SusTrans Project grant resulted in:



- Detailed designs being available for Addis Ababa that are well integrated with NMT and TDM measures, under the leadership of the Addis Ababa City Transport Authority (AACTA), who serve as the focal agency to transforming urban transport. The detailed design phase of the B2 BRT corridor is to be completed by late 2018;
  - A draft bill for a Metropolitan Area Transport Authority (MATA) for Kampala which has not yet been approved by Parliament, forcing donors including AFD and the World Bank to decide on best approaches for financing BRT and SUT systems for the city. In addition, there has been a halt on progress on detailed designs for the city’s SUT corridors pending available funds for its re-design and oversight review by ITDP;
  - The recent establishment of NAMATA in Nairobi as the overarching authority to oversee the development of SMT systems in Nairobi that includes BRT and NMT infrastructure, and to regulate the quality of services provided by BRT and feeder route operators. In addition, there has been considerable progress on the 3 detailed designs packages along the A104 corridor, one of these packages of which will be ready for construction by 2019.
92. The timeliness of the utilization of SusTrans resources has accelerated the attractiveness of financing BRT systems in Addis Ababa to AFD and in Nairobi to the World Bank through i) the establishment of institutional bases for developing SMT systems; and ii) availability of detailed designs for BRT and NMT infrastructure. Despite the support from SusTrans, there have been difficulties in Kampala mentioned in Paragraph 79 in resolving funding issues related to upgrades in BRT corridor designs and the establishment of a MATA-type agency for management of SMT development in Kampala. While these unfortunate delays in Kampala were mainly related to factors somewhat outside the control of the Project with ITDP unable to intervene in the initial 2014 AFD-funded BRT design process for Kampala, the timeliness of SusTrans according to UN Environment’s evaluation criteria on efficiency is rated as *moderately unsatisfactory*.

### 3.6.2 Cost Efficiencies

93. Cost-effectiveness of the SusTrans Project was gauged by the use of well-qualified specialists from TRL (United Kingdom), ITDP (United States), ICCT (USA) and GIZ, all of whom have strong experience in assisting developing countries with SUT systems. Through UN Habitat management, SusTrans funds were used to cover the costs of expertise from these partners to deliver outputs in Components 1 to 4, many of which were effective in achieving outcomes establishing institutional bases SUT systems and availability of detailed SUT designs in Addis Ababa and Nairobi. For Addis Ababa, selection of appropriate bus and fuel technologies for the BRT system was aided by the advanced state of the detailed designs of the B2 BRT corridor. In Nairobi, selection of these bus and fuel technologies are to be finalized after the EOP based on some of the detailed designs for the A104 corridor that are near completion. For Kampala, SMT designs and institutional bases for SMT development has progressed due to SusTrans resources but not to the extent of the other 2 cities.
94. The Evaluation also notes that at the EOP, US\$11,023 (0.4% of the total SusTrans funds) was still unexpended. This is a satisfactory result notwithstanding that there were already 2 no-cost extension requests that were approved. The Evaluation also notes that these expenditures has also catalyzed more than US\$5.062 million in co-financing from various partners (see Table V-2 for details) and leveraged more than US\$286 million for the financing of various design and construction activities for BRT corridors in Addis Ababa and Nairobi<sup>40</sup>. Considering that Project activities were sequenced efficiently for all 3 cities with satisfactory outcomes for Addis Ababa and Nairobi, the cost efficiencies for SusTrans was rated as *satisfactory*.

***The overall rating for efficiency is ‘Moderately Satisfactory’.***

<sup>40</sup> This includes US\$176 million for the design and construction of BRT corridors in Nairobi from the World Bank and the Government of Kenya, and US\$110 million for the detailed design and construction of the BRT corridor in Addis Ababa from AFD.

## 3.7 Monitoring and Reporting

### 3.7.1 Monitoring design and budgeting

95. Section 6 of the SusTrans Project Document provides the description of the monitoring and evaluation (M&E) that mentions its consistency with GEF Monitoring and Evaluation policy. The compliance to GEF M&E policy in the *Project Document* extends to:
- the PRF having SMART indicators and time-bound targets that are presented in Appendix 4;
  - detailed works plans complete with time-bound activities with key deliverables and benchmarks which were aligned with the indicators for all components as presented in Appendices 5 and 6; and
  - a costed M&E plan containing PRF indicators, mid-term targets, EOP targets, means of verification, frequency of sampling, location, responsible parties, timeframe and budgets, as presented in Appendix 7;
  - other M&E related costs such as baseline data collection, inception workshop and mid-term and terminal evaluations are also presented in Appendix 7; and
  - reporting requirements that includes frequency of reporting and due dates, and responsible parties for preparation of the report as presented in Appendix 8.
96. Notwithstanding the issues related to the language used in the PRF to describe objectives, outcomes and outputs (as in Paragraph 34), the design and budgeting of the SusTrans M&E plan is comprehensive. Moreover, the M&E design and budgeting does cover disaggregation by city. Gender disaggregation is not covered in the M&E plan, nor does it appear to be appropriate. Most of the SusTrans teams are aware of the M&E plan and understand the indicators required for reporting SusTrans progress. As such, the M&E design and budgeting are deemed to be **satisfactory**.

***The rating monitoring design and budget is ‘Satisfactory’.***

### 3.7.2 Monitoring of project implementation

97. SusTrans monitoring was undertaken as 4 separate activities considering there were 3 cities plus activities related to information dissemination. As such, each city was required to report on activities related to Components 1 to 3 with UN Habitat monitoring its activities in raising awareness in SMT development for regional cities in Africa. Monitoring was especially intensive for Components 1 and 2 considering the use of the GEF grant to support the institutional bases for SMT development, and to strengthen detailed designs for preparing BRT projects for implementation through World Bank or AFD loans. Since the detailed design process was not completed at the EOP for any of the 3 cities, there was no need for monitoring of actual construction and operationalization of the BRT systems; these activities will need to be funded in future with the assistance of donor agencies to ensure compliance with best practices for monitoring.
98. The monitoring of project implementation has been rated as **moderately satisfactory**. Primary reasons for this rating includes the collection of project implementation information according to the indicators in the PRF, mainly on the progress of the intensive activities of Components 1 and 2. *In terms of best practices for monitoring UN Environment and GEF projects*, the monitoring of the SusTrans Project implementation does roughly follow the monitoring work plan of Section 6 in the Project Document. However, there was no progress monitored that was disaggregated by gender, or using any tools and methodologies that would be responsive to different gender needs, as previously mentioned in Paragraph 96. According to UN Environment evaluation criteria, the downgrading to moderately satisfactory has much to do with the lack of gender considerations in monitoring project implementation.

***The rating for monitoring project implementation is ‘Moderately Satisfactory’.***

### 3.7.3 Project reporting

99. The evaluation has viewed documentation of project reporting of SusTrans Project implementation primarily through *Project Implementation Reviews or PIRs*. The evaluation had access to these PIRs from 2013 to 2017 which provided details of progress towards objectives, implementation progress, and risk management for the SusTrans Project during the period of 2012 to 2017. These progress reviews provided details of efforts to establish dedicated agencies for managing SUT systems in each of the 3 cities, as well as the complexities of preparing detailed SUT designs for each of the 3 cities. These reports provided evidence of substantial collaboration and communication between UN Habitat and UN Environment personnel of the SusTrans Project. The quality of these PIRs was satisfactory and provided an adequate level of detail on the progress of activities funded by the GEF grant.
100. Project reporting for the SusTrans Project has been rated as **moderately satisfactory** in consideration of substantial but incomplete documentation of project progress for SMT development for the 3 cities. While these reports provided the information within the indicators of the PRF, *Progress reports* (which according to the Project Document were to be issued on a half-yearly basis) were prepared on a monthly basis only for Addis Ababa with no other progress reports for the other 2 cities. For Addis Ababa, these reports were used to provide continual improvements to the design of the B2 BRT corridor. In addition, there was no mid-term review was conducted for the entire SusTrans Project<sup>41</sup> which could have provided an opportunity to undertake some strategic changes to the direction of the SusTrans Project covering all 3 cities.

***The rating for project reporting is ‘Moderately Satisfactory’.***

## 3.8 Sustainability of Outcomes

### 3.8.1 Financial sustainability

101. The financial sustainability of SusTrans is primarily assessed against Direct Outcome 1 (National governments advocate for comprehensive SMT systems), and Direct Outcome 2 (Detailed designs for implementation of demo SUT corridors) for each of the 3 cities:
- For Addis Ababa, financing is in place from AFD for the completion of detailed designs for the B2 BRT corridor. There is a strong likelihood of continued financial support from AFD for the construction phases and the procurement of buses and related equipment. However, financial sustainability of the operation of the BRT system is less certain until the operation of the system has been demonstrated, and the revenue streams and operational costs fully accounted for. At that point in time, the cost of government subsidies required for the operation of the BRT system can be fully evaluated with proper budgetary allocations. Addis Ababa does have strong political will along with the operational AACTA to ensure appropriate operational budgetary allocations<sup>42</sup>. With a high dependency on future funding with mitigation rated as 75 to 100%, financial sustainability for Addis Ababa is rated as *moderately likely*;
  - For Kampala, funding for revisions of detailed designs for the CBD BRT system was exhausted at the EOP. At the time of this evaluation, MoWT was in discussion with AFD or for the financing to complete the detailed designs with oversight review from ITDP. Should this arrangement be

<sup>41</sup> A mid-term review was conducted in January 2016 by TRL for Addis Ababa progress.

<sup>42</sup> Addis Ababa is sufficiently advanced development of their BRT system that they should be planning for sustained BRT operations by minimizing subsidies required to bridge the operations-revenue cost gap of public transport services. While nearly all cities globally experience a revenue-operations cost gap for public transport services, BRT managers in Addis Ababa will find it increasingly difficult to sustain quality public transport services as a result of increasing costs. Without increases in fiscal resources for subsidies, compromises in the quality of public transport services need to be avoided. This may include a reduced number of buses and reduced maintenance on buses, and eventually lead to a gradual loss in public confidence in BRT systems and public transport in general. There is a need to provide sustained assistance to BRT managers in Addis Ababa as well as Kampala and Nairbobi (when their development reaches a certain stage) and cities in developing countries, on innovative means of generating revenue from public transport in an effort to minimize the operations revenue cost gap.

approved, there is a strong likelihood of continued AFD involvement in financing the construction phases of the pilot BRT system for Kampala. However, financing arrangements for the construction phase could be derailed by the Government of Uganda if they do not make funds available for the land acquisition to widen the BRT corridor in critical locations in the CBD. Furthermore, it is difficult for the evaluation to assess the financial sustainability related to the operation of the pilot BRT system without knowing if the aforementioned design issues have been resolved with respect to land acquisition, and if there is an equivalent MATA entity dedicated to the development of SMT systems in Kampala. With a high dependency on future funding with mitigation rated as 25 to 50%, financial sustainability for Kampala is rated as *unlikely*;

- For Nairobi, financing is in place from the World Bank and AfDB for the completion of 3 design packages along the A104 corridor. With this involvement, there is also a strong likelihood of their continued financial involvement in the construction phases in procurement of buses and related equipment. Similar to Addis Ababa, financial sustainability of the operations of the BRT system is less certain until the operation of the system has been demonstrated. Another uncertainty in the Nairobi financial sustainability assessment is the need for a strengthened NAMATA that can provide rationale for appropriate allocations for BRT operations and feeder routes for the new SMT system. With a high dependency on future funding with mitigation rated as 50 to 75%, financial sustainability for Nairobi is rated as *moderately unlikely*.
102. Assessment of the financial sustainability of Direct Outcome 3 (Municipal authorities adopt appropriate clean vehicle and fuel technology initiatives) is closely related to the financial sustainability of Direct Outcomes 1 and 2. However, financial sustainability of Direct Outcome 4 (Decision makers, municipal personnel and local urban transport professionals apply lessons and experiences learned) is also highly dependent on future funding with mitigation rated between only 25 to 50%, and is assessed as unsatisfactory. It appears highly likely that donor agencies (such as UN Environment, UN Habitat and GIZ) would be required to undertake a continued role in coordinating and conducting regional workshops where lessons learned from other SUT projects can be shared with relevant personnel from developing country cities. This would also include the operational SusTrans web platform (<http://gefstran.sutp.org/index.html>) that does not appear to have been updated since early 2016, leaving a question of ownership of this useful website after the EOP.
103. In conclusion, the financial sustainability of the SusTrans Project is rated as *moderately unlikely* based on a weighted average assessment of moderate dependency (50 to 75% mitigation mainly weighted towards Addis Ababa and Nairobi) coupled with the absence of future financial support for information dissemination activities of Component 4.

**The financial sustainability rating is ‘Moderately Unlikely’.**

### 3.8.2 Socio-Political sustainability

104. Similar to the assessment of financial sustainability, sociopolitical sustainability of the SusTrans Project is primarily assessed against Direct Outcomes 1 and 2 for each of the 3 cities. Moreover, for sustainable transport projects in general, there is a high degree of dependency on sociopolitical factors. Sociopolitical factors that distinguish each of the 3 cities is described as follows:
- In Addis Ababa, strong political support for the development of SMT systems in the city exists. The former General Manager of the AACTA has been promoted to be the Deputy Mayor of Addis Ababa. As such, the political will for developing SMT systems in Addis Ababa is likely very strong. In addition, there is a high level of ownership and commitment within the municipal government of the city of Addis Ababa, led by the AACTA, the institution responsible for the development of SMT systems and their operation in the city. As such, sociopolitical sustainability for Addis Ababa is rated as *likely* due to the high degree of dependency on sociopolitical factors, and 100% mitigation based on the strong ownership and interest of all government levels in Ethiopia and the residents of Addis Ababa who will benefit from the integrated nature of the SMT systems being developed;

- For Kampala, there is political support for the redesign of the pilot BRT system serving the CBD. This is evidenced by KCCA seeking additional funds for the redesign of the pilot BRT system. Despite not having visited Kampala, the Evaluation can portray the situation in Kampala as having fairly strong ownership of the BRT project that extends to the MoWT to sustain the development of an operational BRT system. However, the mechanism to adapt to changes (such as the design changes in required in the widening of the BRT corridor in the CBD) is somewhat constrained without the approval of MATA, the dedicated agency for SMT development in Kampala. As such, the sociopolitical sustainability of Kampala is rated as *moderately unlikely* due to the high dependency on sociopolitical factors, and 50 to 75% mitigation due to the absence of MATA and a weak mechanism to adapt to changes;
  - For Nairobi, there is strong political support for developing SMT systems that serve the CBD. This is evidenced by ongoing efforts to develop the A104 BRT corridor funded by the World Bank and AfDB. While there is little to stop these efforts, the Evaluation is concerned over the political capital being spent on developing a Thika BRT corridor within a period of 6 months which may lead to a non-segregated but dedicated lane for buses that would be mislabeled as a BRT system. Another significant sociopolitical hurdle to any BRT system in Nairobi is a need for an agreement between NAMATA and existing matatu associations on their role within the new modernized BRT systems. This will require strengthened capacity of NAMATA with personnel to manage this relationship, and to resist any temptations to build a “watered-down” BRT along the Thika corridor. As such, sociopolitical sustainability of Nairobi is rated as *moderately unlikely* due to the high dependence on sociopolitical factors, and a 50 to 75% mitigation due to the absence of an agreement between NAMATA and existing matatu associations, and the threat of diverting BRT energy towards the hasty development of the Thika corridor.
105. Direct Outcome 3 is strongly linked to Direct Outcomes 1 and 2. For Direct Outcome 4, all workshop and seminar participants have had positive experiences in learning of the experiences of DART development in other cities of developing countries. As such, the sociopolitical sustainability of Direct Outcome 4 is rated as *satisfactory*.
106. In conclusion, the sociopolitical sustainability of the SusTrans Project is rated as *moderately likely* based on a weighted average assessment of high dependency (75 to 99% mitigation mainly weighted towards the satisfactory aspects of the situation in Addis Ababa) coupled with generally positive support for information dissemination activities of Component 4.

***The overall socio-political sustainability rating is ‘Moderately Likely’.***

### 3.8.3 Institutional framework sustainability

107. Institutional framework sustainability is strongly related to Direct Outcome 2, Output 2.2, the establishment of municipally-based agencies dedicated to improving urban transport. The sustainability for each of the 3 cities is rated as follows:
- For Addis Ababa, the municipal government has set up the AACTA whose mandate is to manage the growth and development of SUT systems throughout Addis Ababa that includes assignment and management of bus operators, and enforcing quality standards for public transit services. There is strong evidence of the enhancement of the capacity of a number of individuals within AACTA who will likely stay in their positions long enough to support continued improvements of the operations of Addis Ababa’s BRT systems. As such, the institutional framework sustainability is rated as *likely* for Addis Ababa due to the high dependency and strong mechanisms in place to support institutionalization of outcomes, and dedicated urban transport professionals within these institutions to support the continued reduction of GHG emissions from BRT systems;
  - For Kampala, there is uncertainty as to which agency will be responsible for the growth and development of SUT systems for metropolitan Kampala. While Project assistance was provided towards the formation of MATA, the Government of Uganda has been reluctant to approve another authority, leaving both the World Bank and AFD to reconsider acceptability of MoWT as the counterpart entity to finance for improvement of SUT systems in Kampala. The impact of this

reluctance has been a stalling of further financial support for an approved BRT system design in Kampala that meets best international practices. As such, the institutional framework sustainability is rated as *unlikely* due to fairly strong ownership of the BRT projects but with weak mechanisms from the lack of a MATA-type authority to affect design changes;

- For Nairobi, Parliament has recently approved the establishment of NAMATA as the agency dedicated to the development of SUT systems in Nairobi. NAMATA currently requires assistance to strengthen its capacity to assign new service routes including BRT corridors, to forge new agreements with existing matatu associations and their roles in the new SMT systems in Nairobi, and to properly evaluate and budget finances for sustained improvements in public transport services in Nairobi. As such, the institutional framework sustainability is rated as *moderately unlikely* due to weak capacities in NAMATA to support enforcement of newly drafted policies and laws on BRT and other SMT system service standards. In addition, the capacity of NAMATA personnel still requires strengthening as NAMATA is currently undergoing recruitment of key personnel.

108. For Direct Outcome 4, there are no related institutional framework factors. However, for Direct Outcome 2, Output 2.2, the institutional restructuring in all 3 cities was necessary to ensure local ownership of BRT investments and proper management. Despite the successes in establishing urban transport authorities in 2 out of the 3 SusTrans cities, Kampala and Nairobi are still experiencing challenges in building their own capacities to manage urban transport issues, and in defining their role within other local institutions, primarily due to poor communications with other institutions. There is also a need to sustain functional integrated transport authorities through a framework of responsibilities that include operations management, planning and regulation, SUT implementation, financial management and marketing, all of which should be scrutinized to ensure these responsibilities have an appropriate local context. As such, the institutional framework sustainability for the SusTrans Project is rated as *moderately likely* based on the success of the formation of AACTA and NAMATA, with a need for future capacity building support.

***The institutional framework sustainability rating is ‘Moderately Likely’.***

### **3.9 Factors affecting performance**

#### **3.9.1 Preparation and readiness**

109. Preparations for SusTrans Project implementation were approached as 3 separate technical assistance projects for the 3 pilot cities plus one component integrating findings and lessons learned from all the cities for the purposes of regional information dissemination. Evidence suggests that activities implemented between the Project approval date of January 2011 and the first disbursement of March 2011 did not coincide with normal project preparations associated with other GEF grant projects. Since the technical assistance requirements for all 3 cities were vastly different, UN Habitat made the decision not to have an Inception Workshop, an event normally held at the beginning of most GEF projects. In retrospect, there may have been some advantages for conducting such a workshop; however, the PMU determined that stakeholders in all 3 cities were not in an appropriate state of readiness for having such a workshop.

110. For all 3 cities, there were already donor assistance activities comprising the baseline for the SusTrans Project (Paragraphs 17 to 19). The readiness challenge of SusTrans was to identify appropriate counterpart entities in each city to provide technical assistance as defined in the SusTrans Project Document:

- For Addis Ababa, there were AFD supported activities examining the feasibility of BRT systems with the municipal government of Addis Ababa. With the Project working closely with the municipal government, the Project eventually was successful in the establishment of the AACTA under which the PMU was established for supporting SUT systems in Addis Ababa;
- For Kampala, the World Bank supported activities examining the feasibility of BRT systems throughout metropolitan Kampala in close collaboration with the MoWT. SusTrans personnel

approached MoWT regarding added value to the BRT design process, following which the Kampala City Capital Authority emerged as the agency to oversee the improvement of all transport systems and other infrastructure in the Metropolitan area. The Project has continued to work with KCCA to form MATA which by the EOP has not yet been established. As mentioned in Paragraphs 78 and 79, this has delayed further financial support for the redesign of the pilot BRT system in Kampala;

- For Nairobi, the World Bank had involvement with improving urban transport within metropolitan Nairobi since 2003 resulting in the launching of the NUTIP Project in 2013<sup>43</sup>. SusTrans personnel again needed to identify the appropriate counterpart entity to develop as a dedicated SUT development agency since 2011. Unfortunately for the Project, the first 6 months of SusTrans were spent attempting to build capacity within KURA. When it became clear that a new entity was required for the development of BRT and NMT infrastructure in Nairobi, SusTrans personnel worked closely with the five Governors within the Nairobi Metropolitan Area to establish NAMATA (Paragraph 79). Their establishment has facilitated financing approvals for the A104 BRT corridors by the World Bank and the AfDB;

111. There is evidence of:

- an Inception meeting in Kampala in January 2012. There has been no evidence of inception meetings held in Addis Ababa and Nairobi;
- work plans and budgets developed for each of the 3 cities that were used as fund requests by UN Habitat;
- a national steering committee established for Addis Ababa which met 10 times between February 2012 and August 2014. No documentation, however, was presented to confirm the existence of an NSC for Kampala and Nairobi;
- UN Habitat setting up project management units (PMU) in all 3 pilot cities: Addis Ababa Roads and Transport Bureau (AARTB) in Addis Ababa, MoWT in Kampala, and KURA in Nairobi which was subsequently moved to KeNHA after 6 months. All these agencies were involved with the initial development stages of BRT for these cities that frequently liaised with the donor agencies, namely AFD in Addis Ababa and Kampala, the World Bank in both Kampala and Nairobi and the AfDB in Nairobi. This was strategically important to allow SusTrans Project personnel to provide oversight of consultants project designs and their integration with NMT infrastructure, and to be able to advise the responsible municipal authority on public transport on preparing proper service plans and financial models;
- absence of ESE safeguards that were deemed not necessary at this stage of project development and were to be done by the World Bank at the loan approval stage;
- signed agreements in the form of MoUs between SusTrans and the Addis Ababa Road and Transport Bureau, and the MoWT in Uganda. No evidence has been provided of any signed agreement with SusTrans and KURA or KeNHA in Nairobi;
- a stakeholder analysis conducted prior to the first disbursement. As mentioned in Para 112, the institutional and stakeholder landscape required review upon the commencement of SusTrans to confirm or revise the stakeholders of each pilot city as listed in the Project Document;
- TRL and ITDP consultants had been mobilized to support BRT development in the 3 pilot cities;
- stakeholder engagement in each of the 3 cities consisting mainly with implementers of the BRT system designs with the either UN Habitat, TRL or ITDP;
- the period between SusTrans Project approval on the first disbursement was less than 6 months.

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<sup>43</sup> See Para 16 in NUTRIP PID accessible on:

<http://documents.worldbank.org/curated/en/252421468774560706/pdf/P1263210PID0Print00112201201326355650871.pdf>

112. As such, preparation and readiness for the BRT Project is rated as *moderately satisfactory*, notwithstanding that normal preparations for GEF projects (as noted in Paragraph 111) were not conducted due to the uniqueness of technical assistance required in each of the 3 pilot cities. This led to the formation of a steering committee for only the Addis Ababa BRT/NMT project, with no evidence of an NSC for Kampala and Nairobi. However, with the first grant disbursements made in less than 6 months to provide valuable technical assistance to the 3 pilot cities, a positive outcome was generated resulting in an institutional basis for SMT systems development for Addis Ababa and Nairobi that could focus on operational BRT systems integrated with NMT infrastructure to maximize ridership<sup>44</sup>.

***The rating for preparation and readiness is ‘Moderately Satisfactory’.***

### 3.9.2 Quality of project management and supervision

113. Management and supervision of the SusTrans Project took place mainly between January 2011 and December 2017 when more than 90% of the GEF grant funds were disbursed. UN Environment was the implementing agency providing oversight management and monitoring expenditures of the SusTrans Project while the executing agency, UN Habitat, was responsible for leadership and supervision in the delivery of assistance to develop the technical and institutional basis for implementing SMT networks in 3 pilot cities.

114. With regards to SusTrans management and supervision of Project inputs, there is evidence that:

- a national steering committee established for Addis Ababa was established and met 10 times between February 2012 and August 2014 (9 times in 2014). No documentation, however, was presented to confirm the existence of an NSC for Kampala and Nairobi;
- UN Habitat recruited technical specialists to assist in these oversight roles as well as sharing best practices and international experiences on establishing municipally-based agencies dedicated to improving public urban transport. This would have included the Transport Research Laboratory (TRL) out of the United Kingdom for Addis Ababa up to 2016, and ITDP in Addis Ababa after 2016, in Kampala between 2013 and 2016, and in Nairobi since late 2013. Both TRL and ITDP would make occasional visits as deemed necessary by AARTB, MoWT and KURA/KeNHA;
- work plans and budgets developed for each of the 3 cities that were used as fund requests by UN Habitat;
- all Project staff (from TRL and ITDP) had the knowledge to assist and influence decisions made by BRT implementers in the 3 pilot cities to ensure the pilot BRT systems comply with best international practices. In addition, there was no staff turnover during the TRL and ITDP consulting assignments leading to consistent advice being provided to the 3 cities;
- communications between SusTrans activities and BRT implementation teams in all 3 cities was regular and appropriate in terms of timing<sup>45</sup>;
- AACTA was providing good leadership in the development of the B2 BRT corridor in Addis Ababa while NAMATA as a new agency has been providing leadership in Nairobi despite its capacity deficits. MoWT in Kampala has been providing weak leadership on BRT development caused by design conflicts between the World Bank's BRT design consultant and ITDP;

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<sup>44</sup> Compliance with UN Environment assessment criteria for “preparation and readiness” was difficult given that the evaluation criteria described does not fit into what transpired on the SusTrans Project. As such, ratings were subjectively made in light of the Project being able to deliver outputs and achieve most of the intended direct outcomes.

<sup>45</sup> Based on personal communications with various Nairobi-BRT stakeholders at a 24 August 2018 workshop in Nairobi, and personal communication with Mr. Rogers Kisambira of MoWT in Kampala and Mr. Mitku Setegn of AACTA.



- there was adaptive management of activities of the 3 cities including:
    - Addis Ababa’s PMU with TRL and ITDP who have responded efficiently to the needs of AARTB and AACTA on various assignments to advance the B2 BRT corridor implementation and service plans;
    - Kampala’s PMU who have had difficulties responding efficiently to the needs of MoWT to ensure the BRT design complies with best international practices; and
    - Nairobi’s PMU who have responded efficiently through ITDP on complying with best international practices for BRT development through Nairobi’s CBD.
115. UN Environment provided Project implementation oversight to ensure compliance to GEF requirements for implementation of a GEF grant project (requirements that mainly involved regular monitoring and evaluation activities, and GEF fund management). Through Component 3, UN Environment also assisted UN Habitat with linkages to other global fuel efficiency programs and linkages to ICCT who facilitated delivery of reports for the 3 cities on bus and fuel technologies to consider for their BRT systems. As such, the quality of project management and supervision of UN Environment and UN Habitat was rated as *satisfactory*.

***The rating for quality of project management and supervision is ‘Satisfactory’.***

### 3.9.3 Stakeholder participation and cooperation

116. Evidence based on available documents and discussions with Project personnel indicates that the executing agency, UN Habitat, had a key role in the engagement of stakeholders into the activities of the SusTrans Project:
- In Addis Ababa, UN Habitat partnered with TRL from the UK in early 2011 to lead technical assistance for SMT systems development to the Ministry of Transport, the Addis Ababa Roads and Transport Bureau (AARTB) and the AACTA. Their involvement over a 5-year period was effective and included numerous reports critical to planning and implementing a BRT corridor that complies with best international practices, and covering nearly all aspects of pre-construction activities for a BRT corridor. These reports cover topics such as BRT preliminary design, BRT feasibility, pedestrian audits, NMT integration, parking reform, operational planning, demand forecasting, service plan, bus specifications, bus scrappage schemes, safety aspects, fare collection systems. To collect information for these studies, TRL provided strong support in their engagement with other parties active in the development of BRT corridors in Addis Ababa including DMITS from India who were recruited through AFD funding on the B2 BRT corridor feasibility study, and existing bus operators to solicit their feedback on BRT designs. After 2016, ITDP became the lead consultant representing the SusTrans Project. Their role of oversight management to advise AACTA on integrating best international practices with detailed designs of the B2 BRT corridor was also determined to be satisfactory. The selection of the B2 BRT corridor addressed the Government’s desire to have the first pilot BRT corridor providing enhanced public transport services to disadvantaged stakeholders, notably those areas of the city that are poor;
  - In Kampala, UN Habitat signed an MoU with MoWT to serve as the PMU for SusTrans in Kampala; MoWT was the agency responsible for design and construction of these infrastructure projects. The Project was also partnered with KCCA who were actively promoting NMT and BRT pilot corridors. Assistance has been mostly effective with difficulties encountered in consultations with all stakeholders involved in NMT and BRT projects. To improve the effectiveness of technical assistance to MoWT, SusTrans recruited a National Project Officer as well as ITDP to strengthen its delivery of services that included review of BRT detailed designs and operational plans prepared by a consortium of companies, namely ROM Transport Engineering, ARUP and AH Consulting; providing recommendations to develop a BRT agency MATA; dissemination of information for the BRT pilot corridor through engagement of stakeholders coordinated through

the Kampala-based FABIO<sup>46</sup>; and support to KCCA for the NMT initiative of stakeholder engagement and communications. With ITDP’s recommendations to revise the design of the pilot BRT corridors with NMT infrastructure to improve its capacities, the SusTrans Project made an impact on the public transport design in Kampala to enhance the benefits of the project to minimize social and economic impacts of the project as well as alleviate poverty;

- In Nairobi, SusTrans partnerships have been maintained with KeNHA, KURA and the newly formed NAMATA. While the PMU was originally setup with KURA, it was moved to KeNHA in 2012 when the mandates of KeNHA became clearer in the context of SMT system development for Nairobi. These partnerships have facilitated SusTrans assistance (through ITDP) in providing guidance on BRT best international practices to teams responsible for feasibility and detailed designs of the A104 BRT corridor. In addition, ITDP provided assistance to the Government of Kenya and the Nairobi City Council to review the institutional landscape for BRT implementation as well as necessary steps to form an authority dedicated to improving urban transport and a Metropolitan Nairobi. Through its engagement with these partners, the SusTrans Project has been able to provide useful technical assistance to enhance BRT corridor designs with NMT infrastructure that will maximize ridership. This has also been manifested through ITDP’s engagement with a number of local consultants, local matatu associations and relevant government agencies on the required administrative efforts for operating a BRT system that also included a program to collect baseline data for GHG emissions inventory of urban transport in Nairobi.
117. One common factor in the enhancement of stakeholder involvement for all 3 cities has been the transition studies to ensure the engagement of para-transit operators<sup>47</sup>. These studies were necessary to be in place to identify conditions for a fair and transparent process that brings together the paratransit industry with weak operational and administrative capacity, and relevant government agencies, both of whom benefitted from experienced consultants who have successfully engaged paratransit operators to overcome the mistrust. With all the 3 SusTrans cities, there was limited understanding of the complexities of negotiations with paratransit operators. SusTrans resources used for these transition studies and some negotiations have contributed to a healthy dialogue between paratransit operators and relevant government agencies in the 3 SusTrans cities. The presence of ITDP in all 3 cities has provided a consistent approach to these very important but sensitive processes for engaging paratransit operators.
118. Overall, stakeholder participation and cooperation was effective in delivering the outputs required for the development of SMT systems in all 3 cities, with an outcome thus far that the SMT systems being designed in Addis Ababa and Nairobi or proposed in Kampala are or will be compliant with best international practices. In conclusion, stakeholder participation and cooperation was rated as **satisfactory**.

***The rating for stakeholder participation and cooperation is ‘Satisfactory’.***

### 3.9.4 Responsiveness to human rights and gender equality

119. There is no reference in the Project Document to human rights and gender equality, related to the fact that this Project was designed as a GEF-4 Project, during which no emphasis was placed on gender. The SusTrans Project document does not address issues related to gender inequalities, specific vulnerabilities of women and children to urban mobility issues within cities in developing countries. An examination of budgeting of SusTrans activities indicates that there were no gender-targeted activities. As such, the rating for this Project’s responsiveness to human rights and gender equality based on current UN Environment evaluation criteria would be **0 or gender blind**.

<sup>46</sup> This included communications with current paratransit operators identified by FABIO, who could later be part of the BRT agency either as feeder or actual operators

<sup>47</sup> For Kampala, there was a 2013-14 report prepared on “Taxi Industry transitions”. In 2015, the taxi industry was engaged in preparation of the Kampala People’s Mobility Map.

120. Despite the absence of gender considerations in the Project Document, improved urban mobility designs through BRT systems integrated with NMT infrastructure will generate significant benefits to vulnerable sectors of the population of these cities. The Evaluator notes that SMT system designs for the 3 pilot cities will have a positive effect for women, children and the elderly with level boarding and safety being the most important design considerations. Furthermore, the goal of SusTrans was to “create the technical and institutional basis for implementing metropolitan sustainable transport networks and systems and establish a demonstration corridor for sustainable urban mobility”. This was to involve building awareness amongst policy makers and stakeholders of establishing SUT systems and developing demonstration SUT systems. Analysis of the SusTrans Project design reveals Project activities are concerned with SUT engineering designs complying with best practices which already incorporates benefits for all humans. At this stage of development, there would have been little benefit from SusTrans activities to focus on disaggregated information. Since the human rights and gender were not programming requirements nor part of the corporate strategies at the time of the SusTrans design, the “gender blind” rating is not included in the overall rating of this Project.

### 3.9.5 Country ownership and drivenness

121. For the Addis Ababa B2 BRT system, country ownership and drivenness by the Government of Ethiopia were *highly satisfactory*. Reasons for this rating are related to the strong political support of the pilot B2 BRT corridor from federal levels of the Ethiopian Government and the appointment of the Deputy Mayor who was formerly the Director of AACTA. In addition, the municipal government provided in-kind assistance as originally intended (through its setup of the AACTA under the AARTB), its close collaboration with TRL and ITDP on the strategic guidance of the design of the B2 BRT corridor and its integration with NMT infrastructure, securing of additional resources (from the AFD), endorsement of project results, and evidence of efforts to ensure that the pilot system was well constructed as a means of maximizing ridership and facilitating the financing of other BRT corridors.
122. For the Kampala SMT system designs, country ownership and drivenness of the systems under the KCCA and MoWT were *moderately satisfactory*. This rating is related to MoWT and KCCA providing strategic guidance to the design of the BRT corridors in Kampala, and endorsing recommendations from ITDP on the need for design revisions to accommodate higher ridership numbers. While the MoWT has managed in September 2018 to secure additional resources from AFD for the revision of these designs, it has struggled to provide the necessary co-financing for the design revisions which will require additional land acquisition in the CBD, an area where land is very costly, and for the establishment of a dedicated BRT authority for Kampala.
123. For the Nairobi pilot BRT system along the A104 corridor, country ownership and drivenness of the systems under KeNHA, NCC, and the recently established NAMATA were *satisfactory*. KeNHA, NCC and NAMATA have secured additional resources and provided strategic guidance to the designs and business plans of the A104 BRT corridor. Throughout the design process, KeNHA has endorsed many of ITDP’s recommendations in keeping the design process for BRT and NMT infrastructure coherent with best international practices including the preparation of a service plan, and operations plan. As detailed in Paragraphs 64 and 78, five Governors within the Nairobi Metropolitan Area had consented to the setup of the NAMATA. NAMATA found additional resources from EU for their operating budgets and from the World Bank for their staffing and legal establishment.

***The rating for country ownership and drivenness is ‘Satisfactory’.***

### 3.9.6 Communication and public awareness

124. Communication and public awareness activities of SusTrans was confined to Component 4 which covered regional awareness raising and the sharing of lessons learned and experiences of implementing SMT systems. Based on available information provided to the evaluation mainly through GIZ reports and the SusTrans website (<http://gefusustran.sutp.org>), there is evidence to suggest that:

- The communication activities were well targeted to specific audiences given the content of the website and the newsletters that focused on sustainable transport issues in Africa;

- The content of the SusTrans website that been largely effective in driving changes towards improving urban mobility in the 3 pilot cities;
- The sharing of implementation experiences from SusTrans-supported study tours to Istanbul, Johannesburg and Dar es Salaam has had more impact in affecting changes in the SUT designs of the 3 pilot cities. The DART system in Dar es Salaam has been touted as the BRT system most relevant for the 3 cities from a learning perspective on implementing BRT systems and integrating NMT infrastructure.

***The rating for communication and public awareness is ‘Satisfactory’.***

## **4 Conclusions, Recommendations and Lessons Learned**

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### **4.1 Conclusions**

125. The SusTrans Project grant of US\$2.85 million has to a large extent, contributed to overcoming urban transport challenges of 3 major cities in East Africa, Addis Ababa, Kampala and Nairobi. Since January 2011, the SusTrans Project has provided incremental assistance to:

- raise awareness of best international practices for implementing SUT systems for the governments of Ethiopia, Uganda and Kenya and integrating these practices with lessons learned from SUT projects in Bogota, Johannesburg, Istanbul and Dar es Salaam to the development of SUT projects in the 3 SusTrans cities;
- strengthen the efforts of these governments to establish the appropriate institutions that will advance the quality of public transport in the 3 cities.

The presence of experience consultants from TRL and ITDP on the SusTrans Project has been essential to the success of this incremental assistance. While the outcomes of the assistance for the 3 SusTrans cities varies considerably, there is little doubt that the SusTrans Project has built a critical mass of activities and momentum intended to boost the confidence of international donors and financial institutions for providing financial support for the construction of viable SMT systems for all 3 cities. The significance of SusTrans assistance has been to ensure that the designs for BRT systems in the 3 cities will maximize ridership and demonstrate the socioeconomic and environmental benefits of SMT systems for cities in developing countries in Africa.

126. For Addis Ababa, SusTrans assistance has led to an outcome of detailed designs being ready for construction of the B2 BRT corridor by late 2018. These designs were reviewed by ITDP assimilating best practices into a comprehensive system that integrates BRT, LRT and NMT infrastructure. SusTrans also supported other activities to assist Addis Ababa municipality in the efficient operation of its demonstration BRT corridor. This would have included the establishment of a dedicated transport authority (namely the Addis Ababa City Transport Authority or AACTA) to lead in the collection of baseline GHG emissions data, prepare service and operational plans for the B2 BRT corridor, prepare audits for pedestrians and parking, and design of fare collection systems. SusTrans has also supported building the capacity of AACTA personnel to effectively manage and implement BRT systems to best international standards (Paragraph 79). The process for developing the B2 BRT corridor in many ways emulates the process followed in Dar es Salaam for the DART system, and has encouraged the municipality to plan a network of BRT corridors integrated with their existing LRT system (Paragraph 78). There is a strong likelihood of Addis Ababa having an operational BRT system that is linked with its LRT by 2020.

127. For Kampala, SusTrans has been involved in an advisory role to influence World Bank supported teams to incorporate BRT corridor designs with NMT infrastructure and TDM. This has led to a government initiative for a pilot NMT corridor scheme in Kampala. The 2016 ITDP review of detailed designs for BRT corridors in Kampala has led to an ITDP recommendation for an overhaul of these detailed designs that will double the capacity of their BRT system (from the current 9,000 persons per

day per direction) through the CBD of Kampala (Paragraphs 79 and 85). While it is unfortunate that insufficient resources were available for this design overhaul, the Government of Uganda through MoWT and KCCA were accepting of the SusTrans recommendation. As of August 2018, AFD has offered resources for this design overhaul, the details and conditions of which were being discussed with AFD. Progress for a Kampala SUT corridor is not as good as Addis Ababa and hampered by difficulties in forming a metropolitan area transport authority (MATA) as described in Paragraph 84. Regardless, there is clearly momentum towards the construction of SUT corridors in Kampala and its eventual operation after 2022.

128. For Nairobi, SusTrans involvement in the development of the A104 BRT corridor has been substantial since 2011 with ongoing support to World Bank-supported engineering teams and government agencies (such as KeNHA and NAMATA) to ensure high quality engineering designs integrating NMT infrastructure with BRT systems to optimize pedestrian access and maximize ridership. This support was carried forward to the EOP resulting in ITDP oversight management of the detailed design process for 2 out of the 3 design packages for the A104 BRT corridor harmonizes BRT designs of the different BRT corridors that converge into the CBD and integrates NMT infrastructure (Table 5 and Paragraph 79). In addition, SusTrans support has also been significant in raising the importance of sustainable transport policies to improve public transport amongst local government institutions in Nairobi. This facilitated the 2017 establishment of NAMATA as the designated future operator and manager of BRT network systems in Nairobi (Paragraphs 78 and 84). Outstanding issues still remain in Nairobi, however, to:
  - resolve issues related to the integration of matatu and bus owner associations with the new BRT system and its feeder routes, notwithstanding the assistance provided by SusTrans (Paragraph 104); and
  - ensure there are no compromises in the quality of other BRT corridors against political pressure to advance the dates of operational BRT systems in Nairobi (Paragraph 104).
129. SusTrans has also been responsible for the workshops, seminars, study tours and web platform (<http://gefusunstran.sutp.org/index.html>) to facilitate more effective exchanges between regional nations on sustainable transport issues in Africa. These events, notably the study tours, have been primary drivers for all 3 SusTrans cities to ensure their processes for implementing SUT systems emulate the practices of cities such as Dar es Salaam and Johannesburg (Paragraph 84). Moreover, these events have elevated urban transport issues politically in all 3 cities, changing attitudes and perceptions of politicians and technical bureaucrats on the benefits of developing SUT systems to modernize cities (Paragraph 124). At the EOP, the GEF SusTrans website was operational but appears to not have been updated since early 2016, leaving a question in the evaluators mind of the sustainability of this useful website (Paragraph 102).
130. Overall, the SusTrans Project has been a necessary and useful contributor to the development of sustainable transport systems in East African cities. All 3 cities now have staff dedicated to the improvement of public transport within their 3 cities, though the capacity of these personnel may not be sufficient for follow-up on technical and operational demands for setting up and managing modern SUT systems. With Nairobi and Addis Ababa poised to have operational systems within the next 2 to 4 years, continued support is imperative for the development and sustained optimal operation of these systems to meet best international practices. Continued capacity support is also required for incorporating lessons learned from other successful BRT ventures, if similar SUT systems are to be replicated in the 3 SusTrans cities as well as other developing country cities in the region. Properly implemented, this should lead to a shift to less carbon intensive modes of urban transport, reduced traffic congestion, transit oriented development and a reduction in urban transport related GHG emissions. However, proper implementation of these pilot BRT systems is essentially important to ensure that the demonstration SUT system provides an excellent example for future SUT investments in the 3 SusTrans cities and other regional cities of developing countries.

**Table 6: Summary of the evaluation criteria ratings**

Evaluation criteria	Rating	Score	Weight	Weighted Score
<b>Strategic Relevance (select the ratings for sub-categories)</b>	Highly Satisfactory	6	6	<b>0.4</b>
<i>Alignment to MTS and POW</i>	Highly Satisfactory	6	1	
<i>Alignment to UNEP/GEF/Donor strategic priorities</i>	Highly Satisfactory	6	1	
<i>Relevance to regional, sub-regional and national issues and needs</i>	Highly Satisfactory	6	2	
<i>Complementarity with existing interventions</i>	Highly Satisfactory	6	2	
<b>Quality of Project Design</b>	Moderately Satisfactory	4	4	<b>0.2</b>
<b>Nature of External Context</b>	Moderately Favourable			
<b>Effectiveness (select the ratings for sub-categories)</b>	Moderately Satisfactory	4	45	<b>2.2</b>
<i>Delivery of outputs</i>	Satisfactory	5	5	
<i>Achievement of direct outcomes</i>	Satisfactory	4	30	
<i>Likelihood of impact</i>	Moderately Satisfactory	4	10	
<b>Financial Management (select the ratings for sub-categories)</b>	Satisfactory	5	5	<b>0.3</b>
<i>Completeness of project financial information</i>	Satisfactory	5		
<i>Communication between finance and project management staff</i>	Satisfactory	5		
<i>Compliance with UNEP standards and procedures</i>	n/a <sup>48</sup>	n/a		
<b>Efficiency</b>	Moderately Satisfactory	4	10	0.4
<b>Monitoring and Reporting (select the ratings for sub-categories)</b>	Satisfactory	4.3	5	0.2
<i>Monitoring design and budgeting</i>	Satisfactory	5		
<i>Monitoring of project implementation</i>	Moderately Satisfactory	4		
<i>Project reporting</i>	Moderately Satisfactory	4		
<b>Sustainability (select the ratings for sub-categories)</b>	Moderately Unlikely	3	20	<b>0.6</b>
<i>Socio-political sustainability</i>	Moderately Likely	4		
<i>Financial sustainability</i>	Moderately Unlikely	3		
<i>Institutional sustainability</i>	Moderately Likely	4		
<b>Factors Affecting Performance (select the ratings for sub-categories)</b>	Satisfactory	5	5	<b>0.2</b>
<i>Preparation and readiness</i>	Moderately Satisfactory	4		
<i>Quality of project management and supervision</i>	Satisfactory	5		
<i>Stakeholder participation and cooperation</i>	Satisfactory	5		
<i>Responsiveness to human rights and gender equity<sup>49</sup></i>	n/a	n/a		
<i>Country ownership and driven-ness</i>	Satisfactory	5		
<i>Communication and public awareness</i>	Satisfactory	5		
			<b>100</b>	<b>4.38</b>
<b>Overall Rating:</b>			<b>Satisfactory</b>	

<sup>48</sup> Since revision of the UN Environment evaluation guidance in 2017 ‘compliance’ no longer rated under financial management criterion

<sup>49</sup> Not included in ratings assessment. See Paragraph 120 for details.

## 4.2 Lessons Learned

131. The following are some lessons that have been learned from some of the successes of SusTrans as well as challenges:

Context:	Since January 2011, the SusTrans Project has provided incremental assistance to the governments of Ethiopia, Uganda and Kenya on raising stakeholder awareness of best international practices for implementing SUT systems and integrating these practices with lessons learned from SUT projects in Bogota, Johannesburg, Istanbul and Dar es Salaam to the development of SUT projects in the 3 SusTrans cities. The presence of experience consultants from TRL and ITDP on the SusTrans Project has been essential to the success of this incremental assistance (Para 125).
Lesson # 1:	To accelerate development of sustainable urban transport systems to improve the quality of public transport services in cities in developing countries, the input of professional transport specialists with successful experiences in such development is essential to understand and unpack the complexities of fostering and sustaining positive relationships with all stakeholders. This would include positive relationships with municipal government and those involved with existing paratransit services who may be displaced with modernized public transport.
Application:	Future projects in cities in developing countries on developing SUT or green city projects.
Context:	One common factor in the enhancement of stakeholder involvement for all 3 cities has been the transition studies to ensure the engagement of paratransit operators. These studies need to be in place to identify conditions for a fair and transparent process that brings together the paratransit industry with weak operational and administrative capacity that requires restructuring and regulation, and relevant government agencies who would benefit from experienced consultants who have successfully engaged existing operators to overcome the mistrust. As a baseline for all 3 SusTrans cities, there was limited understanding of the complexities of negotiations with paratransit operators. SusTrans resources used for these transition studies and some negotiations has contributed to a healthy dialogue between paratransit operators and relevant government agencies in the 3 SusTrans cities. The presence of ITDP in all 3 cities has provided a consistent approach to these very important but sensitive processes for engaging paratransit operators (Para 117)
Lesson # 2:	Sufficient resources on any future SUT project is essential for supporting complex and sensitive engagement of existing paratransit operators. The engagement process needs to be undertaken by experienced personnel for timely and transparent dialogue on their integration with modernized public transport systems.
Application:	Design of future sustainable transport projects and during early phases of development and implementation of new BRT systems.

<p>Context:</p> <p>Lesson # 3:</p> <p>Application:</p>	<p>For Direct Outcome 2, Output 2.2, the institutional restructuring in all 3 cities was necessary to ensure local ownership of BRT investments and proper management. Despite the successes in establishing urban transport authorities in 2 out of the 3 SusTrans cities, Kampala and Nairobi are still experiencing challenges in building their own capacities to manage urban transport issues, and in defining their role within other local institutions, primarily due to poor communications with other institutions. There is also a need to sustain functional integrated transport authorities through instituting a framework of responsibilities for such authorities that include operations management, planning and regulation, SUT implementation, financial management and marketing, all of which should be scrutinized to ensure these responsibilities have an appropriate local context (Para 108).</p> <p>As an extension to Lesson #1, assistance of SUT projects is essential in defining integrated transport authority responsibilities and enabling personnel within these authorities to carry out these responsibilities.</p> <p>Future pilot projects on sustainable transport or green city development.</p>
<p>Context:</p> <p>Lesson # 4:</p> <p>Application:</p>	<p>Both Addis Ababa and Nairobi had clear visions of their modernized public transport systems that included both BRT and LRT. On this basis, both cities had extensive planning phases that included baseline data collection of passengers and paratransit usage, trip destination surveys, conceptual designs, service and operational plans for a BRT corridor, and value engineering studies that has brought their process for modernized public transport development towards their current state of BRT corridor development, detailed designs that are being prepared for 2019 and 2020 construction. In Kampala, the absence of a clear vision for modernized public transport and a detailed process for the BRT corridor development has been a setback for the city’s SMT development. The actual construction of Kampala’s BRT corridors is likely 3 to 4 years behind those of Addis Ababa and Nairobi (Para 86).</p> <p>A clear vision of the municipal government is required for efficient and effective modernization of public transport services for cities in developing countries. Once this vision has been agreed upon, it will be essential for the planning process to prepare a service plan (consisting of surveys to forecast demand of modernized public transport and information on trips and destinations, BRT network mapping, system capacity and sizing of infrastructure), operational plans and value engineering studies which can then lead to investment plans and the securing of financing. Failure to have a clear vision of the modernized public transport concept and the absence of a service plan will only delay the design process and compromise the quality of SUT designs.</p> <p>Design of future green city projects to avoid parts of the project cycle where delay risks are high (including phases where urban improvement projects and sustainable transport projects are required with multiple levels of stakeholder agreements with differing agendas).</p>
<p>Context:</p>	<p>For “technical assistance leading to the establishment of municipally-based agencies dedicated to improving urban transport” (Output 2.2), technical assistance in Addis Ababa was designed in collaboration with AACTA and their identified needs combined with best practices for developing SMT including the development of a BRT network map (Para 64).</p>



<p>Lesson # 5:</p> <p>Application:</p>	<p>In Nairobi, there were initial efforts in 2012 to establish this agency within the Kenyan Urban Roads Authority (KURA). With constraints on KURA to improve its capacity, the Project moved its technical assistance in 2013 to establish this agency under the Public Transport Department in MoTI. In 2014, the Project along with Government-mobilized EU support focused on setting up a Nairobi Area Metropolitan Transport Authority (NAMATA) and prepared a draft cabinet memo and ToR on its formation for the Government’s consideration. The Project also organized a NAMATA steering committee which provided documents for the gazetting of NAMATA and the legal process of the Secretariat to establish NAMATA within MoTI (Para 64).</p> <p>Technical assistance for the establishment of a dedicated integrated transport authority requires adaptive management and a high degree of flexibility of the donor project to accommodate the needs of the beneficiary city.</p> <p>Addressed to designers and implementers of future green city projects to prioritize the needs of the municipality and host government in the formation of a dedicated urban transport authority, and avoid any rigidity by project implementers that would only serve to delay the process of modernizing SMT systems in cities in developing countries.</p>
<p>Context:</p> <p>Lesson # 6:</p> <p>Application:</p>	<p>The SusTrans Project supported survey activities along the proposed BRT corridors, preparation of a more accurate service plan in the future, and preparation of a Kampala Mobility Map that was completed in August 2017. The Kampala Mobility Map benefitted from the experience of the Digital Matatu Mapping in Nairobi (Para 61) and contributed to up-scaling efforts of this innovative approach in cities where data on current transport network and demand is scarce (Para 79).</p> <p>In developing country cities where informal paratransit service providers are dominant, SUT project designers should include efforts to map the corridors of these transit services where such maps likely do not exist. This effort will provide valuable trip-destination information and more accurately forecast demand for urban transport services within a city. In addition, it will provide valuable information on which SUT designers can plan transitional modernization strategies for existing paratransit operators.</p> <p>Network design of future sustainable urban transport projects.</p>

### 4.3 Recommendations

132. Recommendations provided in this Evaluation are provided for further guidance to Addis Ababa, Kampala, and Nairobi that build on the outcomes from the SusTrans Project grant towards operational SMT systems and greener modes of urban mobility globally.

#### 4.3.1 Recommendations for Cities in Developing Countries

<p>Context:</p>	<p>For Addis Ababa, the Addis Ababa City Transport Authority (AACTA) was created in 2012 to serve as a focal point for the municipal and federal governments to promote and lead implementation of SMT networks for the</p>
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<p>city. Their responsibilities include the determination and assignment of public transport routes, selection of buses and operators, determination of fares, management and monitoring of public transport services, and regulation of quality of services throughout the areas served by these public transport routes. With their current jurisdiction to oversee the public transport serving over 3 million passengers daily with demand of more than 5.6 million journeys from satellite cities of Addis Ababa,..... they have recognized and mentioned to the evaluator that sustained technical assistance is still required for their institution to improve its capacity for a growing SMT system network in Addis Ababa (Para 84).</p> <p>Recommendation #1</p> <p>Responsibility:</p> <p>Time-frame:</p>	<p>In the short term, support for oversight management of AACTA management of the development of the B2 BRT corridor is recommended at a frequency similar to ITDP’s involvement in 2016 and 2017. Implementation of the B2 BRT corridor in 2019 and 2020 will reveal various capacity building needs that can be used to inform future capacity building project needs for the appropriate donor agency. The continued involvement of ITDP would benefit the Government stakeholders of the Addis Ababa BRT system with consistent advice that should include operations management that would cover improvements to trip efficiencies and training for bus operators and maintenance personnel.</p> <p>Government of Ethiopia, City Government of Addis Ababa and AACTA</p> <p>Design and operational phases for B2 BRT corridor and the remaining 7 BRT corridors as outlined in the Addis Ababa Master Transport Plan.</p>
<p>Context:</p> <p>Recommendation #2</p> <p>Responsibility:</p>	<p>For Kampala, efforts to form a metropolitan area transport authority (MATA) for public transit were initiated in 2013 and completed in 2015 for Government approval. Unfortunately, the Government of Uganda has been opposed to the formation of additional government agencies and authorities since 2015. As of 2018, the MATA still does not have parliamentary approval which does not provide an institutional basis for financing and implementing SMT systems. This has forced all stakeholders to reconsider alternate institutional arrangements for financing of SUT systems in Kampala. These alternative arrangements are being made in collaboration with the World Bank and AFD (Para 84).</p> <p>Continued dialogue is required with MoWT and the Government of Uganda to deliver an established municipally-based agency for Kampala that is dedicated to improving urban transport (related to further delivery of Output 2.2). Based on the successes of other cities that have such an agency, Kampala needs a MATA to ensure <u>local</u> ownership of BRT investments and proper management. Moreover, with the expected growth of SUT systems in Kampala, this MATA will require strengthening of its capacity to manage these complex projects, manage relationships with existing and reformed bus operators, enforce modernized public transport standards that should be manifested with modern BRT/NMT infrastructure, and negotiate with donor agencies and engineering consultants in directing their resources and work towards their vision of an efficient high capacity SUT system for Kampala. Capacity building should be delivered by experienced individuals who have been exposed to previous successes in strengthening such authorities such as the DART agency in Dar es Salaam and Transmilenio in Bogota.</p> <p>MoWT and KCCA in Uganda in collaboration with other donor agencies involved with future SUT projects in Kampala.</p>

Time-frame:	For design of future SUT projects for Kampala and other cities in developing countries.
Context:	For Nairobi, NAMATA received parliamentary approval in 2017 to serve as the institutional basis for SMT financing and implementation including strategic urban transport planning, setting of standards for urban transport, determination of public transport routes, allocation of routes to public carriers, and enforcing standards for public transport service quality. Although NAMATA is relatively new, its capacity will be strengthened over the next 3 to 4 years with implementation experience of the A104 corridor and Government commitment for further expansion of the SMT network in Nairobi. NAMATA is currently undertaking efforts to establish standards for BRT and NMT systems for Nairobi, and to effectively engage Nairobi’s informal transport sector (that includes buses and matatus) (Para 84).
Recommendation #3	Continued oversight management of NAMATA’s management activities is recommended to assist this young agency established in 2016 in managing the complexities of modernizing Nairobi’s public transport system. Immediate technical assistance needs are for tendering of BRT and feeder operator contracts, enforcing standards of operator contracts, and building staff or teams for the collection and analysis of data to enable NAMATA to plan SUT investments.
Responsibility:	Government of Kenya, NAMATA.
Time-frame:	Subsequent construction, implementation and operational phases for A104 BRT system in Nairobi.

#### 4.3.2 UN Environment and UN Habitat Recommendations

Context:	<p>The selection of the B2 BRT corridor as the pilot demonstration corridor was to provide enhanced public transport services to one of the most heavily-travelled corridors in Addis Ababa that runs through lower income areas of the city and through many of the main educational institutions in Addis Ababa, with expectations that the BRT will improve urban quality and facilitate transit-oriented development along the corridor (Para 79).</p> <p>An October 2014 report on “Infrastructure and Intersection Recommendations” (for Nairobi) evaluated conceptual infrastructure design proposals for the A104 BRT project, with a particular focus on intersection design and CBD access. This facilitated added activities on BRT business planning, matatu industry transition, transit-oriented development, and parking leading to ITDP drafting of a basic business plan in February 2015 to catalyse the Government of Kenya and its consultants on focusing their planning the business and administration side of the BRT system (Para 79).</p>
Recommendation #4	Provide assistance to Addis Ababa, Kampala and Nairobi to enhance their long term development vision that includes modernized urban transport systems with transit oriented development (TOD) as a means to encourage expansion of SMT networks throughout these cities. TOD can set examples for other cities of developing countries in the region of the benefits of lower carbon

<p>Responsibility:</p> <p>Time-frame:</p>	<p>intensive modes of urban transport that can facilitate green growth of a city. The vision should include appropriate ministries that could execute plans for public housing for vulnerable groups along BRT corridors, and enhanced economic retail zones around BRT stations (these examples are being used for the DART system development in Dar es Salaam). With the growth of low carbon electricity supplies in the region through large hydroelectric, solar and wind projects, long-term plans could be made for minimizing BRT operational costs that may include electrification of the bus fleet (either through trolley or electric (battery) buses).</p> <p>UN Environment, UN Habitat</p> <p>Subsequent phases of assistance for SUT development of SusTrans cities and other regional cities</p>
<p>Context:</p>	<p>For Addis Ababa, financing is in place from AFD for the completion of detailed designs for the B2 BRT corridor. There is a strong likelihood of continued financial support from AFD for the construction phases and the procurement of buses and related equipment. However, financial sustainability of the operation of the BRT system is less certain until the operation of the system has been demonstrated, and the revenue streams and operational costs fully accounted for. At that point in time, the cost of government subsidies required for the operation of the BRT system can be fully evaluated with proper budgetary allocations. Addis Ababa does have strong political will along with the operational AACTA to ensure appropriate operational budgetary allocations (Paragraph 101 and Footnote 37).</p>
<p>Recommendation #5</p> <p>Responsibility:</p> <p>Time-frame:</p>	<p>In consideration of the large number of projects that focus on developing “green cities”, future transportation or green city projects (at a global, regional or local level) will need to be formulated to include assistance to various governments of developing countries (central or municipal level governments as deemed appropriate) to identify mechanisms for generating new revenue streams related to reducing the costs of municipal operations and green urban development (this should also include continued assistance to Addis Ababa as well as Kampala and Nairobi when their projects reach a certain developmental stage). Such a project could consist of a review of municipal expenditures as a holistic approach to green urban development. Reducing municipal expenditures may consist of developing programs for energy efficiency of public assets, renewable energy development, reducing water consumption, promotion of green construction and building materials, surface water management, green infrastructure (i.e. urban parks, forests and wetlands), and waste management, all of which have the potential for the realization of cost savings to municipal operating budgets. These cost reductions can be utilized to augment, for example, existing BRT infrastructure and assets and its operational budget. New revenue streams can also include a “value-capture scheme<sup>50</sup>” that may include additional taxation on building developments adjacent to BRT corridors, similar to public transport funding in Hong Kong.</p> <p>UN Environment, UN Habitat</p> <p>Design phase for a regional or global green urban development project.</p>

<sup>50</sup> Personal communication with Mr. Sean Kidney, CEO of Climate Bond Initiative.

## 5 Annexures

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<b>ANNEX I. TERMS OF REFERENCE FOR THE EVALUATION OF THE UN ENVIRONMENT/GLOBAL ENVIRONMENT FACILITY PROJECT “<i>PROMOTING SUSTAINABLE TRANSPORT SOLUTIONS FOR EAST AFRICAN CITIES</i>” .....</b>	<b>78</b>
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## Annex I. Terms of Reference for the Evaluation of the UN Environment/Global Environment Facility project “Promoting Sustainable Transport Solutions for East African Cities”

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### 1. Key Evaluation principles

- I- 1. Evaluation findings and judgements should be based on **sound evidence and analysis**, clearly documented in the evaluation report. Information will be triangulated (i.e. verified from different sources) as far as possible, and when verification is not possible, the single source will be mentioned (whilst anonymity is still protected). Analysis leading to evaluative judgements should always be clearly spelled out.
- I- 2. **The “Why?” Question.** As this is a terminal evaluation and similar interventions are envisaged for the future, particular attention should be given to learning from the experience. Therefore, the “Why?” question should be at the front of the consultants’ minds all through the evaluation exercise and is supported by the use of a theory of change approach. This means that the consultants need to go beyond the assessment of “*what*” the project performance was, and make a serious effort to provide a deeper understanding of “*why*” the performance was as it was. This should provide the basis for the lessons that can be drawn from the project.
- I- 3. **Baselines and counterfactuals.** In attempting to attribute any outcomes and impacts to the project intervention, the evaluators should consider the difference between *what has happened with, and what would have happened without, the project*. This implies that there should be consideration of the baseline conditions, trends and counterfactuals in relation to the intended project outcomes and impacts. It also means that there should be plausible evidence to attribute such outcomes and impacts to the actions of the project. Sometimes, adequate information on baseline conditions, trends or counterfactuals is lacking. In such cases this should be clearly highlighted by the evaluators, along with any simplifying assumptions that were taken to enable the evaluator to make informed judgements about project performance.
- I- 4. **Communicating evaluation results.** A key aim of the evaluation is to encourage reflection and learning by UN Environment staff and key project stakeholders. The consultant should consider how reflection and learning can be promoted, both through the evaluation process and in the communication of evaluation findings and key lessons. Clear and concise writing is required on all evaluation deliverables. Draft and final versions of the main evaluation report will be shared with key stakeholders by the Evaluation Manager. There may, however, be several intended audiences, each with different interests and needs regarding the report. The Evaluation Manager will plan with the consultant(s) which audiences to target and the easiest and clearest way to communicate the key evaluation findings and lessons to them. This may include some or all of the following; a webinar, conference calls with relevant stakeholders, the preparation of an evaluation brief or interactive presentation.

### 2. Objective of the Evaluation

- I- 5. In line with the UN Environment Evaluation Policy<sup>51</sup> and the UN Environment Programme Manual<sup>52</sup>, the Terminal Evaluation (TE) is undertaken at completion of the project to assess project performance (in terms of relevance, effectiveness and efficiency), and determine outcomes and impacts (actual and potential) stemming from the project, including their sustainability. The evaluation has two primary purposes: (i) to provide evidence of results to meet accountability requirements, and (ii) to promote operational improvement, learning and knowledge sharing through results and lessons learned among UN Environment and UN Habitat. Therefore, the evaluation will identify lessons of operational relevance for future project formulation and implementation.

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<sup>51</sup> <http://www.unep.org/eou/StandardsPolicyandPractices/UNEPEvaluationPolicy/tabid/3050/language/en-US/Default.aspx>

<sup>52</sup> [http://www.unep.org/QAS/Documents/UNEP\\_Programme\\_Manual\\_May\\_2013.pdf](http://www.unep.org/QAS/Documents/UNEP_Programme_Manual_May_2013.pdf) . *This manual is under revision.*

### 3. Key Strategic Questions

- I- 6. In addition to the evaluation criteria outlined in Section 10 below, the evaluation will address the **strategic questions** listed below. These are questions of interest to UN Environment and to which the project is believed to be able to make a substantive contribution:
- Under the institutional sustainability section, to what extent and how were the national and subnational level of government in the project countries equipped to ensure that sustainable transport in the three cities does not end with just a demonstration corridor?
  - To what extent and how did the quality of BRT detailed design standards and principles developed by the project inform government negotiations with international financial institutions and lead to investments on public transport solutions for the three capital cities?
  - Under ‘Country Ownership and Driven-ness’, to what extent are Senior local government officers in Addis Ababa, Kampala and Nairobi aware of the project and what key innovations do they associate with the intervention?
  - To what extent and how did the project promote learning and cross fertilization among project countries and what actions were anticipated for scaling up project results into other Eastern African countries?

### 4. Evaluation Criteria

- I- 7. All evaluation criteria will be rated on a six-point scale. Sections A-I below, outline the scope of the criteria and a link to a table for recording the ratings is provided in Annex 1). A weightings table will be provided in excel format (link provided in Annex 1) to support the determination of an overall project rating. The set of evaluation criteria are grouped in nine categories: (A) Strategic Relevance; (B) Quality of Project Design; (C) Nature of External Context; (D) Effectiveness, which comprises assessments of the delivery of outputs, achievement of outcomes and likelihood of impact; (E) Financial Management; (F) Efficiency; (G) Monitoring and Reporting; (H) Sustainability; and (I) Factors Affecting Project Performance. The evaluation consultants can propose other evaluation criteria as deemed appropriate.

#### Strategic Relevance

- I- 8. The evaluation will assess, in line with the OECD/DAC definition of relevance, ‘the extent to which the activity is suited to the priorities and policies of the target group, recipient and donor’. The evaluation will include an assessment of the project’s relevance in relation to UN Environment’s mandate and its alignment with UN Environment’s policies and strategies at the time of project approval. Under strategic relevance an assessment of the complementarity of the project with other interventions addressing the needs of the same target groups will be made. This criterion comprises four elements:
- *Alignment to the UN Environment Medium Term Strategy<sup>53</sup> (MTS) and Programme of Work (POW).* The evaluation should assess the project’s alignment with the MTS and POW under which the project was approved and include, in its narrative, reflections on the scale and scope of any contributions made to the planned results reflected in the relevant MTS and POW;
  - *Alignment to UN Environment/Donor/GEF Strategic Priorities.* Donor, including GEF, strategic priorities will vary across interventions. UN Environment strategic priorities include the Bali Strategic Plan for Technology Support and Capacity Building<sup>54</sup> (BSP) and South-South Cooperation (S-SC). The BSP relates to the capacity of governments to: comply with international agreements and obligations at the national level; promote, facilitate and finance environmentally sound technologies and to strengthen frameworks for developing coherent

<sup>53</sup> UN Environment’s Medium Term Strategy (MTS) is a document that guides UN Environment’s programme planning over a four-year period. It identifies UN Environment’s thematic priorities, known as Sub-programmes (SP), and sets out the desired outcomes, known as Expected Accomplishments (EAs), of the Sub-programmes.

<sup>54</sup> <http://www.unep.org/GC/GC23/documents/GC23-6-add-1.pdf>

international environmental policies. S-SC is regarded as the exchange of resources, technology and knowledge between developing countries. GEF priorities are specified in published programming priorities and focal area strategies;

- *Relevance to Regional, Sub-regional and National Environmental Priorities.* The evaluation will assess the extent to which the intervention is suited, or responding to, the stated environmental concerns and needs of the countries, sub-regions or regions where it is being implemented. Examples may include: national or sub-national development plans, poverty reduction strategies or Nationally Appropriate Mitigation Action (NAMA) plans or regional agreements etc;
- *Complementarity with Existing Interventions.* An assessment will be made of how well the project, either at design stage or during the project mobilization, took account of ongoing and planned initiatives (under the same sub-programme, other UN Environment sub-programmes, or being implemented by other agencies) that address similar needs of the same target groups. The evaluation will consider if the project team, in collaboration with Regional Offices and Sub-Programme Coordinators, made efforts to ensure their own intervention was complementary to other interventions, optimized any synergies and avoided duplication of effort. Examples may include UN Development Assistance Frameworks or One UN programming. Linkages with other interventions should be described and instances where UN Environment’s comparative advantage has been particularly well applied should be highlighted. *Factors affecting this criterion may include:*
  - Stakeholders’ participation and cooperation
  - Responsiveness to human rights and gender equity
  - Country ownership and driven-ness

### Quality of Project Design

I- 9. The quality of project design is assessed using an agreed template during the evaluation inception phase, ratings are attributed to identified criteria and an overall Project Design Quality rating is established ([www.unep.org/evaluation](http://www.unep.org/evaluation)). This overall Project Design Quality rating is entered in the final evaluation ratings table as item B. In the Main Evaluation Report a summary of the project’s strengths and weaknesses at design stage is included, while the complete Project Design Quality template is annexed in the Inception Report.

I- 10. *Factors affecting this criterion may include (at the design stage):*

- Stakeholders participation and cooperation
- Responsiveness to human rights and gender equity

### Nature of External Context

I- 11. At evaluation inception stage a rating is established for the project’s external operating context (considering the prevalence of conflict, natural disasters and political upheaval). This rating is entered in the final evaluation ratings table as item C. Where a project has been rated as facing either an Unfavourable or Highly Unfavourable external operating context, and/or a negative external event has occurred during project implementation, the ratings for Effectiveness, Efficiency and/or Sustainability may be increased at the discretion of the Evaluation Consultant and Evaluation Manager together. A justification for such an increase must be given.

### Effectiveness

I- 12. *Delivery of Outputs.* The evaluation will assess the project’s success in producing the programmed outputs (*products, capital goods and services resulting from the intervention*) and achieving milestones as per the project design document (ProDoc). Any formal modifications/revisions made during project implementation will be considered part of the project design. Where the project outputs are inappropriately or inaccurately stated in the ProDoc, reformulations may be necessary in the reconstruction of the TOC. In such cases a table should be provided showing the original and the



reformulation of the outputs for transparency. The delivery of outputs will be assessed in terms of both quantity and quality, and the assessment will consider their ownership by, and usefulness to, intended beneficiaries and the timeliness of their delivery. The evaluation will briefly explain the reasons behind the success or shortcomings of the project in delivering its programmed outputs and meeting expected quality standards. *Factors affecting this criterion may include:*

- Preparation and readiness
- Quality of project management and supervision<sup>55</sup>

I- 13. *Achievement of Direct Outcomes.* The achievement of direct outcomes (short and medium-term effects of the intervention’s outputs; a change of behaviour resulting from the use/application of outputs, which is not under the direct control of the intervention’s direct actors) is assessed as performance against the direct outcomes as defined in the reconstructed<sup>56</sup> Theory of Change. These are the first-level outcomes expected to be achieved as an immediate result of project outputs. As in 1, above, a table can be used where substantive amendments to the formulation of direct outcomes is necessary. The evaluation should report evidence of attribution between UN Environment’s intervention and the direct outcomes. In cases of normative work or where several actors are collaborating to achieve common outcomes, evidence of the nature and magnitude of UN Environment’s ‘substantive contribution’ should be included and/or ‘credible association’ established between project efforts and the direct outcomes realised. *Factors affecting this criterion may include:*

- Quality of project management and supervision
- Stakeholders’ participation and cooperation
- Responsiveness to human rights and gender equity
- Communication and public awareness

I- 14. *Likelihood of Impact.* Based on the articulation of longer term effects in the reconstructed TOC (*i.e. from direct outcomes, via intermediate states, to impact*), the evaluation will assess the likelihood of the intended, positive impacts becoming a reality. Project objectives or goals should be incorporated in the TOC, possibly as intermediate states or long term impacts. The Evaluation Office’s approach to the use of TOC in project evaluations is outlined in a guidance note available on the EOU website, [web.unep.org/evaluation](http://web.unep.org/evaluation) and is supported by an excel-based flow chart, ‘Likelihood of Impact Assessment Decision Tree’. Essentially the approach follows a ‘likelihood tree’ from direct outcomes to impacts, taking account of whether the assumptions and drivers identified in the reconstructed TOC held. Any unintended positive effects should also be identified and their causal linkages to the intended impact described.

I- 15. The evaluation will also consider the likelihood that the intervention may lead, or contribute to, unintended negative effects. Some of these potential negative effects may have been identified in the project design as risks or as part of the analysis of Environmental, Social and Economic Safeguards.<sup>57</sup>

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<sup>55</sup> In some cases ‘project management and supervision’ will refer to the supervision and guidance provided by UN Environment to implementing partners and national governments while in others, specifically for GEF funded projects, it will refer to the project management performance of the executing agency and the technical backstopping provided by UN Environment.

<sup>56</sup> UN Environment staff are currently required to submit a Theory of Change with all submitted project designs. The level of ‘reconstruction’ needed during an evaluation will depend on the quality of this initial TOC, the time that has lapsed between project design and implementation (which may be related to securing and disbursing funds) and the level of any changes made to the project design. In the case of projects pre-dating 2013 the intervention logic is often represented in a logical framework and a TOC will need to be constructed in the inception stage of the evaluation.

<sup>57</sup> Further information on Environmental, Social and Economic Safeguards (ESES) can be found at <http://www.unep.org/about/eses>

- I- 16. The evaluation will consider the extent to which the project has played a catalytic role or has promoted scaling up and/or replication<sup>58</sup> as part of its Theory of Change and as factors that are likely to contribute to longer term impact.
- I- 17. Ultimately UN Environment and all its partners aim to bring about benefits to the environment and human well-being. Few projects are likely to have impact statements that reflect such long-term or broad-based changes. However, the evaluation will assess the likelihood of the project to make a substantive contribution to the high-level changes represented by UN Environment’s Expected Accomplishments, the Sustainable Development Goals<sup>59</sup> and/or the high-level results prioritized by the funding partner.
- I- 18. *Factors affecting this criterion may include:*
- Quality of Project Management and Supervision (including adaptive management);
  - Stakeholders participation and cooperation;
  - Responsiveness to human rights and gender equity;
  - Country ownership and driven-ness;
  - Communication and public awareness.

### Financial Management

- I- 19. Financial management will be assessed under two themes: *completeness* of financial information and *communication* between financial and project management staff. The evaluation will establish the actual spend across the life of the project of funds secured from all donors. This expenditure will be reported, where possible, at output level and will be compared with the approved budget. The evaluation will assess the level of communication between the Project/Task Manager and the Fund Management Officer as it relates to the effective delivery of the planned project and the needs of a responsive, adaptive management approach. The evaluation will verify the application of proper financial management standards and adherence to UN Environment’s financial management policies. Any financial management issues that have affected the timely delivery of the project or the quality of its performance will be highlighted.
- I- 20. *Factors affecting this criterion may include:*
- Preparation and readiness
  - Quality of project management and supervision

### Efficiency

- I- 21. In keeping with the OECD/DAC definition of efficiency the evaluation will assess the extent to which the project delivered maximum results from the given resources. This will include an assessment of the cost-effectiveness and timeliness of project execution. Focusing on the translation of inputs into outputs, cost-effectiveness is the extent to which an intervention has achieved, or is expected to achieve, its results at the lowest possible cost. Timeliness refers to whether planned activities were delivered according to expected timeframes as well as whether events were sequenced efficiently. The evaluation will also assess to what extent any project extension could have been avoided through stronger project management and identify any negative impacts caused by project delays or extensions. The evaluation will describe any cost or time-saving measures put in place to maximise

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<sup>58</sup> *Scaling up* refers to approaches being adopted on a much larger scale, but in a very similar context. Scaling up is often the longer term objective of pilot initiatives. *Replication* refers to approaches being repeated or lessons being explicitly applied in new/different contexts e.g. other geographic areas, different target group etc. Effective replication typically requires some form of revision or adaptation to the new context. It is possible to replicate at either the same or a different scale.

<sup>59</sup> A list of relevant SDGs is available on the EO website [www.unep.org/evaluation](http://www.unep.org/evaluation)

results within the secured budget and agreed project timeframe and consider whether the project was implemented in the most efficient way compared to alternative interventions or approaches.

- I- 22. The evaluation will give special attention to efforts by the project teams to make use of/build upon pre-existing institutions, agreements and partnerships, data sources, synergies and complementarities with other initiatives, programmes and projects etc. to increase project efficiency. The evaluation will also consider the extent to which the management of the project minimised UN Environment’s environmental footprint.
- I- 23. The factors underpinning the need for any project extensions will also be explored and discussed. As management or project support costs cannot be increased in cases of ‘no cost extensions’, such extensions represent an increase in unstated costs to implementing parties.
- I- 24. *Factors affecting this criterion may include:*
  - Preparation and readiness (e.g. timeliness);
  - Quality of project management and supervision;
  - Stakeholders participation and cooperation.

### Monitoring and Reporting

- I- 25. The evaluation will assess monitoring and reporting across three sub-categories: monitoring design and budgeting, monitoring implementation and project reporting.
- I- 26. *Monitoring Design and Budgeting.* Each project should be supported by a sound monitoring plan that is designed to track progress against SMART<sup>60</sup> indicators towards the delivery of the projects outputs and achievement of direct outcomes, including at a level disaggregated by gender, vulnerability or marginalisation. The evaluation will assess the quality of the design of the monitoring plan as well as the funds allocated for its implementation. The adequacy of resources for mid-term and terminal evaluation/review should be discussed if applicable.
- I- 27. *Monitoring of Project Implementation.* The evaluation will assess whether the monitoring system was operational and facilitated the timely tracking of results and progress towards projects objectives throughout the project implementation period. This should include monitoring the representation and participation of disaggregated groups in project activities. It will also consider how information generated by the monitoring system during project implementation was used to adapt and improve project execution, achievement of outcomes and ensure sustainability. The evaluation should confirm that funds allocated for monitoring were used to support this activity.
- I- 28. *Project Reporting.* UN Environment has a centralised Project Information Management System (PIMS) in which project managers upload six-monthly status reports against agreed project milestones. This information will be provided to the Evaluation Consultant(s) by the Evaluation Manager. Some projects have additional requirements to report regularly to funding partners, which will be supplied by the project team (e.g. the Project Implementation Reviews and Tracking Tool for GEF-funded projects). The evaluation will assess the extent to which both UN Environment and donor reporting commitments have been fulfilled.
- I- 29. *Factors affecting this criterion may include:*
  - Quality of project management and supervision;
  - Responsiveness to human rights and gender equity (e.g disaggregated indicators and data).

### Sustainability

- I- 30. Sustainability is understood as the probability of direct outcomes being maintained and developed after the close of the intervention. The evaluation will identify and assess the key conditions or factors that are likely to undermine or contribute to the persistence of achieved direct outcomes (ie. ‘assumptions’ and ‘drivers’). Some factors of sustainability may be embedded in the project design

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<sup>60</sup> SMART refers to indicators that are specific, measurable, assignable, realistic and time-specific.

and implementation approaches while others may be contextual circumstances or conditions that evolve over the life of the intervention. Where applicable an assessment of bio-physical factors that may affect the sustainability of direct outcomes may also be included.

- I- 31. *Socio-political Sustainability*. The evaluation will assess the extent to which social or political factors support the continuation and further development of project direct outcomes. It will consider the level of ownership, interest and commitment among government and other stakeholders to take the project achievements forwards. In particular, the evaluation will consider whether individual capacity development efforts are likely to be sustained.
- I- 32. *Financial Sustainability*. Some direct outcomes, once achieved, do not require further financial inputs, e.g. the adoption of a revised policy. However, in order to derive a benefit from this outcome further management action may still be needed e.g. to undertake actions to enforce the policy. Other direct outcomes may be dependent on a continuous flow of action that needs to be resourced for them to be maintained, e.g. continuation of a new resource management approach. The evaluation will assess the extent to which project outcomes are dependent on future funding for the benefits they bring to be sustained. Secured future funding is only relevant to financial sustainability where the direct outcomes of a project have been extended into a future project phase. Even where future funding has been secured, the question still remains as to whether the project outcomes are financially sustainable.
- I- 33. *Institutional Sustainability*. The evaluation will assess the extent to which the sustainability of project outcomes (especially those relating to policies and laws) is dependent on issues relating to institutional frameworks and governance. It will consider whether institutional achievements such as governance structures and processes, policies, sub-regional agreements, legal and accountability frameworks etc. are robust enough to continue delivering the benefits associated with the project outcomes after project closure. In particular, the evaluation will consider whether institutional capacity development efforts are likely to be sustained.
- I- 34. *Factors affecting this criterion may include:*
  - Stakeholders participation and cooperation;
  - Responsiveness to human rights and gender equity (e.g. where interventions are not inclusive, their sustainability may be undermined);
  - Communication and public awareness;
  - Country ownership and driven-ness.

### Factors and Processes Affecting Project Performance

- I- 35. *These factors are rated in the ratings table, but are discussed within the Main Evaluation Report as cross-cutting themes as appropriate under the other evaluation criteria, above)*
- I- 36. *Preparation and Readiness*. This criterion focuses on the inception or mobilisation stage of the project (ie. the time between project approval and first disbursement). The evaluation will assess whether appropriate measures were taken to either address weaknesses in the project design or respond to changes that took place between project approval, the securing of funds and project mobilization. In particular the evaluation will consider the nature and quality of engagement with stakeholder groups by the project team, the confirmation of partner capacity and development of partnership agreements as well as initial staffing and financing arrangements. *(Project preparation is included in the template for the assessment of Project Design Quality).*
- I- 37. *Quality of Project Management and Supervision*. In some cases ‘project management and supervision’ will refer to the supervision and guidance provided by UN Environment to implementing partners and national governments while in others, specifically for GEF funded projects, it will refer to the project management performance of the executing agency and the technical backstopping and supervision provided by UN Environment.
- I- 38. The evaluation will assess the effectiveness of project management with regard to: providing leadership towards achieving the planned outcomes; managing team structures; maintaining

productive partner relationships (including Steering Groups etc.); communication and collaboration with UN Environment colleagues; risk management; use of problem-solving; project adaptation and overall project execution. Evidence of adaptive management should be highlighted.

- I- 39. *Stakeholder Participation and Cooperation.* Here the term ‘stakeholder’ should be considered in a broad sense, encompassing all project partners, duty bearers with a role in delivering project outputs and target users of project outputs and any other collaborating agents external to UN Environment. The assessment will consider the quality and effectiveness of all forms of communication and consultation with stakeholders throughout the project life and the support given to maximise collaboration and coherence between various stakeholders, including sharing plans, pooling resources and exchanging learning and expertise. The inclusion and participation of all differentiated groups, including gender groups should be considered.
- I- 40. *Responsiveness to Human Rights and Gender Equity.* The evaluation will ascertain to what extent the project has applied the UN Common Understanding on the human rights based approach (HRBA) and the UN Declaration on the Rights of Indigenous People. Within this human rights context the evaluation will assess to what extent the intervention adheres to UN Environment’s Policy and Strategy for Gender Equality and the Environment.
- I- 41. In particular the evaluation will consider to what extent project design, implementation and monitoring have taken into consideration: (i) possible gender inequalities in access to, and the control over, natural resources; (ii) specific vulnerabilities of women and children to environmental degradation or disasters; and (iii) the role of women in mitigating or adapting to environmental changes and engaging in environmental protection and rehabilitation.
- I- 42. *Country Ownership and Driven-ness.* The evaluation will assess the quality and degree of engagement of government / public sector agencies in the project. While there is some overlap between Country Ownership and Institutional Sustainability, this criterion focuses primarily on the forward momentum of the intended projects results, ie. either a) moving forwards from outputs to direct outcomes or b) moving forward from direct outcomes towards intermediate states. The evaluation will consider the involvement not only of those directly involved in project execution and those participating in technical or leadership groups, but also those official representatives whose cooperation is needed for change to be embedded in their respective institutions and offices. This factor is concerned with the level of ownership generated by the project over outputs and outcomes and that is necessary for long term impact to be realised. This ownership should adequately represent the needs of interest of all gendered and marginalised groups.
- I- 43. *Communication and Public Awareness.* The evaluation will assess the effectiveness of: a) communication of learning and experience sharing between project partners and interested groups arising from the project during its life and b) public awareness activities that were undertaken during the implementation of the project to influence attitudes or shape behaviour among wider communities and civil society at large. The evaluation should consider whether existing communication channels and networks were used effectively, including meeting the differentiated needs of gendered or marginalised groups, and whether any feedback channels were established. Where knowledge sharing platforms have been established under a project the evaluation will comment on the sustainability of the communication channel under either socio-political, institutional or financial sustainability, as appropriate.

## 5. Evaluation Deliverables and Review Procedures

- I- 44. The evaluation team will prepare:
  - **Inception Report:** (see Annex 1 for links to all templates, tables and guidance notes) containing an assessment of project design quality, a draft reconstructed Theory of Change of the project, project stakeholder analysis, evaluation framework and a tentative evaluation schedule;

- **Preliminary Findings Note:** typically in the form of a powerpoint presentation, the sharing of preliminary findings is intended to support the participation of the project team, act as a means to ensure all information sources have been accessed and provide an opportunity to verify emerging findings. In the case of highly strategic project/portfolio evaluations or evaluations with an Evaluation Reference Group, the preliminary findings may be presented as a word document for review and comment;
  - **Draft and Final Evaluation Report:** (see links in Annex 1) containing an executive summary that can act as a stand-alone document; detailed analysis of the evaluation findings organised by evaluation criteria and supported with evidence; lessons learned and recommendations and an annotated ratings table;
  - **Evaluation Bulletin:** a 2-page summary of key evaluation findings for wider dissemination through the EOU website.
- I- 45. Review of the draft evaluation report. The evaluation team will submit a draft report to the Evaluation Manager and revise the draft in response to their comments and suggestions. Once a draft of adequate quality has been peer-reviewed and accepted, the Evaluation Manager will share the cleared draft report with the Project Manager, who will alert the Evaluation Manager in case the report contains any blatant factual errors. The Evaluation Manager will then forward revised draft report (corrected by the evaluation team where necessary) to other project stakeholders, for their review and comments. Stakeholders may provide feedback on any errors of fact and may highlight the significance of such errors in any conclusions as well as providing feedback on the proposed recommendations and lessons. Any comments or responses to draft reports will be sent to the Evaluation Manager for consolidation. The Evaluation Manager will provide all comments to the evaluation team for consideration in preparing the final report, along with guidance on areas of contradiction or issues requiring an institutional response.
- I- 46. Based on a careful review of the evidence collated by the evaluation consultants and the internal consistency of the report, the Evaluation Manager will provide an assessment of the ratings in the final evaluation report. Where there are differences of opinion between the evaluator and the Evaluation Manager on project ratings, both viewpoints will be clearly presented in the final report. The Evaluation Office ratings will be considered the final ratings for the project.
- I- 47. The Evaluation Manager will prepare a quality assessment of the first and final drafts of the main evaluation report, which acts as a tool for providing structured feedback to the evaluation consultants. The quality of the report will be assessed and rated against the criteria specified in template listed in Annex 1 and this assessment will be appended to the Final Evaluation Report.
- I- 48. At the end of the evaluation process, the Evaluation Office will prepare a Recommendations Implementation Plan in the format of a table, to be completed and updated at regular intervals by the Task Manager. The Evaluation Office will track compliance against this plan on a six monthly basis.

## 6. The Consultants’ Team

- I- 49. For this evaluation, the evaluation team will consist of one international evaluation consultant<sup>61</sup> who will work under the overall responsibility of the Evaluation Office represented by an Evaluation Manager Saila Toikka, in consultation with the UN Environment Task Manager Geordie Collville, Fund Management Officer Leena Darlington and the Sub-programme Coordinators of the relevant UN Environment Sub-programmes. The consultant(s) will liaise with the Evaluation Manager on any procedural and methodological matters related to the evaluation. It is, however, the consultants’ individual responsibility to arrange for their visas and immunizations as well as to plan meetings with stakeholders, organize online surveys, obtain documentary evidence and any other logistical matters related to the assignment. The UN Environment Task Manager and project team will, where possible,

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<sup>61</sup> It will be decided in the inception phase whether the Cartagena component will be covered by the international evaluation consultant or whether a national consultant will be involved to conduct data collection in Cartagena.

provide logistical support (introductions, meetings etc.) allowing the consultants to conduct the evaluation as efficiently and independently as possible.

- I- 50. The **Evaluation consultant** will be hired over the period of 15 June 2017 to 15 December 2017 and should have: an advanced university degree in environmental sciences, international development or other relevant political or social sciences area; a minimum of 18 years of technical / evaluation experience, including of evaluating large, regional or global programmes and using a Theory of Change approach; a broad understanding of transportation projects developing country context along with excellent writing skills in English; team leadership experience and, where possible, knowledge of the UN system, specifically of the work of UN Environment. S/he is expected to travel Dar es Salaam for an evaluation mission.
- I- 51. The consultant will be responsible, in close consultation with the Evaluation Office of UN Environment, for overall management of the evaluation and timely delivery of its outputs, described above in Section 11 Evaluation Deliverables, above. The consultant will ensure that all evaluation criteria and questions are adequately covered.

## 7. Schedule of the evaluation

- I- 52. Table I-1 below presents the tentative schedule for the evaluation.

**Table I-1: Tentative schedule for the evaluation**

<b>Milestone</b>	<b>Time-frame (2017)</b>
Contracting procedures	June 15
Inception phase and desk review (and preparatory interviews)	June 15 – August 15
Inception Report (first submission)	August 10
Inception report (final submission)	August 15
Evaluation interviews (Skype) and Mission preparations	August 15 – 30
Evaluation Missions – Dar es Salaam (and possibly Nairobi)	September 20
Evaluation Missions – Cartagena (subject to a separate agreement )	September 20
Telephone interviews, additional data collection and analysis	October 15
Preliminary findings and recommendations (presentation and discussion)	October 15
Zero draft report	October 20
Draft Report shared with UNEP Task Manager and project team	October 30
Draft Report shared with stakeholders	November 5
Final Report	November 15

**Table I-2 : List of Documents for guidelines in preparing UN Environment evaluations** <sup>62</sup>

Document	Name
1	Evaluation Process Guidelines for Consultants
2	Generic guidance Evaluation Consultants Team Roles ( <i>Team Leader and Supporting Consultant</i> )
3	Evaluation Ratings Table
4	Weighting of Ratings (excel)
5	Evaluation Criteria ( <i>summary of descriptions, as in the general terms of reference</i> )
6	Matrix Describing Ratings by Criteria
7	Structure and Contents of the Inception Report
8	Template for the Assessment of the Quality of Project Design
9	Guidance on Stakeholder Analysis
10	Use of Theory of Change in Project Evaluations
11	Assessment of the Likelihood of Impact Decision Tree (Excel)
12	Possible Evaluation Questions
13	Structure and Contents of the Main Evaluation Report
14	Cover Page, Prelims and Style Sheet for Main Evaluation Report
15	Financial Tables
16	Template for the Assessment of the Quality of the Evaluation Report

<sup>62</sup> The UNEP Evaluation office is currently revising its templates and guidelines. Application of the tools and guidelines need to be discussed with the evaluation manager.



## Annex II. Evaluation Program

Date	Persons Met	Function	Topic of Discussion	Means of Contact
16 August 2018	Mr. Debashish Bhattacharjee Ms. Rahab Mundara Ms. Stephanie Holwarth Ms. Priscilla Muchibwa	Project Manager, UN Habitat  Head, PMU Nairobi, UN Habitat Urban Mobility Unit, UN Habitat  Urban Mobility Unit, UN Habitat	Briefing on SusTrans Project with Project team	Meeting in UN Habitat Office in Nairobi
17 and 21 August 2018	Mr. Tewodros Abrie  Mr. Aklilu Fikreselassie	General Manager, BRT and PMU in Addis Ababa UN Habitat, Addis Ababa	Progress of BRT and NMT integration of B2 BRT Corridor in Addis Ababa, tour of the B2 BRT corridor	Meeting in PMU office in Addis Ababa
19 August 2018	Mr. Mitku Asmare Setegn	Head, Addis Ababa City Transport Authority	Corporate history of Addis Ababa B2 BRT Corridor development	Meeting in AACTA office in Addis Ababa
22 August 2018	Mr. Davis Muchilwa	Director, Development, KeNHA	Progress of A104 corridor development for BRT	Meeting in KeNHA office in Nairobi
22 August 2018	Mr. James Nganga	CEO, NAMATA	Establishment and activities of NAMATA	Meeting in NAMATA office in Nairobi
22 August 2018	Mr. Geordie Colville	Senior Programme Manager for the Energy, Climate and Technology Branch, UN Environment	Debrief on SusTrans mission findings	Meeting in UN Environment Office in Nairobi
24 August 2018	James Ng'ang'a Michale Njunge Martin Eshiwani Eng Njeri Mburu Prof Winnie Mitullah  Amos Mwangi Jason Wong Sean Khan Dickson Mbugua  Edwins Mukabana  John Katimbwa Fred Nabangi Jenipher Otieno  Debashish Bhattacharjee Rahab Mundara Stefanie Holzwarth Helda Wandera Priscilla Muchibwa Judith Owigar	CEO NAMATA Engineer NAMATA Director of Roads MOTIHUD ITDP IDS UoN- Associate Director, Research UN-Environment UN-Environment UN-Environment/Air Quality Chairman Matatu Welfare Association Chairman, Association of Bus Owners of Kenya ROSSOK/MUA ROSSOK/MUA Lead HSO U Mobility UN-Habitat UN-Habitat  UN-Habitat UN-Habitat UN-Habitat UN-Habitat UN-Habitat	Workshop with selected stakeholders of BRT in Nairobi to discuss progress and next steps	Meeting in Crowne Plaza Hotel, Nairobi
21 September 2018	Mr. Rogers Kisambra	PMU in Kampala and main contact with Ugandan Ministry of Works and Transport	Progress of development for BRT in Kampala	Skype

Terminal Evaluation of the UN Environment Project “Promoting Sustainable Transport Solutions for East African Cities”

<b>Date</b>	<b>Persons Met</b>	<b>Function</b>	<b>Topic of Discussion</b>	<b>Means of Contact</b>
26 September 2018	Mr. Chris Kost	Africa Program Director, ITDP	Role of ITDP on BRT Project	Skype

### **Annex III. Bibliography**

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1. UNEP SusTrans Project Document of 2011;
2. UNEP-GEF Project Implementation Reviews for SusTrans 2012 to 2017;
3. UN Habitat and TRL Mission reports to Addis Ababa 2012 to 2016;
4. Addis Ababa National Steering Committee Minutes for 2012 and 2015;
5. ICCT Report on “Cost and benefits of clean technologies for BRT, Summary of results for Addis Ababa”, December 2012;
6. Suez/Mamda Consortium report on “BRT B2 Pilot Line, Value Engineering Report for Addis Ababa”, 2017;
7. TRL Report “Mid-Term Project Report”, January 2016;
8. TRL Report D47, “Scrappage scheme options in Addis Ababa”, December 2016;
9. TRL Report D36, “Feasibility and Operational Planning Study of BRT B2 corridor - Review of Operational Planning Study”, July 2014;
10. TRL Report D35, “Feasibility and Operational Planning Study of BRT B2 corridor - Review of Demand and Forecasting report, March 2014;
11. TRL Report D26, “NMT Final Concept Design (Integration with BRT for Addis Ababa)”, March 2014;
12. TRL Report D15, “Parking Management”, 2011;
13. TRL Report 2014, “Provision for Non-Motorised Transport in Addis Ababa and recommendations for improvements”, 2011;
14. AFD/AACPPO/Lyon Town Planning report on “Transportation challenges in a booming city Coordination of the mass transit network and urban development in Addis Ababa”, 2012;
15. ICCT Report on “Cost and benefits of clean technologies for BRT, Summary of results for Nairobi”, December 2012;
16. HHI Africa Value Engineering Review of “Technical Evaluation of Nairobi Mass Rapid Transit System Corridors”, November 2011;
17. “Feasibility Study Review and Pilot Phase Development of the Nairobi Mass Rapid Transit System”, August 2011;
18. ICCT Report on “Cost and benefits of clean technologies for BRT, Summary of results for Kampala”, December 2012;
19. ITDP Report on “Uganda NMT Policy workshop report“, February 2018;
20. ITDP Report on “Kampala mass rapid transit options“, March 2018;
21. ITDP Report on “Integrating NMT into Kampala BRT Corridors“, May 2014;
22. ITDP Report on “Kampala Mobility Map Survey“, July 2015;

23. ITDP Report on “Evaluation of Draft Urban Transport Policy for Kampala“, August 2014;
24. SusTrans Newsletter by GIZ 2011-2015;
25. GIZ/UN Habitat report on “3-day training on SUT for GEF SusTrans for Addis Ababa”, November 2014;
26. GIZ/UN Habitat report on “3-day training on SUT for GEF SusTrans for Kampala”, November 2014;
27. GIZ/UN Habitat report on “3-day training on SUT for GEF SusTrans for Nairobi”, November 2014;
28. GIZ/UN Habitat report on “Output 4a: Workshop Program and Report on First Regional Workshop, October 2014 in Nairobi.

## Annex IV. TEEMP Calculation for GHG emission reduction estimates

Table 5 provided an estimation of GHG emission reductions from the pilot BRT projects from Addis Ababa (Component 2). This Annex provides details based on the “Transport Emissions Evaluation Models for Projects” (TEEMP) that serve as a standard method to evaluate GEF transport-related projects. Addis Ababa BRT was estimated since the evaluator was notified that final design was to be completed by late 2018 with bid documents for construction (financed by AFD) were to be issued in early 2019. This estimate uses the “short cut method” and is based on ridership estimates and the length of BRT corridor constructed from the Suez/Mamda Consortium report on “BRT B2 Pilot Line, Value Engineering Report for Addis Ababa”, 2017 (see Reference 6 in Annex III), pgs 64 and 65, and an estimate of the Addis Ababa length of BRT corridor by 2030 by the evaluator based on Figure 2. GHG estimation for Nairobi and Kampala have not been provided given the less developed state of their BRT systems.

### Figure IV-1: Basic Info and Ridership Data for Addis Ababa Short-cut method

#### A. Basic Info

	2010	2019	2029
% of BRT route on corridor	0%	100%	100%
Cumulative length of BRTS Constructed (km)	0	15	90

#### B. Ridership

Total Ridership ('000)/day
<i>Choose one option:</i>
I have the ridership figures/day ('000). I would like to input it directly

	2010	2019	2029
Total Ridership ('000)/day	0	105	876

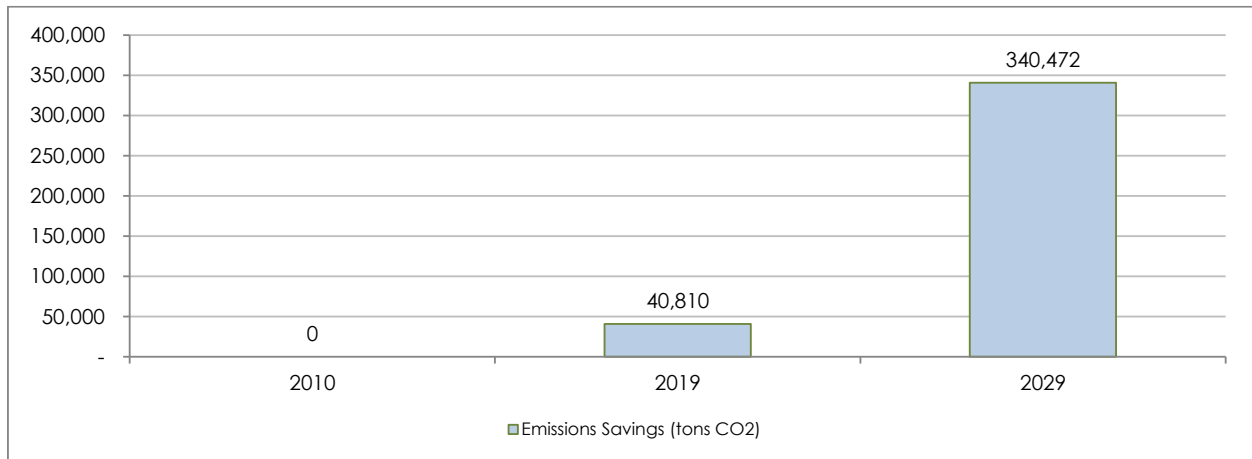
### Figure IV-2: Ridership Estimator for Addis Ababa

Ridership Estimator			
	2010	2019	2029
Passenger/vehicle	80	80	80
Trunk length (km)	0	15	90
Ridership Growth per decade (%)		20%	20%
Optimum Speed	20	20	20
Max Passenger Volume	148,600	178,320	213,984
Renovation Rate (Peak hour pax/max volume)	2.2	2.2	2.2
% Bus Km Operated on the BRT Corridor	0%	100%	100%
Demand daily/hourly multiplier	14	14	14
Km daily/hourly multiplier	18	18	18
Average Occupancy	#DIV/0!	164	27
<b>Ridership ('000/day)</b>	<b>4,576.88</b>	<b>5,492.26</b>	<b>6,590.71</b>
<b>Discounted Ridership ('000/day)</b>	<b>3,661.50</b>	<b>4,393.80</b>	<b>5,272.57</b>

**Figure IV-3: Summary and Results for Addis Ababa**

**Summary and Results**

	2010	2019	2029
Ridership ('000/day)	0	105	876
<a href="#">ton CO2/ passenger</a>	0.39	0.39	0.39
<b>Emissions Savings (tons CO2)</b>	-	<b>40,810.00</b>	<b>340,472.02</b>



## Annex V. Project Costs and Financial Management

**Table V-1: SusTrans Project Costs GEF funds**

Component	Budget (from Project Document)	2011	2012	2013	2014	2015	2016	2017 <sup>63</sup>	Actual Cost	Remainder for Project	Expenditure Ratio (actual/planned)
1. TA and institutional support	<b>793,960</b>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a
2. Planning and design of demonstration SUT corridors	<b>1,372,087</b>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a
3. Feasibility of clean vehicles and fuel technology initiatives	<b>213,004</b>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a
4. Regional capacity building, awareness raising and networking	<b>350,950</b>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a
Project Management	<b>120,000</b>	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a		n/a
<b>Total (Actual)<sup>64</sup></b>	<b>2,850,000</b>	<b>216,891</b>	<b>468,852</b>	<b>90,593</b>	<b>446,497</b>	<b>242,181</b>	<b>904,148</b>	<b>228,796</b>	<b>2,838,977</b>	<b>11,023</b>	<b>1</b>
Total (Cumulative Actual)		216,891	685,743	776,336	1,222,833	1,706,032	2,610,181	2,838,977			

<sup>63</sup> Up to December 31, 2017 to but not including Terminal Evaluation

<sup>64</sup> From audit reports of UN Habitat and UNEP expenditure reports made available to the evaluation.

**Table V-2: SusTrans Project Co-Financing**

Co-financing (type/source)	UNEP own financing		Government		Partner Agency		Private Sector		Total	
	(million USD)		(million USD)		(million USD)		(million USD)		(million USD)	
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
Grants	0.040	0.040			3.445 <sup>65</sup>				3.485	0.040
Loans										
Credits				<sup>66</sup>		4.220 <sup>67</sup>				4.220
Equity Investments										
In-kind support <sup>68</sup>	0.030	0.030			0.820 <sup>69</sup>	0.772 <sup>70</sup>			0.850	0.802
Other										
<b>Totals</b>	<b>0.070</b>	<b>0.070</b>			<b>4.265</b>	<b>4.992</b>			<b>4.335</b>	<b>5.062</b>

<sup>65</sup> Includes US\$185,000 from UN Habitat, US\$60,000 from ITDP, and US\$3.2 million from the World Bank

<sup>66</sup> Government of Uganda contribution included in US\$4.2 million

<sup>67</sup> US\$4.2 million from Government of Uganda & World Bank cash credit for Kampala BRT designs, and US\$20,000 from ITDP

<sup>68</sup> In-kind support was provided on this grant but not monitored. Hence, no co-financing amounts provided for this item.

<sup>69</sup> Includes US\$450,000 from UN Habitat, US\$200,000 from ITDP, and US\$130,000 from GIZ, and US\$40,000 from TRL.

<sup>70</sup> Includes US\$8,900 from TRL, US\$44,000 from ITDP, and US\$95,000 from GIZ, and US\$623,892 from UN Habitat.



**Table V-3: Aggregate rating of SusTrans Financial Management**

Financial management components		Rating	Evidence/ Comments
Attention paid to compliance with procurement rules and regulations		MS	Only TRL audit report was made available to Evaluator, No evidence of SusTrans Project audit reports from 2011 to 2017.
Contact/communication between the PM & FMO		S	UNEP expenditure reports and fund transfer documents
PM & FMO knowledge of the project financials		S	UNEP expenditure reports and fund transfer documents, UN Habitat correspondence to UNEP on requests for revisions
FMO responsiveness to financial requests		S	UNEP expenditure reports and fund transfer documents, UN Habitat correspondence to UNEP on requests for revisions
PM & FMO responsiveness to addressing and resolving financial issues		S	UNEP expenditure reports and fund transfer documents, UN Habitat correspondence to UNEP on requests for revisions
Were the following documents provided to the evaluator:			
	A.	An up to date co-financing table	Y
	B.	A summary report on the projects financial management and expenditures during the life of the project - to date	Y
	C.	A summary of financial revisions made to the project and their purpose	Y
	D.	Copies of any completed audits	N
Availability of project financial reports and audits			S
Timeliness of project financial reports and audits			S
Quality of project financial reports and audits			S
FMO knowledge of partner financial requirements and procedures		S	UNEP expenditure reports and fund transfer documents, UN Habitat correspondence to UNEP on requests for revisions
<b>Overall rating</b>		<b>S</b>	

## Annex VI. Consultant’s Resume

**Name:** ROLAND WONG

**Position:** Chief Executive Officer of Clean Energy Alternatives Inc.  
International Energy and Environment Expert

**Nationality:** Canadian

**Education:** M.Eng., Civil Engineering (Water Resources and Environment), University of British Columbia, 1981  
B.Eng., Civil Engineering, McGill University, Montreal, 1977

**Professional Affiliations:** Registered Professional Engineer in British Columbia

**Areas of Expertise:** Renewable energy development with a focus on waste to energy, hydropower and solar energy  
Energy efficiency in transport  
Evaluations of climate change mitigation projects

**Countries of work experience:** Canada, Bangladesh, India, Pakistan, the Maldives, Cambodia, China, Malaysia, Thailand, Viet Nam, the Philippines, Indonesia, Fiji, Solomon Islands, Tuvalu, Tonga, Samoa, Georgia, Belarus, Bosnia and Herzegovina, Serbia, Slovakia, Romania, Russian Federation, Montenegro, Turkey, Kyrgyz Republic, Kazakhstan, Tajikistan, Egypt, Ethiopia, South Africa, Costa Rica, Dominican Republic, Haiti, St. Vincent and the Grenadines, Dominica and Peru.

**Employment:**

Clean Energy Alternatives Inc President, Vancouver, Canada	2005 to date
Manager, Business Development, Vancouver, Canada <i>Klohn Crippen Consultants Limited</i>	2002-2005
Environmental Management Specialist, Dhaka, Bangladesh and Halifax, Nova Scotia, Canada <i>KPMG Consulting</i>	1999-2002
Manager, Watershed Division, Richmond, B.C., Canada <i>Klohn Crippen Consultants Limited</i>	1993-1999
Water Resources Technical Advisor, Dhaka, Bangladesh <i>Northwest Hydraulics Consultants</i>	1988-1993
Area Engineer/President, Williams Lake, B.C., Canada <i>Ducks Unlimited/Cariboo Engineering Limited</i>	1984-1988
Hydropower Intermediate and Area Engineer, Vancouver, B.C. and Nipawin, Saskatchewan, Canada <i>Klohn Crippen Consultants Limited</i>	1981-1984
Junior Hydraulics Engineer, Montreal, Quebec, Canada <i>Montreal Engineering Company Limited</i>	1978-1980

Roland has over 25 years' experience with a recent focus on the development and management of projects in sustainable transport, green city development, renewable energy and energy efficiency. These projects encompass his experience in environmental management, institutional capacity building, policy and economic analysis, planning, management, monitoring and evaluation for projects in more than 35 countries. His demonstrated abilities and experience include adoption and market transformation of sustainable low carbon technologies; formulation and preparation of low carbon and climate change investment projects; partnership building as a means to achieving adoption of clean technologies and energy efficiency practice; development and mentoring of energy, environmental and water resource professionals; networking, coordinating and negotiating projects in low carbon and climate change in several countries.

Key assignments that he is undertaken in climate change mitigation includes:

- Serving as a Senior Director since 2008 for a private sector company based in Vancouver, Canada developing investments in biomass waste-to-energy and solar power development using patented technologies. This includes the use of a unique gasification / thermo-oxidizer unit to produce heat sufficient for 5.7 MW of power generation. This has involved preparation of “white papers” for the firm, studies on the comparative advantages of the WTE technology to competitors and dissemination of technical and financial information to prospective investors, financiers, government policymakers and international donor institutions;
- Lead consultant in the formulation, preparation and evaluation (midterm and terminal) of several GEF projects since 2008 in low carbon/renewable energy development, energy efficiency, sustainable transport and green cities for several countries mainly in Asia, Eastern Europe and the Caribbean. Also involved with providing technical assistance in the management of these projects, sourcing of technical experts, strategic planning and strengthened monitoring and evaluation activities;
- Principal designer and international team leader for UNDP Bangladesh and UNDP-GEF (2002-2010) for a project to reduce GHGs from the brick making industry in Bangladesh. Completed concept formulation and PDF B (project preparation) phase that resulted in GEF commitment for full project funding in August 2006. GHG emission reductions based on market transformation and adoption to cleaner coal-fired kiln technology from China, increased awareness of the economic, environmental and social benefits on the use of a cleaner technology, increasing industry capacity to attract financial support for clean technologies, dissemination of a cleaner burning kiln throughout the industry. Facilitated discussions with stakeholders in the brick industry in Bangladesh, and provided a logical framework analysis in collaboration with a high calibre Bangladeshi team consisting of engineers, economists, financial and ex-government officers, and facilitated South-South cooperation on the project to access less energy intensive Chinese brick making technology. Provided assistance and negotiations to develop carbon finance that served as a means to reduce debt servicing costs for entrepreneurs;
- Served as environmental management specialist (1999-2002) for a CIDA-funded demonstration project in Bangladesh to introduce natural gas as an alternate fuel to mitigate urban air pollution for the Government of Bangladesh's Department of Environment. Activities were geared towards providing better stakeholder outreach in the planning and implementation of environmental management projects, to demonstrate credible efforts required to effect changes in environmental quality, to allow DoE an opportunity to review their policies and standards against project results, and to improve enforcement capacities. The project started with the conversion demonstration of the highly polluting two-stroke auto-rickshaws to CNG, a domestically available fuel. A monitoring program comparing CNG and gasoline-fueled auto-rickshaws revealed operational costs and emissions of CNG converted auto-rickshaws were reduced by over 75%. The project was widely viewed by all to be a major success since it catalyzed the alternate fuel debate and industry development and transformed the alternate fuels market in Bangladesh where over a 24-month period, the number of alternate fuel vehicles rose from 1,000 to over 20,000, and the sale of compressed natural gas (CNG) increased 10-fold.

## Annex VII. Quality assessment of the Evaluation Report

### Quality Assessment of the Evaluation Report

Evaluation Title:

**Terminal Evaluation of the Project: Terminal Evaluation of the UN Environment Project “Reducing Greenhouse Gas Emissions with Bus Rapid Transit and Non-Motorized Transport” (BRT Project)**

All UN Environment evaluations are subject to a quality assessment by the Evaluation Office. This is an assessment of the quality of the evaluation product (i.e. evaluation report) and is dependent on more than just the consultant’s efforts and skills. Nevertheless, the quality assessment is used as a tool for providing structured feedback to the evaluation consultants, especially at draft report stage. This guidance is provided to support consistency in assessment across different Evaluation Managers and to make the assessment process as transparent as possible.

	UN Environment Evaluation Office Comments	Final Report Rating
<b>Substantive Report Quality Criteria</b>		
<b>Quality of the Executive Summary:</b>  The Summary should be able to stand alone as an accurate summary of the main evaluation product. It should include a concise overview of the evaluation object; clear summary of the evaluation objectives and scope; overall evaluation rating of the project and key features of performance (strengths and weaknesses) against exceptional criteria (plus reference to where the evaluation ratings table can be found within the report); summary of the main findings of the exercise, including a synthesis of main conclusions (which include a summary response to key strategic evaluation questions), lessons learned and recommendations.	Good executive Summary	6
<b>I. Introduction</b>  A brief introduction should be given identifying, where possible and relevant, the following: institutional context of the project (sub-programme, Division, regions/countries where implemented) and coverage of the evaluation; date of PRC approval and project document signature); results frameworks to which it contributes (e.g. Expected Accomplishment in POW); project duration and start/end dates; number of project phases (where appropriate); implementing partners; total secured budget and whether the project has been evaluated in the past (e.g. mid-term, part of a synthesis evaluation, evaluated by another agency etc.)	Introduction thorough and complete	6

<p>Consider the extent to which the introduction includes a concise statement of the purpose of the evaluation and the key intended audience for the findings?</p>		
<p><b>II. Evaluation Methods</b></p> <p>This section should include a description of how the <i>TOC at Evaluation</i><sup>71</sup> was designed (who was involved etc.) and applied to the context of the project?</p> <p>A data collection section should include: a description of evaluation methods and information sources used, including the number and type of respondents; justification for methods used (e.g. qualitative/quantitative; electronic/face-to-face); any selection criteria used to identify respondents, case studies or sites/countries visited; strategies used to increase stakeholder engagement and consultation; details of how data were verified (e.g. triangulation, review by stakeholders etc.).</p> <p>The methods used to analyse data (e.g. scoring; coding; thematic analysis etc.) should be described.</p> <p>It should also address evaluation limitations such as: low or imbalanced response rates across different groups; extent to which findings can be either generalised to wider evaluation questions or constraints on aggregation/disaggregation; any potential or apparent biases; language barriers and ways they were overcome.</p> <p>Ethics and human rights issues should be highlighted including: how anonymity and confidentiality were protected and strategies used to include the views of marginalised or potentially disadvantaged groups and/or divergent views.</p>	<p>Description provides standard text and somewhat brief description of approaches</p>	<p>4</p>
<p><b>III. The Project</b></p> <p>This section should include:</p> <ul style="list-style-type: none"> <li>• <i>Context</i>: Overview of the main issue that the project is trying to address, its root causes and consequences on the environment and human well-being (i.e. synopsis of the problem and situational analyses).</li> <li>• <i>Objectives and components</i>: Summary of the project’s results hierarchy as stated in the ProDoc (or as officially revised)</li> <li>• <i>Stakeholders</i>: Description of groups of targeted stakeholders organised according to relevant common characteristics</li> </ul>	<p>A complete and thorough presentation</p>	<p>6</p>

<sup>71</sup> During the Inception Phase of the evaluation process a *TOC at Design* is created based on the information contained in the approved project documents (these may include either logical framework or a TOC or narrative descriptions). During the evaluation process this TOC is revised based on changes made during project intervention and becomes the *TOC at Evaluation*.

<ul style="list-style-type: none"> <li>• <i>Project implementation structure and partners:</i> A description of the implementation structure with diagram and a list of key project partners</li> <li>• <i>Changes in design during implementation:</i> Any key events that affected the project’s scope or parameters should be described in brief in chronological order</li> <li>• <i>Project financing:</i> Completed tables of: (a) budget at design and expenditure by components (b) planned and actual sources of funding/co-financing</li> </ul>		
<p><b>IV. Theory of Change</b></p> <p>A summary of the project’s results hierarchy should be presented for: a) the results as stated in the approved/ revised Prodoc logframe/TOC and b) as formulated in the TOC at Evaluation. <i>The two results hierarchies should be presented as a two column table to show clearly that, although wording and placement may have changed, the results ‘goal posts’ have not been ‘moved’.</i> The TOC at Evaluation should be presented clearly in both diagrammatic and narrative forms. Clear articulation of each major causal pathway is expected, (starting from outputs to long term impact), including explanations of all drivers and assumptions as well as the expected roles of key actors.</p>	<p>Very well presented.</p> <p>Minor criticism is that ROTl is still referred to but that method no longer features in ToRs</p>	6
<p><b>V. Key Findings</b></p> <p><b>A. Strategic relevance:</b></p> <p>This section should include an assessment of the project’s relevance in relation to UN Environment’s mandate and its alignment with UN Environment’s policies and strategies at the time of project approval. An assessment of the complementarity of the project with other interventions addressing the needs of the same target groups should be included. Consider the extent to which all four elements have been addressed:</p> <ol style="list-style-type: none"> <li>1. Alignment to the UN Environment Medium Term Strategy (MTS) and Programme of Work (POW)</li> <li>2. Alignment to UN Environment/GEF/Donor Strategic Priorities</li> <li>3. Relevance to Regional, Sub-regional and National Environmental Priorities</li> <li>4. Complementarity with Existing Interventions</li> </ol>	<p>Comprehensive</p> <p>Strong on sub-national policy relevance in particular</p>	6
<p><b>B. Quality of Project Design</b></p> <p>To what extent are the strength and weaknesses of the project design effectively <u>summarized</u>?</p>	<p>A succinct summary is provided</p>	4

<p><b>C. Nature of the External Context</b></p> <p>For projects where this is appropriate, key external features of the project’s implementing context that may have been reasonably expected to limit the project’s performance (e.g. conflict, natural disaster, political upheaval) should be described.</p>	<p>Adequately covered</p>	<p>5</p>
<p><b>D. Effectiveness</b></p> <p><b>(i) Outputs and Direct Outcomes:</b> How well does the report present a well-reasoned, complete and evidence-based assessment of the achievement of a) outputs, and b) direct outcomes? How convincing is the discussion of attribution and contribution, as well as the limitations to attributing effects to the intervention.</p>	<p>This is a well-reasoned and evidenced section</p>	<p>5</p>
<p><b>(ii) Likelihood of Impact:</b> How well does the report present an integrated analysis, guided by the causal pathways represented by the TOC, of all evidence relating to likelihood of impact?</p> <p>How well are change processes explained and the roles of key actors, as well as drivers and assumptions, explicitly discussed?</p>	<p>This is a strong part of the report. Judgments acknowledge the over-ambitious nature of the original design.</p>	<p>6</p>
<p><b>E. Financial Management</b></p> <p>This section should contain an integrated analysis of all dimensions evaluated under financial management. And include a completed ‘financial management’ table.</p> <p>Consider how well the report addresses the following:</p> <ul style="list-style-type: none"> <li>• <i>completeness</i> of financial information, including the actual project costs (total and per activity) and actual co-financing used</li> <li>• <i>communication</i> between financial and project management staff and</li> <li>• <del><i>compliance with relevant UN financial management standards and procedures.</i></del></li> </ul>	<p>The treatment of financial management is rather limited</p>	<p>4</p>
<p><b>F. Efficiency</b></p> <p>To what extent, and how well, does the report present a well-reasoned, complete and evidence-based assessment of efficiency under the primary categories of cost-effectiveness and timeliness including:</p> <ul style="list-style-type: none"> <li>• Implications of delays and no cost extensions</li> <li>• Time-saving measures put in place to maximise results within the secured budget and agreed project timeframe</li> <li>• Discussion of making use of/building on pre-existing institutions, agreements and partnerships, data sources, synergies and complementarities with other initiatives, programmes and projects etc.</li> </ul>	<p>This is covered adequately, analysis is a little limited</p>	<p>4</p>

<ul style="list-style-type: none"> <li>The extent to which the management of the project minimised UN Environment’s environmental footprint.</li> </ul>		
<p><b>G. Monitoring and Reporting</b></p> <p>How well does the report assess:</p> <ul style="list-style-type: none"> <li>Monitoring design and budgeting (<i>including SMART indicators, resources for MTE/R etc.</i>)</li> <li>Monitoring implementation (<i>including use of monitoring data for adaptive management</i>)</li> <li>Project reporting (<i>e.g. PIMS and donor report</i>)</li> </ul>	This is covered adequately	4
<p><b>H. Sustainability</b></p> <p>How well does the evaluation identify and assess the key conditions or factors that are likely to undermine or contribute to the persistence of achieved direct outcomes including:</p> <ul style="list-style-type: none"> <li>Socio-political Sustainability</li> <li>Financial Sustainability</li> <li>Institutional Sustainability (<i>including issues of partnerships</i>)</li> </ul>	Full and well-balanced analysis	5
<p><b>I. Factors Affecting Performance</b></p> <p>These factors are <u>not</u> discussed in stand-alone sections but are <b>integrated in criteria A-H as appropriate</b>. To what extent, and how well, does the evaluation report cover the following cross-cutting themes:</p> <ul style="list-style-type: none"> <li>Preparation and readiness</li> <li>Quality of project management and supervision<sup>72</sup></li> <li>Stakeholder participation and co-operation</li> <li>Responsiveness to human rights and gender equity</li> <li>Country ownership and driven-ness</li> <li>Communication and public awareness</li> </ul>	A thorough analysis and description is given	5
<p><b>VI. Conclusions and Recommendations</b></p> <p>i. <b>Quality of the conclusions:</b> The key strategic questions should be clearly and succinctly addressed within the conclusions section? It is expected that the conclusions will highlight the main strengths and weaknesses of the project and connect them in a compelling story line. Conclusions, as well as lessons and recommendations, should be consistent with the evidence presented in the main body</p>	Conclusions section is well-written	5

<sup>72</sup> In some cases ‘project management and supervision’ will refer to the supervision and guidance provided by UN Environment to implementing partners and national governments while in others, specifically for GEF funded projects, it will refer to the project management performance of the executing agency and the technical backstopping provided by UN Environment.



of the report.		
<b>ii) Quality and utility of the lessons:</b> Both positive and negative lessons are expected and duplication with recommendations should be avoided. Based on explicit evaluation findings lessons should be rooted in real project experiences or derived from problems encountered and mistakes made that should be avoided in the future. Lessons must have the potential for wider application and use and should briefly describe the context from which they are derived and those contexts in which they may be useful.	Lessons are relevant	5
<b>iii) Quality and utility of the recommendations:</b>  To what extent are the recommendations proposals for specific actions to be taken by identified people/position-holders to resolve concrete problems affecting the project or the sustainability of its results. They should be feasible to implement within the timeframe and resources available (including local capacities) and specific in terms of who would do what and when. Recommendations should represent a measurable performance target in order that the Evaluation Office can monitor and assess compliance with the recommendations.	Recommendations are directed appropriately	5
<b>VII. Report Structure and Presentation Quality</b>		
<b>i) Structure and completeness of the report:</b> To what extent does the report follow the Evaluation Office guidelines? Are all requested Annexes included and complete?	Follows guidelines	6
<b>ii) Quality of writing and formatting:</b> Consider whether the report is well written (clear English language and grammar) with language that is adequate in quality and tone for an official document? Do visual aids, such as maps and graphs convey key information? Does the report follow Evaluation Office formatting guidelines?	Well-written and properly formatted	6
<b>Overall Report Quality Score:</b>	Satisfactory	5.2

5.2

A number rating 1-6 is used for each criterion: Highly Satisfactory = 6, Satisfactory = 5, Moderately Satisfactory = 4, Moderately Unsatisfactory = 3, Unsatisfactory = 2, Highly Unsatisfactory = 1. The overall quality of the evaluation report is calculated by taking the mean score of all rated quality criteria.

At the end of the evaluation compliance of the evaluation process against the agreed standard procedures is assessed, based on the table below. *All questions with negative compliance must be explained further in the table below.*

Evaluation Process Quality Criteria	Compliance	
	Yes	No
<b>Independence:</b>		

1. Were the Terms of Reference drafted and finalised by the Evaluation Office?	x	
2. Were possible conflicts of interest of proposed Evaluation Consultant(s) appraised and addressed in the final selection?	x	
3. Was the final selection of the Evaluation Consultant(s) made by the Evaluation Office?	x	
4. Was the evaluator contracted directly by the Evaluation Office?	x	
5. Was the Evaluation Consultant given direct access to identified external stakeholders in order to adequately present and discuss the findings, as appropriate?	x	
6. Did the Evaluation Consultant raise any concerns about being unable to work freely and without interference or undue pressure from project staff or the Evaluation Office?		x
7. If Yes to Q6: Were these concerns resolved to the mutual satisfaction of both the Evaluation Consultant and the Evaluation Manager?		
<b>Financial Management:</b>		
8. Was the evaluation budget approved at project design available for the evaluation?	x	
9. Was the final evaluation budget agreed and approved by the Evaluation Office?	x	
10. Were the agreed evaluation funds readily available to support the payment of the evaluation contract throughout the payment process?	x	
<b>Timeliness:</b>		
11. If a Terminal Evaluation: Was the evaluation initiated within the period of six months before or after project operational completion? Or, if a Mid Term Evaluation: Was the evaluation initiated within a six month period prior to the project's mid-point?	x	
12. Were all deadlines set in the Terms of Reference respected, as far as unforeseen circumstances allowed?	x	
13. Was the inception report delivered and reviewed/approved prior to commencing any travel?	x	
<b>Project's engagement and support:</b>		
14. Did the project team, Sub-Programme Coordinator and identified project stakeholders provide comments on the evaluation Terms of Reference?	x	
15. Did the project make available all required/requested documents?	x	
16. Did the project make all financial information (and audit reports if applicable) available in a timely manner and to an acceptable level of completeness?	x	
17. Was adequate support provided by the project to the evaluator(s) in planning and conducting evaluation missions?	x	
18. Was close communication between the Evaluation Consultant, Evaluation Office and project team maintained throughout the evaluation?	x	
19. Were evaluation findings, lessons and recommendations adequately discussed with the project team for ownership to be established?	x	
20. Did the project team, Sub-Programme Coordinator and any identified project stakeholders provide comments on the draft evaluation report?	x	
<b>Quality assurance:</b>		
21. Were the evaluation Terms of Reference, including the key evaluation questions, peer-reviewed?	x	
22. Was the TOC in the inception report peer-reviewed?	x	
23. Was the quality of the draft/cleared report checked by the Evaluation Manager and Peer Reviewer prior to dissemination to stakeholders for comments?	x	
24. Did the Evaluation Office complete an assessment of the quality of both the draft and final reports?	x	
<b>Transparency:</b>		

25. Was the draft evaluation report sent directly by the Evaluation Consultant to the Evaluation Office?	<b>x</b>	
26. Did the Evaluation Manager disseminate (or authorize dissemination) of the cleared draft report to the project team, Sub-Programme Coordinator and other key internal personnel (including the Reference Group where appropriate) to solicit formal comments?	<b>x</b>	
27. Did the Evaluation Manager disseminate (or authorize dissemination) appropriate drafts of the report to identified external stakeholders, including key partners and funders, to solicit formal comments?	<b>x</b>	
28. Were all stakeholder comments to the draft evaluation report sent directly to the Evaluation Office		<b>x</b>
29. Did the Evaluation Consultant(s) prepare a response to all comments?	<b>x</b>	
30. Did the Evaluation Office share all comments and Evaluation Consultant responses with all those who were invited to comment?	<b>x</b>	

**Provide comments / explanations / mitigating circumstances below for any non-compliant process issues.**

<b><u>Process Criterion Number</u></b>	<b><u>Evaluation Office Comments</u></b>
28	The second draft was sent to the project team and evaluation office simultaneously, comments then came back to the Evaluation Office and the consultant responded to them. Consultant changes were reviewed by the Evaluation Office