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Report No: PAD4695

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED GRANT

IN THE AMOUNT OF SDR 180.9 MILLION
(US$250 MILLION EQUIVALENT)

TO THE

REPUBLIC OF MOZAMBIQUE

FOR A

MAPUTO METROPOLITAN AREA URBAN MOBILITY PROJECT

August 2, 2022

Transport Global Practice
Eastern and Southern Africa Region

CURRENCY EQUIVALENTS

Exchange Rate Effective: March 31, 2022

Currency Unit =	SDR
US$1 =	SDR 0.72
SDR 1 =	US$1.38

FISCAL YEAR
January 1 – December 31

Regional Vice President: Victoria Kwakwa

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ABBREVIATIONS AND ACRONYMS

AMM	Maputo Metropolitan Area (*Area Metropolitana de Maputo*)
AMT	Maputo Metropolitan Transport Agency (*Agência Metropolitana de Transportes*)
ANE	National Roads Administration (*Administração Nacional de Estradas*)
ASA	Advisory Services and Analytics
BRT	Bus Rapid Transit
CERC	Contingent Emergency Response Component
CFM	National Port and Railway Company (*Portos e Caminhos de Ferro de Moçambique*)
CMM	Maputo Municipal Council (*Conselho Municipal de Maputo*)
COVID-19	Coronavirus Disease 2019
CPF	Country Partnership Framework
EDGE	Digital Governance and Economy Project (*Economia Digital e Governo Eletrónico*)
ESF	Environmental and Social Framework
ESMF	Environmental and Social Management Framework
ESS	Environmental and Social Standards
FDI	Foreign Direct Investment
FEMATRO	Federation of Road Transport Associations of Mozambique (*Federação Moçambicana das Associações dos Transportadores Rodoviários*)
FM	Financial Management
FMS	Financial Management Specialist
FTC	Transport and Communications Fund (*Fundo dos Transporte e Comunicação*)
GBV	Gender-Based Violence
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GII	Gender Inequality Index
GoM	Government of Mozambique
GRM	Grievance Redress Mechanism
GRS	Grievance Redress Service
HCI	Human Capital Index
ICT	Information and Communication Technology
IFR	Interim Financial Report
INATRO	National Institute of Road Transport (*Instituto Nacional de Transportes Rodoviários*)
IRR	Internal Rate of Return
ITS	Intelligent Transport System
JICA	Japan International Cooperation Agency
KPI	Key Performance Indicator
LMP	Labor Management Procedures

LNG	Liquified Natural Gas
MDAP	Mozambique Digital Acceleration Project
MEF	Ministry of Economy and Finance
MFD	Mobilizing Finance for Development
MTC	Ministry of Transport and Communications
NAPA	National Adaptation Programs of Action
NDC	Nationally Determined Contribution
NDTS	National Director of Transport and Safety
NMT	Non-Motorized Transport
NPV	Net Present Value
OCC	Operational Coordination Committee
PCU	Project Coordination Unit
PDO	Project Development Objective
PFS	Project Financial Statements
POM	Project Operations Manual
PPP	Public-Private Partnership
PPSD	Project Procurement Strategy for Development
PTU	Project Technical Unit
PWDs	Persons with Disabilities
RAMS	Road Asset Management System
RSSAT	Road Safety Screening and Appraisal Tool
SCC	Strategic Coordination Committee
SEA/SH	Sexual Exploitation and Abuse/Sexual Harassment
SEP	Stakeholder Engagement Plan
SPC	Shadow Price of Carbon
STEM	Science, Technology, Engineering, and Math
STEP	Systematic Tracking of Exchanges in Procurement
SUMP	Sustainable Urban Mobility Plan
TA	Technical Assistance
TPC	Technical Project Coordinator
TSC	Technical Support Consultant
UNFCCC	United Nations Framework Convention on Climate Change
WBG	World Bank Group
YPP	Young Professionals Program

TABLE OF CONTENTS

DATASHEET

BASIC INFORMATION

Country(ies)	Project Name	
Mozambique	Maputo Metropolitan Area Urban Mobility Project	
Project ID	**Financing Instrument**	**Environmental and Social Risk Classification**
P175322	Investment Project Financing	High

Financing & Implementation Modalities

[ ] Multiphase Programmatic Approach (MPA)	[✓] Contingent Emergency Response Component (CERC)
[ ] Series of Projects (SOP)	[✓] Fragile State(s)
[ ] Performance-Based Conditions (PBCs)	[ ] Small State(s)
[ ] Financial Intermediaries (FI)	[ ] Fragile within a non-fragile Country
[ ] Project-Based Guarantee	[ ] Conflict
[ ] Deferred Drawdown	[ ] Responding to Natural or Man-made Disaster
[ ] Alternate Procurement Arrangements (APA)	[ ] Hands-on Enhanced Implementation Support (HEIS)

Expected Approval Date	Expected Closing Date
23-Aug-2022	31-Dec-2027

Bank/IFC Collaboration

No

Proposed Development Objective(s)

The Project Development Objective is to improve mobility and accessibility along selected corridors in the Maputo Metropolitan Area.

Components

Component Name	Cost (US$, millions)

Component 1: Urban Transport Institutional and Regulatory Strengthening and Public Transport Industry Professionalization	20.00
Component 2: Comprehensive Public Transport Improvements	160.00
Component 3: Comprehensive Improvements for Safe Access to Neighborhoods and Corridor Integration	65.00
Component 4: Project Management, Monitoring and Evaluation	5.00
Component 5: Contingency and Emergency Response	0.00

Organizations

Borrower:	Republic of Mozambique
Implementing Agency:	Maputo Metropolitan Transport Agency (AMT)

PROJECT FINANCING DATA (US$, Millions)

SUMMARY

Total Project Cost	250.00
Total Financing	250.00
of which IBRD/IDA	250.00
Financing Gap	0.00

DETAILS

World Bank Group Financing

International Development Association (IDA)	250.00
IDA Grant	250.00

IDA Resources (in US$, Millions)

	Credit Amount	Grant Amount	Guarantee Amount	Total Amount
Mozambique	0.00	250.00	0.00	250.00
National PBA	0.00	250.00	0.00	250.00
Total	**0.00**	**250.00**	**0.00**	**250.00**

Expected Disbursements (in US$, Millions)

WB Fiscal Year	2022	2023	2024	2025	2026	2027	2028
Annual	0.00	10.00	20.00	60.00	60.00	80.00	20.00
Cumulative	0.00	10.00	30.00	90.00	150.00	230.00	250.00

INSTITUTIONAL DATA

Practice Area (Lead)

Transport

Contributing Practice Areas

Climate Change and Disaster Screening

This operation has been screened for short and long-term climate change and disaster risks

SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)

Risk Category	Rating
1. Political and Governance	Substantial
2. Macroeconomic	Moderate
3. Sector Strategies and Policies	Substantial
4. Technical Design of Project or Program	Substantial
5. Institutional Capacity for Implementation and Sustainability	Substantial
6. Fiduciary	High
7. Environment and Social	High
8. Stakeholders	High
9. Other	High
10. Overall	High

COMPLIANCE

Policy

Does the project depart from the CPF in content or in other significant respects?

[ ] Yes [✓] No

Does the project require any waivers of Bank policies?

[ ] Yes [✓] No

Environmental and Social Standards Relevance Given its Context at the Time of Appraisal

E & S Standards	Relevance
Assessment and Management of Environmental and Social Risks and Impacts	Relevant
Stakeholder Engagement and Information Disclosure	Relevant
Labor and Working Conditions	Relevant
Resource Efficiency and Pollution Prevention and Management	Relevant
Community Health and Safety	Relevant
Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Relevant
Biodiversity Conservation and Sustainable Management of Living Natural Resources	Relevant
Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Not Currently Relevant
Cultural Heritage	Relevant
Financial Intermediaries	Not Currently Relevant

NOTE: For further information regarding the World Bank's due diligence assessment of the Project's potential environmental and social risks and impacts, please refer to the Project's Appraisal Environmental and Social Review Summary (ESRS).

Legal Covenants

Sections and Description

Not later than 30 days after the Effective Date, the Recipient shall establish and maintain, the following committees

with structure, membership, and functions acceptable to the Association and further detailed in the POM: (a) a Strategic Coordination Committee ("SCC") responsible for strategic decision-making and overall monitoring of Project implementation; and (b) an Operational Coordination Committee ("OCC") responsible for the overall supervision, decision on strategic matters and supervision of Project implementation.

Sections and Description

Not later than 30 days after the Effective Date, the Recipient shall cause AMT to establish and thereafter maintain, the following units in a manner acceptable to the Association and further detailed in the POM: (a) a Project coordination unit (PCU), responsible for overseeing day-to-day implementation of Project activities, (b) Project technical units (PTUs), in the municipalities of Maputo, Matola and within AMT to lead the technical implementation of the Project.

Sections and Description

Not later than 30 days after the Effectiveness Date, the Recipient shall cause AMT to enter into an agreement ("Performance Agreements") with each PTU, for the purposes of assigning technical responsibilities and set forth performance indicators under their respective Parts of the Project, all in a manner acceptable to the Association

Sections and Description

Not later than 60 days after Effective Date, the Recipient shall cause AMT to prepare and adopt, in accordance with terms of reference acceptable to the Association a Project operational manual ("POM") setting out detailed guidelines, methods and procedures for the implementation of the Project.

Sections and Description

Not later than 12 months after the Effective Date, the Recipient shall have taken and is ready to implement the necessary measures to integrate the roles of municipalities and districts in relation to the governance of AMT, and has harmonized overlapping mandatesamong AMT, municipalities, and districts, all in form and substance acceptable to the Association and in accordance with the guidelines included in the POM.

Sections and Description

Not later than 18 months after Effective Date, the Recipient shall establish a mechanism for a single and unified public transport network throughout the Maputo metropolitan area, endorsed and supported by all relevant stakeholders, covering all regulated road passenger transport in the area, including both private and public operators, all in a form and substance acceptable to the Association and following the guidelines included in the POM

Sections and Description

Not later than 24 months after the Effective Date, the Recipient shall have started implementing the single and unified public transport network, covering all inter- and intra-Municipal services, all in a manner satisfactory to the Association and in accordance with the guidelines included in the POM.

Conditions

Type	Financing source	Description
Effectiveness	IBRD/IDA	The Subsidiary Agreement has been executed between of the

		Recipient and AMT
Type Disbursement	Financing source IBRD/IDA	Description No withdrawal shall be made for Emergency Expenditures under Category (4), unless and until all of the following conditions have been met in respect of said expenditures: (i) the Recipient has determined that an Eligible Crisis or Emergency has occurred and has furnished to the Association a request to withdraw Financing amounts under Category (4); and (ii) the Association has agreed with such determination, accepted said request and notified the Recipient thereof; and the Recipient has adopted the CERC Manual and Emergency Action Plan, in form and substance acceptable to the Association.

I. STRATEGIC CONTEXT

A. Country Context

1. **Mozambique, located on the southeastern coast of Africa, covers 786,380 km², with a population of 31.5 million.** Between 2001 and 2015, the country exhibited strong economy performance, with gross domestic product (GDP) growing annually at 8 percent on average.[1] However, the sizable external debt burden, elevated inflation, and currency depreciation combined with the effect of climate-related disasters, specifically Cyclones Idai and Kenneth, contributed to slower growth between 2016 and 2019, to an annual rate of 3 percent, and due to the Coronavirus Disease 2019 (COVID-19) pandemic, in 2020 GDP contracted for the first time in three decades.[2] Furthermore, the escalation of the conflict in the north of the country, since 2016, has limited economic development.

2. **Despite its economic growth, Mozambique still has one of the lowest human capital indexes in the world.**[3] At 0.36, the country stands among the bottom 10 in the 2020 Human Capital Index (HCI):[4] a child born today in Mozambique will be only 36 percent as productive at 18 years as if s/he enjoyed full health and education. Also, while poverty fell 18 percentage points between 2008/09 and 2014/15, from 66.4 percent to 48.4 percent, estimations of the impact of the COVID-19 pandemic on the job market forecast an increase in urban poverty and inequality.

3. **Social and economic growth continues to be hindered by recurrent adverse climate impacts and climate risks are expected to increase with climate change.** Understanding and protecting the country from climate events are key drivers for the Green, Resilient, and Inclusive Development agenda. The geographic position, location, and size of Mozambique make it one of the countries most exposed to extreme weather events and natural hazards in Sub-Saharan Africa. The country has recorded 62 extreme disasters in the last 50 years (that is, 20 floods, 18 epidemics, 10 droughts, 13 cyclones, and 1 earthquake).[5] Recent extreme weather events, Cyclones Idai and Kenneth, caused economic slowdown in 2019, with GDP dropping 1.2 percentage points. In 2021, Cyclone Eloise affected more than 441,000 people.[6] Rainfall projections[7] estimate that the number of heavy rainfall events[8] will increase by 2060, particularly during the dry season (January–June).[9] Floods, triggered by cyclones and intense rainfall events, have become more frequent in recent years, and this trend is expected to continue due to climate change effects, posing a threat to Maputo City's road network, and ultimately to the Greater Maputo Area.

4. **The COVID-19 pandemic presents a further setback for the country's economic and social prospects.** The pandemic has reduced short-term growth opportunities for Mozambique. Livelihoods and

[1] World Bank. 2021. *World Bank Open Data*.
[2] World Bank. 2021. *Mozambique - 2021 Systematic Country Diagnostic: Coming Together for a Better Future (English).*
[3] World Bank. 2020. The Human Capital Index 2020 Update: Human Capital in the Time of COVID-19.
[4] HCI uses a range of 0–1. An economy in which a child born today can expect to achieve complete education and full health will score a value of 1 on the index.
[5] Global Risk Identification Programme. 2010. Disaster Risk Assessment in Mozambique A Comprehensive Country Situation Analysis.
[6] United Nations Office for the Coordination of Humanitarian Affairs (OCHA). 2021. *Southern Africa Humanitarian Snapshot*.
[7] Rainfall projections based on 35 available global circulation models (GCMs) used by the Intergovernmental Panel on Climate Change (IPCC) 5th Assessment Report.
[8] Defined as a daily rainfall total which exceeds the threshold that is exceeded on 5 percent of rainy days in the current climate of that region or season.
[9] Climate Change Knowledge Portal: Mozambique Climate Data Projections. World Bank.

food security worsened as incomes were affected by the slowdown in the general economy. It had a negative impact on economic activity, as social distancing and travel restrictions adversely affect demand for goods, services, and mobility of people. The negative impacts on income have affected urban and peri-urban areas more heavily, where social distancing measures and business closures had the most effects. COVID-19-related job and income losses were concentrated in the service sector (retail, transport, tourism, and so on) where the poor are predominantly employed.[10] The pandemic is expected to disproportionally affect poor populations in these sectors and areas, reducing sources of income from informal work and self-employment.

5. **A modest economic recovery is under way.** In 2020, GDP declined by 1.2 percent, owing to the COVID-19 pandemic. The pandemic hit the services and extractive sectors hard and led to a fall in domestic and global demand and a delay in major liquified natural gas (LNG) investments. The economy was already in a weak position when it entered the pandemic, due to a series of shocks, including the hidden debt episode in 2016, the insurgency in northern Mozambique from 2017 onward, and the tropical cyclones in 2019. Growth had slowed down sharply, from an average of 8 percent in 1993–2015 to 3 percent in 2016–2019. The economy has shown signs of recovery, with growth estimated to have reached 2.2 percent in 2021,[11] a combined outcome of agricultural growth and relatively strong recovery in services despite relative weak performance in extractives and manufacturing. The slowdown in COVID-19 cases allowed easing of social distancing measures globally and domestically, leading to a pickup in domestic and global demand.

6. **The medium-term growth prospects are positive but subject to considerable uncertainty.** Growth is expected to accelerate, reaching an average of 5.5 percent between 2022 and 2024, mainly reflecting LNG production. The Coral-South offshore LNG project is expected to start production in the second half of 2022 and will likely achieve full capacity between 2023 and 2024. Assuming favorable weather conditions, agriculture will maintain a positive performance in the upcoming years. Recovery in global demand and commodity prices will continue to support export gains, and foreign direct investment (FDI) inflows (mainly linked to LNG) will sustain investments. If the pandemic subsides and global mobility gains momentum, tourism, trade, and public services are poised to rebound. This will be reinforced by the resumption of LNG projects, boosting FDI and domestic demand for services, particularly real estate, hospitality, transport, and construction. However, considerable uncertainties remain, including from the pandemic, insurgency in the north, natural disasters, and rising import prices triggered by the war in Ukraine.

7. **The country has made progress in some areas toward gender equality.** The 2015 Japan International Cooperation Agency (JICA) Gender Assessment found that there are clear efforts from the Government of Mozambique (GoM) contributing to gender equality following the review of relevant laws, the establishment of gender units, and the development of gender policies across sectors and institutions. Nevertheless, the country has not yet been able to fully implement these changes.[12] The Gender Inequality Index (GII)[13] ranks the country 127 out of 162 countries. Mozambique has the fifth highest rate of child

[10] World Bank. 2021. Mozambique Economic Update: Setting the Stage for Recovery.
[11] World Bank. 2021. World Bank Open Data.
[12] JICA. 2015. Mozambique Gender Assessment.
[13] The GII measures gender inequalities in three aspects of human development—reproductive health, empowerment, and economic status (UNDP 2019).

marriage in the world, and as of 2015 approximately 46 percent of the girls between 15 and 19 years were either mothers or pregnant.

B. Sectoral and Institutional Context

Relevance of the Transport Sector for Economic and Social Development

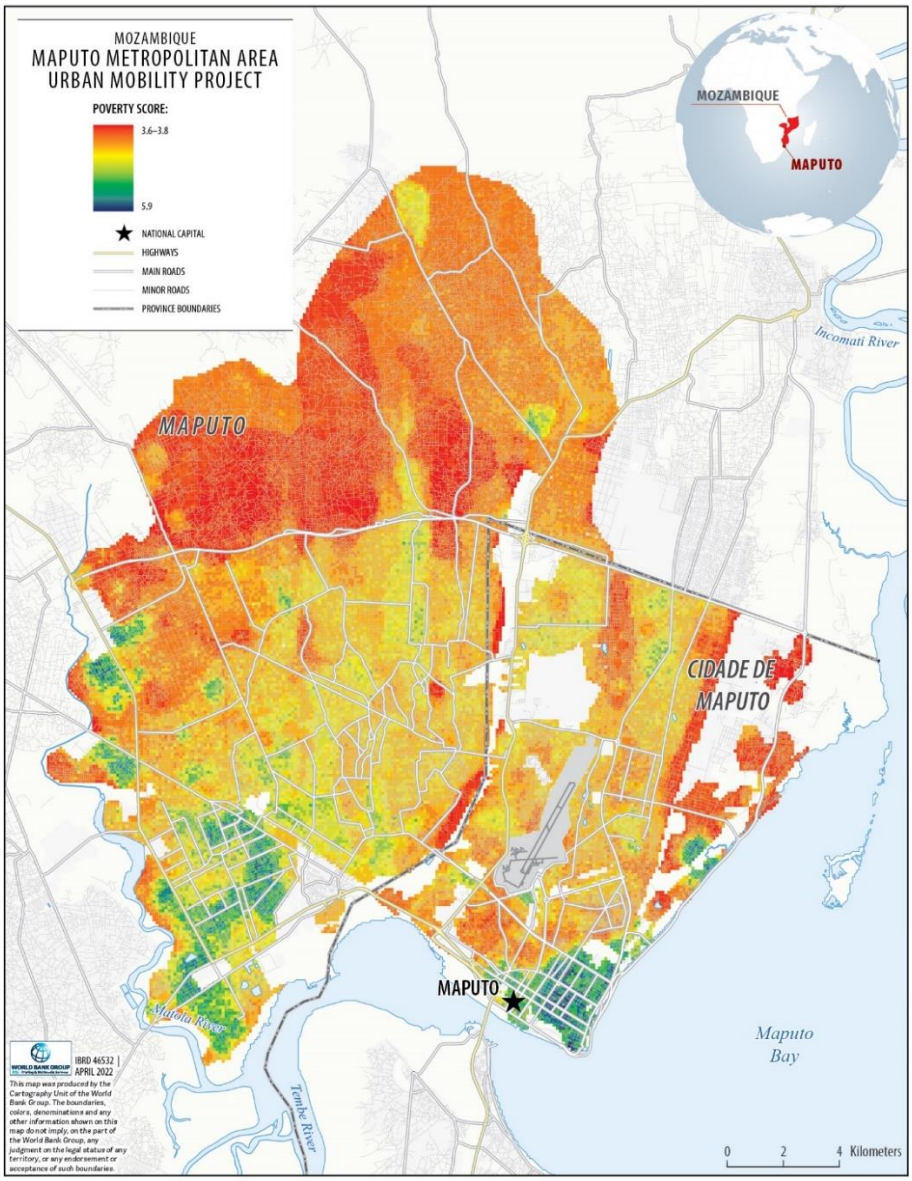
8. **Maputo, the capital of Mozambique is the country's main financial, business, and commercial center.** In recent years, residential and industrial development of Maputo has spread to the surrounding cities and districts of Matola, Boane, and Marracuene, creating the Maputo Metropolitan Area (*Area Metropolitana de Maputo,* AMM), also called Greater Maputo. The AMM holds approximately 8.5 percent of the country's total population, representing more than 5 times the population of Beira, the second largest city in the country, and contributing 17 percent to the national GDP. Within the AMM, Maputo and Matola together accommodate 88.5 percent of the AMM's population. This predominant position in the country comes with significant challenges associated with metropolitan areas growing at a fast pace.

9. **Economic development in the AMM in the last decades has been associated with a rapid and unprecedented growth in urbanization and motorization and greater need for the mobility of people and goods.** Population of the AMM increased by 60 percent between 2007 and 2017 from 1.9 million to 3.1 million, and it is expected to increase to almost 4.0 million by 2035. Matola is growing at the highest pace, more than doubling its population over a decade, from 0.68 in 2007 to 1.7 million in 2017[14]. In addition to high fertility rates, rural-urban migration is also driving this population growth. Jobs are mainly concentrated in Maputo City, while housing is growing on the outskirts of the cities of Maputo, Matola, and Marracuene. Demographic growth has also been accompanied by rising household income and exponential motorization growth, especially from the emerging middle class private cars, as alternative quality public transport is not available. The number of private cars in Maputo Province[15] and Maputo City grew by over 332 percent between 2009 and 2019, and in 2019, they represent around 80 percent of the national fleet.[16]

10. **Within the AMM, the deficient transport system and the large distance to reach opportunities limit the potential for agglomeration economies linked to the concentration of population, firms, and markets.** The AMM has dramatically low levels of accessibility and mobility which represent a major developmental challenge. The deficient access to jobs and services is a major constraint to urban economic productivity; it hinders the city's competitiveness potential and is a critical element of social exclusion underpinning urban poverty. The low level of access to job opportunities limits market opportunities for producers, impedes private sector investments by increasing costs, and prevents links between markets.

[14] Population of AMM is calculated as the aggregated of Maputo, Matola, Boane and Marracuene and based on the 2007 and 2017 Mozambique Census.
[15] Maputo Province is a province of Mozambique that has Matola as capital. Maputo Province excludes Maputo City (which comprises a separate province).
[16] *Instituto Nacional de Estatística* - INE/Moçambique. Statistical Yearbook years 2009 and 2019.

Figure 1. Poverty Level in the AMM (Higher Poverty Score: Poorer)



Source: World Bank 2019.

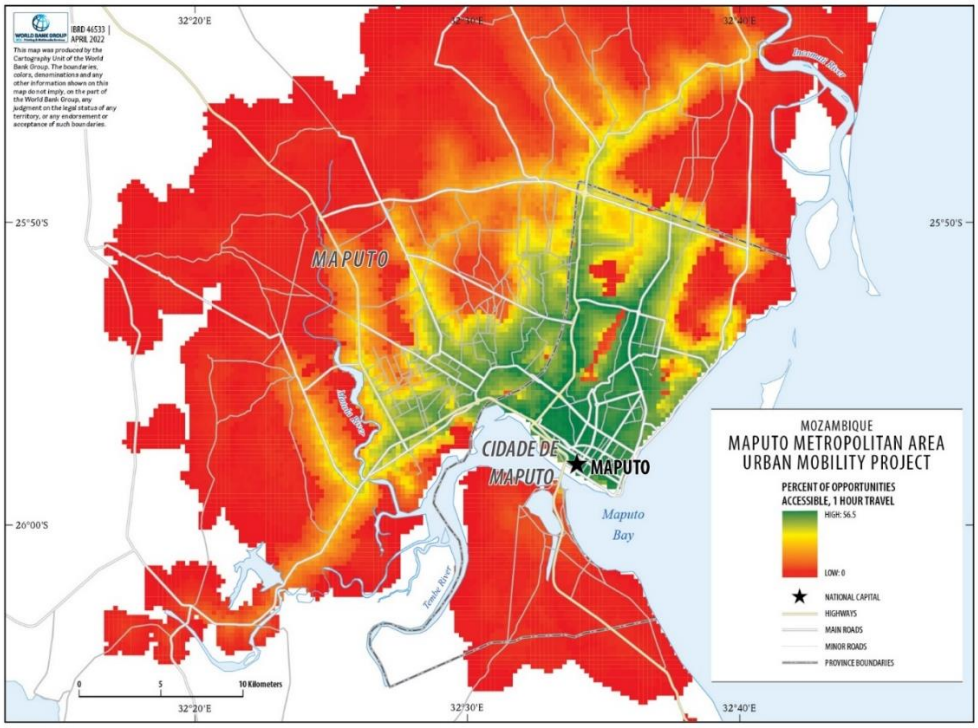
11. **The bottom 40 percent's inability to access opportunities[17] is an important element of social exclusion that defines urban poverty.** As of 2021, it is estimated that between 40 percent and 50 percent of the trips in the AMM are non-motorized (mainly walking trips). Among the motorized trips, informal minibuses (*chapas*) trips were estimated at approximately 44 percent, the balance being accounted by large bus operations (37 percent) and private cars (18 percent). Furthermore, only 2 percent of the cars in the AMM are owned by the two bottom quintiles.[18] So the bottom 40 percent walk or depend on public

[17] Access to opportunities is defined for the project as the number/percentage of jobs, educational centers, health centers, or other resources that are reachable within a certain travel time from selected places. The travel time threshold is often set at 60 minutes.

[18] Car ownership is concentrated in the top quintiles and deciles. About 98 percent of the cars in the AMM are owned by the top three quintiles and 91 percent are owned by the top three deciles. This shows car ownership is highly concentrated in the richest segments (2015 Household Budget Survey [*Inquérito sobre Orcamento Familiar*, IOF]).

transport (both formal and informal) for daily travel. The limited walking facilities and security issues, especially in low-income neighborhoods, are a barrier to access opportunities for a large proportion of the poor who walk on a daily basis. Additionally, public transport is inaccessible to a vast number of the poor because of their remote location, the poor road network, and highly irregular transport services (Figure 1 presents distribution of poverty within the AMM and Figure 2 presents the access to opportunities by public transport in the AMM). It is estimated that almost half of the AMM population (45 percent) does not have access to public transport services (either formal or informal).[19] Access to jobs by public transport shows major disparities among neighborhoods with particularly low access levels in low-income areas (Figures 1 and 2). Access to health and education facilities for the AMM's poorest population is one of the lowest in Africa, which contributes to social exclusion and further slows down the development of its human capital.[20] Linking the low-density, peripheral areas of the AMM, where most of the low-income groups live and most of the urban growth is happening, with jobs and social opportunities, remains a challenge.

Figure 2. Percentage of Employment Opportunities Accessible by Public Transport within 1 Hour Travel



Source: World Bank 2019.

Institutional Context

12. **Multiple government ministries and departments are responsible for planning, financing, implementing, and enforcing urban policies and plans in the urban transport sector.** The key

[19] The indicator of access to public transport services measures the proportion of population that has convenient access to public transport, which is considered within a walking distance of 500 m to public transport services. This indicator is in line with SDG Indicator 11.2.
[20] World Bank. 2020. Connectivity for Human Capital: Realizing the Right to Education and Healthcare through Improved Public Transport in African Cities.

stakeholders relevant to urban transport in the AMM are (a) the Ministry of Transport and Communication (MTC); (b) the local governments from the municipalities of Maputo, Matola, and Boane and from the districts of Marracuene and Matutuine; (c) state agencies, such as the Maputo Metropolitan Transport Agency (*Agência Metropolitana de Transportes,* AMT), the Transport and Communications Fund (*Fundo dos Transporte e Comunicação*, FTC), and the National Institute of Road Transport (*Instituto Nacional de Transportes Rodoviários,* INATRO); (d) state-owned enterprises, such as National Port and Railway Company (*Portos e Caminhos de Ferro de Moçambique*, CFM) and the municipal bus enterprises; and (e) private entities such as the privately owned bus cooperatives operating in Greater Maputo, the minibus associations, the Federation of Road Transport Associations of Mozambique (*Federação Moçambicana das Associações dos Transportadores Rodoviários*, FEMATRO), and the private railway operator Metrobus.

13. **The local government in the AMM consists of contiguous municipalities and districts.** These entities are administratively independent from each other, with limited mechanisms or obligations to work together at the planning, implementation, and development levels. Maputo Municipality has provincial status, the highest administrative level among the jurisdictions that conform the AMM. Matola and Boane are also municipalities but with sub-provincial status. Matola is the largest municipality in the country in terms of number of inhabitants, and Boane, established only in 2014, is the largest in terms of geographical area. Finally, Marracuene and Matutuine have district status. In matters of transport, the local government has responsibility for (a) regulation and registration of all motor transport vehicles; (b) regulation and supervision of public transport services, including tariffs; (c) development, maintenance, and management of local roads (that is, non-national); (d) traffic management regulations, including parking control; and (e) municipal police, including traffic police and enforcement. Local government units have departments and dedicated personnel to perform these functions. There is no 'Greater Maputo' administrative structure, although recent efforts to improve coordination in urban transport among municipalities included the creation of the AMT by the MTC.

14. **The AMT** was established by Decree No. 85/2017 of December 29, 2017, as a "regional institution with jurisdiction over the municipalities and districts of Maputo Metropolitan area,"[21] aiming "to coordinate and implement the Maputo Metropolitan Area Transport and Mobility Master Plan." In particular, the AMT is mandated to (a) carry out the metropolitan-level strategic planning and management of public transport network and assets, (b) define routes, (c) organize and monitor passenger transport services to enter contracts or grant concessions for passenger transport services and assets, and (d) ensure quality in service provision and approve metropolitan-level fares. While the functions of the AMT are comprehensive and well defined, the decree does not provide a role for the municipalities and districts in the governance structure nor any protocols for how the AMT would interact with them or clarify how the overlapping mandates of the AMT and the municipalities are to be aligned in matters such as authorization, award, or management of bus routes.

Key Challenges Facing the Sector

15. The following key sectoral challenges are observed in the AMM: (a) inadequate public transport services, dominated by informal modes; (b) limited non-motorized and motorized infrastructure, especially in the last mile to access low-income neighborhoods; (c) limited human capital in the transport

[21] Specifically, Maputo, Matola, Boane, Marracuene, and neighboring districts.

sector and challenging institutional coordination; and (d) cross-cutting issues such as climate exposure, road safety and gender, and groups in situations of vulnerability.

16. **Passenger transport services in the AMM suffer from inadequate supply and dominance of informal transport modes;[22] hence, the GoM has initiated reforms for professionalization of the sector.** Public transport provision in the AMM is characterized by inadequate supply of public transport and a dominance of informal private minibuses. The main road-based public transport operators in Maputo include (a) private cooperatives of large bus operators; (b) private minibus/*chapa*[23] operators; (c) public large bus operators; and (d) other informal/illegal operators such as open-backed trucks, locally known as *myloves.*[24] The primary causes of insufficient public transport supply are (a) lack of an effective, empowered transport authority to develop the services; (b) low viability in the sector, which discourages investment; (c) low productivity in the sector, due largely to severe traffic congestion; and (d) lack of finance for vehicle investment.

17. **The *chapas* have emerged in the last decade as the main form of informal public transport due to the gradual decline in state-provided services**. *Chapas* have served an important purpose in providing mobility to people on a daily basis and employment to a vast number of migrant and low-income populations. However, they have also contributed to negative externalities such as air pollution, greenhouse gas (GHG) emissions, and poor safety and security. Vehicles tend to be old diesel vehicles with technology under Euro 2 standard and in poor condition, which often compromise safety and comfort and are great contributors to local air pollution and CO_2 emissions. The 'fill-and-go' practice means that passengers may have to wait for a long time in off-peak hours, with little hope of being able to board a vehicle mid-route. Bus stops are informal with few or no facilities. The informal labour conditions make *chapa*s workers highly vulnerable. While the majority are part of an association, operations are conducted wholly on an individualized basis, with vehicles purchased and managed by individual owners rather than by the associations. The arrangements are typically informal, lacking any contractual relationship between the owner and driver and lacking any type of social or health coverage. Furthermore, *chapa* drivers absorb the operation demand risk, which translates into income insecurity and harsh labor conditions to cover the daily rental of the vehicle and other payments. This income insecurity, long working hours, and lack of social coverage have been even more exacerbated during the COVID-19 period.

18. **In an effort to professionalize and formalize public transport sector, in 2016, the GoM introduced a cooperatives model, aiming to provide formally organized and privately operated bus service in the AMM.** Currently, there are 10 cooperatives operating 350 large buses under agreement with the AMT and FTC. These cooperatives are legal entities, formed from *chapa* operators. The GoM had facilitated the access to new buses through FTC and engaged the new cooperatives under a leasing contract. At the end of the month, the cooperative repays the vehicle financing fee to the GoM, plus any other periodic obligations. While the cooperatives model is a step in the right direction and has been moderately successful, it may be viewed as the first stage of a much-needed industry transition. The ownership continues to be fragmented, the cooperatives lack professional management, they have not

[22] Informal transport refers to the privately operated, small-scale transport services outside the officially sanctioned public transport sector, often called 'paratransit'.
[23] *Chapas* is the collective term used by the people of Mozambique for privately operated vans and minibuses, mostly 15-seater and also 26-seater vehicles.
[24] *Myloves* are open-backed vans and small trucks in which passengers are carried in the rear, sitting on the side panels or standing on the open interior. They get their name from the need for passengers to frequently hold on to other passengers to stay upright or to avoid falling out of the vehicle.

yet transitioned to integrated corporate entities with methods and scale that can achieve good quality at optimized cost, and they still lack experience and capacity to operate formal large buses. These initial steps need to be followed by significant further development, with a particular focus on (a) establishing cooperatives as integrated corporate entities under professional management and adequate work ethics; (b) developing a robust business plan, considering the vehicle price, fare structure, nature of demand, and operating conditions to ensure financial viability of the bus renewal scheme; and (c) establishing a strong and well-resourced regulatory body.

19. **The quality of the transport infrastructure in the 'last-mile' to access low-income neighborhoods does not meet population needs and limits access, especially of the poor, women, and vulnerable groups.** In the informal neighborhoods of the extensive peri-urban metropolitan area of Maputo, the access roads are mostly unpaved, lack drainage, and are prone to deteriorate rapidly in the rainy seasons. The bad condition of these roads dissuades operators of buses and minibuses to travel on them, to prevent damaging their vehicles. The result is that many of the residential areas lack any organized public transport, and residents must either avail of informal and unsafe transport modes (which can be expensive) or walk long distances to where public transport is available. Recent research in low-income neighborhoods in the area of influence of the project[25] observed that the low-income groups walk more or use more informal modes (*chapas*) and hardly any private cars. Furthermore, non-motorized infrastructure and lighting are either lacking or deficient in many of the same neighborhoods. The same research pointed out that a large proportion of the population in those neighborhoods walk on a daily basis and do not feel safe from a road safety and physical security point of view. Around 40 percent of people surveyed did not feel physically safe on the journey to the bus stop, and 25 percent did not feel safe from traffic while walking in neighborhoods. These challenges disproportionally affect women and the poor. Focus group discussions found agreement by participants that, along the risk of COVID-19 due to overcrowding at stops, the walk to bus stops was unsafe, with uncomfortable (unpaved) pathways and lack of lighting creating insecurity, particularly for early morning and late-night journeys. Also, the bus stops themselves were perceived insecure due to the lack of lighting. However, in AMM the provision of adequate street lighting remains a challenge, not only due to the initial investment cost, but also due to the high associated operating costs (electricity cost, maintenance). The piloting of renewable energy solutions for lighting, that promotes more environmentally friendly solutions and represents lower operating cost, has been identified as a priority by municipalities.

20. **Ministries, local government, government agencies, and academia in the transport sector lack capacity, resources, and proper institutional coordination.** Different levels of the Government have limited capacity in terms of manpower, specialized skills, and expertise in urban transport planning, regulation, management, and financing. The establishment of the AMT has been an important step to address the institutional coordination and public transport regulatory issues; nonetheless, the AMT remains substantially under-staffed to fulfill its mandate. Among other things, the AMT holds the contracts with the cooperatives, although it does not yet actively monitor the services and manage the contract fulfilment. Going forward, it would be critical to strengthen the technical capacity of the AMT to lead and add value throughout the urban passenger transport system in the AMM; develop its capacity to design, manage, and sustain the new bus concessions or contract models; mobilize financing; and gain industry sector acceptance for this approach. Furthermore, it would be critical to enhance the capacity of municipalities to implement their urban transport mandate, with a coordinated regulation of public

[25] FIA Foundation and the World Bank. 2022. Learnings from a Citizen Perspective on Urban Transport Reform in Africa.

transport between the local and metropolitan levels, as well as enhance the regulation and enforcement of parking and traffic management.

21. **Road safety is a problem in Mozambique, in general, and in Maputo, in particular.** The country has experienced a significant increase in road trauma over the past decade. Mozambique has one of the worst road safety records in Africa and in the world. It is estimated that each year between 7,000 and 10,000 people die on Mozambique's roads, with a further 120,000 serious injuries per year.[26] It is estimated that road crash deaths and injuries are costing Mozambique 10 percent of its GDP each year.[27] Vulnerable road users, particularly pedestrians, are at high risk, representing around 70 percent of deaths, well above the average for the region. Maputo City suffers on average the highest number of deaths and injuries by region in Mozambique. Figures for the third quarter of 2021 from INATRO indicate that almost one-fourth of all crashes resulting in injury in the country occurred in this area. Although the proportion of deaths is less (at around 10 percent for all Mozambique), it was noted that these road crash deaths had increased by 17 percent over the same period in 2020.

22. **The AMM's transport system is highly exposed and vulnerable to climate change and natural disasters, especially to flash floods, and this exposure is projected to worsen.** The AMM has historically suffered from significant flood events,[28] exacerbated by the rapid urbanization in hazard-prone areas. Informal settlements and areas of key economic activity have been the most affected.[29] Unpaved roads, poor drainage infrastructure and management, lack of maintenance and outdated design standards, and the city's overall lack of urban planning worsen the effects of flood events. Current flood events prevent residents from accessing public transportation, lower traveling speeds, and create disruptions in the network, reducing substantially the ability of people to reach employment opportunities and access services or health and education facilities. This vulnerability translates to frequent disruption of the transport services during the rainy season. A recent survey in the AMM[30] found that flooding affected the travel of 36 percent of respondents during the rainy season, with impacts ranging from people changing routes (15 percent) to people being prevented from getting to their destination (3 percent). Extreme heat is also being experienced in the AMM, affecting transport services and non-motorized transport (NMT) as well as road infrastructure, through pavement deformation and reducing of pavement durability. Heavy rainfall events and extreme heat are projected to increase in intensity with climate change, raising the exposure of the public transport system to natural hazards. Moreover, Maputo and Matola are projected to continue the accelerated urban growth, with an increase of unplanned settlements in vulnerable areas, which will only exacerbate the risk and impacts of urban flooding events[31] on connectivity, road conditions, and transport services. The impact from climate events will negatively affect public transport services by reducing operating hours and accessibility.

23. **Existing gender gaps in the transport sector, both in mobility and employment, represent a significant social and economic development challenge.** Access to transport services is even more challenging for low-income women and other groups in situations of vulnerability in the AMM due to their

[26] World Bank. 2019. Guide for Road Safety Opportunities and Challenges: Low- and Middle-Income Countries Country Profiles.
[27] World Bank. 2019. Guide for Road Safety Opportunities and Challenges: Low- and Middle-Income Countries Country Profiles.
[28] Notable examples are (a) the major flooding event of 2000, which affected the Limpopo, Maputo, Umbeluzi, Incomati, Buzi, and Save River Basins, following record rainfall as a result of three cyclones and affecting more than 2 million people, resulting in 700 deaths, and (b) the most recent event that occurred in February 2021 where around 3,000 houses were flooded in Maputo Province and many districts were isolated while roads were flooded as the Incomáti River broke its banks and the Umbeluzi River overflowed.
[29] Overseas Development Institute. 2015. Understanding Patterns of Climate-Resilient Economic Development Maputo: Mozambique.
[30] World Bank. 2021. Urban Mobility Diagnostic of AMM.
[31] World Bank. 2017. Mozambique Urbanization Review.

transport behavior and travel needs. Women in Maputo tend to make trips that align with 'duty-of-care' purposes including shopping, taking children to school, and visiting other relatives. While trips categorized as related to the informal economy represent a similar share of overall trips for both male and females, 14 and 12 percent, respectively, trips categorized as performing shopping activities for females represent more than double of those of men, standing at 18 percent for women and 7 percent for men[32] of the total trips. Work or business-related trips represent over half of the total trips for men and over one-third of trips for women.[33] Women travel more often with company (25 percent for women versus 15 percent for men) as they have to escort children and other family members; this can increase their travel time. Women's mobility has disproportionally been affected during COVID-19, as the pandemic added responsibilities that increased their time poverty. An online survey conducted in 2020[34] showed that 35 percent of surveyed females in Mozambique considered that the amount of time they spend on household chores has increased during the COVID-19 pandemic.[35] Also, 23 percent of men considered their time spent doing household chores has increased. Queries about the time spent on a typical day on domestic tasks or family care activities showed that women averaged 9.1 hours of household work, which is almost 4 hours more than the 5.2 hours for men. Safety and security constitute a major concern for women, and it influences their choices on travel mode, time, and origin and destination or whether they travel at all. A study conducted by the Eduardo Mondlane University in two densely populated districts of Maputo found that 65.7 percent of girls between 12 and 17 years indicated having experienced some form of violence in a public space, compared to 54.4 percent of women who are over 18 years. The study also revealed that one of the factors preventing gender-based violence (GBV) in public spaces is good lighting; even though almost all respondents mentioned that public illumination is available in the streets, 43 percent considered it as not satisfactory. Another survey revealed that over 90 percent of girls feel unsafe when traveling after 10 p.m. [36] Labor in the transportation sector shows big disparities between genders, with the International Labour Organization reporting that, in 2019, from the total people employed in the transportation, storage, and communication sector, only 6 percent are female.[37] Barriers to employment in the transport sector relate to entry (difficulties to transition from school to work, perceptions of transport sector jobs as masculine, and recruitment practices that are not gender sensitive), retention (lack of adequate benefits as maternity leave, childcare services, and flexible schedules), and promotion (lack of mentors, trainings, and career advice). Bringing more women into the transport sector can help address a supply gap on the sector while providing better employment opportunities, including for those whose livelihoods have been affected disproportionally as a result of COVID-19. Besides the clear benefits of bringing more women into the transport sector in terms of gender equality, there are clear financial and innovative benefits of bringing women into the workforce, especially in medium- and high-level positions.[38]

24. **Persons with disabilities (PWDs) are another group in a situation of vulnerability that experience disproportional barriers to access opportunities.** In Mozambique, it is estimated that

[32] World Bank. 2021. *Study of Urban Transport in Metropolitan Maputo*.
[33] To better understand the passenger experience, interviews were held during project preparation with approximately 2,000 travelers on the street in Maputo. Travelers asked about the characteristics of their last journey, what decisions guided their transport choices, and their opinions on travelling in Maputo.
[34] Facebook's Survey on Gender Equality at Home (2020) covers topics such as gender norms, unpaid and household care, access and agency, and COVID-19. The results represent the 'online population' in Mozambique, not only Facebook users.
[35] Survey on Gender Equality at Home (2020). https://data.humdata.org/dataset/survey-on-gender-equality-at-home?fbclid=IwAR1dHtKAhp86vD5qQsAJkOGPDt33rzYzvzP3XpyT4qA973tPsaBUsRArPyw.
[36] FIA Foundation and the World Bank. 2022. Learnings from a Citizen Perspective on Urban Transport Reform in Africa.
[37] International Labor Organization (2019).
[38] World Bank. 2020. Stepping Up Women's STEM Careers in Infrastructure Summary Note: Entry Points for World Bank Project Teams.

disability affects 2.7 percent of the population, of which 21 percent are children between 0 and 15 years[39]. In Mozambique, the rights of PWDs are protected by the Constitution (Article 37 and 125). The country has signed and adopted the main legislative instruments and frameworks to protect the rights of PWDs. In particular, in 2012, Mozambique ratified the United Nations International Convention on the Rights of Persons with Disabilities (UNCRPD). The country has adopted the first National Disability Action Plan (2006) and the Strategy for People with Disabilities in the Public Service (2009) and set up the National Disability Council (2010). Regarding transportation and mobility, the National Transport Regulation[40] establishes specific provisions for PWDs (such as discounts or exemption of payment on public transport), and the Construction and Maintenance Regulation for Accessibility[41] set the principles to provide PWDs with favorable conditions of accessible public spaces. Even with this legislative background, there have been limited efforts to address the specific needs of PWDs in urban transport. In addition to service quality, design considerations, social dynamics, and enforcement are crucial elements for an inclusive public transportation system.

25. **COVID-19 and urban mobility in the AMM.** The AMM acted promptly to put in place preventive measures to protect people from the spread of COVID-19 and ensure safe public transport operations. Physical distancing was included among the measures adopted by the AMM to protect people from the spread of the virus. The preventive measures adopted ranged from different degrees of travel restrictions to accompanying hygiene regulations, for example, limiting the maximum number of passengers per minibus/bus, cleaning stations and vehicles, enforcing hand sanitizing before boarding, and wearing face masks while on board. These measures were supported by public awareness campaigns promoted through radio, TV, social media, and the information disseminated in local communities and transit stations. There was nevertheless an important gap between preventive measures proposed and adopted ones. Furthermore, the formal and informal public transport sector in the AMM has taken a significant hit as lockdowns and preventive measures have had a major impact on businesses and on people's mobility. The impact is observed in three dimensions: (a) impacts on people's mobility, (b) impact on transport operators, and (c) impact on sector workers.

Brief Description of Solutions that the Project Proposes

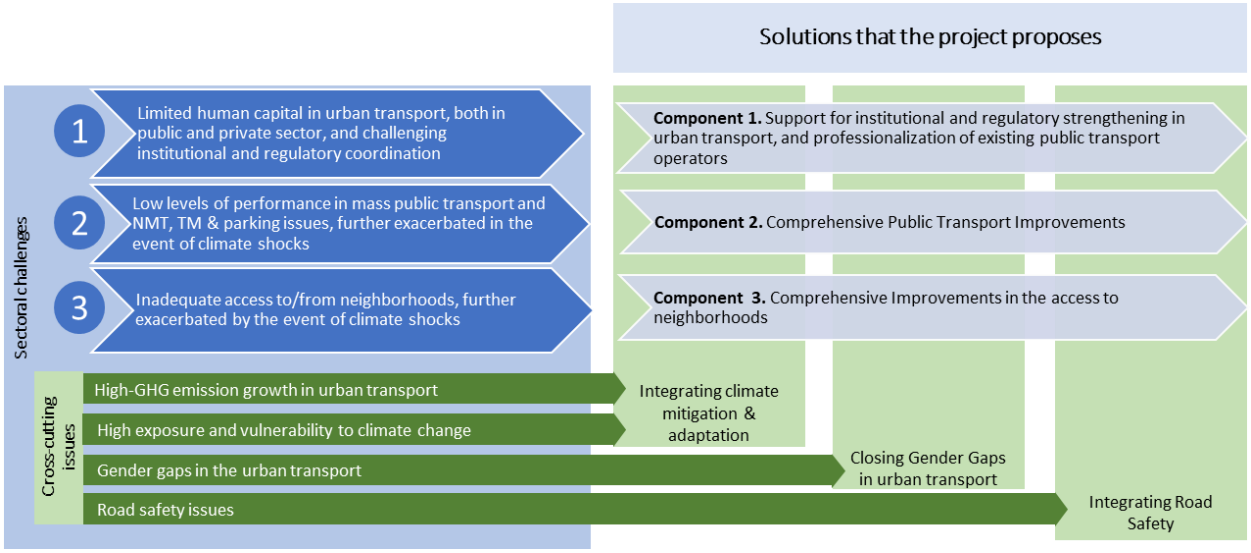
26. **The proposed project offers an integrated approach to respond to the urban mobility challenges of the AMM and to support the longer-term objectives of making the metropolitan area more competitive, greener, and more resilient.** Greater Maputo is now at a turning point to fulfill its potential as an engine for transformation of the country. However, if the metropolitan area continues to follow past trends, it will hinder its contribution to the country's growth. The proposed project aims to foster changes in the way the city is growing from a congested, car-oriented city to a green, resilient, and people-oriented city, where walking and public transport are at the core of the metropolitan vision. This will facilitate the modal shift to lower carbon transport modes, improve the climate resilience of the transport network, and make the transport system more inclusive to vulnerable groups such as low-income residents, women, and PWDs. The project design has integrated innovative approaches to catalyze structural

[39] Instituto Nacional de Estatística. IV Recenseamento Geral da População e Habitação, 2017. Quadro 14. População Por Tipo De Deficiência, Segundo Sexo, Área De Residência E Idade. Moçambique, 2017.
[40] Decree-Law No. 11/2009.
[41] Decree No. 53/2008, Regulamento de Construção e Manutenção dos Dispositivos Técnicos de Acessibilidade, Circulação e Utilização dos Sistemas de Serviços e Lugares Públicos à Pessoa Portadora de Deficiência Física ou de Mobilidade Condicionada, in English "Construction and Maintenance Regulation of Technical Devices for Accessibility, Circulation and Use of Services and Public Places to People with Physical with Physical Disabilities or Limited Mobility."

changes in the sector, including the (a) focus on digitalization of the sector, (b) integration of women and people in situations of vulnerability, (c) integration of private sector participation within a long-term program of formalization of public transport, and (d) focus on building human capital, supporting the next generation of urban mobility leaders in Mozambique.

27. The project includes three main components that respond to the main challenges in the sector (Figure 3).

Figure 3. Solutions that the Project Proposes in Relation to the Key Challenges in the Sector



C. Relevance to Higher Level Objectives

28. **The project is aligned with the World Bank's twin goals, the Country Partnership Framework (CPF) for 2017–2021 discussed by the Board on 27th April, 2017 (Report No. 104733-MZ), the Mozambique Performance and Learning Review (PLR) (Report No. 144024-MZ), the Systematic Country Diagnostic (SCD) 2021 (Report No. 165084-MZ), and other key lending operations.** The project contributes to the twin goals of the World Bank Group (WBG) of ending extreme poverty and promoting shared prosperity, as well as the World Bank's commitment to the Climate Change Global Agenda by supporting the mitigation agenda with the development of greener modes of transport and the adaptation agenda by increasing urban resilience to climate risks. The project also builds upon the Mobilizing Finance for Development (MFD) approach to help clients maximize their development resources by drawing on private financing and sustainable private sector by attracting the private sector into the financing and operation of public transport and other urban transport functions.

29. **The project is aligned with Mozambique CPF Focus Area 3 of Enhancing Sustainability and Resilience, directly supporting Objective 10 'Promoting Inclusive Urbanization and Decentralization', and with the new CPF under preparation.** This operation is aligned with the CPF and its objective of reducing the country's poverty and increasing the incomes of the bottom 40 percent of the population. The operation is directly contributing to Objective 10 by improving the urban space in a sustainable and inclusive way and strengthening the institutional capacity of selected stakeholders. The project also supports Objective 11 'Improving Management of Climate Risk and Natural Resources' and Objective 8

'Increased Accountability and Transparency of Government Institutions'. The CPF recommends that new lending focuses on improving infrastructure and services for the urban poor and urban planning. The project is also aligned with the new CPF under preparation, with high-level outcomes of accelerating structural transformation and strengthening institutions for better service delivery and more sustainability.

30. **The project is also aligned with the WBG's Climate Change Action Plan 2021–2025[42] and the Next Generation Africa Climate Business Plan**,[43] which highlights the urgency of countries to ramp up climate-smart development. The project aims to reduce GHG emissions and strengthen climate resilience of the transport sector and communities served and, in this way, also contributes to the objectives of the Mozambique's Nationally Determined Contributions (NDCs) to the United Nations Framework Convention on Climate Change (UNFCCC)[44] and the World Bank Africa Region Strategy (2019–2023).[45] Lowering emissions in urban mobility systems is vital for the transition toward a climate-neutral economy. The delivery of a climate-resilient bus rapid transport (BRT) is consistent with the commitments of Mozambique made as part of the country's NDCs and the National Adaptation Programs of Actions (NAPAs). The project will not only build resilience of the BRT infrastructure to climate change impacts but also aim to build system-level resilience by enhancing mobility in the AMM and the ability of citizens to seek shelter in extreme climate events. The proposed project will address climate change challenges, in terms of mitigation, through modal shift toward lower carbon transport modes and improved transport efficiency, as well as adaptation, through the selection of climate vulnerable corridors and feeder roads for transport infrastructure upgrades, observing climate resilience design and construction standards and improved maintenance. The physical integration of transport modes will enhance efficiency and resilience of the transport network and of the communities served.

31. **The project is aligned with the strategic urban mobility plans for Greater Maputo**, including the Comprehensive Urban Transport Master Plan for Greater Maputo (2015–2035) and the Maputo Municipality's Municipal Development Plan (2019–2023). Key recommendations on the institutional, regulatory side and on physical investment in infrastructure, traffic, and parking management have been incorporated in the project design. The selected BRT corridor was included in both strategic documents, Comprehensive Urban Transport Master Plan for Greater Maputo (2015–2035) and Maputo Municipality's Municipal Development Plan (2019–2023).

32. **The project also complements and leverages other lending and analytical work in Mozambique.** The project will complement the investments in the Maputo Urban Transformation Project (P171449) which aims to improve urban infrastructure and strengthen institutional capacity for sustainable urbanization in Maputo. The project is also promoting cross-cutting collaborations with ongoing digital development projects in the country, including the Mozambique Digital Governance and Economy Project – EDGE (P172350) and Mozambique Digital Acceleration Project - MDAP (P176459). These two projects are building the capacity of the central Computer Emergency Response Team and setting up the national framework for cybersecurity. The intelligent transport system (ITS) developed under this project aims to integrate cybersecurity resilience in its design to comply to the future regulations being developed under the EDGE and MDAP projects. The project is also building on the analytical work of Sustainable Urban

[42] World Bank. 2021. *World Bank Group Climate Change Action Plan 2021–2025: Supporting Green, Resilient, and Inclusive Development*. World Bank.
[43] World Bank. 2020. *The Next Generation Africa Climate Business Plan: Ramping Up Development-Centered Climate Action*. World Bank.
[44] Intended Nationally Determined Contribution (INDC) of Mozambique to the UNFCCC.
[45] Supporting Africa's Transformation: World Bank Africa Strategy for 2019–2023.

Mobility and Private Sector Participation in Greater Maputo Project (P171048) by investing in urban infrastructure and improving urban mobility that supports upgrades in the metropolitan urban transport system, as well as the recently completed Road Safety Advisory Services and Analytics (ASA) (Mozambique: Preserving Human Capital through Improving Road Safety, P172125), to support the design of safer urban transport in Greater Maputo. There are also similar links in the area of road safety with the planned Safer Roads for Socio-Economic Integration in Mozambique Project (P174639), which supports the implementation of a comprehensive plan to enhance safety laws and regulations, improve coordination in road safety, and enhance awareness and education. The project will build upon and complement these activities, supporting an enhancement in the safety regulations for public transport vehicles in AMM, building capacity and coordination of central and local institutions in AMM, and supporting safety awareness programs and education with a focus on pedestrian and public transport safety.

II. PROJECT DESCRIPTION

A. Project Development Objective

PDO Statement

33. The Project Development Objective (PDO) is to improve mobility and accessibility along selected corridors in the Maputo Metropolitan Area.

PDO Level Indicators

34. Achievement of the PDO is expected to be evaluated using the following key result indicators:

(a) People benefiting daily from improved urban mobility in the selected public transport corridors (Number, gender disaggregated)

(b) Change in the share of AMM residents with access to the CBD (Baixa) within 60 min using public transportation (Percentage)

(c) User's satisfaction of the BRT system (percentage, gender disaggregated)

(d) People benefiting from improved climate resilient roads in the access roads to neighborhoods (Number).

B. Project Components

Component 1: Urban Transport Institutional and Regulatory Strengthening and Public Transport Industry Professionalization (IDA grant: US$20 million equivalent)

35. This component will finance technical assistance (TA) and capacity building for institutional and regulatory strengthening in urban transport, building of human capital in the sector, and professionalization of formal and informal operators, focused on the following:

(a) Provision of support for institutional and regulatory strengthening of urban transport at national, metropolitan, municipal, and local government levels. This subcomponent will finance services, goods, and works to support the following:

(i) **Enhancement of the institutional framework for urban mobility in the AMM.** This TA program and capacity building will address the identified weaknesses in the metropolitan framework, in particular the relationships between the municipalities and the AMT and the overlap of metropolitan and municipal mandates for planning, regulating, and managing transport services. It will support the revision of the legal framework of the AMT to resolve the issues of overlapping mandates between the AMT and the municipalities and ensure full representation of the municipalities in the governance of the AMT and the development of the working protocols and coordination mechanisms between those working at the metropolitan level and at the municipal level.

(ii) **Enhancement of the regulatory framework of public transport.** This TA program and capacity building will support the planning and establishment of an integrated metropolitan public transport system as defined in the AMT decree, including, among others, the development of a harmonized regulation of public transport at the metropolitan and municipal levels, in particular on route licensing, concessions, and other procedures; the establishment of a bus contract management unit at the AMT, including monitoring capability and supporting within contractual obligations that contribute to promote women's safety, such as codes of conduct, gender sensitization, and violence prevention trainings of operators; the development of new key performance indicator (KPI)-based contracts for all licensed public transport services, with practical oversight and compliance incentives; and the transformation of bus cooperatives into bus companies.

(iii) **Building of human capital in urban transport in government and the youth.** This activity will finance capacity building in urban transport at two levels: capacity-building program for public sector staff at the national, metropolitan, municipal, and local government levels, including programs to improve the air quality measurement in the AMM, among others, and Young Professionals Program (YPP) in Urban Mobility in partnership between the AMT/MTC and/or University Eduardo Mondlane or another university. The capacity-building programs under this subcomponent will explore urban transport at a technical and executive level, considering cross-cutting themes such as gender, climate change,[46] and digitalization. This program will have a strong focus on bringing women into the sector and addressing their specific barriers for entry and transition from school to work.[47] An analysis of the barriers and facilitators for women to be recruited and retained in the sector ministries and agencies will be conducted, with a special emphasis on human resource procedures, benefits, and organizations' environment and culture. The analysis will inform an action plan to promote women's participation in the sector institutions by defining potential activities

[46] More details on the gender and climate dimensions in the project are presented in the 'Technical Note I. Gender and Climate Considerations in the Maputo Metropolitan Area Urban Mobility Project' (World Bank 2022).

[47] The participation in the YPP will enable the creation of a roster of women to be employed in the transport sector and facilitate transition from school to work, among other benefits. The recruitment of women through the program will demonstrate the benefits of diversity in the workplace and role modeling for future generations.

that contribute to address the recruitment, retention, and promotion barriers that women face, with specific recommendations targeted to the YPP. A quota of at least 30 percent women acceptance into the program will be established. While the YPP will be developed as a training program, the project will pursue a hiring target of 20 percent of women transport specialists graduated from the YPP as staff in the Government and/or within the private sector in areas related to transport planning that require their specialized skills.

(iv) **Supporting mechanisms for citizen engagement.** This activity will support the establishment of grievance redress mechanisms (GRMs) and public consultation mechanisms in the AMT. Currently such mechanisms are not available and this hinders effective engagement with stakeholders, particularly users of transport and marginalized groups. This intervention will also include mechanisms for strengthening systems for monitoring and reporting on sexual exploitation and abuse/ sexual harassment (SEA/SH) incidents. Digital platforms will be explored for such engagement, requisite systems and manuals will be developed, and capacity enhancement will be undertaken.

(b) Provision of support for the preparation and implementation of a professionalization program of existing formal and informal public transport operators along the project corridor. This activity will finance TA programs and capacity building focused on operators in or related to the BRT corridor. The capacity-building program will be implemented with the objective to equip the newly formed operating companies with the technical, management, and operational skills required to enable the incumbent operators to participate in the project. The efforts of professionalization will build on the experience initiated by the GoM in 2016 with the creation of cooperatives and implementation of automatic fare payment system (see the sectoral context section for more details). The subcomponent will also finance a technical assistance for fleet renewal and a pilot aiming at creating women-led companies of operators. The pilot will be informed by an analysis of the barriers that women face to constitute themselves as transport operators and be competitive in bidding processes.

Component 2: Comprehensive Public Transport Improvements (IDA grant: US$160 million equivalent)

36. This component will finance the first BRT system of the AMM, integrating improvements in infrastructure, traffic management, digital technologies, and operations management, in a manner that will contribute to improve public transport, enhance safe mobility for pedestrians, and build a more inclusive public transport system, with particular focus on women, low-income groups, and PWDs. The 'core' BRT corridor will comprise a segregated section of 19 km extending from *Baixa* in the Maputo City Centre to *Praça da Juventude* in *Magoanine* and to *Rotunda Missão Roque* in Zimpeto. Furthermore, the BRT service will introduce direct service routes that extend beyond the 'core' corridor to connect to other major terminals in Maputo, Matola, and Marracuene through additional 46 km of non-segregated BRT services. An estimated 124,000 passengers per day will be served by six BRT services. Annual BRT system ridership is estimated to be around 40 million person-trips.

Figure 4. Core BRT and Direct Service Corridors

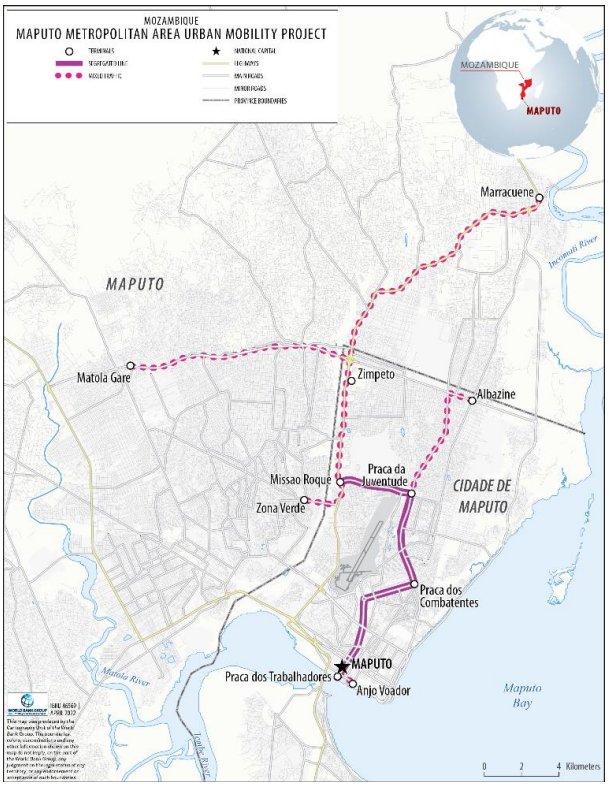
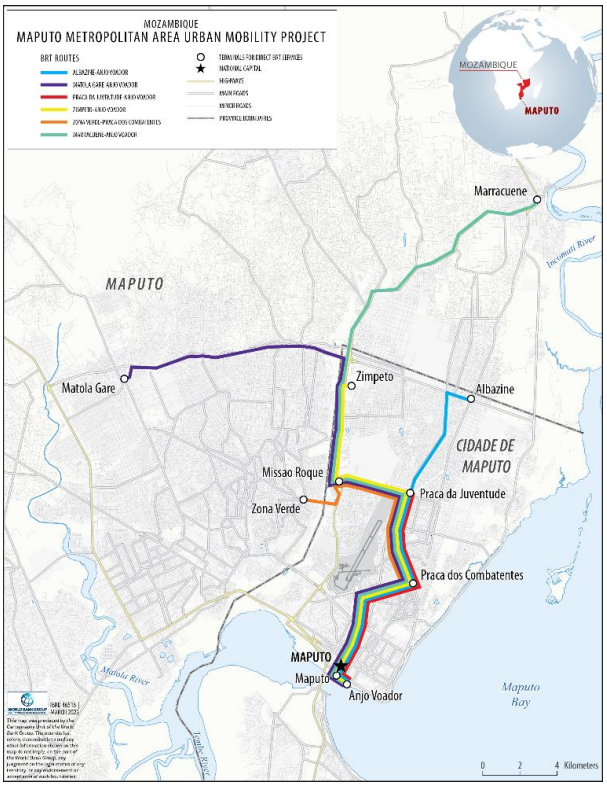


Figure 5. Indicative Service Plan



37. This component will finance works, goods, and services focused on the following:

(a) **BRT infrastructure.** This activity will finance construction and supervision of the BRT infrastructure and associated facilities in the selected BRT and feeder corridors, including segregated transitway, bus lanes, stations, terminals, bus depots, road safety improvements, NMT facilities, intersection improvements, traffic management, route-wide parking and loading management, streetscape, renewable energy street lighting, open-space improvements, and environmental design for violence prevention.

(b) **BRT rolling stock.** The requirement in the opening year is expected to be 120 vehicles including 10 percent of vehicles off-road for maintenance each day. The proposed business model provides for private participation in the financing of the rolling stock. Contractual arrangement(s) and contribution(s) for bus operations will depend on final concession structure and the distribution of risks. The project explores innovations in the use of the FTC to leverage private sector financing and implement a sustainable fleet renewal program in Mozambique, for which this project would support the first pilot.

(c) **BRT digital systems.** This activity will support the digitalization of the core business processes of public transport. This subcomponent will finance (i) a passenger information system including real-time passenger information, journey planner, maps and printed information, customer support service, and digital tools to share feedback between users and BRT regulators/operators, with particular focus on women's safety and overall public transport quality; (ii) a bus management system, including schedule planning and optimization tools, control center applications (computer-aided dispatch/automatic vehicle

location), depot and maintenance management, service contract management, safety monitoring, and early warning system which will enable proactive response to natural disasters, before extreme weather events; (iii) automatic fare payment systems, that will be implemented under an ongoing fare payment system;[48] the project may support eventual expansion/upgrading of the existing system; and (iv) big data processing to enhance planning and operations. The ITS will be developed with a robust cybersecurity design, including preventive, monitoring, and response capabilities to cyberattacks and potential data thefts. Redundancy for business continuity of services will also be incorporated into the design and implementation of the system in cyber incidents and natural disasters. The protection of personal data of the travelers will be a key priority and the system implementation will anticipate the need to comply with future regulations by the forthcoming data protection authority.

(d) **BRT services.** This activity will finance studies and services enabling (i) the selection of the BRT operator(s), (ii) management, and (iii) delivery of the BRT core and feeder services.

38. The BRT investments will have a strong focus on climate change resilience, especially considering flood risk management, the inclusion of women, with mitigation and response to gender-based violence, and actions to improve women's mobility and economic participation options and the inclusion of PWDs. More details on the gender and climate dimensions are described in the 'Technical Note I. Gender and Climate Considerations in the Maputo Metropolitan Area Urban Mobility Project'.[49]

39. In terms of gender, the BRT investments will include safety and security approaches in prevention and response measures to sexual harassment, including the design of a protocol to respond to sexual harassment that links to existing procedures/regulations on violence against women, gender sensitization, and trainings to operators on appropriate responses to sexual harassment. Gender consideration has been incorporated in the design of infrastructure and operations of BRT corridor and feeder routes design. For instance, ensuring universal access along the BRT corridor, considering women's travel patterns and behavior and environmental design for violence prevention to define technical specification in the built infrastructure to promote women's mobility, implementation of people-centric approach with gender perspective, design of 'complete streets', road safety considerations, and inclusion of surveillance in buses such as cameras.

Component 3: Comprehensive Improvements for Safe Access to Neighborhoods and Corridor Integration (IDA grant: US$65 million equivalent)

40. This component will support mobility investments in areas of influence of the project (beyond the selected BRT corridors) and access to low-income neighborhoods. This component will finance works, goods, and services in the following areas:

(a) **Street improvements to enhance safe access to low-income neighborhoods.** This will include integrated investments in non-motorized infrastructure, pavement works, drainage, renewable energy street lighting, road safety improvements, street furniture, and greening areas in strategic access streets to neighborhoods from the BRT corridors, with the objective of enhancing climate resilience, access by public transport to neighborhoods from BRT

[48] FAMBA is an automatic fare payment system that is already under implementation in public buses and cooperative buses in the AMM.
[49] World Bank, 2022, Maputo Metropolitan Area Urban Mobility Project (P175322), Project Documents.

corridor, and walkability and safety in neighborhoods. Some interventions have already been selected and others will be further selected based on a multi-criteria analysis that considered (i) their strategic importance to improve integration and access to public transport from the neighborhoods around the BRT; (ii) the potential to improve climate resilience and reliability during flooding; and (iii) potential to improve safety and security, with particular focus on the needs of women, low-income groups, PWDs, and children. This component will also finance studies about transportation system resilience and climate adaptation and will support the development of a Resilient Road Asset Management System (RAMS) in Maputo and Matola municipalities.

(b) **NMT facilities in the AMM.** This activity will finance the preparation of cities' pedestrian and cycling plans. This activity will also finance civil works for the implementation of walking and cycling infrastructure and communications campaigns to promote the NMT. NMT facilities will aim to incentive the use of greener modes and overall integration with BRT corridor. Designs will have a people-centered perspective to ensure that technical features address access barriers for women and vulnerable road users.

(c) **Tackling mobility barriers for women and groups in situations of vulnerability.** This activity aims to study and implement solutions that tackle mobility barriers of women and vulnerable groups in low-income neighborhoods in the area of influence of the project. This will include analysis of mobility patterns and barriers of low-income women and other vulnerable groups. Furthermore, the project will support a program of community mobilization to monitor public spaces. Based on experiences in Maputo, women and youth groups will be consulted to pilot initiatives to improve women/girls' safety and personal security.

Component 4: **Project Management, Monitoring and Evaluation** (IDA grant: US$5 million equivalent)

41. This component will finance project management support during implementation, in accordance with World Bank policies. This includes support for technical specialists, fiduciary activities, monitoring and implementation of environmental and social measures, operation support, road safety audit of designs, citizen engagement and communication activities, coordination between all public and private implementing agencies, and monitoring and evaluating of the project results according to the agreed indicators described in the Results Framework.

Component 5: Contingency and Emergency Response (US$0)

42. The Contingent Emergency Response Component (CERC) will facilitate access to rapid financing through the reallocation of uncommitted project funds in an eligible crisis or emergency. Specific details about this component (including activation criteria, eligible expenditures, specific implementation arrangements, and staffing) will be part of the Contingent Emergency Response Manual before the implementation of the CERC's activities. In case the CERC is activated following the agreed procedures with the Association, the recipient will prepare an addendum to the Environmental and Social Management Framework (ESMF) that will describe the protocols to follow. The protocol will describe the institutional arrangement, screening procedures, and risk and mitigation measures to be implemented for the investments to be made in case of emergency.

C. Project Beneficiaries

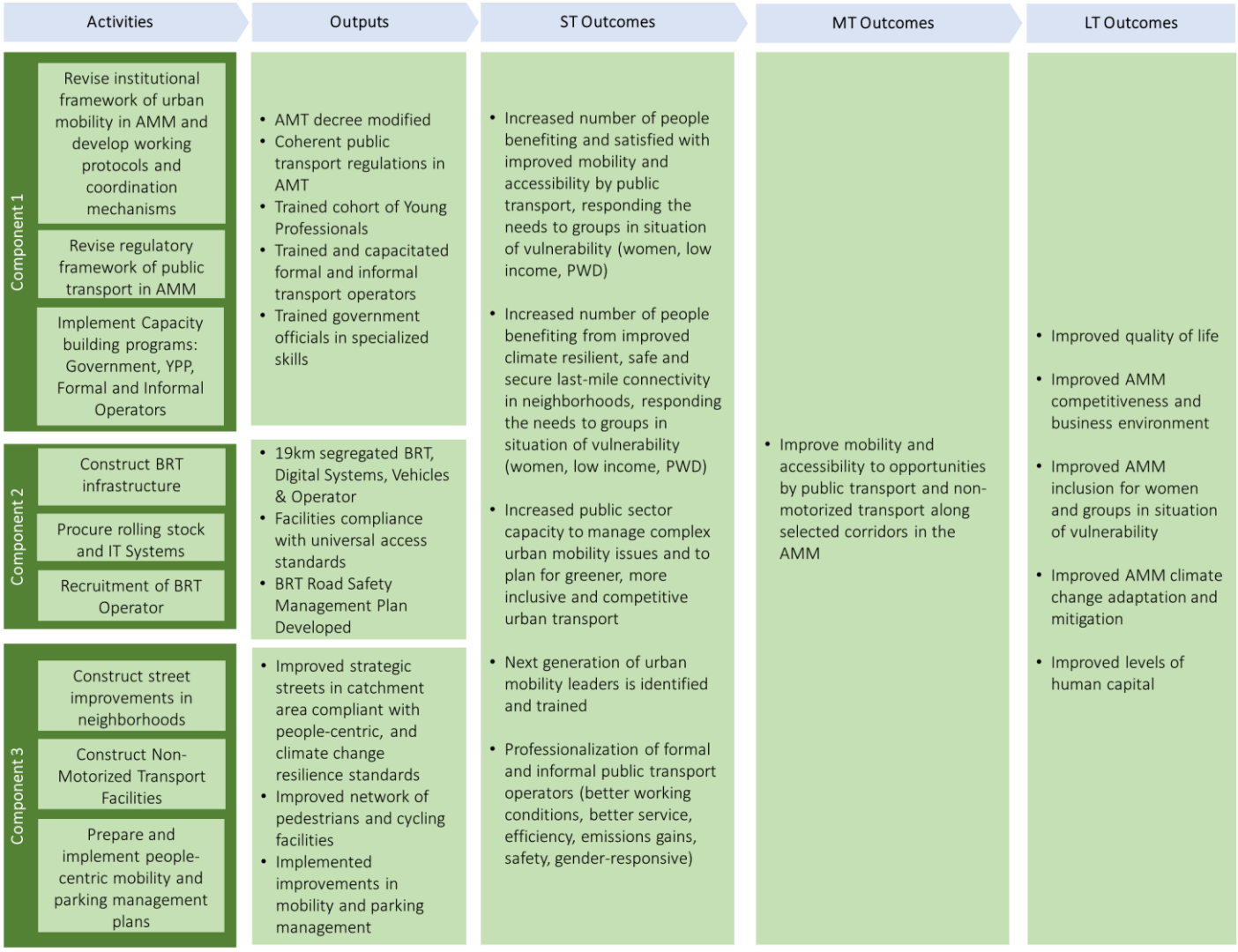
43. **Overall, the primary beneficiaries of the project are residents and workers along the catchment area of the selected public transport corridors, as well as citizens living in areas with enhanced neighborhood access**, who will benefit from improved transport services and infrastructure, from the reduced noise and local air emissions, and from a more resilient infrastructure. The estimated number of direct beneficiaries is 124,000 direct daily users of the BRT (Component 2) and 95,000 citizens living in the areas of the integrated street improvements in neighborhoods (Component 3). The general population of the AMM will benefit from the improved management of the urban transport assets, the professionalization of the transport sector, and the increased capacity of transport institutions and agencies. Moreover, women and people in situations of vulnerability, including PWDs, will be those who benefit the most from the project's approach, as special attention will be paid to their needs in the design of the infrastructure and the modernization and professionalization of public transport services. Also, the private sector is another beneficiary of the project, as it will draw benefits from the improved access to current business centers and retail enterprises and development of innovative organization and finance mechanisms for the sector that will have a broader application.

44. **At the institutional level, the AMT; Maputo, Matola, and Marracuene municipalities; the MTC; and FTC will be the primary beneficiaries** from the strengthened institutional capacity; improved management, planning, and implementation of modernized urban transport services; and the gained knowledge and competencies in the regulatory and institutional frameworks, digitalization services, urban financing, universal inclusion, and mitigation and adaptation approaches in urban and transport infrastructure. At the operational level, the cooperatives and *chapa* operators will benefit from improved regulations and support, and informal operators of other modes of public transport will benefit from TA programs. Overall, the cooperatives and associations will benefit from strengthened contract management and the formalization of *chapas*.

D. Results Chain

45. **The overall Theory of Change, or Results Chain, of the project is shown in Figure 6.** The short-term outcomes expected as a result of the outputs of the project include increased number of people benefiting from the improvement of mobility and accessibility by public transport and in the last-mile connectivity in neighborhoods and increased of capacity at public sector, operators, and young leaders in urban transport. In the medium term, these are expected to result in better mobility and accessibility to jobs and services, to close gender gaps, reduce GHG emissions, and improve resilience to flooding and shocks. The expected long-term outcomes include, among others, improving quality of life, competitiveness, inclusion, and resilience of the AMM and improving human capital.

Figure 6: Results Chain Maputo Metropolitan Area Urban Mobility Project



E. Rationale for Bank Involvement and Role of Partners

46. **The WBG is uniquely positioned to assist the AMM in addressing public transport reform and investment issues, given the World Bank's extensive experience in these areas**. The WBG will be able to support the AMM and the GoM from its vast practical global experience, drawing on its engagement in urban transport with several megacities such as Mumbai, Jakarta, Lagos, Manila, Mexico City, Dar es Salaam, and Bogota. The World Bank has also supported national and local governments with designing and implementing urban transport reforms with an emphasis on transparency, sustainability, and modernization and is uniquely placed to mobilize global knowledge and bring relevant experience on the topics of digitalization of transport and safe and inclusive public transport services that facilitate access to jobs, childcare, health opportunities, and other services for women and groups in situation of vulnerability, which could lead to increase their economic participation and agency.

47. **The World Bank's approach recognizes that the transformation of the city's public transport sector will need a sustained and long-term engagement bolstered by multi-stakeholder coordination.** This project is a strategic catalyst, aiming to demonstrate that quick, visible, and positive results are possible by partnering with governments at different levels and private sector, development partners, and civil society. In the long term, the World Bank is envisaged to play a major role in supporting deep institutional reforms that will address concerns of groups in situation of vulnerability, including women.

48. **Development partners have also played a very important role in supporting the AMM.** Besides the World Bank, several development partners have been actively engaged in different aspects of urban mobility in the AMM. The Government of Japan supported the preparation of the Comprehensive Urban Transport Master Plan for Greater Maputo (2015–2035) and is currently providing TA to the Maputo Municipal Council (*Conselho Municipal de Maputo*, CMM) and AMT on public transport. The French Development Agency (*Agence, Française de Développement*) is currently supporting the update of the Metropolitan Master Plan through the preparation of the Sustainable Urban Mobility Plan (SUMP) for the AMM. The Spanish Agency for International Development Cooperation (*Agencia Española de Cooperación Internacional para el Desarrollo,* AECID) is supporting the development of air quality and transport systems and urban mobility initiatives. The proposed project has been designed in close coordination and collaboration with these development partners to ensure synergies and complementarity. The World Bank heads the development partners transport working group, which has provided an avenue for further coordination with partners.

F. Lessons Learned and Reflected in the Project Design

49. **The project design draws on lessons from previous projects in Mozambique, as well as from global experience in addressing urban mobility and developing BRT systems.** The World Bank brings vast expertise from supporting the implementation of public transport activities in over 30 countries in the last two decades. Success and failures of urban mobility projects, including systems in Bogota, Jakarta, Dar es Salaam, Cape Town, Lagos, Accra, and Dakar, were considered in the project design. The key lessons learned and reflected in the project design are summarized as in the following paragraphs.

50. **Urban mobility projects need to be carefully examined, contextualized, and treated as part of a wider set of the political decision-making process while at the same time capturing lessons learned from other cities**. In this regard, it is vital that these projects are designed not only as engineering and technology solutions but also as political and social projects, well contextualized within the institutional and governance context of African cities. In line with this, the proposed project design takes stock of country-specific lessons and of international best practices to design a locally contextualized project for the AMM. The institutional arrangements for implementation are adapted to the local governance context, involving both the AMT and municipalities. The BRT concept has also been contextualized to the street layout of Maputo.

51. **Urban mobility projects require clear institutional ownership, with committed leadership and support.** The implementation of a BRT requires considerable up-front preparation and consensus building**.** The ownership of the project and the resulting system and the institutional arrangements for both the delivery and operational phases need to be clear. This is particularly important for areas in which agencies will need to work together and share resources or responsibilities in ways they have not previously done. The proposed project is designed with a focus on strengthening the institutional and regulatory framework by enhancing or developing collaboration mechanisms to coordinate urban planning in the

AMM, organizing and regulating existing services, bringing operators on board, and understanding the needs of users through meaningful consultations. The project preparation discussions suggest a clear ownership of the reform program and a focus on improving mobility in the city, which transcends the investment in the BRT corridor.

52. **Cities dependent on informal public transport need to undertake a significant transition to formalize and professionalize their public transport industry.** It is crucial to include reform elements that motivate operators to become willing partners while also equipping them to run better businesses. The project includes a strong capacity-building and professionalization program to support current operators and equip the newly formed operating companies with the technical, management, and operational skills required to become part of an upgraded public transport system. The proposed professionalization program builds on the past government efforts to reform and professionalize public transport in Maputo, initiated in 2016 and that incentivized minibus operators to organize themselves in legal entities (cooperatives).

53. **Investments in infrastructure need to be accompanied by appropriate operations systems and capacity building.** Experiences from around the world show that to ensure high-quality services, 'hard and soft' infrastructure investments must be provided and planned in tandem. To provide an enhanced user experience, improved service management, cost-effectiveness, and strategic planning, it is necessary to invest in the modernization and digitalization of the BRT system. The project has a strong focus on the digitalization of the sector, including investments in several supporting digital systems, such as a travel information system, real-time information systems, bus and crew management and scheduling, and early warning systems, among others.

54. **Stakeholder consultation and an effective communication strategy will be critical.** The project has carried out extensive consultations with stakeholders, including key government agencies at the central, regional, and municipal levels, private bus operators, nongovernmental organizations, development partners, public transport users, citizens in low-income neighborhoods and others, and will continue stakeholder engagement throughout project implementation. The stakeholder engagement process aims to identify the specific needs, sensitivities, and concerns of individual stakeholder groups and support the development of strong, constructive, and responsive relationships among key stakeholders, which better positions the project for successful design, implementation, and management. The stakeholder engagement and communications plan will employ a range of strategies to obtain a broad base of active participation in the design and implementation of the BRT project corridor, with the goal of securing community and stakeholder support and ensuring a clear understanding of the project and its role within the process.

55. **The development of an inclusive public transport system requires extensive consultations with multiple stakeholders, including groups in situations of vulnerability such as women and PWDs.** Public transport provides essential mobility for the lower-income populations, in particular socially vulnerable groups, including women and PWDs, who have a lower income and lower vehicle ownership level in general. Analyzing the particular barriers and needs of these groups is essential for the design of public transport that addresses their priorities and enables their mobility. Barriers linked to safety and security are of particular concern from women and need to be properly addressed in the design of public transport and related spaces. During the design of the proposed project, over 2,000 surveys were conducted with public transport users and 1,500 household surveys in low-income neighborhoods around the BRT

corridor, with the objective of adapting the project design to the needs and challenges of low-income groups, women, and PWDs. The stations will be designed based on the universal access concept, which ensures that the widest possible range of people, including those with impaired mobility and PWDs, benefit easily from public transportation. The design will also incorporate design features for violence prevention, such as security cameras that will be installed at every station and additional public lights will be put on access paths to the stations to enhance public security for women. Also, women's groups, along the neighborhoods in the project areas that will benefit from upgraded access infrastructure, will be trained and empowered to inform and monitor design features and implementation of works.

III. IMPLEMENTATION ARRANGEMENTS

A. Institutional and Implementation Arrangements

56. The MTC will be the supervisory ministry, under the financial tutelage of the Ministry of Economy and Finance (MEF). The AMT is a public entity whose main responsibility is to plan and manage collective public transport services across the AMM, through coordination with the municipalities and districts who have mandates within their areas. The MTC has set up a framework for the delivery of the project outcomes consisting of the following (for more details, see Annex 1):

(a) **A Strategic Coordination Committee (SCC)** will be set up to ensure coherence of project activities with the sectoral strategy. The committee will also manage intersectoral coordination across other relevant ministerial departments, companies, and local authorities. This committee will be chaired by the MTC and will include representatives from the MEF; Ministry of Public Works, Housing and Water Resources; each of the Mayor's Offices from Maputo, Matola, Boane, and Marracuene; the AMT, the FTC, and the CFM; INATRO; National Roads Administration (*Administração Nacional de Estradas*, ANE); Road Fund; and FEMATRO.

(b) **An Operational Coordination Committee (OCC)** has been set up to provide overall supervision, decide on strategic matters, and supervise the implementation process. The OCC is chaired by the National Director of Transport and Safety (NDTS) of the MTC, with representation from the NDTS, AMT, councilors from Maputo and Matola, and directors from Boane and Marracuene.

(c) **A Project Coordination Unit (PCU) will be set up in the AMT** to technically supervise and coordinate the project's activities as well as perform all operationally related tasks such as M&E, financial management (FM), and procurement on a day-to-day basis. The unit will also ensure coordination across municipalities and institutions within the AMM. The Administrative and Financial Unit of the PCU will oversee the FM aspects of the project, including the consolidation of financial statements for project activities, providing quarterly interim financial reports (IFRs), monitoring financial transactions of the project's account, and making the necessary arrangements for the annual financial audit. The head of the PCU is the Chief Executive Officer (CEO) of the AMT supported by a Technical Project Coordinator (TPC). A Subsidiary Agreement between the recipient and the AMT will be required to transfer the funds and the obligations to the AMT.

(d) **Project Technical Units (PTUs)** will be set up in the AMT, Maputo, and Matola (one PTU in each of these three institutions) to lead the technical implementation of their components. The PTUs will report to the TPC. The PTU within the AMT (PTU1) will lead the institutional and regulatory enhancement and the capacity-building program of Component 1 and the transport services strand of Component 2. The PTU within Maputo Municipality (PTU2) and PTU within Matola Municipality (PTU3) will lead the infrastructure and traffic and parking management strand of Components 2 and 3 within their respective administrative boundaries. The technical units will also provide technical support to the PCU in procurement tasks related to preparing terms of references and conducting technical evaluations. A performance agreement between the AMT and the PTUs will be required to assign project responsibilities and define performance indicators to different units.

B. Results Monitoring and Evaluation Arrangements

57. **The project results will be monitored by the PCU under the AMT based on the Results Framework described in section VII.** The PCU will prepare implementation and performance progress reports annually to ensure investments are on track. The project includes a comprehensive monitoring and evaluation component based on qualitative and quantitative performance indicators for each subcomponent. These include transport, social, environmental, and capacity development indicators. This data would be used, in turn, to estimate project-related GHG emission reductions. In addition, the PCU will establish a set of KPI for the operators, which will be included as part of the Project Operations Manual (POM).

58. **Public oversight of the project will be ensured by crowd sourcing, smart phone applications, and web tools to better respond to network conditions and public transport service**. In addition, a civic engagement platform will be developed to improve the public's participation in transport network management issues.

C. Sustainability

59. **The project addresses issues of sustainability by directly supporting policies that advance broad societal interests over the long-term vision for a livable urbanization of Maputo that is inclusive and promotes economic growth and low-emission development.** More particularly, the project will support the following areas that contribute to this longer-term vision: (a) providing mobility and access for AMM residents, workers, and visitors irrespective of income, gender, age, or physical ability; (b) making transport safer and more environmentally friendly; (c) revitalizing areas in the city's core along the BRT corridor; (d) providing a model for financially sustainable, quality public transport; (e) strengthening capacity at the metropolitan and municipal levels to deliver quality public transport and to maintain infrastructure; (f) strengthening public awareness of the importance of more environmentally friendly urban transport; and (g) building political support for public transport sectoral and institutional reforms

60. **Improving people's mobility and access.** By focusing on improving bus services and non-motorized infrastructure, the proposed project would support getting the most out of the existing street system. Reducing bus operating costs (by improving efficiency of operations) and making them more attractive to potential riders would help reduce operating subsidies and in the long run, make bus operations more self-sufficient.

61. **The PPP arrangements for the operations and maintenance of the BRT system will ensure sustainability of quality services delivered by private operators.** The atomized single-owner operations along the corridor will graduate to a corporate structure with collective ownership, professionally managed, and following corporate business practices. The project will support the transition from the cooperatives to integrated corporate entities with methods and scale that can achieve good quality at optimized cost. Vehicle maintenance arrangements will be managed by the private sector and electronic fare collection system (FAMBA card) will be strengthened to improve fare collection and financial sustainability.

62. **The project will strengthen the legal and regulatory frameworks** necessary for cost recovery from revenue-generating activities such as bus financing and operations, parking, depot, and terminals. While financing the basic infrastructure, the project would support the MFD agenda and PPP opportunities in areas such as finance of vehicles, parking, terminal development, and other revenue generating infrastructure to benefit from public investments incurred under the project. The improved operations and viability enabled by the BRT and the better contractual basis will enhance the bankability for finance from the commercial lending sector.

63. **The project's infrastructure will be climate and disaster resilient.** The structures will conform to the relevant codes to prevent flooding in the project area but will further develop project specifications to capture climate change variability and impacts on the flood and extreme heat risk. Weather-resistant material will be used for road construction (for example, use of phase change materials for pavements to control extreme temperatures). The paving material will be such that it will withstand extreme weather conditions of heavy rain and high temperatures. The surface material will be specially selected to resist water and prevent it from being washed away. Storm water drainage system will be constructed along the corridor to avoid flooding of the road based on decision-making under deep uncertainty considering global and regional climate scenarios.

64. **The sustainability of investments will be enhanced through the improvements in asset maintenance.** As part of infrastructure resilience, maintenance of road assets will be enhanced by supporting the development of a Resilient RAMS at a municipal level. Municipalities are responsible of the maintenance of transport assets within their jurisdictions (except for national roads).

IV. PROJECT APPRAISAL SUMMARY

A. Technical, Economic and Financial Analysis

Technical Analysis

65. **The BRT is to be an enabler for effective bus operations, increasing access to opportunities for users and improving the productivity and viability of the services.** From that perspective, the design seeks the appropriate blend of infrastructure, digital technologies, traffic management, and operations management. The design is pragmatic, suited to rapid deployment, while minimizing disruption to the host environment during the development and operations phases. The focus is on minimizing any adverse impact on the current informal operators by making them integral to project planning and design. It will be suited to replication on other corridors, in terms of affordability, feasibility, and delivery. The BRT will

be seen as a broad spectrum of investments, and the specific degree of intensity in this project is designed based on the local context and resource availability.

66. **Selection of the BRT corridor.** The proposed BRT corridor, which forms part of the project investment package, was identified early in the preparation, through an analysis of mobility patterns and passenger flow, physical and spatial constraints, and consultation. The World Bank used state-of-the-art methodologies to analyze big data from cell phones to update the origin-destination matrix of mobility in the AMM. The evaluation considered three potential BRT routes identified by the Comprehensive Urban Transport Master Plan for Greater Maputo (2015–2035). The criteria for corridor selection included impact on ridership, cost, deliverability, building of local capacity to improve governance and professionalization, and opportunity for inter-municipality travel.

67. **The BRT service plan**. An open service plan with six BRT services has been developed for this project. The 'core" BRT corridor comprises a core section of 19 km extending from Baixa in the Maputo City Centre to *Praça da Juventude* in *Magoanine* and to *Rotunda Missão Roque* in *Zimpeto* by *Praça dos Trabalhadores, Av. Guerra Popular, Av. Acordos de Lusaka, Av. das Forças Populares de Libertação de Moçambique (F.P.L.M.), Av. Julius Nyerere, and Ave Maria Lurdes Mutola*. Five out of the six proposed BRT services extend beyond segregated running lanes ('core' BRT) to access areas of high trip generation and attraction—*Matola Gare, Zimpeto, Albazine, Marracuene,* and *Zona Verde*—where smaller BRT terminals shall be located. Preliminary estimates suggest that in the opening year, the peak throughput is expected to be 4,000 passengers per hour per direction in the morning peak. Daily patronage is expected to be around 124,000 passengers. The vehicle requirement in the opening year is expected to be 120 including 10 percent of vehicles off-road for maintenance each day.

68. **BRT infrastructure.** The BRT infrastructure includes 19 km of segregated BRT running ways from *Praça dos Trabalhadores* to *Praça da Juventude* and to *Rotunda Missão Roque*. BRT running ways will be located along the median lanes of the highway, minimizing exposure to roadside friction including vehicles turning, parking and loading, hawkers, and other curbside activities. They will be physically segregated from mixed traffic using lane separators. BRT stations will be located approximately 400 m to 500 m along the route, accessed by dedicated pedestrian crossing points and with platforms (approximately 150–220 mm high) aligning to semi low-floor (400 mm high) BRT buses. Supportive works include bus depot, interchange facilities, road re-surfacing and drainage, junction upgrades, pedestrian facilities, parking facilities, interchange facilities, and bus stop provision. The BRT will be built in a condition of enhancement urban mobility in the area of influence of the corridor improving the road and junction conditions, especially in Maputo City.

69. **BRT digital systems.** The BRT systems will support the digitalization of the core business processes of public transport in Maputo in schedule planning, resource dispatch, operations control, passenger information and citizen's engagement, fare payment, and statistics/data processing. The BRT fare payment system will be implemented through the existing automated fare payment system FAMBA, managed by the AMT. The bus management functions will be managed from a control center, which will allow operators to directly monitor bus operations, identify problems, and rapidly respond to them resulting in improved service reliability and quality. The AMT will use data from the BRT digital systems to monitor operator's performance, enhance citizen's engagement, and enhance overall public transport planning. Technology-enabled measures such as the bus information system, bus operation and management system, and the early warning system information and communication technology (ICT)

infrastructure may be vulnerable to cyberattacks. Protection against such incidents needs to be explicitly considered during the design and operation of the relevant infrastructure to ensure that its operability and data privacy is not compromised.

70. **Inclusive designs.** The project design has integrated the needs of women, PWDs, and people in situations of vulnerability with a strong analytical base. To capture the needs and constraints of different groups, especially groups in situations of vulnerability, project preparation has included the implementation of more than 3,500 surveys and focus groups with public transport users in the AMM and with households in low-income neighborhoods around the proposed BRT corridor. These consultations helped shape the definition of interventions of Components 2 and 3. Furthermore, the design of infrastructure, rolling stock, and IT systems will conform to the Universal Access Guidelines, which ensure access for persons with limited mobility and PWDs, which is aligned with the IDA target. Beyond accessibility, security for passengers and pedestrians, especially women and people in situations of vulnerability, will also be in focus with well-lit and camera-monitored stations and camera-monitored buses, design of safer stations, and better street lighting around stations and in neighborhoods (more details on the gender dimensions of the project in 'Technical Note I. Gender and Climate Considerations in the Maputo Metropolitan Area Urban Mobility Project'.[50]

71. **Public transport integration.** To maximize the benefits of the BRT system on the efficiency of urban transport, the project will support the coordination of the BRT services with the reorganization of existing public transport services both in the BRT corridor and in feeder services. The existing operators in the corridors will be encouraged to organize in companies and will be the subject of a professionalization program (Component 1), to equip the newly formed operating companies to have the technical, management, and operational skills required to enable the incumbent operators to participate in the project. This professionalization program builds on the sector professionalization reforms initiated by GoM since 2016. The service plan requires the BRT to integrate with key feeder routes. The key feeder routes provisionally identified are *Praça dos Combatentes - Xipamanine*, *Praça dos Combatentes - Anjo Voador*, *Praça dos Combatentes - Museu*, *Matibwana - Zimpeto*, *Muhalaze - Zimpeto*, and *Intaka – Zimpeto*. It is expected that feeder routes will be managed through quality contracts to ensure a high level of service to the BRT passengers who interchange to access these important destinations, which will build on the first generation of the cooperative model.

72. **BRT institutional implementation model.** Two distinctive institutional implementation models have been defined for the (a) BRT implementation phase and (b) BRT operational phase. During the BRT implementation phase, the AMT will be responsible for instituting the BRT service and business plan, selecting the operator/s, and entering into PPP agreements with the selected one/s. Municipalities will be in charge of implementing the infrastructure in their respective municipalities. During the BRT operational phase, the AMT will be responsible for operations planning and contract management of BRT services and systems. The municipalities of Maputo and Matola will be responsible for infrastructure maintenance, traffic and parking management, and enforcement in the BRT corridor. The current bus cooperatives will be transformed into companies, with well-defined mandates and governance structure. This private bus operator/s will be selected following a structured and formal process, for operators to be responsible for fleet financing, operation and maintenance during the contract period. The BRT ITS will be managed by the AMT in terms of contract monitoring and performance. It is expected that the existing

[50] World Bank, 2022. Maputo Metropolitan Area Urban Mobility Project (P175322), Project Documents.

fare collection FAMBA will become the main fare payment mode for the BRT, eventually becoming a (near) cashless system.

73. **Commercial and operational viability.** The World Bank mobilized a Public-Private Infrastructure Advisory Facility (PPIAF) grant to evaluate the commercial and operational viability of the proposed BRT system. The commercial and operational viability analysis suggests that, under the current fare assumption (20MT, the average one-way fare), the operator will be able to cover only the operating costs. Higher-level fare scenarios would enable the operator to cover both the capital expenditure and operating expenses. The analysis also examined options for the fleet financing by the private sector and concluded that some form of concessional finance (concessional rates with extended tenor or subsidy) will be required to achieve commercial viability under the current fare scenario assumption. The assessment concluded that a viable fleet financing mechanism is likely to include some (or all) of the following: supported down-payment, private financing at commercial rates with supported down-payments, risk mitigation measures to increase the appetite from the private sector financing, and increase to the standard fare.

74. **Private sector participation.** The project preparation has examined alternative private sector participation models. In the proposed preferred model for the Maputo BRT, the public sector will finance the BRT infrastructure (running ways, stops, and road improvements) and IT systems. The private operator/s and public sector are expected to contribute to the bus financing. One potential model consists of making the buses available to the private sector under concessional terms and engage them under an operating lease, requiring some up-front equity and monthly payments for an extended period. The balance will need to be paid over a period, after which the vehicle ownership will transfer to the operator. The project is exploring innovations in the use of the FTC to leverage private sector financing and to implement a sustainable fleet renewal program in Mozambique, for which this project would support the first pilot. A robust business plan has been developed, which demonstrates that based on passenger demand and planned increases in fare structure, the buses operating on the project corridors will be able to generate operating profits. In view of the dedicated infrastructure and improved operating practices, the buses will be able to increase revenue per km and reduce operating costs. However, as this project is the first mass transit project in the country, there is a possibility that the Government will need to provide seed money in the initial phase to provide incentives to the private sector to replace old buses with modern units. It is expected that with a demonstration of a successful business model with the first pilot BRT corridor, it would become feasible for the private operators to generate financing from the commercial banks. Other areas where the private sector financing is being explored are terminals, depots, and parking facilities. The potential identified contribution of private sector in the project is estimated to be around US$ 20 million.

75. **Climate change considerations.** A resilient and climate-adaptive low-carbon transportation service is paramount to the AMM in the face of the exacerbating climate change effects that the AMM has already started to experience (for example, more frequent and destructive cyclones and floods). While today 27 percent of the planned BRT is in areas of relatively high exposure, it is expected that by 2070, more than 50 percent of the BRT will be located in areas of high or very high flood exposure (assuming a high emission scenario). A similar trend is observed for the neighborhood roads considered under the project network, where 25 percent of the roads are presently under high/very high exposure and this share will exceed 50 percent by the end of the century (or earlier in case of a high emissions scenario). The proposed investments are aligned with the country's NDCs and NAPAs because it contributes to

climate mitigation, adaptation, and resilience in and through the transport sector, as reflected by the climate entry points throughout all the project components.

a) **Regarding climate mitigation.** Components 1 and 2 will strengthen the public transport system and the institutional and operational capacity to plan, manage, and operate lower-emission public transport modes The climate mitigation will be achieved in Component 1 through (i) investments to strengthen public transport institutions, (ii) capacity building in low-carbon sustainable urban mobility to public sector and transport operators, and (iii) support in GHG accounting monitoring (Component 1). Component 2 will finance the construction of the public transport and non-motorized infrastructure, procurement of rolling stock, and digital systems of the first BRT of the AMM. Component 3 enhances NMT; connects peripheral, climate vulnerable, low-income neighborhoods to the public transport system; and supports the development of renewable energy lighting in neighborhoods. Overall, the project is expected to induce a modal shift toward lower carbon transport modes, resulting in a reduction of 236,075 tons of CO_2e emissions over the economic life of the project.

b) **Regarding climate adaptation and resilience.** Component 1 will target strengthening the institutional capacity of public transport services and the professionalization of public transport operations through the preparation of climate-resilient transport guidelines, deployment of inter-institutional arrangement to facilitate coordination on climate data sharing, and deployment of training activities and other activities that build capacity and enhance decision-making for integrating climate change resilience considerations in the management of the transportation network in the AMM. Component 2 will enhance the resilience of BRT infrastructure and operations and rehabilitate selected vulnerable roads along the BRT corridor. Component 3 includes the selection of access roads in the AMM based on a multicriteria analysis that considers their climate vulnerability and criticality to provide access to the public transport system to climate vulnerable low-income neighborhoods. The selected transport infrastructure will be upgraded to become more climate resilient through a combination of hard engineering-based interventions, soft climate resilience measures, and nature-based solution, including (i) managing flood risks through the deployment of climate resilience-adjusted drainage and water management infrastructure; (ii) adapting operations of BRTs based on extreme weather and disaster early warning alerts; and (iii) introducing green roofs and other green spaces to reduce consequences of extreme heat, control flooding, and capture and sequester GHG emissions. Component 3 will also finance the development of a Resilient RAMS for the municipalities of Maputo and Matola to integrate climate resilience consideration in the scheduling and recording of road maintenance and rehabilitation activities, and in the annual budgeting and transport planning for the municipality. Component 4 will enhance the project's climate mitigation, adaptation, and resilience as it focuses on the implementation of Components 1, 2, and 3 through building institutional capacity for project implementation and monitoring activities.

76. More details on the contributions in climate mitigation, adaptation, and resilience may be found in the 'Technical Note I. Gender and Climate Considerations in the Maputo Metropolitan Area Urban Mobility Project'.[51]

Economic Analysis

77. **A detailed economic analysis was conducted for infrastructure investments required to support the BRT system** (including segregated bus lanes, road improvements, vehicles, terminal, depot, and ITS), traffic engineering, management and safety, and land use improvements and project management, which together account for over 95 percent of the total project cost.

78. **An estimated 124,000 passengers per day will be served by the six BRT services, with 109 buses in operation.**[52] This equates to 1,150 daily passengers per bus in operation. Taking an annualization factor of 323 (accounting for weekends and holidays), the annual BRT system ridership is estimated to be 40 million person-trips. The development of a high-quality BRT corridor will bring economic benefits to public transport users, which will see their mobility improved from irregular, mostly unreliable minibuses, to higher quality buses, operating at higher speeds, therefore reducing travel time for passengers, while at the same time improving the road safety for users of all transport modes within the corridor, specially pedestrians and cyclists, due to the people-centric and universal access features incorporated in the design. The BRT, by replacing *chapas* with more efficient BRT buses, will contribute to reduce congestion and pollution in the corridor.

79. **A cost-benefit analysis (CBA) was conducted for the overall project, which indicated that the project is economically viable**. This CBA includes the interventions for the new segregated running ways and BRT infrastructure including kerb dividers, drainage, pedestrian crossings, terminals, and stations with higher specifications, depot, resurfacing and upgrading of key road sections, upgrading and surfacing of feeder roads, junction upgrades, traffic management, NMT and public lighting, and the provision of bus fleet. The economic benefits are computed based on vehicle operating cost savings from road surface improvements; travel time savings from surface and junction improvements; bus passenger travel time savings—from reduction in bus travel time (reductions in access and egress times and reductions in in-vehicle time); GHG emissions reduction; and air pollutant emissions reduction. Calculations were done using a 21-year assessment period, which includes 2 years of construction[53] and a 19-year economic life, at a discount rate of 8 percent. The results, without considering those benefits derived from reduction in emissions or improvements in air quality, yield a net present value (NPV) of US$520 million and an internal rate of return (IRR) of 34.8 percent.

80. **The economic analysis incorporated the impact of the project on GHG emissions.** Investments in the public transport system and NMT are expected to induce modal shifts from more polluting transport modes, such as private cars, taxis, and minibuses in the corridor, into the BRT system, and this will result in a reduction in GHG emissions. The replacement of older minibuses and public buses with new BRT buses which are equivalent to Euro 5 emissions standards also lead to a reduction in GHG emissions and air pollutant emissions. Improvements in the public transport system and operations will also lead to a reduction in total annual mileage traveled compared to the without project, baseline scenario. The GHG

[51] World Bank, 2022. Maputo Metropolitan Area Urban Mobility Project (P175322), Project Documents.
[52] However, the economic analysis estimates the acquisition of 120 buses to account for 10 percent of buses out for maintenance, daily.
[53] There will also be construction works in Year 3 that overlap with start of operations.

accounting assessment considers emissions from the BRT system during its 19 years of operation (construction emissions were not considered) and the induced diversion of passengers from other transport modes. The GHG accounting assessment is conservative as it does not include emissions reductions resulting from improvements in vehicle speeds and therefore the improvement in fuel efficiency in the upgraded BRT feeder roads.

81. **The total net emissions for the economic life of the project are −236,075 tons of CO_2e and the annual average net emissions are −12,425 tons of CO_2e per year.** The gross emissions, or with-project emissions, are 245,778 tons of CO_2e. The baseline emissions, or without-project emissions, are 481,854 tons CO_2e (table 2).

Table 2. GHG Emissions (tCO_2e)

	Gross Emissions (Economic Lifetime)	Baseline Emissions (Economic Lifetime)	Total Net Emissions (Economic Lifetime)	Annual Net Emissions (Annual Average)
Total	245,778	481,854	−236,075	−12,425

82. **The Shadow Price of Carbon (SPC) was calculated using the 2017 World Bank SPC Guidance Note,[54] which placed the value of 1 ton of CO_2 in 2024 at US$44 for the low-SPC scenario and at US$87 for the high-SPC scenario**. These values increase annually. The total savings are estimated in US$13.2 million and US$26.4 million, in the low- and high-SPC scenarios, respectively. These results have been incorporated in the economic analysis to calculate the NPV and the IRR; with the low-SPC scenario, the NPV of the project is US$525 million and IRR is 35 percent; in the high-SPC scenario, the corresponding figures are US$529.9 million and 35.1 percent. These figures represent a change of 0.9–1.8 percent in the NPV value and an increase of 0.2–0.3 percentage points in the IRR, compared to the NPV and IRR without consideration of the SPC.

83. **Results and sensitivity.** The economic viability of the proposed program was tested to scenarios in which the capital costs increase 20 percent, benefits are 20 percent lower, or a combination of both. The baseline scenario used included benefits from the reduction in emissions. The results of the sensitivity tests are shown in table 3. As can be seen, all sensitivity tests produce an IRR of more than 12 percent, with a positive NPV. It is therefore considered that the results of the appraisal are robust.

Table 3. Sensitivity Test Results

Sensitivity Test	IRR (%)	NPV (US$, millions)
Capital costs 20% higher than expected	29.9	494
Benefits 20% lower than expected	28.2	373
Capital costs 20% higher than expected and benefits 20% lower than expected	23.4	326

B. Fiduciary

(i) Financial Management

84. **The overall FM risk was assessed to be Substantial.** The FM assessment conducted at the AMT to evaluate whether the project meets the World Bank's minimum FM requirements in Directives and

[54] World Bank. 2017. *Shadow Price of Carbon in Economic Analysis Guidance Note.*

Policy for Investment Project Financing (IPF) revealed that this agency has no experience in managing World Bank-financed operations and the FM arrangements (accounting staff and systems, internal control procedures, and project external auditors) are not yet in place as the PCU has not yet been established. However, the MTC has teams with experience in managing other World Bank-financed operations, and these teams will provide necessary support to the AMT. The assessment complied with the guidance in the FM Manual for World Bank IPF Financing issued on September 7, 2021.

85. **The following FM actions should be implemented to ensure existence of adequate FM arrangements throughout project implementation:** (a) develop and adopt the POM including a section on the FM procedures within 60 days after the project effectiveness; (b) recruit a project financial management specialist (FMS) within two months after project effectiveness; (c) purchase and install computerized accounting software for the project within five months after the project effectiveness, and (d) appoint a project accountant within five months after the project effectiveness.

86. **The following project disbursement and financial reporting arrangements have been agreed.** The IDA funds will be disbursed on transaction basis (statements of expenditures [SOEs]) using the following methods: (a) reimbursement, (b) advances, (c) direct payments, and (d) special commitments. The PCU will prepare quarterly unaudited IFRs and provide such reports to the World Bank within 45 days of the end of each quarter. The project financial statements (PFS) will be audited annually by a private firm. The audit report together with a separate Management Letter will be submitted to the World Bank no later than six months after the end of each fiscal year.

(ii) Procurement

87. **Procedures.** The World Bank Procurement Regulations for IPF Borrowers (dated November 2020 and amended from time to time) (Procurement Regulations) and the provisions of the Financing Agreement will apply. Furthermore, the Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants (dated October 15, 2006 and revised in January 2011 and July 2016) will apply. The World Bank Guidelines on Preventing Fraud and Corruption will also apply to the project.

88. **Given that the project is classified as high GBV risk**, the disqualification mechanism for noncompliance with SEA/SH contractual obligations in projects will apply to works contracts. Therefore, the contractor/subcontractor disqualified by the World Bank for noncompliance to its SEA/SH Prevention and Response Obligations will not be qualified to be awarded World Bank-financed contracts for two years.

89. **Procurement arrangements.** All the proposed procurement activities for the project will be managed by the PCU that will be established within the AMT under the MTC with the necessary capability for day-to-day management of the project, including the availability of qualified capacity in procurement, in a manner satisfactory to the World Bank. The Maputo and Matola municipalities will be responsible for the technical aspects of its respective components including the preparation of specifications, terms of references, participation in the evaluation committees, contract negotiations, and contract management.

90. **Procurement capacity assessment for the project.** The procurement capacity of the AMT under the MTC was assessed during preparation of the project, and it was noted that the PCU is yet to be created. The AMT has no experience in implementing projects financed by the World Bank and therefore is not

familiar with the World Bank procurement procedures nor the World Bank's Procurement Framework. The selection process for recruitment of staff and the establishment of equipped office space with all the means to perform the work satisfactorily are yet to be initiated. On the other hand, it is noted that the capacity of the market and supply chain to meet the demand is limited, due to the global nature of the COVID-19 pandemic and intermittent challenges in the bids' submission because of restrictions imposed in many countries worldwide.

91. **The above risks will be mitigated as the following.** On the one hand, given that the Project Preparation Advance was already approved, it will provide adequate groundwork for the implementation of the upcoming project with early recruitment of project staff (one senior procurement specialist with considerable experience in high-value contracts for works and infrastructures, including in projects financed by the World Bank and one procurement assistant) and allocating and equipping the office space. This arrangement will ensure that the AMT manages the procurement processes from an early stage of the project in a satisfactory manner. On other hand, the flexibilities in the bidding processes, as agreed by the World Bank, will be applied to mitigate the impact of the COVID-19 pandemic. The World Bank will closely monitor country restrictions and promptly propose more efficient procurement approaches and methods based on flexibilities provided in the Procurement Regulations.

92. **Other risks related to country practices.** The fulfillment of the requirements of the Attorney General's Office and the Administrative Tribunal for legal vetting of contracts may lead to delays in contract signing, following the completion of the evaluation process and the awarding of contracts. It is imperative that the time required for processing by the Attorney General's Office and the Administrative Tribunal is carefully considered in the planning of project activities. Furthermore, when a contract is entered with a foreign supplier/consultant, clearance is needed from the MEF (*Repartição de Assuntos Júricos e Contratos*) and the Central Bank (*Banco de Moçambique*) before payments abroad can be authorized. Thus, the payments to foreign providers may affect the performance of the procurement function of the project.

93. **Project Procurement Strategy for Development (PPSD).** The PPSD informs the project's Procurement Plan and the relevant aspects to be included in the procurement section of the POM, which will guide the PCU in carrying out procurement in accordance with the World Bank Procurement Regulations.

94. **Procurement risk.** The overall procurement risk associated with the project is High.

C. Legal Operational Policies

	Triggered?
Projects on International Waterways OP 7.50	No
Projects in Disputed Areas OP 7.60	No

D. Environmental and Social

95. **The project overall environmental and social risk is rated as 'High',** based on the analysis of the project's likely environmental risks and impacts in a densely populated area combined with the current borrower's

fragmented and challenging implementation arrangement and untested environmental and social risk management capacity under the Environmental and Social Framework (ESF). Proposed project activities are expected to generate direct, indirect, and cumulative environmental and social impacts and risks. Such risks and impacts are expected to be significant in magnitude and spatial in context, albeit temporary, predictable, and in most cases reversible. Environmental and social risks and impacts will stem mainly from the proposed construction of BRT infrastructure and associated facilities in the project area.

96. **The project will also finance a series of TA activities, mainly under Components 1 and 2**, classified under the ESF as (a) Type 1 TA - Development of the BRT concept and detailed design; (b) Type 2 TA - support regulatory and institutional reforms, the formulation of comprehensive planning strategies; and (c) Type 3 TA - to support planning and establishing of an integrated public transport system and support transport operators to develop their organizational and operational capacity. When implemented, the outcome of Type 1 TA activities will lead to substantial downstream risks and impacts on people and on the environment relevant to the Environmental and Social Standards (ESS) 1–6, 8, and 10.

97. **Project social risks are assessed as 'High**' mainly due to civil works in an urban setting that can potentially lead to large-scale impacts due to land acquisition and resettlement. The interventions related to the BRT system are expected to lead to permanent and temporary land acquisition. Urban upgrading works are expected to lead to impacts on livelihoods, mobility, and access. In a dense urban environment, these impacts require careful planning and management as resettlement impacts are expected to be high and can lead to social conflict unless managed adequately. Livelihood impacts on poor, vulnerable, and marginalized people such as street vendors, especially women, informal transport operators, and others, are expected and will need to be thoroughly assessed to ensure that such impacts are properly mitigated. A Resettlement Policy Framework has been prepared to provide guidance on assessment and mitigation measures related to land impacts. Resettlement Action Plans will be prepared and implemented for each subproject in line with the RPF before civil works commence. Further, any impacts on livelihoods of local people will also be assessed and mitigated through the development and implementation of Livelihood Restoration Plans.

98. **The project will use direct and contracted workers as well as primary suppliers.** Direct workers are estimated to total around 20 while the number of contracted workers and primary supply workers is not clear at this stage. Contractors are expected to use local labor although some influx of technical specialists is expected. Main labor-related risks consist of (a) unsatisfactory working conditions not in line with World Bank Environmental and Social Standards (ESS) on Labor and Working Conditions (ESS2) and local laws, (b) occupational health and safety, (c) use of child and forced labor, and (d) increased risk of SEA/SH and conflicts between labor and project-affected people. Labor Management Procedures (LMP) has been prepared by the project that assesses these risks and outlines mitigation measures for different types of workers including on age verification, code of conduct for workers (especially on SEA/SH), non-discrimination in hiring and provision of safe and secure working conditions in line with ESS2. A Labor GRM has been outlined. Contractors will be expected to include measures in line with LMP in their Contractor's Environmental and Social Management Plans and hire appropriate staff for management of labor issues.

99. **The project's Stakeholder Engagement Plan (SEP) includes an assessment of stakeholders and means of consulting and informing them.** The means of consulting vulnerable and marginalized groups such as women, PWDs, illiterate, and the elderly have been identified. Community consultations are critical for the success of this project and the SEP outlines the means of including neighborhoods in consultations. A GRM has been presented.

100. **The project has a substantial risk of SEA/SH.** An SEA/SH risk assessment has assessed the nature of risks which include (a) increased male mobility due to construction works; (b) lack of awareness on SEA/SH among workers; (c) unequal power relations during employment, especially the hiring process, and training initiatives; and (d) resettlement process that may place women and female-headed households at risk. A range of mitigation measures have been identified in the SEA/SH action plan (prepared as part of the ESMF and disclosed in April 2022), including signing of codes of conduct on SEA/SH by all workers, implementation of an SEA/SH-sensitive GRM, awareness raising on SEA/SH, development of partnerships with entities working on SEA/SH, and regular consultations with communities. Contractors will be required to include risk mitigation measures in their Contractor's Environmental and Social Management Plans and ensure that requisite staff on SEA/SH are recruited. The project will also recruit two SEA/SH specialists/officers, one based in Maputo Municipality and the other in Matola to oversee the implementation of measures.

101. **The project environmental risk is rated as 'Substantial'.** Environmental risks and impacts include (a) loss of vegetation, soil erosion, and degradation due to land clearance for corridors widening; (b) soil and surface water pollution from construction works and campsites; (c) dust and noise emissions from construction vehicles leading to impacts on water and air quality that could pose significant public health risks; (d) generation of hazardous and non-hazardous waste; and (e) occupational health and safety concerns to contracted workers. Because proposed investments will occur in urban settings with densely populated neighborhoods and congested areas, there are also substantial community health and safety that could lead to increased traffic safety issues; accidents with pedestrians, vehicles, and other road users; public nuisance; GHG emissions; and risks associated with the integrity of infrastructures due to natural hazards.

102. **Consequently, the borrower prepared a series of environmental and social instruments to identify and address environmental and social risks and impacts and propose relevant mitigation measures in a manner commensurate to the anticipated project risks and impacts**, which include an ESMF, a Resettlement Policy Framework, an Environmental and Social Commitment Plan (ESCP), LMP, and an SEP. The environmental and social instruments were extensively consulted upon and were disclosed before project appraisal completion in the country (April 11, 2022) and on the World Bank website (April 14, 2022). Consultation of the instruments took place from December 9 to 18, 2021, in Maputo. A Social Assessment analyzed the issues faced by various users in accessing and using public transport and their expectations of the project. It also assessed existing systems of public consultations and grievance redress in key institutions. Such systems will be developed and strengthened to ensure that BRT users are consulted, and their concerns and complaints are adequately addressed.

103. **The AMT within the MTC will act as the main implementing agency and will have overall implementation responsibility.** A PCU is set up in the AMT to ensure management of environmental, social, health, and safety aspects of the project. The PCU has recently strengthened its capacity by hiring two seasoned staff, one environmental specialist and one social development specialist. While the PCU environmental and social staff are well versed in the implementation of the operational policies under past operations, they will require additional training to be able to adequately monitor and manage the environmental and social risks of this project. Their background experience, training, knowledge, and understanding of the previous projects gives them an added advantage to adequately manage environmental and social risks under this project. The ESMF and ESCP presented in detail a capacity-building program for the PCU and its implementing partners at all levels.

Gender

104. **The project will contribute to close gender gaps in mobility and employment for women.** In terms of mobility, the project will conduct an analysis of the mobility barriers that low-income women and other groups in

a situation of vulnerability face to use public transport. The analysis will contribute to identify barriers in terms of affordability, availability, acceptability, and safety and security in public transport for women and will provide recommendations to promote a modal shift to the BRT, use of NMT, and design of measures to prevent and respond to violence against women in the BRT. Measures will include the development of a Protocol to Prevent and Respond to Sexual Harassment, capacity building to BRT operators on appropriate response to violence and harassment, referral to service providers, and a code of conduct; an analysis will be developed to identify entry points to link these measures with future concessions. Participatory process with women will be put in place to identify violence prevention design features in the BRT system, its infrastructure, and surrounding spaces. The design of the BRT infrastructure, surrounding areas, and neighborhood access roads consider the principles or universal access, in which transport users with limited/diverse mobility (such as women) and PWDs will be assured the same level of services access and quality. Women groups will be trained on the regular auditing of public spaces around BRT areas, inspired by ongoing initiatives in Maputo. To contribute to address gaps in employment in the transport sector, the project will conduct an assessment of the recruitment, retention, and promotions barriers that women face and will develop a Gender Action Plan to increase their participation in the transport sector, including in the AMT, with a strong focus on the YPP, where women will be ensured participation, with an expectation that a percentage will be absorbed permanently, after graduation of the program, by related ministries and other transport stakeholders. The project will also design a pilot, based on a barriers and facilitators analysis, to promote women's entrepreneurship as transport operators. Detailed information on all activities related to gender can be found in the 'Technical Note I. Gender and Climate Considerations in the Maputo Metropolitan Area Urban Mobility Project'.[55]

Citizen Engagement

105. **The project has prepared an SEP that will be implemented throughout the project life cycle.** It considers the proposed project and the existing structures and processes for conducting stakeholder/citizen engagement activities. The SEP maps the various stakeholders and sets out strategies on (a) how to engage with them throughout the project life cycle, allowing for meaningful consultation in a participatory manner that includes the involvement of vulnerable groups; (b) how information related to the project will be shared at the different levels; and (c) how their feedback and concerns will inform project design and implementation. It also includes guidance on how the project will manage grievances through the implementation of a GRM. The GRM, which is sensitive to SEA/SH issues and the ethical treatment and resolution of such complaints as well as proportionate to the potential risks and impacts of the project, has been developed with multiple and widely known ways to register grievances, including anonymous ones. A Rapid Social Assessment was also undertaken to understand the issues faced by marginalized groups in using transport and recommend measures to ensure that transport systems and related infrastructures supported by the project are informed by their perspectives. It also analyzed the existing measures for conducting citizen engagement activities among implementing partners and provided recommendations for strengthening and improving them under the project.

106. **During project preparation, more than 2,000 surveys and focus group discussions were conducted with public transport users in the AMM, with a particular focus on women, PWDs, and low-income individuals.** The aim was to understand the mobility needs and challenges of these marginalized groups. This analysis has helped shape and adapt the design of interventions under Component 2 to their specific needs and concerns. Furthermore, in partnership with the FIA Foundation, project preparation also involved the study of safety and security issues affecting last-mile connectivity in the neighborhoods located within the area of influence of the

[55] World Bank, 2022. Maputo Metropolitan Area Urban Mobility Project (P175322), Project Documents.

BRT, with a particular focus on low-income women. The study entailed carrying out more than 1,500 surveys and focus groups, the findings of which have helped shape the definition of interventions under Component 3.

107. **During implementation, a separate but linked ASA project will support the AMT with leveraging big data and digital crowdsourcing and mapping technologies to enhance transport planning, management, and citizen engagement with the aim of improving the quality, accountability, and delivery of public transport services in Maputo.** The ASA will support two pilot projects: (a) build additional functionalities to create digital tools that support the participatory monitoring of public transport services—new functionalities would enable the crowdsourcing of real-time, global positioning system-positioned citizen feedback/data on the conditions and quality of basic transport services (that is, citizen reports on traffic conditions on specific routes, bus overcrowding, wait times, bus fares collected, cleanliness, safety concerns, bus speeds, and so on)—and (b) leverage call data report data from telecom companies and other big data sources to enhance public transport planning and operations.

Road Safety

108. **The areas of project intervention are characterized by a mixed use of road users, comprising vulnerable road users (especially pedestrians) mixing with motorized traffic.** Current facilities do not cater for safe interactions between these road users, especially at pedestrian crossing locations and intersections. A road safety assessment has been undertaken to assess the safety risks and identify potential mitigation measures to be reflected in the works and designs. These enhancements, in addition to recommendations arising from road safety audits conducted during road design, will inform road safety improvements to be achieved as part of the upgrade of the selected roads. The Road Safety Screening and Appraisal Tool (RSSAT)[56] was applied to assess the road safety impact of the proposed project.[57]

109. **The proposed project will support improvements in road safety outcomes for the AMM.** The project will support road safety measures that will mitigate road safety risks in the areas of intervention and serve as pilot improvements that aim to inspire changes in other parts of the city. Component 1 will support capacity building in road safety at different levels of government. In Component 2, the BRT corridor will incorporate infrastructure-based solutions such as pedestrian features, including safe sidewalks and crossing points at key locations, and improvements to safe intersections. Non-infrastructure improvements will also be introduced. This includes speed management measures such as enforcement and speed monitoring and activities involving education of road users about the correct and safe use of the intervened corridors. Provision of features to maximize safety of vehicles (for example, blind spot reduction) will also be explored when procuring buses and in fleet renewal programs. In Component 3, the access roads will incorporate pedestrian facilities such as sidewalks and crossing points at key locations and better street lighting, as well as traffic calming features at key locations. This component will also pilot improvements in the safe access to schools and will support the development of a city pedestrian and cycling strategy, a citywide speed strategy, and a road safety data collection strategy. Interventions

[56] The RSSAT assesses the road safety risks under various scenarios, with and without road projects; rates them using the Project Safety Impact (PSI) indicator; and allows for recommendation of mitigation measures to further reduce road safety risks.

[57] The list of roads to be upgraded is yet to be finalized, so two representative sample access roads were used for the RSSAT analysis. The analysis reviewed two roads for a total of 11.5 km, with both roads located in Matola. For the first road section of 8.7 km, a PSI score of 0.728 was obtained following the addition of mitigating measures, corresponding to a 27 percent reduction in fatalities. For the 2.8 km road section, a PSI of 0.952 was obtained, which is equivalent to a 4.8 percent decrease in fatalities compared to the current situation. In both cases, the results are driven by the introduction of safety features to protect pedestrians. Both PSI values are below the PSI threshold value of 1; this means that project interventions will not contribute to increased fatalities. At present, these interventions include enhanced road safety features such as a marked paved shoulder width to cater for vulnerable road users, improved road markings and signs, increased use of speed management or traffic calming techniques, improved pedestrian crossings, and so forth.

in Components 2 and 3 will integrate road safety audit of designs as well as a 'pre-opening' road safety audit. During the construction period, some specific road safety risks may arise, especially as it is expected that there will be an increase in heavy vehicle movements. The risks from these vehicles interacting with current road users, especially vulnerable road users, can be high. To mitigate this risk, the project will incorporate robust temporary traffic management plans and monitoring arrangements as part of contractual arrangements.

V. GRIEVANCE REDRESS SERVICES

110. **Communities and individuals who believe that they are adversely affected by a World Bank supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS).** The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the World Bank's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of World Bank non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and World Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit http://www.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

VI. KEY RISKS

111. **The overall risk associated with the project, after the mitigation measures are incorporated in the project design, has been assessed as High.** Political and governance, sector strategy and policies, technical design and institutional capacity risks have been assessed as Substantial. Fiduciary, stakeholders, and environmental and social risks have been assessed as High. The main reasons behind the overall assessment are (a) challenges at the technical and capacity levels to implement the first mass transit project in Mozambique, including planning, design, and implementation of infrastructure, regulatory and institutional reforms, and operators professionalization; (b) the institutional complexity of the project that requires significant level of coordination between different institutions; (c) the involvement of informal and semiformal operators that will require significant consultation, awareness, and capacity building; and (d) the requirements of resettlement in urban area, which, although not expected to affect residential housing, will need careful implementation following the World Bank ESF.

112. **Political and governance risk is Substantial.** The fragility and conflict situation in the north poses substantial political and governance risks to the project despite recent improvements. However, the lack of predictability of the evolution of the conflict could have a negative impact on the governance environment in the country. Furthermore, these persistent political challenges between different levels of government might reignite tensions and affect the implementation of reforms which are needed to ensure wealth is deployed transparently and contributes to inclusive growth. Political governance dynamics will be monitored closely.

113. **Sector strategies and policies risk is Substantial.** The project addresses issues of sustainability by directly supporting policies that advance broad societal interests over the long-term vision for a livable urbanization of Maputo that is inclusive and promotes economic growth and low-emission development. Multiple government

ministries and departments are responsible for planning, financing, implementing, and enforcing urban policies and plans in the urban transport sector, leading to a fragmentation in the implementation of urban mobility strategies and policies in the AMM. This risk is mitigated through the development of coordination mechanisms for project implementation, both at the strategic and operational levels to enhance project coordination, monitoring, transparency, and social accountability.

114. **Technical design of the project risk is Substantial.** The project will be implementing the first mass transit project of Mozambique, which combines complex infrastructure works in urban areas with new operational practices and business models in public transport in Mozambique. To mitigate the technical risk, the project has been carefully designed building on lessons learned of other urban transport projects in African cities and focusing on deliverability and impact. The project has also included a strong focus on capacity building to support the key institutions relevant to the sector as well as the institutional coordination. The project will also be hiring a technical support consultant (TSC) firm to complement technical capabilities of project teams, and that will provide strong and easy-to-mobilize advisory and technical support in specialized areas such as legal advisory, infrastructure, bus operations, traffic systems, and technologies, among others.

115. **Institutional capacity for implementation and sustainability risk is Substantial.** The implementation of the project will require coordination among several institutions, at different levels of government. While the AMT represents an effort to reduce the institutional fragmentation and bring stakeholders together, there is a lack of well-defined responsibilities and coordination mechanisms among the multiple actors. Although the municipalities of Maputo and Matola and the MTC have significant experience implementing World Bank-funded projects, the AMT, that will host the PCU, has limited experience working with the World Bank. To mitigate this risk, the project will support a TA program to enhance the institutional framework in urban transport as well to build working protocols between different institutions. Furthermore, the project will be hiring dedicated project management and technical staff to support project implementation, as well as a TSC firm to complement technical capabilities of project teams and provide capacity building. Finally, the project has designed a comprehensive capacity-building program that will be targeting leadership and technical officials and young professionals to build the new generations of leaders in urban transport in Mozambique.

116. **Fiduciary risk is High.** This risk is associated mainly with the AMT's lack of experience in implementing projects financed by the World Bank—therefore its lack of familiarity with the World Bank procurement procedures and the World Bank's Procurement Framework—and the limited municipal FM capacity. In addition, there are challenges derived from the limited capacity of the market and supply chain to meet the demand, due to the global nature of the COVID-19 pandemic and challenges in the bids' submission because of the restrictions imposed in many countries worldwide. To mitigate this risk, the project will hire senior FM and procurement officials supported by an accountant and a procurement assistant. The project will also engage external financial auditors. Also, the project will ensure to apply the flexibilities in the bidding processes, as agreed by the World Bank, to mitigate the impact of the COVID-19 pandemic.

117. **Environmental and social risk is High.** The project will be implemented in dense urban areas, where resettlement is expected. Other social risks identified include exclusion of groups in situations of vulnerability, women, the elderly, and PWDs in the consultation and planning processes and GBV/SEA. The project will be implemented in some areas that suffer from frequent flooding. The project has considered the following mitigation measures: (a) there will be a specific component that will strengthen institutional capacity, including the management of environmental and social risks; (b) gradual implementation of activities will mitigate environmental and social risks; (c) capacity-building activities and professionalization of sector trainings are

included in the project design; (d) road safety measures will be included in the project design and implementation and are a core principle of the universal access approach; (e) a GBV action plan has been prepared and will be implemented during project implementation; (f) provisions for inclusion and requirements for engagement will be included in the SEP and the Vulnerable Groups Planning Framework (VGPF) to guide implementation activities; and (g) the project will design strategies and/or action plan adequate to each of the activities, as needed, to roll out measures to mitigate the spread of COVID-19.

118. **Stakeholder's risk is High.** Project implementation requires the coordination of multiple stakeholders to put in place sectoral reforms, such as the reform and formalization of public transport. The existing public transport operators, organized in transport associations and unions, will be key stakeholders in the public transport reform that aims to professionalize public transport services. Reforms will be implemented incrementally in selected corridors of the city to reduce the risks of citywide transformation in one go. The project design has also adopted an integrated approach to the design of facilities, informed by extensive surveys and consultations with stakeholders and users and by international and local experiences. The World Bank's involvement as a convener and motivator and early project successes will be important. Furthermore, to mitigate the risk, the project has prepared an SEP to enhance project monitoring, transparency, and social accountability, which will be implemented during implementation. In addition, the project includes several consultations, communications, and awareness campaigns as well as customized capacity building for formal and informal operators to ensure meaningful citizen and stakeholder engagement.

119. **Other risks associated with extreme weather events risk is rated High.** Intense weather conditions may cause flooding events, severely affecting transportation infrastructure and obstructing mobility. The consequences of floods are expressed not only in the form of physical damage to the transportation infrastructure itself but also in the form of business disruption that can occur either due to loss of operability (that is, inundation of the road network) or due to loss of accessibility (that is, flooding obstructing potential riders from reaching the BRT). To mitigate this risk, the project has integrated strong climate adaptation interventions, which are described in the technical appraisal section. Furthermore, the project design includes the CERC under Component 5 to accommodate emergency works.

VII. RESULTS FRAMEWORK AND MONITORING

Results Framework

COUNTRY: Mozambique

Maputo Metropolitan Area Urban Mobility Project

Project Development Objectives(s)

The Project Development Objective is to improve mobility and accessibility along selected corridors in the Maputo Metropolitan Area.

Project Development Objective Indicators

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
Improve Urban Mobility							
1. People benefiting daily from improved urban mobility in the selected public transport corridors (Number)		0.00	0.00	0.00	100,000.00	110,000.00	124,000.00
Share of female users benefiting daily from improved urban mobility in the selected public transport corridors (Percentage)		0.00	0.00	0.00	30.00	40.00	40.00
2. Change in the share of AMM residents with access to the CBD (Baixa) within 60 min using public transportation (Percentage)		0.00	0.00	0.00	5.00	10.00	15.00
3. User's satisfaction of the BRT system (Percentage)		0.00	0.00	0.00	50.00	60.00	70.00

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
Female user's satisfaction of the BRT system (Percentage)		0.00	0.00	0.00	50.00	70.00	80.00
4. People benefiting from improved climate resilient roads in the access roads to neighborhoods (Number)		0.00	0.00	0.00	85,700.00	90,000.00	95,000.00

Intermediate Results Indicators by Components

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
Urban transport institutional & regulatory strengthening & public transport industry professionaliza							
AMT decree modified (Yes/No)		No	No	No	Yes	Yes	Yes
Professionalization of operators in project selected BRT services (Percentage)		0.00	0.00	0.00	100.00	100.00	100.00
Number of youth enrolled and graduated from the Transport Young Professionals Program (YPP) (Number)		0.00	0.00	0.00	50.00	50.00	50.00
Share of women enrolled and graduated from the Transport YPP (Percentage)		0.00	0.00	0.00	30.00	30.00	30.00
Share of women employed in the Transport Sector through the Transport YPP (Percentage)		0.00	0.00	0.00	0.00	20.00	20.00

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
Comprehensive Public Transport Improvements							
Length of BRT segregated running way (Kilometers)		0.00	0.00	15.00	19.00	19.00	19.00
Number of people with access to improved quality and safe public transport (Number)		0.00	0.00	31,000.00	103,000.00	223,000.00	344,000.00
Public Transport journey times on the BRT corridor (Minutes)		64.00	64.00	64.00	58.00	52.00	52.00
Percentage of Stations and Facilities complying with Universal Access Specifications (Percentage)		0.00	0.00	0.00	100.00	100.00	100.00
BRT Road Safety Management Plan Developed and Implemented (Yes/No)		No	No	Yes	Yes	Yes	Yes
Comprehensive Improvements for safe access to neighborhoods and corridor integration							
Length of access roads rehabilitated following people-centric and climate change resilience specifications (Kilometers)		0.00	0.00	7.00	15.00	25.00	32.00
Length of non-motorized transport (NMT) infrastructure improved/implemented (Kilometers)		0.00	0.00	10.00	20.00	20.00	20.00
Percentage of km of access roads complying with road safety audits (Percentage)		0.00	0.00	100.00	100.00	100.00	100.00
Parking plan developed and implemented (Yes/No)		No	No	No	No	Yes	Yes
Construction workers on project site who have signed		0.00	100.00	100.00	100.00	100.00	100.00

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
the code of conduct (CoC) and attended the CoC training (Percentage)							
System to receive and log grievances related to design, construction and operations of the BRT corridor and access roads, including GBV, within the stipulated services (Yes/No)		No	Yes	Yes	Yes	Yes	Yes

Monitoring & Evaluation Plan: PDO Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
1. People benefiting daily from improved urban mobility in the selected public transport corridors	Average daily ridership in the BRT corridor. This indicator is related to the improved urban mobility in the selected corridor part of the PDO.	Semi-annual	Project Monitoring using ticketing system data	This indicator will measure the average daily number of passengers in the BRT system. The average ridership will include only weekdays and will exclude special events (e.g. general holidays, school holidays), weekends and unusual events, nor extreme	AMT

				weather events. The average will be calculated by adding up four weeks of information (Monday-Friday) and dividing the result by the number of working days in the same period.	
Share of female users benefiting daily from improved urban mobility in the selected public transport corridors	Share of the average daily ridership in the BRT corridor that are women (sub-indicator). This indicator is related to the improved urban mobility in the selected corridor part of the PDO	Semi-Annual	Project Monitoring, using ticketing system data and surveys	This indicator will measure the share of female users out of the average daily number of passengers in the BRT system. The average ridership will include only weekdays and will exclude special events (e.g. general holidays, school holidays), weekends and unusual events, and extreme weather events. The average will be calculated by adding up four weeks of information (Monday-Friday) and dividing the result by the number of working days in the same period.	AMT

				If automatic fare payment system stores gender disaggregated data, this data will be anonymized and aggregated, and used to estimate the number of female users. If using gender-disaggregated data from the ticketing system is not possible, this data will be collected through surveys in the different BRT services.	
2. Change in the share of AMM residents with access to the CBD (Baixa) within 60 min using public transportation	Increase in the number of people with access to the CBD (Baixa) within 60 min using public transportation services. This indicators relates to the improved urban access part of the PDO.	Annual	Project Monitoring	This indicator will measure the increase in the number of people that have access to the Baixa within 60 minutes, using public transportation. This indicator is measured using the GTFS files and road network of the Greater Maputo Area, and accessibility analysis tools using GIS.	AMT
3. User's satisfaction of the BRT system	Share of BRT users that gives a satisfactory rating to	Annual	Project Monitoring.	This indicator will measure the share of	AMT

	the BRT service. This indicator is related to the improved urban mobility in the selected corridor part of the PDO		Annual Survey	BRT users that gives a satisfactory rating in a 5-point Likert scale, to the BRT system. A satisfactory answer will be counted if a person responses average 4 or more points. The survey will include measurements on satisfaction with the level of service, affordability, availability, customer services, communication systems, complain system. A methodology to conduct the survey, including the sampling methodology will be developed during project implementation, and will yield statistically representative results. The sampling methodology will be documented, including sample size, method for selection of stations/terminals and	

				passengers to be surveyed, etc.	
Female user's satisfaction of the BRT system	Share of women BRT users that gives a satisfactory rating to the BRT service.	Annual	Project Monitoring Annual Survey	This indicator will measure the share of women BRT users that gives a satisfactory rating in a 5-point Likert scale, to the BRT system. A satisfactory answer will be counted if a female user' responses average 4 or more points. The survey will include measurements on satisfaction with the level of service, affordability, availability, customer services, communication systems, complain system and other topics that affect women disproportionally such as safety and security. The indicator will be only calculated for people identifying as women in the survey.	AMT

4. People benefiting from improved climate resilient roads in the access roads to neighborhoods	Number of people living in a catchment area of 1 km (each side of the road) from neighborhood access roads improved by the project with climate change resilience interventions. This indicator is related to the improved access in the selected corridor part of the PDO.	Annual	Project Monitoring	This indicator will measure the cumulative number of people in the catchment area of the neighborhood access improved roads with climate change resilience interventions. The catchment area is defined as 1km each side of the road. Roads to be included in this indicator are those to be upgraded under Component 3 (i.e. access roads to “bairros”). Climate Change resilience interventions appropriate for each road will be in line with those recommended under the Climate Change Resilience studies and climate resilience measures outlined in the “Technical Note I. Gender and climate considerations in the Maputo Metropolitan	CMM/Matola City Council

				Area Urban Mobility Project", World Bank (2022). The indicator will be calculated using GIS and WorldPop data (or census) or using surveys.	

Monitoring & Evaluation Plan: Intermediate Results Indicators					
Indicator Name	**Definition/Description**	**Frequency**	**Datasource**	**Methodology for Data Collection**	**Responsibility for Data Collection**
AMT decree modified	The AMT Establishment Decree is modified.	Annual	Project Monitoring	The AMT Establishment Decree is modified to provide a role for the Municipalities and Districts in the governance structure, protocols and coordination mechanisms.	MTC
Professionalization of operators in project selected BRT services	Percentage of staff at BRT bus operating companies within the BRT corridor who have received specialized training and are salaried employees	Annual	Operator Reporting	This indicator will measure the percentage of all staff at the BRT bus operating companies within the corridor (6 routes) who have received specialized	AMT

				training and are salaried staff with a contract of employment and defined pay and conditions	
Number of youth enrolled and graduated from the Transport Young Professionals Program (YPP)	Number of people enrolled and graduated from the YPP	Semi-Annual	Project Monitoring	This indicator will measure the number of people (youth) that enroll and complete the Transport Young Professionals Program (YPP).	AMT
Share of women enrolled and graduated from the Transport YPP	Share of women enrolled in the YPP out of the total people in the program.	Semi-Annual	Project Monitoring	This indicator will measure the number of people (youth) that enroll and complete the Transport Young Professionals Program (YPP) who are women.	AMT
Share of women employed in the Transport Sector through the Transport YPP	Share of women hired to work in the transport sector after the finalization of the YPP	Semi-Annual	Project Monitoring	This indicator will measure the share of women graduated from the YPP who are hired to work in the transport sector. The indicator will be calculated as the number of female YPP graduates hired in	AMT

				transport sector jobs divided by the total number of female graduates.	
Length of BRT segregated running way	Km of BRT segregated running way	Semi-Annual	Project Monitoring	This indicator will measure the number of Km of BRT segregated running way in the AAM.	CMM
Number of people with access to improved quality and safe public transport	Number of people that have convenient access to a public transportation along the BRT corridor, including BRT trunk and feeder routes. This indicator is a proxy to access to quality, safe and reliable transport systems. This is a Tier 2 SDG indicator contributing to Goal 11 of Sustainable Cities and Communities	Annual	Project Monitoring	The indicator will measure the cumulative number of people living in a 500m radio of an improved bus stop along the BRT services. Improved bus stop is defined as one that complies with the principles of universal access, climate change resilient infrastructure, and other measures of safety, quality, reliability, and comfort. At baseline, the number of people living in a 500m radio of the future bus lines is 363,352, (WorldPop, 2020). This indicator	AMT

				will provide information both of the people benefiting of access to improved public transport, as well as of the densification of areas around BRT (comparing with the population at baseline with closing date). To note that the main densification effects are likely to materialized years after the completion of the project.	
Public Transport journey times on the BRT corridor	Average time by public transport taken in minutes between selected points along the BRT corridor (minutes)	Semi-Annual	Bus management ITS system	This indicator will measure the average travel time by public transport taken for a one-way trip during peak hour between Praca da Juventude and Anjo Voador. This indicator will show the variation in travel time, compared with a before public transport improvement scenario. The average will be calculated as an	AMT

				average for weekdays, and excluding special events (e.g. general holidays, school holidays), weekends and unusual events. Baseline accounts for traveling time in the corridor using chapas as per the pre-feasibility study. Intermediate and target values will account for traveling time in the corridor using BRT.	
Percentage of Stations and Facilities complying with Universal Access Specifications	Percentage of Stations and Facilities complying with Universal Access Specifications.	Semi-Annual	Project Monitoring	This indicator measures the percentage of stations within the BRT corridor, including terminals, stations, vehicles and facilities, that comply with standards of universal access.	CMM
BRT Road Safety Management Plan Developed and Implemented	Specific BRT Road Safety Management Plan is developed and implemented	Annual	Project Monitoring	A BRT specific Road Safety Management Plan is developed, approved, and implemented	AMT

Length of access roads rehabilitated following people-centric and climate change resilience specifications	Km of access roads rehabilitated following people-centric and climate change resilience specifications	Semi-Annual	Project Monitoring	This indicator measures the length of access roads rehabilitated (cumulative) following people-centric and climate change resilience specifications along the catchment area, to access neighborhoods. The length of the road will be counted towards this indicator if the final audit shows that it followed the people-centric, road safety and climate change resilience specifications. The standards include, among other, resurfacing, sidewalks, drainage, lighting, road safety measures, people crossings, NMT facilities etc. Climate Change resilience interventions appropriate for each road will be in line with those recommended under the Climate	CMM/Matola Municipal Council

				Change Resilience studies and climate resilience measures outlined in the "Technical Note I. Gender and climate considerations in the Maputo Metropolitan Area Urban Mobility Project", World Bank (2022).	
Length of non-motorized transport (NMT) infrastructure improved/implemented	Km of NMT infrastructure improved and/or implemented.	Semi-Annual	Project Monitoring	This indicator measures the Km of NMT infrastructure improved or built (cumulative). This includes bike lanes and pedestrian infrastructure. This indicator also includes the interventions that support active mobility, such as crosswalks, ramps, signals, etc.	CMM/Matola Municipal Council
Percentage of km of access roads complying with road safety audits	This indicator will measure the percentage of km (roads) that have undergone road safety audits, and where the recommendations have been adopted.	Annual	Project Monitoring and Safety Audit	This indicator will measure the percentage of km (roads) that have been subjected to a road safety audit, and where audit recommendations	MTC

				will be adopted unless there is clear justification for non-adoption.	
Parking plan developed and implemented	Parking plan developed and implemented	Semi-Annual	Project Monitoring	Parking plan developed and implemented	CMM
Construction workers on project site who have signed the code of conduct (CoC) and attended the CoC training	Percentage of construction workers on project sites for all works who have signed the code of conduct and attended the code of conduct training	Semi-Annual	Project Monitoring	This indicator measures the percentage of construction workers on project site for all works who have signed the code of conduct and attended the code of conduct training.	CMM/Matola Municipal Council
System to receive and log grievances related to design, construction and operations of the BRT corridor and access roads, including GBV, within the stipulated services	Implement and use system to receive and log grievances related to design, construction and operations of development BRT corridor and access roads, including GBV, within the stipulated services standards. Grievances registered and resolved with the stipulated services standards.	Semi-Annual	Project Monitoring	Implement and use system to receive and log grievances related to design, construction and operations of development BRT corridor and access roads, including GBV, within the stipulated services standards. Grievances registered and resolved with the stipulated services standards.	AMT

ANNEX 1: Implementation Arrangements and Support Plan

1. **The MTC will be the supervisory ministry.** The MTC has the overall responsibility for policy direction, coordination, and supervision for all modes of transport in the country. The AMT will act as the main implementing agency, under the technical guidance of the MTC and the MEF. The AMT is a public entity whose main responsibility is to plan and manage collective public transport services across the AMM, through coordination with the municipalities and districts who have mandates within their areas. The MTC has set up a framework for the delivery of the project outcomes consisting of the following:

(a) **An SCC will be set up to ensure the coherence of activities with the sectoral strategy and intersectoral coordination.** This committee will be chaired by the MTC and will include representatives from the MEF; Ministry of Public Works, Housing and Water Resources; each of the Mayor's Offices from Maputo, Matola, Boane, and Marracuene; the AMT, the FTC, and the CFM; INATRO; ANE; Road Fund; and the FEMATRO. The committee will meet at least twice per year and will also have under its mandate to validate the annual budgeted work plans. The SCC should count with operating regulations (composition, voting mechanisms, reports, where it meets, and so on) to be discussed and approved in the first SCC meeting.

(b) **An OCC will be set up to provide overall supervision, decide on strategic matters, and supervise the implementation process.** The OCC will be chaired by the NDTS of the MTC. The committee will be represented by the NDTS, AMT, councilors from Maputo and Matola, and directors from Boane and Marracuene. In the first meeting, the committee will define detailed tasks and internal organization such as the frequency and the place of the meetings. It is expected that meetings will happen at least monthly. The main responsibilities of this committee are to (i) establish an internal working structure (frequency of meetings, place, voting, and so on); (ii) approve the annual working plan and submit to the SCC; (iii) approve semi and annual reports and submit to the SCC for approval; (iv) provide advice to the SCC on strategic matters; (v) support the SCC in planning and organizing regular and ad hoc meetings, including preparation of meeting agendas and meeting minutes; (vi) approve the Project Procurement Plan and following updates submitted by the PCU; (vii) provide guidance to the PCU on strategic matters; (viii) approve the Communication Plan submitted by the PCU; (ix) formulate/propose strategic decisions such as tariff settings, operators agreement, BRT development, policies, and regulations, some of which may need to be approved by the SCC; and (x) review monthly reports submitted by the PCU and provide feedback within five days.

(c) **A PCU will be set up in the AMT to technically supervise and coordinate the project's activities** as well as perform all operationally related tasks such as monitoring and evaluation, FM, and procurement and ensure coordination across municipalities and institutions within the AMM. The Administrative and Financial Unit of the PCU will oversee the FM aspects of the project, including consolidating financial statements for project activities, providing quarterly IFRs, monitoring financial transactions of the project's account, and making the necessary arrangements for the annual financial audit. The head of the PCU will be the CEO of the AMT. The PCU will include a TPC for the entire period of the project, to whom the technical units will report. The PCU will be strengthened to cope with increased activity levels. The main responsibilities of the PCU include (i) overall planning in terms of preparing annual plans, formulating strategic directions for BRT development, setting policy and guidelines, and formulating rules and regulations; (ii) drafting the annual working plan and submitting to the

OCC and SCC; (iii) submitting monthly reports to the OCC on the implementation process status; (iv) supporting the OCC and SCC in planning and organizing regular and ad hoc meetings, including presentations and preparation of meeting agendas and meeting minutes; (v) drafting the project Procurement Plan and submitting to the OCC; (vi) preparing and submitting budgets of scheduled activities; and (vii) disseminating activities in accordance with the Project Communication Strategy.

(d) **The PCU will be supported by TSC.** The TSC would provide specialist staff in the following areas, as required, over the life of the project: (a) project management; (b) legal advisory; (c) technical, including infrastructure, bus operations, traffic systems, and technologies; and (d) analysis, including planning, business modeling, and data management. A Subsidiary Agreement between the recipient and AMT will be required to transfer the funds and the obligations to the AMT.

(e) **PTUs will be set up in AMT, Maputo, and Matola** (one technical unit in each of these three institutions) to lead the technical implementation of different components. The technical units will report to the technical coordinator in the PCU. The technical units will also provide technical support to the PCU in procurement tasks related to preparing terms of references and conducting technical evaluations. A performance agreement between the AMT and the PTUs will be required to assign project responsibilities and define performance indicators to different units.

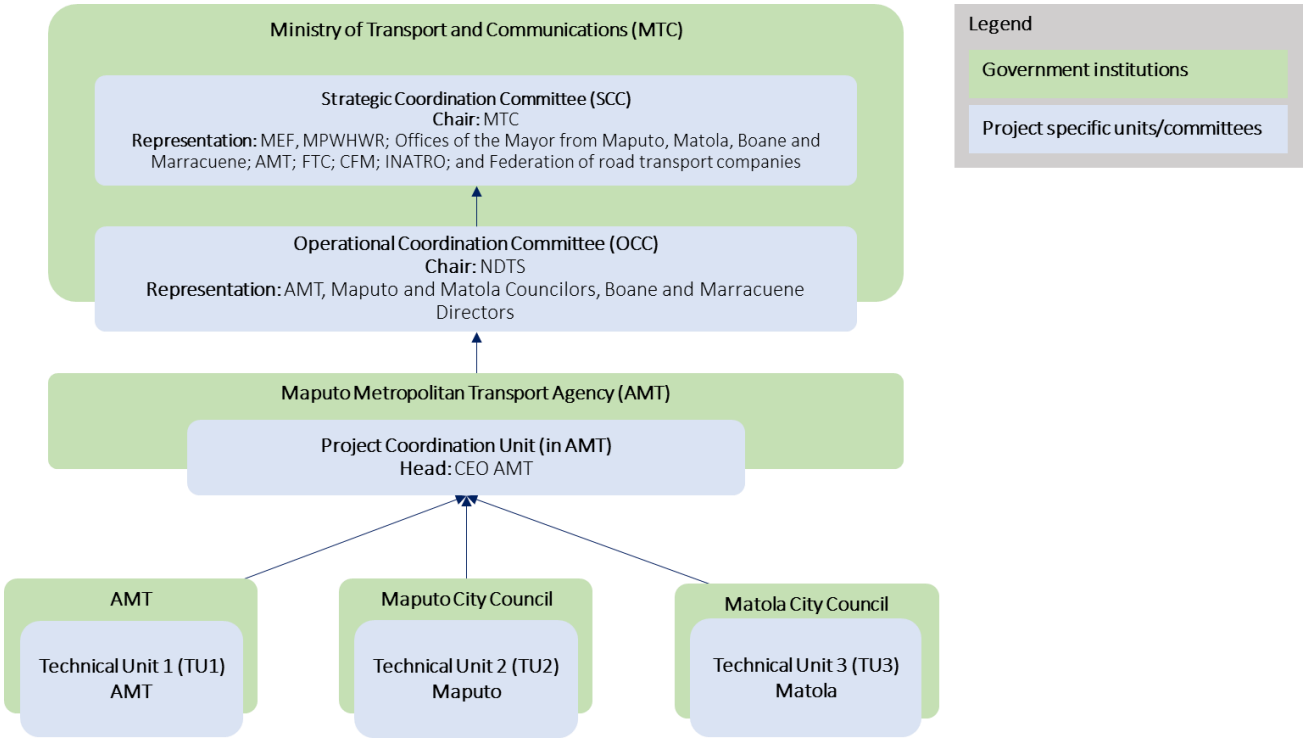
2. **Component 1. Urban Transport Institutional and Regulatory Strengthening and Public Transport Industry Professionalization.** This component will be implemented by the AMT in coordination with different beneficiaries. A PTU within the AMT (PTU1) will lead the transport services strand. Its job is to develop the service plan for all trunk and feeder routes; select the operators and enter into agreements with them; ensure the operators have the managerial and operational capability, including training; lead and support any reforms required of the operators; find the solution for bus acquisition and financing; arrange the customer-facing services, including ticketing, information, promotion, and so on; progressively integrate BRT services with the other public transport services of the city; and ensure overall operations management and incident response and so on. All of this must be fully aligned with the rest of the bus network and cooperative development (that is, the BRT cannot be developed in a way that does not take account of, or even disrupts, the development of the rest of the network). The PTU will also be responsible for developing and implementing the capacity-building plan of the project.

3. **Component 2. Comprehensive Public Transport Improvements.** The PTU within Maputo Municipality (PTU2) will lead the infrastructure and traffic and parking management strand of Component 2. Maputo Municipality will have the responsibility for all engineering aspects in the respective municipalities for delivery and supervision of civil works, implementation of all related environmental and social standards, including consultation, records, traffic management measures, both during construction and in permanent arrangement; parking measures; traffic signals, signs, and lines; NMT measures; public and user education; enforcement; and maintenance. The PTU within the AMT (PTU1) will lead the BRT rolling stock, systems, and service delivery, in coordination with the infrastructure construction. PTU1 will be responsible to procure, contract, and manage the operators of these bus services as well as operational support services (stations, running way management, and oversight of operations management) and customer-facing services (fare collection, traveler information, customer care, marketing/publicity, and so on). The AMT will also be responsible for the business model and ensuring the overall financial sustainability. The fleet will be operated by the potential future BRT operator(s) under the supervision of the AMT and beneficiaries.

4. **Component 3. Comprehensive Improvements for safe access to neighborhoods and corridor integration.** The PTUs within Maputo (PTU2) and Matola (PTU3) municipalities will lead the implementation

of infrastructure, traffic, and parking management strand of Component 3. They will have the responsibility for all engineering aspects in their respective municipalities for delivery and supervision of civil works, implementation of all related environmental and social risk management, including consultation, records, traffic management measures, both during construction and in permanent arrangement; parking measures; traffic signals, signs, and lines; NMT measures; public and user education; enforcement; and maintenance.

Figure 1.1. Institutional Arrangements of the Project



Financial Management

5. **An FM assessment was conducted at the AMT to evaluate the adequacy of the proposed project FM arrangements.** The assessment was carried out in accordance with the Directives and Policy for Investment Project Financing (IPF) and the World Bank Guidance on FM Manual in World Bank IPF Operations issued on September 7, 2021. The overall FM was assessed with Substantial FM residual risk rating because the project will finance infrastructures, the PCU has not been established yet and due to the country fiduciary risk.

Risk Assessment and Mitigation Measures

Table 1.1. Risks and Mitigating Measures

Risk Factors/Description of Risk	Risk Rating	Risk Mitigating Measures Incorporated into the Project Design	Conditions of Negotiations Board or Effectiveness (Yes or No)	Residual Risk Rating
Inherent Risk				
Country level: Shortage of human resources, limited capacities for key FM functions, and overall weak	H	• The GoM is committed to implementing reforms to strengthen the country's Public Financial Management System	No	S

control environment may negatively affect the implementation of the proposed project expenditures.		with support from the World Bank and other development partners. • The World Bank has a number of initiatives and projects under preparation that will strengthen the FM systems.		
Entity level: The AMT has no experience in managing World Bank-financed operations. The lack of experience and capacity may pose a serious challenge to the implementation of the project.	H	• A PCU will be established within the AMT and staffed with qualified personnel well versed with the World Bank's procedures. • The AMT will benefit from the support of experienced teams at the MTC managing World Bank-financed operations. • The project fiduciary staff will be recruited on a competitive basis. Capacity building will be provided to the project finance staff.	No	H
Project level: Likely fraud and corruption due to the relatively complex design and financing infrastructures	S	• Clearly defined procedures to be employed in implementation of the project to be documented in the POM. • Consider the use of Geo-Enabling initiative for Monitoring and Supervision platforms. • The project will be periodically supervised by the World Bank FMS as well as GoM internal audit units.	No	S
Control Risk				
Budgeting: The new PCU may not be able to produce realistic and comprehensive budget as the project involves many agencies. Weak budget monitoring system can lead to budget overrun.	S	• The process for budget preparation, execution, and monitoring will be documented in the POM. • Core staff of the PCU to be involved in the budget preparation will be trained. • The World Bank will review the project IFR and other budget execution reports to ensure their quality.	No	S
Accounting: The new PCU may not discharge the project accounting function properly. The new PCU may not be able to implement an acceptable project accounting system.	S	• The AMT will recruit a project FMS with acceptable skills and experience. • The World Bank will support the preparation of technical specifications for automated accounting software to be used to record project financial transactions. • The experienced team at the MTC will provide support to the AMT.	No	S
Internal control: Noncompliance with key project internal control procedures due to weak internal control environment and oversight mechanisms in the country	S	• The project will follow the procedures documented in the *Manual de Administração Financeira* (, which has been designed to mitigate internal control risk, and those to be documented in the POM.	No	S

Likely fraud and corruption as the project will finance infrastructure		• The PCU will be staffed with qualified personnel well versed with the World Bank's procedures. • Consider the use of Geo-Enabling Initiative for Monitoring and Supervision platforms. • The project may be subject to internal audit review by the General Inspectorate of Finance (*Inspeção Geral das Finanças*) and the FFH internal audit unit.		
Fund flow: Delays in funds flow may affect implementation of the project which could affect the schedules of the civil works. Fraud and corruption on works contract	S	• The funds flow will follow the GoM system. The World Bank team will provide support to the PCU through the project implementation. • A robust GRM will be developed under this project.	No	S
Financial reporting: The new PCU may fail to implement an adequate accounting system capable of producing required reports to monitor and manage the project.	M	• The PCU will purchase and install an automated accounting package capable of producing financial reports required to monitor and effectively manage the project. • The World Bank will provide support to ensure that required financial reports are produced on time.	No	M
Auditing: Delays in submission of audit reports.	M	• The PFS will be audited by the Administrative Tribunal, which is auditing the PFS of most of the World Bank-finance operations in the Mozambique portfolio.	No	M
OVERALL FM RISK	**S**			**S**

Note: H = High, S = Substantial, and M = Moderate.

Table 1.2. FM Action Plan

No.	Action	Responsibility	Completion Date
1	Appoint project FMS with acceptable skills and experience	AMT	Within two months after effectiveness
2	Develop the Project Implementation Manual including FM procedure	PCU/AMT	Within 60 days after effectiveness
3	Purchase and install computerized accounting software for the project	PCU/AMT	Within five months after effectiveness
4	Appoint project accountant	PCU/AMT	Within five months after effectiveness

6. **Budgeting.** Budget arrangements will be described in the FM procedures chapter to be part of the POM. The PCU/AMT will prepare the annual budget which will be cleared by relevant authorities and approved by the World Bank. The periodic variance analysis will enable the timely identification of deviations from the budget. These reports will be part of the quarterly unaudited IFRs to be submitted to the World Bank.

7. **Staffing.** The PCU/AMT will be responsible for fiduciary aspects of the project. The AMT will recruit project FM staff with acceptable skills and experience. Upon their recruitment, the World Bank will provide training on FM and disbursement requirements for World Bank-financed operations.

8. **Internal control.** Internal control systems and procedures of the project will be based on national procedures defined in the *Manual de Administração Financeira* and POM. The project will be subject to the review of the General Inspectorate of Finance based at the MEF.

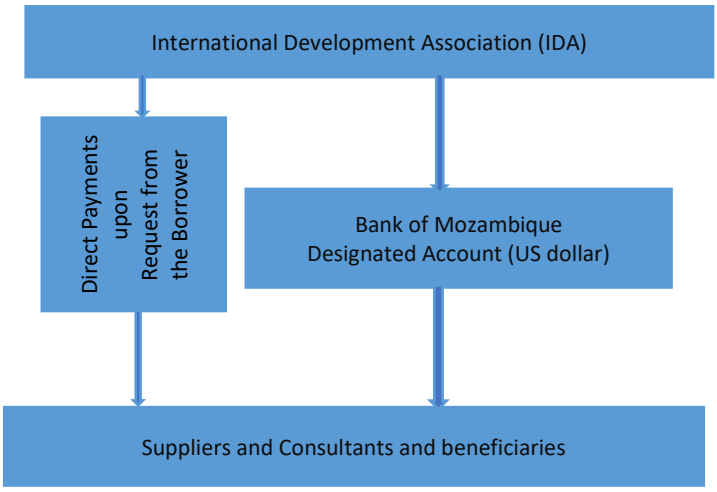
9. **Accounting.** The PCU will account for funds, expenditures, and resources of the proposed project using acceptable automated accounting software to be purchased and installed within five months after the project effective date. This accounting software should be adequate and capable of keeping, on a day-by-day basis, records of the project finance-related activities and producing reliable financial reports required to monitor and effectively manage the progress of the project.

10. **Financial reporting.** The PCU/AMT will prepare quarterly IFRs for the project in form and content satisfactory to the World Bank and to be submitted to within 45 days after the end of the calendar quarter to which they relate. At the end of each fiscal year, the PCU will also produce annual PFS in accordance with financial reporting under the cash basis of accounting. In addition, the PFS's components will be outlined in terms of reference for audit of this proposed project.

Disbursement

11. **Funds flow.** The PCU/AMT will open a Designated Account in US dollars with the Bank of Mozambique (Central Bank) to receive funds from IDA to finance eligible project expenditures. Figure 1.2 shows funds flow mechanism for the project activities.

Figure 1.2. Flow of Funds Mechanism



12. **Disbursement arrangements.** Disbursements of IDA funds will be done on a transaction basis. An initial advance will be made into the Designated Accounts upon the effectiveness of the project, based on the Designated Account ceiling and at the request of the PCU/AMT. The option of disbursing the IDA funds through direct payment, reimbursement, and special commitment will also be available. The World Bank will issue the Disbursement and Financial Information Letter (DFIL) which will specify the additional instructions for withdrawal of the proceeds of the IPF. The payments for eligible beneficiaries of various schemes to be financed under project will be centralized and managed by the PCU.

13. **Auditing.** The Administrative Tribunal (the country's Supreme Audit Institution) is mandated to audit all GoM funds, including donor-financed projects. The Tribunal will be responsible for auditing PFS in accordance with International Standards of Supreme Audit Institutions (ISSAIs) issued by INTOSAI. The audit report and the Management Letter will be submitted to the World Bank within six months after the financial year-end.

14. **Governance and accountability.** To prevent the possibility of fraud and corrupt practices including bribes, misprocurement and misuse of funds, adequate FM should be in place to ensure that funds are used for the purposes intended and to prevent material errors and fraud. The World Bank will review adequacy of project FM during the implementation review mission and the GoM will have to ensure that adequate FM is maintained through the implementation of the project. The project activities will be reviewed by the General Inspectorate of Finance, and the PFS will be audited annually by the Administrative Tribunal. In addition, the GoM has adopted several initiatives to fight corruption although further efforts are necessary to ensure that those measures are implemented effectively. An Anti-Corruption Law has existed since 2004 and a specific strategy was adopted in 2006, and significant progress was made with the enactment of various laws. Corruption repression is the responsibility of the Central Anti-Corruption Bureau, established in 2005, which is part of the Public Prosecutors' Office. While still suffering from capacity constraints, the Central Anti-Corruption Bureau has prosecuted several anti-corruption cases, and it has extended its presence in the provinces.

15. **Implementation support plan.** Based on the current overall FM risk of this operation, the project will be supervised twice a year. In addition to desk-based reviews, the FMS will perform field visits to ensure that the project's FM arrangements operate as intended.

Procurement

16. **Procurement procedures.** Procurement activities under the proposed project will be carried out in accordance with 'The World Bank's Procurement Regulations for IPF Borrowers' dated November 2020 and as revised from time to time; the 'Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants', dated October 15, 2006 and revised in January 2011 and July 2016; and the provisions stipulated in the Financing Agreement.

17. **Given that the project is classified as high GBV risk, the disqualification mechanism for noncompliance with SEA/SH contractual obligations in projects will apply to works contracts.** Therefore, any contractor/subcontractor disqualified by the World Bank for noncompliance to its SEA/SH prevention and response obligations will not be qualified to be awarded World Bank-financed contracts for two years.

18. **Procurement implementation arrangements for the project.** The proposed procurement activities for the project will be managed by the PCU that will be established within the AMT under the MTC with the necessary capability for day-to-day management of the project, including qualified capacity in procurement, in a manner satisfactory to the World Bank. The Maputo and Matola municipalities will be responsible for the technical aspects of its respective components including the preparation of specifications, terms of references, participation in the evaluation committees, contract negotiations, and contract management.

19. **The Mozambique Procurement Regulation, Decree 5/2016 of March 8, has been assessed as required under the World Bank's Procurement Framework.** The assessment indicated that the country's regulations are generally consistent with international best practice for the following reasons: (a) there is adequate advertising in national media; (b) the procurement is generally open to eligible firms from any country; (c) contract documents have an appropriate allocation of responsibilities, risks, and liabilities; (d)

there is publication of contract award information in local newspapers of wide circulation; (e) the national regulations do not preclude the World Bank from its rights to review procurement documentation and activities under the financing; (f) there is an acceptable complaints mechanism; and (g) records of the procurement process are maintained. However, the request for bids/request for proposals document shall require that bidders/proposers submitting bids/proposals present a signed acceptance at the time of bidding, to be incorporated in any resulting contracts, confirming application of, and compliance with, the World Bank's Anti-Corruption Guidelines, including without limitation the World Bank's right to sanction and the World Bank's inspection and audit rights, and that the procurement documents include provisions, as agreed with the World Bank, intended to adequately mitigate against environmental, social (including SEA and GBV), and health and safety risks and impacts.

20. **Procurement templates.** The World Bank's Standard Procurement Documents shall be used for procurement of goods, works, and non-consulting services under International Competitive Procurement. National bidding documents may be used under National Procurement Procedures subject to the exceptions stipulated in the textual part of the Procurement Plan. Similarly, selection of consultant firms shall use the World Bank's Standard Procurement Documents, in line with procedures described in the Procurement Regulations.

21. **Fiduciary oversight by the World Bank.** The World Bank shall prior review contracts as provided for in the Procurement Plan. Contracts below the prior review thresholds shall be subject to post review according to procedures outlined in World Bank Procurement Regulations on an annual basis by the World Bank team or by consultants hired by the World Bank. The rate of post review depends on the procurement risk associated to the project and adjusted periodically based on the reassessment during the implementation of the project. Also, the World Bank procurement specialists will regularly participate in implementation support missions to assist in monitoring procurement procedures and plans.

22. **Frequency of procurement supervision.** In addition to the prior review supervision to be carried out from World Bank offices, the capacity assessment of the implementing agencies recommends one field supervision mission every 12 months to carry out post review of procurement actions.

23. **PPSD.** The PPSD sets out market approaches and selection methods to be followed during project implementation. The PPSD identifies optimum procurement strategies on how fit-for-purpose procurement of activities will support project operations for the achievement of PDOs and deliver value for money. Based on the PPSD's findings, the Procurement Plans for the first 18 months were prepared, setting the selection methods to be used by the borrower in the procurement of goods, works, non-consulting services, and consulting services under the project. The Procurement Plans will be updated at least every 12 months, or as required, to reflect the actual project implementation needs. Each update shall require World Bank approval and will be publicly disclosed in accordance with the World Bank's disclosure policy. The PPSD is a living document that shall be regularly updated during project implementation, to provide necessary justifications for procurement arrangements, Procurement Plans, and their updates.

24. **Contract strategy.** Goods, services, and civil works are packaged in economical packages to attract local and foreign bidders who are qualified and can offer good prices and complete contracts within the stipulated time frame, resulting in value for money. Packaging for procurement is decided in such a way that encourages adequate participation and is based on two principal forms of procurement packaging: (a) the grouping (or bulking) of procurement activity within a procurement category for acquiring them under a single contract and (b) the division of one activity into multiple lots, where bidders can submit bids for one, several, or all lots (as would be stipulated in the procurement documents) and where a contract could be awarded for each lot or various lots when the awarded meets the qualifications requirements.

25. The following have been considered for procurement packaging:

(a) The likelihood of local suppliers being able to fulfill the requirements and if the packaging would limit their participation.

(b) If the requirements are needed (or can be received) simultaneously or there are different delivery dates between requirements. Unless the selected supplier can deliver at different intervals, receiving all the goods at one time could result in a potential logistical problem; therefore, under these circumstances it may be preferable not to package the various requirements.

(c) The availability of several suppliers that can provide a combination of procurement categories as may be required in the case of supply, installation, commissioning, and training.

(d) The implementing agency capacity to coordinate several suppliers. If the implementing agency's capacity is limited, this may create a preference for packaging to reduce the number of suppliers that the PCU would have to coordinate with.

26. **The procurement capacity assessment for the project.** The procurement capacity of the AMT under the MTC was assessed during preparation of the project and noted that the PCU is yet to be created. The AMT has no experience in implementing projects financed by the World Bank and therefore is not familiar with the World Bank procurement procedures nor the World Bank's Procurement Framework. The selection process for recruitment of staff and the establishment of equipped office space with all the means to perform the work satisfactorily are yet to be initiated. On the other hand, it is noted that the capacity of the market and supply chain to meet the demand is limited, due to the global nature of the COVID-19 pandemic and intermittent challenges in the bids' submission because of restrictions imposed in many countries worldwide.

Table 1.3. The Procurement Risk Assessment and Mitigation Action Plan

No.	Risk	Risk Type	Mitigation Measure	Time Frame	Responsible Agency
1.	The PCU is yet to be created under the AMT. The AMT has no experience in implementing projects financed by the World Bank and therefore is not familiar with the World Bank procurement procedures nor the World Bank's Procurement Framework. The selection process for recruitment of staff and the establishment of equipped office space with all the means to perform the work satisfactorily are yet to be initiated.	High	Given that the Project Preparation Advance was already approved, it will provide adequate groundwork for the implementation of the upcoming project with early recruitment of project staff establishment of equipped office space.	During project preparation and initial phase of implementation (selection ongoing)	AMT
2	Limited capacity of the market and supply chain to meet the demand, due to the global nature of the COVID-19 pandemic	Substantial	The AMT will apply COVID-19 flexibilities in the bidding process in accordance with emergency operations norms agreed by the	Throughout project implementation	AMT

No.	Risk	Risk Type	Mitigation Measure	Time Frame	Responsible Agency
			World Bank to mitigate the impact of the COVID-19 pandemic.		
6	Intermittent challenges of bids' submission due to COVID-19 movement restrictions imposed by many countries worldwide	Substantial	AMT project implementation teams will closely monitor country restrictions and promptly propose more efficient procurement approaches and methods based on flexibilities provided for in the Procurement Regulations and flexibilities agreed by the World Bank to mitigate the impact of the COVID-19 pandemic.	Throughout project implementation	AMT

27. **The assessment mentioned above rated the overall procurement risk as High, given the procurement scope and associated risks identified.** The assessment identified several risks that could adversely affect project implementation if not mitigated.

28. **Filing and record-keeping.** The Procurement Manual (part of the POM) will set out the detailed processes for maintaining and providing readily available access to project procurement records, in compliance with the Financial Agreement. The borrowers will assign one person responsible for maintaining the records. The logbook of the contracts with a unique numbering system shall be maintained.

29. **Commitment control system.** The signed contracts shall be reflected in the commitment control system of the borrower's accounting system or books of accounts as commitments whose payments should be updated with reference made to the payment voucher. This approach will ensure a complete record system whereby the contracts and related payments can be corroborated.

30. **Approach to market.** Based on the size of the contracts under this project, open international bidding will be followed; however, generally, the thresholds shown in table 1.4 will be used for open national/international and Request for Quotation bidding under this project.

Table 1.4: Thresholds for Procurement Approaches and Methods (US$, millions)

Category	Works			Goods, Information Technology, and Non-Consulting Services			Short List of National Consultants	
Market Approach and Methods	Open International ≥	Open National <	Request for Quotation ≤	Open International ≥	Open National <	Request for Quotation ≤	Consulting Services ≤	Engineering and Construction Supervision ≤
Mozambique	15	15	0.2	3	3	0.1	0.3	0.3

31. **Procurement Plan.** The borrowers will prepare Procurement Plans for the first 18 months, based on the findings and recommendations of the PPSD. The Procurement Plan is subject to public disclosure and will be updated on an annual basis or as needed. The updates or modifications of the Procurement Plan shall be subject to the World Bank's prior review and 'no objection'. The World Bank shall arrange for the publication

of the Procurement Plan and any updates on the World Bank's external website directly from Systematic Tracking of Exchanges in Procurement (STEP).

32. **Review by the World Bank of procurement decisions.** Table 1.5 indicates the contract thresholds that require prior review by the World Bank. All activities estimated to cost below these amounts shall be treated as post review and will be reviewed by the World Bank during the Implementation Support Missions under a post procurement review exercise. Direct contracting/single source will be subject to prior review only above the amounts given in table 1.5. The World Bank may, from time to time, review the amounts based on the performance of the implementing agencies.

Table 1.5: Thresholds for Procurement Prior Review (US$)

Procurement Type	Prior Review (US$)
Works	5,000,000
Goods and non-consulting services	1,500,000
Consultants (Firms)	500,000
Individual consultants	200,000

33. **Monitoring by STEP.** STEP will be used to prepare, clear, and update the Procurement Plans and conduct all procurement transactions for the project. Through the mandatory use of STEP by the MTC, the World Bank will be able to consolidate procurement/contract data for monitoring and tracking of all procurement transactions. Using STEP, comprehensive information of all prior and post review contracts for goods, works, technical services, and consultants' services awarded under the whole project will be available automatically and systematically on a real-time basis whenever required, including, but not limited to, (a) the reference number as indicated in the Procurement Plan and a brief description of the contract; (b) the estimated cost; (c) the procurement method; (d) timelines of the bidding process; (e) the number of participated bidders; (f) names of rejected bidders and reasons for rejection; (g) the date of contract award; (h) the name of the awarded supplier, contractor, or consultant; (i) the final contract value; and (j) the contractual implementation period.

34. **Publication of procurement information.** The project will follow the World Bank's policies on publication of procurement information that are outlined in the World Bank's Procurement Regulations.

35. **Training, workshops, study tours, and conferences.** Training activities would comprise workshops and training, based on individual needs, as well as group requirements, on-the-job training, and hiring of consultants for developing training materials and conducting training. All training and workshop activities (other than consulting services) would be carried out based on approved annual work plans/training plans that would identify the general framework of training activities for the year.

36. **Training plan.** A detailed plan of the training/workshop describing the nature of the training/workshop, number of trainees/participants, duration, staff months, timing, and estimated cost will be submitted to IDA for review and approval before initiating the process. The selection methods will derive from the activity requirement, schedule, and circumstance. After the training, the beneficiaries will be requested to submit a brief report indicating what skill has been acquired and how these skills will contribute to enhance their performance and to attain the project objective.

37. **Operational costs.** These costs financed by the project would be incremental expenses, including office supplies, operation and maintenance of vehicles, maintenance of equipment, communication, rental

expenses, utilities, consumables, transport, and accommodation, per diem, supervision, and salaries of locally contracted support staff. These items will be procured using the borrower's national procurement and administrative procedures acceptable to the World Bank, including selection of project implementation support personnel.

38. **Procurement Manual.** Procurement arrangements, roles and responsibilities, methods, and requirements for carrying out procurement under the proposed project shall be elaborated in detail in the Procurement Manual, which will be a section of the POM. The POM shall be prepared by the borrower and agreed with the World Bank within 60 days after project effectiveness.

Monitoring and Evaluation

39. **The project results will be monitored by the PCU under the AMT based on the Results Framework described in section VII.** The PCU will prepare implementation and performance progress reports on an annual basis to ensure investments are on track. The project includes a comprehensive monitoring and evaluation component based on qualitative and quantitative performance indicators for each subcomponent. These include transport, social, environmental, and capacity development indicators. The data would be used, in turn, to estimate project-related GHG emission reductions.

40. **Public oversight of the project will be ensured by crowd sourcing, smart phone applications, and web tools to better respond to network conditions and public transport service.** In addition, a civic engagement platform will be developed to improve the public's participation in transport network management issues. Besides the requirements of monitoring and evaluation, the PCU may support the establishment of a monitoring and evaluation system to oversee the KPIs of the BRT operator(s) and, if need be, monitor the social impacts of the project.

Strategy and Approach for Implementation Support

41. **The strategy for implementation support describes how the WBG will support the implementation of the risk mitigation measures and provide technical advice necessary to enhance the delivery of the proposed interventions and achieve the PDO.** This strategy follows the need of support and supervision due to the complex nature of the project and the risk profile. The World Bank will undertake supervision missions and field visits, with flexibility in the frequency, especially during the initial implementation phase, and will focus on the following:

(i) **Strategic.** The implementation support missions will meet with AMT and other relevant stakeholders to review project activities, re-confirm alignment of project activities to the PDO, and ensure necessary coordination among stakeholders.

(ii) **Technical**. There will be close coordination with the entities in charge of implementing the various activities of the components during the implementation phase to continue the support provided during preparation. The World Bank team will consist of technical specialists who will review and supervise the implementation of project components, ensure activities are kept in line with the PDO, and advise on adjustments when necessary.

(iii) **Environmental and Social Framework.** World Bank environmental and social specialists will support the implementing agency to apply the World Bank's ESF, operational policies, procedures, and good practice. The specialists will also conduct regular supervision on implementation of the ESF instruments and provide capacity building of counterpart staff though hands-on support and training on the ESF.

(iv) **Fiduciary**. The World Bank's FM and procurement specialists will play a key role especially during the first phase of the project as it is the first time the AMT will be working with World Bank procedures. FM and procurement specialist will provide timely, targeted training to the AMT through periodic supervision missions during implementation.

(v) **Client relations.** The World Bank will: (i) coordinate supervision to ensure smooth project implementation, as specified in the Financing Agreement; and (ii) maintain regular liaison with the client and the PCU to gauge project progress in achieving the PDO and address implementation roadblocks as they may arise.