

# Inclusive Infrastructure and Social Equity

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Practical guidance for increasing the positive  
social outcomes of large infrastructure projects





# Foreword

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Infrastructure forms the backbone of societies, and quality infrastructure should promote economic growth on an inclusive basis, so that no one is left behind in accessing the benefits of infrastructure projects.

Societies are diverse organisations, and promoting inclusiveness in infrastructure is critical to those groups within societies that are often overlooked, such as low-income households, women, youth and the elderly, people living in isolated areas, and individuals who are living with a disability.

When infrastructure is well-planned and implemented, not only can it provide access to essential services, such as potable water, electricity and transport, but it can also enable wider benefits. Such benefits may include jobs and learning opportunities for young people; supporting the independence and mobility of the elderly; reducing poverty; promoting gender equality; and ensuring the development of an equitable society, amongst others.

In the Communiqué from the 2016 G20 Leaders' Summit in Hangzhou, quality infrastructure investment was described as that which "should aim to ensure economic efficiency in view of lifecycle cost, safety, resilience against natural disaster, job creation, capacity building, and transfer of expertise and know-how, while addressing social and environmental impacts and aligning with economic and development strategies". The G20 Infrastructure Working Group, under the 2019 Presidency of Japan, has a strong focus on quality infrastructure, the definition of which will be further refined.

This Reference Tool on Inclusive Infrastructure and Social Equity (the Reference Tool) provides an actionable framework for governments that wish to take an inclusive approach to infrastructure, so as to meet national and regional economic and development strategies, and contribute to a more fair and equitable society. The tool is designed to provide guidance that is practical and based on the lessons learned from around the globe.

This Framework for Inclusive Infrastructure, introduced in Section 1 of the Reference Tool, summarises the key pillars driving inclusive growth. Stakeholder engagement, political leadership, governance and capacity building, and policy and regulation feature strongly in the research as important drivers of inclusivity. Addressing inclusion early and throughout the project lifecycle; aligning private sector incentives with the achievement of inclusive outcomes; and optimising the use of subsidies are important practices that support the implementation of inclusivity at the project level.

These practices are demonstrated by illustrative examples woven throughout the Reference Tool, as well as eight detailed case studies examining inclusive practices used in existing infrastructure projects.

The Reference Tool focuses on providing guidance to those involved in the implementation of large-scale infrastructure projects which have the potential to maximise inclusivity benefits for many different groups in society. However, it also recognises that smaller, more local projects and programs targeted at specific groups can also offer an effective approach to achieving inclusivity.

While the Reference Tool is primarily designed for use by government policy-makers and practitioners responsible for developing and implementing infrastructure projects, it is also intended to reach a broader audience, including other government officials, development and financial institutions, the private sector, and civil society organisations. As well as providing a practical framework which is informed and illustrated by current infrastructure projects, its aim is to encourage further focus, discussion and research on the topic of inclusive infrastructure.

The Global Infrastructure Hub has designed the Reference Tool to be a useful aid for governments in their quest to maximise the benefits from inclusive infrastructure. The United Nations' Sustainable Development Goals on providing universal access to essential services, such as water and electricity, as well as those on building resilient and inclusive infrastructure, and making cities and settlements inclusive, sustainable and safe, will not be reached unless an inclusive approach is adopted.



**"This tool seeks to help governments in their desire to promote inclusion in quality infrastructure development, and ensure that no group or individual is excluded from accessing its benefits".**

**Marie Lam-Frendo**  
Chief Executive Officer  
Global Infrastructure Hub

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# Acronyms

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ACRONYM	DESCRIPTION
ADB	Asian Development Bank
BASE	Bielefeld Academic Search Engine
BCR	Benefit Cost Ratio
BOO	Build Own Operate
BOOT	Build Own Operate Transfer
BRT	Bus Rapid Transit
BS	British Standard
CAPEX	Capital Expenditure
CBA	Cost-Benefit Analysis
CCG	Customer Challenge Group
CEA	Cost Effectiveness Analysis
CPVP	City Poverty and Vulnerability Profile
CRPD	Convention on the Rights of Persons with Disabilities
CSO	Civil Society Organisation
DFID	Department for International Development, UK
DfT	Department for Transportation, UK
EBRD	European Bank for Reconstruction and Development
EDA	Energy Daily Allowance
EIB	European Investment Bank
EIS	Economic Inclusion Strategy
EU	European Union
GDP	Gross Domestic Product
GI Hub	Global Infrastructure Hub

# Acronyms

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ACRONYM	DESCRIPTION
GIS	Geographic Information System
GIZ	German Corporation for International Cooperation GmbH (Gesellschaft für Internationale Zusammenarbeit)
GNI	Gross National Income
GSDRC	Governance and Social Development Resource Centre
IADB	Inter-American Development Bank
ICT	Information, Communications and Technology
IFAD	International Fund for Agricultural Development
ILO	International Labour Organization
IMF	International Monetary Fund
ISO	International Organization for Standardization
KPI	Key Performance Indicators
LDC	Least Developed Countries
NGO	Non-Governmental Organisation
NSW	New South Wales, Australia
OBA	Output-Based Aid
OECD	Organisation for Economic Co-operation and Development
OFWAT	Water Services Regulation Authority in England and Wales
PFI	Private Finance Initiative
PPP	Public-Private Partnership
PRA	Participatory Rural Approval
PRM	Person with Reduced Mobility
RfP	Request for Proposal



ACRONYM	DESCRIPTION
SAHF	Social and Affordable Housing Fund
SCBA	Social Cost-Benefit Analysis
SDGs	Sustainable Development Goals
SES	UK Water Supply Company (Sutton and East Surrey)
SMEs	Small- and Medium-sized Enterprises
TSI	Technical Standard for Interoperability
UNCDF	United Nations Capital Development Fund
USADF	US Africa Development Foundation
VEA	Voice, Empowerment and Accountability
WASH	Water Sanitation and Hygiene
WEC	Water and Electricity Company of Saudi Arabia

# Glossary

TERM	DEFINITION
<b>Action Areas</b>	Action Areas are the overarching themes related to infrastructure development that have been identified in this Reference Tool as being relevant in maximising inclusivity in infrastructure. Each Action Area is supported by associated practices (see definition below).
<b>Benefits</b>	Benefits are positive socioeconomic outcomes derived from increasing inclusivity in infrastructure projects. Benefits can be financial or non-financial advantages gained by vulnerable groups through the practical application of a method, process or procedure, so as to maximise inclusivity in infrastructure.
<b>City Poverty and Vulnerability Profile (CPVP)</b>	CPVP is an inclusive needs assessment encompassing infrastructure, pro-poor shelter, and the inclusive delivery of urban services. A CPVP seeks to identify, assemble, and organise information to facilitate urban decision-making.
<b>Framework for Inclusive Infrastructure</b>	The Framework is the conceptual approach used in the Reference Tool as a basis for practical guidance for governments (and other key stakeholders) to maximise the benefits from inclusive infrastructure. The Framework defines the concept of inclusive infrastructure and provides the structure for the recommendations contained in the Reference Tool.
<b>Gini coefficient</b>	The Gini coefficient is a measure of statistical dispersion intended to represent the income or wealth distribution of a nation's residents, and is used as a common measurement of inequality.
<b>Illustrative examples</b>	Illustrative examples are activities or programs demonstrating how inclusivity practices have been applied in respect of major infrastructure developments. Illustrative examples can be on the policy/institutional level or the project level.
<b>Inclusive growth</b>	Inclusive growth is economic growth that creates opportunity for all segments of the population, and which shares the benefits of increased prosperity, both in monetary and non-monetary terms, fairly and equitably across society.
<b>Inclusive infrastructure</b>	Inclusive infrastructure is infrastructure development that enhances positive outcomes in social inclusivity, and that ensures that no individual, community or social group is left behind or prevented from benefiting from improved infrastructure.
<b>Inclusivity, inclusiveness, inclusion</b>	Inclusivity is the action, practice or policy of including people who might otherwise be excluded or marginalised in the development, implementation or delivery of the benefits associated with infrastructure. Inclusivity aims to tackle inequality and disparity in order to achieve greater social equality, cohesion and long-term inclusive growth.
<b>Large-scale infrastructure projects</b>	In the context of this Reference Tool, large-scale infrastructure projects are projects with a total capital expenditure (CAPEX) of more than USD 250 million.

TERM	DEFINITION
<b>Low-income groups</b>	Low-income groups are groups within a society that have income levels significantly lower than the median level in the society. The definition is relative, since every country applies different classifications of low-income groups. For example, in Finland, low-income earners are those households earning less than 60% of median income. In China, people who earn an annual income of less than CNY 2,300 (USD 365, at 2011 fixed price) are classified as low-income*.
<b>Practices</b>	Practices are identified methods, processes or procedures that lead to maximising the benefits from inclusive infrastructure.
<b>Project lifecycle</b>	The project lifecycle comprises all project stages, including initiation, planning, procurement, construction, operation and decommissioning.
<b>Social equity</b>	Social equity is the equitable distribution of inclusive benefits and opportunities across various societal groups.
<b>Social Equity Plan</b>	A Social Equity Plan aims to ensure socially inclusive values are reflected throughout the project lifecycle and includes measurable goals (such as targets to integrate under-served groups) to achieve this aim. A Social Equity Plan may also be referred to as a Social Integration Plan, a Community Benefits Plan, or a Social Benefits Plan.
<b>Under-served and other vulnerable groups</b>	In the context of this Reference Tool, this definition refers to any societal group that may be exposed to or is at risk of being left behind, neglected, excluded or adversely affected by the development of major infrastructure projects. Vulnerable groups are groups within a society that may not have had equal access to the benefits of major infrastructure projects, due to disadvantages associated with, for example, low incomes, gender, age, disability/impairment or geographic isolation.

\* Since its earliest definition of CNY 100 in 1978, China's poverty line has been adjusted over 20 times, mostly due to inflation. The poverty line definition of CNY 2,300 was announced at the end of November 2011 and is nearly double that of the immediately preceding poverty line of CNY 1,274. The 2011 poverty line remains applicable in 2018, fixed at 2011 price levels. (World Bank, 2004).

# Acknowledgements

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The Global Infrastructure Hub (GI Hub) has developed the Reference Tool under one of its key mandate areas: to develop and promote leading practices for delivering quality infrastructure.

The GI Hub team, Morag Baird, Jack Handford, Ping Fu, Rahadian Zulfadin and Stephanie Barker, worked closely with Atkins Acuity to lead the development of a holistic Reference Tool for Inclusive Infrastructure. Atkins Acuity uses its wide expertise to provide social, technical and financial advice on infrastructure projects around the world, delivering results-driven advisory solutions to large institutional programs and infrastructure assets.

The Reference Tool also incorporates contributions from various governments, academics, private companies and non-governmental organisations (NGOs). Many people have helped the project team by providing literature sources and expert input, as well as identifying projects and stakeholders to contribute to the preparation of case studies.

The project was also supported by a dedicated consultative board that provided insight, identified projects, and reviewed content. The board members have been involved throughout the project, and we would like to thank them for their valuable contribution.

Two consultation workshops were held while the Reference Tool was in draft format. Government officials attended the workshops from 10 countries across Africa and Latin America, and their contributions informed the final development of the Reference Tool.

## **Project consultative board**

Gastón Astesiano, Public-Private Partnerships Team Leader, and Isabel C. Granada Garcés, Senior Transport Specialist, Infrastructure and Environment Sector, Inter-American Development Bank.

Barbara Rambousek, Director, Gender and Economic Inclusion, and Kristine Grun, Associate Economist, Economic Inclusion, European Bank of Reconstruction and Development (EBRD).

Maninder Gill, Global Practice Director, Social, Urban, Rural and Resilience Global Practice, The World Bank.

Jeff Gutman, Senior Fellow, The Brookings Institution.

Mark Harvey, Head of Profession (Infrastructure), Department for International Development (DFID), UK.

Vidya Naidu, Gender and Inclusion Portfolio Manager, Infrastructure and Cities for Economic Development (ICED) Facility.

Sarah Tessier, Economist, Multilateral Institutions, International Finance and Development Division, Department of Finance, Canada.

Pierre Sarrat, Chief Operating Officer, Sustainable Infrastructure Foundation.

Although not on the Project consultative board, Kirsty O'Connell, Industry Director, and Associate Professor Sara Bice, Research Director, The Next Generation Engagement Program, also provided comments on the project.

## **Project team from Atkins Acuity**

The project team from Atkins Acuity includes Marie Lam-Frendo, Andrea Buetler, Katie Prebble, Stephanie Tseng, Anna Lu, Matt Toy, Aubrey Keller, Georgina Ogden, Jonathan Spear, Andy Hodgson, Julian Jacobs, Francois-Xavier Basselot, Graydon Jeal, Maulik Bansal, Eli Konvitz, Tarek Ashour, David Cox, Ian Reeds, Catalina Gallego Lopez, Leanne Kelly, Jonathan Guest, Paddy Carless, T. Sathiyaa, Ren Ruiyao and Chris Box.

# Executive Summary

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## CONTEXT

Many countries are looking for ways to ensure that every member of society has the chance to benefit from economic growth. As part of this, they are examining the role that infrastructure has in achieving that goal.

**Inclusivity in infrastructure is quickly becoming a key consideration for many governments of both developed and developing nations.** This is supported by the international community through the Sustainable Development Goals (SDGs), as well as international conventions. The G20 has had a long-standing focus on infrastructure, and social inclusion is considered to be a key component in the definition of Quality Infrastructure, a priority of the Government of Japan which has the Presidency of the G20 in 2019.

Benefits generated by inclusive infrastructure include reduced inequalities and disparities, which provide the stability to not only boost but also sustain economic growth and social equity in the long-term. However, these benefits can only be achieved if the concept of inclusive infrastructure is implemented in an effective manner.

There is a clear need for a concerted effort to advance the understanding of how best to achieve inclusive infrastructure, in both developed and emerging markets. The initiative by the GI Hub to develop a Reference Tool responds to this need to define and raise awareness of inclusive infrastructure, as well as share best practices to ensure faster and improved implementation of the concept.

## OBJECTIVES

The overall aim of the Inclusive Infrastructure Reference Tool is to provide practical guidance for governments to help them maximise the inclusivity benefits of their large-scale infrastructure projects. It is intended to be used when developing policy, and planning, designing and implementing such projects, so that the projects help to reduce inequality and promote shared prosperity.

The GI Hub set the following objectives for this project:

- increase awareness of inclusive infrastructure with a practical reference tool;
- provide a framework that clearly defines key activities while also offering flexibility to allow for the long-term development and evolution of the concept of inclusive infrastructure;
- share leading practices to successfully implement inclusivity at a policy and project level, across various sectors and geographies;
- offer an insight into the potential impact in the form of social benefits;
- highlight current and emerging practices that have the potential to create substantial benefits, as well as areas that require further attention and development; and
- provide recommendations on the way forward to ensure that the concept of inclusive infrastructure continues to mature as new practices are developed and tested.

## AUDIENCE

The Reference Tool is primarily designed for use by government representatives who have an interest in, or mandate to, maximise inclusivity in large-scale infrastructure projects. It is also available to other entities interested in inclusive infrastructure, such as the multilateral and bilateral development banks, the private sector, civil society organisations, academic institutions and the wider public.

## SCOPE

The Reference Tool is meant to serve as a practical tool to help governments and other stakeholders understand and implement the critical success factors that deliver inclusive infrastructure. Accordingly, it provides an actionable framework and practical recommendations based on relevant literature, as well as live project examples and case studies.

The framework and recommendations are deliberately broad, so that the principles and insights can be applied widely in both developed countries and emerging markets, and across different sectors of economic and social infrastructure. Similarly, the Reference Tool has been designed to provide guidance applicable both to projects that are traditionally procured (i.e. 'public works' projects) and those that have a greater degree of private sector participation (such as public-private partnerships). It should also be noted that some practices featured in the tool may not be specific to inclusivity but are mentioned because they form the necessary building blocks to ensure the successful implementation of inclusive infrastructure projects.

The infrastructure sectors covered in this tool are the following:

- transport;
- energy, with a focus on energy supply and access;
- water, with a focus on clean water supply and sanitation;
- information and communications technology (ICT) infrastructure, with a focus on service accessibility; and
- public buildings and sports facilities.

As a final comment in regard to the scope of the Reference Tool, it is important to emphasise that it deliberately does not focus on the various measures that are used to minimise the negative environmental and social aspects of infrastructure projects, including measures such as the environmental and social 'safeguard' policies established by multilateral development banks. Instead, this tool is concerned with the positive steps that can be taken to enhance the benefits of such projects, by adopting and effectively implementing principles of inclusivity.

## STRUCTURE

The Reference Tool is structured in four main sections:

- Section 1 provides a definition of inclusive infrastructure, an overview of the Reference Tool and the methodology used to create it.
- Section 2 sets out the key pillars of inclusive infrastructure, also known as Action Areas. This section also details the practices that could be put in place at policy and/or project levels. Six Action Areas are presented, alongside key practices and guidance. Relevant examples and thematic insights are also shared to promote the understanding of these practices and their application to specific sectors.
- Section 3 contains a brief conclusion and outlines the way forward. Inclusive infrastructure is a concept that will continue to develop, and several recommendations are shared to help inform the next steps.
- Section 4 presents the Case Studies. They showcase projects that have embedded inclusivity at various stages of development and implementation, covering several Action Areas and practices across different geographies and sectors.

## DEFINING INCLUSIVE INFRASTRUCTURE

As a first step towards greater acceptance of the concept and the benefits of inclusive infrastructure, there is a need to establish a clear definition to be used by practitioners. In this tool, inclusive infrastructure is defined as follows:

### INCLUSIVE INFRASTRUCTURE

*Any infrastructure development that enhances positive outcomes in social inclusivity and ensures no individual, community, or social group is left behind or prevented from benefiting from improved infrastructure.*

## THE FRAMEWORK FOR INCLUSIVE INFRASTRUCTURE

The Framework for Inclusive Infrastructure summarises the following six Action Areas and related practices that ought to be considered for the systematic implementation of inclusivity in infrastructure at the policy and project levels:



Figure 1: Framework for Inclusive Infrastructure

## SUMMARY OF ACTION AREAS

The following descriptions summarise each Action Area.

All Action Areas need to be carefully considered and implemented to maximise the benefits of the project, on the basis that some of them will be more relevant to particular sectors and economies. Their application will vary depending on geographical context, project circumstances, profile of the stakeholders, level of capacity, governance arrangements, available standards, participation of the private sector and the stage in the project lifecycle.



### Action Area 1: Stakeholder Identification, Engagement and Empowerment

This Action Area details practices that can increase engagement with various stakeholders to achieve greater inclusivity benefits. Key practices include data collection and other methods of identifying stakeholders, and engagement mechanisms that specifically target and integrate the opinions and viewpoints of individuals and societal groups at risk of being overlooked. In addition, activities that lead to increased empowerment and transparency are considered in more detail.

These practices will contribute to a greater understanding of the specific needs of stakeholders, as well as inform the way policies or projects are defined, planned, and delivered – reducing disparities, discrimination, and social and gender inequity.



### Action Area 2: Governance and Capacity Building

This Action Area covers practices that define the governance arrangements for infrastructure projects, i.e. the systems, structures and decision-making processes amongst institutions, stakeholders and citizens. Governance is the formal means of incorporating inclusivity in government bodies and other relevant entities. Capacity building that strengthens skills and knowledge has the potential to address and change preconceived notions or prejudices against societal groups that are vulnerable and at risk of being neglected.

Practices under this Action Area can change how institutions interact with each other and their citizens. The inclusion and increased influence of vulnerable groups in decision-making and processes will result in better acceptance of decisions, and increased social equity and stability.



### Action Area 3: Policy, Regulation and Standards

This Action Area covers inclusiveness in legal policies, regulations and standards. Whilst there is some guidance at the international level – such as, for example, the UN Sustainable Development Goals (SDGs) – national and sub-national policies can also promote inclusivity and encourage officials to consider inclusivity across the project lifecycle. A key practice is the development and implementation of infrastructure design codes, which determine uniform engineering criteria and ensure universal access to facilities and the use of services at policy and project level.

Practices under this Action Area promote inclusivity in the international and national legislative environment. In combination with Action Area 2: Governance and Capacity Building, policy interventions aim to drive systemic change in systems, processes, behaviours and culture, and correct existing barriers. These two Action Areas facilitate a broad range of positive outcomes and move towards greater social inclusiveness.



### Action Area 4: Project Planning, Development and Delivery

This Action Area refers to the integration of inclusivity practices across the project lifecycle. Specific recommendations are made to promote consistency and alignment among all participants (designers, engineers, constructors, and operators). Program and project management, as well as supervision, provide the needed checks, balances and controls to achieve inclusivity objectives. Attention is also given to practices that better integrate aspects of inclusivity in the planning of the spatial and urban environment.

Stakeholder identification and engagement activities in Action Area 1 are essential to every aspect of Project Planning, Development and Delivery and are viewed as complementary to this Action Area.

Practices under this Action Area ensure that the key strategic questions in relation to greater inclusivity, namely 'what', 'why', 'when', 'how' and 'by whom', are considered throughout the planning, delivery and operation phases of projects, as well as in the monitoring and evaluation arrangements. In doing so, potential benefits are identified and positive outcomes for society are achieved, leading to the development of infrastructure assets that create a more equitable environment.





### Action Area 5: Private Sector Roles and Participation

This Action Area covers practices that create an enabling environment for the private sector to participate in inclusive infrastructure projects. The focus is on incentives and regulatory mechanisms that define the role of the private sector in infrastructure projects. In addition, this Action Area deals with practices designed to help overcome the market entry barriers faced by inclusive businesses (businesses owned by women, young people, minorities, etc.), enabling access to opportunities, employment and revenue creation on equal terms. The private sector can often be more entrepreneurial and agile than public sector entities, and is therefore well-positioned to integrate inclusivity innovations. Accordingly, the private sector can play an instrumental role in effectively delivering infrastructure projects, while achieving the inclusivity goals set by society.

The practices under this Action Area incentivise the private sector to make infrastructure projects more inclusive. This leads to infrastructure that is better aligned to social needs, and that is more accessible and affordable, resulting in greater public acceptance. Increased job creation and equal access to business and employment opportunities help to reduce income and gender inequality, leading to an overall reduction in social and economic disparity.



### Action Area 6: Affordability and Optimising Finance

This Action Area considers practices that make infrastructure more affordable and accessible to all. A key practice under this Action Area is the writing and appraisal of the business case, which should aim to integrate measurable social parameters (e.g. income equality, labour participation, wealth distribution) and non-measurable social parameters (e.g. greater affinity toward community assets, social empathy, eagerness to improve).

To increase the use of infrastructure and enable universal access, there must be a balance between users' willingness and ability to pay, and the financial sustainability of the asset. There are tools available to address gaps between the two in relation to the overall cost of the infrastructure. Another aspect explored is the potential impact of integrating additional and complementary revenue opportunities into infrastructure developments.

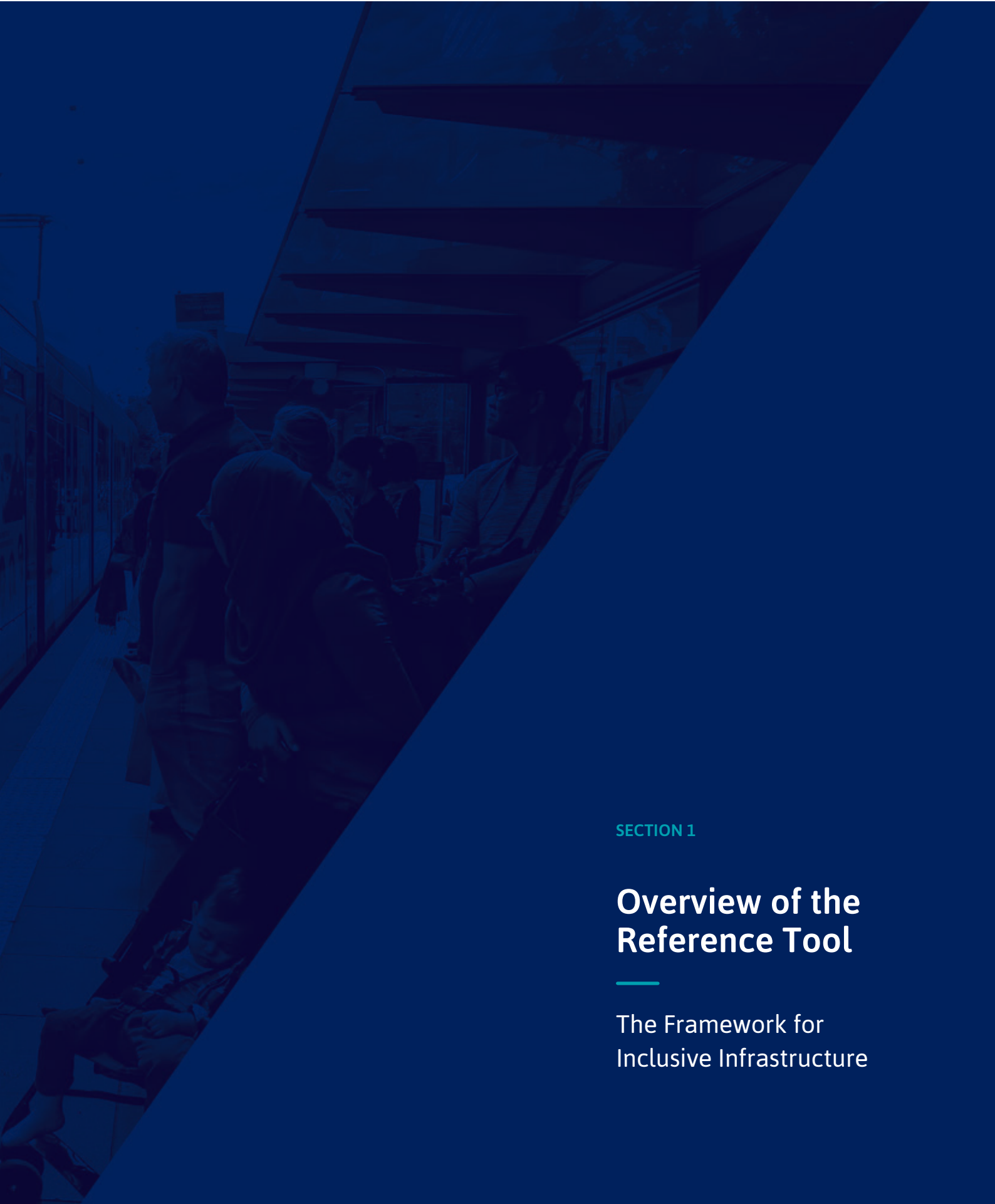
Practices under this Action Area will help to ensure infrastructure developments have a positive social and economic impact, such as, for example, transport initiatives that increase people's freedom to move and enable previously under-served groups to benefit. Overall, reducing poverty, increasing employment and income opportunities, and improving access to training through increasing affordability and optimising finance, will all have positive and long-term impacts on society and the economy.

## CONCLUSION AND WAY FORWARD

A coordinated, proactive and long-term approach that builds on existing practices by government, stakeholders and the international community is required to maximise inclusivity benefits within the Framework for Inclusive Infrastructure.

This section summarises key critical success factors to successfully implement inclusivity in major infrastructure projects. The section also highlights areas where further work could be useful to continue raising awareness and strengthen the inclusive infrastructure economic and business cases.





SECTION 1

# Overview of the Reference Tool

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The Framework for Inclusive Infrastructure

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# Section 1

## INTRODUCTION

Economies are literally - and figuratively - built on infrastructure, and ensuring that everyone in society benefits from public infrastructure assets is at the centre of many current debates. Creating more inclusive structures, networks and systems will help authorities to reduce inequality, drive productivity, increase land values and boost economic growth. However, there are significant challenges they must overcome.

It is often assumed that major infrastructure investment will trigger economic growth and thereby automatically benefit under-served and/or vulnerable groups<sup>1</sup>, but this is not always the case.

In emerging markets, an estimated 783 million people in developing countries still lack access to clean water; 1.6 billion people are without electricity; 2.5 billion people do not have access to adequate sanitation; and nearly one billion lack access to an all-weather road<sup>2</sup>. As these 'infrastructure gaps' are gradually addressed, economic benefits will undoubtedly result, but those benefits may not be equitably shared by all members of society.

This issue is also relevant in developed countries, where infrastructure projects tend to focus on economic hubs, while those in deprived areas fall further behind. Around the world, many existing infrastructure assets have not been built with accessibility or affordability in mind.

Inclusive growth and the related role of infrastructure are now key considerations for many governments of developed and developing countries, as well as for the international community. It is a broad topic, and supporting evidence is incomplete, which means it will take a concerted effort to address the barriers to implementation and drive change. This challenge has been accepted by the G20, under the 2018 Argentina Presidency, whose agenda highlighted the need for more "socially inclusive growth". Social inclusion is also considered to be a key component in the definition of Quality Infrastructure, a priority of the Government of Japan which has the Presidency of the G20 in 2019. These statements by the G20 support the global

and national inclusivity objectives set out in the United Nations' Sustainable Development Goals (SDGs), as well as international conventions, such as the ones defined by the International Labour Organization (ILO)<sup>3</sup>.

Many countries, even those with a healthy Gross Domestic Product (GDP), decent growth and falling unemployment, are currently experiencing a rise in populist sentiments, which reflect public dissatisfaction with the way overall economic growth currently benefits society. There is a need to reinforce existing mechanisms and find new ways to support marginalised social groups including women, young people, people with disabilities, low-income groups, minorities, unskilled people, and the unemployed, so they also benefit from the policy, planning, development, design, implementation, operation and monitoring of infrastructure projects and programs.

However, there are several challenges in evaluating large economic infrastructure projects and their related inclusivity benefits. The first is in attributing beneficial changes to the infrastructure project itself and not to other factors, such as the general growth of the economy. Large infrastructure projects cover a wide area, so it can be difficult to identify suitable control groups and then to attribute outcomes for such groups to that development.

Secondly, the benefits from investment in infrastructure can vary widely, even for similar projects in the same country. There are differences in institutions, legal incentives, social norms, access to financial resources, technological preferences and prior levels of development.

Finally, although some benefits will be realised immediately, it can take 20 to 30 years for all direct and indirect benefits to materialise<sup>4</sup>. Examples include reducing poverty gaps and the number of years people spend in poverty, expanding employment, increasing the participation of women in the workforce, and improving access to education and services. They are dynamic outcomes that follow the infrastructure project and extend over a long period of time.

<sup>1</sup> Leave no-one behind: infrastructure and inclusion - K4D – Knowledge, evidence and learning for development, (Raje, 2016)

<sup>2</sup> Infrastructure: A Game-changer for Women's Economic Empowerment, (Biswas & Mohun, 2016)

<sup>3</sup> ILO C111 - Discrimination (Employment and Occupation) Convention, 1958 (No. 111), C100 - Equal Remuneration Convention, 1951 (No. 100), and C087 - Freedom of Association and Protection of the Right to Organise Convention, 1948 (No. 87), (International Labour Organization, 2017)

<sup>4</sup> Topic Guide, Maximising the Benefits to the Poor from Infrastructure Programs Aimed at Increasing Growth, (Hawkins, Wells, & Fernz, 2014)

Therefore, governments need to recognise the long-term value and opportunities created by developing infrastructure projects that are inclusive, develop a strategic approach, and embed inclusivity at each stage of the project lifecycle in collaboration with the private sector where appropriate.

## OVERVIEW OF THE REFERENCE TOOL

The Global Infrastructure Hub (GI Hub), a G20 initiative, and its consultant, Atkins Acuity, have created this Reference Tool on Inclusive Infrastructure. It defines inclusivity in large scale infrastructure projects<sup>5</sup>. It also provides guidance and shares leading practices to maximise the impact of projects on reducing inequality and promoting shared prosperity.

This Reference Tool presents the results of global research on the lessons learned from inclusive practices. It builds on a detailed literature review, as well as consultations with infrastructure experts, institutional leaders and practitioners, and the assessment of more than 70 projects, including the eight case studies presented in Section 4 of this report.

The Reference Tool provides practical advice on inclusive infrastructure, primarily for government officials responsible for infrastructure projects. It is also designed to be a user-friendly resource for practitioners around the world who are responsible for projects at any stage of their development, implementation or monitoring.

First, the tool provides a working definition of inclusive infrastructure that establishes a baseline to further understand the concept.

It also includes a framework that details the critical Action Areas that need to be considered and addressed to ensure successful implementation of inclusivity in infrastructure projects. These Action Areas are then broken down into practices to provide a full list of recommendations, illustrated by real examples for practitioners to use in the process of developing and/or implementing more inclusive infrastructure.

Inclusive infrastructure is a topic that is attracting an increasing amount of interest from the international community and governments, and it will evolve as a concept. Some of the identified practices still need time to be developed, implemented and monitored, but they have nevertheless been included in the Reference Tool to stimulate further discussion and elaboration.

Finally, the case studies showcase projects that incorporate a combination of several leading practices and highlight the lessons learned.

While the Reference Tool is not a prescriptive inclusive infrastructure manual, it can be considered a guide that provides insight into the potential issues inherent to the implementation of inclusivity measures in a major infrastructure project. The tool also provides practical recommendations on how to resolve those issues throughout the entire project lifecycle.

The Reference Tool is designed to supplement other currently-available resources by aggregating available information to form relevant practices that can be implemented across all sectors and geographies. In some instances, practices are only presented for a specific sector and/or society group as their broader relevance still needs to be evaluated.

A large number and diverse range of issues and related solutions have been assessed to create an actionable Reference Tool for practitioners. As awareness of the concept is still relatively low, we expect the tool to continue to evolve over time.

Finally, the Reference Tool has not been designed to rate the maturity of relevant public sector authorities' capabilities as they relate to inclusivity. However, it may highlight changes that could be made to any organisation to ensure more effective and systematic implementation of inclusivity in infrastructure projects.

## DEFINITION OF INCLUSIVE INFRASTRUCTURE

Infrastructure benefits are generally measured by macroeconomic outcomes. It is critical for infrastructure projects to be associated with improvements in competitiveness, scalability, profitability, integration and trade, but it is now increasingly important for such projects to also increase social and demographic inclusivity<sup>6</sup>.

The dimension of social and demographic inclusion and related positive outcomes are the core pillars of the inclusive infrastructure concept, so that benefits are shared with those demographic or social groups that are otherwise at risk of being excluded. Other dimensions, such as the ability to increase trade between countries, also play a key role in achieving inclusive outcomes, but these other dimensions are not the focus of this tool.

<sup>5</sup> Large scale infrastructure projects are defined as projects with an overall CAPEX of USD 250 million. However, provided they were relevant and appropriate to the subject, smaller size projects were considered to analyse practices.

<sup>6</sup> All on board: Making inclusive growth happen, (OECD, 2015)

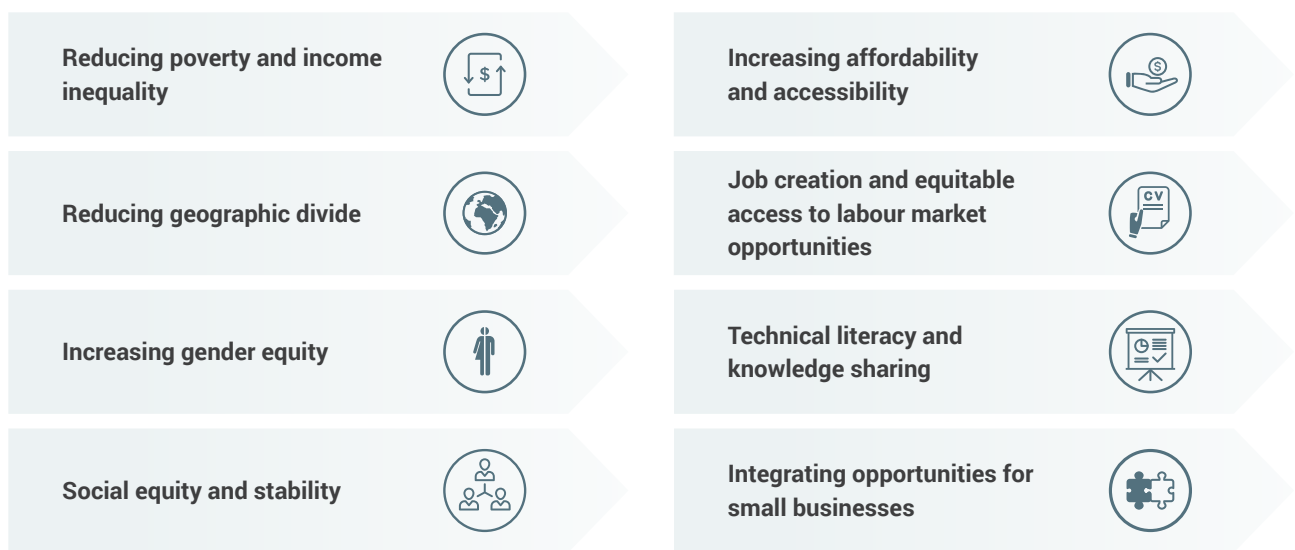
**INCLUSIVE INFRASTRUCTURE**

*Any infrastructure development that enhances positive outcomes in social inclusivity and ensures no individual, community, or social group is left behind or prevented from benefiting from improved infrastructure.*

The definition<sup>7</sup> of inclusive infrastructure for large infrastructure projects is the foundation on which this Reference Tool has been built, but it is also intended to stimulate discussion within the international community as the concept develops further.

While still allowing comprehensive coverage of all aspects of this concept, the definition provides a framework to sharpen the focus of discussion. This will help to increase understanding and acceptance of the concept to maximise its benefits.

Based on this definition, the adoption of an inclusive approach to infrastructure development can offer a number of potential benefits, as follows:



The Reference Tool shares detailed insight into practices which can yield one or more of the benefits listed above. These practices provide a practical structure for addressing social and income inequalities and lack of accessibility, and help to identify opportunities to generate positive societal outcomes.

**METHODOLOGY FOR DEVELOPING THE REFERENCE TOOL**

The Reference Tool has been developed based on research into the existing literature and real examples of projects that showcase inclusive infrastructure practices. The steps that helped to inform the Reference Tool are set out in Figure 2.



Figure 2: Methodology of the Inclusive Infrastructure Reference Tool

<sup>7</sup> Our working definition is the result of independent research based on a robust quantitative and qualitative methodology.

## 1. Literature review

The list of reviewed literature is provided in the Key Literature section. The list was created by a collaborative effort, considering the breadth of the inclusive infrastructure topic and the multitude of terms used to define it. This list includes literature identified through thorough database research<sup>8</sup>, as well as through recommendations from members of the project's consultative board and experts from the GI Hub and the consultant's project team. It captures findings from more than 100 pieces of literature from recognised sources, across all economic and social infrastructure sectors, including water supply and sanitation, energy access and transmission, highway projects, public transport, information and communications technology (ICT), social housing and urban development projects.

## 2. The Framework for Inclusive Infrastructure

Following the literature review, the Framework for Inclusive Infrastructure was formed to provide an easy and practical way for practitioners to understand what inclusive infrastructure means and the key Action Areas and related practices to consider. Building on the literature review and expert interviews, leading practices were identified at both policy and project levels across multiple sectors and geographies, as well as emerging practices with a clear potential to increase inclusive infrastructure benefits. Given that many of the identified practices are still at the early stages of implementation, in many cases there is limited information available on quantified outcomes. Impact evaluations will be useful in the longer-term to further feedback and strengthen the Framework.

## 3. Project identification

In parallel, a total of 70 policies and projects showcasing inclusivity practices were identified by the consultant, the GI Hub and the project's consultative board. They are at various stages of development, from planning to monitoring, and were from both developed and developing countries, in both common law and civil law jurisdictions. The practices implemented in these policies and projects informed and validated existing practices mentioned in the literature, and helped identify and define new elements for the Framework for Inclusive Infrastructure. The collection of projects also formed the basis of the shorter list of projects considered as case studies.

<sup>8</sup> Including database searches, citation searches, and website searches. Academic databases searched as part of this process include: EconLit, Business Source Corporate, Bielefeld Academic Search Engine (BASE) and Research Gate. The citation search process was driven by Google Scholar, and multiple individual website searches were based on supplementary searches through the OECD Library, World Bank Group, International Monetary Fund (IMF), and the Asian Development Bank's (ADB) websites.

## 4. Consultative workshops

Two regional workshops were held to share the preliminary findings of the literature review and the Framework for Inclusive Infrastructure, as well as to gain further insight from infrastructure practitioners into the challenges they face in implementing inclusive infrastructure practices. The first workshop was in Kampala, Uganda; the second in Buenos Aires, Argentina, with attendees from relevant government agencies, as well as multilateral development banks (MDBs). Feedback and additional lessons learned from the workshops were then incorporated into the Reference Tool.

## 5. Case studies

We selected a number of case studies from the initial list of 70 policies and projects identified, initially focusing on projects with a capital expenditure (CAPEX) of at least USD 250 million, as well as projects showcasing multiple and varied inclusive infrastructure practices. The selected case studies also cover a variety of sectors, geographies and legal systems.

Multiple interviews with relevant stakeholders were conducted to ensure an in-depth recording of events. The case studies are shared in Section 4, and the fundamental lessons learned from them have also been incorporated into the Reference Tool.

## 6. The Inclusive Infrastructure Reference Tool

The Reference Tool was formed based on the Framework for Inclusive Infrastructure and the case studies, as well as insights from experts, the project's consultative board and workshop participants. It draws on real experiences from current and recent projects around the world and provides a solid basis for strengthening awareness of inclusive infrastructure. It also supports further dissemination of related practices to help facilitate the planning, design and implementation of future inclusive infrastructure projects.



## THE FRAMEWORK FOR INCLUSIVE INFRASTRUCTURE

### Purpose

The purpose of the Framework is, first, to help strengthen awareness and understanding around the definition and principles of inclusive infrastructure; and then to provide a summary of areas where practitioners can intervene and suggest practical solutions across the full project lifecycle.

### Process

Development of the Framework commenced with a study of relevant literature and projects, which were used to identify common approaches and put forward practical recommendations for practitioners. The Framework ensures that existing solutions found in these studies have been considered, and provides a simple structure to aid comprehension and recollection. It covers two key dimensions: policy/institutional level and project level.

The process used to define the Framework was designed to capture the dynamic continuum of inclusive infrastructure (see Figure 3). This dynamic continuum reflects the fact that, as the inclusive infrastructure concept and related solutions mature, the content of the Framework will evolve. The flexible structure of the Framework will support further additions and enhancements.

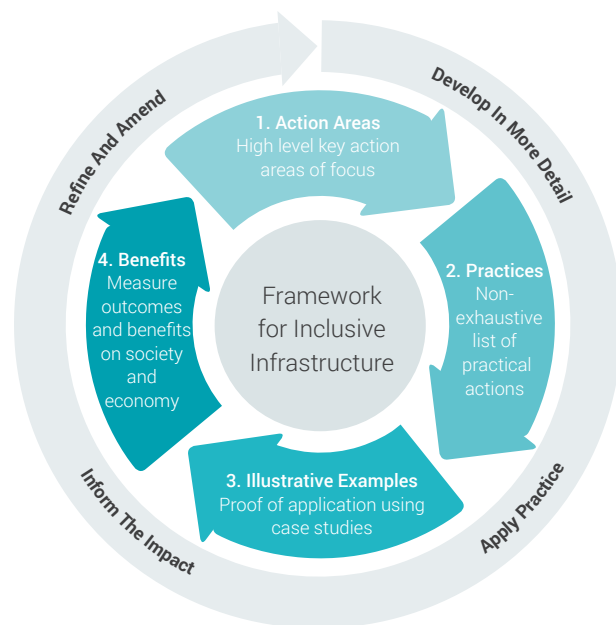


Figure 3: Dynamic continuum of inclusive infrastructure

## The Framework

The Framework for Inclusive Infrastructure (see Figure 5) showcases leading practices at policy and project levels. It is composed of four key steps, defined as follows:

### Action Areas

Action Areas are the main pillars to consider when creating more inclusive infrastructure. They also relate to areas that can help to maximise the benefits of inclusive infrastructure.

These Action Areas are then detailed in a series of actionable leading practices.

### Practices

Each Action Area presents a set of practices, which are existing approaches used to maximise inclusivity. They summarise practical methods, processes or procedures identified recurrently in the literature and policy and project examples, with a strong track record of improving inclusivity in infrastructure.

To maximise the impact of these practices, it is important to define and understand their scope of application, which is the focus of the following step.

### Illustrative examples

Illustrative examples serve as evidence that suggested practices can be successfully applied to infrastructure projects or programs in the real world. Selected case studies that provide evidence have been used to analyse in detail where one or multiple practices have been applied. This step also informs us of the practical benefits for society and the economy.

### Benefits

Every practice and illustrative example should link to one or more benefits for under-served and/or vulnerable groups in society. As the inclusive infrastructure concept matures, the benefits may evolve, which will trigger a refinement or amendment of the Action Areas identified.

### Action Areas and practices

The Action Areas are central themes that help to address inclusivity in large infrastructure programs. The number of Action Areas in this Reference Tool are intentionally limited, to provide a simple framework for governments and stakeholders. Each Action Area is supported by associated and identified practices that lead to multiple outcomes or benefits.

The identified Action Areas can be used to formulate specific questions for users to understand how best to approach an infrastructure development at either policy or project levels. The practices will serve as guidance and inspiration on how to integrate inclusive infrastructure into the policies or projects to realise improved inclusivity outcomes.

### Benefits

Each input in the development of major infrastructure projects needs to be justified by its benefits to society and the economy. Understanding these benefits is an important step in the engagement of all key stakeholders, especially at the government level, given the importance of strengthening relevant enabling policies. As awareness of inclusive infrastructure is still growing, this understanding of benefits is critical as it provides a clear explanation of the incentives for enacting inclusive projects and policies.

The Framework for Inclusive Infrastructure defines benefits as positive social outcomes derived from

approaches addressing inclusivity in infrastructure projects. Benefits can be financial or non-financial advantages gained by previously disadvantaged or vulnerable groups from the application of inclusive infrastructure practices.

Infrastructure developments benefit society directly and indirectly<sup>9</sup>, and their positive outcomes can be distributed in several approaches (see Figure 4). In a 'targeted approach', previously under-served or vulnerable groups are the main beneficiaries. In contrast, an 'inclusive approach' is one wherein an infrastructure asset is planned and developed to benefit everyone, but in a manner that includes explicit consideration of previously disadvantaged, under-served or vulnerable groups so that they also benefit from the infrastructure development. Finally, under a 'passive approach', the infrastructure project does not try to address the needs of any one community. Instead, the benefits of the infrastructure are expected to trickle down to all members of society with no warranty of equitable distribution of positive outcomes.

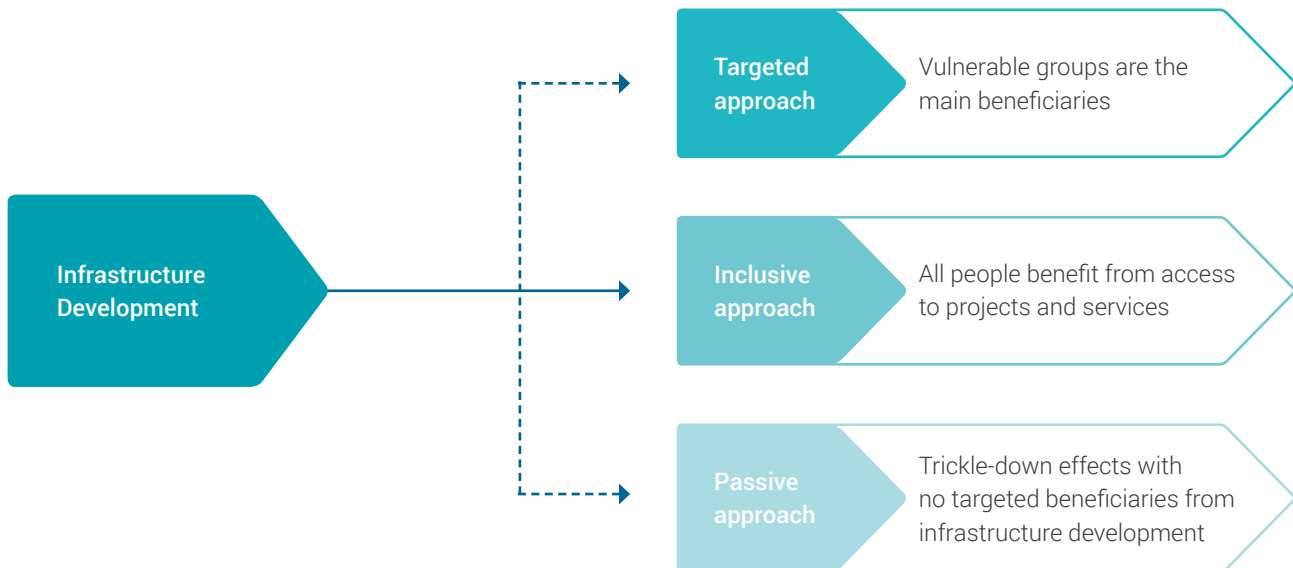


Figure 4. Approach to inclusive infrastructure

Source: Atkins Internal, adapted from *Inclusive Urban Infrastructure Investment: A Guide for Municipalities (Cities Development Initiative for Asia, 2016)*

<sup>9</sup> Inclusive Urban Infrastructure Investment: A Guide for Municipalities, (Cities Development Initiative for Asia, 2016)



Figure 5: Framework for Inclusive Infrastructure

## BENEFITS OF INCLUSIVE INFRASTRUCTURE AND ITS RELATIONSHIP WITH THE UNITED NATIONS' SUSTAINABLE DEVELOPMENT GOALS (SDGs)



SDG 9 – *build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation* – is the most explicit call for transforming the current infrastructure development approach into an inclusive one.

In addition, the universal access to infrastructure services under SDG 6 – *ensure availability and sustainable management of water and sanitation for all* – and SDG 7 –

*ensure access to affordable, reliable, sustainable and modern energy for all* – also directly imply an inclusive approach will be needed. In urban areas this is also highlighted under SDG 11 – *make cities and human settlements inclusive, safe, resilient and sustainable*.

Moreover, benefits from inclusive infrastructure also implicitly promote many other SDGs, including SDG 5 on gender equality.

The Framework for Inclusive Infrastructure defines its explicit benefits, and the table below demonstrates the relationship of those benefits to the SDGs.

IDENTIFIED BENEFIT	BENEFIT DESCRIPTION	SDG
 <p>Reducing poverty and income inequality</p>	<p>Inclusive infrastructure can significantly reduce poverty and income inequality<sup>*1</sup> by directly addressing the challenges faced by vulnerable groups. It can increase access to essential services, markets, and learning opportunities. It can also boost people's earning potential and productivity<sup>*2</sup>. In China, improving rural roads contributed to a reduction in poverty by increasing agricultural productivity and non-farm employment. For every USD 1,500 (CNY 10,000) invested on rural roads, at least three people are estimated to be lifted out of poverty<sup>*3</sup>.</p>	   
 <p>Social equity and social stability</p>	<p>Inclusive infrastructure helps to distribute benefits equitably and starts to bridge the social divide<sup>*4</sup>. It also reduces barriers to access and discrimination, positively impacting earning potential, social equity and stability.</p>	  
 <p>Increasing gender equity</p>	<p>Inclusive infrastructure aims to reduce inequality in the level of access to, use of, and control over infrastructure facilities and services by men and women. When inequalities within the household<sup>*5</sup>, knowledge gaps, lack of education, and cultural restrictions are addressed, higher gender parity in earnings can be achieved and a significant increase in human capital wealth (to the order of 18%) can be generated<sup>*6</sup>.</p>	  
 <p>Integration of small business opportunities</p>	<p>Inclusive infrastructure provides opportunities for small businesses to take part and benefit from major projects. For example, small-scale community contracting can involve small local contractors in various aspects of infrastructure construction and maintenance. This, in turn, increases income and creates employment opportunities<sup>*7</sup>. It can also improve mobility, help small businesses and build their consumer base, enabling them to offer additional services and products.</p>	 

<sup>\*1</sup> Trends and Challenges in Infrastructure Investment in Low-Income Developing Countries, (Gurara, et al., 2017)

<sup>\*2</sup> The impact of infrastructure of growth in developing countries, IFC Economic Notes, (Estache & Garsous, 2012)

<sup>\*3</sup> Infrastructure and Poverty Reduction – What is the connection? (Ali & Pernia, 2013)

<sup>\*4</sup> The Changing Wealth of Nations 2018 - Unequal wealth distribution associated to infrastructure, (Lange, Wodon, & Carey, 2018)

<sup>\*5</sup> Use of and control over infrastructure facilities and services by men and women, (Doran, 1990).

IDENTIFIED BENEFIT	BENEFIT DESCRIPTION	SDG
 <p>Increasing affordability and accessibility</p>	<p>Inclusive infrastructure should be affordable, accessible and provide benefits for all. For example, a transport project that does not consider the needs of lower income and vulnerable groups, such as people with a disability or elderly passengers, will not be able to retain them as customers. However, by offering a discounted fare, they could open their network to a wider range of people and generate additional revenue<sup>*8</sup>.</p>	    
 <p>Job creation and equal access to labour market opportunity</p>	<p>Infrastructure development, poverty reduction and the creation of employment are linked. Inclusive infrastructure fosters social inclusion related to labour market opportunities, which is based on the creation of new jobs across the project lifecycle, and on equal access to job opportunities, irrespective of gender and/or disability. In Eastern Indonesia, local firms were engaged to participate in the construction and maintenance of rural roads, with a view to reducing rural unemployment rates. This strategy was forecasted to provide an additional 10,000+ work days for each kilometre of new rural road built without any significant delays or an increase in costs<sup>*9</sup>.</p>	  
 <p>Technical literacy and knowledge sharing</p>	<p>Improvements to infrastructure can boost the skills and knowledge of people in the communities surrounding it and can connect developers to new talent, but only if potential employees are aware of the opportunities that exist and can capitalise on them.</p> <p>Inclusive infrastructure aids in delivering developments and provides technical training opportunities, which, in turn, improves access to the labour market. For example, in Thailand, the ICT industry needs 6,000 to 7,000 workers per year, but falls 4,000 to 5,000 people short because of insufficient ICT literacy<sup>*10</sup>.</p>	 
 <p>Reducing geographic divide</p>	<p>Inclusive infrastructure provides people with access to facilities, markets and services, and helps to connect people. This reduces discrimination and inequalities in the distribution of benefits. With equal access, the rural and urban divide is reduced, access to the labour markets is enhanced, there are more learning opportunities, and earning potential is improved through economic activities (e.g. increased productivity, access to consumer/service markets)<sup>*11</sup>.</p>	  

<sup>\*6</sup> The Changing Wealth of Nations 2018 - Unequal wealth distribution associated to infrastructure, (Lange, Wodon, & Carey, 2018)

<sup>\*7</sup> See also the benefit on 'Job creation and equal access to labour market opportunity' under the benefits of the Framework.

<sup>\*8</sup> Transport Pricing and Accessibility (Gwilliam, 2017)

<sup>\*9</sup> Infrastructure, Poverty Reduction and Jobs, (International Labour Organization, 2018)

<sup>\*10</sup> Preparing ICT Skills for Digital Economy: Indonesia within the ASEAN context. (World Bank 2018)

<sup>\*11</sup> Infrastructure, Poverty Reduction and Jobs, (International Labour Organization, 2018)

## TARGETED STAKEHOLDERS

The definition of inclusive infrastructure in this Reference Tool calls for a comprehensive understanding of which individuals and groups are at risk of being excluded. The context of each infrastructure project is unique, and those individuals or groups that have historically been excluded or are at risk of exclusion should, therefore, be assessed for each individual project (in *Section 2* of this Reference Tool, see *Action Area 1: Stakeholder Identification, Engagement and Empowerment*). It is important to note that these groupings are not homogeneous; for example, not all women have the same transport needs, nor do all elderly people face identical challenges, and there are numerous different forms of disability that should be considered.

It is also important to understand that individuals may be at the intersection of many groups. The term used for this is 'intersectionality'; for example, someone who is female, low-income and from a minority group.

The barriers faced by, and concerns of, a woman from a low-income household may be quite different to those of a woman from a high-income household. While the diversity of individuals may seem rather obvious, it is critically important to understand this concept when identifying, and consulting with, representatives of disadvantaged groups and when designing appropriate solutions.

In the context of inclusive infrastructure, specific groupings of targeted stakeholders include, but are not limited to, those outlined in the table below. Some specific considerations for the design of infrastructure projects which take into account these groupings have also been highlighted in this table, and will be examined throughout the Reference Tool.

TARGETED GROUP	SOME SPECIFIC CONSIDERATIONS (NON-EXHAUSTIVE)
Low-income groups	Affordability, political voice, social engagement
Women and girls	Safety, harassment and violence, access to employment, time-savings, safety audits, political voice
Youth (in both urban and rural areas)	Training, skills, employment
Children	Safety, access to education
Elderly	Mobility, independence
People living with a disability	Mobility, physical barriers, attitudinal barriers, employment
Job-seekers and the unemployed	Training, skills, employment
Minority groups	Consultation, political barriers, attitudinal barriers, employment
People living in informal settlements and isolated communities	Land title and proof of address issues, geographic isolation, affordability issues, correct targeting of viability gap subsidies
People living in vulnerable environments (such as semi-arid lands, flood plains)	Vulnerability to shocks, design for environmental and climate change and variability, mitigation and adaptation



SECTION 2

# Action Areas

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## Section 2

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Building on the Framework presented in Section 1, this section presents the six Action Areas and their related practices in detail. It provides the practices' context and application, as well as practical recommendations to implement them, supported by examples across sectors and in developed and developing countries.

Note that the scope of this Reference Tool addresses targeting wider inclusivity in the beneficial outcomes of infrastructure. It does not cover guidance on the social and environmental safeguards required to mitigate negative impacts on vulnerable groups, such as Resettlement Action Plans.

**Action Area 1: Stakeholder Identification, Engagement and Empowerment**



**Action Area 2: Governance and Capacity Building**



**Action Area 3: Policy, Regulation and Standards**



**Action Area 4: Project Planning, Development and Delivery**



**Action Area 5: Private Sector Roles and Participation**



**Action Area 6: Affordability and Optimising Finance**





## ACTION AREA 1: STAKEHOLDER IDENTIFICATION, ENGAGEMENT AND EMPOWERMENT

### Key messages

- For inclusion of all sections of society in access to infrastructure and its benefits, it is crucial to first understand which stakeholders – people, groups or communities – are at risk of being excluded and what are the specific opportunities and barriers to their inclusion.
- Traditional stakeholder mapping and engagement will tend to most readily identify those stakeholders with the most influence on the implementation of an infrastructure project, or those who are most impacted by it. This approach may, however, overlook persons, groups, communities or organisations who are at risk of being under-served or excluded during the development and implementation of the project.
- Stakeholder identification and engagement should commence from a very early stage of planning the project, when there is most scope for successfully influencing options and implementing change to respond to needs. It must also continue throughout the lifecycle of the project, offering opportunity to further strengthen benefits and feedback to future designs. There should be a documented process to collect feedback, to present it to technical teams for consideration, to evaluate proposed changes and to feed this back to stakeholders.
- Weak stakeholder engagement on a large infrastructure project decreases the likelihood of it being endorsed by society as a whole (the so-called ‘social licence’ to proceed) and increases the social risks, leading to delays and cost overruns.
- Consideration of stakeholders can occur at a number of different levels, from the provision of information to stakeholders to empowerment of stakeholders. Successful stakeholder engagement should seek to empower previously excluded groups, whereas information campaigns, in which feedback is not adequately provided, can lead to stakeholder fatigue and disengagement.
- The relevant stakeholders, and the barriers they face, will be specific to each project. For example, people or groups that may have been previously excluded could include low-income groups, women, children, the elderly, people with disabilities, minority groups, and those without formal land title.

Three key practices have been identified under this Action Area, for which further detail and guidance is given in the sections below:

Data Collection and Stakeholder Identification

Inclusive Stakeholder Engagement

Stakeholder Empowerment

## DEFINITIONS AND CONTEXT

### Definitions

**Stakeholders** are generally considered to be a person, group, community or organisation who are impacted by, or can influence, the implementation of an infrastructure project.

In the context of inclusive infrastructure, **stakeholder identification** refers to the identification of persons, groups, communities or organisations who are at risk of being under-served or excluded during the development, implementation and operation of an infrastructure policy, program or project.

**Stakeholder engagement** is the process of interacting with and involving a person, groups, communities or organisations who may be affected by the policy, program or project, and **inclusive stakeholder engagement** should involve all disadvantaged target groups, including low-income, women and other marginalised groups, that are often at risk of being overlooked in stakeholder consultations. A structured and thorough stakeholder management approach identifies the relevant stakeholders for the specific policy, program or project, and defines processes that establish a positive and transparent relationship with them<sup>10</sup>.

**Stakeholder empowerment** is the process of increasing the ability and confidence of stakeholders to make choices and decisions, and access opportunities relating to their personal development and issues that concern them. This may be through access to information, resources, capabilities or institutional changes<sup>11</sup>.

### Context

Stakeholder engagement is crucial to the successful delivery of any policy, program or project. However, it is particularly important to inclusive infrastructure because, when well-targeted, it can enable the identification of and engagement with persons, groups, communities and organisations at risk of being excluded and, consequently, not able to benefit from the infrastructure asset being created.

Stakeholders who are the most vulnerable and at risk of not being given an opportunity to share their expectations and opinions should be given special attention throughout the stakeholder engagement process. This targeted approach increases policy-makers' and project planners' understanding of who is under-served or vulnerable and why, and their needs. As a result, they are better able to address the issues preventing inclusion; to design for specific stakeholder requirements; and to broaden the scope of intended beneficiaries for the infrastructure service.

Likewise, considering elements of inclusivity in infrastructure development can also result in increased stakeholder engagement and awareness throughout the project lifecycle. It is crucial to begin the process at an early stage, to inform the upstream phases of infrastructure planning and provide insights into potential improvements, rather than leave it until later stages when fewer aspects of the project can be changed. By starting with only a narrow view of project options and limited consideration of stakeholder groups, infrastructure planners can miss the opportunity to explore more innovative solutions that may offer better social value<sup>12</sup>. Early stakeholder engagement may also benefit the project in supporting the identification of wider economic benefits, intangible benefits and unanticipated tangible benefits that help to strengthen its business case.

A robust stakeholder engagement and communication plan provides a framework applicable throughout the project lifecycle, starting from the planning stage. This plan can be developed to favour proactive, targeted and direct engagement with groups at risk of being excluded in a manner sensitive to their requirements<sup>13</sup>. Following international best practices by ensuring groups at risk of being excluded or under-served have access to information will create greater transparency of intention(s) and content.

Proactive engagement and the provision of communication platforms, where all stakeholders can access information and freely express their opinions, empowers people. It helps them to understand infrastructure plans and to have a positive influence on the design of the infrastructure and services that affect them.

<sup>10</sup> Further resources can be found at <https://www.apm.org.uk/resources/find-a-resource/stakeholder-engagement/>

<sup>11</sup> Voice, Empowerment and Accountability: Topic Guide, (Combaz & Mcloughlin, 2014)

<sup>12</sup> The Green Book, Central Government guide on appraisal and evaluation, (HM Treasury, 2018)

<sup>13</sup> International best practice includes Free, Prior and Informed Consultation (FPIC)

As illustrated in the *U.S. Bank Stadium Case Study*, an oversight committee (the Stadium Equity Oversight Committee) proactively hosted monthly meetings, which were open to the public, to start a conversation with the community, communicate the values of the project, and listen to issues associated with the development of the project.

Approaching stakeholder engagement with inclusivity in mind may increase the credibility of the project developers and/or owners. If all members of society are considered, acceptance of a project can increase. It can also help to create a shared and binding mission. If everyone is given the opportunity to understand how they can benefit from a development, it can give them a sense of belonging, ownership and responsibility, which contributes to the longer-term sustainability of the project. Stakeholders may also recognise the impact of the project on society and the economy, going beyond individual outcomes.

Where vulnerable stakeholders, or those representing the needs of vulnerable groups, influence the final design, the project will better respond to their needs. If the developer takes measures to proactively address specific needs, there is likely to be greater support and buy-in for a project.

Whether it is at policy or project level, stakeholder engagement can also prompt long-term behavioural changes and influence people's perception. Increased engagement improves awareness and demonstrates greater social responsibility. Such interventions may also reduce social risk on a project and, consequently, related costs<sup>14</sup>.

In general, there may be some variation in the optimal level of stakeholder engagement and empowerment in different contexts, such as between developing and higher income countries, particularly in regard to certain types of infrastructure, such as utilities. In developing countries where access to water and electricity is limited, women, who bear much of the burden of water collection, should be involved in key decisions, such as where water points should be located. In higher income countries with universal access to water, which is taken for granted, any stakeholder input into decision-making is more likely to be related to payment mechanisms and how they are managed to ensure that people with lower incomes can maintain access.

<sup>14</sup> The 2017 Australian Infrastructure and Community Survey conducted by the Next Generation Engagement Program found that stakeholder and community pressure was the leading cause of project delay.

## ANALYSIS AND GUIDANCE ON PRACTICES

### DATA COLLECTION AND STAKEHOLDER IDENTIFICATION

#### Overview

For improving inclusion in access to infrastructure and its benefits, it is crucial to first understand which stakeholders are at risk of being excluded or under-served. This is supported through the collection of disaggregated data and analytical methods focusing on inclusive criteria to identify stakeholders and their needs. Where available, existing data and methodologies for data analysis can be built upon, amended or adapted to ensure inclusive benefits are maximised. This information can then be used to proactively influence the policy process and project planning activities in favour of vulnerable groups at an early stage.

Robust data collection methods, including quantitative and qualitative surveys, enable specific stakeholder groups to be identified; allow decision-makers to be more targeted in the formulation of a policy or the development and implementation of a project; and enable longer-term monitoring and evaluation of outcomes against a baseline. This information can also feedback into reforms and future project planning.

#### Relevance

Data collection and assessment methods are relevant at a policy and project level.

#### At the policy level:

- *Creating a legal requirement for project and program data collection.* Collection and assessment requirements and guidelines for programs and projects can be mandated by law.
- *Informing policy and decision-making and future good practice.* The data collected and assessments undertaken can be used as a basis to develop policy documents (e.g. white papers, consultation papers, cabinet proposals) that aim to inform the legislative body and support the decision-making process.
- Further consideration of the assessment of the needs of vulnerable groups in the development of policies and strategies is given under Action Area 3: Policy, Regulation and Standards.

**At the project level:**

- *Using data for strategic purposes throughout the project lifecycle.* Data can be used to help determine the project's strategy, mission, objectives, stakeholder engagement approach, communication plans, improved design, and as an overall guidance framework.
- *Monitoring and evaluation of impact.* Data can be used to define the parameters for project monitoring and long-term evaluation of inclusivity impacts.
- *Sharing of data.* Appropriate sharing of data and evaluation findings between projects has the potential to help strengthen future projects and improve beneficial outcomes on inclusiveness.

This practice is applicable to all infrastructure sectors, however there is no 'one-size-fits-all' approach. The resources and level of effort put into data collection will differ according to the specific inclusivity objectives of the project, its scale and its location. For example, in the water sector, low-income groups are often at most risk of lacking access to services. As noted above, the responsibility for collecting water often falls to women. Women with disabilities who are not able to perform this physically demanding role may, therefore, not have access to clean water or safe sanitation. Collecting data on the disaggregated needs of different stakeholders is crucial to evaluate their needs and incorporate them into the project design.

**Guidance****1. Create disaggregated data by gender, income, age, location, occupation, expenditure profile, education, disability, etc.**

As an example, disaggregated data will provide the necessary basis for gender analysis and gender responsive planning and management.

Existing data sources should be assessed and used, but the existing databases may not provide the extent of disaggregation required, in which case supplementary data collection will be necessary. Useful existing sources of information may include census data, demographic health survey information, poverty mapping surveys, etc.

**2. Use disaggregated data to identify stakeholders and to help decide which groups may require specific attention in the development of the project.**

It is important to establish a clear baseline with a good understanding of the demographics of the communities – such as whether there is a high homeless population, elderly population, migrant population, people of low socioeconomic status, etc.

Care should be taken to ensure that potentially under-served or vulnerable groups are part of the stakeholder engagement process and its design. Connecting with local social services and non-government organisations (NGOs) to get their input on issues of inclusion for the location in question can help to define the specific needs in the communities, especially in terms of mental health, gender, disability, language, etc.

One of the challenges with engaging vulnerable or marginalised stakeholders is that they may not be readily identifiable in the first place. They may be excluded groups who are not immediately apparent on the radar of the government or developer. Tools, including stakeholder network analysis and early, community-based interventions (e.g. town hall events, information sessions) may help in identifying stakeholders. The 'weak ties' identified through network analysis can be particularly helpful, if a thorough analysis is completed.

A powerful tool to identify land use in communities in relation to the proposed infrastructure development is geographic information system (GIS) mapping.

**3. Identify the responsible government entity and process of collaboration for data collection and assessment.**

For example, the bureau of statistics may be responsible for data collection, and then provide data to other government departments to design the project and assess its feasibility. This requires collaboration, interface management and information sharing amongst different government agencies, and a clear mandate to set out the responsibilities of the departments involved.

Other government agencies, in particular health services, should be able to provide additional insights.

**4. Use various data collection methods to collect disaggregated data, such as door-to-door surveys and focus group discussions.**

For the Cairo Metro project in Egypt and the El Metropolitano Bus Rapid Transit (BRT) project in Peru, interviews were conducted on the street to share the project objectives and identify the needs of the community directly impacted by the project (see *Cairo Metro Case Study* and *El Metropolitano BRT Case Study*). For large data collection requirements, an e-survey method is more productive and cost effective, as demonstrated by the Ningxia Liupanshan Poverty Reduction - Rural Road Project in China, (see *Box 1: Illustrative example – Ningxia Liupanshan Poverty Reduction - Rural Road Project*,

China)<sup>15</sup>. Regardless of the method of data collection, the questionnaire should frame questions to reveal pertinent answers in relation to inclusivity. Social media may, in the future, also be increasingly used to help collect data.

**5. Integrate inclusivity into conventional data collection methods through the formulation of a specific hypothesis or using query methods.**

To formulate a hypothesis, start by asking questions about the topic to be addressed, and then come up with a prediction or possible explanation. Query methods will involve questioning the user directly about the subject to be addressed. This may be during a face-to-face interview, or in writing as a questionnaire. Make sure the surveys represent women, young people, people with disabilities, the elderly, low-income groups etc. and are tailored to the project. Ask open questions to ensure the needs and opinions of people at risk of being neglected are being captured when undertaking a survey.

**6. Ensure that ethical guidelines are followed in the collection of data. Participants should have the assurance of being anonymous if participating in the survey poses any potential risk to them.**

**7. Include information on perceptions of the quality of service in the survey, i.e. infrastructure quality, demand studies, reasons for non-travel, affordability, opportunity cost, and mobile and internet use.**

**8. Build capacity for data collection and analysis, and employ social inclusion specialists (e.g. social specialists, gender specialists, etc.) to train the people implementing the survey program, to ensure inclusivity is taken into consideration.**

**9. Use findings from the data analysis to determine the project design in the feasibility and project planning stage.**

This will ensure specific inclusivity-related issues are understood, and policy or project objectives are designed to address these issues. Findings can also be used to determine the specific criteria for project evaluation and monitoring.

**10. Agree a preferred feedback method and allocate resources (e.g. budget, time) to return to the stakeholders with feedback on how their information was used and what influence it had on the project**

**Example**

Data collection and stakeholder identification approaches are outlined in several of the Case Studies (see *Section 4*). An additional illustration is shown below.

**BOX 1: ILLUSTRATIVE EXAMPLE – NINGXIA LIUPANSHAN POVERTY REDUCTION – RURAL ROAD PROJECT, CHINA**

An e-survey was conducted to understand the socioeconomic parameters of the project and evaluate its impact on low-income areas.

The Ningxia Liupanshan Project improves 267km of rural trunk roads and 168km of rural feeder roads in the Ningxia Liupanshan Area in China. The capital expenditure (CAPEX) is USD 265.54 million and the project focuses on the seven counties in the area with the lowest income groups.

As part of the stakeholder engagement and integration process, an e-survey was conducted (using mobile technology) to collect and assess data on the socioeconomic parameters of 30 villages. It covered 1,188 households and captured data such as household income, household expenditures, household income type and number of jobholders per house. The project team considered the needs, concerns and interests of stakeholders in low-income areas and used the data collected to evaluate the project and measure its socioeconomic impact. It improved understanding of socioeconomic indicators prior to commencement and provided a baseline against which the benefits of the project could be measured in the long-term. It also increased public acceptance of the project.

*continued..*

<sup>15</sup> Impact Evaluation of Road Improvement and Rural Poverty – Baseline Survey in the Ningxia Liupanshan Area of the People's Republic of China, Asian Development Bank, (Nishimura, Sieber, & Wang, 2018)

The findings of this type of survey can be used for multiple purposes:

- a) at project inception to establish baseline conditions and to map (identify) specific target stakeholder groups;
- b) during project development to inform the technical design; and
- c) during construction and operation to monitor and evaluate progress against the initial baseline.

Source: Impact Evaluation of Road Improvement and Rural Poverty – Baseline Survey in the Ningxia Liupanshan Area of the People's Republic of China, No. 13 ADB East Asia Working Paper Series 2018

## INCLUSIVE STAKEHOLDER ENGAGEMENT

### Overview

Inclusive stakeholder engagement is a process that specifically targets and considers the opinions of individuals and groups at risk of being excluded or under-served. This can lead to higher public acceptance of a project and informs the project to maximise social benefits.

To maximise benefits, the relevant stakeholders, engagement objectives, framework and engagement process should be considered as early as possible, and engagement should continue throughout the entire project lifecycle. It is important to use the feedback from public engagement to improve the project design and ensure the result reflects the needs of beneficiaries.

### Relevance

#### At the policy level:

- *Implementing and enforcing policies on inclusion.* Inclusive policies should include stakeholder engagement, which can be implemented and enforced by public authorities, who control and administrate the delivery of social inclusion activities.
- *Focusing on proactive engagement.* This applies to all infrastructure sectors. There should be a special focus on proactive, participatory engagement methods, which empower targeted groups. As an example, the Guide to Community Engagement for Power Projects in Kenya has developed community engagement principles with a strong emphasis on inclusive participation, gender equality and the empowerment of women<sup>16</sup>.
- *Mandating inclusivity at the policy level.* A government or contractual mandate is the best way to ensure inclusive engagement processes are applied at project inception. Participation should be free and made public (e.g. online, through public consultations, or through targeted focus group discussions).
- *Strengthening citizen trust in policies and the government.* Citizen and stakeholder engagement can be used to strengthen and legitimise policies which, in turn, increase people's ownership and overall trust in government. This is discussed further under Action Area 3: Policy, Regulation and Standards.

#### At the project level:

- *Implementing inclusivity plans.* The project approval processes (e.g. cabinet papers, laws, decrees, project proposals and financing agreements) should require the implementing agencies or organisations to develop social inclusion plans and make them an integral part of the project. They may be referred to in a number of ways, such as a 'Social Integration Plan', a 'Community Benefits Plan', or a 'Social Benefits Plan'. The plans create accountability and responsibility throughout procurement, operation, monitoring and evaluation, and decommissioning. For instance, the International Crossing Agreement between the State of Michigan in the United States and the Province of Ontario in Canada mandated the development of a community engagement process across all project stages for the construction and operation of the Gordie Howe Bridge (see Box 2: Illustrative example – Gordie Howe Bridge Project, Windsor-Detroit).
- *Creating and enforcing inclusivity targets.* The procurement stage should include contractually agreed inclusivity targets to be achieved by the private sector organisation (or any other organisation responsible for project delivery), such as workforce utilisation targets.

<sup>16</sup> The Guide to Community Engagement for Power Projects in Kenya, (Power Africa, 2018)

## Guidance

### 1. Ensure stakeholder engagement commences at an early stage of planning and continues throughout the project lifecycle by considering the following:

- Source feedback through public dialogue, surveys or focus groups. There are a variety of engagement methods used to build relationships, gather information, consult with stakeholders and provide information about the project. Regardless of the method used, the process needs to be proactive and culturally appropriate. Sustained activity throughout the project makes the engagement genuine and dynamic.
- Consider practical means to overcome barriers to engagement of under-served or vulnerable stakeholders, e.g. mobile consultations with communities in remote locations, or the provision of bus services, etc. In scheduling engagements, consideration should be given to stakeholders' work and time commitments, and the opportunity costs to women and low-income groups, etc. in attending the consultations.
- Build capacity amongst stakeholders for informed engagement. This is particularly important for vulnerable members of society and those at risk of exclusion, so they have the knowledge and capacity to give informed feedback.
- Ensure all stakeholders (contractors, designers, communities and vulnerable groups) understand the objectives of the stakeholder engagement and the wider project and how it relates to their interests.
- Use the project's website to disclose information and share updates with stakeholders. It is one of the most efficient and direct ways to communicate.
- Recognise, however, that some under-served or vulnerable groups, such as low-income people, the elderly or those in remote locations, may not have access to the website and will need to be kept informed through other methods, such as regular meetings or printed newsletters. Multiple formats should also be used for the sharing of information, including for the hearing and vision impaired. Keep the language simple and support text with the use of appropriate diagrams, infographics and illustrations
- Manage and address grievances to show people that a genuine effort is being made to incorporate the concerns and needs of vulnerable groups into the design and implementation of the project, rather than react to escalations of tension. Consider establishing a formal grievance mechanism for each project.

The Guide to Community Engagement for Power Projects in Kenya<sup>17</sup> integrates inclusivity principles and activities into its guidelines. Beyond the conventional aspects of stakeholder engagement, such as careful planning and preparation, the guide recommends other inclusive principles to be followed, of which the most relevant are Inclusive Participation, and Gender Equality and Female Empowerment:

- *Inclusive Participation:* Some groups may face social, political, cultural and communication barriers that preclude them from participating effectively during the planning and design phases. Consideration must be given to these groups. Specific interventions should be designed based on an informed analysis, and additional resources set aside to facilitate effective participation by these groups.
- *Gender Equality and Female Empowerment:* Gender equality is a fundamental principle that should guide community engagement. It is often assumed that, when the community is invited for consultation, both men and women will participate equally, but this may not always be the case. There needs to be a strategy to ensure women's meaningful engagement within the specific cultural context. For instance, women can speak in women-only groups, prior to their opinion being shared in a larger setting.

An example of a robust engagement process that was defined from the outset is the Gordie Howe Bridge project (see Box 2: *Illustrative example – Gordie Howe Bridge Project, Windsor-Detroit*).

### 2. Consider the needs of all groups within a community.

Engagement efforts need to respond to the priorities of all, especially under-served or vulnerable groups (such as women, the elderly, young people, religious and cultural minorities, indigenous and other ethnic groups, and people with disabilities). Failing to address these priorities could lead to investments that do not reflect people's true needs<sup>18</sup>. Engagement teams should include representation from the local populations where possible and demonstrate gender, cultural and age diversity.

<sup>17</sup> The Guide to Community Engagement for Power Projects in Kenya, (Power Africa, 2018)

<sup>18</sup> A Sourcebook for Poverty Reduction Strategy, (Klugman J. , et al., 2002)



### 3. Hold a separate focus group meeting for each underserved and vulnerable group.

Some groups (such as women, young people, and people with disabilities) may face social, political, cultural and communication barriers that preclude them from participating effectively. To overcome this, it is recommended that focus group meetings are held with each vulnerable group separately, for example, women-only focus groups where women can speak freely, and that they include a mechanism to share viewpoints on equal terms with other stakeholders.

Focus groups for advocates of vulnerable populations should also be considered, such as service providers working with the homeless, or representatives of local mental health or respite facilities.

### 4. Facilitate the introduction and interaction of various stakeholder groups.

Governments should consider connecting targeted groups to policy or project implementers and other relevant organisations. For instance, the authority responsible for the construction and operation of the U.S. Bank Stadium project was mandated to engage an employment firm (the authority chose civil society organisations (CSOs)), to specifically help it to hire women, the unemployed and young people (see *U.S. Bank Stadium Case Study*). NGOs can be used to help reach out to relevant groups in society. As part of the process, 'meet and greet' sessions with targeted groups and private sector organisations can be organised.

### 5. Provide community groups with knowledge, control, and authority to input to decisions and resources throughout all project phases<sup>19</sup>.

Communities who have ownership of a project are often motivated to utilise, conserve and promote the asset. Participation motivates people to collaborate and collectively recognise the positive outcomes of their involvement, and participatory approaches, such as co-design, can help facilitate this. As a result, tailored solutions are produced to address the actual needs and expectations of the stakeholders.

### 6. Use a participatory planning approach<sup>20</sup> as a straight forward technique for participatory assessment.

Participatory planning incorporates the local knowledge and opinion of stakeholders in the planning and management of projects. A good practice is to triangulate the findings from participatory transect walks, household surveys, focus group discussions and small group meetings on critical discussion points (e.g. land and resource claims)<sup>21</sup>. In the Bogotá Urban Service Project in Colombia (see *Box 15: Illustrative example - Inclusive urban development in Bogotá, Colombia*), the participatory planning approach empowered community groups and fostered ownership and involvement from affected households. The increased participation in the decision-making process for designing and planning resulted in tailored solutions that addressed the actual needs and expectations of the communities.

### 7. Form groups (e.g. representatives of a low-income community) to represent stakeholders' interests and formalise their involvement in the project.

For instance, as illustrated in the *Water Sector Trust Fund Case Study* in Kenya, Water Service Boards work with representatives from Community Water Associations composed of farmers (amongst others) to develop water access projects supported by the Kenya Water Sector Trust Fund. Another example is shown in the *U.S. Bank Stadium Case Study*, where it is mandated in its Equity Plan that there must be at least one female representative and a representative from a minority community on the Construction Review Panel composed of 10 people<sup>22</sup>.

It is important that members selected for such groups are truly representative and trusted by the targeted stakeholder group they represent, rather than perceived as biased towards the developer's interests.

<sup>19</sup> A Sourcebook for Poverty Reduction Strategy, (Klugman J., et al., 2002)

<sup>20</sup> Also known as Participatory Rural Appraisal (PRA) or Participatory Learning for Action (PLA).

<sup>21</sup> The Guide to Community Engagement for Power Projects in Kenya, (Power Africa, 2018)

<sup>22</sup> Minnesota Sports Facilities Authority – Equity Plan for Design and Construction of the Stadium, (Minnesota Sports Facilities Authority, 2013)

### 8. Create a stringent oversight mechanism to facilitate the inclusion of stakeholders at risk of being excluded.

As demonstrated by the *U.S. Bank Stadium Case Study*, strong leadership and governance is required as part of the overall project management. For instance, if a contractor is required to disclose how many women or minority groups have been engaged in a project, there should be transparent and frequent reporting mechanisms to facilitate the monitoring of progress against this target.

This can be achieved by linking work approval and payment to verified accomplishment of the contractually agreed targets.

#### Example

Inclusive stakeholder engagement approaches are outlined in several of the Case Studies (see *Section 4*). An additional illustration is shown below.

#### BOX 2: ILLUSTRATIVE EXAMPLE – GORDIE HOWE BRIDGE PROJECT, WINDSOR-DETROIT

Early integration of community or individual needs, in combination with a planned inclusivity framework and process, ensures community needs are addressed at every stage of the project lifecycle.

The Gordie Howe Bridge is a 2.5km long bridge with an estimated CAPEX of USD 1 - 2.2 billion. It connects Detroit in the US and Windsor in Canada. During the pre-construction phase, a community benefits scheme was developed to gauge public opinion and improve inclusivity during procurement and delivery.

The Windsor-Detroit Bridge Authority was created in 2012 to construct and operate the Gordie Howe Bridge. The Authority is required by the bilateral agreement between the US and Canada to submit details of "community benefits plans and community consultations" to prospective bidders. The Authority created a process and framework to identify and implement a community benefits plan to ensure that positive impacts on communities reflected the stakeholders' comments. The identified focus groups are Michigan and Ontario residents, indigenous peoples, business owners and community leaders.

The following process was developed:

1. Inputs on community benefits were received from stakeholders (e.g. through public meetings, focus groups, website, email, mail).
2. The Windsor-Detroit Bridge Authority shared inputs received with prospective bidders.

3. Prospective bidders considered inputs and suggestions as they formulated their community benefits plan as part of their proposal to design, build, finance, operate and maintain the Gordie Howe Bridge. Part of the proposal needed to include the following considerations in the construction and operation of the bridge:
  - a) the manner in which stakeholders and communities would continue to be involved;
  - b) the manner in which host community inputs relating to community benefits and stakeholder involvement were to be factored in;
  - c) the manner in which bidders planned to work with local institutes of higher learning, unions and others; and
  - d) the manner in which job training and local job development would be encouraged.
4. Community plans were part of the Request for Proposal submission and part of the contractual obligation of service delivery.

The Windsor-Detroit Bridge Authority had stringent oversight of the community benefits plan during construction and operation of the bridge.

Source: The Windsor-Detroit Bridge Authority, Detroit River Internal Crossing Agreement

## STAKEHOLDER EMPOWERMENT

### Overview

As highlighted by the literature review and feedback from the consultative workshops, stakeholder engagement is about more than providing information to stakeholders. Done well, it is a dynamic and ongoing process that can transform stakeholders' experiences and situations. Targeted at low-income and other groups at risk of being excluded, through capacity building and empowerment in decision-making, it can help break cycles of disadvantage and achieve long-term gains for projects and communities.

Empowerment is a process through which individuals or groups increase their power and autonomy to achieve desired outcomes. Empowerment can increase people's autonomy, whilst enabling them to make valued contributions to society<sup>23</sup>. This can be applied through the development of stakeholder and communication plans that set out project-specific measures for greater empowerment.

Greater transparency through information disclosure increases stakeholders' understanding of a project, and the provision of appropriate communication platforms can increase the willingness and ability of the public to communicate and share opinions.

Stakeholder empowerment can be considered along a scale of citizen participation: ranging from information, consultation and cooperation, through to delegation<sup>25</sup>. In some cases, the lower levels of engagement can be tokenistic, and stakeholders can become disinterested if they have no real say in the decision-making process. The higher levels represent greater involvement in decision-making (see *Figure 6* below).

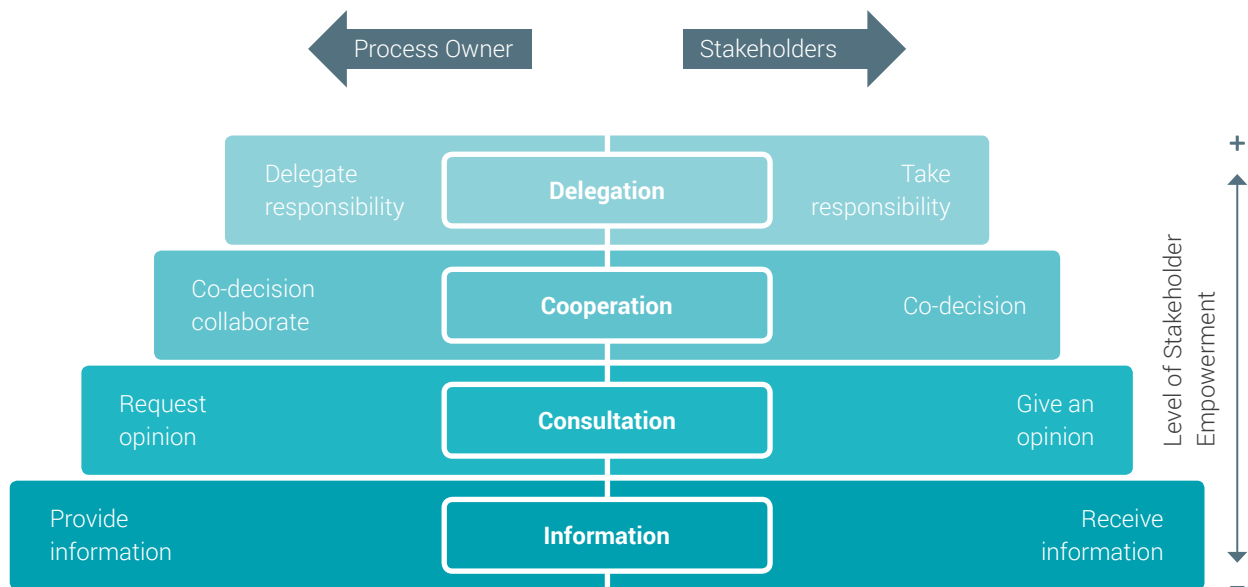


Figure 6. Four levels of stakeholder empowerment<sup>24</sup>

<sup>23</sup> Voice, Empowerment and Accountability: Topic Guide, (Combaz & Mcloughlin, 2014)

<sup>24</sup> Stakeholder empowerment through participatory planning practices: The case of electricity transmission lines in France and Norway, (Späth and Scolobig, 2016).

<sup>25</sup> IAP2's Public Participation Spectrum is a widely used model: <https://www.iap2.org.au/Resources/IAP2-Published-Resources> Others include AA1000SES (2015): [https://www.accountability.org/wp-content/uploads/2016/10/AA1000SES\\_2015.pdf](https://www.accountability.org/wp-content/uploads/2016/10/AA1000SES_2015.pdf) and Arnsteins's Ladder of Engagement.

## Relevance

Stakeholder empowerment is relevant at the policy, program and project level. The literature covers many examples of stakeholder empowerment for small-scale, community-level infrastructure (particularly in rural areas) in developing countries but contains fewer examples for large-scale infrastructure projects.

### At the policy level:

- *Encouraging empowerment through regulation.* Regulation can be formulated to promote and enforce activities that increase empowerment and confidence, so groups in society feel comfortable to “raise their voices” and express their opinions.
- *Removing barriers to stakeholder participation.* Specific and tailored tools remove potential barriers to participation and communication.
- Transparency is covered in more detail in Action Area 2: Governance and Capacity Building.

### At the project level:

- *Integrating empowerment at an early stage of project development.* Activities leading to more empowerment and transparency should be defined in the project's overall strategy, objectives and guiding principles.
- *Continuing to integrate empowerment throughout the project lifecycle.* Mechanisms applicable throughout the project lifecycle should be part of the governance and project management philosophy.

## Guidance

### 1. Be proactive and engage with stakeholders at an early stage.

Proactive engagement means a specific effort to reach out to targeted groups in society to better understand their issues through conversation, a survey, public campaigns, etc. Proactive engagement is not a new concept and is one of the known tools of stakeholder engagement. However, it is particularly useful when trying to understand the views and opinions of under-represented groups. It also creates a sense of empowerment and helps people engage more with the wider community and freely express their thoughts.

Project outcomes can then be tailored to better suit their needs, positively impacting that group. It may also:

Maximise acceptance, qualification and implementation of new regulations and policies;

Yield more adequate representation of groups that tend to be under-represented;

Identify barriers in inclusivity earlier, which can be addressed during policy or project design; and

Help to maximise usage of infrastructure and identify further complementary actions required.

The Bogotá Urban Service Project in Colombia illustrates these points (see *Box 15: Illustrative example - Inclusive urban development in Bogotá, Colombia*). During the project preparation stage, the project's teams sought the community's views on the sanitation systems in the corridor along the routes of the proposed TransMilenio Bus Rapid Transit (BRT) system (see *Section 4 for TransMilenio Bus Rapid Transit Case Study*). Low-income areas were specifically targeted through the collection of disaggregated data. The preferences of the affected households in the process of selecting urban upgrading works were considered. This participatory approach fostered community ownership and increased participation in future community projects.

Additional evidence in support of these principles was found during the development of the GI Hub's Public-Private Partnership (PPP) Contract Management Tool<sup>26</sup>, such as the I-495 Express Lanes case study described in that tool. In that case study, there is a discussion of the use of early feedback from major employers, elected officials and transport advocates, which resulted in the project team changing the scope of the project to include three major entry and exit points, rather than just one, to serve a key employment area. By proactively engaging stakeholders early, the parties were able to work collaboratively to develop a transportation solution that provided a better outcome, helping to reduce traffic congestion in the area<sup>27</sup>.

<sup>26</sup> Available at [managingppp.gihub.org](http://managingppp.gihub.org).

<sup>27</sup> Case study: I-495 Express Lanes, Virginia, USA, (GI Hub, 2018)

The case studies found in Section 4 also provide examples of stakeholder empowerment, such as the *TransMilenio Bus Rapid Transit Case Study*, where the empowerment of people with disabilities was an explicit focus.

## 2. Identify further complementary actions required that empower disadvantaged groups in accessing beneficial outcomes of infrastructure services.

Low-income and other disadvantaged groups may have challenges in accessing the benefits from infrastructure services that go beyond the design and development of the infrastructure itself. For example, low-income farmers may be constrained from accessing maximum revenue from their crops, not just by the condition of the road or transport services, but also by a lack of information on the current prices that goods are obtaining at market. Complementary actions, such as information provision on market prices which can often be facilitated through mobile phone networks, or targeted training that can support better access to the employment opportunities generated, can help empower previously disadvantaged communities to access the wider benefits of infrastructure.

An example of targeted training is given in the *U.S. Bank Stadium Case Study* in Section 4, and guidance on capacity building for disadvantaged groups is elaborated further under Action Area 2: Governance and Capacity Building.

Other examples include increasing local participation by looking for opportunities to package work appropriately, as well as to structure employment opportunities and support in a way that meets under-served groups – for example, offering child care services to encourage the participation of working mothers. For further information relating to complementary actions to enable access to job opportunities see Action Area 5: Private Sector Roles and Participation.

## 3. Consider the Voice, Empowerment and Accountability (VEA) approach.

Voice, empowerment and accountability (VEA) interventions aim to support poor and marginalised people to build the resources, assets, and capabilities they need to exercise greater choice and control over their own development, and to hold decision-makers to account<sup>28</sup>.

Research and evidence on the impact of VEA interventions is limited, however the GSDRC<sup>29</sup> knowledge series suggests that VEA interventions have led to short-term changes in policy, regulation and reform, as well as improved transparency, reduced corruption, increased community participation and improved government responsiveness to citizen demands<sup>30</sup>.

In Australia, good results have been achieved by building understanding of planning and assessment processes, procurement processes, and planning and design processes to enable informed participation.

### VOICE, EMPOWERMENT AND ACCOUNTABILITY (VEA)

Voice, empowerment and accountability (VEA) is an umbrella term that covers a wide range of ideas about how citizens can express their preferences, secure their rights, make demands on the state and achieve better development outcomes. VEA draws attention to the role of individual agency, power relations, and processes that can enable or constrain people's capacity to articulate and achieve their individual and collective goals. Though closely connected, the terms voice, empowerment and accountability are conceptually distinct (and also widely contested).

Voice is often understood as the ability of citizens to express their preferences and to be heard by the state, either through formal or informal channels, in written or oral form. Citizens' voices are not homogenous, and sometimes more powerful voices and opinions can crowd out those of excluded or marginal groups.

Empowerment is a process through which individuals or organised groups increase their power and autonomy to achieve certain outcomes they need and desire. Empowerment focuses on supporting disadvantaged people to gain power and exert greater influence over those who control access to key resources.

*Continued...*

<sup>28</sup> Voice, Empowerment and Accountability: Topic Guide, (Combaz & Mcloughlin, 2014)

<sup>29</sup> Governance – Social Development – Humanitarian – Conflict – Resource Centre (GSDRC) provides applied knowledge services on demand and online. It is a partnership of research institutes, think-tanks and consultancy organisations funded by UK DFID, Australian Aid and the European Commission. Available at <http://gsdrc.org/aboutus/>

<sup>30</sup> Voice, Empowerment and Accountability: Topic Guide, (Combaz & Mcloughlin, 2014)

Accountability is a process for holding individual actors or organisations to account for their actions. Accountability requires transparency, answerability, and enforceability between decision-makers and citizens.

Different communities and experts are split on the effectiveness of VEA in helping people to build the resources, assets and capabilities they need to exercise greater choice and control over their own development, and to hold decision-makers to account.

Source: GSDRC (2014), *Voice, Empowerment and Accountability, Topic Guide*

#### 4. Create transparency objectives for the policy or project to boost stakeholders' ability to engage and provide feedback.

Data is oftentimes not published because it is confidential. However, disclosing this information can contribute towards community empowerment and allow project implementers to review the success of a project. For example, in Sao Paulo, Brazil, the PPP unit encourages the use of a digital system<sup>31</sup> that enables members of the community to contribute to projects. Their comments are collected and reviewed in detail every five years (or within an agreed contract period) so that any challenges can be reviewed and changes to the project can be made to maximise benefits.

Websites can also be used at government policy level as a platform to feedback to stakeholders, for example, the Consultation Hub on the Scottish Government's website, with the outcomes of issues consulted on available in the section "We Asked, You Said, We Did"<sup>32</sup>.

A full discussion of transparency issues is found below under Action Area 2: Governance and Capacity Building.

### APPLICATION OF PRACTICES TO TARGETED STAKEHOLDER GROUPS

The general principles of Action Area 1: Stakeholder Identification, Engagement and Empowerment apply to all stakeholder groups. Some points on the application of practices to specific stakeholder groups are highlighted below.

#### Low-income groups

Low-income groups are most likely to suffer from a lack of access to basic services. This is an important group to target and, while existing poverty mapping may help with the early stages of identification, the approach to stakeholder engagement should be developed with the support of social inclusion specialists, who are knowledgeable on the appropriate avenues of communication for each stakeholder group. For example, traditional written communication methods may present challenges to certain groups if literacy and education levels are lower in the poorest households. Participatory planning approaches can help in incorporating the views from people living in all corners of the community, particularly in low-income areas.

#### Gender

Data collection on stakeholders should optimise the usage of already available data sets. However, many common data sets will only go down to the household level, while men and women within households may face different challenges in accessing infrastructure services. Both qualitative and quantitative data – such as, for example, different patterns of usage and perceptions of safety when using transport systems – will be needed in helping to address barriers to access, as identified in both the *TransMilenio Bus Rapid Transit (BRT) Case Study* in Colombia and the *El Metropolitano Bus Rapid Transit Case Study* in Peru. Solutions should involve both men and women, and are likely to involve both elements of design and location of infrastructure (lighting, walkways, etc.) implemented from an early planning stage, as well as operational aspects, including the need for specialised staff training, anti-harassment campaigns, etc.

<sup>31</sup> The Digital Partnership Platform, available at <http://www.parcerias.sp.gov.br/Parcerias/>

<sup>32</sup> Scottish Government Consultation Hub, available at <https://consult.gov.scot/>

Approaches to stakeholder engagement with women should be culturally sensitive and designed to avoid backlash within their own communities. Considerations in the design of stakeholder engagement plans include the use of female engagement teams, focus group discussions, and practical solutions around the languages used, literacy levels, the convenient timing of meetings and provision of crèches given childcare and other responsibilities.

### **People with disabilities**

About 15% of the world's population are living with a disability. However, this group is often overlooked or seen as too costly for consideration. User input from consulting and involving people with disabilities can help ensure cost effective and practical solutions from an early stage<sup>33</sup>. This is more effective than making retrospective adjustments during the construction or operational stages.

The training of persons with disabilities as interviewers to carry out engagement with other persons with disability was found to be effective in Australia<sup>34</sup>. This was innovative and overcame a number of barriers while increasing participant empowerment.

The TransMilenio BRT project in Colombia has a dedicated communications program that continues to target people with disabilities (see *TransMilenio BRT Case Study*). In 2017, a simulation centre was established to help passengers with disabilities experience boarding, alighting, transferring and moving through the BRT system in a safe, inclusive and stress-free environment. The program hopes to empower people with disabilities, so they can use the BRT system on their own and familiarise themselves with the support services available.

### **Other disadvantaged people - such as specific ethnic groups, or those living in remote or isolated areas**

Data collection, and stakeholder identification, engagement and empowerment should take into account the diversity of groups within a project's service area and be designed together with representatives from minority groups to ensure that cultural and language differences are appropriately incorporated in the project design.

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<sup>33</sup> Disability considerations for Infrastructure Programmes, (Agarwal and Steele, 2016)

<sup>34</sup> Choice, control and the NDIS: Service users' perspectives on having choice and control in the new National Disability Insurance Scheme, (Warr et. al., 2017)



## ACTION AREA 2: GOVERNANCE AND CAPACITY BUILDING

### Key messages

- Leadership and governance systems are at the heart of decision-making that guides how resources are used and assets are developed to target inclusive outcomes. Leadership forms the foundation of how a vision on social inclusion is translated into reality.
- Inclusive institutions with good governance are required to promote and enforce policies that address social inequalities, particularly with regard to under-served and other vulnerable groups.
- Important elements of good governance include transparency and accountability, which create trust between the government and society. Ease of access to information and modern communication tools can help to create an interactive and collaborative environment.
- In governance processes, the attitudes and behaviours of decision-makers and professional staff, whether conscious or unconscious, are important. Training and education of existing government personnel can help strengthen capacity to better understand, integrate and address the needs of vulnerable groups.
- Targeted capacity building may strengthen the relevant information, knowledge, and skills needed by under-served or other vulnerable groups to enable them to access wider benefits from infrastructure, such as access to markets, jobs and services.

Two key practices have been identified under this Action Area for which further detail and guidance is given in the sections below:

Inclusive Governance and Transparency

Capacity Building



## DEFINITIONS AND CONTEXT

### Definitions

**Governance** refers to structures, processes and systems that define decision-making and interactions amongst various stakeholders. It is also broadly referred to as the exercise of functions and power through a country's economic, social, and political institutions. In the context of inclusive infrastructure, it is linked to how government institutions are structured and operate in infrastructure development and implementation, and how they interact with the various public and private sector stakeholders.

In combination with **capacity building**, which is a process used to improve or acquire certain skills, knowledge, processes or systems in sufficient quantity to meet its core functions, governance can impact how decisions are made and implemented. In the context of inclusive infrastructure, capacity building refers to (i) strengthening the relevant capabilities in government institutions and (ii) developing the skills of under-served and vulnerable groups to enable them to better access job opportunities and other beneficial outcomes from infrastructure development.

### Context

Leadership and governance systems are at the heart of how resources are targeted, and assets are developed. Leadership is closely linked to good governance, which is a prerequisite for effective infrastructure development<sup>35</sup>. A leader can transform a common vision into a reality. A good example of this is the Mi Teleférico Cable Car project in Bolivia (see *Section 4 for Mi Teleférico Cable Car Case Study*), where strong political support from the nation's president was a driving force in the successful completion of the project. The cable car eased traffic and transportation issues between the two cities of La Paz and El Alto and provided a new transport option for previously excluded groups of passengers.

Infrastructure and its associated services stimulate economic growth, contribute to building the capabilities of under-served and vulnerable groups, and facilitate their connection to political processes, markets and social relations<sup>36</sup>. This can be achieved through the development of efficient and well-integrated markets for labour, land and housing, effective public finance and responsive governance.

Additionally, governance has a significant impact on how the needs of social groups at risk of exclusion or discrimination can be better defended or positively promoted, and how protective measures can be developed and enforced. This is particularly relevant in situations of abuse of power or the application of entrenched social attitudes, values and discriminatory behaviours by an official, or when there is a lack of effective complaint or redress processes. In these situations, under-served and other vulnerable groups (such as low-income groups, women, indigenous peoples, etc.) are likely to suffer most<sup>37</sup>.

To leverage the benefits of greater inclusion in infrastructure, governments, civil society organisations, private companies and local communities need to fully understand the issues and assess potential opportunities that can be derived through good governance, particularly in the decision-making and planning processes. Governance which acknowledges the collective benefits of improved inclusiveness will influence infrastructure developments positively in the long-term. However, for this to be effective, there must be a system of accountability in place to ensure proper implementation and monitoring of inclusivity initiatives within government.

An open government policy is one instrument of accountability to promote transparency. An open government is exposed to public scrutiny, is always accessible to everybody, and is responsive to new ideas and demands. Transparency and accountability can be enhanced by taking an open government approach to data. That means government information is proactively disclosed and available online for everyone to access, reuse and redistribute without restriction<sup>38</sup>.

<sup>35</sup> The Impact of Leadership on the Governance of Infrastructure Development in Nigeria, (Onolememe, 2015)

<sup>36</sup> A sourcebook for Poverty Reduction Strategies : Core techniques and cross-cutting issues, (Klugman, et al., 2002)

<sup>37</sup> A sourcebook for Poverty Reduction Strategies : Core techniques and cross-cutting issues, (Klugman, et al., 2002)

<sup>38</sup> United Nations E-Government Survey 2016: E-Government in Support of Sustainable Development. Chapter 2 Transparency through open government data, (United Nations, 2016)

The benefits of opening government data to the public are not limited to social gains; there are also economic benefits to be derived. Studies show that, globally, open data could generate USD 3 trillion in economic gains per year. Potentially as much as USD 5 trillion could be generated across several sectors including education, transport, consumer products, power, oil and gas, healthcare and consumer finance<sup>39</sup>.

In governance processes, the attitudes and behaviours of decision-makers and professional staff, whether conscious or unconscious, are important. Training and education of existing government personnel is required to better understand, integrate and address the needs of vulnerable groups.

Capacity building and training is also required to elevate members of disadvantaged groups into positions of power, decision-making and influence. Inclusive governance requires greater transparency and public awareness of the existing governance structures and processes; of whether there is any lack of inclusion in government; of the occurrence of discrimination and inequality; and of the availability of information. Transparency and access to information can lead to greater participation by the community in decision-making.

A structured, rather than ad hoc, approach to capacity building enables more effective participation. It may trigger behavioural change or a paradigm shift if applied on a programmatic basis, with a long-term perspective and linked to practical components.

Improved governance, with an emphasis on capacity building, empowers citizens and fosters accountability and a shared sense of responsibility on the part of the government, provided there is consistent application of the strategy over time and a commitment to cultural change instead of one-off interventions.

## ANALYSIS AND GUIDANCE ON PRACTICES

### INCLUSIVE GOVERNANCE AND TRANSPARENCY

#### Overview

Governance pertains to the structures, processes and systems that define decision-making, economic and social interactions within a country. Key aspects of governance include the political will and capacity of governments to manage resources efficiently and to formulate, implement and enforce sound policies and regulations; and the processes by which the government is held accountable and monitored. With respect to infrastructure development, governance processes cover the entire lifecycle of the asset and are core to the project planning and decision-making phase.

Inclusive institutions with good governance are required to promote and enforce policies that address social inequalities, particularly with regard to under-served and other vulnerable groups. It is necessary to have processes, systems and institutions that enable communication with citizens and ensure their views can be acted upon.

Other important elements of good governance include transparency<sup>40</sup> and accountability, which create trust between the government and society. Ease of access to information and modern communication tools create an interactive and collaborative environment.

Good governance and well-designed institutions can help improve transparency and complaint mechanisms by establishing freedom of information legislation, the right to petition governments, opening lobbying to scrutiny, and setting up commissions of enquiry<sup>41</sup>.

For example, participatory budgeting, like that undertaken by the Sevilla Authority in Spain or the Toronto Community Housing Corporation in Canada, provides taxpayers with a say in how public funds are spent on the services that affect them.

<sup>39</sup> United Nations E-Government Survey 2016: E-Government in Support of Sustainable Development. Chapter 2 Transparency through open government data, (United Nations, 2016)

<sup>40</sup> Transparency refers to “unfettered access by the public to timely and reliable information on decisions and performance in the public sector”, (Armstrong, 2005).

<sup>41</sup> All on board: Making inclusive growth happen, (OECD, 2015)

## ELEMENTS OF GOOD GOVERNANCE

### Accountability

At the macro level, this includes financial accountability; that is, an effective, transparent and publicly accountable system for expenditure control and cash management, and an external audit system. At the micro level, it requires that implementing agencies be held accountable for operational efficiency. Auditing systems should meet international standards and be open to public scrutiny.

### Transparency

Private sector investment decisions depend on the public knowing what the government's policies are and having confidence in the government's intentions, as well as on the information provided by the government on economic and market conditions. Transparency in decision-making in infrastructure projects, particularly in budget, regulatory and procurement processes, is also critical for effective resource use and reduced corruption and waste.

### The Rule of Law

In infrastructure development and implementation, a fair, predictable and stable legal framework is essential. Businesses and individuals need to be able to assess economic opportunities and act on them without fear of arbitrary interference or expropriation. This requires that the rules be known in advance, that they be enforced and applied consistently and fairly, that conflicts can be resolved by an independent and impartial judicial system, and that procedures for amending and repealing the rules exist and are publicly known.



### Participation

Good governance requires that civil society can participate during the formulation of infrastructure development strategies, and that directly affected communities and groups should be able to participate in the design and implementation of infrastructure programs and projects. Even when projects have a secondary impact on localities or population groups, there should be a consultation process that takes their views into account. This aspect of governance is essential in securing commitment and support for projects and enhancing the quality of their implementation.

Source: IFAD (1999), International Fund for Agricultural Development. Good Governance: An Overview.

## Relevance

Inclusive infrastructure requires close and meaningful engagement between the government and all stakeholder groups affected by, or benefiting from, a policy or project. This engagement should identify the developments likely to enhance the rights and interests of target groups, as well as those that will have a negative impact. In accordance with applicable legal and regulatory requirements, the focus should be on further strengthening the positive impacts and eliminating, mitigating or compensating any negative impacts.

### At the policy level:

- *Improving regulations and legislation.* Embedding inclusivity in governance requires changes to operations and public administration, which affect the administrative rules of a state and may require amendments to relevant regulations and legislation.
- *Establishing a political champion and coordinated approach.* Initiatives may be complex and require a coordinated and aligned approach across all government ministries and other government or quasi-government entities involved, ideally supported by strong political champions.

- *Improving transparency.* Transparency is considered good practice in governance and helps to improve accountability and increase participation. Greater transparency can be achieved by giving the public access to information, helping people understand the decision-making process and by creating avenues for the public to express their opinions and influence government decisions on matters that impact them. Robust processes are required to enforce transparency. New technologies and communication platforms may increase accessibility to information and enable vulnerable groups (e.g. people with hearing or visual disabilities) to participate.

#### At the project level:

- *Integrating policy and regulatory requirements into project implementation.* Project governance refers to the processes and systems that allow a project to achieve its intended objectives and to implement these objectives in the best interests of all stakeholders<sup>42</sup>. To integrate inclusivity in project governance, project policies should be aligned with existing policies at the corporate or national level. For example, if there is a corporate policy on affirmative action in recruitment or a national policy on including minority-owned businesses in procurement, these should cascade down and be implemented at the project level. Project-related governance structures need to align with regulatory requirements, but should also be defined at project level. Policy and regulatory aspects are further outlined under Action Area 3: Policy, Regulations and Standards.
- *Aligning stakeholder views with project strategy and objectives.* Views and opinions of communities at risk of being excluded or under-represented, whether consciously or unconsciously, should be integrated into the project's strategy and objectives. Please refer to Action Area 4: Project Planning, Development and Delivery for further detail.
- *Improving transparency.* Regular and public reporting, transparency in decision-making processes, and redress mechanisms should be applied.

<sup>42</sup> Governance rules! The principles of effective project governance, (Kelly, 2010)

#### Guidance

1. **Create a governance structure that moves away from the siloed approach of different ministries solely responsible for their sector, to an approach that encourages inter-agency cooperation and collaboration in the implementation of policy and projects<sup>43</sup>.**

For instance, in the development of a housing project, there may be several ministries involved but an overarching body would facilitate their interactions. In the case of the *U.S. Bank Stadium Case Study* and the *TransMilenio BRT Case Study* in Colombia, task forces were created to encourage inter-agency cooperation.

2. **Use well-designed institutions to help improve transparency and contestability, notably by enacting freedom of information legislation and the right to petition governments<sup>44</sup>.**

A major resource on transparency in PPP infrastructure projects is the World Bank's 2015 *Framework for Disclosure in Public-Private Partnership Projects*, which provides detailed technical guidance for systematic, proactive pre- and post-procurement disclosure of information in public-private partnership projects.

Some additional methods to increase transparency<sup>45</sup> include:

- developing and adopting specific measures to prevent, identify and tackle corrupt activities. This can be applied at the institutional and project level, and can be enshrined in law and regulations. For example, in Qatar, there is a requirement for an Anti-Corruption Declaration Form to be signed by all contractors working on government projects<sup>46</sup>;
- making the formal guidelines on the decision-making process publicly available, together with any other information that would help concerned stakeholders lodge an enquiry and make key decisions open to public scrutiny and challenge. A good example is the *U.S. Bank Stadium Case Study*, where the governance structure and procurement and employment processes, which incorporated inclusivity targets, were released to the public, who were also welcomed at many of the meetings;

<sup>43</sup> Leaving no one behind: A critical path for the first 1,000 days of the Sustainable Development Goals, (Stuart, et al., 2016)

<sup>44</sup> All on board: Making inclusive growth happen, (OECD, 2015)

<sup>45</sup> Transparency and the Performance of Outsourced Government Services, (Mulgan, 2015)

<sup>46</sup> Atkins internal expert: this is practised in Qatar.

- providing online information on government contracts above a certain investment threshold, so the public is aware of the terms and conditions under which the infrastructure has been procured; and
- developing criteria to identify which sections of the contract are confidential for commercial or intellectual property reasons and establishing arrangements allowing for an independent audit of government agency compliance, with the following considerations in mind:
  - maximising access for government auditors during the design and implementation of contracts;
  - mandating that all contractors on major government projects adopt an open-book accounting principle;
  - providing administrative monitors with access to the contractors or operators; and
  - facilitating access to information held by government agencies or private sector partners, which is relevant to the provision of a publicly-funded service.

An example of how transparency can be achieved can be found in *Box 4: Illustrative example – Transparency in Practice: The United Kingdom experience*.

### 3. Hold public officials and senior managers accountable throughout the term of their service, not only during elections.

To do so, citizens must have access to information, and be able to interact with authorities. A transparent and inclusive approach should allow budgetary choices to be made available to citizens and other stakeholders (see *Box 4: Illustrative example – Transparency in Practice: The United Kingdom experience*)<sup>47</sup>. In many countries, there are multiple mechanisms that facilitate fair and equitable access to information and provide opportunities for people to engage in the policy-making process. The following mechanisms address barriers to inclusion:

- freedom of information laws;
- policy enquiry commissions;
- high-level social partnerships between government, the private sector and community organisations; and
- referenda and two-way citizen engagement mechanisms driven by information and communication technologies<sup>48</sup>.

It is important to note that the mechanisms adopted should be relevant, accessible and provide appropriate assistance to disadvantaged groups.

### 4. Outline the structures, roles, and responsibilities of the different government entities involved in a project and map them against the different levels of governance, management structures and management roles across the project lifecycle.

This process will allow the following steps to be taken:

- assess the operational constraints in the enabling environment of an inclusive infrastructure development;
- conduct an institutional and governance assessment, and develop an institutional map to inform project planning and implementation;
- identify and assess the main institutional and governance issues in the planning, programming, structuring and marketing of infrastructure investment programs and projects, and make recommendations for enhancing the government's capacity; and
- ensure adequate data collection, specifically in regard to groups in society who are at risk of being neglected or negatively impacted by the infrastructure development<sup>49</sup>.

### 5. Decentralise powers and functions in government and encourage excluded groups to participate in governance.

Decentralisation can help to ensure public resources are properly allocated and the services that are delivered meet the needs of people living in the decentralised regions and remote locations. As part of this devolution of powers, efforts must be made to help traditionally excluded or marginalised groups take part in the governance process. One example of this is the constitutional acceptance of Panchayat in India (see *Box 3: Illustrative example - inclusive governance in India*).

<sup>47</sup> All on board: Making inclusive growth happen, (OECD, 2015)

<sup>48</sup> All on board: Making inclusive growth happen, (OECD, 2015)

<sup>49</sup> Taken and adapted from the ADB Tool Kit for Inclusive Urban Development. While the literature is specific to urban development, institutional mapping can find broader application at national or sub-national government level, (Asian Development Bank, 2017)

## 6. Sustain effective governance throughout the project lifecycle.

Ensure funding strategies and inclusive policies are implemented to safeguard the political prioritisation and inclusion of marginalised groups. There must be explicit recognition of the relationship between economic, social and environmental challenges, and an institutional structure that ensures policy is created and implemented collaboratively, not in silos<sup>50</sup>.

## 7. Establish a monitoring process to track outcomes.

An example of a potentially useful tool is the Asian Development Bank (ADB) Citizen Report Card, which assesses the quality of governance and the satisfaction of citizens regarding the delivery of public services<sup>51</sup>. The design of the data collection process should ensure that data can be disaggregated to determine whether previously under-served or other vulnerable groups are benefitting from the services. The process should also consider the language and literacy barriers of certain groups, and how mechanisms for data collection (such as field interviews) help to ensure their views are taken into account. Action Area 1: Stakeholder Identification, Engagement and Empowerment offers more details on disaggregation of data.

### BOX 3: ILLUSTRATIVE EXAMPLE - INCLUSIVE GOVERNANCE IN INDIA

#### Summary

In 1992, the 73rd and 74th amendments to the Constitution of India were passed, giving constitutional status to Panchayats (a decentralised form of government that allows each village to self-govern) and urban local bodies. It was the most significant country-wide initiative to promote inclusivity in governance and the devolution of powers. Of particular interest, with respect to inclusivity, is reserved seats for scheduled castes, scheduled tribes (scheduled castes and scheduled tribes are officially designated groups of historically disadvantaged groups in India) and women (who should have at least one-third of the seats) in the Panchayats. This allowed citizens to become more involved in the decision-making process on issues that directly affect them. There is now direct interaction between the government and its constituents, and communication is no longer limited to discussions with elected representatives or at occasional town hall meetings.

#### Panchayati Raj institutions

Prior to these amendments, only elected representatives to State legislatures and Parliament had a formal voice in the decision-making process. With the constitutional recognition of Panchayats through the 73rd amendment, inclusiveness at the grass-roots level was made possible. It devolved power to villages and various sub-districts, allowing each village to participate in local governance through an elected Panchayat. The Ministry of Panchayati Raj (system of Panchayat) reports that there are close to 2.8 million elected representatives composed of 30% women, 19% scheduled castes, and 12% scheduled tribes. In some areas, women have won as many as 58% of the seats.

In some states, the implementation of the Panchayati Raj has been successful in facilitating public welfare initiatives, such as the creation of water reservoirs, the establishment of small-scale industries, computerisation programs, and other initiatives.

*continued..*

<sup>50</sup> Leave no-one behind: infrastructure and inclusion - K4D – Knowledge, evidence and learning for development, (Raje, 2016)

<sup>51</sup> ADB Tool Kit for Inclusive Urban Development, (Asian Development Bank, 2017)

### Social audit

In 2005, social audits of Panchayati Raj Institutions were made mandatory through the National Rural Employment Guarantee Act, which enabled citizens to directly question elected representatives on a regular basis. In certain states, including Andhra Pradesh, social audits have resulted in administrative or criminal charges being filed against 7,000 officials for fraud.

### Outcomes

The constitutional recognition of Panchayati Raj Institutions enabled the wider participation of disadvantaged groups (particularly women, scheduled castes and scheduled tribes) in governance by allowing for consultation and involvement in the decision-making process at the grass-roots level. The social audits have improved the transparency and accountability of these institutions for the citizens.

Source: Transparency for Inclusive Governance: An assessment of India. (Sharma, 2012)

The data can also be disclosed on public procurement platforms for infrastructure projects (see the above-noted World Bank *Framework for Disclosure in Public-Private Partnership Projects* and the additional discussion below on open data).

- *Sharing public information*: public information must be circulated to reach a wider audience.
- *Access and simplicity*: whenever possible, simple and easy-to-understand language should be used in documents.
- *Collaboration and co-creation*: practices and policies should be designed to encourage collaboration and co-creation at all stages of the process, particularly during the project development stage for infrastructure projects<sup>52</sup>.

An open government data policy can be implemented using the following measures:

## 8. Implement an open government policy.

There are many ways to interpret the phrase 'open government', but it can be broadly defined as fostering collaboration and co-creation between government and civil society. This may be through a dedicated project website, for example, and should promote the following principles:

- *Participation*: participation can be encouraged by informing, consulting, involving and empowering citizens and social organisations. Refer to Action Area 1: Stakeholder Identification, Engagement and Empowerment for more detail on participation.
  - *Accountability*: governments must actively account for their actions and take public responsibility for their decisions.
  - *Open data*: data that relates to the use of government funds and that does not contain sensitive commercial information or intellectual property must be made available in accordance with international standards for publishing data on the internet. It should be open, complete, primary, timely, accessible, machine processable, non-discriminatory, non-proprietary and licence-free.
- create or appoint an oversight authority that will be responsible for publishing data;
  - provide guidance or other binding regulations to help with the implementation of the open government data policy;
  - incorporate public perspectives into policy implementation;
  - set appropriately ambitious timelines for the implementation of the open government data policy;
  - create processes to ensure the quality of the data to be published;
  - ensure sufficient funding is available to implement the open government data policy;
  - explore potential partnerships. For example, for infrastructure projects that involve the private sector, information may be published online by private sector partners, but it must support the government's transparency policy; and
  - mandate future reviews or potential revisions of the open government data policy<sup>53</sup>.

<sup>52</sup> What is the concept of Open Government? (Bellix, Guimaraes, & Machado, 2016)

<sup>53</sup> What is the concept of Open Government? (Bellix, Guimaraes, & Machado, 2016)

It is important to make government data available to the public, but this alone is not enough for the policy to be deemed inclusive. For that to occur, the needs of disadvantaged groups must be specifically addressed to ensure they are also able to access data through capacity building programs, the provision of tool kits and data literacy campaigns<sup>54</sup>.

**9. Measure the success of implementation by assessing the following aspects:**

- government commitment;
- policy or legal frameworks;
- institutional structures;
- responsibilities and capabilities within government;
- government data management policies and procedures;
- demand for open data;
- civic engagement and capabilities for open data;
- level of government funding provided for an open data program; and
- national technology and skills infrastructure<sup>55</sup>.

**BOX 4: ILLUSTRATIVE EXAMPLE –  
TRANSPARENCY IN PRACTICE: THE UNITED  
KINGDOM EXPERIENCE**

**The government implemented legislation mandating an open data policy, increasing transparency and positively influencing the behaviour of public officials.**

The UK has had a Freedom of Information Act for almost two decades but, in 2010, the government took its commitment to transparency a step further. For the first time, government and local authority contracts and tenders, individual items of spending by central government departments and local authorities, and local service and performance data, were all published online. The government's provision of open data is a leading example of a comprehensive approach to operational transparency.

The UK is one of the founding members of the Open Government Partnership, a multilateral initiative to secure concrete commitments from governments to promote transparency, empower citizens, fight corruption and harness new technologies to strengthen governance. The initiative was formally launched in 2011 and now has over 70 participating countries.

Support for open data increased in 2007 when the government commissioned its Power of Information Report to explore how it could improve the publication and sharing of available data. This was followed by the creation of a Power of Information Taskforce, which recommended that the government create an online repository where public information could be stored and maintained.

In 2010, the government launched *data.gov.uk*, with three main objectives – to increase transparency, improve public services, and drive economic and social growth.

The cross-government commitments covered the following:

- central and local government spending transparency, including tenders, itemised spending and contracts; and

*continued..*

<sup>54</sup> What is the concept of Open Government? (Bellix, Guimaraes, & Machado, 2016)

<sup>55</sup> What is the concept of Open Government? (Bellix, Guimaraes, & Machado, 2016)



- specific to infrastructure projects falling under the UK Private Finance Initiative (PFI) program, updated data and project trackers published on [data.gov.uk](https://data.gov.uk) periodically, as well as on the government's main website, [gov.uk](https://gov.uk). The government also publishes the equity internal rate of return (IRR) for each project on both websites.

While the government has not been able to track and quantify the benefits of transparency because there are no monitoring measures, there is anecdotal evidence that the publication of data is having a positive effect on the behaviour and culture of public officials, making them more conscientious in their use of resources.

Sources:

Stott, A. (2012). Queensland Office of the Information Commissioner and the Australia and New Zealand School of Government. Transparency in Practice: The United Kingdom Experience, Occasional Paper No. 4. Retrieved from [https://www.oic.qld.gov.au/\\_data/assets/pdf\\_file/0017/7640/100\\_4-Stott-Transparency-in-Practice\\_15.pdf](https://www.oic.qld.gov.au/_data/assets/pdf_file/0017/7640/100_4-Stott-Transparency-in-Practice_15.pdf)

<https://data.gov.uk/>

[www.opengovpartnership.org](http://www.opengovpartnership.org)

[www.gov.uk](https://www.gov.uk)

## CAPACITY BUILDING

### Overview

Capacity building in this Action Area refers to the capacity of two groups:

1. the government institutions and private enterprises that are involved in infrastructure development and implementation. The aim is to enhance their ability to integrate inclusivity elements in the project lifecycle; and
2. the members of under-served and vulnerable groups. The focus is on improving their knowledge and skills to allow them to effectively participate in infrastructure projects, either in the decision-making process, in the supply chain or in the labour market.

For the first group, skills related to infrastructure development and implementation could include training topics on project management, social and gender safeguards, financial analysis, business case development and contract management.

A primary challenge is in ensuring the sustainability of capacity building initiatives within the government, which is responsible for engaging public-sector experts and industry leaders to provide training to its staff and to affected communities. It is important to ensure that capacity building takes place in a structured and sustainable manner, so that knowledge is retained at the institutional level, rather than just at the individual level, retaining capacity in spite of the turnover of government officials.

For the second group, capacity building relates more to the provision of additional information on infrastructure projects, to the impact it will have on these groups and their avenues for participation, and to improving the employability of these groups.

Capacity building, when implemented strategically and sustained over time, is a powerful tool to enhance the effectiveness of the government to understand the needs and concerns of vulnerable and other under-served groups, including providing them with mechanisms that empower them to raise their concerns.

Capacity building can also help empower vulnerable groups by providing them with relevant knowledge, skills and information to better access wider benefits from infrastructure, such as access to markets, jobs and services. This strengthens trust and creates a commitment between the government and its stakeholders. The end result is a community that participates in decision-making processes and opportunities, and a government that is sensitive to, and able to, address their needs.

### Relevance

Capacity building activities should be available to all stakeholders to achieve maximum outreach, increase inclusivity awareness and address skill gaps.

#### At the policy level:

- *Enforcing capacity building through policy.* Capacity building requirements related to inclusivity can be integrated into existing or new policies.

- *Increasing employment opportunities through government-mandated capacity building.* Training for vulnerable groups lacking the skills required to access employment opportunities can be required by the government for the construction and maintenance of public infrastructure.
- *Changing preconceived notions through education.* In developing a capacity building policy, there should be a focus on changing attitudes or biases, whether conscious or unconscious, and ensuring staff members understand and respond to the needs of disadvantaged communities.
- *Fostering diversity at the organisational level.* Taking this a step further, there should be attempts to recruit qualified candidates from minorities or other disadvantaged groups to foster diversity and inclusion within the structure, values and culture of an organisation.

#### At the project level:

- *Providing inclusivity training.* All stakeholders involved in a project (throughout project development, stakeholder engagement and implementation) should be offered training to help them understand what inclusivity is and how best practices can be implemented.
- *Integrating the needs of vulnerable groups into a project through recruitment.* An effort should also be made to recruit candidates from disadvantaged communities into project teams, so their needs can be addressed in project plans and programs. For example, training offered to young people, either by industry or government, is often insufficient, of poor quality and poorly coordinated, which often means they find it hard to obtain employment.

A good example of building capacity and job skills is given in the Cairo Metro Case Study in Egypt, where construction work suppliers were contractually required to provide proper knowledge sharing to the workers. The knowledge sharing program, supplemented by necessary training, facilitates the transfer of knowledge and the upskilling of workers.

## Guidance

1. **Use public campaigns to raise awareness of the benefits of inclusion at the institutional, government, and project level, and the benefits of involving stakeholders and civil society organisations<sup>56</sup>.**

Positive action can be applied during the recruitment process to increase the participation of underrepresented groups in the labour market. While the benefits extend beyond the target minority groups to include all employees, it should be noted that positive action is not a universal remedy and must be tailored to the specific needs and circumstances of each case<sup>57</sup>.

2. **Take a strategic, long-term perspective with detailed planning for effective capacity building programs.**

Identify target groups (government officials, private sector employees or members of under-served and vulnerable groups) and help them build the skills they need (e.g. planning, construction, administration) sufficiently in advance to deliver against project objectives over an extended period. This requires the accurate identification of the target stakeholders; their level of awareness and competencies; and the skills that need to be developed, taking into account the advance time required for skill development<sup>58</sup>. Also, strong political figures to champion social inclusion objectives should be identified.

3. **Target a wide range of stakeholder groups, including government, private companies, communities (individuals, disadvantaged groups, or community organisations, such as cooperatives, women's groups, farmers' groups etc.), non-governmental organisations and local governments.**

Some of the issues faced by these groups include governance issues, lack of resources, insufficient and/or inefficient management capacity, and lack of technical skills<sup>59</sup>.

4. **Create incentives by providing operating grants.**

Provide small grants to train and upskill core staff members at key agencies, especially when capacity building activities include members of disadvantaged

<sup>56</sup> Youth Scoping Study: Boosting Youth Employment through Infrastructure Programming, (Haegeman, 2017)

<sup>57</sup> The Benefits of Positive Action: Thematic Discussion Paper, (Strasser, Gächter, & Dzhengozova, 2008)

<sup>58</sup> Strategic Community Investment: A Good Practice Handbook for Companies Doing Business in Emerging Markets, Chapter 5: Investment in Capacity Building, (International Finance Corporation, 2010)

<sup>59</sup> Strategic Community Investment: A Good Practice Handbook for Companies Doing Business in Emerging Markets, Chapter 5: Investment in Capacity Building, (International Finance Corporation, 2010)

groups. An example of such a scale-up and incentivisation program is South Africa's Black Economic Empowerment Policy, where employment and education incentives are offered to South Africans who have previously suffered from discrimination.

### 5. Provide direct assistance to organisations.

Transfer experts (on a temporary basis) into organisations to provide expertise or direct technical assistance<sup>60</sup> in areas such as, for example, financial modelling, engineering solutions, business case, gender equality, and accessible design.

### 6. Make sure behaviour aspects are considered as part of the capacity building exercise.

Capacity building should focus on improving attitudes and eliminating or mitigating biases, as well as boosting functional and technical capacity or skills. It should provide equal focus on the following capacities:

- *Functional capacities:* the leadership and management capacities to formulate, implement and review strategies, programs and projects relevant to various sectors;
- *Technical capacities:* capacities associated with specific sectors or areas of expertise; and
- *Behavioural capacities:* cultural shifts and changes in attitude<sup>61</sup>.

A relevant example is the training provided for employees in the *TransMilenio BRT Case Study* in Colombia. Staff members in customer-facing roles were asked to consider the feelings of passengers with disabilities and were offered guidance on the appropriate language and behaviours that should be used to create an inclusive environment. This capacity-building activity helped to address some of the challenges faced by people using the public transport system.

### 7. Apply the following measures to build key functional capacities, focusing on members of disadvantaged groups:

- *Engage communities:* this involves building the capacity to involve multiple stakeholders in activities by building trust, listening, helping to give voice to the silent majority, and working towards putting community members "in the driver's seat";

- *Assess a situation and define a vision and mandate:* skills in analysis, defining a vision, assets and opportunity assessment, goal setting and project design should be improved or built upon as part of this capacity area. Mandates and vision statements should concisely explain the project's goals and help stakeholders to focus on its value and implementation;
- *Formulate policies and strategies:* skills in this area include strategic thinking, strategy mapping and development, social network mapping, prioritisation, operational planning, feasibility analysis and risk analysis;
- *Budget, manage and implement:* skills in this area include forecasting, participating, budgeting, cost analysis, funds allocation, reporting, financial oversight and bookkeeping; and
- *Monitor and evaluate:* skills in this area include setting measurable goals and objectives, defining outcomes, developing indicators, formulating and asking appropriate questions, gathering and analysing data, using tools for conducting participatory evaluations, and creating a positive learning environment<sup>62</sup>.

### 8. Support a capacity building strategy through the following interventions:

- *Networking:* connecting communities, organisations and individuals through formal and informal affiliations to expand service delivery, improve information sharing, set performance standards, and/or empower groups.
- *New entity creation:* this can involve the creation of new groups, co-operatives, civil society organisations, borrower groups, etc. that can advocate for the needs of under-served and vulnerable groups.
- *Training:* designing and delivering curriculum to support the transfer of critical skills.
- *Partnering:* brokering new relationships and joint ventures between key actors to meet capacity building objectives<sup>63</sup>.
- *Leadership development:* serving as a role model or counsellor to emerging community leaders to encourage participation of under-served and vulnerable groups in self-governance.
- *Organisational development:* providing support to local organisations to enhance performance.

<sup>60</sup> Strategic Community Investment: A Good Practice Handbook for Companies Doing Business in Emerging Markets, Chapter 5: Investment in Capacity Building, (International Finance Corporation, 2010)

<sup>61</sup> Strategic Community Investment: A Good Practice Handbook for Companies Doing Business in Emerging Markets, Chapter 5: Investment in Capacity Building, (International Finance Corporation, 2010)

<sup>62</sup> Strategic Community Investment: A Good Practice Handbook for Companies Doing Business in Emerging Markets, Chapter 5: Investment in Capacity Building, (International Finance Corporation, 2010)

<sup>63</sup> Strategic Community Investment: A Good Practice Handbook for Companies Doing Business in Emerging Markets, Chapter 5: Investment in Capacity Building, (International Finance Corporation, 2010)

- *Exchanges and visits*: sponsoring exchanges to promote learning and the sharing of ideas.
- *Coaching and mentoring*: sharing time and expertise to inspire and empower target groups and promote active involvement in infrastructure development and implementation. An example of this type of intervention is the capacity building program for rural women in renewable energy (see *Box 5: Illustrative example – International Solar Training Program, Barefoot College, Worldwide*).
- *Social marketing*: applying principles of commercial marketing to raise awareness and influence behavioural change.
- *Development of local service providers*: strengthening the quantity and quality of local service providers to stimulate the local economy and labour market.



Figure 7. Interventions for capacity building

## Examples

The importance of governance and capacity building interventions is highlighted in a number of the Case Studies (see *Section 4*).

In addition, two examples of how capacity building can help to address gender equity issues are shown below in *Box 5: Illustrative example – International Solar Training Program, Barefoot College, Worldwide* and in *Box 6: Illustrative example – Access to technology leading to women's empowerment, Kenya*.

### BOX 5: ILLUSTRATIVE EXAMPLE – INTERNATIONAL SOLAR TRAINING PROGRAM, BAREFOOT COLLEGE, WORLDWIDE

**A global training program educating and empowering disadvantaged women to become solar energy engineers.**

The International Solar Training Program began in 2008. It is supported by the Indian Technical and Economic Cooperation (ITEC) – a division of the Ministry of External Affairs in India. The six-month program, which is conducted twice a year, is a collaborative effort of Barefoot College, ITEC and the respective governments and NGOs (ground partners) of the participating countries.

Barefoot College builds capacity at the village level by training rural, illiterate and semi-literate women from Asia, Africa, America and the Pacific Islands to build, install, maintain and repair solar energy systems in off-grid villages. Additional support is also given in wider legal, financial, IT, health and microenterprise training. During the six-month training program at the Barefoot College campus in India, the women build solar energy systems (such as LED lamps, charge controllers, home lighting systems and solar lanterns). The equipment is then shipped to their villages where it is used in their houses and communities. They are also taught how to set up a rural electronic workshop in their villages to store components and equipment needed for repair and maintenance of the solar units. Through its program, Barefoot College has trained women from 77 countries as solar engineers (as of 2018).

Sources:

International Solar Training Program (Barefoot College, 2018)

Infrastructure: A game changer for women's economic empowerment (Biswas and Mohun, 2016)

**BOX 6: ILLUSTRATIVE EXAMPLE – ACCESS TO TECHNOLOGY LEADING TO WOMEN’S EMPOWERMENT, KENYA**

M-Pesa, which was developed in 2007, is an electronic money transfer product that enables users to store value on their mobile phones. It is an example of a project that creates business opportunities, increases income possibilities and empowers people.

There are two types of users of the M-Pesa product: urban senders, who are mostly men, and rural recipients, who are mostly women:

1. Urban users: urban users adopted M-Pesa because it was cheaper, easier to access, and safer than other money transfer options;
2. Rural users: through using M-Pesa, women have been able to receive and manage the household budget independently, without having to seek permission from their husbands. M-Pesa has reportedly increased the financial autonomy of household members with lower bargaining power.

While the project does not intentionally target women as an under-served group, they benefit from training exercises that familiarise users with the use of phones and electronic money transfer services. This has improved social and financial inclusion.

The product helps people acquire new skills, find ways to express and fulfil specific needs, and gives them the chance to pursue entrepreneurial activities.

Source: M-Pesa - a success story of digital financial inclusion (Ndung'u, 2017)



### ACTION AREA 3: POLICY, REGULATION AND STANDARDS

#### Key messages

- Anti-discrimination legislation exists at international and national levels to promote an inclusive approach to the planning and implementation of infrastructure.
- UN Human Rights legislation and the UN SDGs also promote universal access to basic services. Achieving universal access, by definition, requires an inclusive approach.
- Legislation, by itself, does not deliver inclusive infrastructure outcomes – it must be implemented through supporting activities and consistently enforced.
- Sector policies that explicitly incorporate the inclusion of disadvantaged groups help to provide a framework and accountability for implementation at the project level.
- Standards are a powerful instrument when they are implemented in national legislation with specific design codes, guidelines and enforcement mechanisms.
- Implementation of Universal Design standards provides a strong mandate and creates uniformity in an organisation's approach to inclusivity, particularly for people with disabilities.

Two key practices have been identified under this Action Area for which further detail and guidance is given in the sections below:

Inclusive Policy Development and Implementation

Inclusive Standards and Universal Design

## DEFINITIONS AND CONTEXT

### Definitions

**Policy** refers to a set of principles, guidance or documents adopted by a government.

**Regulations** pertain to rules or directives of a government, which may be contained in law or some other form of administrative issuance that has been approved by the relevant authorised government body.

**Standards** refer to defined or established (national or international) norms or reference models against which an evaluation or a design can be undertaken, and best practice benchmarked<sup>64</sup>. Standards are usually written in a formal document, which establishes uniform criteria, methods, processes and practices, including of an engineering or technical nature<sup>65</sup>.

In the context of inclusive infrastructure, the relevant policies, regulations and standards are those which integrate and promote inclusivity in planning, developing, designing and implementing infrastructure projects.

### Context

At the international level, goals and targets promoting greater inclusion have been widely adopted, such as the UN Sustainable Development Goals (SDGs), which, amongst other matters, set out targets in relation to universal and equitable access to drinking water (SDG 6); affordable energy (SDG 7); and safe, affordable, accessible and sustainable transport systems (SDG 11), as well as gender equality and the empowerment of women (SDG 5). In addition, there are several other documents that promote greater inclusion of women, children, the elderly and other under-served and vulnerable groups (see *Box 7: International documents promoting inclusivity principles*).

While the importance of national-level inclusive policies, regulations and standards is widely accepted, implementation may be limited, especially in

developing countries<sup>66</sup>. In developed countries, regulations that relate to inclusivity and anti-discrimination, as well as social welfare laws, are likely to be more established. For example, in the *U.S. Bank Stadium Case Study*, participation of women and minority-owned businesses in the improvement of the stadium was specifically included in state legislation.

The integration of inclusivity at the policy level can guide the overall direction of government infrastructure programs, regulations and standards. Their overall effectiveness will depend on rule of law and the government's will and capacity to enforce non-compliance. Policy interventions are more effective when operationalised through supporting activities. The adoption of regulations or standards that are specific and enforceable, such as having Universal Design principles, is an effective way to increase inclusivity in infrastructure.

Universal Design is a set of principles for the design of infrastructure assets, buildings, environments, etc. to make them accessible to all people, regardless of age, disability or other factors. This ensures infrastructure can be used by as many people as possible, regardless of their age or ability. For instance, the lack of access to, and ability to use, transport infrastructure can have a significant impact, as transport "can either facilitate social inclusion or exacerbate social exclusion"<sup>67</sup>.

While the concept of Universal Design emerged primarily with people with disabilities in mind, the concept behind Universal Design should be to help everyone, including the elderly, pregnant women, children and people with a temporary illness or injury. Thus, implementing Universal Design should result in benefits such as increased accessibility, freedom to move, and access to employment opportunities and social activities<sup>68</sup>. Although internationally recognised benchmarks or standards for certain activities related to infrastructure exist, such as the ISO standards on accessibility requirements, the application of these standards requires specialist skills to understand, implement and enforce. Establishing standards and using regulations to ensure compliance is a very powerful tool for the development of inclusivity in infrastructure.

<sup>64</sup> Adapted definition from Oxford Dictionary: Policy: "a course or principle of action adopted or proposed by an organisation or individual", Regulation: "a rule or directive made and maintained by an authority", and Standard: "Something used as a measure, norm, or model in comparative evaluations".

<sup>65</sup> For example, the International Organization for Standardization published 'ISO 21542 - Building construction - Accessibility and usability of the built environment', (International Organization for Standardization, 2011)

<sup>66</sup> Our study shows that complementary concepts such as sustainability, environmental and social assessments are much more mature and integrated in the policy dialogue. Furthermore, out of all the parameters and dimensions of "inclusiveness", gender-related approaches are the most prominent in the literature.

<sup>67</sup> Best Practice & Case Studies, Community Transport Organisation, (Tramby, 2013)

<sup>68</sup> Accessibility Design Guide: Universal design principles for Australia's aid program, AusAID, (Australian Government, 2014)

**BOX 7: INTERNATIONAL DOCUMENTS PROMOTING INCLUSIVITY PRINCIPLES**

**International Covenant on Economic, Social and Cultural Rights, GA Resolution 2200A (XXI), December 1966: Article 11(1)**

"The States Parties to the present Covenant recognize the right of everyone to an adequate standard of living for himself and his family, including adequate food, clothing and housing, and to the continuous improvement of living conditions."

**International Labour Organization Convention concerning Discrimination in Respect of Employment and Occupation, 1958**

C100 - Equal Remuneration Convention, 1951; and  
C087 - Freedom of Association and Protection of the Right to Organize Convention, 1948

**United Nations' Principles for Older Persons, GA Resolution 46/91, 1991: Principle 1**

"Older persons should have access to adequate food, water, shelter, clothing and health care through the provision of income, family and community support and self-help."

**United Nations' Convention on the Rights of the Child, GA Resolution 44/25, 1989: Article 27(1)**

"States Parties recognize the right of every child to a standard of living adequate for the child's physical, mental, spiritual, moral and social development."

**United Nations' Convention on the Rights of the Child, GA Resolution 44/25, 1989: Article 27(3)**

"States Parties, in accordance with national conditions and within their means, shall take appropriate measures to assist parents and others responsible for the child to implement this right and shall in case of need provide material assistance and support programs, particularly with regard to nutrition, clothing and housing."

**United Nations' Convention on the Rights of Persons with Disabilities (CRPD), 2018: Article 9 - Accessibility**

"States Parties shall take appropriate measures to ensure to persons with disabilities access, on an equal basis with others, to the physical environment, to transportation, to information and communications, including information and communications technologies and systems, and to other facilities and services open or provided to the public, both in urban and in rural areas."

**United Nations' Declaration on the Rights of Indigenous Peoples**

"States shall take effective measures and, where appropriate, special measures to ensure continuing improvement of their economic and social conditions. Particular attention shall be paid to the rights and special needs of indigenous elders, women, youth, children and persons with disabilities."



## ANALYSIS AND GUIDANCE ON PRACTICES

### INCLUSIVE POLICY DEVELOPMENT AND IMPLEMENTATION

#### Overview

Policy interventions have been identified as effective instruments to initiate and implement socioeconomic change. The process of developing and implementing a policy is fundamental to reducing social inequality, discrimination, poverty, and unequal access to infrastructure. The selection of the appropriate policy intervention is equally important.

To effectively enforce policies, it is important that they are enacted through regulation or some other binding administrative issuance.

International references and conventions related to inclusivity may or may not be integrated at national levels. At the national level, dedicated policies that deal with inclusivity related to infrastructure are emerging, but some aspects may also be addressed through amendments to existing inclusive laws.

For instance, in Bolivia, the development of an efficient, sustainable and inclusive cable car system to resolve the transport issues in La Paz and El Alto, which was an initiative driven by the President himself, centred on a philosophy that considered marginalised groups (such as people with disabilities and low-income residents who could not afford a private car) (see *Mi Teleférico Case Study*). This was developed under a broad policy titled “Better Living” (*Vivir Mejor* in Spanish), which promoted sustainable development for all.

Inclusivity should not only be reflected in the actual policies, regulations and standards, but also in the process by which they are developed. The involvement of the groups targeted for inclusion is key to addressing their concerns and in crafting truly inclusive policies and regulations. This means the groups must have proper representation in the development process to ensure they are included. Research indicates that the under-representation of women in legislative and executive positions can adversely impact the fairness and inclusiveness of public policies<sup>69</sup>.

An inclusive policy process must be well-informed and reflect the public interest. As such, it should be inclusive across the policy cycle, which requires effective and representative citizen participation, as well as mechanisms to curb the undue influence of money and power. Increasingly, governments are partnering with civil society in the design, implementation and evaluation of public policies. For example, in the São Francisco water supply project in Brazil, key stakeholders were engaged in service planning and delivery. The involvement of the community is seen as a way to increase inclusiveness and to address service failures and improve policy outcomes<sup>70</sup>.

#### Relevance

Policy-makers and government officials should drive a policy and planning environment that seeks to address inclusivity.

#### At the policy level:

- *Enforcing inclusivity through policies, regulations and standards.* The establishment of a dedicated inclusivity policy can be developed over time into more detailed regulations and standards in infrastructure.
- *Building upon current policy.* Existing policies or regulations (such as social welfare law or anti-discrimination law) can be strengthened or broadened to promote inclusivity.
- *Integrating inclusivity into the policy process.* Greater benefits can be achieved if inclusivity practices are integrated into the policy development and implementation process. This is viewed as complementary to practices outlined under Action Area 2: Governance and Capacity Building.
- *Considering broader obstacles to achieving inclusivity.* Wider barriers to the inclusion of disadvantaged groups should be considered when developing and implementing policy.

#### At the project level:

- *Applying policies to a specific project.* Inclusive policies may need to be interpreted in greater detail in respect to specific projects. Policies may only outline broad principles and guidance. More detail on the application of policies at the project level can be found in Action Area 4: Project Planning, Development and Delivery.
- *Learning from the development of policies in the past.* Ensure policies are applicable and enforceable by assessing existing data on prior policies and lessons learned.

<sup>69</sup> All on board: Making inclusive growth happen, (OECD, 2015)

<sup>70</sup> All on board: Making inclusive growth happen, (OECD, 2015)

## Guidance

### 1. Consider implementing policy, regulation and standards that directly address inclusivity in infrastructure.

An example of promoting greater inclusivity in major infrastructure is the initiative taken by the Government of Canada, whereby Canadian provinces that receive federal funding for infrastructure projects are required to implement inclusive employment and economic benefit measures in respect of those projects (see *Box 8: Illustrative example – the Government of Canada encourages provinces to create more inclusive infrastructure*). Under the Investing in Canada Plan, a “Community Employment Benefits” program seeks to encourage project planners and communities across the country to use their infrastructure projects to support diversification in recruitment, training and procurement practices<sup>71</sup>. It is in its early stages, but it shows how greater inclusivity can be promoted in major infrastructure projects at the national level, covering public transport, trade and transportation, green and social infrastructure, as well as infrastructure for rural and northern communities.

### BOX 8: ILLUSTRATIVE EXAMPLE – THE GOVERNMENT OF CANADA ENCOURAGES PROVINCES TO CREATE MORE INCLUSIVE INFRASTRUCTURE

“Our government’s investments in infrastructure are helping to build stronger, more inclusive communities across the country while creating well-paying jobs for the middle class and those working hard to join it. Today’s announcement will help ensure that more Canadians, including those who have not traditionally benefitted from the jobs created by infrastructure investments, can access employment opportunities that help them reach their full potential.”

– *The Honourable Amarjeet Sohi, Minister of Infrastructure and Communities*

#### Objective

On 22 June 2018, the Government of Canada officially launched the Community Employment Benefits initiative. As part of the Investing in Canada Plan - a public infrastructure investment program of USD 137 billion (CDN 180 billion) over 12 years - recipients of federal funding for new major public infrastructure projects will be asked to pursue targeted efforts to contribute to employment opportunities and to economic benefits for the wider community.

#### Implementation

The initiative applies to all projects funded under the Investing in Canada Infrastructure Plan negotiated between the national and provincial governments. At the time of submission of a project proposal to Infrastructure Canada to review project eligibility requirements, provinces and territories must indicate whether the project will be participating in the Community Employment Benefits initiative. If a province or territory indicates that the project will be participating in the initiative, then a specific target will be developed by the province or territories to guide their progress towards ensuring benefits will be achieved for at least three of the federal target groups. The identified target groups are: apprentices; Indigenous peoples; women; persons with disabilities; veterans; youth; recent immigrants; and small-sized, medium-sized, and social enterprises. Considering the provincial context and circumstances, provinces and territories will be able to refine these project-level targets during the funding approval process.

*continued..*

<sup>71</sup> Community Employment Benefits – General Guidance, Infrastructure Canada, (Canadian Government, 2018)

Provinces and territories may also, on a case-by-case basis, decide not to participate in the initiative, in which case a rationale of non-participation, determined by the province or territory, must be provided, which is also made public.

### Expected outcome

In establishing targets for each participating project, provinces and territories have the flexibility to determine the appropriate targets in the context of that project, considering various factors, such as complementarity with existing local and regional employment initiatives or local labour market dynamics.

The initiative ensures that when building new infrastructure projects, proponents take into consideration the social and economic impact their project will have on the community and how they can encourage inclusive participation.

Expected benefits include better integration and greater economic and social benefits for the targeted groups, as well as the wider community.

#### Sources:

Community Employment Benefits – General Guidance, 2018, Infrastructure Canada

Newswire Article, The Government of Canada encourages community employment benefits through infrastructure projects, 22 June 2018

Investing in Canada Plan <http://www.infrastructure.gc.ca/site/alt-format/pdf/plan/icp-pic/IC-InvestingInCanadaPlan-ENG.pdf> and project Map: <http://www.infrastructure.gc.ca/gmap-gcarte/index-eng.html>

## 2. Involve all relevant government stakeholders in the development of inclusive policy.

Policy interventions need to be strategic and involve multiple levels of government, the relevant ministries, and other institutions to ensure efforts and resources are coordinated and aligned. The support and participation of key government agencies is important, considering the potential long-term effects of the intervention on the goal of achieving inclusivity in infrastructure development.

Processes to involve the relevant government stakeholders, at both national and sub-national levels, should be interactive and iterative, and key activities will include seminars and workshops in the country and, where relevant, on a regional basis. In many countries, however, there is limited capacity to undertake this type of policy development<sup>72</sup>.

### 3. Conduct a comprehensive assessment of the needs of the vulnerable and under-served groups when inclusive strategies and policies are being developed, using the following criteria:

- Who is the target group and why?
- What policies are needed to support more rapid growth and inclusion?
- What are the major obstacles to the target group's inclusion and participation in more rapid growth?
- How can governance arrangements be made more effective for the target group?
- How can broad-based participation in dialogue and decision-making be enabled?
- Are key sectoral policies and programs working to be more inclusive?
- Can progress be measured, including the impact of policies and programs on inclusivity?<sup>73</sup>

### 4. Use public stakeholder engagement to strengthen and legitimise policies which, in turn, increases people's ownership and overall trust in government.

Achieving inclusive policy outcomes depends on whether policies reflect and integrate the perspectives of diverse stakeholders. When public decision-makers closely represent the societies they serve, they enjoy greater public trust and bring attention to important socioeconomic issues<sup>74</sup>. This can be achieved through creating opportunities for citizens to participate in and influence policy decisions by providing access to information and promoting an open government policy to strengthen the perception of legitimacy in the process.

<sup>72</sup> A sourcebook for Poverty Reduction Strategies : Core techniques and cross-cutting issues, (Klugman, et al., 2002)

<sup>73</sup> A sourcebook for Poverty Reduction Strategies : Core techniques and cross-cutting issues, (Klugman, et al., 2002)

<sup>74</sup> "Political and economic disparities tend to reinforce each other. Across the OECD, electoral turnouts are falling, and socio-economic disparities exist: adults with a tertiary education degree have a general election turnout 12% higher than those with secondary education or less, and older adults are more likely to vote than younger citizens. For inclusive growth to work well, appropriate institutions are needed, and citizens must feel that they can trust them." All on board: Making inclusive growth happen, (OECD, 2015)

Also, the ability of civil society to hold governments accountable contributes to increased trust<sup>75</sup>. Several considerations have been highlighted in the available literature on this subject:

- Assessment of the status of participation, including the level of representation and accountability of governance structures.
- Dissemination of information on inclusive policy options and goals to facilitate participation.
- Seeking involvement in strategy design at the national and local levels, and consulting civil society and the private sector.
- Analysing feedback on program implementation and budget execution.

Stakeholder engagement is detailed further in Action Area 1: Stakeholder Identification, Engagement and Empowerment.

#### 5. Select the right policy instrument to implement the inclusivity strategy.

The term 'policy instrument' refers to the method by which policy is implemented in practice. Policy instruments can range from a broad administrative guidance note to a more specific and enforceable regulation that carries consequences for non-compliance.

#### 6. Utilise existing bodies of international benchmarks, as well as existing national policies.

Every new policy created to support inclusivity should consider national and international benchmarks, including the existing coverage of aspects of inclusivity at the national policy level, and international conventions and development objectives relevant to inclusivity.

#### 7. Assess the content and purpose of existing policies and regulations that may be able to be built upon to specifically address elements of inclusivity.

For instance, the UK Equality Act 2010 legally protects people from discrimination in the workplace and in wider society, with dedicated chapters on advancements in the transport sector<sup>76</sup>. Having a strong policy that broadly seeks to reduce poverty may also be comparable to a dedicated inclusive infrastructure policy in many ways.

By assessing existing policies and regulations, gaps can be identified, and an assessment made as to whether they should be amended, or new policies and regulations formulated.

#### 8. Consider adapting sector-specific regulation to new sectors.

For instance, Kenya's Water Act 2016 recognises water access as a basic human right and specifies provisions to enhance access in remote and low-income areas. The same applies for the energy sector, where the Energy Act 2006 of Kenya establishes the Rural Electricity Authority's responsibility to implement the Last Mile Connectivity Program with a mandate to ensure universal electricity access by 2020 (see the *Kenya Water Sector Trust Fund Case Study* and *Last Mile Connectivity Program Case Study* in Section 4).

#### 9. Consider sector-specific challenges when developing inclusivity policy objectives.

As an example of a sector-specific policy approach, several principles have been identified as being relevant to improving inclusivity in the transport sector:

- **Availability:** The public transport network should be within easy reach of people's homes and take them to and from the places they want to go at times and frequencies that correspond to patterns of social and working life. People also need to be kept informed of the services that are available.
- **Accessibility:** Vehicles, stops and interchanges, and connected walking paths, should be designed in such a way that, as far as possible, everyone is able to use them without difficulty.
- **Affordability:** People should not be 'priced out' of using public transport because of high fares and should be able to easily find the right ticket for them.
- **Acceptability:** People should feel that public transport is equipped to meet their needs, as well as being comfortable, safe and convenient<sup>77</sup>.

<sup>75</sup> All on board: Making inclusive growth happen, (OECD, 2015)

<sup>76</sup> Equality Act 2010 – UK Government, (UK Government, 2010)

<sup>77</sup> Best Practice & Case Studies, Community Transport Organisation, (Tramby, 2013)

## 10. Consider utilising existing development bank and international organisation inclusivity frameworks.

Inclusivity is increasingly important to multilateral development banks and other international organisations. Many have implemented their own inclusivity frameworks, such as the World Bank, the Inter-American Development Bank (IADB), the Asian Development Bank (ADB),

the European Investment Bank (EIB) and the European Bank of Reconstruction and Development (EBRD). An example highlighted below is the EBRD's Economic Inclusion Strategy (see *Box 9: Illustrative example – EBRD's Economic Inclusion Strategy and Inclusion Policy Engagement*).

### BOX 9: ILLUSTRATIVE EXAMPLE – EBRD'S ECONOMIC INCLUSION STRATEGY AND INCLUSION POLICY ENGAGEMENT

#### Inclusion strategy

Economic inclusion and inequality have become the defining political, social and economic issues shaping the EBRD region<sup>78</sup> today. The Economic Inclusion Strategy (EIS) is based on the concept of equality of opportunity and focuses on groups that experience disproportionate barriers to economic opportunity due to circumstances outside of their control – such as their gender, place of birth or socioeconomic background – which, in turn, influences their transition from education into employment. In this context, the primary target groups of the EIS are women, young labour market entrants and populations in disadvantaged (urban or rural) regions within a country, with an anticipated gradual expansion of target groups to include the ageing workforce, people with disabilities, refugees and others.

The EIS is integrated in the overall strategic and project cycles at country level (for instance through diagnostic studies) or at project and policy level with EBRD's forward-looking transition impact assessment system.

There are three strategic themes:

1. access to employment and skills;
2. entrepreneurship and access to finance; and
3. access to services that enhance economic opportunities (such as water, power, transport or infrastructure).

The focus is on the systemic impact of benefits to materialise in the wider sector or market through scale and replicability. The application is across the EBRD's investments, in all sectors and regions.

<sup>78</sup> The EBRD regions include countries in the regions of Europe, Central Asia and the Mediterranean, (European Bank for Reconstruction and Development, 2018)

Efforts can be complemented through technical assistance, bringing in the relevant technical expertise and capacity building at client and policy levels.

#### Inclusion policy engagement

The EBRD's inclusion policy dialogue leverages its strong private sector engagement to achieve broader systemic impact at national, sectoral and regional levels by addressing structural, regulatory and other policy challenges to foster equitable access to economic opportunity. Inclusion Policy Engagement Programs integrate the EBRD's experience in the following selected areas:

- support the reduction and elimination of regulatory barriers to the access to all types of occupations for target groups;
- introduce inclusive public procurement policies to encourage private sector contractors to offer work-based learning opportunities; and
- further explore opportunities to:
  - i. introduce Women in Business policy engagement to address regulatory barriers to the access of finance and entrepreneurship;
  - ii. identify policy recommendations in relation to new target groups (ageing, disability and others), in line with country strategies; and
  - iii. establish synergies between the EBRD's Investment Climate and Governance Initiative and inclusive policy engagement.

Every country, in line with the EBRD's strategic priorities, benefits through tailored inclusion policy objectives and priorities.

Source: EBRD Economic Inclusion Strategy

## 11. Consider inclusivity policies not just during design and construction, but also during the operational phases of projects.

For example, the Department for Transportation in the UK has an internal guide to policies and practices to make rail accessible. It ensures all rail companies try to accommodate passengers with disabilities. This includes issues such as: the operator's strategy, management arrangements, monitoring and evaluation, access improvements, working with others, staff training, emergency procedures, communications strategy and car parking.

### INCLUSIVE STANDARDS AND UNIVERSAL DESIGN

#### Overview

Standards are a powerful instrument when they are implemented in national legislation with specific design codes, guidelines and enforcement mechanisms. They provide the necessary terms of references that ensure accessibility for all to physical infrastructure and associated services. Standards should be enforced at a national level alongside a robust monitoring and supervisory mechanism.

Some countries have implemented national certification systems and standards that cover certain aspects of gender equality, inclusion of older people and accessibility for people with disabilities. However, there is no global inclusivity standard that can be applied to address all the physical, behavioural and attitudinal barriers that these vulnerable groups routinely face. These barriers often prevent them from fully exercising their right to use and derive more positive outcomes from infrastructure.

Physical barriers are elements in the design of infrastructure that block access, such as staircases, doorways, layouts and the dimension of halls and sidewalks. They can be addressed with Universal Design standards. However, other behavioural and attitudinal barriers require the transformation of social norms to address the discrimination, prejudice, and unfair treatment these vulnerable groups can face every day when they are using and accessing infrastructure facilities. These types of barriers cannot be addressed with standards, but there are universal guidelines that can be adopted to lower them. A barrier-free environment is key to social inclusion in infrastructure.

The *Case Study of the TransMilenio BRT system* in Colombia illustrates the barriers that vulnerable groups, such as women, people with disabilities, homeless and informal vendors, face when accessing and using the BRT facilities.

In the project, the physical barriers were addressed with Universal Design standards but other behavioural and attitudinal barriers required a different approach. Using a variety of guidelines and initiatives, TransMilenio triggered a chain reaction of changes in the behaviour and attitudes of the citizens towards inclusivity. This Case Study successfully demonstrates the impact an inclusive infrastructure project can have on an entire society when exclusive barriers are removed.

#### Relevance

Inclusive standards, addressing physical, behavioural and attitudinal barriers, including Universal Design, can be used to create consistency in the approach to inclusivity.

#### At the policy level:

- *Ensuring accessibility by incorporating inclusivity throughout project design and construction.* Implementing and respecting standards and guidelines for accessible buildings and facilities, incorporating inclusive design at the planning stage, constructing in compliance with standards, and raising stakeholders' awareness will all help to ensure infrastructure is accessible.
- *Incorporating methods to increase understanding of behavioural and attitudinal differences in policy-making.* Lowering behavioural and attitudinal barriers requires the adaptation of inclusive standards and norms during the policy-making process.

#### At the project level:

- *Ensuring all stakeholders are accountable in ensuring inclusivity.* Defining responsibilities and identifying monitoring mechanisms across all government stakeholders, particularly for responsible implementing agencies, ensures inclusive standards are correctly implemented.
- *Creating and implementing an enforcement mechanism.* At the project level, a robust standard enforcement process is required, which is further explained in Action Area 4: Project Planning, Development and Delivery.

#### Guidance

1. **Mandate the implementation of Universal Design and other inclusiveness standards by law, include them in the project procurement and terms of reference, and integrate them in the approval process and performance criteria** (including during the operation and maintenance phase). Long-term impacts should be monitored beyond project completion.

## 2. Consider internationally adopted design standards or a benchmark of several design standards.

For example, many national level Universal Design standards (e.g. United States, Chile, Australia, Singapore, Vietnam and India) use the following principles contained in the International Disability and Development Consortium's statement on the United Nations' Convention on the Rights of Persons with Disabilities (CRPD) Article 9, where accessibility includes:

- *Equitable use*: design that is useful and marketable to people with diverse abilities.
- *Flexibility in use*: accommodates a wide range of individual preferences and abilities.
- *Simple and intuitive use*: easy to understand, regardless of the user's experience, knowledge, language skills, or concentration level.
- *Perceptible information*: design that communicates necessary information effectively to the user, regardless of ambient conditions or the user's sensory abilities.
- *Tolerance for error*: minimises hazards and the adverse consequences of accidental or unintended actions.
- *Low physical effort*: can be used efficiently, comfortably and with minimum fatigue.
- *Size and space for approach and use*: design that provides appropriate size and space for approach, reach, manipulation, and use, regardless of the user's body size, posture or mobility.

## 3. It is important for governments to take into account not only considerations of physical access, but also other dimensions of accessibility, such as the social, communication and information systems within a built environment (for example, see the *TransMilenio Bus Rapid Transit Case Study in Section 4*)<sup>79</sup>.

## 4. Independent and external advisors can be used to provide benchmarks against other countries and supervise delivery of specific inclusivity elements, since the government implementing agencies and appointed contractors may not have the experience or the objectivity to assume these roles.

## 5. Adopt inclusive standards based on specific circumstances.

There are many general inclusive standards available as guidelines. However, the implementation must also consider the specific circumstances of the project. The TransMilenio BRT System in Colombia (see *TransMilenio Bus Rapid Transit Case Study in Section 4*) adopted a differential approach based on the ISO 26000:2010, Guidance on Social Responsibility with emphasis on the fundamental principle of "active participation and engagement of the community". It includes several achievable principles in its governance practices, such as transparency, environmentally-friendly infrastructure and services for passengers with disabilities, women and the elderly.

Some standards, norms and guidance related to inclusivity and Universal Design are listed in Box 10 below.

### BOX 10: GUIDANCE AND STANDARDS FOR INCLUSIVITY AND UNIVERSAL DESIGN

ISO 26000:2010, Guidance on social responsibility<sup>80</sup> provides direction on the definition of social responsibility to help businesses and organisations translate principles into effective actions.

BS 76005, Valuing people through diversity and inclusion – code of practice for organisations<sup>81</sup> provides recommendations for undertaking, reviewing, and assessing a competent and principled approach to diversity and inclusion in the workplace.

ISO/AWI 30415 Diversity & Inclusion<sup>82</sup> (ongoing, to be released in July 2019) includes guidelines for global diversity and inclusion goals and strategies in organisations (including initiatives, programs, competencies and associated methods), and identifies related success factors (business case elements) that benefit organisations. Strategies and associated activities can include addressing leadership, organisational culture and programs, and supportive metrics (to use as internal assessment guidelines for identifying gaps in programs, systems, processes and practices).

*continued..*

<sup>79</sup> Accessibility Design Guide: Universal design principles for Australia's aid program, AusAID, (Australian Government, 2014)

<sup>80</sup> ISO 26000:2010, (International Organization for Standardisation, 2010)

<sup>81</sup> BS 76005:2017, (British Standards Institution, 2017)

<sup>82</sup> ISO/AWI 30415, (International Organization for Standardization, n.d.)

The Gender Equality Framework<sup>83</sup> is part of the 'Gold Standard for the Global Goals', a certification that aims to ensure climate action projects contribute to the United Nation's Sustainable Development Goals. It enables developers and funders of climate protection projects to quantify, certify and maximise contributions to empowering women and girls. By quantifying and certifying gender impacts, projects can tap into additional funding from an increasing pool of gender-lens investors and a rising demand to credibly report on what dollars spent have delivered through verified impact data. The Framework's "Gender Sensitive Requirements" are obligatory for every Gold Standard-certified project and ensure they follow the latest best practices in, for example, consulting with a representative cross-section of local women and men, and adhering to gender-sensitive safeguards.

The Age and Disability Consortium developed the *Humanitarian Inclusion Standards for older people and people with disabilities*<sup>84</sup>. They are designed to help address the gap in understanding the needs, capacities and rights of older people and people with disabilities, and promote their inclusion in humanitarian action. There are nine key inclusion standards, derived from the Nine Commitments of the Core Humanitarian Standard on Quality and Accountability (CHS), and seven sets of sector-specific inclusion standards: protection; water, sanitation and hygiene; food security and livelihoods; nutrition; shelter, settlement and household items; health; and education.

<sup>83</sup> Gold Standard for the Global Goals Gender Equality Requirements & Guidelines (Gold Standard, 2018)

<sup>84</sup> Humanitarian inclusion standards for older people and people with disabilities, (Age and Disability Capacity Programme, 2018)

The London Olympic Delivery Authority developed the *Inclusive Design Standards*<sup>85</sup>, which are based on existing good practice guidance and include lessons learned from the London 2012 Olympic and Paralympic Games construction project. They contain detailed drawings and specifications on inclusive design, and sample documents that can be used as templates for best practice. The standards are a source of information for designers, project managers, engineers, access consultants and cost consultants who are interested in creating inclusive and accessible environments and buildings.

ISO/IEC Guide 71:2014<sup>86</sup> provides guidance to developers of standards on addressing accessibility in products, services and built environments. To assist standard developers to define accessibility requirements and make recommendations, it presents a summary of current terminology relating to accessibility; issues to consider in support of accessibility in the standards development process; a set of accessibility goals (used to identify user accessibility needs); descriptions of (and design considerations for) human abilities and characteristics; and strategies for addressing user accessibility needs and design considerations.

<sup>85</sup> Inclusive Design Standards, (London Legacy Development Corporation, 2012)

<sup>86</sup> ISO/IEC Guide 71:2014, (International Organization for Standardization, 2014)

## 6. Properly price Universal Design costs to increase acceptance.

Universal Design is often perceived to be a costly exercise, and some project developers and owners assume costs are larger than they are. This can be the result of a lack of knowledge or experience. Others rely on inaccurate construction cost estimates. Various studies have been conducted concluding that costs may be as low as

0.01% in relation to the gross domestic product or 1-2% of the cost of buildings<sup>87</sup>. Another misconception relating to the cost of incorporating Universal Design is how much extra physical space is required. In many cases, it may only require rearranging and planning within the available space<sup>88</sup>. It is worth noting that it is better to address inclusivity at the outset. Retrofitting can be much costlier and add to future risks.

<sup>87</sup> Accessibility Design Guide: Universal design principles for Australia's aid program, AusAID, (Australian Government, 2014)

<sup>88</sup> Accessibility Design Guide: Universal design principles for Australia's aid program, AusAID, (Australian Government, 2014)



**7. Consider replicating existing guidelines and standards from other sectors to ensure accessibility and use of infrastructure by all.**

The transport sector has a significant level of maturity in regard to inclusivity standards, relative to other infrastructure sectors. There are, however, some standards which have been developed for projects in other sectors, such as water and sanitation infrastructure. For instance, in Kenya, projects funded by the *Water Sector Trust Fund*

(see *Water Sector Trust Fund Case Study* in Section 4) require special toilets for women with children and a dedicated women's waiting area.

**Examples**

As examples of the standards used in the transport sector, Box 11 describes the Universal Design codes for rail systems in the UK, and Box 12 sets out the corresponding Universal Design codes for UK bus systems.

**BOX 11: UNIVERSAL DESIGN CODES FOR RAIL IN THE UNITED KINGDOM**

Design codes and provisions for transport in the UK are considered to be robust and detailed. The UK Equality Act 2010 sets out the general framework under Part 12 "Disabled person: transport". Chapter 2A outlines requirements for bus services and chapter 3 does the same for rail vehicles.

Provisions from the UK Equality Act can be found in a number of other documents, guidelines and regulations.

For bus systems, please see *Box 12. Relevant codes and standards for the railway sector* below.

Department for Transportation (DfT) Regulations – Code of Practice is mandated by the UK Government on railway projects and operations. Licensed operators must adhere to the Code. It covers the following:

CHECKLIST	EXPLANATION
<b>Pre-travel information</b>	Information regarding the level of accessibility at all stations and plans to upgrade or improve it
<b>Substitute transport – pre-planned and emergency</b>	Identify alternative transport for people who cannot use a DfT mandated service
<b>Car parking</b>	Location, dimensions, number of spaces, markings, monitoring and enforcement, approach to stations, set-down and pick-up locations, considerations for obstructed access
<b>Building features</b>	Doors, lighting, floors, walls, transparent walls, furniture, free-standing devices
<b>Signs</b>	Directional information, fonts, sign design, sign lighting, tactile (embossed/Braille) signs, display screens, maps and detailed information
<b>Announcements</b>	Passenger announcements, induction loops, emergency alarms
<b>Help points</b>	Locations, functions, requirements for access
<b>Ticket sales points</b>	Booking offices, information provision, customer service desks, ticket sales points, ticket barriers

*continued..*

CHECKLIST	EXPLANATION
<b>Elevation change</b>	Lifts, emergency lifts, platform lifts, ramps, stair and step design, landings and areas beneath stairs, handrails, escalators, moving walkways
<b>Platforms</b>	Platform design, train interfaces, seating, waiting rooms, shelters
<b>Toilets</b>	Provision and location of wheelchair toilets, opening hours, doors, design and layout, rails, basins, finishes, lighting, emergency, baby-changing
<b>Crossing the track</b>	Subways, overbridge access, underbridge access

British Standard (BS) 8300 is also relevant. BS 8300 provides recommendations for the design of new transport-related buildings to meet the needs of people with disabilities. It applies to car parking provision, setting-down points and garaging, access routes to and around all buildings, entrances, and the interiors of new buildings. The recommendations also apply to facilities associated with, and in the immediate vicinity of, transport-related buildings. Specific to railways, the following topics are outlined:

- location and accessible routes to rail stations;
- ticket sales and information points;
- location and operating space for ticket machines;
- obstructions;

- waiting areas and seating;
- ticket barriers and gates;
- boarding points and platforms;
- toilets; and
- escalators and moving walks.

The International Organization for Standardization (ISO) 7000 provides advice on signage. Standardised colours and basic shapes should be used for safety-related signs so they can be easily recognised.

The UK Disabled Persons Protection Policy enforced by the Office of Rail and Road applies to all railway operators and covers:

EXAMPLE FROM POLICY	EXPLANATION
<b>Support for passengers at stations</b>	Accessible entrances and exits at all stations (funded by the DfT and NetworkRail, the infrastructure owner and operator in England, Wales and Scotland), help points at all stations with information and emergency buttons, all signs designed so they can be read easily, wide and “slow-reaction” ticket gates, toilets part of the RADAR Scheme <sup>*1</sup> , provision of ramps and lifts at major stations, and ramps on to all trains at stations.
<b>Support for passengers on trains</b>	Passenger announcements on all trains, information on all trains within timescale of franchise, wheelchair spaces and emergency spaces on all trains, alternative options if a train is inaccessible (booking 24 hours in advance).

<sup>\*1</sup> RADAR is a scheme that allows disabled and lesser-abled individuals access to toilets that the general public cannot access. It prevents misuse by the general public, and ensures cleanliness and 24-hour access.

*continued..*

**CHECKLIST****EXPLANATION****Buying tickets**

Accessible ticket booking office points (at stations with booking offices), dedicated assisted-travel teams, all ticket machines operating in line with DfT code of practice.

**Support at interchanges**

For platform changes at short notice or short interchange times, staff members will help people access their platform and make their train or connection.

**Emergency provisions**

An emergency plan that addresses the needs and requirements of people with disabilities.

**Platforms, toilets, seating areas and help points**

All stations with toilet facilities to have an accessible toilet, all trains to have an accessible toilet and seating areas for people with disabilities.

**Wheelchairs and mobility scooters**

Mobility scooter permit schemes, priority seating cards, wheelchair access and help for people who need support when they are moving around the station.

For the purpose of this study, the focus is on the UK design codes and practices. It is noted that the European Railway Agency (ERA), under a mandate from the European Commission, has issued Technical Standards for Interoperability (TSI) for Persons with Reduced Mobility (PRM).

Sources: ATW – Guide to policies and practices, DfT code of Practice – Design Standards for Accessible Stations, BS8300, ISO 7000, PRM TSI, Atkins internal

## BOX 12: UNIVERSAL DESIGN CODES FOR BUSES IN THE UNITED KINGDOM

The UK accessibility requirements for buses and coaches are set out in the Public Service Vehicles Accessibility Regulations 2000<sup>89</sup> and came into force in August of that same year. Under this legislation, all buses had to be accessible by 1 January 2017 and all coaches must be accessible by 1 January 2020.

### Design of buses and coaches

The exact requirements are set out in Schedule 1 of the Regulations. These include minimum dimensions for a wheelchair space and the width of the aisle. The minimum dimensions are:

- 130 cm measured in the longitudinal plane of the vehicle;
- 75 cm measured in the transverse plane;
- 150 cm measured vertically from any part of the floor of the wheelchair space;
- 75 cm wide for the aisle between a wheelchair space and the entrance/exit.

### Audio-visual equipment

Section 17<sup>90</sup> of the Bus Services Act 2017 sets out the requirement for bus operators to provide information using audible and visible media on board local bus services in England, Scotland and Wales. The industry, operators and market are permitted to provide suitable solutions for the installation of audio-visual equipment.

<sup>89</sup> Public Service Vehicles Accessibility Regulations, (UK Government, 2000)

<sup>90</sup> Bus Services Act, (UK Government, 2017)

### Assistance on buses, at stations and terminals

On 25 July 2018, the UK brought a year of public consultation on its transport strategy to a close and set out how it plans to make the system more inclusive for people with disabilities. As part of its Inclusive Transport Strategy, the UK Government will introduce an accreditation scheme to formally recognise the best transport operators for their work in improving services for passengers. The scheme will offer best practice guidance for delivering training across the bus sector and assist operators in complying with the new mandatory disability equality and awareness training requirements, effective from March 2018.

Actions to qualify for accreditation include:

- operators will provide training to all frontline and back office staff, including senior managers. It will focus on raising awareness and understanding of some of the conditions and impairments affecting people with disabilities;
- operators will commit to improving service for passengers with disabilities by making a public pledge;
- operators will provide assistance cards to passengers with disabilities when appropriate; and
- operators will ensure that their staff are trained to respond appropriately when assistance cards are presented by passengers.

Sources: Briefing Paper: Access for transport for disabled people, House of Commons, UK Parliament; Bus Services Act 2017; The Inclusive Transport Strategy: Achieving Equal Access for Disabled People, UK Department for Transport.

## APPLICATION TO TARGETED STAKEHOLDER GROUPS

The general principles in Action Area 3: Policy, Regulation and Standards apply to all stakeholder groups and emphasise that inclusivity should not only be reflected in the actual policies, regulations and standards, but also in the process by which they are developed. This requires proper representation of the groups targeted for inclusion in the policy development process, to help ensure their concerns are included.

Some points on the application to targeted stakeholder groups are outlined below:

### Low-income groups

Addressing the affordability of services to low-income groups while maintaining the overall sustainability of the service is important, particularly for essential services covered by large infrastructure systems. Since major infrastructure systems (such as the water and electricity utilities) often form a natural monopoly, this consideration is often addressed by policy developed by government departments, which is overseen by the economic regulators - such as Ofwat in the UK, which is responsible for implementing price control for UK water services under the Water Industry Act.

In many countries, the policy will often include a mechanism to support low-volume consumers, such as a social or lifeline tariff<sup>91</sup>. Further information on affordability is available under Action Area 6: Affordability and Optimising Finance.

### Women

Help empower women through inclusive policies, which may include:

- ensuring that policies and regulations recognise the diverse needs, constraints and opportunities of women and men;
- breaking down silos between different government departments and agencies involved in designing and implementing infrastructure projects;
- soliciting technical support to negotiate better infrastructure contracts with the private sector that benefit and incentivise employment opportunities for women in the infrastructure sector;

- introducing clauses in PPP contracts that require involving women's groups in the design process and incentivising the expansion of opportunities for women to work in the delivery and operation of infrastructure<sup>92</sup> (see *U.S. Bank Stadium Case Study in Section 4*); and
- promoting women's involvement in civic and political activities, which will help increase awareness of women's needs and support gender-responsive policies<sup>93</sup>.

### People with disabilities

Regulation and the implementation of Universal Design principles is becoming a more widespread requirement which helps to address physical barriers to accessing infrastructure services for those who have impaired mobility due to disability, age or other reasons.

Policies should also consider other behavioural and attitudinal barriers that require the transformation of social norms to address the discrimination, prejudice and unfair treatment these vulnerable groups can face every day when they are using and accessing infrastructure facilities. Refer to *Box 11: Universal Design Codes for Rail in the United Kingdom* and *Box 12: Universal Design Codes for Buses in the United Kingdom*, plus relevant guidance points above these examples.

<sup>91</sup> Policy Matters: Regulatory Indicators for Sustainable Energy, (World Bank, ESMAP, 2017)

<sup>92</sup> Infrastructure: A Game-Changer for Women's Economic Empowerment. A Background Paper for the UN Secretary-General's High-Level Panel on Women's Economic Empowerment, (Biswas, S., & Mohun, R., 2016); In relation to the empowerment of women-owned businesses, please refer to Action Area 5: Private Sector Roles and Participation

<sup>93</sup> All on board: Making inclusive growth happen, (OECD, 2015)



## ACTION AREA 4: PROJECT PLANNING, DEVELOPMENT AND DELIVERY

### Key messages

- Inclusivity should be considered at all stages of the project – planning, development, delivery and operations, through to decommissioning. This is referred to as the project lifecycle approach to inclusion.
- Inclusivity should be incorporated as part of the overall project strategy, through to defining specific targets and mechanisms for design, implementation and compliance. A Social Equity Plan can help set out the considerations and targets throughout the project lifecycle (see also *Action Area 1: Stakeholder Identification, Engagement and Empowerment*).
- The inclusion of representatives from under-served and vulnerable groups in general planning committees should be considered to ensure a better understanding of the barriers faced by these groups.
- A suitably-qualified, dedicated team or project member should continuously engage with groups that tend to be neglected or under-represented in the decision-making process.
- The procurement stage provides an opportunity to specify to bidders the selected national or international design standards and codes that will need to be followed during the project's design and construction.
- Inclusive urban development demonstrates how inclusivity should be considered in an integrated, cross-sectoral manner to maximise the potential benefits to low-income and other disadvantaged groups.

Three key practices have been identified under this Action Area, for which further detail and guidance is given in the sections below:

Inclusive Project Lifecycle

Project Management and  
Supervision

Inclusive Urban Development

## DEFINITIONS AND CONTEXT

### Definitions

An inclusive **project lifecycle** approach covers all stages of the project - planning, development, delivery and operations, through to decommissioning. It addresses the strategic questions of 'what', 'when', 'why', 'how' and 'by whom' for all infrastructure projects. From an inclusivity perspective, the beginning of the project planning process is the ideal time to assess and ensure that inclusivity is embedded in every aspect of the project throughout the project lifecycle, including management, supervision, monitoring and evaluation<sup>94</sup>.

### Context

Inclusivity cuts across a project – from planning, design, financing, procurement and implementation, to operations and maintenance. Initiatives can be developed in line with the project lifecycle, with a clear strategy, objectives and target outcomes for each phase of a project. By doing so, practical decisions can be taken at the project planning stage, i.e. the earliest phase of a project, to determine and influence the potential outcomes in later phases.

In addition to the consideration of practices at an individual project or sector level, the consideration of practices and benefits from a cross-sectoral perspective enhances the opportunities to address the needs of various target groups, including low-income or vulnerable groups. Inclusive urban development is a good example of the need for integrated, cross-sectoral planning, and is outlined as a specific practice below.

Note that inclusivity practices in relation to stakeholder management have been considered in detail in Action Area 1: Stakeholder Identification, Engagement and Empowerment, and are essential to every stage of the project lifecycle.

<sup>94</sup> For the purpose of simplicity, references to "project" include both "program" and "project", since some portfolios of projects may be managed at a program level.

## ANALYSIS AND GUIDANCE ON PRACTICES

### INCLUSIVE PROJECT LIFECYCLE

#### Overview

To realise the benefits of improved inclusivity in infrastructure, inclusivity must be a guiding principle which is embedded at the policy and regulatory level, and at every stage of the project lifecycle. This involves incorporating inclusivity as part of the overall project strategy through to defining specific targets and mechanisms for design, implementation and compliance.

For example, certain disadvantaged groups, such as women, face challenges in local infrastructure planning, procurement and operation because their behavioural patterns and information preferences are not considered<sup>95</sup>. Their needs and concerns are often left out during the technical planning process for infrastructure and services, and related policies. Applying an inclusive perspective to infrastructure projects can positively benefit service providers, their customers, and society in general.

Integrating inclusivity practices at all stages of the project lifecycle, from project preparation, financing, design, project procurement, construction and operation, to project monitoring and evaluation, is likely to lead to greater socioeconomic benefits.

#### Relevance

It is important to set a precedence for the consideration and integration of inclusivity in the overall project strategy by embedding the concept early on and establishing clear inclusivity targets.

#### At the policy level:

- *Informing project development and delivery through inclusive policy.* Policies can define how inclusivity is integrated into project planning, design and delivery.
- *Setting inclusive parameters.* In line with a country's inclusive development strategy, the approach to monitor and evaluate performance management systems enables specific parameters to be set for a project to be appraised, approved, delivered and operated.

#### At the project level:

- *Integrating inclusive principles throughout the project lifecycle.* Considering inclusivity at every stage of the project ensures early consideration and integration of inclusivity in the overall project strategy.
- *Including stakeholders in project development and monitoring.* Stakeholder engagement in project management and supervision activities can support and foster aspects of inclusivity.
- *Using a project lifecycle approach.* The available literature on inclusivity indicates that a project lifecycle approach underpins the general success of a project and is particularly useful in incorporating inclusivity targets<sup>96</sup>.

#### Guidance

The concept of embodying inclusivity throughout the project lifecycle is relatively recent and, therefore, has not been researched, tested, applied and documented. However, the literature has described the approach as it relates to specific topics<sup>97</sup>. Figure 8 showcases the stages in which practices can be applied in the project lifecycle.



Figure 8: Project lifecycle and integrating inclusivity

<sup>95</sup> Strategy for the promotion of gender equality, (European Bank for Reconstruction and Development, 2016)

<sup>96</sup> Closing the Last Mile for Millions. (Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ), 2015)

<sup>97</sup> Integrating Gender Considerations into Energy Operations, (World Bank, 2013), Youth scoping study: Boosting Youth Employment through Infrastructure Programming, (Haegeman, 2017)



## 1 Policy and regulation

### 1. Set out the policy requirements in the business case and build them into the project objectives.

The application of inclusivity in policies and regulation is the responsibility of the government agency proposing the project and the relevant regulatory bodies. The role of the government is to ensure compliance. This can be done by setting out the requirements in the business case and building them into project objectives, along with the proposed approach to project management and the approval processes that will help the wider team comply with the mandated policies. General guidelines may need to be established to direct project teams in planning, design and delivery to meet inclusivity mandates. For more information, please refer to Action Area 3: Policy, Regulation and Standards.

## 2 Project preparation

### 2. Integrate inclusivity at the project planning stage to maximise benefits across the project lifecycle.

Considering inclusivity during the project planning stage will provide more opportunities to influence the design, construction, operation and maintenance of infrastructure facilities. Setting inclusivity targets and measurable outcomes at this same stage creates alignment throughout the project. Accessibility audits can help to identify and address problematic issues in a proposed infrastructure project at an early stage, at a time when such issues can be more easily addressed. In addition, aligning this work with the requirements of other policies and strategies helps to set project objectives and principles.

For instance, gender sensitivity can influence the way infrastructure projects are planned, designed and executed. In Colombia, the Bogotá Urban Mobility Survey (2005) showed that women use public transport for two main reasons – economic and domestic – and their patterns of usage included consecutive trips of shorter duration, that usually begin later in the day, and frequently include children. These characteristics have direct implications for the design and frequency of routes and the accessibility of services<sup>98</sup>.

### 3. Provide a dedicated project member, who continuously engages with groups that tend to be neglected or under-represented in the decision-making process.

This may be a project-specific decision but may also be mandated by wider policy or regulatory requirements.

### 4. Identify corridors, areas, groups and enclaves that have not benefited equally from current infrastructure investments (first mile vs. last mile infrastructure investment, corridor projects, major vs. small infrastructure projects).

Once this determination has been made, the next step is to prioritise programs and projects that aim to achieve universal access, such as the Kenya Last Mile Connectivity Program of the Kenya energy sector, as enabled by the Energy Act with its associated mechanisms and organisations<sup>99</sup> (see the *Kenya Last Mile Connectivity Program Case Study* in Section 4).

### 5. Include social perspectives in project strategy with measurable objectives.

Specific stakeholder groups should be identified and baseline socioeconomic indicators collected and analysed. The disaggregated data enables in-depth monitoring of the long-term impact of the project. Often, monitoring and evaluation is ad hoc and only conducted for a short timeframe after the completion of construction. There should be a determination of the monitoring and evaluation timeframe, which should extend beyond short-term economic fluctuations and cycles. It is recommended that input is sought from a social or gender expert in the development of project objectives, components and scope to identify potential inclusivity-specific activities. For example, gender action plans should include setting up a skilled team to address gender issues in a project<sup>100</sup>, and the inclusion of representatives from vulnerable groups in general planning committees should be considered to ensure a better understanding of the barriers faced by such groups<sup>101</sup>. In case there is no planning committee, a questionnaire can also help to obtain the inputs of disadvantaged groups on aspects of inclusivity.

### 6. Ensure sufficient and robust disaggregated data are available for project assessment.

If this cannot be done internally within the project team, external support for data collection should be sought. Refer to Action Area 1: Stakeholder Identification, Engagement and Empowerment.

<sup>98</sup> Sustainable Infrastructure for Competitiveness and Inclusive Growth, (Inter-American Development Bank, 2014)

<sup>99</sup> Closing the Last Mile for Millions, (Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH (GIZ), 2015)

<sup>100</sup> Integrating Gender Considerations into Energy Operations, (World Bank, 2013)

<sup>101</sup> Accessibility Design Guide: Universal design principles for Australia's aid program, AusAID, (Australian Government, 2014)

**7. Establish a baseline and assess national, regional and international benchmarks to compare existing data to other cities or locations and determine current performance prior to intervention.** Analysis of this data may assist in setting specific inclusivity targets and objectives for the project.

**8. Consider the needs and expectations of identified stakeholders in the technical feasibility studies.**

Stakeholder input should be tailored to each stage of an infrastructure project. For example, public consultations are important for project planning and at the design stage when input into the design is sought. See Action Area 1: Stakeholder Identification, Engagement and Empowerment.

**9. Include a socioeconomic study in the financial feasibility studies** that incorporates the economic and social costs and benefits of the project, including those related to inclusion, and that allows for a sensitivity analysis of the various factors.

Aside from the quantitative direct benefits, the cost-benefit analysis must also include the qualitative and indirect benefits that are not monetary. See Action Area 6: Affordability and Optimising Finance for further information on socioeconomic cost-benefit analysis.

**10. Assess the project's potential benefits and also negative impacts to society.**

An in-depth analysis should be carried out on who benefits, who is at risk of being excluded and of the people who could be negatively impacted by a project. It should cover the economic, commercial, environmental and social impact of the project<sup>102</sup>. Refer to *Box 13: Illustrative example – How to overcome the hurdles of last mile infrastructure* on how to deal with the challenge of delivering 'last mile' infrastructure for water projects in Kenya.

Carrying out an Environmental and Social Impact Assessment (ESIA) and implementing the safeguards for potentially negatively affected people is not the focus of this reference tool, however it is a hugely important area and an example of inclusive stakeholder engagement activities in the ESIA is provided by the *Cairo Metro Case Study* in Section 4.

<sup>102</sup> Note that at this stage, only a high level environmental and social impact assessment is conducted, to be further refined in the design stage.

### 3 Financing and design

**11. Ensure the needs and expectations of under-served and vulnerable groups are taken into account in preparing the design and financial models for infrastructure projects. This may involve the following activities:**

- public consultations;
- in-person surveys;
- site visits;
- the establishment of community-based structures; and
- willingness and affordability studies.

**12. Identify financing models and partners that consider high socioeconomic returns and favour the local economy in the form of job creation and long-term development.**

Refer to Action Area 6: Affordability and Optimising Finance for further discussion on financing models. In many developing and emerging markets, multilateral institutions with inclusivity mandates (such as the EBRD) can help support a project with financing and expertise. Where an approach, such as a public-private partnership (PPP), is being used, social performance indicators can be linked to payment mechanisms.

**13. Evaluate and select national and international design standards and codes that ensure universal access to physical infrastructure and associated services.**

Infrastructure design should not be discriminatory in any form. Universal Design standards should be incorporated during the design stage of the project to achieve cost-efficiency. For more information, please see Action Area 3: Policy, Regulation and Standards.

### 4 Project procurement

**14. Specify the selected national or international design standards and codes that ensure universal access in the Request for Proposal (RfP) that will be issued to bidders, and that will need to be followed in the design and construction of the project.**

**15. Consider bidders' experience and qualifications in delivering projects to maximise inclusivity and social returns to the community.**

The bid evaluation, qualification and the interview process should specifically explore and test the bidders' experience in regard to delivering inclusive infrastructure projects. In addition, appointed members of the evaluation panel should include representatives for under-served and vulnerable groups. The Case Study on the *U.S. Bank Stadium* (see *Section 4*) describes an Equity Review Panel which provides advisory recommendations included in the hiring decision following interviews with potential construction managers on their experience and strategies to comply with the Equity Plan.

**16. Include specific inclusivity conditions in the tender minimum requirements, targets in the award criteria and contractual obligations.**

For example, the inclusion of women or other minority groups in the design and construction of the project can involve giving preference to certain types of businesses (such as those enterprises that are owned by women or people with disabilities) or having workforce targets (such as having a minimum number or percentage of women employed). This may also apply to PPP contracts, such as mandating the involvement of vulnerable groups in the design process and incentivising the expansion of opportunities for these groups to work in the delivery and operation of infrastructure<sup>103</sup>, and establishing performance indicators related to inclusivity in the contractual agreements to measure the success of the project and define penalties for non-compliance. A sample project in this regard is described in *Box 14: Illustrative example – Robust enforcement of inclusivity policy in the Kingdom of Saudi Arabia*.

**17. Encourage the use of local content and training if not already set out in national law.**

A study of numerous low-income economies found that labour-based local content procurement created up to five times the employment for the same investment<sup>104</sup>. A water project in Saudi Arabia demonstrates this through the requirement for the employment of local labour in the procurement contract (see *Box 14: Illustrative example – Robust enforcement of inclusivity policy in the Kingdom of Saudi Arabia*).

**18. Establish a Social Equity Plan to facilitate interaction between the procuring agency, bidders and groups in society at risk of being discriminated against, to encourage dialogue and participation in the process.**

**5 Construction and operation**

**19. Assess potential labour supply and demand issues, as the integration of specific inclusivity targets may be inhibited by current market conditions.**

For instance, even if targets have been set, there may be insufficient skills within the local labour market to deliver the project, which prevents the integration of workers from vulnerable groups. Therefore, governments may need to provide facilitation and guidance to ensure contractual inclusivity objectives can be achieved. The *U.S. Bank Stadium Case Study* (see *Section 4*) offers a good example of undertaking a gap analysis to examine the projected labour requirements.

**20. Offer employment and training to members of groups in society who do not have equal access to employment for construction and operation roles.**

An effective and successful method of doing this has been demonstrated in the U.S. Bank Stadium project, which developed an Equity Plan for the design and construction phases. A key element of this plan was workforce utilisation targets in relation to women and minorities, as well as targets for engaging women- and minority-owned businesses. An Equity Plan was also created for the operation of the stadium and replacement works, which featured similar mechanisms to drive inclusivity.

In another example, a lack of training and skills was identified as being one of the reasons that there were no female bus drivers in Almaty, Kazakhstan. This was addressed through training, supported by the EBRD. The training went beyond the skills needed for the actual job to include enhancing the skills of the human resource team. This led to an increased ability to approach and attract female bus drivers as part of the recruitment efforts (see *Box 9: Illustrative example – EBRD's Economic Inclusion Strategy and Inclusion Policy Engagement*.)

<sup>103</sup> Infrastructure: A Game-changer for Women's Economic Empowerment, (Biswas & Mohun, 2016)

<sup>104</sup> Of nets and assets: Effects and impacts of employment-intensive programmes - A review of ILO experience, (Keddem, 1998)

### 21. Implement a robust payment mechanism in line with the agreed inclusivity targets.

As demonstrated in the *U.S. Bank Stadium Case Study*, approval of work and release of payment was only provided upon successful achievement of workforce utilisation targets and agreed integration of women- or minority-owned businesses in the project. Measures of non-compliance were also stipulated in the contracts between the implementing authority and the private sector.

## 6 Monitoring and evaluation

### 22. Align monitoring and evaluation with the overall program or project objectives and integrate measurable parameters.

In the U.S. Bank Stadium project, one of the main objectives was to distribute economic benefits of the urban development to women and minority groups in Minnesota. Parameters for monitoring and evaluation were included throughout the entire project lifecycle to ensure the program's objectives were met. These were specific targets, such as the share of women and minority workforce employed and share of women- and minority-owned businesses contracted.

### 23. Ensure the findings feed into the policy and regulatory cycle to integrate lessons learned on inclusivity.

Benefit realisation and lessons learned reports are powerful references for policy-makers. The London 2012 Olympic and Paralympic Games Committee prepared a 'lessons learned' report with detailed drawings and specifications on inclusive design. This legacy report provides practical reference for the future implementation of universal policies and designs for large infrastructure projects<sup>105</sup>.

## 7 Decommissioning<sup>106</sup> and upgrading assets

### 24. Formulate a decommissioning or upgrade plan.

For infrastructure assets, especially long-term or large projects, it is crucial to have a decommissioning plan or asset upgrade plan in place. These are complex processes beginning far in advance of the expected decommissioning or upgrade dates<sup>107</sup>. Proper planning can be achieved by an appointed team or committee tasked to produce comprehensive decommissioning or asset upgrade plans. This plan should be systematic and in accordance with regulatory requirements. The decommissioning and upgrading plans will also identify and mitigate micro and macro social issues that may arise<sup>108</sup> from these activities.

Decommissioning or upgrading infrastructure assets can have far-reaching implications. Socioeconomic factors relating to the workforce involved in the operational facility, or the local and wider community, are key to evaluating the success of the process<sup>109</sup>. For example, if staff members are made redundant, it can have a significant impact on the individual and on the local community, especially in remote locations where the site is a major source of local employment and revenue<sup>110</sup>. Governments should require the incorporation of inclusivity principles into decommissioning plans to ensure that such plans take into account members of groups that do not have equal access to employment or are disadvantaged by technological changes. Retraining and reskilling the workforce in anticipation of decommissioning is one key aspect of inclusive planning that can be explored. One good example was demonstrated in the Build Up Skills Norway program, where onsite construction workers were given education, training and life-long learning to transition to energy-efficient building and the use of renewable energy<sup>111</sup>.

<sup>106</sup> Used as shorthand for the complete process of ending operations of the infrastructure asset.

<sup>107</sup> From late-life operations to decommissioning – maximising value at every stage, (McKinsey & Company, 2015)

<sup>108</sup> Managing the Socioeconomic Impact of the Decommissioning of Nuclear Facilities, (International Atomic Energy Agency, 2008)

<sup>109</sup> Managing the Socioeconomic Impact of the Decommissioning of Nuclear Facilities, (International Atomic Energy Agency, 2008)

<sup>110</sup> Managing the Socioeconomic Impact of the Decommissioning of Nuclear Facilities, (International Atomic Energy Agency, 2008)

<sup>111</sup> Build Up Skills Norway, (European Commission, 2018)

<sup>105</sup> Inclusive Design Standards (London Legacy Development Corporation, 2012)

### BOX 13: ILLUSTRATIVE EXAMPLE – HOW TO OVERCOME THE HURDLES OF LAST MILE INFRASTRUCTURE

#### Project summary

The German Corporation for International Cooperation GmbH (GIZ) shared its experience in Kenya and Zambia in a 2015 report. Experience and research showed that, despite significant investment in the water sector (specifically, in clean water, sanitation and hygiene), low-income groups had been neglected. To achieve successful last mile infrastructure investments, sectoral reform was necessary. This example shows how barriers were identified and, over the process of several years, solutions were developed and implemented at all levels, and throughout various project stages (policy, project identification, financing, implementation, operation and maintenance). Policy interventions included developing an overall framework, which was essential for implementation.

#### Implementation

Through a better understanding of the challenges and barriers, it was possible to identify various approaches as follows:

- Foundations for scaling up
  - a sector framework covering all project stages (including operations/asset renewal)
  - policy interventions requiring utilities to focus on inclusivity issues
- Institutional mechanisms for implementation
  - establishment of information systems to manage scaling-up
  - development of an innovative financing mechanism through a Trust Fund
  - oversight undertaken by a regulatory body
- Tools and standards for last mile access solutions to enable capacity building
  - preparation of implementation toolkits for last mile water supply and last mile sanitation

#### Outcomes

The combination of innovative financing mechanisms, a pragmatic stance on service options, and an emphasis on continuous capacity development activities to support sustainable operations of last mile infrastructure have delivered the following in a relatively short time span:

- more than 2.7 million people have been reached with last mile investments in safe drinking water supply within seven years;
- more than 135,000 people gained access to adequate sanitation within the last five years;
- households made substantial savings, incidences of waterborne diseases declined, hygiene improved and the burden of fetching water, usually the task of women and children, has been significantly reduced;
- women have been empowered because they provide and manage water for the household. The reduction in the time needed to fetch water has enabled them to spend that time more productively; and
- remote communities and low-income areas, that were often neglected in the past, now have sustainable access to water services.

Source: GIZ – Closing the Last Mile for Millions, Sharing the Experience on Scaling up Access to Safe Drinking Water and Adequate Sanitation to the Urban Poor

### BOX 14: ILLUSTRATIVE EXAMPLE – ROBUST ENFORCEMENT OF INCLUSIVITY POLICY IN THE KINGDOM OF SAUDI ARABIA

The general standard enforcement process used in the Kingdom of Saudi Arabia (KSA) enforces inclusivity at the project level. The Government of Saudi Arabia has mandated the wastewater implementing authority (the Water & Electricity Company (WEC)) to develop and implement more than 15 wastewater treatment plants across the country using public-private partnerships (PPP) on a Build-Operate-Own (BOO)/Build-Operate-Own-Transfer (BOOT) basis. The objectives of this program are:

- to reduce the infrastructure gap and improve the wastewater collection and treatment currently existing in KSA, where less than 50% of wastewater is currently collected and treated; and
- to achieve more social equity and social stability, as well as job creation and equal access to labour market opportunities (“Saudisation”).

WEC set out expectations as part of its tender documents. Targets were agreed contractually with developers, engineering procurement contractors, and operation and maintenance contractors for local Saudi content (50% during construction and up to 70% during the operations and maintenance phase) and are being followed up through a monitoring mechanism. Achievement of targets is necessary for work approval, and in the case of failure, financial penalties will apply.

The impact is the creation of employment opportunities in country. Overall, it supports the government’s efforts to address inequalities, social disparities and discrimination.

Source: Atkins internal expert

## PROJECT MANAGEMENT AND SUPERVISION

### Overview

Project management in infrastructure is an activity that takes place during all stages of a project’s lifecycle, including the planning, design, financing, procurement, construction, operation, monitoring, evaluation and decommissioning of a project.

An effective project management strategy delivers major infrastructure projects on time, on budget and within prescribed specifications, and requires economic, environmental and social considerations<sup>112</sup> to be embedded in the project management approach and methodology.

Inclusive project management and supervision consider all the inter-related aspects of projects, pertaining not only to the composition of the project management team and the application of processes, but also to the use of best practices that allow for an open system, effective implementation and monitoring of inclusivity targets of a project.

The integration of inclusivity in project management and supervision ensures alignment with policy and provides checks and balances for successful implementation. Defined targets are monitored, and in case of non-compliance, escalation procedures are in place to address the problem.

### Relevance

Project management for large infrastructure projects needs to be applied as an open system, considering the complex and intertwined relationship with the areas, sectors and communities which projects traverse and impact upon. An open system involves continuous interaction and interdependency with the changing environmental, social, economic, physical, institutional and political context<sup>113</sup>.

#### At the policy level:

- *Ensuring effective project management through policy implementation.* A project management policy is a framework describing the key elements in the management of all projects. The applications at policy level ensure that projects are effectively managed within the budget, time, risk and specifications;

<sup>112</sup> Mega Projects and Mega Risks: Lessons for Decision-makers through a Comparative Analysis of Selected Large-scale Transport Infrastructure Projects in Europe, USA and Asia Pacific, (OMEGA Centre, 2011)

<sup>113</sup> Mega Projects Executive Summary: Lessons for Decision-maker: An Analysis of Selected International Large-scale Transport Infrastructure Projects, (OMEGA Centre, 2012)

that appropriate governance, control, authorisation and acceptance are established; that stakeholder management is inclusive; and that benefit realisation reviews are conducted at the closing of the project. Some leading examples of project management policies adopted in the UK and Australia are publicly available<sup>114</sup>.

#### At the project level:

- *Establishing project teams responsible for the management of each stage of the project.* Major infrastructure projects have multiple teams concerned with various aspects of the project, including achievement of the inclusivity objectives. Accordingly, the process of project management is one of developing an appropriate plan, with checks to review the performance of the teams and the project against an overall project plan.
- *Assigning a project team according to the institutional set-up.* A team is appointed by the government's implementing agency; depending on the institutional set-up in the country, this can be a dedicated team within the responsible implementing agency or a project management board composed of representatives from the various institutions involved.
- *Coordinating project management responsibilities.* Contracted delivering entities, whether privately-owned or state-owned enterprises, have their own internal project management teams that work with the project team appointed by the implementing agency.
- *Monitoring inclusion throughout the project lifecycle.* Tracking and monitoring inclusivity targets throughout project implementation, from construction to operation, is one of the functions of the project management team. The use of a transparent platform for monitoring that is accessible to all relevant stakeholders (the implementing agency, the contracted delivering entity, etc.) should be considered. In the U.S. Bank Stadium project, the project management team utilised a bespoke web-based solution to monitor compliance of contractors, subcontractors and vendors with the agreed inclusivity targets (see *U.S. Bank Stadium Case Study* in Section 4).

#### Guidance

The following inclusivity principles should form part of project management practices. A detailed mechanism to integrate these principles throughout the project lifecycle will need to be further elaborated based on the requirements of the specific project. The following guidance is based on the universal principles of project management methods such as PMBOK<sup>115</sup> and PRINCE2<sup>116</sup>. Inclusive tasks within each generic process flow are highlighted as guidelines.

#### 1 Initiating

1. **Identify the resources available, including budget, talent, allocation of time, regulatory support and governance structure.**

These dedicated elements are instrumental to effectively implementing inclusion objectives in the project.

2. **Define the project's inclusivity goals by conducting a feasibility study.**

The study is a generic term of reference that provides details on social inclusion aspects to be examined and analysed. It is a checklist of possible issues to be investigated<sup>117</sup>.

3. **Establish a project governance structure with the social inclusion team reporting to the advisory or oversight board.**

The specialist team should have enough authority to manage and control the project resources and participants to achieve pragmatic inclusivity targets. The roles and accountabilities of all the participants are defined in the governance structure.

4. **Alternatively, hire a Gender Equity and Social Inclusion (GESI) specialist to manage the inclusion plan in parallel to the project management team.**

In the *U.S. Bank Stadium* and *TransMilenio BRT Case Studies*, the hiring of social inclusion specialists to lead the project management for the social equity plans was instrumental to the successful delivery of the project's inclusivity objectives.

<sup>114</sup> In the UK, *Guidelines for Managing Projects - How to organise plan and control projects* (Department for Business Innovation & Skills, 2010). In Australia, *Project Management Framework and Policy* (Federation University of Australia, 2010).

<sup>115</sup> Project Management Body of Knowledge by the Project Management Institute (PMI)

<sup>116</sup> *Projects in Controlled Environment*, UK Government

<sup>117</sup> *Gender Equality Social Inclusion Tools and Guidelines Update* (Climate Resilient Infrastructure Development Facility, 2016)

**5. Conduct a screening of social inclusion issues with an initial assessment and justification as to what the expected positive and negative social impacts will be.**

In addition, the screening process requires a further assessment on how and to what extent the project will benefit the vulnerable groups. This initial assessment is used as a basis for the design and planning stages. Where possible, all baseline studies should include quantitative data disaggregated by gender, socioeconomic groups, age, preferences, etc.

Refer to the guidelines detailed in the practices for Data Collection and Stakeholder Identification, in Action Area 1: Stakeholder Identification, Engagement and Empowerment. An example is the “Disparity Study”<sup>118</sup> developed by the City of Minneapolis in the United States, which served as the initial screening for the development of the city’s inclusive urban development plan (refer to the *U.S. Bank Stadium Case Study* in *Section 4*).

## 2 Planning

**6. Confirm objectives, scope, benefits and risks in an inclusive business case.**

The business case for the Mi Teleférico cable cars project in Bolivia clearly set out the government’s intention to achieve affordability, accessibility, inclusivity, and financial sustainability (see *Mi Teleférico Cable Car Case Study* in *Section 4*). For more information, please refer to Action Area 6: Affordability and Optimising Finance.

**7. Create escalation procedures and de-bottlenecking processes in case of conflicts and disputes.**

They should be defined upfront and should be part of the project management plan. Tailored procedures in relation to inclusivity-specific challenges should be anticipated. For example, the Metropolitan Expressway in Tokyo, Japan, incorporated an escalation procedure to address the residents’ demand for a more inclusive and environmentally sensitive design solution (see *Box 15: Illustrative example – De-bottlenecking processes for the Tokyo Metropolitan Expressway, Japan*).

## 3 4 Executing

**8. Develop a detailed work plan with realistic and practical actions that are accepted by all implementing parties.**

The detailed work plan should also differentiate between specific interventions supported by the implementing agency and the project company and its contractors. In the U.S. Bank Stadium project, the Equity Plan set out pragmatic goals to integrate women, minorities and low-income residents in the workforce, and women- and minority-owned businesses in the design and construction activities of the project.

**9. Develop a resource procurement plan with clauses embedded to ensure all delivery parties (contractors, designers, engineers, specialists) understand the inclusivity objectives and take appropriate action.**

Projects such as the Water Sector Trust Fund in Kenya and the U.S. Bank Stadium in Minnesota show how this can be achieved in practice (see *Case Studies* in *Section 4*).

**10. Ensure the action plan has monitoring and evaluation indicators and targets, which are linked to inclusion.**

There are different types of indicators that correspond to each part of the project development cycle, such as risks, input, process, output, outcome and impact indicators.

## 5 Controlling

**11. Manage quality, risk and change.**

A useful tool to implement is a web-based reporting system, which should be available to all the participants of the delivery team. The project management team of the U.S. Bank Stadium project developed a web-based tool to manage all of the contractors involved in the project. It provided an efficient and transparent reporting platform for all parties involved.

**12. Require monitoring and reporting of inclusivity indicators within a specified time-frame and frequency.**

Attention should be paid to progress against inclusivity objectives, as well as any barriers encountered and possible mitigation strategies to resolve the issues. These reports should be made public, where possible, to provide greater transparency and accountability. The social inclusion team/specialist should control the charter, budget, and risk management, and should prepare periodic status reports.

<sup>118</sup>The State of Minority- and Women Owned Business Enterprise: Evidence from Minneapolis (NERA Economic Consulting, 2010)



### 13. Manage stakeholders.

The Metropolitan Expressway in Tokyo successfully implemented a stakeholder management process resulting in major improvements to cost reduction and conflict resolution. For a summary of the stakeholder engagement process, see *Box 15: Illustrative Example – De-bottlenecking processes for the Tokyo Metropolitan Expressway, Japan*.

For detail on this guidance refer to Action Area 1: Stakeholder Identification, Engagement and Empowerment.

## 6 7 Closing

### 14. Prepare a 'lessons learned' report with as much information as possible to generate efficiencies in the future.

The 'lessons learned' report is a valuable legacy of the project and can increase the impact of the inclusivity work of the project. An example is the Learning Legacy Report from the London 2012 Olympic and Paralympic Games<sup>119</sup> construction project. It sets out the inclusive design standards used in the construction projects and highlights examples of best practice and tools and templates that proved to be successful in this large and complex project.

### 15. Develop a benefits realisation report following construction of the project, and at intervals during operations, to assess whether the benefits realised are according to the targets outlined in the business case<sup>120</sup> and to inform future initiatives.

Reporting should include a dedicated section on the results of the social inclusion activities, at completion of construction and at regular intervals during operations.

The U.S. Bank Stadium, Colombia's TransMilenio bus rapid transit system, Mi Teleférico in Bolivia, and Kenya's Water Sector Trust Fund are projects that update their benefits realisation reports periodically and make them available on their websites (see *Section 4* for Case Studies on these projects).

<sup>119</sup> Inclusive Design Standards (London Legacy Development Corporation, 2012).

<sup>120</sup> Guide to Project Management: Getting it right and achieving lasting benefit (Roberts, 2013)

**BOX 15: ILLUSTRATIVE EXAMPLE – DE-BOTTLENECKING PROCESSES FOR THE TOKYO METROPOLITAN EXPRESSWAY, JAPAN.**

**Project summary**

An 18.2km section of the Metropolitan Expressway, the Central Circular (C2) Shinjuku Route, known as the Yamate Tunnel, opened in December 2007 for the initial section and in 2015 for the entire tunnel. The project is the world's longest in-city road tunnel. It runs alongside major utility infrastructure and is crossed by 11 rail lines. The project aimed to address the serious congestion expected in the future urban development of Tokyo.

The project was appraised at USD 5.5 billion. Its planning started in the 1970s; the construction started in 1992, running 18 months behind schedule due to the 1990s financial crisis and opposition from residents.

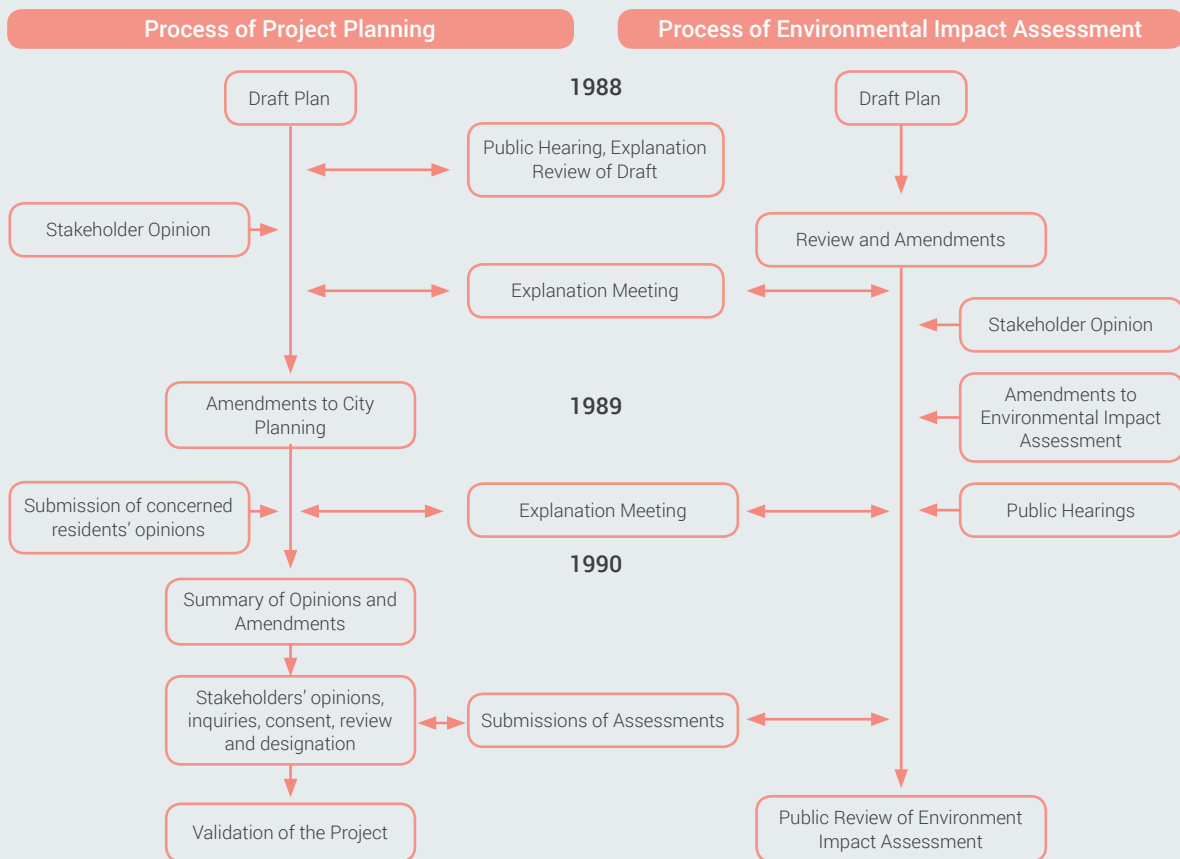
During the delay, the project management team took the opportunity to introduce stakeholder engagement processes and generated more efficient and highly successful technical innovations. As a result, the additional time allowed the project management team to adapt to the new context and effectively reduce costs, improve the schedule, modify specifications and de-bottleneck the opposition and conflicts from local communities.

Open system project management was the key to the successful completion of the project. The new process successfully established an escalation procedure for the public's concerns. Due to the public's input, the specification of the expressway radically changed from elevated design to underground tunnelling. Noise and pollution concerns were addressed with new shield methods and ventilation designs. Sites of natural beauty and cultural properties were preserved.

As a result, the conflicts were not only successfully managed but led to many positive achievements. The construction schedule was improved with innovative technologies. The project was completed at 1% under budget. New specifications allowed for the use of more advanced technologies, and the residents' demands for a more inclusive and environmentally sensitive design solution were addressed.

Displayed below are processes for the City Planning and Environmental Impact Assessment for the Metropolitan Expressway C2 Shinjuku Route.

Source: Project profile Japan C2 Shinjuku Route (Centre for Mega Projects in Transport and Development, Omega Centre, 2012).



## INCLUSIVE URBAN DEVELOPMENT

### Overview

Integrated planning and delivery approaches may create significant benefits in urban settlements. A holistic approach across all sectors within an urban context leads to better coordination and an increased understanding of dependencies. It also helps to identify the needs of various social groups, particularly vulnerable groups, so solutions that benefit everyone living in urban areas can be developed.

Inclusive urban infrastructure development is defined as an integrated approach encompassing sustainable, resilient, accessible and affordable solutions to the challenges faced by poorer urban residents and other vulnerable groups by enhancing their access to urban services and infrastructure through targeted investments<sup>121</sup>.

Using this definition, an integrated approach in urban planning goes beyond the identification of benefits related to individual sector approaches and considers benefits to the wider community in an urban area, particularly to specific communities that benefit from improved transport links, greater urban space and access to basic utilities such as water and electricity.

An inclusive approach to urban development can help to create more cohesive communities, where people from various social groups live together in the same neighbourhood. This encourages positive behaviours, promotes understanding and discourages segregation and the creation of slum areas.

Urban planning approaches should enable the development of communities where people can live, work and play by, for example, locating residential areas within the vicinity of commercial and industrial areas that provide employment. Master planning is key to this. For instance, in Singapore, affordable housing solutions are carefully located to ensure the proximity of these communities to healthcare facilities, transport links (bus stops and train stations), and working districts.

Projects must also consider the socio-cultural context. For example, in 2017, Singapore had a population density of 7,916 people per square kilometre compared to Kenya's 87<sup>122</sup>. In urban, land-scarce and highly populated cities, such as Singapore, high density housing of 15- or 30-storey units is considered socially acceptable.

However, in other countries, such as Kenya, where people are used to living far apart but close to the land, a similar high-rise solution might not be appropriate. There are several statistical and mapping tools that help to assess how an urban community occupies the available space. They can be used to identify patterns of urbanisation, which can be used to inform a developer's approach to inclusive infrastructure.

Inclusive urban development has been highlighted as a separate practice to illustrate the importance of integrated, cross-sectoral approaches at a program, as well as project, level of planning, development and delivery

### Relevance

#### At the policy level:

- *Considering under-served groups in urban planning and development.* Inclusivity must be considered as part of local urban planning policies (such as land use plans, city zoning strategies, etc.), as well as national development planning policies. This is to ensure that, in the planning of urban spaces, which involves transport, water and power utilities and other community services, the needs of vulnerable groups and local communities are considered.
- *Assessing planning alternatives to solve problems caused by rapid urbanisation.* The ways in which cities are planned and built are changing rapidly. This continuous urbanisation can strain the resources and the available space in a city and may lead to social challenges which require the exploration of alternative development options, while still making sure that liveable communities are developed.

#### At the project level:

- *Aligning projects to the overall city development strategy.* Project strategies must be aligned with the city's development plans, especially on land use and social integration, so that projects contribute to the overall city master plan.
- *Considering the needs of under-served and vulnerable groups early in the project lifecycle.* Inclusivity should be integrated in the project planning phase, where it can affect the strategy and objectives of a project. This involves conducting demand studies and considering the needs of various income groups, and other vulnerable or under-served groups.

<sup>121</sup> ADB Tool Kit for Inclusive Urban Development, (Asian Development Bank, 2017)

<sup>122</sup> Data on population density, (World Bank, 2018)

## Guidance

### 1. Develop a City Poverty and Vulnerability Profile (CPVP) using the following steps<sup>123</sup>:

- i. *Develop scope*: Undertake a preliminary, or scoping, appraisal of the city, including an analysis of its role in the national urban system. Consolidate the CPVP through data gathering and mapping, including an annotated city base map, a sociocultural map, a vulnerabilities and/or spatial risk data map, and a future urban expansion map.
- ii. *Review*: Conduct a comprehensive review of available literature on the urban sector policies and regulatory frameworks, including related policies and strategies for climate change and disaster risk management. This involves understanding what makes a successful urban economy and how to achieve poverty-alleviating growth, placing emphasis on mechanisms that build assets and generate income for low-income groups.
- iii. *Validate*: Validate the city development strategy or city development plan based on timeframe, risks, action plan, and baseline audit.
- iv. *Output*: The CPVP will provide baseline data and analysis of the key economic, environmental and social challenges in the city. It will also provide a policy and standards review to enable policy reform, as well as contain sector assessments, and provide key investment shortfalls by sector.

### 2. Create a multi-sectoral and integrated approach.

In the process of building inclusive cities, policies and projects often affect the functioning of multiple sectors, sometimes with detrimental effects to urban low-income communities and/or to inclusivity. For example, the design of a mass transit system that reduces the travel time to central areas of the city is beneficial for all citizens. However, it increases land values and rents along the route. Therefore, the low-income residents may be pushed out of inner-city areas unless complementary public housing or urban upgrading programs are also undertaken<sup>124</sup>.

### 3. Use a framework to conduct an inclusive needs assessment.

The Asian Development Bank 2017 publication *Enabling Inclusive Cities: Toolkit for Inclusive Urban Development* contains a sample framework for assessing inclusivity needs, covering issues such as income, social protection, education, and health<sup>125</sup>. A graphic of the framework is presented in Figure 9, next page.

<sup>123</sup> ADB Tool Kit for Inclusive Urban Development, (Asian Development Bank, 2017)

<sup>124</sup> ADB Tool Kit for Inclusive Urban Development, (Asian Development Bank, 2017)

<sup>125</sup> ADB Tool Kit for Inclusive Urban Development, (Asian Development Bank, 2017)

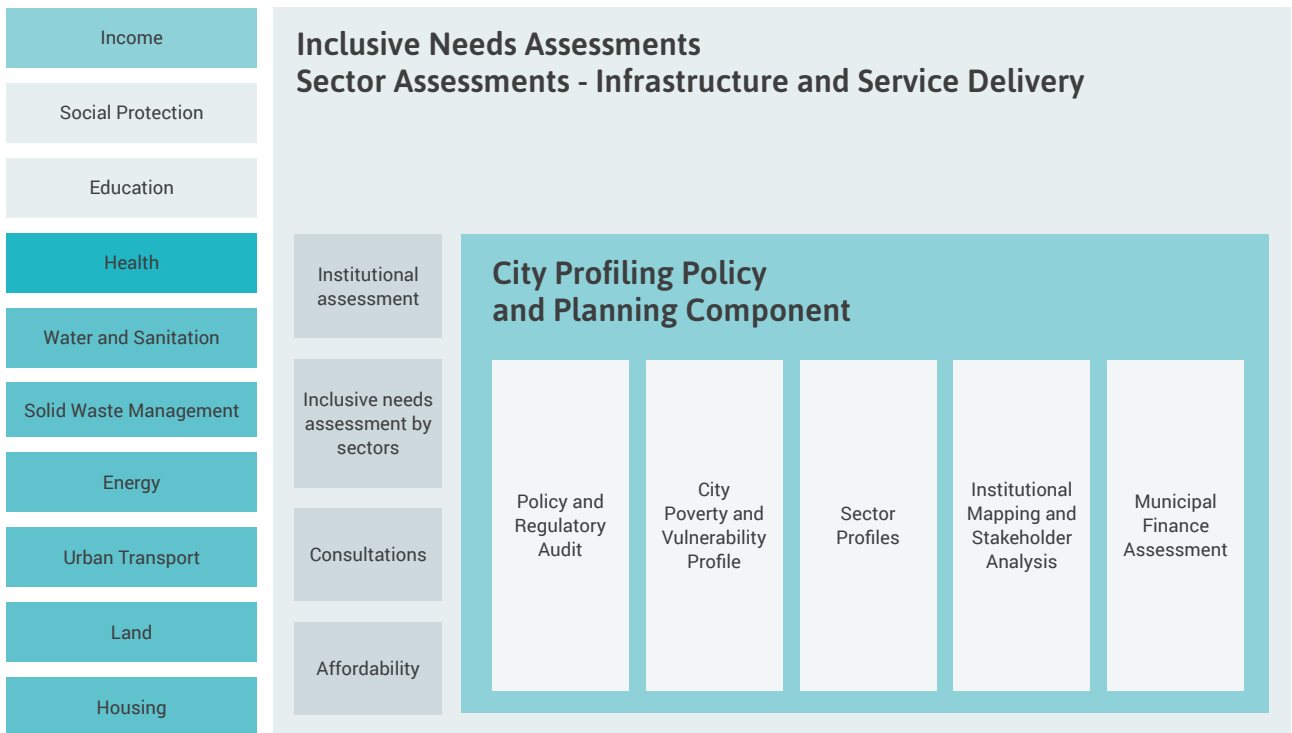


Figure 9: Framework for inclusive needs assessment of urban development

## Example

A practical example of the ways inclusivity in urban development can be addressed is set out in the following illustrative example from Colombia's capital Bogotá.

### BOX 16: ILLUSTRATIVE EXAMPLE - INCLUSIVE URBAN DEVELOPMENT IN BOGOTÁ, COLOMBIA

The Bogotá Urban Service Project was developed in line with the city's 10-year Spatial Plan and Development and Land Use Plan. It focused on building an inclusive and equitable city and improving people's quality of life through improved access to public transport, better sanitation services and potable water. As well as providing new public transport options through the development of the TransMilenio bus rapid transit system, the project also involved the planning and legalisation of neighbourhoods (*barrios* in Spanish), the construction of storm water, water and sewerage systems, and the creation and rehabilitation of public spaces and community services. Low-income areas were targeted, and disaggregated data was collected in these areas.

One of the lessons learned from previous upgrades was that improvements to the urban area should take into account the public's views and preferences. Accordingly, during the project preparation stage, local planning frameworks [*fichas normativas* in Spanish] were developed. More than 5,200 community leaders were involved in that process. Each team worked with groups of citizens to build local capacity in project planning and implementation. The local planning frameworks also served as the basis for the generation of demand-driven sub-projects. This participatory planning approach fostered a sense of community and increased public involvement in local projects. This, in turn, improved participation in the decision-making process and ensured that all work was tailored to the needs and expectations of the communities.

Source:

World Bank (March 2015), Implementation Completion and Results Report – Bogotá Urban Services Project

<http://www.worldbank.org/en/results/2015/08/13/better-transport-water-and-sanitation-for-the-urban-poor-in-bogota>

## APPLICATION TO TARGETED STAKEHOLDER GROUPS

The general guidance in Action Area 4: Project Planning, Development and Delivery applies to all stakeholder groups, and emphasises the importance of considering inclusion at all stages of the project cycle and in a cross-sectoral manner. Some points on the application to specific stakeholder groups are outlined below.

### Low-income groups

Low-income groups are amongst those that risk being excluded but also have the potential to benefit most from inclusive project planning, development and delivery through access to employment and other opportunities. Participatory approaches can help in incorporating the views from people living in all corners of the community, particularly in low-income areas.

### Women

The different needs and concerns of women have often traditionally been left out of technical planning for infrastructure, services and related policies. Applying a gender perspective to infrastructure projects can benefit service providers, their customers and society in general. For example, in Colombia, the Bogotá Mobility survey showed that, for many women, the pattern of use of public transport included consequent trips of shorter duration throughout the day and often included trips taken with children – these characteristics have implications for the design of routes and frequency of services.

In developing countries, women often bear the primary responsibility for collection of water and its use in the household, but they are frequently left out of the discussions and decision-making around improving water services.

### People with disabilities

Consulting and involving people with disabilities throughout the project lifecycle will not only help to ensure that infrastructure is more accessible, but will also help to identify wider employment opportunities, such as the procurement of enterprises owned by people with disabilities, and to provide feedback to further strengthen operational issues.

### Age demographics: youth and older persons

It is also important to consider the needs and opportunities of people in various age groups. Age demographics are changing in many parts of the world. In Africa, the number of youth (aged 15-24 years) is continuing to grow rapidly and by 2030, it is predicted that the number of youth will have increased by 42% from 2015 levels. However, youth unemployment and inadequate skill levels to access jobs are already challenging issues. As illustrated in the *Cairo Metro Case Study*, infrastructure can play an important role in tackling youth unemployment, and these opportunities should be considered together with appropriate initiatives in skills assessment and training<sup>126</sup>.

At the same time, the world's population, overall, is ageing. While this demographic trend is most prominent in high-income countries, virtually every country is experiencing growth in the number of old people in their population, with this growth occurring more quickly in urban areas than in rural areas. In 2015, a third of Japan's population was 65 years or over, with citizens also becoming more active for longer periods of their lives. These demographic transitions make it increasingly important that the planning and design of infrastructure and public services consider the needs of both youth and older persons throughout the project cycle.

Infrastructure, including housing and public transportation, and urban environments should support people with a diverse range of functional capacities and help support their productivity, mobility and independence. Safety and accessibility of infrastructure, including for those of limited mobility or with hearing and visual impairments, will benefit both young families and old persons. Policies, such as those illustrated in *Box 21: Illustrative example – Concessionary bus fares, free travel for older people and people with disabilities, United Kingdom*, support the mobility of older people, many of whom are no longer able to drive. New technologies, including mobile devices, also offer new channels for reaching and supporting older people, and governments should help bridge the digital divide through technology training for older persons. However, stakeholder engagement and ongoing interfaces, such as payment mechanisms, for example, should be designed taking into account every age demographic, whilst also considering the appropriate channels for those that cannot or will not access digital technologies<sup>127</sup>.

<sup>126</sup> Youth population trends and sustainable development, (United Nations Department of Economic and Social Affairs Population Division, 2015)

<sup>127</sup> World Population Ageing, (United Nations, 2015b)



## ACTION AREA 5: PRIVATE SECTOR ROLES AND PARTICIPATION

### Key messages

- The private sector can play a role in improving inclusivity in infrastructure projects, but careful planning is necessary to ensure this result.
- The appropriate application of incentives, such as the linking of government payments to inclusive outcomes, can help to align the private sector with government inclusivity objectives, such as improving gender equity in access to infrastructure services.
- Many large infrastructure projects are monopolistic by nature. Regulation of infrastructure can promote and enforce compliance with government objectives, such as the desire to meet the basic infrastructure needs of low-income households.
- The creation of jobs is an important part of tackling poverty. Infrastructure projects can both directly and indirectly promote employment. Policies can be established to improve inclusive job opportunities and increase the involvement of small and medium-sized enterprises owned by minority groups that are likely to face discrimination and higher barriers to entry.
- The private sector can help develop innovations in infrastructure, which can assist in meeting the specific needs of disadvantaged groups, such as people with hearing disabilities.
- The general principles and guidance under this Action Area are applicable to all stakeholders, but some of the recommended approaches to private sector participation in this Action Area are sector-specific. All recommendations should, however, be adjusted, as necessary, to take into account the individual features of the infrastructure project under consideration, so as to optimise opportunities that will benefit targeted stakeholder groups.

Three key practices have been identified under this Action Area for which further detail and guidance is given in the sections below:

Incentives and  
Legal/Regulatory Controls

Inclusive Opportunities  
for Businesses

Innovation and Technology



## DEFINITIONS AND CONTEXT

### Definitions

This Action Area deals with the use of mechanisms to align private sector investment in infrastructure with the inclusivity objectives of the government. These mechanisms can include both financial and non-financial **incentives**, as well as **legal and regulatory** compliance arrangements.

This Action Area also covers **inclusive opportunities for businesses** - the promotion and improved integration of small and medium-sized enterprises owned by women or any other minority group that may face discrimination and higher barriers to entry to participation in major infrastructure projects, relative to other enterprises.

**Innovation and technology** play a significant role in infrastructure projects and offer new opportunities to overcoming barriers and addressing the needs of previously under-served or vulnerable groups.

### Context

This Action Area provides guidance on how to create incentives and legal/regulatory arrangements that encourage private sector participation in inclusive infrastructure projects. It focuses on private sector involvement in projects to leverage skills and efficiencies, share risks and provide financing to accelerate development and to align with the inclusivity objectives of governments.

The extent of private sector participation in infrastructure, and the innovative financing mechanisms available, varies across sectors and with the level of national economic development<sup>128</sup>. Attracting private investment, particularly using a PPP model, may be viewed as a challenge for some governments, as it requires creation of a robust investment environment and steep learning curves in respect of PPP procurement processes. To benefit most from private sector involvement, a detailed assessment of each project must be conducted, and bespoke solutions developed to target desired inclusivity outcomes. This involves having an in-depth understanding of constraints, opportunities and regulatory aspects that are unique to each project.

Private sector interest in major infrastructure projects is driven largely by expected financial returns. Policy interventions, regulatory frameworks, and both financial and non-financial incentives can be created to encourage private sector participation in achieving the government's inclusivity goals. Integrating inclusivity in infrastructure projects will require additional effort to address any sectoral market concerns and the needs of the beneficiaries.

To increase the participation of vulnerable or marginalised groups in employment opportunities from infrastructure projects, specific efforts can also be made to address market entry barriers and possible discrimination faced by small and medium-sized enterprises owned by women or other minority groups that want to participate in projects but face challenges in accessing the opportunities.

In terms of the wider benefits, most low-income households in developing economies depend on private sector activities, such as the sale of food and cash crops, labour and other services, for their livelihood. These activities are affected by the quantity and quality of infrastructure services and by having reliable access to these services. Consequently, interventions to improve infrastructure, particularly mobility and connectivity, can play a major role in reducing poverty<sup>129</sup>. Analysis should be made of any complementary activities that may be required in tandem with the infrastructure itself to unlock these wider opportunities.

Private sector innovation and the development of new technologies (facilitated, frequently, with government support through research, guidance, tax breaks and grants) can be harnessed to facilitate improvements to infrastructure. Private sector innovation can also help to bring fresh ideas to the challenge of providing better access to infrastructure for disadvantaged groups, and improving the engagement of such groups with infrastructure development decision-making.

<sup>128</sup> Public-Private Partnership Monitor, (Asian Development Bank, 2017); Private Participation in Infrastructure Annual Report. (Hong, Saha, Shao, Modi, & Zemlytska, 2018).

<sup>129</sup> A Sourcebook for Poverty Reduction Strategy, (Klugman J., et al., 2002)

## ANALYSIS AND GUIDANCE ON PRACTICES

### INCENTIVES AND LEGAL/ REGULATORY CONTROLS

#### Overview

Private sector involvement in infrastructure in emerging markets stands at about 20% of infrastructure investment, compared with 70% in developed economies<sup>130</sup>. This disparity can be attributed to several issues, including concerns regarding political stability, corruption and the lack of a stable, transparent, reliable and mature legal/regulatory environment. There is much onus on government to provide a predictable enabling environment to attract private sector participation.

When properly managed, increased private sector involvement in major infrastructure projects can have several advantages. First, it has the potential to increase the pace or extent of infrastructure developments that provide essential public services. As countries and cities struggle to provide universal access to basic infrastructure and services, either due to an inability to efficiently deliver such services or a lack of sufficient financing, private sector involvement in infrastructure can bring innovation, expertise and a source of needed finance. Second, infrastructure development can have a positive impact on businesses by providing additional commercial opportunities (engineering and construction) or production capacity (manufacturing equipment, materials). Finally, infrastructure investments have a strong, complementary relationship with human capital growth - job creation and upskilling local workers are some of the indirect benefits of infrastructure projects. As such, investment decisions should be based not only on the immediate economic impact of a specific infrastructure project, but also on its potential to create long-term jobs and economic growth, taking into account indirect benefits<sup>131</sup>.

Private sector interest in major infrastructure projects is driven primarily by expected financial returns. Policy interventions and regulatory frameworks can be created to encourage private sector participation in achieving inclusivity goals. One method is through public-private partnerships (PPPs), where payment can be linked to the achievement of performance standards and inclusivity goals, where appropriate.

<sup>130</sup> Closing the financial gap (Chua, Lee, and Chalmers, 2017)

<sup>131</sup> A Sourcebook for Poverty Reduction Strategy, (Klugman J. , et al., 2002)

#### Relevance

To effectively engage the private sector and achieve greater inclusivity benefits, incentives need to be applied at both the policy level and the project level.

#### At the policy level:

- *Identifying incentives within the enabling environment.* The legal/regulatory framework can identify incentives that can be used to ensure inclusivity is considered in infrastructure development. For example, granting subsidies to the private operators of public transport to enable them to offer concession fares (for selected groups, such as people with disabilities and the elderly).
- *Providing a clear policy and legal/regulatory framework.* Investors benefit from greater clarity and stability where there is clear policy and guidance relating to inclusion, inclusivity standards and procurement.

#### At project level:

- *Managing private sector performance.* Inclusivity can be defined as part of the performance management of the private sector provider involved in the project.
- *Linking performance to inclusivity measures.* Project-specific approaches and incentives related to inclusivity will determine the private sector's risk and return profile, which will affect their decision to participate in a project and commit to achieving the specified outcomes (particularly where payment is linked to achieving the inclusive performance measure).
- *Building capacity at the project level.* Skill development and capacity building can increase the private sector's understanding of inclusivity benefits and how to integrate them in practice.

#### Guidance

##### 1. Consider potential opportunities where greater private participation can support government inclusivity objectives.

Many governments, in acknowledging the potential benefits of increased private sector participation, are considering the level of private sector involvement, such as privatisation or PPPs, for example, and its role in achieving economic growth, increased pace of infrastructure development, poverty reduction and reduced burden on public budgets.

When considering private participation, governments also need to consider the potential negative impacts, including assessing the potential impacts on under-served groups in society and fully evaluating the fiscal implications of such initiatives.

Policy objectives should include developing specific goals, policies, regulations and programs to ensure that the greatest impact on inclusivity is being achieved through private participation.

The following aspects should be considered when identifying appropriate options<sup>132</sup>:

- analyse the impact of infrastructure on the identified target group(s);
- develop intermediate sectoral goals;
- design policies and programs;
- evaluate the fiscal implications of policy and program changes; and
- develop robust and measurable indicators, to monitor impact on the identified target groups.

## 2. Liberalisation can reduce the cost of services and ensure greater accessibility, but the associated regulatory regime needs to be well-developed and thorough to address specific needs.

Traditionally, many countries have used regulatory mechanisms to control private sector entities engaged in the provision of infrastructure services. The rationale for this practice was that, in many infrastructure sectors (such as the supply of power and water), the services were monopolistic in nature, such that the public interest could only be protected – in the absence of competition – by a regulator. Under such arrangements, traditional regulators have been able to require the regulated companies under their jurisdiction to provide services so as to achieve specified inclusivity objectives – such as, for example, the provision of ‘lifeline’ tariffs for low-income customers of electricity utilities (see Action Area 6: Affordability and Optimising Finance for a more detailed discussion of price regulation).

Over the last few decades, in a number of countries, arrangements have been put in place to introduce competition into sectors which were previously monopolistic – such as power generation. This has reduced the need for the comprehensive regulation of price and quality, but it should be recognised that some degree of ‘light-handed’ regulation may still be appropriate, even in liberalised infrastructure markets – especially if governments wish to retain the ability to ensure that infrastructure services are being delivered in an inclusive and fair manner.

<sup>132</sup> A Sourcebook for Poverty Reduction Strategy, (Klugman J., et al., 2002).

The document extensively discusses the process and mechanism for poverty reduction through private sector involvement. While it focuses on poverty, the following process is relevant not just for low-income groups but for other disadvantaged groups of society that may not equally benefit from infrastructure developments.

The regulatory objectives will, of course, vary from country to country. For example, in developing countries, the primary objective may be to provide increased accessibility, while in developed countries, the focus may be on regulating prices to ensure a balance of interests between the supplier and end users<sup>133</sup>.

## 3. Consider the use of tariff regulations or subsidy schemes to increase the accessibility and affordability of the infrastructure service.

Tariff levels are frequently set by agreement in many private sector concessions and other contracts, such as in water offtake agreements or power purchase agreements. From a private sector perspective, the agreements and the pricing will need to be financially viable, and additional government intervention may be required in order to achieve pro-poor or other inclusivity objectives, either through subsidies or through the provision of additional incentives for the private operator of the infrastructure facilities. Price regulation is discussed in more detail in Action Area 6: Affordability and Optimising Finance.

In the UK, the Water Services Regulation Authority (Ofwat) is responsible for protecting consumers by ensuring private water companies carry out their functions, secure reasonable returns on their investments and have the required licences. As an example of the approaches which this regulator has taken in regard to inclusivity, Ofwat issued a Vulnerability Focus Report in 2016, highlighting the challenges faced by some of its customers<sup>134</sup>. In acknowledging that water and wastewater services are vital and that, in most cases, customers have no choice over their provider, Ofwat developed a framework on how to identify vulnerable people and the steps that should be taken to assist them<sup>135</sup>.

## 4. Consider PPP and other private sector approaches to facilitate the delivery of social infrastructure projects and other projects that enhance inclusivity.

PPPs are an alternative mode of procuring and financing an infrastructure project, and governments that have fostered PPP programs are now increasingly interested in using PPPs to help fulfil their inclusivity objectives, by putting more focus on people-first, multi-stakeholder PPP models that seek to improve lives. An example is an energy project in Tajikistan, which provided a clean, affordable and reliable electricity supply to a poverty-stricken region, which had no energy source during winter months, forcing schools, hospitals and business to close for extended periods<sup>136</sup>.

<sup>133</sup> A Sourcebook for Poverty Reduction Strategy, (Klugman J., et al., 2002)

<sup>134</sup> Description of Ofwat’s duties, (Ofwat, 2018)

<sup>135</sup> A Sourcebook for Poverty Reduction Strategy, (Klugman J., et al., 2002)

<sup>136</sup> International PPP Forum: “Implementing the United Nations 2030 Agenda for Sustainable Development through effective, people first Public-Private Partnerships”; (United Nations Economic Commission for Europe, 2016)

Although PPPs have been more typically utilised for the delivery of economic infrastructure (such as roads, airports, rail, or other transport projects), governments are now also considering the use of PPPs for social infrastructure facilities, such as schools, healthcare facilities and affordable housing.

PPPs can also be promoted for local or regional projects, to help smaller service providers be competitive. For instance, in the Philippines, PPPs have been used by a number of local governments, particularly in the water sector. This provides more opportunities for local business people, including small and medium-sized enterprises, to be involved in infrastructure development. Small and medium-sized enterprises may also be prepared to provide infrastructure services in areas where large providers are unable or unwilling to extend their facilities<sup>137</sup>.

##### **5. Assess the involvement of the private sector on a sectoral basis to maximise potential benefits.**

Many approaches to integrating the private sector in inclusive infrastructure development are sector specific. Every sector has a different risk or return profile, which depends on the policies and regulations in different countries. An analysis for each sector, such as for transport, water, power and other social infrastructure, should be conducted to better understand how inclusivity benefits can be maximised with private sector involvement.

*Information, Communications and Technology.* ICT is the most mature sector in terms of attracting private sector investment. However, challenges remain where the population is remote and hard to reach, or the population density is very low, as it affects the financial viability of providing access in remote communities. The focus for governments in this sector should, accordingly, be on the subsidies, incentives or other government actions that can be taken to ensure that under-served communities are reached.

*Transport.* The transport sector is, typically, heavily reliant on public funding due to the amount of capital expenditure required, particularly in the road and rail sub-sectors. A detailed analysis at project level is required to assess how inclusivity in each transport project, such as a mass transit project, can be implemented, taking into consideration budgeting and the fiscal constraints of governments.

*Water and sanitation.* The water and sanitation sector requires significant investment in infrastructure (such as water treatment plants and storage facilities; underground pipes for water supply distribution and for sewerage collection; and sewerage treatment plants).

While access to safe and clean drinking water and sanitation are viewed as basic human rights<sup>138</sup>, and there is a high socioeconomic return on investment, affordability and cost-recovery are often a challenge, and many governments struggle to attract private sector investment in projects in the sector.

*Social housing.* The demand for housing often outweighs the supply of existing affordable housing schemes, particularly in developing countries. Affordable housing is often viewed as an impediment to achieving greater economic development, as industries require human capital to be within the proximity of industrial zones. For example, Kenya is struggling to provide affordable housing and the government is launching an ambitious program to build 500,000 homes in the next five years, partially using private sector participation.

Metro Manila in the Philippines is also using the private sector to develop affordable housing solutions. Specifically, the private sector has been used to create housing opportunities around industrial parks and special economic zones.

Challenges arise when the demand for housing still outweighs the supply, in which case the government will likely need to subsidise or otherwise incentivise private participation. This will particularly be the case where the government is seeking to provide housing to consumers at below-market rates. When providing subsidies to the private sector, governments should also ensure they are providing the correct incentives to the private sector to not only build the housing but also deliver broader benefits associated with such housing. For example, developers can support appropriately planned communities that incorporate residential, industrial and commercial zones, while ensuring that social services, such as schools and hospitals, are available in the vicinity.

An example of an innovative approach to the delivery of social housing in the state of New South Wales, Australia, is the Social and Affordable Housing Fund (see *Box 17: Illustrative example – The Social and Affordable Housing Fund (SAHF) in NSW, Australia.* On next page).

<sup>137</sup> A Sourcebook for Poverty Reduction Strategy, (Klugman J., et al., 2002)

<sup>138</sup> Resolution A/RES/64/292, (United Nations General Assembly, 2010)

### BOX 17: ILLUSTRATIVE EXAMPLE – THE SOCIAL AND AFFORDABLE HOUSING FUND (SAHF) IN NSW, AUSTRALIA.

The Social and Affordable Housing Fund (SAHF) is an innovative approach to the delivery of social and affordable housing in New South Wales (NSW), to provide target housing assistance.

The SAHF was set up with over USD 790 million (AUD 1.1 billion) in seed funding from the NSW Government. This seed capital is invested in the market by the government's investment arm, the NSW Treasury Corporation.

Market returns from this investment will be applied to funding the SAHF. At the end of the program, the government expects to be able to re-invest the capital, with the returns used to support new social and affordable housing projects. Key features of this program include:

- the NSW Government does not take a direct interest in the underlying asset used to deliver accommodation services; a payment stream over a 25-year term funds the gap between provider equity, tenant revenues and the cost of providing the services package;
- a Services Agreement that combines accommodation, asset and tenancy management, tailored support coordination, and performance and data reporting services to deliver tenant and household outcomes; and
- the Services Agreement also provides a pathway to payment by outcomes over time.

The first 2200 affordable homes were completed as part of Phase I of the program. Procurement of an additional 1200 homes is contemplated under Phase II, in progress as of the beginning of 2019.

Source: NSW Social and Affordable Housing Fund (SAHF), [www.nsw.gov.au](http://www.nsw.gov.au)

### 6. Consider the use of inclusivity principles in the setting of Key Performance Indicators (KPIs) and other performance standards.

In transactions involving private partners (including PPP transactions), compliance with KPIs or a failure to meet certain minimum service levels can subject a private partner to incur payment deductions or other forms of penalties. Similarly, performance above the prescribed level can entitle a private partner to bonus payments. The purpose of these mechanisms is to align government objectives with private sector profit drivers. There may also be minimum requirements whereby a failure to comply will entitle the government to terminate the contract.

As is the case with other government objectives, inclusivity targets can be integrated into performance standards. Governments should also consider which social outcomes are better to be mandated as strict requirements and which outcomes should be targets with payment incentives attached. Setting targets may allow the private sector to innovate or to better price the achievement of such outcomes.

If inclusivity is considered central to a project or overall strategy, the KPIs must incorporate inclusivity elements.

Examples of objectives that can be incorporated into contracts are requirements to provide gender-sensitive facilities and access for people with disabilities; or setting targets around recidivism rates for prisons. Further information on incorporating inclusivity in the contract can be found in the GI Hub Reference Guide on Output Specifications for Quality Infrastructure<sup>139</sup>.

Governments will need to work with the private sector to ensure they are not imposing requirements that are not well-suited to profit drivers of the private sector. For example, linking student grades in a school project to KPIs and payment deductions would not be appropriate where the private partner is only providing building maintenance services.

<sup>139</sup> Available at [outputspecs.gihub.org](http://outputspecs.gihub.org)

**7. Consider the use of inclusivity principles in the setting of bidding criteria, so as to encourage innovation.**

Governments can utilise the competitive bidding process to maximise inclusive benefits. For example, bidding requirements could mandate that a certain percentage of under-served members of the community are employed during construction of an infrastructure asset, or the bidding rules could provide some weighting within the bidding criteria to encourage bidders to compete on that basis. Allowing for such competition might create a situation where some bidders agree to deliver a greater degree of inclusivity benefits than that which the government had thought was achievable.

**8. Consider providing training to private sector infrastructure providers, to overcome prejudices in respect of low-income and marginalised groups.**

Private sector infrastructure providers should understand how serving low-income communities and other vulnerable groups fits into the government's values and priorities<sup>140</sup>. For example, training was provided to the private sector employees working on the TransMilenio Bus Rapid Transit System (see *TransMilenio BRT Case Study*) in Colombia to help them better understand and appreciate the needs of people with disabilities, homeless people, and women and children.

**9. Consider the laws relating to private sector corporate governance and possible reforms to such laws.**

There is a lack of clarity in many jurisdictions as to what consideration for-profit board directors should give to inclusivity and other environmental, social and governance (ESG) factors in the fulfilment of their fiduciary duties. Fiduciary duties require board directors to act exclusively for the benefit of the company they are serving. Those duties include duties of care, loyalty and prudence. In exercising those duties, some directors are uncertain as to whether their duties allow for the integration of ESG factors. To ensure that inclusivity is being considered not only by government, but also by directors of private organisations, governments should consider providing more clarity on what consideration should be given by corporate board directors to inclusivity and ESG factors<sup>141</sup>.

**10. Establish reporting mechanisms that assess service delivery and customer satisfaction.**

Private sector infrastructure projects can be made subject to review by end users and other consumer groups. For example, 'customer challenge groups' can be established to provide independent reviews and assurance of the quality of the customer engagement program of a private sector infrastructure provider, and the degree to which an inclusive approach is reflected in the provider's business plan. This helps to ensure the private sector infrastructure provider takes a proactive approach to serving hard-to-reach or vulnerable groups.

This practice has been applied by SES Water in the UK (see *Box 18: Illustrative Example – Independent customer challenge groups (CCG) to review and report on a company's customer engagement*). The customer challenge group is required to submit an independent report to the regulator at the same time as the company submits its business plan<sup>142</sup>. Stakeholder engagement is detailed further in Action Area 1: Stakeholder Identification, Engagement and Empowerment.

<sup>140</sup> Better practice in supplying water to the poor in global Public Private Partnerships, (Jacobs, J., & Franceys, R., 2007).

<sup>141</sup> See also information on fiduciary duty on the Principles for Responsible Investment website, available at [www.unpri.org/fiduciary-duty](http://www.unpri.org/fiduciary-duty)

<sup>142</sup> Atkins Water Infrastructure Expert, 2018

## BOX 18: ILLUSTRATIVE EXAMPLE – INDEPENDENT CUSTOMER CHALLENGE GROUPS (CCG) TO REVIEW AND REPORT ON A COMPANY'S CUSTOMER ENGAGEMENT

### Context

Ofwat, the regulator for the water sector in England and Wales, expects water companies to engage directly with their customers (as they are best placed to understand their needs) and use the information they gather to drive decision-making on investments in infrastructure, taking affordability and customers' potential vulnerability into account, to provide excellent levels of service for all. Their approach should also inform the development of their business plan.

### Application

Customer challenge groups (CCGs) provide independent challenges to companies and assurance on the quality of a company's customer engagement, and the degree to which that is reflected in its business plan. SES Water is a UK water supply company and its CCG membership reflects local circumstances and challenges.

It includes a representative from the Consumer Council for Water; the environmental and drinking water quality regulators (the Environment Agency and the Drinking Water Inspectorate, respectively); members of environmental and social NGOs; and local businesses. The CCGs must provide an independent report to the Water Services Regulation Authority, which is submitted at the same time as companies submit their business plans to Ofwat.

SES Water, with advice and guidance from its CCG, has considered the different customer segments it serves, and ensured they are appropriately represented during the customer engagement process. This includes defining customers living in vulnerable circumstances as, "A customer who due to personal characteristics, their overall life situation or due to broader market and economic factors, is not having reasonable opportunity to access and receive an inclusive service which may have a detrimental impact on their health, wellbeing or finances". This includes hard-to-reach customers, or people who cannot or have not embraced digital technology. Through the CCG, these groups are given a voice and a platform to air any grievances. The company has thought creatively about how to engage with harder-to-reach customers in the design of its services and this has influenced its investment priorities. Together, the CCG and the company are tackling longer-term issues, such as resilience, the impact on future bills and affordability.

SES Water supplies residents in East Surrey and parts of West Sussex, West Kent and South London. Its supply area covers 835 square kilometres (322 square miles), much of it rural. Drinking water is supplied to approximately 707,000 consumers in 286,000 properties.

Source: Ofwat, SES Water, Atkins Water Infrastructure Expert

## INCLUSIVE OPPORTUNITIES FOR BUSINESSES

### Overview

Businesses owned by women or other minority groups can be encouraged to participate in major infrastructure projects, depending on their capabilities, willingness and readiness. Such businesses usually face higher barriers to market entry, such as, for example, discrimination, working capital and growth capital constraints, or lack of experience.

A study undertaken by the Organisation for Economic Co-operation and Development (OECD) reveals a similar picture within all OECD countries: "Disadvantaged social groups, such as women, youth and immigrants, face barriers to entrepreneurship. Social norms, networks and welfare systems, as well as access to finance and skills for entrepreneurship, are important obstacles that call for

corrective policy action"<sup>143</sup>. Evidence shows that women-owned businesses are particularly under-represented, as they face greater challenges in comparison to comparable businesses owned by men.

Specific activities or government interventions can help overcome some of these challenges and create more equal opportunities. As an example, the EBRD's Economic Inclusion Strategy has a focus on "entrepreneurship and access to finance", targeting youth, gender and geographies (populations in disadvantaged regions). The Strategy promotes and assists in specific procurement methods to increase participation of such enterprises<sup>144</sup>.

Many of the initiatives taken by governments in this area relate to women-owned businesses. However, the guidance provided below applies broadly to all under-represented groups (related to gender, income, race, age or some other characteristic).

<sup>143</sup> All on board: Making inclusive growth happen, (OECD, 2015)

<sup>144</sup> Economic Inclusion Strategy, (EBRD, 2017)

The economic impact of helping more women to scale up their companies is immense. The consultant firm, McKinsey, estimates that USD 12 trillion could be added to global GDP by 2025 by advancing women's equality<sup>145</sup>. In Canada, research suggests a 10% increase in the number of female majority-owned small and medium-sized enterprises (SMEs) would yield a contribution of USD 151 million (CAD 198 billion) in increased economic activity<sup>146</sup>. In the United States, the Center for Women's Business Research estimates that increasing the number of women-owned firms with one or more employees could add USD 10 trillion to the American economy. The business case for promoting women-owned businesses is compelling<sup>147</sup>:

- 15% additional profit observed when the share of women in leadership positions went from 0% to 30%; and
- 13% greater revenue achieved by companies run by women less than 35 years old, compared to companies run by men of the same age.

## Relevance

- Attention should be paid to businesses owned by women and other under-served or vulnerable groups to promote inclusivity, not just in access to infrastructure but also in the wider opportunities associated with major infrastructure projects.

### At the policy level:

- *Transparent reporting on instances of discrimination.* Establish national platforms or programs to provide greater transparency on the level of participation of small and medium-sized enterprises to identify instances of discrimination or unequal access, and to address barriers to entry to the market.
- *Encouraging participation of minority groups in procurement processes and capacity building.* Promote national programs that help women and minority-owned businesses improve their access to, and participation in, government-led procurement processes and encourage them to develop their skills.

During long-term planning, identify capacity requirements adequately in advance to develop skills,

<sup>145</sup> The Power of Parity: How Advancing Women's Equality Can Add \$12 Trillion to Global Growth, (McKinsey Global Institute, 2015).

<sup>146</sup> Canadian Women Grabbing the Baton, (Royal Bank of Canada, 2013)

<sup>147</sup> Advancing Women in Business, (Canada-United States Council for Advancement of Women Entrepreneurs & Business Leaders, 2018)

and support the private sector to identify suitable businesses owned by women and minorities (see *U.S. Bank Stadium Case Study*).

### At the project level:

- *Integrating inclusivity targets in infrastructure delivery.* Targets related to the use of inclusive businesses in the delivery of major infrastructure projects can be identified and integrated in infrastructure design, construction, operation and maintenance.
- *Monitoring achievement of targets.* Monitoring and supervision can help to ensure targets are achieved and that all stakeholders benefit from the available learning experiences.

## Guidance

### 1. Support the establishment of organisations that encourage and promote the participation of under-served and vulnerable groups in business.

In North America, the Canada-United States Council for Advancement of Women Entrepreneurs & Business Leaders was appointed by the US and Canadian Governments in 2016, reporting to the Prime Minister of Canada and the President of the United States. Its recommendations are designed to reduce the barriers that limit women's participation in business, as well as support women's professional advancement, and assist women in starting and scaling up their businesses<sup>148</sup>.

### 2. Identify barriers and potential solutions to increase the participation of women- and minority-owned businesses.

Examples of barriers that prevent women and other minority groups from competing on equal terms with comparable businesses include lack of working capital and growth capital, inadequate access to markets and expertise, and pervasive social and psychological biases (see also the section on women detailed below under the heading *Application to targeted stakeholder groups*).

### 3. Adopt policy and regulatory interventions to attract and develop women and minority group entrepreneurs and overcome barriers to entry into supply chain and labour markets.

Policy interventions may help address barriers for certain enterprises. For example, in Kenya, the Access to Government Procurement Opportunities (AGPO) program amended the government's procurement rules so as to require 30% of contracts to be given to firms led by young people, women and people with disabilities.

<sup>148</sup> Advancing Women in Business, (Canada-United States Council for Advancement of Women Entrepreneurs & Business Leaders, 2018)



**4. Consider minimum targets for integrating women- and minority-owned businesses in major infrastructure projects.**

For the U.S. Bank Stadium project, the State of Minnesota created an Equity Plan, which aimed to reduce discrimination and social disparity by ensuring women and minority groups benefited from the construction and employment opportunities arising from the project.

Under that plan, the State of Minnesota required that at least 11% and 9%, respectively, of construction contracts be awarded to women- and minority-owned businesses. The state also mandated that at least 32% and 6% of the workforce be from minority groups and women, respectively.

**5. Mandate government agencies and implementing agencies to plan and facilitate the inclusion of a diverse range of businesses in the delivery of a project.**

In connection with the above-mentioned U.S. Bank Stadium project, the City of Minneapolis conducted a study on the state of social disparities and inequalities between women- or minority-owned businesses in comparison to other businesses. Under this study, the capacity of the market, based on willingness, readiness and skills, was assessed, which resulted in a target threshold for women- and minority-owned businesses being given to the Minnesota Sports Facilities Authority, the government's implementing agency for the project.

To ensure that these business targets were met, the Minnesota Sports Facilities Authority initiated a number of programs, including activities to introduce women- and minority-owned businesses to contractors and architects; the organisation and facilitation of 'meet and greet' sessions; and support to businesses during the bidding process (for further detail on these activities, refer to the *U.S. Bank Stadium Case Study* in Section 4).

**6. Expand the use of diversity programs, outreach, support and credit to disadvantaged small businesses.**

In France, there is financial and business support for start-ups established by the unemployed who cannot access traditional financial products. In the Netherlands, the government created a facility, known as Start-up Credit for Partially Occupationally Disabled Persons, to provide loans, together with coaching and guidance, for businesses created by disabled people.

**7. Facilitate greater involvement of disadvantaged groups in training programs to better include under-represented groups in access to labour markets.**

Governments can provide training to support under-represented groups (e.g. women, young people and minority groups) to move from unskilled to semi-skilled or skilled work. This can also be achieved by partnering with NGOs and civil society organisations (CSOs) to facilitate activities that reach these groups.

## INNOVATION AND TECHNOLOGY

### Overview

Technologies, particularly digital technologies, are rapidly evolving, and innovation and technology play a significant role in infrastructure projects at the planning, development, and implementation phases. To help create sustainable and responsive solutions that address the needs of the public, new technology must be considered as a key component in the design and development of inclusive infrastructure projects.

The private sector can play an important role in such innovations. However, there is a need for collaboration between the government and private enterprises to leverage new technologies for inclusive infrastructure. There are many benefits that can be derived by government in collaborating with private enterprises to harness new technologies, whether it is by using 'big data' to improve inclusive infrastructure planning or finding new ways to deliver infrastructure with greater inclusivity benefits.

Innovation is a driver of productivity and long-term economic growth, and it can influence the distribution of opportunities and outcomes. Innovation includes both the introduction of new products and services to the market, and finding better ways of producing, marketing and distributing those products and services. At the same time, innovation can also accentuate income disparities, if technological change opens opportunities for individuals with advanced skills to the detriment of those who do not possess those skills<sup>149</sup>.

<sup>149</sup> All on board: Making inclusive growth happen, (OECD, 2015)

## Relevance

### At the policy level:

- *Addressing challenges through technology.* Innovation and technology programs (i.e. in the form of government grants or research priorities) can be designed to have a focus on addressing challenges faced by disadvantaged groups, such as people with disabilities or those living in remote areas.
- *Collaborating with the private sector to develop inclusive solutions.* Government collaboration with the private sector can alter the way infrastructure is planned, so as to make the infrastructure more inclusive. For example, private enterprises can develop applications for mobile devices to enable the collection of large amounts of data, which, in turn, can be used to plan more inclusive infrastructure services (see guidance point 3, on opposite page). The collection and use of data should take into account privacy and other security concerns.

### At the project level:

- *Unlocking additional value through partnering with the private sector.* Partnerships with the private sector in the project development process can unlock additional value for inclusive development. For instance, private sector participation can be used to help find technological solutions to concerns such as food security for the poor and challenges faced by residents in remote areas<sup>150</sup>. Partnerships can also be developed in the areas of value chain development, innovation and technology transfer, business development or advisory services, and market infrastructure and logistics, again with a view to facilitating greater inclusivity<sup>151</sup>.

<sup>150</sup> Public-Private Partnerships for Sustainable Agricultural Development, (Rankin, 2014).

<sup>151</sup> Public-Private Partnerships for Sustainable Agricultural Development, (Rankin, 2014).

## Guidance

### 1. Provide grants, subsidies, access to finance and other support to help private enterprises develop innovations enhancing inclusivity.

Governments and the private sector both have a key role to play in the development and application of technology, and the sharing of lessons learned, for the advancement of inclusivity objectives. One way to incentivise the private sector to develop such new technology is through grants, subsidies, access to finance, or other support.

Technology advancements have the potential to help make infrastructure more inclusive and expand the reach of infrastructure services. A specific example that has leveraged the rapid expansion of telecommunications access is the mobile phone banking service M-Pesa, which has been estimated to have 15 million users in Kenya for daily financial transactions. It brings those who engage with the informal finance sector into a more formal banking system and gives them access to basic financial services<sup>152</sup>. Although it started in East Africa, the technology has since expanded to South Africa and also to countries in Asia and Europe. It is a good example of one type of technological advancement (mobile money applications) building up on another technology (low-cost telecommunications) to enhance inclusivity.

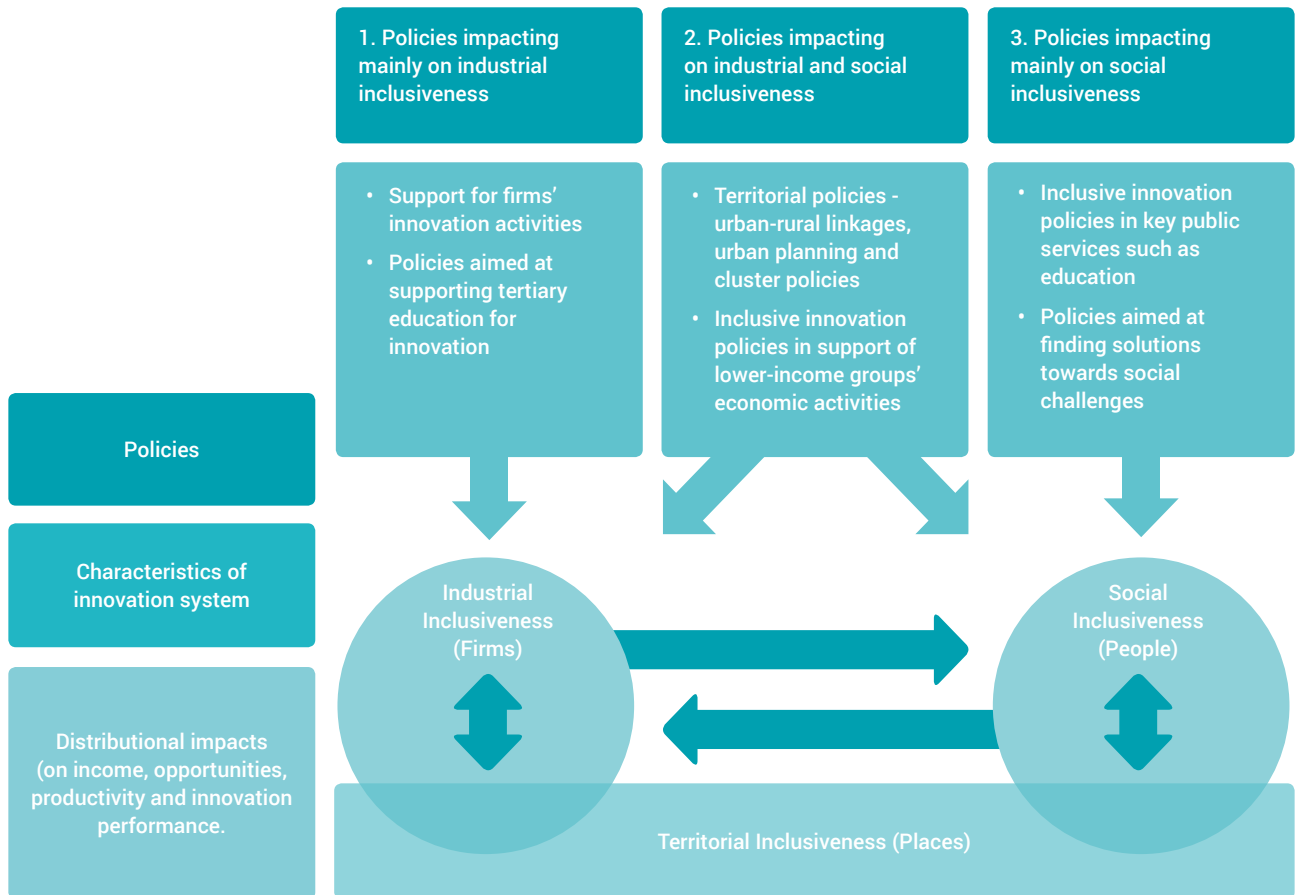
Other examples of technological change benefiting inclusivity in infrastructure services include the advent of less capital-intensive power supply facilities (such as solar power generation) and the associated development of micro-grids that can collectively provide broader access to power where it may not be feasible to have communities connected to the national grid.

### 2. Consider the adoption of policies that strengthen the impact of technological advancements on the delivery of inclusive infrastructure.

The following OECD graphic on the next page suggests some possible links between government policies and the use of private sector innovations to enhance the inclusivity of infrastructure<sup>153</sup>.

<sup>152</sup> All on board: Making inclusive growth happen, (OECD, 2015)

<sup>153</sup> All on board: Making inclusive growth happen, (OECD, 2015)



**3. Promote collaboration with the private sector to leverage the benefits of technology.**

Governments should stay informed in regard to technological advancements and how they can collaborate with private sector enterprises, particularly where technological innovation is being led by the private sector.

In the transport sector, the private sector has a prominent role in developing many innovative technologies where it is willing to invest for a financial return, such as, for example, in the collection of 'big data' from various mobile applications. 'Big data' refers to large data sets that can be computationally analysed to reveal patterns (including relating to human behaviour). Big data collected from various applications (including ride-sharing apps like Uber, travel apps like Citymapper, Facebook, road surface sensors, street light sensors, power meters, etc.) can be utilised for transport planning and to provide greater access to under-served groups by better addressing their needs.

Other examples of the use of technology in transportation to support under-served or disadvantaged groups include:

- improved vehicle technology and design to take into consideration the needs of the physically disadvantaged by providing lower floor ramps and space for prams and walkers;
- smart cards that can be used at pedestrian crossings to adjust the timing of the traffic lights to enable more walking time for those who are mobility-impaired (this is currently being implemented in Singapore);
- geographic information system (GIS) mapping to identify how land is used in communities and how that relates to the transport network, map supply and demand, and identify communities that have poor access to public transportation, which also assists in stakeholder identification and data collection;
- smart cards to provide concessionary fares to special groups, enabling ease of management, enforcement and control of fraud; and
- autonomous vehicles to enable access for people who are unable to use a car or have no access to one, such as people with disabilities or the elderly.

#### 4. Explore the use of appropriate, affordable and alternative technologies to reach remote and under-served areas.

Rural populations are not always well-served by traditional networks because of the remote locations and small concentration of communities. In the power sector, the additional capital expenditure required to connect low-income households in remote areas to the main transmission lines may be unaffordable to the end users.

Government intervention may be required to address these challenges, including by encouraging alternative technology solutions (such as off-grid networks and simplified energy metering technology) to drive down capital expenditure costs and speed up the achievement of universal access.

#### APPLICATION TO TARGETED STAKEHOLDER GROUPS

The general principles of Action Area 5: Private Sector Roles and Participation apply to all stakeholder groups. Some additional points on the application of those principles to specific stakeholder groups are outlined below.

##### Low-income groups

Since many large infrastructure projects are monopolistic by nature, governments may wish to consider establishing appropriate regulatory arrangements to protect the needs of low-income households through the use of 'lifeline' tariffs, subsidised connection fees and similar measures.

Governments may also wish to consider infrastructure's direct and indirect role in job creation as an important part of tackling poverty, and address barriers to accessing jobs by means of focused skill training programs.

##### Women

#### 1. Governments could consider the establishment of organisations to encourage and promote the participation of women in business and entrepreneurship.

As mentioned above, one such example is the Canada-United States Council for Advancement of Women Entrepreneurs and Business Leaders. The Council was appointed by the American and Canadian Governments in 2016 and reports to the Prime Minister of Canada and the President of the United States.

Its recommendations are designed to reduce the barriers that limit women's participation in business, as well as support women's professional advancement, and assist women in starting and scaling up their businesses<sup>154</sup>.

In Ireland, the Going for Growth project similarly supports networking, workshops, mentoring and skills development for women entrepreneurs<sup>155</sup>.

#### 2. Identify barriers and potential solutions to increase the participation of women-owned businesses.

The following examples of barriers to entry to the market have been identified by the Canada-United States Council for Advancement of Women Entrepreneurs and Business Leaders<sup>156</sup>:

- *Lack of working capital and growth capital*: securing the necessary capital to expand a business is generally a challenge for entrepreneurs, but this is more acute for female-owned businesses;
- *Inadequate access to talent, networks, and expertise*: people need these to successfully scale up their businesses. However, vulnerable groups find it difficult to access other business leaders and technical experts because the networks which those leaders and experts develop tend to comprise people from the same social group;
- *Unbalanced 'family economics'*: entrepreneurship fails to offer a sustainable alternative to regular employment for many women, largely because they face a different cost-benefit equation when it comes to balancing work and family obligations; and
- *Pervasive social and psychological biases*: this includes conscious and unconscious biases, as well as external and internal barriers that erode self-confidence and cause women and minority groups to be treated differently by investors.

<sup>154</sup> Advancing Women in Business, (Canada-United States Council for Advancement of Women Entrepreneurs & Business Leaders, 2018)

<sup>155</sup> All on board: Making inclusive growth happen, (OECD, 2015)

<sup>156</sup> Advancing Women in Business, (Canada-United States Council for Advancement of Women Entrepreneurs & Business Leaders, 2018)

### **3. Adopt policy interventions to attract and develop women entrepreneurs and overcome barriers to entry into supply chain and labour markets.**

Several areas of change have been recognised to support greater women-owned businesses and women's employment in the delivery of inclusive infrastructure:

- *monitoring and transparency*: collect data and understand the baseline conditions, measure progress, and report on women-owned business representation;
- make equal representation a top priority;
- actively recruit to increase representation in the applicant pool, including challenging decisions based on stereotypes or unconscious biases and make this a top priority;
- promote women to decision-making positions and set the 'tone at the top' through formal CEO/C-Level engagement, including at investment firms, and encourage influencers to publicly act;
- provide training and coaching (e.g. improving self-confidence) and attract more female mentors;
- build female role models and corporate networks and mentors, giving advice on key issues;
- *networking opportunities*: provide forums for women to network with male leaders and entrepreneurs and facilitate access to business and technical talent; and
- *policy interventions*: make childcare services available to women with young children; adjust social security regimes to offer financing for maternity leave for the self-employed.

#### **People with disabilities**

- 1. Consult with people living with disabilities to best leverage the skills of the private sector and the benefits of new technologies in overcoming barriers to accessing infrastructure, entry into supply chains and labour markets.**
- 2. Consider standards for universal access as a minimum requirement when tendering infrastructure projects.**



## ACTION AREA 6: AFFORDABILITY AND OPTIMISING FINANCE

### Key messages

- The socioeconomic returns for each infrastructure project must be carefully appraised, and issues of inclusivity and affordability clearly considered from the outset in each project's business case.
- In many cases, the socioeconomic returns from infrastructure (as can be shown in the economic Cost Benefit Analysis (CBA)) are higher than the financial internal rate of return from tariffs, etc. Viability Gap Funding (VGF) may be appropriate in these cases and should be carefully targeted.
- Affordability of tariffs and infrastructure services for low-income groups is an important aspect of ensuring inclusive infrastructure and enabling universal access to basic services.
- Willingness to Pay (WTP) and Ability to Pay (ATP) must be evaluated to determine affordability barriers for low-income people and other vulnerable groups.
- Financial assistance may be used to bridge affordability barriers to targeted users (e.g. low-income groups). The various options by which subsidies can be applied must be carefully evaluated.
- A project's revenue streams may be a combination of government funding (from taxpayers), user charges, and other ancillary revenue streams
- To be inclusive and sustainable throughout its lifecycle, an infrastructure service must be both (i) affordable to the targeted end users; and (ii) have adequate revenue streams to meet its debt obligations and enable its safe operation and maintenance.

Three key practices have been identified under this Action Area for which further detail and guidance is given in the sections below:

Business Case

Willingness and Ability to Pay

Financial Assistance and  
Subsidy Instruments

## DEFINITIONS AND CONTEXT

### Definitions

The **Business Case** is the document that articulates the rationale for undertaking an investment. A well-prepared business case enables government decision-makers to understand the key issues, the available evidence base, influence appropriate scope and select the best option for delivery. The G20 *Principles for the Infrastructure Project Preparation Phase*<sup>157</sup> set out a list of critical aspects to consider in the Business Case under the dimensions of project rationale, options appraisal, commercial viability, long-term affordability and deliverability. Additional guidance on the preparation and uses of Business Cases is found in Chapter 5 of the GI Hub's Reference Tool on *Governmental Processes Facilitating Infrastructure Project Preparation*<sup>158</sup>.

The term **Affordability** can vary in meaning, depending on the perspective being considered. Affordability of the project from a government's perspective often refers to the project's ability to be accommodated within the government's current and future budget constraints. From the perspective of end users, the affordability of tariffs will relate to their ability to pay the tariffs or other user charges associated with the infrastructure in question and not be excluded from accessing the service, which may be a particular concern for low-income groups.

A gap may exist between the level of tariffs or user charges that can be charged to end users and the revenues required to meet the project's costs, and governments can use various mechanisms to close this gap. The use of cross-subsidy structures, government subsidies and ancillary revenue arrangements can be used to help address this situation.

Guidance on these mechanisms can be found in the 2016 World Bank publication *Financial Viability Support: Global Efforts to Help Create Commercially Viable PPPs*<sup>159</sup>.

The two aspects of affordability – from the government fiscal perspective and the user perspective – are linked. Since there are typically constraints on public budgets, careful attention needs to be given to the design and delivery of efficient and well-targeted subsidy mechanisms.

**Ability to Pay** (also sometimes known as Affordability to Pay or ATP), is a measure of end users' spending capacity and is typically based on their household income and expenditures.

**Willingness to Pay** (WTP) is a measure of the maximum amount that a consumer will agree to pay for the use of an infrastructure service such as water, electricity or public transportation.

A critical appraisal of the WTP and ATP of end users needs to be made in the Business Case for infrastructure projects and during the tariff-setting process. Vulnerable groups with the lowest income levels are particularly price-sensitive. Their spending capacity, preferences and expectations, as well as the benefits they derive from the infrastructure service, must be carefully considered.

**Financial Assistance** can take the form of government subsidies for the provider (the project company) and/or the end users of the services, with the aim of promoting the government's economic and social policy objectives.

<sup>157</sup> Found at [http://www.g20.utoronto.ca/2018/principles\\_for\\_infrastructure\\_project\\_preparation.pdf](http://www.g20.utoronto.ca/2018/principles_for_infrastructure_project_preparation.pdf)

<sup>158</sup> The complete Reference Tool is available at <https://www.gihub.org/project-preparation/>

<sup>159</sup> Financial viability support: Global efforts to help create commercially viable PPPs, (The World Bank Group, 2016)

## Context

Infrastructure should be carefully planned and designed to meet the needs of end users, and to use public financial resources in line with country-specific policy, strategies and regulations.

As set out in the G20 *Principles for the Infrastructure Project Preparation Phase*<sup>160</sup>, each project Business Case should consider the dimensions of project rationale, options appraisal, commercial viability, long-term affordability and deliverability.

This appraisal must consider the project's financial viability and its affordability from the perspective of both end users and the government:

- Infrastructure needs to be financially viable, in that the funding received, whether through end user tariffs or from taxpayers through government budgets, must be adequate to meet the cost of operating and maintaining the infrastructure assets, as well as meeting any obligations to repay the financing for its initial construction. This objective will lead to a focus on 'cost-reflective' tariffs, since without adequate funding to maintain the asset, it will deteriorate, which will lead to reduced access and poor service levels.
- Governments also strive to serve their citizens' needs and to maximise infrastructure usage by setting tariffs that are affordable for end users. More affordable charges to end users will increase access, leading to better socioeconomic returns. To achieve universal access to infrastructure, the cost of usage (i.e. a bus or train ticket, an electricity connection fee or a water usage charge) needs to be affordable for all.
- In addition to being affordable to end users, and financially sustainable in terms of having adequate funding and operational revenue, infrastructure is a substantial investment and must also be affordable from the government's fiscal perspective – which means that the financial commitments of the government to the project (in the form of direct funding or subsidies) must be accommodated within the government's current and future budget constraints<sup>161</sup>. Governments also need to be cognisant of the contingent liabilities which the state is assuming in respect of infrastructure projects, in the form of payments or assumptions of liability that may arise if particular risks allocated to the government under a PPP materialise.

To ensure that the infrastructure is accessible, affordable (to both end users and the government) and financially viable, therefore, requires a detailed analysis of the costs and benefits. When pricing is set to meet criteria, such as cost recovery and return on investment, there is a risk that low-income segments of society will likely be excluded from a given service. This may also overlook broader socioeconomic benefits to society, such as broader job creation, decreased pollution and better health outcomes. Targeted subsidies or concessional tariffs can help reach groups that cannot otherwise afford the infrastructure services. The choice of subsidy or tariff structure is often political, as well as economic, as each option has its advantages and disadvantages, as outlined below in the practice analysis.

The optimisation of pricing and use of financial subsidies is challenging. The need to reconcile securing an efficient pricing arrangement (which is important from an investor's perspective), with inclusivity and equity considerations (which are important from a public policy perspective) is a particularly complex task. For example, in the transport sector, government policies have sometimes only considered aspects of mobility, such as time-savings to motorists, rather than greater overall accessibility and increasing the affordability of transport for the poor<sup>162</sup>. To properly address the problem of achieving both efficient pricing and inclusive outcomes, it is helpful to focus more broadly on accessibility rather than just mobility, while at the same time trying to achieve affordability to ensure inclusive access. Given the need for fiscal affordability to government, it is important to have well-targeted and effective measures to assist low-income and other vulnerable groups, and to eliminate waste of resources through inefficient targeting<sup>163</sup>.

To help increase affordability, additional revenue opportunities can be useful, and should be considered in the project planning phase. For example, public transport projects can derive income both from passengers (via fare payments) and, potentially, from adjacent businesses benefitting from the additional traffic caused by the new transport service (via increased taxes or other revenue-raising schemes). Infrastructure can also create new business opportunities: for example, advertisers will pay for space on billboards near train platforms, and drivers can be charged for parking their cars close to the stations. In the case of the Mi Teleférico cable car system between La Paz and El Alto in Bolivia (see *Mi Teleférico Cable Car Case Study* in Section 4), complementary revenue streams represent 15% of the total revenue. The project achieved a financial surplus of USD 5.8 million within five years, entirely from farebox collection and this additional complementary revenue.

<sup>160</sup> Found at [http://www.g20.utoronto.ca/2018/principles\\_for\\_infrastructure\\_project\\_preparation.pdf](http://www.g20.utoronto.ca/2018/principles_for_infrastructure_project_preparation.pdf)

<sup>161</sup> Assessing Fiscal Feasibility (Affordability), (APMG International, n.d.)

<sup>162</sup> Transport Pricing and Accessibility, (Kenneth Gwilliam, 2017)

<sup>163</sup> Noting that some high-income countries, such as Luxembourg, are moving towards policies for free public transport, however the fiscal feasibility is likely to be limited in most economies.



## ANALYSIS AND GUIDANCE ON PRACTICES

### BUSINESS CASE

#### Overview

Infrastructure projects should use public resources in line with country-specific policy, strategies and regulations. Quantitative and qualitative social criteria that target inclusiveness can and should be embedded in national guidelines pertaining to the preparation of infrastructure project Business Cases.

At the heart of any Business Case is the appraisal and weighing up of costs and benefits. For inclusive outcomes, social parameters and measurements should be explicitly integrated in the Business Case development process. Integrating inclusive social parameters, criteria and measurements into each Business Case enables the explicit quantitative and qualitative consideration of such criteria.

In the past, it was suggested that there is, inevitably, a binary trade-off between equality and economic efficiency<sup>164</sup>. However, more recent commentators have noted that equality is an important ingredient in promoting and sustaining economic growth<sup>165</sup>. A properly-prepared Business Case allows decision-makers to make a comprehensive assessment of the costs and benefits of options, in terms of both efficiency and distributive effects, and progresses this assessment beyond a binary, zero-sum approach. The Business Case is an important process by which options can be appraised and projects can be carefully designed so as to reduce inequality and maximise social benefits, thereby promoting economic growth. In contrast, poorly designed projects that do not adequately address the needs of disadvantaged groups can have the effect of limiting the potential for such growth.

During the development of the Business Case, different scenarios can be analysed. Both quantitative (e.g. level of availability and accessibility) and qualitative (e.g. perception of safety and sense of community) parameters should be considered.

#### Relevance

To develop the Business Case, costs and benefits are, ideally, quantifiable. One of the challenges is that social parameters and benefits are, frequently, not easily measurable (in terms of valuations in monetary units), and lend themselves more readily to qualitative evaluation. Nevertheless, there is scope to better integrate social parameters in the project development process.

<sup>164</sup> Equity and Efficiency: The Big Tradeoff, (Okun, 1975)

<sup>165</sup> Inequality and Unsustainable Growth: Two Sides of the Same Coin? (Berg and Ostry, 2011)

#### At the policy level:

- *Integrating social considerations into policies and guidelines to steer Business Case development.* Social parameters should be integrated in national policies and guidelines that guide the preparation of Business Cases for infrastructure projects. Social formulae may be included alongside more financial, environmental and technical criteria. This also provides transparency in terms of objectives and expected outcomes.

#### At the project level:

- *Including social formulae in the Business Case for every infrastructure project.* Social inclusion parameters should also be clearly integrated at the project level. Since Business Cases typically require costs and benefits to be calculated over a specified timeframe, a reasonable estimate of the duration and the expected socioeconomic returns must be developed.

#### Guidance

##### 1. Consider inclusivity from the outset in each infrastructure project Business Case.

The Business Case for an infrastructure project can be prepared following various models, such as the UK Government's Five Case Model<sup>166</sup> that helps produce business cases for projects which use public spending. It involves the consideration of strategic, economic, commercial, financial and managerial criteria. From an inclusivity perspective, the economic case is particularly critical, as it determines the net value to society (the social value) of the proposed project.

The Business Case should involve an appraisal of the impact of the proposed project – and its alternatives – on society, and the costs of risks and mitigation measures. Depending on the desired impact, a preferred optimum balance between costs, benefits and risks to society will be made. This also leaves room to integrate and weigh-up qualitative aspects in the decision-making process. A description of the key appraisal steps in Business Cases, based on the UK Government's guidance, is provided on the next page:

<sup>166</sup> The Green Book, Central Government guide on appraisal and evaluation, (HM Treasury, 2018)

### DESCRIPTION OF KEY APPRAISAL STEPS

The rationale for the project is the first step. This should be used to identify the objectives or outcomes that the government wishes to meet through the infrastructure investment.

A long-list of options considers how best to meet the government's objectives with a wide range of possible approaches. They should be appraised for viability and filtered down to a shortlist.

A shortlist appraisal follows and is at the heart of the economic appraisal, where expected costs and benefits are estimated, and the trade-off is considered. This is done using Social Cost Benefit Analysis (SCBA) or Social Cost-Effectiveness Analysis (SCEA).

Identification of the preferred option is based on a detailed analysis at the shortlist appraisal stage. It involves determining the option with the best balance of costs, benefits, risks and other unmonetisable factors.

Monitoring refers to the collection of data, during and after implementation, to improve current and future decision-making. Evaluation is the systematic assessment of a project's design, implementation and outcomes. Both monitoring and evaluation should be considered before, during and after implementation.

Source: The Green Book, Central Government guide on appraisal and evaluation, (HM Treasury, 2018).

## 2. Incorporate Social Cost Benefit Analysis in the Business Case and include key inclusivity indicators.

### SOCIAL COST BENEFIT ANALYSIS (SCBA)

SCBA is an appraisal tool that is used to evaluate how public investment projects benefit society. It is an economic Cost Benefit Analysis that incorporates non-monetary outcomes by converting them into a monetary value, such as environmental impacts, time savings, health benefits, and accident costs (for transport projects). SCBA is an economic model which attempts to quantify social outcomes, whereas the financial CBA considers only the financial model related to investment and its Financial Internal Rate of Return (FIRR).

All groups in society need to be considered when developing a SCBA. For example, when users or consumers pay for a bus fare, they want the fare to be as cheap as it can be. At the same time, the bus operators or suppliers want the fare to be set as high as possible, so they can regain their costs. Bus drivers want an increase in their salary at least in line with inflation, and society as a whole wants further investment in better, cleaner, more frequent transport services.

All of these views need to be considered as part of the decision-making process.

The analysis of the prices, costs and intangible benefits from the perspective of consumers, suppliers and society makes up the SCBA.

Source: Atkins internal

The results of a SCBA should be clearly summarised and supported by more detailed analysis. Given the challenges of measuring social factors, key assumptions should be stated, and any additional non-monetised costs and benefits shown. Despite monetising social and environmental aspects, a SCBA may be blind to distributional issues.

An illustrative example of a SCBA and the resulting Net Present Social Value is shown on the next page in *Box 19: Illustrative example - Social cost benefit analysis in an appraisal model for a land remediation project, United Kingdom.*

### BOX 19: ILLUSTRATIVE EXAMPLE – SOCIAL COST BENEFIT ANALYSIS IN AN APPRAISAL MODEL FOR A LAND REMEDIATION PROJECT, UNITED KINGDOM

Officials are appraising the remediation (treatment) of 15.8 hectares (39 acres) of contaminated land to be funded through a public sector grant. The clean-up of the land would enable new businesses to move closer to an existing cluster of firms in a highly productive sector. The positive outcomes of the intervention can be estimated by the change in the land value of the site (land value uplift), and the health and environmental effects. There is data on the current and likely value of the land, post remediation. For simplicity, it is assumed all values below are already appropriately discounted.

VARIABLE	VALUE IN GBP
Existing use land value estimate	(1,200,000)
Future use land value estimate	9,820,000
Total land value uplift	8,620,000
Wider social benefits	1,400,000
Present value benefits (PVB), including land uplift, health and environmental effects	10,020,000
Present value cost (PVC)	(10,000,000)
<b>Net present social value (NPSV)</b>	<b>20,000</b>
<b>Benefit cost ratio (BCR = PVB/PVC)</b>	<b>1.002</b>

In this appraisal, the project is viable with a positive NSPV of GBP 20,000. The total amount is GBP 10,020,000 when wider social benefits of GBP 1.4 million are added to create the project value as a result of the remediation. The benefits exceed the costs of the remediation only when the wider social benefits are considered. Under the more inclusive assumptions, the project is implemented based on a positive NPSV and a BCR higher than 1.

Source: Ministry of Housing, Communities and Local Government, United Kingdom, The Green Book Central Government guide on appraisal and evaluation (HM Treasury, 2018)

### 3. Consider the use of Multiple Criteria Analysis to appraise large infrastructure projects in order to present monetised and non-monetised impacts of projects to decision-makers.

Multiple Criteria Analysis (MCA) is an umbrella term used to describe various types of approaches used to assist decision-makers to take explicit account of multiple criteria in finding a solution<sup>167</sup>. It is a social-technical process, including scoring and weighting, used by public entities to appraise prospective infrastructure developments. While not as common an appraisal analysis as Cost-Benefit Analysis (CBA) or Cost-Effectiveness Analysis (CEA), MCA offers a complementary method to overcome some of the shortcomings of traditional cost-benefit studies<sup>168</sup>.

SCBA is a normative procedure that prescribes whether the benefits of a project outweigh its costs on a monetary measurement basis. Based on the efficiency criterion, CBA analysts will inform decision-makers about the trade-offs they should make and pass judgement on the quality of their choices.

Instead of making normative recommendations, MCA analysts only describe and inform decision-makers on the nature of those trade-offs.

The main role of MCA is to deal with the difficulties that decision-makers have in handling large amounts of complex and often conflicting information in a consistent way. It adds economic, social and environmental dimensions to the appraisal. It brings a degree of structure, analysis and openness to the decision-making process and goes beyond the practical reach of a CBA analysis. MCA is typically more inclusive of stakeholders' opinions and preferences than the CBA. An MCA analysis performed very early in the project planning and design can usefully guide the inclusion of additional economic, social and environmental considerations<sup>169</sup>. MCA has been typically used to filter rather than to make final decisions, and can help because it is faster to process than CBA and helps evaluate impacts that cannot be fully quantified, however, there is a risk of double counting benefits in an MCA that would be well-managed in a properly conducted SCBA.

Various types of MCA approaches have been developed. One such approach is the Policy-Led Multi-Criteria Analysis (PLMCA) that seeks to achieve closer alignment with government policy across a wide set of objectives, including conflicting policy objectives<sup>170</sup>. Another MCA approach is the Infrastructure Prioritization Framework (IPF)<sup>171</sup> developed by the World Bank. The IPF is a multi-criteria decision support tool that considers project outcomes along two dimensions: social/environmental and financial/economic. When large sets of small to medium-sized projects are proposed, resources for implementation are limited, and basic project appraisal data are available, the IPF can be used to inform decision-makers in regard to project selection priorities.

### 4. Integrate monitoring and evaluation processes on inclusion into the business case itself.

A robust monitoring and evaluation process is essential in order to ensure that long-term infrastructure projects continue to achieve the government's socioeconomic objectives. The UK Treasury's *Green Book: Central government guidance on appraisal and evaluation*<sup>172</sup> suggests that the planning for monitoring and evaluation should take place at an early stage, before the implementation of a project, and that it should continue through to the end of the project's lifespan. At each stage, specific inclusivity parameters should be integrated into the monitoring and evaluation arrangements.

<sup>167</sup> Multiple Criteria Decision Analysis: an integrated approach, (Belton & Stewart, 2002)

<sup>168</sup> For example, people might feel more strongly about a project that imposes both environmental and social costs, than that which would be estimated by adding separate valuations of the two effects.

<sup>169</sup> Multi-criteria analysis: a manual (Department for Communities and Local Government, 2009)

<sup>170</sup> Theory and Background of Multi-Criteria Analysis (MCA): toward a policy-led MCA for megaproject transport infrastructure appraisal, (Ward, E.J., Dimitriou, H.T., and Dean, M., 2016)

<sup>171</sup> The Infrastructure Prioritization Framework: An Alternative Approach to Project Selection, (The World Bank Group, 2016), available at [https://library.pppknowledgelab.org/documents/3552?ref\\_site=kl&keys=prioritization&restrict\\_pages=1&site\\_source%5B%5D=Knowledge%20Lab](https://library.pppknowledgelab.org/documents/3552?ref_site=kl&keys=prioritization&restrict_pages=1&site_source%5B%5D=Knowledge%20Lab)

<sup>172</sup> The Green Book, Central Government guide on appraisal and evaluation, (HM Treasury, 2018)

## WILLINGNESS AND ABILITY TO PAY

### Overview

The determination of a fee, or tariff, for the use of an infrastructure service is common practice and usually involves an analysis of end users' ability to pay (ATP) and their willingness to pay (WTP)<sup>173</sup>. Knowledge and understanding of the ATP and WTP of end users should be reflected in the Business Case and assist in the formulation of accessible tariff structures, subsidies, grants or output-based aid (OBA) mechanisms.

ATP is a measure of affordability. When a set tariff is defined for access to an infrastructure service, there is a risk that certain groups or individuals may be excluded from using it, as the tariff level exceeds their ability to pay. This creates economic and social inequalities and disparities. Data analysis, stakeholder engagement and surveys can help to define critical affordability thresholds. Affordability is linked to the income of a person and his/her household budget. Although a number of 'rules of thumb' on the affordability thresholds of utilities expenditures as a percentage of income are sometimes

cited, these are not absolute, and are subject to trade-offs. For example, transport users may trade off housing costs for transport costs.

WTP can be independent of personal or household income, and can be affected by historical precedence (e.g. resistance to the introduction of water charges in a country where such charges did not previously exist); by perceptions of fairness and quality of service; and by the availability of other options (e.g. a non-tolled transport route).

An inclusive approach to ATP and WTP studies will involve applying the analyses to disaggregated groupings of stakeholders (by income level, gender, etc.) while also considering intra-household effects where there are members of the household who would not normally control expenditure.

Ability to pay should be considered alongside willingness to pay. There are standard approaches on how to conduct ATP and WTP analyses, but such studies are inherently problematic, and results can change over time depending on circumstances.

Some of the challenges of conducting ATP and WTP analyses are:

### CHALLENGES OF ABILITY-TO-PAY ANALYSIS

The ability-to-pay analysis, in the context of increasing the accessibility of certain infrastructure, requires a detailed understanding of the project's revenue, expenditure structure, inflation and other factors. The income of end beneficiaries and society groups at risk of not being able to access the infrastructure may be exposed to the negative impacts of climate change, job insecurity, and financial and political instability. This results in continuous change and fluctuation of household income. Additional micro and macro-economic factors (e.g. inflation) further impact spending capacity. Such circumstances and uncertainties create an additional challenge when identifying the ability to spend. To determine the most realistic numbers, income and expenditure variations need to consider fluctuations, dependencies and cost of living (housing, subsistence, education, leisure).

### CHALLENGES OF WILLINGNESS-TO-PAY ANALYSIS

The willingness-to-pay analysis is complicated because it relates to a moment in time and a specific situation in which choices are made (e.g. if undertaken during a drought when there is limited food, priority is given to food).

It is also subjective and requires the respondent to be honest and realistic in their self-assessment when asked during a survey.

As illustrated in the Kenya Last Mile Connectivity Program Case Study, WTP in the poorest households will be influenced by competing priorities.

Source: Accounting for Poverty in Infrastructure Reform, World Bank, 2002

<sup>173</sup> Willingness to pay is defined as the maximum price at or below which a consumer will definitely buy one unit of a product. The assessment is often not that straightforward as it depends on personal preferences, choices available and circumstance in which the decision is made.

## Relevance

### At the policy level:

- *Performing ATP and WTP analyses considering aspects of inclusion to increase accessibility and affordability.* Carrying out ATP and WTP studies with an inclusivity focus (i.e. studies that consider low-income and other vulnerable groups) can inform the policy development process and positively influence increased accessibility and affordability.
- *Combining analysis results with data to determine optimal tariffs or subsidies.* In combination with data collection and disaggregation, these studies can also help to set the tariff or subsidy at an optimal overall cost to the economy and society.

### At the project level:

- *Determining the bankability of a project through ATP and WTP analyses.* At project level, ATP and WTP studies are essential instruments to determine whether a project is affordable and bankable. If the analysis shows that the tariff needed to achieve financial viability will not be affordable, or that end users will be unwilling to pay such tariffs, then there is a possible need for financial assistance from the government to decrease the overall cost of the project.
- *Facilitating affordability discussions with funding entities through ATP and WTP studies.* Such studies can facilitate dialogues with government agencies and donor organisations on the subject of how the viability gap can best be addressed.

## Guidance

### 1. Prior to conducting ATP and WTP studies, collect and analyse relevant data using varied collection methods.

If disaggregated data from national statistics is used for ATP and WTP studies, it needs to be robust and available at the required level of detail. In the absence of robust disaggregated data, separate surveys and data collection efforts will have to be undertaken to estimate the gap between what a household can, and is willing to, pay for the proposed infrastructure service, and the actual cost of the service. One drawback with WTP surveys is that they are based on hypothetical questions rather than on actual payment behaviour<sup>174</sup>.

<sup>174</sup> Accounting for poverty in infrastructure reform - learning from Latin America's experience, (Estache, Foster, & Wodon, 2002)

### 2. Prioritise the poorest communities, given the vulnerability of their income and expenditure levels.

Individuals in the poorest communities need to allocate scarce resources to meeting basic necessities. For example, one of the findings in the *Kenya Last Mile Connectivity Program Case Study* was that, in the poorest communities, food and clothing were prioritised over access to electricity. In addition, ATP and WTP studies should take into account the fact that, in poor communities, incomes may be highly unstable and prone to fluctuation. Most exposed and vulnerable communities are impacted by seasonality and climate change, and they rely on global markets and commodity prices. Their income is dependent on various factors beyond their control, such as a stable political and financial environment.

Another example of the special circumstances affecting the poorest communities is provided by India where, despite the widespread availability and relative affordability of telecommunications services, not all segments of society use such services<sup>175</sup>. Several factors contribute to this, such as restricted mobility, lack of education, men's control over information, media content excluding rural women, etc. Poorer communities also cannot benefit from access to the internet if they are illiterate<sup>176</sup>.

### 3. Ensure the service quality matches the expectations of users.

Unreliable and inadequate supply is one of the reasons households 'opt out' of accessing infrastructure. People will be less willing to accept tariff increases where they have no confidence that the service will improve, or if they have suffered poor experiences in the past related to promises of improved service.

### 4. Consider differences in the local context, within a country or in the wider community.

The differences between communities in regard to their members' willingness to pay for particular types of infrastructure services may be significant. For instance, mobile users in sub-Saharan Africa spend, on average, 15% of their total income on mobile services. More people in sub-Saharan Africa now have access to mobile services than sanitation. In contrast, people in Chile with the lowest incomes are only willing to spend 2–3% of their earnings on communication devices. This is far below the cost of the technology needed to connect to the internet<sup>177</sup>.

<sup>175</sup> Topic Guide, Maximising the Benefits to the Poor from Infrastructure Programs aimed at Increasing Growth, (Hawkins, Wells, & Fernz, 2014)

<sup>176</sup> Topic Guide, Maximising the Benefits to the Poor from Infrastructure Programs aimed at Increasing Growth, (Hawkins, Wells, & Fernz, 2014)

<sup>177</sup> Topic Guide, Maximising the Benefits to the Poor from Infrastructure Programs aimed at Increasing Growth, (Hawkins, Wells, & Fernz, 2014)

### 5. Determine a minimum tariff value for the services provided.

Providing a service or infrastructure for free may not encourage responsible behaviour. For example, providing free water distribution creates a risk that users will not value the service, leading to overuse and a lack of general care and maintenance. Charges based on volumetric consumption of electricity can also promote more responsible use and maintenance. However, some countries have also opted to fully subsidise infrastructure access for a specified group of individuals (see, in the final sub-section of this Action Area, *Box 21: Illustrative example – Concessionary bus fares, free travel for older people and people with disabilities, United Kingdom*).

Setting a lifeline tariff for low consumption levels, and increased tariffs at higher levels, can also promote effective demand management.

### 6. Consider smaller projects when reaching out to vulnerable community groups.

Often more innovative solutions can be applied to smaller projects, with service levels being tailored to needs and affordability levels. The advantage of a smaller project is demonstrated by the United Nations Capital Development Fund's (UNCDF's) Unlocking Public and Private Finance for the Poor Local Finance Initiative (see *Box 20: Illustrative example - Integration of private sector financing in combination with output-based aid*).

#### BOX 20: ILLUSTRATIVE EXAMPLE - INTEGRATION OF PRIVATE SECTOR FINANCING IN COMBINATION WITH OUTPUT-BASED AID

The United Nations Capital Development Fund's (UNCDF) Unlocking Public and Private Finance for the Poor Local Finance Initiative is a flagship program that offers practical examples of public and private financing, and a platform for knowledge exchange for least developed countries (LDCs). LDCs suffer from chronic infrastructure deficits, which are even more pronounced in secondary towns and rural areas. Infrastructure finance has its own challenges, which are further increased when the social inclusion dimension is also considered. Therefore, the UNCDF focuses on financial inclusion and financing mechanisms for demographic groups with the least income.

#### Project example - Mpale Village 50Kw solar micro-grid in the Tanga region of Tanzania.

The following challenges had to be overcome to make the project financially viable:

- lack of economies of scale (due to the size of the project), making it a low return project that could not attract private capital during the initial stages;
- untested management model proposed by the project developer; and
- lack of interest by commercial banks to lend to greenfield projects.

The UNCDF provided a USD 124,000 seed grant and technical assistance, which helped to unlock the remaining 67% of total project cost from two public financing sources: the US Africa Development Foundation (USADF), and the multi-donor Energy and Environment Partnership (EEP) program.

The UNCDF financial and non-financial contribution is seen as a catalyst for the development of the project.

This project is the first of its kind in Tanzania to employ the energy daily allowance (EDA) system. The EDA system assigns a daily fixed amount of electricity to each household. This amount is calculated and agreed upon with each household and is based on the number of appliances and the number of hours each appliance needs to be powered through the mini-grid during a 24-hour cycle.

#### Outcomes:

- Improved operational efficiencies of small-sized businesses and the enabling of business expansion.
- Created non-agricultural employment opportunities for members of the community and adjoining villages.
- Cost savings for users, increasing their purchasing power and improving their economic situation.
- Access to electricity to aid in the diversification of the local economy away from primary agriculture.
- Access to electricity enables women to shift time spent on unpaid house work, such as collecting firewood and fetching water, toward income-earning activities and businesses. Lighting provides more security, so women-owned businesses can extend their trading hours into the evening. Also, girls will have more hours to study in the evening.

Source: UNCDF, [www.uncdf.org](http://www.uncdf.org), Case Study No. 2: Mpale Village 50Kw Solar Micro Grid

## FINANCIAL ASSISTANCE AND SUBSIDY INSTRUMENTS

### Overview

Thorough planning and appraisal of a proposed infrastructure project should be the first step in determining if financial assistance is required to improve the inclusivity of the project. When financial assistance is required, in the form of subsidies or otherwise, Social Cost Benefit Analysis (SCBA) can be used to appraise the subsidies and calculate their impact, including the fiscal, environmental and social impact of a proposed subsidy, as well as its distributional impact.

There are a number of different social, environmental and financial objectives in pricing and subsidies. While some aspects of these objectives can be complementary, others may be competing. These competing pricing objectives add complexity to setting the optimal pricing subsidy.

For example, urban transport pricing subsidies may be designed for environmental reasons or to reduce congestion; and the setting of tariffs based on the metering of a utility service (such as water or electricity), can play an important role in demand management and addressing environmental concerns, since end users are much more likely to curtail their consumption when supply is metered.

However, certain types of pricing strategy may raise concerns regarding equity and the impact on vulnerable groups. Tariffs established on the basis of cost recovery, or demand management, may not address affordability to low-income users. To address this problem, alternative pricing strategies and efficient financial assistance delivery ought to be considered<sup>178</sup>.

The effectiveness of subsidy measures to assist the poor can be assessed using inclusion and exclusion indicators from household survey data to measure targeting errors. Figure 10 illustrates how these errors of inclusion (when non-targeted groups receive the benefits) and errors of exclusion (when the targeted groups do not receive the benefits) can be calculated from household survey data.

Errors of inclusion (the share of benefits received by non-vulnerable people out of the total benefits available to both groups)

Errors of exclusion (the share of vulnerable people who did not receive benefits out of the total number of vulnerable people)

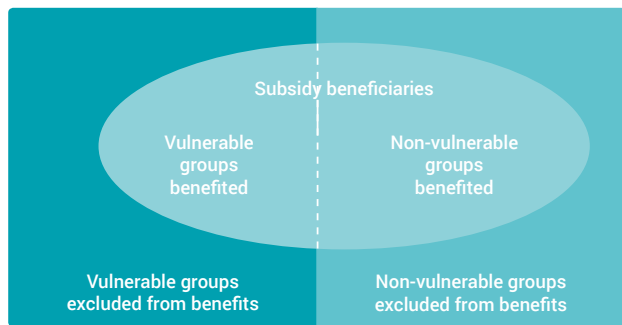


Figure 10: Errors of inclusion and exclusion in subsidy arrangements<sup>179</sup>

### Subsidy instruments

Subsidy instruments take many different forms, on both the supply and demand side.

Subsidies on the **supply side** (i.e. subsidies to project company service providers to facilitate the supply of an infrastructure service) are often unrelated to the welfare of the poor. Instead, they are mostly aimed at ensuring the viability of the service in the face of market difficulties.

These supply-side interventions in the transportation sector can take the form of capital grants given to public transport infrastructure, such as metro systems. These may have an efficiency justification in reducing traffic congestion, etc. but such subsidies do not specifically target low-income people. Accordingly, the welfare-distributing impacts of such capital subsidies will depend on who uses the subsidised services.

In contrast, subsidies on the **demand side** (i.e. direct subsidies to targeted end user groups), can directly address accessibility and equity problems. Demand-side subsidy instruments include income-based subsidies, journey-based subsidies and person-type subsidies. Figure 11 on the next page shows different types of urban transport pricing instruments<sup>180</sup>.

<sup>179</sup> Foster (2004) via Transport Pricing and Accessibility, (Gwilliam, 2017)

<sup>180</sup> For detailed discussion on the objective of each pricing instrument, see Gwilliam (2017)

<sup>178</sup> Transport Pricing and Accessibility, (Gwilliam, 2017)



SUBSIDY INSTRUMENTS		TAX INSTRUMENTS
SUPPLY-SIDE SUBSIDIES	DEMAND-SIDE SUBSIDIES	
Maximum fare control	Class-related fares	Fuel tax
Franchise rights	Peak surcharges	Tax on vehicle miles
Network support	Off-peak surcharges	Licence duties
Bus tender subsidies	Flat fares	
School bus subsidies	Location-specific fares	
Non-work journeys	Club subscriptions	
Vehicle capital grants	Commuting tokens	
Clean fuel subsidies	Student cards	
Earmarked taxes	Child fares	
Deficit system support	Senior fares	
Route subsidies	Disabled fares	
Tendered management contracts	Flat fares	
Off-peak discounts	Location-specific fares	
Labour subsidies		
Special transport cash subsidies		

Figure 11: Urban transport subsidy and taxation instruments

A leading example of a transport sector subsidy directed exclusively at travel by low-income households is the TransMilenio BRT system in Bogotá, Colombia (see *TransMilenio Bus Rapid Transit Case Study* in Section 4), where, in 2013, the city authority (with the assistance of the World Bank) introduced a system in which members of households with a low national poverty index score could opt for a public transport subsidy through a personalised smart card. This program has contributed significantly to

an increase in infrastructure services available to workers in the informal sector and other low-income groups.

In the design of subsidised tariffs for utilities such as water and electricity, both affordability and willingness to pay need to be assessed, as outlined above. Subsidies can be based on the concept of 'lifeline subsidies' to ensure a defined minimum standard of accessibility, or the subsidies can be provided on a 'means-tested' basis.

## Relevance

Where financial assistance is being provided in the form of subsidies at the sector or project level, these can be either on the supply side for service providers or on the demand side for users. The pricing strategy is also an important mechanism for the distribution of benefits and has a significant impact on the welfare of vulnerable groups.

### At the policy level:

- *Targeting vulnerable groups through subsidies within the country's overall tax regime.* Subsidy and pricing instruments can be used to target low-income or other vulnerable groups, and should be considered alongside the broader context of the overall tax regime and the social safety-net systems in the country. Sector-specific financial assistance may be appropriate for certain 'merit goods' that provide wider benefits to society and to end users, which are not fully recognised at the time of their use (e.g. safe sanitation, education, etc.).

### At the project level:

- *Applying subsidy instruments and financial assistance to ensure affordability.* Optimised financial assistance, delivered as subsidies and inclusive pricing strategies at the project level, can be effectively applied to ensure the project's affordability, accessibility and sustainability.

## Guidance

- 1. Assess the need for government financial assistance to projects having regard to the project's Business Case, using Social Cost Benefit Analysis as appropriate, in alignment with national strategies, such as ensuring universal access to basic services.**

Financial assistance from government may be required to ensure that a project is financially viable, where the social benefits of a proposed project outweigh the costs of such assistance. Direct subsidies to sectors can be targeted to ensure inclusion, and both the advantages and the potential disadvantages (such as the distorting effects of subsidies) should be carefully assessed. The efficiency of infrastructure subsidies should be assessed versus wider options, such as general cash transfers to the poor<sup>181</sup>.

- 2. Assess different options for targeting subsidies.**

Two broad approaches are available for demand-side subsidies in infrastructure. They can be based on the consumption level of households, in which case they are called 'lifeline subsidies'. Alternatively, the subsidies can

be based on socioeconomic characteristics, in which case they are referred to as 'means-tested subsidies'<sup>182</sup>. A lifeline tariff can target a minimum standard of service delivery, in accordance with national standards or as set out in the UN SDG targets – and such mechanisms can be designed so that wealthier end users with higher consumption levels are subject to higher tariffs. If there is a preference to use means-tested subsidies, there will need to be reliable systems to identify income levels which can be readily applied and are not subject to abuse. In some countries this can be challenging, and geographic targeting of poor districts is often used as a proxy for means-testing.

At the end of this sub-section, Box 21 presents an illustrative example of an application of concessionary bus fares and statutory free bus travel for the elderly and disabled in the United Kingdom.

- 3. Consider the use of cross-subsidies to provide eligible households a percentage discount on their bills, which is funded by a percentage surcharge applied to ineligible households.**

Under a cross-subsidy program, money raised from a surcharge to relatively wealthy end users goes to a special fund, from which subsidies can be paid to households that apply for and meet the eligibility criteria. As they are somewhat hidden, cross-subsidies often have the advantage of generating less opposition from those who pay the subsidies than general taxes, and they avoid the problem of tax evasion. However, cross-subsidies may generate larger economic distortions than general taxes, because the prices for both those receiving and paying the subsidies are distorted<sup>183</sup>.

- 4. Consider the use of subsidies to local governments or private sector providers against certain performance output (so called output-based subsidies, or output-based aid<sup>184</sup>) to incentivise inclusivity.**

Chile's rural electrification program, launched in 1994, created a special rural electrification fund (REF), whereby subsidies are linked to specified output targets. This fund competitively allocates direct subsidies to private distribution companies to cover part of their investment costs in rural electrification.

<sup>181</sup> Accounting for poverty in infrastructure reform - learning from Latin America's experience, (Estache, Foster, & Wodon, 2002)

<sup>182</sup> Accounting for poverty in infrastructure reform - learning from Latin America's experience, (Estache, Foster, & Wodon, 2002)

<sup>183</sup> Accounting for poverty in infrastructure reform - learning from Latin America's experience, (Estache, Foster, & Wodon, 2002)

<sup>184</sup> Output Based Aid is a subsidy that is disbursed only after achievement (and verification) of agreed outputs (often also called outcomes).

The distribution companies apply for a subsidy by presenting a project proposal, then the proposals are scored against a checklist of objective criteria, including cost-benefit analysis, operator investment commitment and social impact. The central government allocates subsidies to regions according to the number of un-electrified households and the progress each region has made in rural electrification during the preceding year<sup>185</sup>.

Another example of this type of subsidy is the Water Sector Trust Fund in Kenya (see related *Case Study* in *Section 4*), whereby payments are made to local service providers after construction has been completed in accordance with previously agreed output specifications. Under this program, the Trust Fund sends an independent assessor to complete a report on the works that have been constructed, and on the basis of this report the subsidy is disbursed.

**5. Establish and implement systems for monitoring and evaluating the use (and mis-use) and impact of subsidies. Determine inclusion and exclusion indicators<sup>186</sup> to measure the proportion of the target group that fails to benefit from the subsidy (exclusion index) and the proportion of people outside the target group benefiting from the subsidy (inclusion index).**

By undertaking this type of inclusion and exclusion analysis (see Figure 10 on previous page), governments can determine if a subsidy is achieving its objectives. This finding can be very important in the design and reform of subsidies. This approach was first applied to public transport in Buenos Aires<sup>187</sup> to evaluate the socioeconomic impacts of the infrastructure reforms of the 1990s.

When the objective to redistribute benefits from the defined non-vulnerable groups to the targeted vulnerable groups has been successful, then both exclusion and inclusion indicators should be close to zero (i.e. the subsidy is well-targeted and applied to the intended group).

## APPLICATION TO TARGETED STAKEHOLDER GROUPS

### Low-income groups

The targeting of subsidies and the pricing strategy used for infrastructure services are particularly important topics for low-income groups. In addition to assessing the household income of low-income groups on a stable basis, consideration should also be given to variations in income levels caused by events such as failed harvests, epidemics or job losses. In addition to the amounts paid by low-income groups for infrastructure services, consideration should also be given to non-financial barriers. For example, there are instances where poor families are actually paying more for their informal water supply than higher-income households are paying for water utility services, but the former group is unable to access the utility service due to the size of upfront connection fees, the need for a formal proof of address, or an insistence upon end users having a personal bank account.

### People living in remote areas

For people living remote from existing networks, the tariff implications and economic efficiencies of centralised versus decentralised supplies should be carefully assessed. In the power sector, the following mechanisms have been identified to make electricity supply more affordable and accessible for groups living in remote areas<sup>188</sup>:

- feed-in tariffs for renewable energy supply;
- rural distribution franchises: for example, in India, the distributed generation and supply (DG&S) model combines generation and distribution, e.g. in addition to distributing power and collecting revenues, the franchisee also generates power locally and supplies it to the franchised area<sup>189</sup>;
- innovative payment mechanisms (i.e., payments by mobile phone, and pre-paid services).

<sup>185</sup> Topic Guide, Maximising the Benefits to the Poor from Infrastructure Programs aimed at Increasing Growth, (Hawkins, Wells, & Fernz, 2014)

<sup>186</sup> Transport Pricing and Accessibility, (Gwilliam, 2017)

<sup>187</sup> Toward a Social Policy for Argentina's Infrastructure Sectors: evaluating the past and exploring the future (Foster, 2004)

<sup>188</sup> Empowering Rural India: Expanding Electricity Access by Mobilizing Local Resources. Analysis of Model for Improving Rural Electricity Services in India through Distributed Generation and Supply of Renewable Energy, (World Bank, 2010)

<sup>189</sup> Empowering Rural India: Expanding Electricity Access by Mobilizing Local Resources. Analysis of Model for Improving Rural Electricity Services in India through Distributed Generation and Supply of Renewable Energy, (World Bank, 2010)

### BOX 21: ILLUSTRATIVE EXAMPLE – CONCESSIONARY BUS FARES, FREE TRAVEL FOR OLDER PEOPLE AND PEOPLE WITH DISABILITIES, UNITED KINGDOM

Under the provisions of the Transport Act 2000, the statutory concession currently consists of guaranteed free off-peak travel for older people and people with disabilities on all local buses, anywhere in England, from 9:30am until 11pm on weekdays and all day on the weekends and on Bank Holidays. The concessionary bus travel is popular and successful, with almost 12 million pass-holders making more than 1.2 billion bus journeys in 2015/16. This statutory concession is complemented by voluntary concessions.

#### Objectives

The objectives are based on social inclusion and access.

The provision aims to enable people with disabilities and the elderly, especially those on low incomes, to use public transport. It recognises the role access to public transport can play in tackling social inclusion and well-being. It promotes greater freedom and independence.

#### Eligibility criteria

People with disabilities, as specified in section 146 of the 2000 Act, include:

- a) those who are blind or partially sighted;
- b) those who are profoundly or severely deaf;
- c) those without speech;
- d) those with a disability, or those who have suffered an injury, which has a substantial and long-term adverse effect on their ability to walk;
- e) those who do not have arms, or who have long-term loss of the use of both arms;
- f) those with a learning disability, that is, a state of arrested or incomplete development of mind which includes significant impairment of intelligence and social functioning;
- g) those who would, if they applied for the grant of a licence to drive a motor vehicle under Part III of the Road Traffic Act 1988, have their application refused; and
- h) those who are automatically eligible for free bus travel, such as recipients of the war pensioner's mobility supplement.

#### Older people

Eligibility criteria is as follows: "in the case of a woman, her pensionable age [and] in the case of a man, the pensionable age of a woman born on the same day".

The scheme is administered by travel concession authorities and funded with GBP 1.17 billion per year. The bus pass is particularly popular amongst older people.

#### Benefits

Each £1 of government expenditure on concessionary travel for older people and people with disabilities generates at least £3.79 in benefits, broken down as:

1. impacts for concessionary bus passengers;
2. impacts for other bus passengers and other road users;
3. wider economic impacts, especially those associated with volunteering; and
4. well-being, including physical health.

#### Discretionary fares

Local authorities have discretion over any concessionary fares they choose to offer in addition to the statutory concession (i.e. to students and older people not yet of pensionable age, which is currently 65 for men and 60 for women). Any such discretionary concessions are funded from general spending. Across England's bus network, more than one in five journeys are made using a concessionary pass.

#### The London Scheme

The London Scheme (known as the Freedom Pass) provides a standard concession for older people and people with disabilities. The scheme provides free travel for pass-holders on almost all public transport in London, such as buses, the Underground, the Overground and Docklands Light Railway, and National Rail services.

Sources: House of Commons Library, Briefing Paper Concessionary bus fares SN01499, 2015. The costs and benefits of concessionary bus travel for older and disabled people in Britain, Greener Journeys, 2017

## OVERVIEW OF ACTION AREAS ILLUSTRATED BY CASE STUDIES

While every infrastructure project should consider practices under each of the Action Areas, for illustrative purposes, the case studies (found in *Section 4*) have focused on specific Action Areas, as summarised below.

### BOX 22: PRINCIPAL ACTION AREAS COVERED AND TARGETED STAKEHOLDERS IN DETAILED CASE STUDIES

CASE STUDY	PRINCIPAL ACTION AREAS COVERED	TARGETED STAKEHOLDERS
<b>U.S. Bank Stadium, United States of America</b>	<ul style="list-style-type: none"> <li>3. Policy, Regulation and Standards</li> <li>4. Project Planning, Development and Delivery</li> </ul>	<ul style="list-style-type: none"> <li>Low-income groups</li> <li>Women and girls</li> <li>Minority groups</li> <li>People living with a disability</li> <li>Women- and minority-owned businesses</li> <li>Veterans</li> </ul>
<b>El Metropolitano Bus Rapid Transit, Peru</b>	<ul style="list-style-type: none"> <li>1. Stakeholder Identification, Engagement and Empowerment</li> <li>4. Project Planning, Development and Delivery</li> </ul>	<ul style="list-style-type: none"> <li>Low-income groups</li> <li>People living with a disability</li> <li>Women and girls</li> <li>Bus Rapid Transit (BRT) system users</li> </ul>
<b>Regional Communications Infrastructure Program (RCIP), Malawi</b>	<ul style="list-style-type: none"> <li>2. Governance and Capacity Building</li> <li>3. Policy, Regulation and Standards</li> </ul>	<ul style="list-style-type: none"> <li>Low-income groups</li> <li>District Information Offices</li> <li>Secondary schools</li> <li>Teacher Development Centres and Technical Colleges</li> </ul>
<b>Water Sector Trust Fund, Kenya</b>	<ul style="list-style-type: none"> <li>1. Stakeholder Identification, Engagement and Empowerment</li> <li>6. Affordability and Optimising Finance</li> </ul>	<ul style="list-style-type: none"> <li>Women and girls</li> <li>Youth</li> <li>Water users' associations</li> <li>Communities without access to improved water resources</li> </ul>
<b>Mi Teleférico Cable Car, Bolivia</b>	<ul style="list-style-type: none"> <li>1. Stakeholder Identification, Engagement and Empowerment</li> <li>5. Private Sector Roles and Participation</li> <li>6. Affordability and Optimising Finance</li> </ul>	<ul style="list-style-type: none"> <li>Low-income groups</li> <li>Women and girls</li> <li>People living with a disability</li> <li>All cable car users and employees</li> </ul>
<b>TransMilenio Bus Rapid Transit, Colombia</b>	<ul style="list-style-type: none"> <li>1. Stakeholder Identification, Engagement and Empowerment</li> <li>2. Governance and Capacity Building</li> <li>3. Policy, Regulation and Standards</li> <li>5. Private Sector Roles and Participation</li> </ul>	<ul style="list-style-type: none"> <li>Women and girls</li> <li>People living with a disability</li> <li>Informal vendors</li> <li>People facing homelessness</li> <li>BRT employees</li> <li>BRT users</li> </ul>
<b>Cairo Metro, Egypt</b>	<ul style="list-style-type: none"> <li>1. Stakeholder Identification, Engagement and Empowerment</li> <li>2. Governance and Capacity Building</li> </ul>	<ul style="list-style-type: none"> <li>Low-income groups</li> <li>Youth (in both urban and rural areas)</li> </ul>
<b>Last Mile Connectivity Program, Kenya</b>	<ul style="list-style-type: none"> <li>1. Stakeholder Identification, Engagement and Empowerment</li> <li>3. Policy, Regulation and Standards</li> <li>6. Affordability and Optimising Finance</li> </ul>	<ul style="list-style-type: none"> <li>Low-income groups</li> <li>People living in informal settlements and isolated communities</li> <li>Communities without electricity access</li> </ul>





SECTION 3

# Conclusion and areas for further development

## Section 3

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### CONCLUSION

The analysis and guidance presented in this Reference Tool aim to help governments accelerate the development and implementation of inclusive infrastructure policies and projects.

The Framework for Inclusive Infrastructure presented in Section 3 of this Reference Tool identifies six key pillars driving inclusive growth. The six key pillars, i.e. the “Action Areas”, are then discussed in detail in Section 2, in a manner that allows governments to identify potential initiatives at policy, program and project levels.

Critical success factors include:

- The placement of stakeholder identification and engagement at the forefront of inclusive infrastructure initiatives. The use of disaggregated identification data, and of proactive consultations with citizens, is essential to developing a full understanding of which groups of citizens are at risk of being excluded from receiving the benefits of infrastructure services, and in developing solutions to the barriers which they face.
- Political leadership that champions social inclusion and inclusive governance. Governments must ensure that public officials receive the training necessary to properly identify and address the infrastructure needs of all citizens.
- The use of transparent and accountable systems that help develop trust between the government and society.
- The integration of policy, regulation and standards into project implementation. Universal Design principles are increasingly being used as a minimum standard in infrastructure contracts. Accessibility audits can help to identify and address problematic issues in a proposed infrastructure project at an early stage, at a time when such issues can be more easily addressed.
- An inclusive lifecycle approach should be used throughout the project planning, development, and delivery stages of infrastructure projects. A Social Equity Plan can set out the agreed actions and targets at each step in a project’s lifespan.

- The alignment of infrastructure projects with wider inclusive development policies, such as inclusive urban development plans.
- The appropriate use of incentives and regulatory mechanisms to align the private sector role with inclusivity objectives. The private sector is also likely to play an increasing role in introducing innovations and new technologies that can assist in meeting the specific needs of disadvantaged groups.
- A focus on issues of inclusion and affordability in infrastructure project business cases, with a careful analysis of financial assistance and the use of subsidies.

The eight case studies presented in Section 4 of this Reference Tool illustrate the challenges faced by many groups in society in regard to access to infrastructure services, and successful efforts in addressing those challenges, such as the initiatives taken in connection with Peru’s El Metropolitano BRT system to deal with the problem of harassment faced by women using public transport.

As outlined in the report, inclusive infrastructure is a concept that is evolving, and that will likely continue to do so. The following paragraphs present some of the areas for further development, to promote learning on maximising the benefits from inclusive infrastructure. The GI Hub hopes that this Reference Tool will be a stimulus to further discussion of this topic, and very much welcomes any reader feedback and suggestions.



## AREAS FOR FURTHER DEVELOPMENT

### Defining the relationship between inclusivity and sustainability

Much of the current literature refers to “inclusive and sustainable” infrastructure in one breath. The two terms are, of course, closely linked, but there is a need to better distinguish and define the relationship between inclusivity and sustainability. Sustainability deals with challenges such as environmental impacts, climate change and disaster resilience, which, in many instances, disproportionately affect vulnerable groups of people. Accordingly, addressing these issues as part of the wider inclusivity agenda can help to ensure that vulnerable segments of the population are identified, and appropriate mitigation measures are put in place.

In June 2019, the G20 Leaders endorsed the Principles of Quality Infrastructure Investment, one of which is ‘Integrating social considerations in infrastructure investment’, providing the opportunity to more clearly define this relationship and reference relevant supporting resources<sup>190</sup>.

### Establish new success measurement and monitoring for inclusive development

While economic growth has been an important driver in reducing poverty, governments are identifying a need to go beyond a definition of socioeconomic development that reflects only the systematic use of GDP growth. In response to concerns about increasing income gaps, distrust in public institutions, disruption of political stability and civil unrest, some governments and international financial institutions have begun to explore the use of inclusive infrastructure to help address these broader concerns.

To measure inclusive development, some new metrics have been proposed, but these new metrics still need to be further evaluated and quantified. An example is the recent Inclusive Development Index (IDI)<sup>191</sup> developed by the World Economic Forum. The IDI conveys a more integrated sense of the relative state of economic development and performance than the conventional indicators based on GDP per capita. It ranks countries based on their performance of making their growth more inclusive.

<sup>190</sup> Please find the QII Principles at: [https://www.mof.go.jp/english/international\\_policy/convention/g20/annex6\\_1.pdf](https://www.mof.go.jp/english/international_policy/convention/g20/annex6_1.pdf)  
Relevant QII supporting resources can be found at: <https://www.gihub.org/quality-infrastructure-database>

<sup>191</sup> The Inclusive Growth and Development Report (World Economic Forum, 2017)

Additional inclusive development indicators could help provide the evidence base for monitoring the wider impacts of infrastructure programs and projects. In addition, new indicators could help to assess the ability of such programs and projects to contribute towards the achievement of the UN Sustainable Development Goals.

### Further define inclusivity KPIs at infrastructure project level, and monitor inclusivity benefits

The alignment of private sector incentives with objectives around inclusion is discussed in Action Area 5 of the Reference Tool. To achieve this alignment in the case of public-private partnership transactions, careful consideration needs to be given to the output specifications and measurable KPIs that governments develop for each infrastructure project. Additional guidance on this topic will be provided in the forthcoming GI Hub guidance note on *Output Specifications for Quality Infrastructure PPPs*<sup>192</sup>.

Improvements in monitoring the benefits of inclusive infrastructure would also strengthen the understanding of their value, thereby enabling better quantification of benefits in the business cases of future infrastructure projects. Currently, the lack of reliable data quantifying the benefits of inclusivity is a common issue across virtually all infrastructure sectors.

### Making inclusive infrastructure attractive to social impact investors<sup>193</sup>

The potential role of social impact investment in infrastructure has not been fully examined, since many social impact investment programs have, to date, focused on smaller community initiatives rather than large infrastructure projects. Increasingly, however, infrastructure investors are becoming concerned with economic, social and governance (ESG) issues, and this may lead to more social impact investing in infrastructure. In the business case for inclusive infrastructure projects, a social dimension complements the economic and financial dimensions and this complementarity may be particularly attractive to social impact investors.

<sup>192</sup> The consultative version of this tool is available on the GI Hub website, as will be the case for the final version of the tool (<https://www.gihub.org>).

<sup>193</sup> Social impact investment, also known as sustainable, socially conscious, socially responsible, ‘green’ or ethical investing, is an investment strategy which seeks to maximise social benefits while also considering financial returns.





SECTION 4

# Case Studies

# Contents

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## Case Studies

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United States of America  
**U.S. Bank Stadium**



Source: Image provided by Alex Tittle, Equity Director for the Minnesota Sports Facilities Authority

**A state-led program to encourage more women and minorities to pursue the employment and business opportunities created by the construction of a major sporting and events stadium.**

The U.S. Bank Stadium (the Stadium) is the centrepiece of Minnesota’s redevelopment plan<sup>1</sup> and has a strong social inclusion agenda aimed at benefitting local communities. The Stadium is owned and operated by the Minnesota Sports Facilities Authority (the Authority), which was also responsible for its design and build.

The project aims to maximise economic, fiscal and social benefits for the State of Minnesota (the State) and its communities. Several initiatives that aimed to promote an inclusive agenda were implemented throughout its design, construction and operation, and were set out in an Equity Plan.

The Equity Plan was developed following a mandate by the State, which aimed to ensure its socially inclusive values and vision were reflected in the design and construction of projects. It is part of wider efforts to increase social inclusiveness and reduce discrimination and disparity. On completion of the Stadium, the Equity Plan was extended by the Authority to cover the operations phase.

<sup>1</sup> Minnesota’s redevelopment plan is based around the MPLS Plan, The Minneapolis Plan for Sustainable Growth, which was unanimously adopted by the Minneapolis City Council on October 2, 2009.

The Equity Plan includes pragmatic goals to integrate women, minorities and low-income residents into the workforce, and women- and minority-owned businesses into the design and construction activities of the project. Specifically, the Equity Plan outlines how to provide employment and equal access to labour market opportunities, and establishes goals for contracts to be awarded to capable, available and willing women- and minority-owned businesses (refer to Table 1: Target goals and additional achievements of the Equity Plan). Veterans and low-income residents were also included in employment initiatives, with much of the engagement led by specialised employment assistance firms.

Businesses			
Target goals		Additional achievements	
9% Minority-owned	11% Women-owned	Veteran-owned	
Workforce			
Target goals		Additional achievements	
32% Minority	6% Women	Veterans	Low-income residents

Table 1: Target goals and additional achievements of the Equity Plan

## Project Overview

<b>Key words</b>	Construction, job creation for women and members of minority communities, performance monitoring
<b>Sector</b>	Leisure facility
<b>Background</b>	The State of Minnesota is one of the most progressive states in the United States (US) with high standards of living and civic participation. It has set ambitious goals for the inclusion of more women, ethnic minorities, veterans and lower income residents in large infrastructure developments. They are aimed at ensuring all members of the community have access to procurement opportunities during the design, construction and operation phases.
<b>Size</b>	Budget: USD 975 million
<b>Stage</b>	Construction complete. The Stadium has been hosting events since 2016.
<b>Why of interest</b>	<ul style="list-style-type: none"> <li>• Transparent state regulations to increase the involvement of women and minority groups in urban development projects</li> <li>• Robust governance and monitoring processes extended to all contractors</li> <li>• Transparent web-based reporting system used to monitor integration of target groups</li> <li>• Establishment of a Task Force for daily monitoring and supervision</li> <li>• Oversight Committee to manage the execution of the Equity Plan with monthly meetings for all stakeholders</li> </ul>
<b>Project objectives</b>	<ul style="list-style-type: none"> <li>• Achieve the highest possible distribution of benefits to target women, minorities and low-income residents in Minnesota</li> <li>• Reduce discrimination, social inequality and disparity in large infrastructure projects</li> <li>• Make every effort to ensure contractors and subcontractors, vendors and concessionaires employ women, members of minority communities and lower socioeconomic residents when hiring</li> <li>• Work with employment assistance firms to recruit, hire, and retain female, minority and low-income workers during the construction phase</li> </ul>
<b>Project Lifecycle Assessment</b>	<p><b>Project preparation</b> – a detailed study titled the Disparity Study was conducted in 2010 to identify the status of discrimination against small, minority- and women-owned businesses in Minnesota.</p> <p><b>Project procurement</b> – design and construction contracts included a specific percentage of work to be awarded to the target groups.</p> <p><b>Construction</b> – ensuring all aspects of the Equity Plan were implemented, in particular supervision and monitoring of contractors and vendors.</p> <p><b>Project monitoring and evaluation</b> – web-based database for monitoring and collecting data. The Equity Oversight Committee reported monthly on performance against goals.</p>

## Project Description

The U.S. Bank Stadium is an indoor, multi-purpose venue located in the City of Minneapolis, Minnesota, the second largest economic centre in the Midwest of the United States (US). It is the home stadium of the professional American football team, the Minnesota Vikings, which is part of the National Football League (NFL). The Stadium is designed to reflect the climate, culture and vision of the city. The facility hosts major national and international events that bring economic, fiscal and social benefits to the State.

The Stadium is owned and operated by the Minnesota Sports Facilities Authority, which was also mandated to design and build the facility. Initial redevelopment proposals started in 2007. In 2012, funding was approved by the Minnesota State Legislature and the Minneapolis City Council. Construction started in 2013, followed by the opening of the Stadium in 2016.

The 66,200-seat stadium has a 12,300 m<sup>2</sup> (137,000 ft<sup>2</sup>) floor area, plus six club spaces that seat up to 65,400 fans, expanding to 72,000 for concerts and other major events. The seven-level stadium includes two general admission concourses, 116 suites, 8,000 club seats, 430 concessions stands, gift shops, restaurants and the Vikings Football museum.

The Minnesota Vikings provided USD 477 million to finance the Stadium, the State put forward USD 348 million, and USD 150 million was funded through a hospitality tax in Minneapolis. The City of Minneapolis will pay a total of USD 678 million, including financing costs, over the 30-year life of the Stadium, which covers operations and construction costs.

The Authority was mandated by the State to promote the involvement of women and members of minority communities in the design and construction of the project, as described in the *Minnesota Statutes - 473J.12 Employment* (as outlined below in the Policy regulation and standards section). An Equity Plan was formulated by the Authority to apply the law to the design and construction of the project. After the completion of the Stadium, the Equity Plan was extended to include the operations phase.

The purpose of the Plan is to implement the Authority's statutory mandate to promote the employment of women, members of minority communities<sup>2</sup> and low-income residents, create an employment program, hold a job fair, establish goals for construction contracts to be awarded to women- and minority-owned businesses, and establish workforce utilisation goals as required by the Minnesota

City Council<sup>3</sup>. The Equity Plan includes a transparent procurement, management and monitoring process that enables contractors, vendors and other organisations to be held accountable for meeting agreed targets.

Construction required 4.5 million work hours and created 7,500 construction jobs. Of those jobs, 36% were positions held by minorities, 9% by women, and 4% by veterans. In addition, 90% of the construction budget (a total of USD 400 million) was allocated to local businesses, of which 16% were owned by women, 12% were minority-owned and 1% were businesses owned by veterans.

This work illustrates a number of Action Areas, including **project planning, development and delivery** with a particular focus on women and minorities. Specifically, women, minorities and low-income residents were hired during the design and construction of the Stadium, through the Equity Plan's procurement framework. The appointed architect and contractor had specific goals to meet in relation to working with target groups. In addition, women- and minority-owned businesses were employed under direct supervision of the Authority to complete stadium construction works. The inclusivity focus has been mandated by law so there is also a regulatory context, linked to the Action Area on **policy, regulation and standards**. Although not specifically elaborated on in this case study, **governance and capacity building** is another Action Area the Equity Plan addresses, with a leadership team set up to ensure outcomes were achieved.

<sup>2</sup> Minorities refer to African Americans, Hispanics, Asian/Pacific Islanders, Native Americans and other non-Caucasians.

<sup>3</sup> To reduce social inequity, the City of Minneapolis has, over the decades, promoted the inclusion of women- and minority-owned businesses in public contract and construction activities. To provide guidance on targets that project implementing authorities must follow, a *Disparity Study* has been conducted. See *The State of Minority- and Women-Owned Business Enterprise: Evidence from Minneapolis* (NERA Economic Consulting, 2010)

## Key Practices Identified and Applied

### Statement of the issue in relation to inclusion and brief introduction

In the past, the State has tried to understand and remedy discrimination against minority- and women-owned businesses as part of contract and procurement activities undertaken by the City of Minneapolis. Based on a detailed study, titled the Disparity Study, it was identified that *'minorities and women are substantially and significantly less likely to own their own businesses. This results from marketplace discrimination in comparison to what would be expected based upon their observable characteristics, including age, education, geographic location and industry. The study finds that these groups also suffer substantial and significant earnings disadvantages relative to comparable non-minority males, whether they work as employees or entrepreneurs'*<sup>4</sup>. Such disparities are symptoms of discrimination in the labour force, stifling opportunities for minorities and women to progress on equal terms. The disparities reflect more than societal discrimination, as they demonstrate the nexus between discrimination in the job market and reduced entrepreneurial opportunities for minorities and women<sup>5</sup>.

### How inclusivity has been addressed

**The identified practice is the establishment of an Equity Plan to ensure women, minorities and low-income residents were integrated into the workforce, and women- and minority-owned businesses had the chance to bid for design and construction contracts on a major public project.**

The Equity Plan, which defines and governs all inclusivity aspects in relation to the project, is examined in this case study to identify how inclusivity has been promoted in this project.

The State has introduced a number of initiatives and regulations to tip the balance back in favour of women and minorities. An example is an ordinance issued for a Small and Underutilised Business Program to assist small, minority- and women-owned businesses in finding new opportunities<sup>6</sup>.

<sup>4</sup> Ibid, (NERA Economic Consulting, 2010)

<sup>5</sup> Ibid. The study provides the evidentiary records necessary for the city's consideration of renewed race- and gender-conscious policies.

<sup>6</sup> The Small and Underutilised Business Program intends to redress discrimination in the marketplace and create opportunities for minority- and women-owned business enterprises.

The case study examines the Equity Plan, as well as the management and monitoring structure that was put in place to ensure the agreed targets were met. A bespoke web-based reporting platform is of particular interest, as it is an innovative, transparent and effective way of monitoring contractual obligations in relation to agreed inclusivity targets.



Figure 1. Provided by Alex Tittle, Equity Director for the Minnesota Sports Facilities Authority

This case study also analyses how the Authority complies with and applies state law<sup>7</sup> to integrate women and minorities in the workforce and involve businesses owned by women and minorities in the design and construction of the Stadium.

<sup>7</sup> Minnesota Statutes - 473J.12 Employment, (Minnesota Sports Facilities Authority, 2013a and 2013b).





**POLICY REGULATION AND STANDARDS**

**Implementation**

The Authority developed the Equity Plan to define its project-specific inclusivity targets under the following law:

**2017 Minnesota Statutes - 473J.12 EMPLOYMENT.**

• *Subdivision 1. Hiring and recruitment*

*In the design, development, construction, management, operation, maintenance, and capital repair, replacement, and improvement of the stadium and stadium infrastructure, the authority shall make every effort to employ, and cause the National Football League (NFL) team, the construction manager and other subcontractors, vendors, and concessionaires to employ women and members of minority communities when hiring. In addition, the authority shall contract with an employment assistance firm, preferably minority-owned, or owned by a disabled individual or a woman, to create an employment program to recruit, hire and retain minorities for the stadium facility. The authority shall hold*

*a job fair and recruit and advertise at Minneapolis Urban League, Sabathani, American Indian Opportunities Industrialization Centre (OIC), Youthbuild organizations, and other such organizations. Further, goals for construction contracts to be awarded to women- and minority-owned businesses will be in a percentage at least equal to the minimum used for city of Minneapolis development projects, and the other construction workforce will establish workforce utilization goals at least equal to current city goals and include workers from city zip codes that have high rates of poverty and unemployment.*

In compliance with the above legislation, the Authority applied inclusivity targets to integrate women and minorities in the workforce and involve businesses owned by women and minorities in the design and construction of the Stadium. As demonstrated in the table below, the project exceeded its required targets, achieving greater integration of women and members of minority groups, as well as integrating veterans and low-income residents.

Whilst these figures may seem quite modest, it is reported that no other project in Minnesota history has achieved this level of diversity.

	Target goals		Achieved goals			
<b>Businesses contracted</b>	9% Minority-owned	11% Women-owned	12% (USD 109 million) Minority-owned	16% (USD 139 million) Women-owned	1% (USD 13 million) Veteran-owned	
<b>Workforce hired</b>	32% Minority	6% Women	36% (1.3 million hours) Minority	9% (340,000 hours) Women	4% (150,000 hours) Veterans	386 Low-income residents

Table 2: Goals achieved by the Equity Plan after completion of the Stadium



## PROJECT PLANNING, DEVELOPMENT AND DELIVERY

### Implementation

The Equity Program<sup>8</sup> consists of separate Equity Plans for the Design, Construction, Operations and Capital Improvements for the Stadium.

The Equity Plan (Construction) establishes the project's inclusivity targets, employment programs and management and oversight bodies, as detailed below.

#### Inclusivity targets

The Authority's participation goals for construction-related services were based on the Disparity Study<sup>9</sup> and the gap analysis (see below). The Authority had a legislative mandate to establish and meet goals for the percentage of Stadium construction contracts that would be awarded to capable women- and minority-owned businesses. This percentage was at least equal to the minimum used for City of Minneapolis development projects. The calculation of the goals by the Authority was established using the following:

- the National Economic Research Associates, Inc. for the City of Minneapolis report: The State of Minority- and Women-Owned Business Enterprise: Evidence from Minneapolis, dated October 21, 2010 (also referred to as the Disparity Study);
- registrations of businesses confirmed to be minority- or women-owned; and
- relative local disparity. Using the 2010 census as a baseline, local disparity is based on the total number of local construction or related firms to the total number of construction firms.

The goals for the integration of women- and minority-owned businesses in the project and the project workforce utilisation goals included in the Equity Plan are shown in Table 2 above.

#### Gap analysis

The Authority's Equity Plan Team (the Team) worked with union groups to undertake a gap analysis to examine the projected labour requirements, and the availability, capacity and willingness of the actual workforce in the Minneapolis metropolitan region. By working with the unions, the Team ensured the targets set out in the Plan were realistic and achievable.

<sup>8</sup> U.S. Bank Stadium Equity Program, (Minnesota Sports Facilities Authority, 2018b)

<sup>9</sup> The State of Minority- and Women-Owned Business Enterprise: Evidence from Minneapolis (NERA Economic Consulting, 2010)

The gaps identified were small, which proved the targets were based on actual demand and supply. The outcome of the analysis drove the activities of the various employment assistance programs (see below) and demonstrated that the unions were able to provide the workforce for the project.

#### Targeted Business Program

The Targeted Business Program set a goal of 11% and 9% of construction contracts to be awarded to women- and minority-owned Minnesota-based businesses respectively. The program defined:

- how the goals should be met;
- the parameters to be respected by the construction manager;
- the obligation to act in good faith to meet the goals;
- the requirements for reporting and monitoring;
- the assistance to be provided by the Authority; and
- the consequences if the construction manager failed to meet the goals or failed to make an effort, in good faith, to achieve them.

#### Veterans Inclusion Program

The Veterans Inclusion Program aimed to ensure veterans had every opportunity to participate in the project, either through direct employment or as the owners of a small business awarded construction contracts.

#### Workforce Program

This program set a goal for the number of women and people from a minority community included in the workforce, which was 6% and 32% respectively.

#### Employment assistance firms

The Authority engaged employment assistance firms to recruit, hire and retain workers from the target groups. The firms, many of them owned by women, minorities or people with a disability, worked with the Authority to ensure the project team had the skills and experience it needed to meet its business and inclusion targets.

#### Job fairs

The Equity Plan Team and the employment assistance firms held job fairs to promote inclusive work opportunities. They worked with organisations such as the Minneapolis Urban League, Summit Academy Opportunities Industrialisation Centre (OIC), Sabathani American Indian Opportunities Industrialization Centre (OIC), and Youthbuild, which help minorities gain new skills and pursue employment opportunities.

### Construction Manager Equity Review Panel

The Construction Manager Equity Review Panel (the Panel) is comprised of ten members who provide advisory recommendations regarding a potential construction manager’s experience and commitment to targeting businesses and workforce programs as set out in the Plan. The Panel’s recommendation is included in the hiring decision. A 60-minute interview is conducted and the construction manager is required to answer questions in relation to:

- their experience and accomplishments on projects that had clear goals for the business and workforce;
- the skills and experience of team members who would be involved in executing the Equity Plan;
- references from public agencies that can validate past experience; and
- a detailed description of strategies that will comply with the Equity Plan, including plans for events, outreach activities, and innovative ideas to reduce the barriers for small businesses and increase the participation of minorities and women.

### Stadium Equity Oversight Committee

The Authority established the Stadium Equity Oversight Committee (the Committee) to facilitate communication with the community regarding the Plan and issues associated with the development of the Stadium, and to help ensure accountability and transparency.

The Committee is comprised of representatives from the Authority, Minnesota Vikings Football, the employment assistance firms, the construction manager, the construction manager Equity Review Panel and various government departments.

Monthly meetings of the Committee were held, which were open to the general public. Discussions were conducted regarding the execution of the Plan and related issues, and recommendations regarding the Plan were formulated by the Committee for presentation to the Authority.

The Committee’s staff representatives prepared reports that measured progress against achievement of agreed goals specifically with regard to roles performed by minority groups and other targeted groups. The main goal was to share, in a transparent manner, the performance and implementation of the Plan among all stakeholders.

### Supervision and monitoring

As outlined above, specific goals and reporting obligations were set out in the Equity Program. Contractors, subcontractors and vendors had to comply with the Authority’s requests to submit data in an electronic format.

Data was submitted to the Authority, as well as to the City of Minneapolis, the Minnesota Department of Human Rights, and other governmental agencies, as directed by the Authority.

Non-compliance, or intentional or reckless false reporting of workforce data, good faith efforts regarding achievement of workforce goals, or the commercially useful function of reported workforce labour by the construction managers, contractors, subcontractors and vendors shall subject them to prosecution and the application of penalties under the Minnesota False Claims Act.

### A robust monitoring approach with a web-based database

Contractors, subcontractors and vendors complied with the agreed targets to include businesses owned by women and minorities. On a monthly and cumulative basis throughout the project, contractors, subcontractors and vendors were required to provide certified payrolls for every person who worked on the project, in addition to:

- total hours of employment on the project;
- total hours of employment of women;
- total hours of employment of minorities; and
- employee zip (or post) codes.



Figure 2: Example of workforce participation provided by Alex Tittle, Equity Director for the Minnesota Sports Facilities Authority

A bespoke web-based tool was used for reporting. It provided a platform for all contractors, subcontractors and vendors to share information related to performance requirements on a daily basis. The following inputs were required:

- personal information, such as name, address and phone number;
- ethnicity;
- certification (minority business enterprise, women business enterprise, veteran, etc.);

- number of employees; and
- previous work experience on the project.

On a weekly basis, a member of the Authority visited the Stadium’s construction site to supervise and randomly check on the accuracy of the data provided through the web-based tool. On a daily basis, all contractors, subcontractors and vendors entered data into the web-based monitoring system. The Team approved new contracts or changes to existing ones to ensure targets were met. In addition, the Team was in touch with contractors and workers every day to understand their challenges and to propose solutions regarding the implementation of the Plan.

**How communities are targeted**

Communities were supported through:

- employment assistance firms reaching out to relevant individuals and businesses;
- a number of government agencies helping businesses to become certified and eligible to participate in procurement activities;
- non-profit business support organisations helping to develop strategies to reduce the barriers for businesses and create effective communication activities;

- the Equity Plan Team attending meetings and explaining the Targeted Business Program to interested stakeholders;
- support offered to bidders and their subcontractors to help them identify suitable businesses owned by women and minorities;
- ‘meet and greet’ sessions held to introduce construction managers to small businesses owned by women and minorities;
- pre-bid meetings held during the bidding process to answer questions about the Equity Plan;
- providing a ruling on hiring and contracting issues, based on the requirements and procedures set out in the Equity Plan;
- ensuring contractors and vendors approached the employment and sub-contracting processes in good faith; and
- the identification and pre-selection of lower income residents using zip codes (post codes) to ensure local workers were included in the hiring and sub-contracting process.

**BENEFITS REALISATION**

Identified benefit	Benefit description
 <p><b>Job creation and equal access to labour market opportunity</b></p>	<p>The Equity Plan generated:</p> <ul style="list-style-type: none"> <li>• USD 139 million in revenue for women-owned businesses;</li> <li>• USD 109 million for minority-owned businesses; and</li> <li>• USD 13 million in revenue for veteran-owned businesses.</li> </ul> <p>This exceeded the previously set inclusivity target goals.</p> <p>In relation to workforce goals, minority groups were employed on the project for a total of 1.3 million hours (exceeding the initial goal of 32% by an additional 4%) and women spent more than 300,000 hours in the workforce (a 9% share versus the 6% target).</p> <p>386 workers were hired from marginalised neighbourhoods to increase access to labour opportunities for lower income residents in Minneapolis.</p>
 <p><b>Social equity and social stability</b></p>	<p>The project helped to address social inequality and discrimination in the labour force, which has stifled opportunities for minorities and women to progress on equal terms. A number of affirmative and proactive initiatives introduced by the Authority have helped to overcome some of the challenges to social equality.</p>

## Stakeholders

Key beneficiaries	Role
<b>Women- and minority-owned businesses</b>	Groups targeted by the Authority and any contractor or vendor to be contracted for work related to the U.S. Bank Stadium.
<b>Women and minorities</b>	Target groups to be hired by the Authority for work related to the U.S. Bank Stadium.
<b>Low-income residents</b>	Workers hired and trained from targeted zip codes (or post codes) in Minneapolis.
<b>Veterans</b>	Hired workers or contracted business owners who have served in the armed forces.
<b>People with disabilities</b>	Hired workers or contracted business owners who are registered as having a disability in the State of Minnesota.
Institutional stakeholders and partners	Role
<b>The Minnesota Sport Facilities Authority</b>	The Minnesota Sport Facilities Authority was created in 2012 to design and construct a new multi-purpose stadium. After completion, the Authority took over the ownership and operation of the Stadium.
<b>Various government departments</b>	A number of government entities are involved in this project including the City of Minneapolis, the Minnesota Department of Labor and Industry, the City of Minneapolis Office of Civil Rights, the Minnesota Department of Human Rights, and the Minnesota Department of Administration.

## Lessons Learned

### Success factors

**Strong leadership and a robust governance structure** ensured all programs were well managed, implemented and monitored. The Committee played a key role in engaging with stakeholders and governance structures. The Team led the day-to-day operations and implementation of the Plan with the construction managers, contractors and vendors.

**Strong partnerships and a collaborative approach** underpinned the successful integration of women- and minority-owned businesses into the day-to-day operational environment. The Team created a forum to openly discuss any challenges and the requirements of the Equity Plan, which, in turn, made collaboration on a micro and macro level much easier.

**Transparent web-based reporting tools** enabled the Team to monitor the progress of the target groups working at the Stadium each day.

### Key challenges

**An effective engagement strategy** helped contractors, subcontractors and vendors to develop a common understanding of the requirements of the Equity Plan. However, it took time to familiarise people with the new way of monitoring and reporting progress and achieving consistency throughout the process.

**Business leaders had to create a culture that would support the Equity Plan's more inclusive approach** but it takes time to change people's attitudes and behaviour. It would have been easy to fall back into former practices so a consistent approach was required.

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Peru

## El Metropolitano Bus Rapid Transit



Source: El Popular (<https://www.elpopular.pe/actualidad-policiales/2018-05-07-metropolitano-llegara-carabaylo-ano>)

### Lima's bus rapid transit (BRT) system seeks to improve mobility and access to education, jobs and other opportunities for its low-income residents, mainly on the outskirts of the city.

The Metropolitano (*El Metropolitano* in Spanish), the Lima metropolitan region's BRT system, consists of dedicated bus lanes along the main road corridor connecting northern Lima with southern Lima, and feeder routes linking low-income neighbourhoods on the outskirts of the city with the main bus terminals. The project seeks to enhance the quality of life and economic productivity of low-income residents through the provision of an affordable, efficient, reliable, cleaner and safer public transport system.

The Metropolitano has been operating since 2010. It turned from the traditional, disorganised, unreliable bus service into the backbone of a more efficient and affordable public transport network. The project has connected lower income neighbourhoods to employment areas, education, healthcare and facilities in the city centre.

The Metropolitano transports about 700,000 passengers per day<sup>1</sup> and has provided multiple benefits to the Lima metropolitan region. The most significant benefit is shorter travel times (a 25% and 45% saving when travelling to/from the north/south<sup>2</sup>) and a reduction of about 400,000 tons of CO<sub>2</sub> emissions due to the use of natural gas to power the fleet<sup>3</sup>.

The key Action Area identified is **Project Planning, Development and Delivery**. The BRT system in Lima has established inclusive planning and design in transport infrastructure to connect low-income neighbourhoods on the edge of the city with employment opportunities in the city centre and has facilitated access for people with disabilities. The Action Area **Stakeholder Identification, Engagement and Empowerment** is also covered in this case study, as widespread and varied stakeholder engagement was conducted for this project, particularly throughout the design process.

<sup>1</sup> About Us Metropolitano (Instituto Metropolitano PROTRANSPORTE de Lima, 2018a)

<sup>2</sup> Project Performance Assessment Report Lima Transport Project. (IEG Sustainable Development, The World Bank Group, 2015)

<sup>3</sup> More than 400,000 tons of CO<sub>2</sub> reduction from the Metropolitano in 2017 (Metropolitano, 2017)

## Project Overview

<b>Key words</b>	Low-income neighbourhoods, accessibility, mobility, stakeholder engagement
<b>Sector</b>	Transportation
<b>Background</b>	Lima is one of the fastest growing cities in Latin America. Many of its lower income neighbourhoods are on the outskirts of the city and have poor public transport networks. Chaotic and informal services, as well as high levels of congestion, pollution and accidents, lead to long journey times, which makes it difficult for people, particularly in low-income groups, to access job opportunities, education and services. Therefore, the Lima metropolitan region identified the need to develop a more affordable, efficient and reliable public transport system.
<b>Size</b>	<p>Project approved (in 2003) for USD 134.43 million, with:</p> <ul style="list-style-type: none"> <li>• USD 45 million from The World Bank (International Bank for Reconstruction and Development (IBRD));</li> <li>• USD 7.35 million from the Global Environmental Facility; and</li> <li>• USD 45 million from the Inter-American Development Bank (IADB)*1.</li> </ul> <p>Final cost (in 2009) was USD 261.9 million. The difference was entirely financed by the borrower, the Metropolitan Municipality of Lima, with a loan guarantee from the Government of Peru.</p>
<b>Stage</b>	The project commenced in 2003. The BRT system has been operating since 2010.
<b>Why of interest</b>	<ul style="list-style-type: none"> <li>• Reducing the geographic divide to improve accessibility to jobs and services for low-income residents</li> <li>• Focus on low-income communities</li> <li>• Saving travel time by establishing efficient, reliable, safer and affordable public transport systems</li> </ul>
<b>Project objectives</b>	<ul style="list-style-type: none"> <li>• Improve public transport and mobility conditions for the population of metropolitan Lima, particularly among low-income groups</li> <li>• Reduce traffic congestion</li> <li>• Reduce air pollution and carbon emissions</li> <li>• Reduce traffic accidents</li> </ul>
<b>Project Lifecycle Assessment</b>	<p><b>Project preparation</b> – Integration of main trunk and feeder routes to reach low-income neighbourhoods located on the outskirts of the city.</p> <p><b>Project procurement</b> – No relevant practices identified.</p> <p><b>Construction</b> – Pedestrian stairs “Stairs of Solidarity” to improve pedestrian mobility in informal settlements and to more easily reach feeder routes.</p> <p><b>Project monitoring and evaluation</b> – Web-based database for monitoring and evaluating data managed by a third party. IADB Office of Evaluation and Oversight (OVE) facilitated the evaluation of project success and recommendations.</p>

\*1 Project Performance Assessment Report Lima Transport Project. (IEG Sustainable Development, The World Bank Group, 2015)



## Project Description

Lima is one of the fastest growing cities in Latin America. The population grew by 11% between 2007 and 2012 and reached a recorded population of about 10 million in 2017<sup>4</sup>. About 42% of people in Lima are classified as extreme poor (stratum E<sup>5</sup>) and 19% are classified as poor (stratum D), and they live on the outskirts of Lima mainly in the northern and southern areas of the city, while higher income residents are located in the centre and south-central areas. About 54% of working age adults are informally employed, which can lead to an unstable market, lower pay and negative consequences for productivity, inequality, growth and trade<sup>6</sup>.

Prior to the introduction of the Metropolitan bus rapid transit (BRT) system, public transport in Lima was chaotic with an oversupply of aging buses, low quality infrastructure, high levels of informality, and poor quality services, which led to traffic congestion, accidents and air pollution. There were many bus routes run by mini-vans (Combis<sup>7</sup>) that connected key locations across the city, however journey times were very long, and service was unreliable.

In the 1970s, Lima pioneered a prototype of the modern BRT system in Latin America and the concept of segregated lanes was first introduced in the city along the Express Highway (Vía Expresa). The system continued until the early 1990s, when the operating company went bankrupt.

The fast-growing population and high motorisation rates have contributed to an increase in travel demand in the city. This has been exacerbated by urban sprawl and the development of informal settlements on the outskirts of Lima. For residents living in these areas, it takes a long time to get to the city centre.

Drawing on the successful experience of other Latin American cities, Lima developed the Metropolitan BRT system of the Lima metropolitan region<sup>8</sup> in 2003, and it has been operating since 2010. The project was developed with funding from the International Bank for Reconstruction and Development (IBRD), the Inter-American Development Bank (IADB) and the Global Environmental Facility.

According to the loan agreement with the IBRD and IADB, the project sought to “enhance the economic productivity and quality of life by improving mobility and accessibility for the population, especially in the peri-urban poor neighbourhoods, through establishing an efficient, reliable, cleaner and safer BRT system operating on segregated bus lanes”<sup>9</sup>.



Figure 1. Metropolitan BRT trunk system

Source: Lima City of Kings (<http://limacitykings.com/metropolitano/>)

The Metropolitan project consists of about 27 kilometres (km) of dedicated bus lanes running from the north of the city to the south of the city, known as the main trunk routes (*troncal* in Spanish). There are 35 bus stops on raised platforms, two main terminals at both ends of the main trunk, approximately 30 km of feeder roads linking neighbourhoods on the edge of the city with the main terminals, cycleways, environmental enhancements and pedestrian bridges.

The number of passengers has doubled since the service started in 2010<sup>10</sup>. Approximately 500 buses, running on compressed natural gas (CNG), transport around 700,000 people per day<sup>11</sup>. The system is operated by four private bus companies with a concession of USD 174 million for 12 years. It is estimated that CO<sub>2</sub> emissions have been reduced by 400,000 tons, due to the buses running on natural gas<sup>12</sup>.

One of the main cited benefits of the Metropolitan is the significant reduction of travel times. According to the Lima Metropolitan Institute Protransporte<sup>13</sup> (Protransporte), the average travel time from origin to destination for users decreased from 50 minutes to 38 minutes in 2013, while travel time through the corridor from Naranjal (north terminal) to Matellini (south terminal) along the main trunk has fallen from 120 minutes to about 65 minutes<sup>14</sup>. This equates to an overall reduction in travel time of 25% and 45% when travelling to/from the north/south on the BRT.

<sup>4</sup> 10 million people live in the metropolitan Lima (National Institute of Statistics and Information, 2016)

<sup>5</sup> Based on poverty data from the National Institute of Statistics and Information. A Stratum is a category of income level.

<sup>6</sup> Presentation BRT Systems and Social Inclusion. (Scholl, et al., 2018)

<sup>7</sup> Combis are shared mini-vans that informally transport passengers.

<sup>8</sup> The Lima metropolitan region is comprised of the Metropolitan Municipality of Lima and the Constitutional Province of El Callao.

<sup>9</sup> Project Performance Assessment Report: Lima Transport Project (IEG Sustainable Development, The World Bank Group, 2015)

<sup>10</sup> Presentation BRT Systems and Social Inclusion (Scholl, et al., 2018)

<sup>11</sup> About Us Metropolitan (Instituto Metropolitano PROTRANSPORTE de Lima, 2018a)

<sup>12</sup> From the start of operations until December 2017, (Metropolitano, 2017)

<sup>13</sup> Lima Metropolitan Municipality has created Protransporte to be the executing agency to deliver the Metropolitan.

<sup>14</sup> Project Performance Assessment Report: Lima Transport Project (IEG Sustainable Development, The World Bank Group, 2015)

## Key Practices Identified and Applied



### PROJECT PLANNING, DEVELOPMENT AND DELIVERY

#### Statement of the issue in relation to inclusion and brief introduction

People on lower incomes are often the worst affected by poor public transport services and experience longer travel times, higher exposure to pollution and increased risk of traffic accidents. This is often because they are living on the edge of cities where there is no affordable and efficient network. That creates social exclusion and impedes access to employment opportunities, services and market.

In Lima, about 40% of the extreme poor (stratum E) and 20% of the poor (stratum D) live on the outskirts of the city. The extreme poor often live in informal settlements that lack good public services and infrastructure, e.g. narrow, unpaved roads. This spatial segregation of people from job locations decreases affordability to search and access jobs, thereby increasing unemployment. Travel patterns of people on lower incomes differ in terms of mode and expenditure. They have longer travel times, and greater usage of public transport and non-motorised transport modes due to affordability barriers. About 28% of daily trips by the poor and 35% by the extreme poor in Lima are undertaken on foot, followed by traditional buses, such as *Combis*<sup>15</sup>.

The *Metropolitano* was conceived to improve services and to connect low-income neighbourhoods on the edge of the city with employment areas in the city centre. Prior to the BRT, people could cross the city using one form of transport (*Combi*) but travel times were excessive.

Three years ago, the Metropolitan Institute of Transport for Lima (*Instituto Metropolitano Protransporte de Lima*, or *Protransporte*, the agency that implemented the project) estimated that about 80% of *Metropolitano* users come from low-income groups settled on the outskirts of the city<sup>16</sup>. A more recent survey by the Office of Evaluation and Oversight (OVE) of the IADB stated that whilst the system has attained its goal of having 60% of its riders from socioeconomic strata C (lower middle income), D and E, the share of ridership by the poor and extreme poor (strata D and E) is about 43% (which is lower than the lower middle income strata at 57%). The reason for this is that the BRT does not reach the areas where the extreme poor live and work.

<sup>15</sup> An Evaluation of the Effects of IDB Supported BRT Systems on Mobility (Office of Evaluation and Oversight, 2016a)

<sup>16</sup> Project Performance Assessment Report: Lima Transport Project (IEG Sustainable Development, The World Bank Group, 2015)

#### How inclusivity has been addressed

**The identified practice is establishing inclusive planning and design to improve accessibility and mobility for low-income groups.**

The project aligns with Lima's strategic objectives of becoming a safer, modern and competitive city. It was also consistent with the World Bank's Country Assistance Strategy for the financial years 2002-2006 and Country Partnership Strategy for the financial years 2007-2011. They aimed to encourage sustainable economic growth and reduce poverty by enhancing public transport, creating a direct impact on the productive lives of the poor, reducing air pollution and cutting the transport infrastructure deficit<sup>17</sup>.

The *Metropolitano* was conceived to improve public transport, to reduce congestion, pollution and traffic accidents, and to connect low-income neighbourhoods on the edge of the city with employment areas in the city centre.

This was achieved by reconfiguring the traditional and unreliable service to make it a more efficient trunk and feeder network that could be reached by a wider population. The main trunk system connects the low-income neighbourhoods in the north and south of Lima.

The feeder routes were specifically included in the design to reach the low-income neighbourhoods. They were determined by areas of high population and low income. The feeder routes run through neighbourhoods on the outskirts of the city and connect with the north and south terminals located at both ends of the main trunk. New buses replaced the older vehicles in the feeder routes. They help the entire system to be more efficient, more reliable and safe. There are 17 feeder routes which served 55,947,865 users per year in the north area in 2016 and four feeder routes which served 12,208,452 users per year in the south<sup>18</sup>.

<sup>17</sup> Peru: Country Program Evaluation for the World Bank Group, (The Independent Evaluation World Bank Group, 2011).

<sup>18</sup> VII Report of Results on Quality of Life in Lima and Callao. (Lima Como Vamos, 2016).

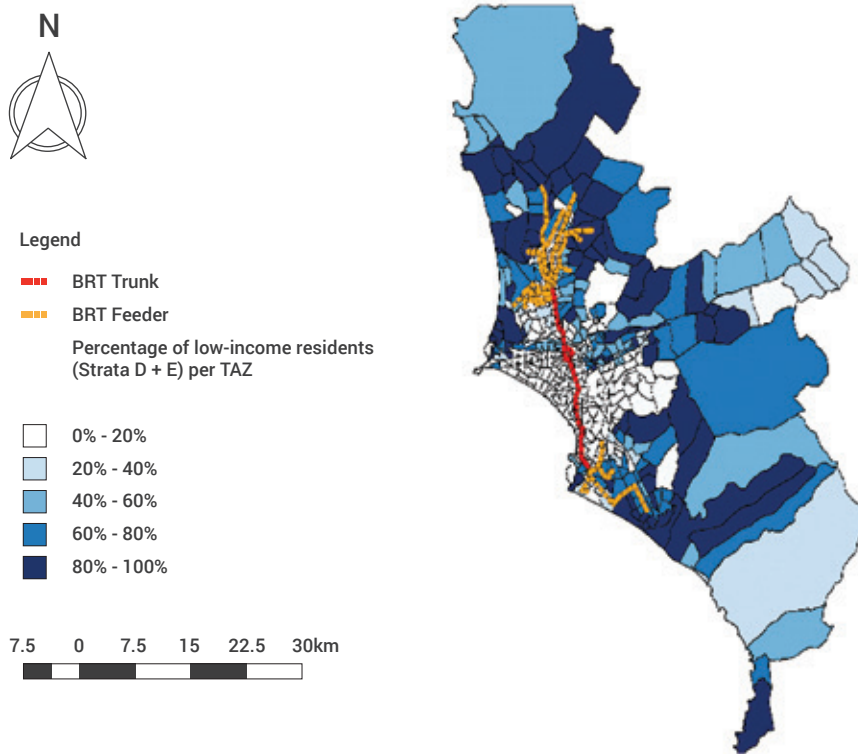


Figure 2. Coverage of BRT in relation to socioeconomic strata in Lima Metropolitan Area, Strata A being the highest and Strata E the extreme poor. Source: OVE (2015)

### Implementation

The planning and design of the BRT considered several criteria such as capacity, passenger demand, speed and cost of execution, and reaching low-income neighbourhoods. The location of the main trunk road used existing infrastructure such as the express highway (Vía Expresa). The highway connects areas with high demand for public transit.

#### Feeder routes in low-income areas

The feeders were identified as essential to reach the low-income areas. Although a demand study was not undertaken, the location for feeder routes was identified in relation to known areas of low-income and high population to the north and south of the city. Figure 2 shows the Metropolitan routes in relation to socioeconomic strata, and highlights that the integrated trunk-feeder network extends to some of the city’s lower income neighbourhoods.

In recognition of the need to continually improve access for people on lower incomes, Protransporte has identified complementary corridors to the east and west of the city, which will improve access for a wider community. This is part of an Integrated Transport System network comprised of the trunk route, feeder routes and metro lines, with works proposed for 2018.

### Stairs of Solidarity

An additional project was also introduced to improve access to the system from low-income neighbourhoods. The Stairs of Solidarity (*Escaleras de la Solidaridad* in Spanish) were developed by the Metropolitan Municipality of Lima to improve access to the BRT feeder system for people living in the informal settlements located in the steep hills on the edge of the city. Before this project, residents in these informal settlements had to walk through mud roads on steep hills to reach feeder routes. The roads were unsafe and difficult for women, the elderly and children, and were particularly inaccessible for people with disabilities.

The municipality built stairs for communities and provided them with better access to the feeder routes. With the provision of infrastructure, the quality of life in these vulnerable communities improved. Residents were able to reach the feeder routes of the Metropolitan system and to access services, schools and jobs in a much safer way.

The Stairs of Solidarity have been implemented in different locations and have become one of the flagship programs of the current administration. It demonstrates the local government’s commitment to setting up programs that help overcome barriers and positively impact a wider community.



Figure 3. Pedestrian stairs (Solidarity Stairs).  
Source: Lima City of Kings (<http://limacitykings.com/lima-shantytown-tour/>)

### Universal Design

To provide access for all, the original design of the BRT included Universal Design principles, supported by the World Bank. The BRT's Universal Design enables access for people with disabilities. The stations include exclusive-use lifts, ramps, dedicated spaces within the bus for people with wheelchairs, and red seats for the exclusive use of pregnant women, the elderly and children.

### Supervision and monitoring

No specific monitoring of inclusivity targets is currently undertaken by Protransporte.

### Performance evaluation and surveys

'Lima, how are we doing?' (*¿ Lima Como Vamos ?*) is a monitoring and evaluation tool used to analyse changes in people's quality of life. Performance evaluation reports and satisfactory survey reports are released annually. They summarise progress and reference public policies related to environment, mobility, culture, education, public spaces and health for the Lima metropolitan region. The reports include mobility indicators, such as the total number of users of the Metropolitano, transport mode share, origin and destination, number of cards issued and accidents. There are no specific indicators on inclusivity.

The tool aims to investigate urban issues affecting people's quality of life and collect data to inform decision-making, to guide prioritisation and to provide information of interest to all citizens. This is also a tool that measures the views and perceptions of public projects and activities to encourage more people to get involved in the city's development projects.

### Multilateral Development Bank assessments

The BRT system was subject to a project performance assessment by the Independent Evaluation Group (IEG) of the World Bank in 2015, and an evaluation by the IADB's Office of Evaluation and Oversight (OVE), as part of an evaluation of three BRT systems across Latin America (also including Cali in Colombia and Montevideo in Uruguay) in 2013 and 2016.

The OVE identified the following:

- The Metropolitano has succeeded in achieving its goal of having 60% of its riders from middle- and lower-income communities (socioeconomic strata C, D and E);
- People from lower income areas have highly positive perceptions of the system speed;
- The system is generally perceived as affordable; however, the extreme poor still find the fare unaffordable; and
- Affordability is a barrier for the poor in using the BRT system for a large share of their trips. Given the integrated and flat fare pricing structure, the poor tend to use the BRT for longer trips because the price then becomes competitive with the traditional transit services.

Some of these findings are relevant in terms of maximising the benefits of inclusivity for BRT systems:

- BRT systems should consider implementing inclusive fare policies. To improve affordability for the poor, targeted vouchers could be used, or preferential tariffs could be added.
- A diagnosis of the mobility needs of the poor should be conducted to achieve inclusivity objectives, including analyses of issues around access, spatial mismatches between skill-appropriate jobs and housing, travel patterns and affordability. In general, income can be an unreliable measure of poverty, so it is better to use social strata data such as quality of housing, ownership of vehicles, etc.
- Inclusion of the extreme poor may need to consider feeders to those areas of low-density population.
- Given the complex urban settings in which BRTs are typically located, an integrated multimodal transport and land use planning approach involving inter-agency coordination is required. This should prioritise investments in physical infrastructure and system design adopting a comprehensive view, based on multiple stakeholder inputs and sound technological, policy and financial analysis. Reforms in support of the system, such as government-supported land use policies, are also required.



## STAKEHOLDER IDENTIFICATION, ENGAGEMENT AND EMPOWERMENT

### How inclusivity has been addressed

The identified practice is extensive stakeholder engagement with the affected communities, particularly during the design process, leading to community support and resolution of conflict.

### Implementation

#### Community consultation

The Municipality of Lima’s engagement with communities during the design phase was focused on the main trunk road, as the works associated with feeder routes were minor (small improvements to existing roads) and therefore not considered likely to generate resistance. In particular, priority was given to the community surrounding the northern terminal workshop. The proposal was to locate the facility in a low-income neighbourhood, adjacent to a park.





Discussions were held with small groups of people who could have been indirectly affected by the development (for example, by increasing the distance they would need to travel to reach a road crossing). Door-to-door surveys were also conducted in the affected neighbourhoods. A draft map of the project was presented and potential conflicts were identified and discussed. People’s feedback and recommendations were considered as part of the design process. Examples of ideas that were incorporated in the design include the construction of a pedestrian boulevard and an outside gym in the park. It was stated that the level of consultation led to community support for the works and resolved conflicts with local stakeholders.

#### Awareness campaigns

Stakeholder engagement is not limited to the development stage. Protransporte still undertakes awareness and education campaigns targeted at passengers and the general public to strengthen its values and culture, particularly in relation to pedestrians and drivers. It also encourages people to respect other users and to report any incidents that occur on the system. The campaigns encourage people, particularly women who feel verbally or physically harassed, to report to the staff or security guards. Victims can receive legal, psychological and social counselling. Protransporte reports that the campaign has resulted in a 90% reduction of incidents of this nature<sup>19</sup>.

<sup>19</sup> Metropolitan About Us. (Lima Metropolitan Institute of PRO-TRANSPORT, 2018b).

### Benefits Realisation

Identified benefit	Benefit description
 <p><b>Increase affordability and accessibility</b></p>	<p>Improved accessibility to jobs and schools – usage of the Metropolitan is mainly to attend work (60%) and high school/college (20%).</p> <p>60% of its passengers are from middle- and lower-income areas (socioeconomic strata C, D and E)<sup>2</sup>.</p>
 <p><b>Job creation and equal access to labour market opportunity</b></p>	<p>Saving travel time – for lower income people this could mean extra time to carry out additional work. Overall journey time has been reduced from 50 minutes to 38 minutes<sup>3</sup>.</p>
 <p><b>Reducing geographic divide</b></p>	<p>Improved access to the city centre from lower income neighbourhoods in the north and south of Lima. Improved access to the feeder system for communities located in the hills on the city’s outskirts.</p>
 <p><b>Increasing gender equity</b></p>	<p>Awareness campaigns encourage women who feel harassed to come forward to security staff, with the aim to increase safety and reduce incidents of harassment.</p>

<sup>2</sup> An Evaluation of the Effects of IDB Supported BRT Systems on Mobility (Office of Evaluation and Oversight, 2016a)

<sup>3</sup> Project Performance Assessment Report Lima Transport Project. (IEG Sustainable Development, The World Bank Group, 2015)

## Stakeholders

Key beneficiaries	Role
<b>Low-income communities</b>	Low-income residents living on the outskirts of the city benefit from the BRT system to access employment and education opportunities.
<b>People with disabilities</b>	Stations and buses are now easily accessed by people with disabilities.
<b>BRT system users</b>	Saving travel time has allowed BRT users to spend additional time on other activities.
<b>Women</b>	Reduced incidents of assault have increased accessibility of the BRT system for women.
Institutional stakeholders and partners	Role
<b>Municipalidad Metropolitana de Lima (MML)</b>	The Metropolitan Municipality of Lima (MML) has the strategic vision for Lima to become a safer, modern, competitive, sustainable and integrated city. MML identified that the chaotic and informal public transport system was one of the main barriers to achieving its vision and therefore implemented a bus rapid transit system to enable people to have a better quality of life.
<b>Lima Metropolitan Institute for Transport (Instituto Metropolitano de Transporte de Lima – Protransporte)</b>	Protransporte was set up in 2002 by Municipal Decree No. 035 as the executing agency to be responsible for the BRT system. This financial and administrative autonomous agency provides effective, efficient and sustainable transport solutions for the Lima metropolitan region.
<b>Empresa Municipal Administradora de Peaje (EMAPE)</b>	EMAPE is a public institution under the MML responsible for roads infrastructure and toll management. It supported the construction of the BRT infrastructure financed by the municipality after the original cost was increased.
<b>Urban Transport Management (Gerencia de Transporte Urbano)</b>	Public organisation under MML for the operation of the integrated transport system in the metropolitan area.

## Lessons Learned

### Success factors

**Inclusion of feeder routes to reach low-income neighbourhoods.** Improving mobility and accessibility for lower income residents through the BRT system requires integrating the main routes with feeder services and with other public transport systems that reach low-income neighbourhoods. While the Metropolitano was able to do this for a significant number of people, it has recognised the need for further feeder routes and initiatives to include more vulnerable residents.

**Improved travel times and accessibility.** Increasing the potential for people to get to work more quickly, or allowing, for example, small business owners to reach more customers during the day.

**Inclusion of Universal Design principles.** BRT international guidelines and best practices have been followed by Protransporte as the executing agency, and Lima Metropolitan Municipality, to embed Universal Design principles and integrate planning for vulnerable groups, such as people with disabilities.

**Ongoing anti-harassment awareness campaigns** have led to a reduction of 90% in verbal or physical harassment incidents within the BRT system.

### Key challenges

**Political support for the project and managerial support.**

Although this is an infrastructure project, political commitment is essential to identifying the project as a priority and successfully delivering it. Rapid turnover of members of the senior management team and lack of retention of technical professionals have caused delays on the project, especially at the beginning, and can affect the continuity of operational procedures. Additionally, the project became the centre of political debate and dispute, which led to delays in extension of the system.



Figure 4. El Metropolitano BRT.

Source: Lima City of Kings (<http://limacitykings.com/metropolitano/>)

**Trade-off between affordability and profitability.**

Affordability for all needs to be balanced against the profitability of the project. The challenge is to achieve affordability in lower income areas where demand is low.

**Preferential tariffs for lower income users and other vulnerable people.**

The current fare for the Metropolitano trunk routes is USD 0.75 (2.5 soles) in trunk routes and USD 0.15 (0.5 soles) for feeder routes that count towards the maximum integrated trip fare of USD 0.75 (2.5 soles). A preferential fare is only available by law for school and university students, who get a 50% discount. An integrated fare of USD 0.75 (2.5 soles) is considered very positive, but the extreme poor still find the fare inaccessible. The affordability of a fixed rate tariff structure is likely to have a greater effect on accessibility for the poor.

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## Malawi

# Regional Communications Infrastructure Program (RCIP)



*Source: Provided by Audrey Mwala, Director – Project Finance and Risk Analysis, Public Private Partnership Commission Malawi*

**A government-led initiative that uses public institutions to help overcome the challenges of providing information and communications technology in remote areas. The initiative in Malawi targeted inclusion of under-served areas in the benefits from a larger infrastructure program connecting several Eastern and Southern African countries.**

The Regional Communications Infrastructure Program (RCIP) was developed to accelerate the roll-out of information and communications technology (ICT)<sup>1</sup> and to ensure that the infrastructure under construction along the Eastern and Southern Africa coast at that time would also benefit communities in inland areas and landlocked countries.

The World Bank supported this program for eight African countries, including Malawi<sup>2</sup>. The implementation of the undersea fibre optic cables and landing stations as part of this program was led by the private sector, with funding from the World Bank, International Finance Corporation (IFC) and other partners. Additionally, terrestrial networks were developed to improve last mile delivery.

The Regional Communications Infrastructure Program Malawi (RCIPMW) aims to improve the quality, availability and affordability of broadband internet connection through a public-private partnership (PPP) model, as implemented by the Malawi Public Private Partnership Commission. It also includes support for the development of the sector, enabling environment, and provision of connectivity to targeted public institutions within the country.

<sup>1</sup> Information and Communications Technology (ICT) refers to technologies that provide access to information through telecommunications, such as internet, wireless networks, cell phones and other communication mediums.

<sup>2</sup> The program is being rolled out in several phases involving the following countries: Phase 1 – Kenya, Burundi and Madagascar, Phase 2 – Rwanda, Phase 3 – Malawi, Mozambique and Tanzania, Phase 4 – Comoros, Phase 5 – Uganda (The World Bank, 2013).

The RCIPMW has three main components:

- (1) *Enabling environment* (USD 1.9 million): capacity building and training
- (2) *Connectivity* (USD 14.5 million): finance for digital infrastructure investments, including the provision of an underground fibre-optic link from Malawi's capital Lilongwe to Tanzania and Zambia under a PPP arrangement, and the supply of broadband connectivity to institutions and rural areas. The licence for regional fibre links and the virtual landing point was awarded to service provider, SimbaNET, which completed the western regional fibre link through Zambia in August 2015 and the north-eastern fibre link through Tanzania in December 2015.
- (3) *Project management* (USD 3.5 million): including project coordination, procurement, financial management, and monitoring and evaluation.

This case study relates primarily to the 'last mile connectivity' component of the RCIPMW (listed in point 2, above). This component provides internet access and information technology equipment, such as computers and printers, to public institutions, including District Information Offices, teacher training colleges and secondary schools. It supports students and villagers who do not have access to the internet due to lack of education, the absence of private sector internet service provider(s) and affordability.

Relevant to this case study is the inter-agency collaboration needed to reach students and villagers (i.e. farmers), and to provide them with internet access. Studies show that providing ICT can increase economic and social inclusion. In Malawi, ICT access is viewed as an important enabler for inclusion and helps to address growing inequalities in professional and personal development opportunities. In conjunction with its investment in broadband access and outreach programs, the government is also making improvements to its regulatory framework by formulating policies that attract more private sector investors to the ICT sector.

This project does not seek to provide direct access to ICT for individuals across the country. Instead, it uses public institutions to reach people, including students and farmers. It demonstrates efforts to engage with communities that are not only impacted by high levels of poverty and illiteracy, but are also vulnerable due to extreme climate and market dynamics.

## Project Overview

<b>Key words</b>	Rural area, poverty, internet, public institutions, ICT access, education
<b>Sector</b>	Information and communications technology (ICT)
<b>Background</b>	Only one in ten people in Malawi have access to information and communications technology (as of 2016). This is due to the high cost and complexity of developing the infrastructure and end-user service offering. However, the government plans to improve access to, and the affordability of, broadband connections. It is initiating projects to reach out to the most disadvantaged groups in society.
<b>Size</b>	USD 19.9 million from the World Bank for the RCIPMW component: <ul style="list-style-type: none"> <li>• Enabling Environment – USD 1.9 million</li> <li>• Connectivity – USD 14.5 million</li> <li>• Project Management – USD 3.5 million</li> </ul>
<b>Stage</b>	Project duration: 2009 – 2016 Number of institutions providing hub ICT services: <b>Phase I:</b> 16 institutions <b>Phase II:</b> 30 institutions <b>Phase III:</b> 145 institutions
<b>Why of interest</b>	<ul style="list-style-type: none"> <li>• ICT services hubs have been established to provide internet access to students and villagers</li> <li>• Training provided for teachers (at schools and colleges) and government officials (at District Information Offices) on how to use ICT equipment (i.e. internet, computer and printer), which will be passed on to students and community members</li> <li>• Part of the long-term objective to increase internet access, which will improve economic and social inclusion</li> </ul>
<b>Project objectives</b>	<ul style="list-style-type: none"> <li>• Reduce the high cost of internet access and operation</li> <li>• Enable government employees to improve service provision for residents</li> <li>• Build capability and capacity at government offices and educational institutions so knowledge can be passed on to other community members</li> </ul>
<b>Project Lifecycle Assessment</b>	<p><b>Project preparation</b> – Identified institutions that had the potential to reach communities which did not have access to the internet.</p> <p><b>Project procurement</b> – No relevant practices identified.</p> <p><b>Construction</b> – Provision of training to government workers and students.</p> <p><b>Project monitoring and evaluation</b> – Understanding the impact that increased access to information and computer and internet usage has on social inclusion.</p>

## Project Description

Malawi is one of the least developed countries in the world. It had a per capita gross national income (GNI) of just USD 320 in 2016 and a total population of 18 million (also in 2016)<sup>3</sup>. The agricultural sector accounts for a third of the gross domestic product (GDP) and is the main source of income for two thirds of the population. Based on the international poverty line of USD 1.90 per person per day<sup>4</sup>, the poverty rate in Malawi was 70% at the end of 2016<sup>5</sup>.

In Malawi, ICT infrastructure services are still at an early stage of development. Most people access ICT technologies through their personal mobile phones. 45% of the population have mobile phones. Only 4% of households have access to a computer.

At a national level, very few households own personal computers – only 3% own a laptop, while 2% have a desktop computer. Overall internet access remains low, despite a jump from 0.13% in 2000 to 10% in 2016<sup>6</sup>. A national survey revealed the main reasons for this are high costs for home usage and lack of knowledge about how to use the internet<sup>7</sup>.

Access to ICT is an important factor in achieving the country's national economic development goals. It could help to increase living standards in Malawi because it gives residents of low- and middle-income households a way to tackle educational, social and economic challenges. This is evident in remote areas where, beyond its social benefits, ICT access also has economic value<sup>8</sup>.

Areas where ICT has been applied include:

- (1) agriculture, where access to phones and the internet can help disseminate information on planting and crop management, daily commodity prices, etc.;
- (2) government transparency, where streamlining workflows and creating information repositories help to increase accountability, transparency and efficiency; and
- (3) education, where schools are provided with ICT tools to equip students with the necessary skills to participate in the information society and knowledge economy.

<sup>3</sup> Economic development document for the Republic of Malawi, 2017, (International Monetary Fund, 2017)

<sup>4</sup> The poverty line was set at USD 1.90 at 2011 international prices in October 2015 by the World Bank.

<sup>5</sup> Poverty rate is measured by the percentage of the population living below the international poverty line of USD 1.90 per person per day.

<sup>6</sup> Percentage of population using the internet in Malawi from 2000 to 2016, (Statista, 2016)

<sup>7</sup> Survey on access and usage of ICT services in Malawi, (Malawi Communication Regulatory Authority & National Statistical Office, 2015)

<sup>8</sup> ICT's impact on a country's economy and growth is increasingly clear. World Bank research shows that a 10% increase in mobile phone subscribers leads to a 0.8% increase in economic growth. Similarly, a 10% increase in high-speed internet connections leads to a 1.3% increase in economic growth. ICT in the developing world, (STOA, 2015).

Furthermore, ICT has a significant impact on a country's economic growth. For example, in a study conducted on the impact of the internet in sub-Saharan Africa, it was shown that internet connectivity may help to improve the agricultural sector's supply chain management and operational inefficiencies, as well as promote more transparent pricing and provide access to climate data. That, in turn, would substantially reduce costs and increase farmers' incomes. Through the internet, they can obtain precise weather information and order products online<sup>9</sup>. Farmers with access to the internet are in a better position to decide where, and for how much, they can buy or sell certain products, enabling them to compete on equal terms and face less discrimination due to their location.

Access to the internet also has a positive impact on education by enabling people to learn new skills online. The web can help provide cost-effective access to educational materials, thereby increasing literacy and engagement in low-income and remote areas.

The impact on social inclusion is also important. The development of social networks, which encourage integration in the community and the economy, help people from disadvantaged groups to be better organised and better connected to each other. In addition to fostering freedom of expression, social media has the potential to boost collaboration and social inclusion at all levels of society.

Although there is an upward trend in computer usage, the number of people with access to, and using, the internet remains low. The high cost of the technology relative to personal income is a major challenge in increasing its appeal<sup>10</sup>. In response to this, the Malawi Communications Regulatory Authority (MACRA) initiated the Regional Communications Infrastructure Program Malawi (RCIPMW) project. It aims to increase the accessibility and affordability of internet connection by providing ICT infrastructure and equipment donations to educational institutions and government offices.

RCIPMW, which is being delivered in three phases, is part of a multi-country ICT assistance program, with the primary objective of supporting Malawi's efforts to improve the quality, availability and affordability of broadband internet within its territory for both public and private users. The project also aims to provide internet connectivity to public institutions, including teacher training colleges, District Information Offices and secondary schools.

<sup>9</sup> The impact of internet connectivity on economic development in Sub-Saharan Africa, (Guerriero, 2015)

<sup>10</sup> Retail price of internet access has decreased from USD 120 at baseline (December 2008) to USD 5.8/MB (June 2016) per month per customer. Furthermore, the monthly retail price of broadband internet access (1 Mbps) was dramatically cut by more than 50%, USD 140 (2008) to USD 30 (June 2016). However, this price is still considered to be very high. Implementation Completion and Results Report, (The World Bank, 2018a)

Phases one and two of RCIPMW were completed in 2014, while phase three is still ongoing. As of September 2018, 201 public institutions are benefitting from the project<sup>11</sup>. As part of this case study, inclusivity aspects of 145 public institutions that received broadband internet access in 2013 were considered. Through the public institutions, internet access should be made available to people living in remote areas who currently do not have access and are unable to afford it.

This project illustrates the application of inclusivity in several Action Areas, the most relevant being **Governance and Capacity Building**, as government institutions are used to reach out to households without ICT access. Malawi has also made efforts at the policy level to address some barriers, which is covered in the Action Area of **Policy Regulation and Standards**.

## Key Practices Identified and Applied



### GOVERNANCE AND CAPACITY BUILDING

#### Statement of the issue in relation to inclusion and brief introduction

The gap between the richest and poorest members of society has continued to rise sharply and poverty is extreme and endemic<sup>12</sup>. Malawi is also struggling to address gender inequality and ranks towards the bottom of the Global Gender Gap rankings<sup>13</sup>. In 2010, 50% of the population was classified as poor while 25% lived in extreme poverty, which is defined as the ‘inability to satisfy food needs’<sup>14</sup>.

Given this wide social gap, equal opportunity is not granted to everyone to improve living standards and access economic prospects. This increases economic and social inequality between the high-income groups and the low-income groups. The low-income group has also been found to be very vulnerable to external events (i.e. extreme weather impacting farming yield, inflation, etc.). Rainfall and loss of off-farm employment are dominant factors

<sup>11</sup> Regional Communications Infrastructure Program Phase 3: Implementation Status & Results Report, (The World Bank, 2018b)

<sup>12</sup> Nationally, in 2004/5, the richest 10% of the population accounted for 46% of total consumption, while the bottom 40% accounted for 15% of total consumption. The share of consumption attributable to the top 10% increased to 53% in 2011, and that for the bottom 40% declined to 13%. This means that over the period 2004-2011, the consumption of the top 10% rose from being about three times higher to being about four times higher than that of the poorest 40%. In terms of consumption, the richest 10% spend 34% more than the poorest 10%. A Dangerous Divide – The State of Inequality in Malawi, (Mussa & Masanjala, 2015).

<sup>13</sup> Closing the Divide in Malawi – How to reduce inequality and increase prosperity for all, (Mariotti, C., Hamer, J., and Coffey, C., 2018).

<sup>14</sup> Economic development document for the Republic of Malawi, 2017, (International Monetary Fund, 2017)

resulting in poverty because most of the population rely on agriculture for their daily subsistence<sup>15</sup>.

Access to the internet can have a significant economic impact on vulnerable groups in society, particularly farmers, and improving access to technology will reduce the growing digital divide<sup>16</sup>. As an example, without access to the internet, farmers may have to leave their communities to travel to the next city to pursue a sale. This increases the cost of doing business and the farmers may find the prices have changed by the time they return to their village. This disconnect makes them more vulnerable to price fluctuations and shocks, and threatens food security.

Education underpins efforts to improve the computer literacy rate. The government has increased public spending on education, with the budget as a share of GDP reaching 5.0% by the late 2000s. However, according to the latest data, only 15.8% of the population above the age of 15 complete primary school, while an even lower number (7.9%) complete secondary school<sup>17</sup>. Not surprisingly, 38% of the population who are 15 or older are illiterate, which creates additional challenges for the teams trying to boost ICT equipment usage<sup>18</sup>.

#### How inclusivity has been addressed

**The identified practice puts public institutions at the heart of plans to expand ICT access in remote areas.**

The government has decided to improve ICT access and literacy in remote areas in Malawi through engagement with public institutions. Institutions have been provided with ICT infrastructure, including broadband access, and equipment, such as phones, computers and printers. In return, the institution’s staff members help residents in the community to use the technology for a small fee. For example, people could use the photocopy machine or search for information online with the help of a staff member at their local school, college or information office.

The Practice reduces the costs associated with installing and maintaining an internet connection in rural households and encourages people to use technology provided by public institutions instead. They will receive informal

<sup>15</sup> Vulnerability to Poverty in Rural Malawi, (Mccarthy, Brubaker, & De La Fuente, 2016).

<sup>16</sup> Digital divide is an economic and social inequality, and is about access to, use of, or impact of ICT. The divide refers to inequalities among individuals, households, businesses, or geographic areas, usually at different socioeconomic levels or other demographic categories. (U.S. Department of Commerce, 1995)

<sup>17</sup> Data retrieved from World Bank Education Statistics, (The World Bank, 2010)

<sup>18</sup> Data retrieved from World Bank Education Statistics, (The World Bank, 2015a)

training from government employees. For students, it is a way to learn new skills and utilise new educational and research tools.

## Implementation

### Training for target institutions and groups

Secondary schools, teacher training colleges and District Information Offices that did not have ICT equipment (such as computers and printers) were identified as target institutions. For all other institutions, the project provided broadband infrastructure and equipment, including a grant to cover the day-to-day running of it, for the first three years<sup>19</sup>.

The equipment allocated to each institution was determined by size and estimated demand. The donation was accompanied by general training on how the equipment should be used and maintained. The objective was to help government employees improve the service they provide to the communities and build a business centre around it. They offered access to the equipment for a small fee, which they used to pay for operational expenses, such as the broadband bill<sup>20</sup>. Training sessions were offered to the institution's staff members with the intention that they would then offer instruction to the community.

For secondary schools, the students were the primary target group and they were given basic training on how to use the computer and the internet. Currently, computer education is not part of the curriculum, although that may change in the future.

The teachers also received training from relevant ministries and the communications regulator, and were responsible for passing their knowledge on to their students. The aim was to expose students to computers as much as possible, creating an awareness of and interest in ICT.

There is a wide range of social benefits associated with improved access to the internet, including skills development. It opens a new world of opportunities for students, nurtures curiosity and encourages them to learn more about what is happening outside their village. Being able to use a computer also improves employability in many roles. Furthermore, it has the potential to strengthen social inclusion through improved communication and access to social networks. Finally, ICT also promotes gender equity, as access to ICT-based economic and educational activities inspires women to contribute to business and home-based activities.

<sup>19</sup> Information on the detailed equipment list (i.e. internet access speed, equipment list) was not made available.

<sup>20</sup> The actual fee payable for each service provided by the government institutions has not been made available.

## Supervision and monitoring

The Malawi Public Private Partnership Commission was responsible for implementing the project and assigned a team to monitor operational status to ensure beneficiary institutions put the ICT equipment to good use.

The National Statistical Office had no database on ICT access until 2014 when it first conducted a survey on access and usage of ICT services. The first survey took place during the period of RCIPMW implementation, which helped to improve the design in future phases. The survey captured the data and critical indicators at an individual and household level, and the findings inform the government of progressive ICT access strategies and project designs<sup>21</sup>.

Supervising and monitoring usage of the equipment by the students or by other members of the community was not a priority for this project. Instead, the purpose was to donate the equipment to the government institutions and encourage them to create a business centre to help cover their operational costs beyond the initial three years. As future phases progress, monitoring activities are expected to increase.



## POLICY, REGULATION AND STANDARDS

### Statement of the issue in relation to inclusion and brief introduction

ICT infrastructure in Malawi is underdeveloped and the responsibility for improving it rests with the government. The RCIPMW program was triggered by the country's National Economic Development Plan, which placed special attention on information technology.

The barriers to access to ICT infrastructure, specifically for people living in remote areas, include high cost of internet service (mainly due to the amount of infrastructure investment required and the high operational costs), lack of internet service providers and operators, poor connectivity, limited information on the ICT sector, and illiteracy.

<sup>21</sup> Chapter 1: Introduction: Survey on Access and Usage of ICT in Malawi, (Malawi Communication Regulatory Authority & National Statistical Office, 2015)

## How inclusivity has been addressed

**The identified practice is inclusive policy reform to facilitate ICT service provision and access.**





There are few ICT service providers at present because it is not financially viable for most companies, due to uncertainty within the industry and a lack of maturity in the market. To offer incentives to companies, Malawi's policy makers are attempting to tackle the dilemma by changing policy.

## Implementation

Based on the policy framework document<sup>22</sup>, the National ICT Policy (2013) aims to provide ICT services, including information technology, telecommunications, broadcasting and postal services, to rural areas, and particularly to vulnerable groups. As ICT becomes increasingly important to economic development, the Government has started to make positive reforms through policy and financial support. Fibre optic cables were installed through the RCIPMW program and an e-school program was made available in public schools, including providing schools with computer laboratories with internet access.

The Strategic Plan 2015-2020, published by the Malawi Communications Regulatory Authority (MACRA), identifies that a growing proportion of young and technologically savvy people between the ages of 10 and 45 demand ICT services. To facilitate access and usage, MACRA has established a financial assistance plan through the Universal Service Fund (USF).

## Benefits Realisation

Identified benefit	Benefit description
 <p><b>Reducing poverty and income inequality</b></p>	<p>Students in remote areas are given training on how to use computers and the internet, which helps them to gain skills that will be valuable in the future. Exposure to technology enables young people to seek better job opportunities.</p>
 <p><b>Integration of small business opportunities</b></p>	<p>Online information helps farmers to better understand market prices and how to maximise their revenues by selecting reputable vendors. People in low-income groups can use real-time information to start their own businesses and increase household income.</p>
 <p><b>Increasing affordability and accessibility</b></p>	<p>Internet penetration increased from 0.7% in 2008 to 15.7% in 2016 because of the RCIPMW. The improvement in international internet bandwidth to 11,680 megabits per second (Mbps), from a mere 180 Mbps in 2008, helped to reduce the cost of internet access. The monthly retail price dropped to USD 5.80 in 2016, compared to a prohibitive USD 120 eight years earlier. As of June 2018, 145 educational and government institutions have benefited from the project. Universal access-oriented design of rural communication sub-projects provides subsidies to the private sector to encourage them to invest in rural areas.</p>
 <p><b>Technical literacy and knowledge sharing</b></p>	<p>Online training has been conducted for teachers from identified institutions and 163 officers of Ministries, Departments and Agencies (MDAs) and Local Government Agencies (LGAs) to enable them to serve their communities better.</p>

<sup>22</sup> An Integrated ICT-led Socio-economic Development Policy and Plan Development Framework for Malawi (Mbvundula, 2003)

## Stakeholders

Key beneficiaries	Role
Low-income groups	Low-income groups benefit from long-term universal access.
District Information Offices	The District Information Offices are given free computers and printers to better serve the local community. The offices have the right to charge a minimal fee for certain services.
Secondary schools	The secondary schools are given free computers and printers, which are available to students to use.
Teacher Development Centres and Technical Colleges	The centres are given free computers and printers to better fulfil their teaching mission.
Institutional stakeholders and partners	Role
Malawi Communications Regulatory Authority (MACRA)	MACRA is the national regulator of Information and Communications Technology (ICT) in Malawi and its vision is to ensure the public has universal access to and usage of ICT services across the country.
The Public Private Partnership Commission	The PPP Commission facilitates the implementation of the public-private partnership program through the PPP Policy Framework. One of its key principles is safeguarding the interests of vulnerable groups.
National Statistical Office (NSO)	NSO is engaged in a national survey on ICT services in Malawi.
International Telecommunication Union (ITU)	ITU sets the guidelines and methodology used to capture data on ICT services in Malawi, covering topics such as access to, and usage of, telecommunications.
The World Bank	The financier of the wider Regional Communications Infrastructure Program (RCIP).



## Lessons Learned

### Success factors

During the preparation stage, the project team **invited communities to engage in consultation** so they could better understand the priorities and potential challenges. The results showed that the educational institutions and training centres that needed the ICT equipment had a limited understanding of business or finance.

While the equipment was given to public institutions for free and accompanied by a grant to cover operational expenses for three years, the government made it clear that the institutions would need to be able to operate a commercially viable business centre in the years that followed to ensure their continued operation. This meant the **beneficiaries had to take responsibility** for maximising the cost-efficiency of the ICT equipment and identifying a practical business strategy.

### Key challenges

There have been some cases of the **ICT equipment that was given to public institutions being taken home by officials for personal use**. Although RCIPMW is designed to promote universal access to ICT services, some people have taken advantage of the equipment donation, rather than promoting the national strategy.

**Food and other basic needs take priority over ICT services** for most residents in rural areas, especially as food insecurity in Malawi remains widespread. 65% of all households (84% of rural households) report that they could not secure sufficient food at least one month per year<sup>23</sup>. Furthermore, the poor state of the economy helps explain why many of the beneficiary institutions ceased using the ICT equipment after the three-year grant period expired.

Finally, one of the main reasons for not having internet access at home is that people do not know how to use it. **Low levels of literacy in rural areas make ICT programs hard to implement** and sustain, particularly amongst women, young people and other under-served groups. Only a few officers and teachers are provided with the proper training, so there is a lack of technical professionals to provide the necessary information and support to users.



Figure 1. Malawi's Regional Communications Infrastructure Program (RCIPMW)  
Source: Provided by Audrey Mwala, Director - Project Finance and Risk Analysis, Public Private Partnership Commission Malawi



Figure 2. Malawi's Regional Communications Infrastructure Program (RCIPMW)  
Source: Provided by Audrey Mwala, Director - Project Finance and Risk Analysis, Public Private Partnership Commission Malawi

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<sup>23</sup> Data from 2013, Economic development document for the Republic of Malawi, 2017, (International Monetary Fund, 2017)

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## Interviews

Interview with Audrey Mwala (19 & 26 June 2018), Director of Project Finance & Risk Analysis, The Public Private Partnership Commission, Malawi. (A.Keller, Interviewer)

Kenya

## Water Sector Trust Fund



Source: Water Sector Trust Fund  
(<https://waterfund.go.ke/>)

**The Water Sector Trust Fund is a state corporation established under the Water Act 2016. It seeks to increase water access in low-income areas, reduce poverty and improve people’s lives.**

The Water Sector Trust Fund (WSTF) is a state corporation of the Ministry of Water and Sanitation in Kenya. It was established to improve the development and management of water services in low-income, marginalised and under-served areas.

Its mandate is to help the under-served or any vulnerable group in society and it specifically focuses on key inclusivity parameters such as income, location, gender and accessibility. The WSTF applies inclusivity practices through transparency, a community engagement model, performance-based financing mechanisms, a water operational model and initiatives favouring women and small enterprises. Its procurement procedures comply with the Access to Government Procurement Opportunities (AGPO) initiative, which is a government-led affirmative action program set up to empower young people, women and people with disabilities by providing them with more opportunities to do business with the government.

The WSTF is not a major individual infrastructure project, but rather an overarching program that includes projects of various sizes. They typically involve the provision of metered water connections, network extensions, public sanitation facilities, yard taps or water kiosks. Nonetheless, the WSTF has been selected as a case study to demonstrate how low-income areas can be identified and targeted, and how output-based funding can be applied.

## Project Overview

<b>Key words</b>	Gender, employment, community engagement and transparency, financing, entrepreneurship
<b>Sector</b>	Water
<b>Background</b>	The Government of Kenya has been striving to improve water access for people in low-income areas for decades. However, it faces several challenges, including the limited capacity of small-scale service providers, limited water resources, drought and sustained poverty.
<b>Size</b>	<ul style="list-style-type: none"> <li>• USD 107 million (KES 11 billion)</li> <li>• More than 2,200 projects</li> <li>• Has helped more than five million vulnerable people</li> <li>• The average size of the output-based aid<sup>*1</sup> (OBA) financed projects is USD 1.7 million</li> </ul>
<b>Stage</b>	The WSTF has been operating since March 2015. Its work is ongoing.
<b>Why of interest</b>	<p>The WSTF provides conditional and unconditional grants to the counties to help finance the development and management of water services in marginalised and under-served areas, including:</p> <ul style="list-style-type: none"> <li>• the development of water services in rural areas that are not commercially viable for licensees;</li> <li>• the development of water services in under-served, low-income urban areas; and</li> <li>• improving transparency through online tracking and reporting of water access, using the MajiData Platform<sup>*2</sup>.</li> </ul> <p>WSTF projects are included in the Access Government Procurement Opportunities (AGPO) initiative, the national program that helps businesses owned by women, young people and people with disabilities to access government tenders.</p>
<b>Project objectives</b>	<p>WSTF's strategic objectives have been defined for the period 2018 to 2022:</p> <ul style="list-style-type: none"> <li>• to mobilise USD 310 million (KES 31.9 billion) for WSTF investments by June 2022;</li> <li>• to diversify and sustain partnerships;</li> <li>• to develop and implement business models for revenue generation (i.e. on-lending, reserve and guarantee funds mechanisms, consultancy); and</li> <li>• to establish the Levy, Endowment and Revolving funds.</li> </ul>
<b>Project Lifecycle Assessment</b>	<p><b>Project preparation</b> – eligibility criteria to apply for funding (see details under Affordability and Optimising Finance). Output-based financing mechanism to engage the private sector and boost financial viability.</p> <p><b>Project procurement</b> – procurement mechanisms are transparent with pre-qualifications and reduced competition for women, young entrepreneurs and people with disabilities (as part of the AGPO program).</p> <p><b>Construction</b> – no specific inclusive technical design specifications, except for public sanitation projects<sup>*3</sup>.</p> <p><b>Project monitoring and evaluation</b> – use of MajiData to monitor the number of households and people who have improved water access.</p>

<sup>\*1</sup> Output-based aid is an innovative approach to increasing access to basic services. It refers to development aid strategies that link the delivery of public services in developing countries to targeted performance-related subsidies.

<sup>\*2</sup> MajiData is a pro-poor online database that contains facts and figures on water and sanitation for Kenya's low-income urban areas ([www.majidata.go.ke](http://www.majidata.go.ke)). It has satellite-linked data on water supply, sanitation and solid waste disposal, population, land ownership, land use, area layout, habitation patterns and types of housing, socioeconomic infrastructure and quality of life.

<sup>\*3</sup> All public sanitation projects should include one disabled toilet, a room with baby changing and breast-feeding facilities, and a dedicated waiting area.

## Project Description

Kenya has a population of 46 million people, of which a third still rely on surface water or unimproved water sources, such as ponds, shallow wells and rivers, while, as of 2015, 49% of Kenyans use open defecation or unimproved sanitation solutions<sup>4</sup>. Many of these people live in rural areas and urban slums. Only nine out of 55 public water service providers in Kenya provide continuous water supply, leaving people to find their own way of meeting their basic needs<sup>5</sup>.

The WSTF has a mandate to improve water access and water access quality in low-income areas in Kenya. It acts as a driving force, using an innovative financing mechanism, community engagement, empowerment, and technical assistance to reach 1.6 million households and more than eight million people. The online database, MajiData, provides a definition of a low-income area by capturing population, layout and infrastructure, land ownership, type of housing, water supply and sanitation, socioeconomic situation and community characteristics<sup>6</sup>. The application of inclusive principles is essential to achieve the overall target of improving access for 2.95 million people in under-served areas.

This project is relevant to a number of Action Areas. Most relevant is the Action Area of **Affordability and Optimising Finance**, which will be the main focus of this case study. The WSTF provides subsidies to help make projects financially viable and increase water accessibility. **Stakeholder Identification, Engagement and Empowerment** is also covered in this case study, due to the establishment of an online database mapping low-income areas and capturing information on their quality-of-life. The Action Area covering Policy, Regulation and Standards is also relevant, as the Water Act 2016 sets out the regulatory framework for the financing mechanism and the required mandates to all institutions involved, however this Action Area will not be covered in this case study. Other inclusivity measures such as capacity building, private sector participation, and project planning development and delivery are also present in the WSTF.

<sup>4</sup> Joint Monitoring Program (JMP) Kenya data, (WASH 2015).

<sup>5</sup> Our Impact – Kenya, (Water.org 2018).

<sup>6</sup> Definition of low-income areas in Kenya (WASREB 2018a)

## Key Practices Identified and Applied



### AFFORDABILITY AND OPTIMISING FINANCE

#### Statement of the issue in relation to inclusion and brief introduction

Lack of access to water in Kenya disproportionately impacts the lowest income groups. In the poorest quintile of income groups, an average of 31% of people have access to improved water sources<sup>7</sup>, compared with a national average of 58%<sup>8</sup>.

In addition, improved or unimproved water sources may be located far from households. Fetching water becomes a time-consuming task and is mostly assumed by women and children. This prevents them from pursuing economic, educational or social activities. It also creates a gender divide and fosters inequality. Women are unable to engage in more empowering, financially rewarding or otherwise beneficial activities.

If a water supply initiative is to address these challenges, licensees must be able to raise enough finance to build the system and be able to fund its operation and maintenance. Despite the significant socioeconomic benefits, water projects in low-income areas may not be financially viable. That is, they can't generate sufficient revenue from users to pay for their construction, operation and maintenance.

#### How inclusivity has been addressed

**The identified practice is a financing mechanism that enables projects to become financially feasible with the help of a performance-based subsidy.**

One of the approaches used to tackle financial constraints is the provision of a subsidy to improve the financial viability of a project.

Projects covered by the financing mechanism are typically: (a) new individual water and sewer connections; (b) water kiosks; (c) public water supply points; and (d) public toilets.

<sup>7</sup> Improved water sources include protected springs, protected wells, boreholes, piped into dwelling, piped water, and rain water collection. Examples of unimproved water sources are ponds, dams, lakes, streams/ rivers, unprotected springs, unprotected wells, and water vendors. (Kenya National Bureau of Statistics and the Society for International Development, 2013)

<sup>8</sup> Joint Monitoring Program (JMP) Kenya data, (WASH 2015).

## Implementation

A tailored financing model has been developed to support the overall objective of the WSTF.

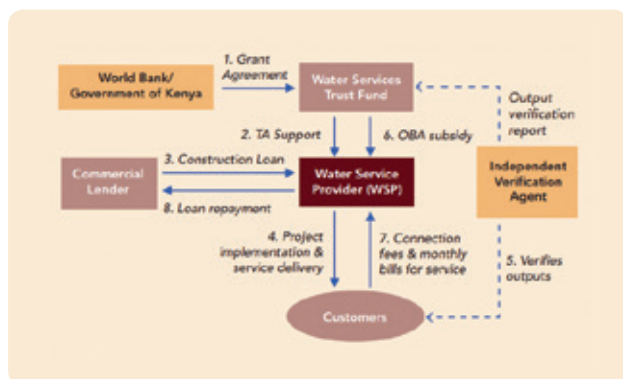


Figure 1. Source: Water Sector Trust Fund Results Based Financing Brochure 2018 (<https://www.waterfund.go.ke/brochures>)

### Financing eligibility criteria

The WSTF can allocate funds from the World Bank, the Government of Kenya and other contributors. Water service providers (WSP)<sup>9</sup> need to file an application to the WSTF to be eligible for finance. Help is provided during the application process in the form of process outlines, forms and spreadsheets. The eligibility criteria are as follows:

- compliance with the Water Regulatory Service Board and support from the county government;
- statement of clear ownership;
- the WSP must be able to prove the project is technically feasible and commercially viable;
- the WSP has secured commercial loans from a commercial bank;
- the project is located in a low-income area;
- it contains an agreed water tariff<sup>10</sup> and operation and maintenance costs, which are not subsidised; and
- a willingness-to-pay analysis and definition of subsidy requirements have been conducted (up to 60% of consumer connection fees may be subsidised).

### Subsidy application and allocation process

The financing mechanism is enabled by the Water Act 2016, which sets the regulatory framework for the financing process. The subsidy is paid only after outputs are verified, based on successful completion and evaluation using a standard evaluation form. The form summarises the conditions, operations, maintenance and usage from the perspective of the water facility operator, the verification agent itself, customers/end users and the Public Health Officer. The evaluation process also captures

gender, disability and affordability information in relation to access and participation in operations<sup>11</sup>.

The application and subsidy allocation processes are defined in detail by the WSTF following the regulatory requirements. In summary, the process includes the following steps:

1. The WSP provides an overview of the project and requests technical assistance funds to develop a financially feasible project.
2. The application is submitted to the WSTF and commercial lender, together with a request for a subsidy.
3. The application is assessed based on financial, commercial, and technical feasibility. The WSTF considers the application for the subsidy. If it is satisfactory, a conditional loan offer from a commercial bank and certificate of eligibility are issued.
4. The WSTF conducts an independent baseline assessment and agrees on outputs against which the subsidy will be paid.
5. A subsidy agreement is signed by the WSTF, and upon acceptance of the conditional loan offer by the WSP, the WSTF releases 10% of the subsidy to the WSP.
6. The technical assistance funds are approved to help the WSP implement and oversee the project and deliver the service to customers.
7. When the project has been implemented, it is independently verified. The outputs are assessed against the project's objectives. If successful, this is followed by a recommendation to the WSTF that the subsidy is released.
8. The subsidy is paid, and the project continues. Customers will start paying connection fees and their monthly water bills and proceeds are used to cover operating and maintenance costs and repay the outstanding balance on the WSP's loan to the commercial bank.

To determine the affordability of the water tariff and the size of the subsidy required, the WSP needs to conduct and submit a willingness-to-pay analysis, as set out in Appendices 11 and 12 of the Tariff Guidelines<sup>12</sup>. There are some limitations on the size of the subsidy. A cap on the subsidy is calculated on a per beneficiary basis (USD 115 per beneficiary) and the maximum subsidy is 60% of the amount borrowed for the investment.

<sup>9</sup> Water service providers are small or medium-sized privately-owned companies that submit a business case and funding proposal to the WSTF. After the project is implemented, they operate and maintain the water supply facility.

<sup>10</sup> As per national water tariff guidelines.

<sup>11</sup> The assessment forms are part of the toolkit available online. Depending on the project, some differences apply.

<sup>12</sup> Tariff guidelines provide guidance on tariff setting, willingness-to-pay studies and the calculation of the subsidy requirement as per Appendices 11 and 12 under WASREB – Tariff Guidelines, (WASREB, 2002).

## Technical Assistance

The need for technical assistance has been recognised by the WSTF. A WSP may apply for help from the WSTF to develop a “bankable” proposal and seek funding to support the implementation and supervision of the project (i.e. construction supervision).

## Supervision and Monitoring

During early project assessment and after project delivery, the independent verification agent from the WSTF undertakes the following:

- a baseline assessment and output verification;
- an assessment of sub-project costs and eligibility for a subsidy; and
- a confirmation of investments made in the targeted low-income areas.

This information is submitted to the WSTF and also shared with MajiData.

During operations and maintenance, the Water Service Regulatory Board undertakes monitoring and reporting on WSP compliance. Monitoring is also undertaken by the WSTF through MajiData. The project evaluation results are captured and linked to the database. MajiData is being updated to also include operational monitoring data on a project basis.



## STAKEHOLDER IDENTIFICATION, ENGAGEMENT AND EMPOWERMENT

### How inclusivity has been addressed

The identified practice is an online database which identifies communities to be targeted for improved water access and stores information on their quality-of-life.

### Implementation

#### Database capturing information on quality-of-life indicators

Communities are identified and targeted for projects using the WSTF’s online database, MajiData. This database has mapped over 1,880 urban settlements considered to be low-income areas. Information is based on 22 quality-of-life indicators including water supply, sanitation and area characteristics<sup>13</sup>.

When the WSP applies for the subsidies, the communities to receive improved water access<sup>14</sup> are identified and captured as part of the project proposal.






#### Community engagement

Formal engagement with communities is an important part of the project. A communal structure has been established so individuals from local water communities can liaise with the respective regional water service board, which oversees asset management and contracting with water service providers. In addition to the communal structure, the project evaluation and monitoring data details the extent to which people benefit from water access and how satisfied they are with the service. This information is used by the WSTF to make improvements and inform the development of projects being considered for other locations.

<sup>13</sup> Maps & Data, (WASREB 2018b)

<sup>14</sup> This could be an improvement to an existing water access point (e.g. water tap instead of an open well) or completely new water points.

## Benefits Realisation

Identified benefit	Benefit description
 <p><b>Reducing poverty and income inequality</b></p>	<p>Improving people's lives through increased water access, which can lead to more time for income-earning activities, better health and hygiene, and a cleaner environment.</p>
 <p><b>Social equity and social stability</b></p>	<p>A system for communication and collaboration is provided through community groups, water service boards and water service providers, leading to improved engagement and less conflict.</p> <p>Providing low-income areas with access to water also reduces social differences and unevenness in relation to county water supply, security, hygiene and sanitation.</p>
 <p><b>Increasing gender equity</b></p>	<p>Improved access to water means that women and children spend less time fetching water. Women have also been employed by water service providers for operation and maintenance tasks, giving them additional income and job opportunities.</p>
 <p><b>Integration of small business opportunities</b></p>	<p>The financing mechanism offers incentives to establish a registered water service provider and helps grow existing businesses through project implementation, operation and maintenance activities.</p> <p>Transparent programs and training for small businesses to participate in the tender process are provided through the AGPO initiative.</p>
 <p><b>Increasing affordability and accessibility</b></p>	<p>As of June 2016, projects benefitting from OBA financing have reached 21,650 people. Competitive and cost-effective structures (through performance-based subsidies) for water supply have been established; subsidies are assessed on a case-by-case basis, and projects consider a community's willingness-to-pay.</p>



## Stakeholders

Key beneficiaries	Role
<b>Communities without access to improved water resources</b>	The WSTF seeks to help these communities. They are engaged through community groups and outreach and can also take a proactive role in operational and maintenance activities.
<b>Women and children</b>	Women and children are encouraged to engage with this project and use improved water sources. Women are urged to participate in the operation of water projects, such as kiosks. The WSTF encourages women to get involved in operational and maintenance activities.
<b>Water users' associations</b>	Water users' associations implement their own projects in rural areas, working closely with the water service boards.
Institutional stakeholders and partners	Role
<b>Water service providers</b>	The water service providers implement and provide water supply and sanitation services in urban and rural areas. They can be small or medium-sized companies.
<b>Water service boards</b>	The water service boards oversee the community organisations and water service providers in rural and urban programs.
<b>County governments</b>	The 2010 amendment to the Constitution of Kenya saw the devolution of the government to 47 counties. They are in close cooperation and coordination with the Water Resources Management Authority.
<b>Water Resources Management Authority (WRMA)</b>	This state corporation operates under the Ministry of Water and Irrigation and is mandated to lead water resources management in the country. It provides technical advisory services and assists water resources user associations (WRUAs) in developing sub-catchment management plans.
<b>Kreditanstalt für Wiederaufbau (KfW, German Development Bank) and Gesellschaft für Internationale Zusammenarbeit (GIZ, German Agency for International Cooperation)</b>	KfW has a component of Aid on Delivery (AOD) to provide a 40% subsidy to water service providers for commercial loans aimed at improving service delivery. GIZ is the technical arm of Germany's Federal Ministry for Economic Cooperation and Development (BMZ) and assists the WSTF with technical issues. Its technical advisors are stationed at the WSTF.
<b>The World Bank</b>	The World Bank provides output-based aid (OBA) of an up-to 60% subsidy for commercial loans to water service providers who, in turn, will increase connections to low-income areas.
<b>International Fund for Agricultural Development (IFAD)</b>	Funding instrument for grants to WRUAs and community forest associations (CFAs) for natural resources management.
<b>Other institutions</b>	Various countries and institutions offer assistance to help improve access to water services in Kenya (e.g. Bill and Melinda Gates Foundation, European Union, Finland, Sweden, Denmark).

## Lessons Learned

### Success factors

**A comprehensive project lifecycle approach** tailored to its mandate forms the basis of the WSTF. Policy interventions were necessary to define the regulatory framework that enables the financing, community engagement and implementation mechanisms across all project stages. In parallel, key areas addressed at the project level are: (a) financing; (b) supervision; and (c) capacity building of local implementers and water service providers or utilities.

**Data-driven decision-making and continuous monitoring are enabled through MajiData.** This online tool monitors and tracks the improvement in water access and services in the identified low-income areas. It defines the criteria against which proposals are evaluated and approved. Data captured from project evaluation and monitoring is also used to inform future projects.

**Structured and transparent community engagement** is enabled through a clear governance structure with defined reporting and monitoring lines; that is, the Water Resource Management Authority, county governments, water service boards, water service providers and community groups.

**A long-term focus on the overall objective** to improve livelihoods around water resource management, as well as gender and social inclusion, ensures the sustainability of the Water Resources Management Authority's activities and thus, conservation and protection of the catchments.



Figure 2. Source: Water Sector Trust Fund (<https://www.waterfund.go.ke/rbf>)

### Key challenges

**The WSTF's mandate is set by the Water Act 2016.**

**This triggered several changes**, which the affected organisations and stakeholders needed to recognise and adapt to, such as:

- more responsibility for water and sanitation provision, operation and maintenance has been transferred to the counties. Service providers have a legal mandate to implement water projects that support communities in the long-term. This may result in a lack of coordination and communication in line with the mandated approval processes.
- moving from grants to subsidies and commercial financing that creates self-sustaining water services that are credit worthy. Financial institutions have needed more time than expected to familiarise themselves with the new terms and conditions. Workshops, seminars and open days have been organised to support that process.

**There are not enough financially viable project proposals.** However, there is an attempt to address this with funding to help develop acceptable proposals (for technical designs, project cash-flows, environmental and social management plans and social connection policies, which are prerequisites for eligibility under the subsidy program).

**Low-income households often struggle to raise the connection fee.** This is an ongoing inclusivity challenge that is being addressed with different loan structures and subsidies.

**There is increasing demand for water facilities but a shortage of commercial structures.** Other counties are calling for the introduction and improvement of water and sanitation services because their existing infrastructure cannot meet the needs of the growing population. However, appropriate commercial structures have not yet been developed. Particularly in low-income areas, if people are either unable to pay the connection fees or unwilling to pay for improved water sources, service providers will not invest in infrastructure upgrades. Therefore, there is a need to develop and promote commercial structures, either through grants, subsidies or loans being undertaken by the WSTF, which can sustain investments in these areas.



Figure 3. Source: Water Sector Trust Fund (<https://waterfund.go.ke/brochures>)

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Interview with Engr. Rose Nyikuri (2018, 25 May). Manager, Water Resources and Climate Change Investments, Kenya Water Sector Trust Fund. (A. Lu, Interviewer).



Bolivia

## Mi Teleférico Cable Car



Source: The City Fix (<http://thecityfix.com/blog/in-photos-cable-car-system-takes-transport-new-height-bolivia-el-alto-la-paz-mi-teleferico-gwen-kash/>)

**An aerial cable car urban transit system serving the La Paz–El Alto metropolitan area in Bolivia; the first public transport system in La Paz designed for equitable access, and improved accessibility and connection between two socioeconomic urban areas.**

Mi Teleférico is an aerial cable car system connecting Bolivia's capital La Paz with the fast-growing centre of El Alto. Together, the two cities create the world's highest metropolitan area at more than 3,650 metres above sea level.

La Paz and El Alto may be close geographically but moving between them by road can take hours, due to the winding route and traffic congestion. Mi Teleférico gives people a more efficient, affordable and reliable way of getting to work and school or accessing services.

Bolivia is the first country to use cable cars as the backbone of the public transport system and Mi Teleférico is the largest aerial cable car network in the world. It is accessible to all, and support and preferential treatment is offered to people with disabilities or mobility challenges, and others in need. Specific programs for women and young people have also been developed to promote social inclusion.

Strong political support from the central and local governments has been key to achieving the project's social inclusion objectives. Social inclusion is the focus of the current government's Agenda Patriótica (national development plan). Support from the government has also been essential to the successful implementation and expansion of the network to reach a wider population.

## Project Overview

<b>Key words</b>	Disability/impaired mobility, accessibility, governance, policy and standards
<b>Sector</b>	Transportation
<b>Background</b>	<p>La Paz has a population of more than 800,000 people and is the highest capital in the world at over 3,650 metres above sea level. It is part of the La Paz-El Alto metropolitan area, which has a combined population of 2.8 million citizens.</p> <p>El Alto is a fast-growing city with one million people living at over 4,000 metres above sea level. Every day, 440,000 commuters from El Alto travel to La Paz to work<sup>*1</sup>. The volume of traffic pushed the existing infrastructure to the brink of collapse. Cars, minibuses and fixed-route taxis often take an hour or more to travel the short distance on the mountainous roads<sup>*2</sup>.</p>
<b>Size</b>	<p><b>Phase I:</b> USD 235 million<sup>*3</sup></p> <p><b>Phase II:</b> USD 506 million<sup>*4</sup></p>
<b>Stage</b>	<p><b>Phase I:</b> 2012-2014 (operational): three lines<sup>*5</sup></p> <p><b>Phase II:</b> 2014-2018 (operational): four additional lines<sup>*6</sup></p> <p><b>Phase III:</b> Current (in planning): four new lines<sup>*7</sup></p>
<b>Why of interest</b>	<ul style="list-style-type: none"> <li>• The first public transport system in Bolivia to address the needs of people with disabilities or impaired mobility</li> <li>• Innovative transport solution that addresses the challenges of the high altitude La Paz-El Alto metropolitan area</li> <li>• Connects two different socioeconomic urban areas, increasing access to labour market opportunities</li> <li>• Significant political support, alignment with national policies and plans, and legislation and standards developed specifically for the project</li> <li>• Changed the legal and regulatory framework, increased private sector involvement in public infrastructure projects</li> <li>• One of the few mass transport systems in Latin America to achieve financial sustainability with an accumulated surplus of USD 5.8 million</li> </ul>
<b>Project objectives</b>	<ul style="list-style-type: none"> <li>• Provide a safe and reliable upgrade to a public transport system that could not cope with growing user demands</li> <li>• Increase affordability and decrease the time it takes to travel between La Paz and El Alto</li> <li>• Reduce environmental and noise pollution produced by the network of gasoline and diesel-fuelled buses and minibuses in the metropolitan area</li> <li>• Reduce over-reliance on the bus network, which is heavily supported by the government's fuel subsidies</li> </ul>

<sup>\*1</sup> Estimates from Doppelmayr and the Inter-American Development Bank (IADB).

<sup>\*2</sup> Distance from the International Airport in El Alto to La Paz Train Station is 8 kilometres. The trip takes about 30 minutes by car or over an hour by mini-buses.

<sup>\*3</sup> USD 234,680,000. Ministry of Public Works, Services and Housing, Bolivia (2013).

<sup>\*4</sup> The project was financed by the country's National Treasury with an internal loan from the Central Bank of Bolivia. Funding for the last line (Silver Line) is being discussed with the IADB for a loan of USD 40 million and the line is expected to commence operations in 2019.

<sup>\*5</sup> Red Line (Línea Roja), Yellow Line (Línea Amarilla), and Green Line (Línea Verde).

<sup>\*6</sup> Blue Line (Línea Azul), Orange Line (Línea Naranja), White Line (Línea Blanca) and the first section of the Sky Blue Line (Línea Celeste).

<sup>\*7</sup> Purple Line (Línea Morada), Brown Line (Línea Café), Silver Line (Línea Plateada), and Gold Line (Línea Dorada).

### Project Lifecycle Assessment

**Project preparation** – presidential support and specific legislation was put in place to implement the project. Standards were adapted to the local context through a review of local, national and international practices. Targeted stakeholder engagement (e.g. people with disabilities or impaired mobility) was conducted. Baseline data was collected.

**Project procurement** – construction, operation and maintenance contracts included requirements for capacity building for the local workforce.

**Construction** – no relevant practices identified.

**Project monitoring and evaluation** – targets were set for the employment of women and people with disabilities or impaired mobility within Mi Teleférico. Capacity building was performed. Annual reporting and periodic monitoring of indicators against baseline data continues.

## Project Description

Mi Teleférico (which translates to “my cable car”) is an aerial cable car system that serves the world’s highest metropolitan area, La Paz–El Alto in Bolivia. La Paz, the country’s capital, is 3,650 metres above sea level and has a population of more than 800,000 people. The growing city of El Alto, which is more than 4,000 metres above sea level, is located above La Paz on the Altiplano plateau and is a poorer urban area. The majority of its one million residents are Aymaran, an indigenous group of the Andes region.

Mi Teleférico holds two world records: it is the world’s longest ropeway project<sup>1</sup> and the world’s highest cable car system. It currently consists of 23 kilometres (km) of lines and has 20 stations along six routes. It will be expanded to at least 34 km with five additional lines and a total of 30 stations. Each line has a maximum capacity of 6,000 passengers per hour. Each car seats 10 passengers. Cars depart every 12 seconds, and the network is open 17 hours a day. In 2017, an average of 243,000 passengers per day used Mi Teleférico.

The first phase of the project was prepared by Bolivia’s Ministry of Public Works, Services and Housing. Phases I and II were designed and constructed by the Austrian-Swiss company, Doppelmayr Garaventa Group<sup>2</sup> (Doppelmayr), a world-leading ropeway manufacturer, which employed 1,397 full-time workers. The state-owned enterprise (SOE), Mi Teleférico, operates the assets and has 481 full-time employees.

Doppelmayr was directly contracted for the turnkey contract comprising three lines in Phase I, as well as for the four additional lines during Phase II. It provided the technological and technical expertise to build and operate the cable car system, including design, engineering, project management and construction of the stations, ropeway and the cable cars. It also provided capacity building under the philosophy *aprender haciendo*, that is, learning by doing or on the job training, where international experts train and transfer knowledge to Bolivian workers.

Mi Teleférico is one of the few transport projects in Latin America that does not require a grant or government subsidy. In 2018, it reported an operating surplus of USD 5.8 million, demonstrating the financial sustainability of this socially inclusive business model.

This financial sustainability falls under the **Affordability and Optimising Finance** Action Area. The second Action Area covered in this case study, **Private Sector Role and Participation**, is also relevant because technologies from the private sector have been used to enable more inclusive access, as well as to provide environmental benefits. The project is also an example of successful engagement with stakeholders, which falls under the Action Area on **Stakeholder Identification, Engagement and Empowerment**, particularly during the planning phase. In addition, Mi Teleférico was led by the Bolivian Government and political champion, President Evo Morales, which helped to ensure its success (relevant to Action Area 2: Governance and Capacity Building, although not covered in detail in this case study).

<sup>1</sup> 2018 Guinness Record.

<sup>2</sup> Please refer to company webpage: <https://www.doppelmayr.com/en/the-group/facts-and-figures/>



Figure 1. Mi Teleférico Cable Car crossing the La Paz-El Alto Highway

Source: The City Fix (<http://thecityfix.com/blog/in-photos-cable-car-system-takes-transport-new-height-bolivia-el-alto-la-paz-mi-teleferico-gwen-kash/>)

## Key Practices Identified and Applied

### Statement of the issue in relation to inclusion and brief introduction

The public transport system in La Paz-El Alto was chaotic and polluting. Rapid growth in the number of taxi and mini bus services generated heavier than usual traffic congestion in both cities and the lack of available space to build new transport infrastructure created a vicious cycle of inefficiency and unreliability. Private operators were incentivised to offer a service on routes at times that were profitable for the firms and intentionally failed to provide services on licensed routes, which are commercially less attractive.

Many people live in El Alto and work in La Paz. As the level of private car ownership is low, the majority of commuters relied on public transport to get to work, school, or access vital services. The public transport system consisted of buses and minibuses navigating narrow, winding and congested streets, which increased journey times for passengers and contributed to noise and air pollution. Travel costs were high for most people. Those on lower incomes were the worst affected.

There were no dedicated bus stops, so accessing public transport was challenging for people with impaired mobility, the elderly and pregnant women because they were unable to safely board the buses. Furthermore, there were no dedicated seats on buses to help make their journey easier and no public transport options had enough space for wheelchairs.

In 2012, the President of Bolivia, Evo Morales, put forward plans for an ambitious and unconventional infrastructure project to address the transportation issues in El Alto and La Paz. Bolivia was to build a modern, safe, efficient, sustainable and inclusive cable car system in the metropolitan area. In July of the same year, the President drafted a bill for the construction of the cable car. The bill was approved by the Assembly.

The strong drive for an inclusive society at the national level is reflected in Mi Teleférico, from the way its employees and the travelling public have been treated, to the way people who had traditionally been excluded have now been considered.



### AFFORDABILITY AND OPTIMISING FINANCE

#### How inclusivity has been addressed

The identified practices are a strong and well-defined business case, integration of ancillary revenue, and an optimised fare policy to achieve financial sustainability, affordability, accessibility and inclusivity.

Decree No. 1980, in 2014, created a new state-owned enterprise (SOE) to procure a turnkey project for the design and construction of three cable car lines. The new entity was called Mi Teleférico and it was responsible for the



operation and maintenance of the new asset for the state. It was also tasked with defining the business plan, governance, operation and finance of the project, and ensuring sustainability, accessibility, availability and inclusivity goals were achieved. As an autonomous state-owned enterprise, Mi Teleférico has the authority to self-govern and to implement all of its business decisions. All revenue generated is managed and retained by the company after taxes.

The Central Government was solely responsible for financing the initial investment capital for the construction of the project, including all capital expenditure and the creation of the SOE for the cable cars. The National Treasury of Bolivia provided 100% of the financing for Phase I. Financing for Phase II involved a more complex financial structure, and was provided by the Central Government, with a loan from the Inter-American Development Bank also under consideration.

## Implementation

### Mi Teleférico Business Strategy Plan 2016-2020

Mi Teleférico is one of the very few mass transport projects in the world that does not require public subsidies for operations and maintenance. Less than four years after it began operation, it carries a net surplus of USD 5.8 million from an initial investment of USD 234 million<sup>3</sup>, delivering a period return of 2.5%.

In 2016, the operator developed a business plan with a clear competitive, financial and market analysis. The objectives, structure and implementation of the new cable car project were clearly defined and justified in its Business Strategy Plan 2016-2020<sup>4</sup>. The plan included:

- a legal framework;
- external analysis of the macro-economic environment;
- internal analysis of the national economic and financial environment;
- risk identification and management;
- value proposition;
- market analysis;
- go-to-market plan;
- corporate structure and governance;
- key performance indicators (KPIs) within predetermined timelines;
- financial reporting and analysis; and
- technical feasibility analysis.

<b>Value proposition</b>	<ul style="list-style-type: none"> <li>• Modern, safe, accessible and inclusive cable car system</li> </ul>
<b>Market segments</b>	<ul style="list-style-type: none"> <li>• Vulnerable groups of passengers excluded from existing public transport services</li> </ul>
<b>Business model</b>	<ul style="list-style-type: none"> <li>• Revenue from fare collection and ancillary businesses</li> <li>• Operating costs are fixed regardless of demand</li> </ul>
<b>Risks</b>	<ul style="list-style-type: none"> <li>• Identify political, social, currency, legal and business risks and develop guidelines to mitigate them</li> </ul>
<b>Financial governance and analysis</b>	<ul style="list-style-type: none"> <li>• Corporate financial reporting and audit</li> <li>• Financial analysis requirements</li> <li>• Budgeting and reporting</li> </ul>
<b>KPIs</b>	<ul style="list-style-type: none"> <li>• Definition of KPIs for service, operations and management, e.g. % availability, % maintenance, % re-investment, % ancillary business</li> </ul>
<b>Technology</b>	<ul style="list-style-type: none"> <li>• Feasibility and Universal Design to ensure most efficient capital expenditure</li> </ul>

Table 1. Key elements in Mi Teleférico's business plan

<sup>3</sup> Urban Mobility Solutions: Doppelmayr Cable Car La Paz, (Mi Teleférico, 2018d).

<sup>4</sup> Corporate Strategy Plan 2016-2020, (Mi Teleférico, 2015)

### Fare optimisation policy

The main objective of the project was to provide a modern, clean, safe and accessible public transport system that would serve all members of society. The operator set upfront objectives and guiding principles before design options were generated and assessed<sup>5</sup>. Based on these principles, it was able to set the fare policy to achieve its financial sustainability goals while also reaching its social inclusion objectives.

In a 2015 survey<sup>6</sup>, cable cars represented 2% of the share of transport modes available between El Alto and La Paz. The cable car system is priced higher than the minibuses and microbuses at USD 0.43 (BOB 3, 2017 exchange rate) for a one-way trip. Based on empirical data<sup>7</sup>, passengers travelling on Mi Teleférico reduced their average daily travel time by 22%, representing a net economic benefit of USD 0.58 per person (opportunity costs saved to pursue more work, schooling, services, etc.).

For people with mobility challenges (disabled, the elderly, pregnant women, small children), the cable car system is the only reliable and safe option for travelling between El Alto and La Paz. A concessionary fare is available for passengers with disabilities, the elderly and students at a 50% discount or USD 0.20 (BOB 1.5) per one-way trip. In 2017, Mi Teleférico reported 138 trips per day from 2,186 passengers with disabilities, which represented 5.2% of citizens registered with disabilities in the La Paz metropolitan area.

The correct positioning of Mi Teleférico's fare policy, which is based on affordability and willingness to pay, contributed to the financial sustainability of the project and unlocked further socioeconomic benefits for all of its users.



Figure 2. Mi Teleférico electronic card reader.

Source: *The City Fix* (<http://thecityfix.com/blog/in-photos-cable-car-system-takes-transport-new-height-bolivia-el-alto-la-paz-mi-teleferico-gwen-kash/>)

<sup>5</sup> Objectives, design capacity, availability of the cable car system are summarised in Mi Teleférico's Corporate Strategy Plan 2016-2020 (Mi Teleférico, 2015)

<sup>6</sup> Survey by Inter-American Development Bank, 2015 by share of transport modal and average costs, available at [https://publications.iadb.org/bitstream/handle/11319/8470/telefericos\\_como\\_alternativa\\_de\\_transporte\\_urbano.pdf?sequence=1&isAllowed=y](https://publications.iadb.org/bitstream/handle/11319/8470/telefericos_como_alternativa_de_transporte_urbano.pdf?sequence=1&isAllowed=y)

<sup>7</sup> Cable cars in urban transport: Travel time savings from La Paz-El Alto (Bolivia), (Suárez-Alemán, Serebrisky, & Garsous, 2017)

### Ancillary revenue

Mi Teleférico offers an array of ancillary services to the public, institutions and firms. In return, it generates a significant portion of its total revenue from the rental of its commercial spaces, advertising platforms, parking etc. The provision of these services supports operation and maintenance costs, diversifies revenue streams and mitigates the commercial risk from changes in ridership. The revenue from these complementary businesses supports the financial sustainability of Mi Teleférico and increases private sector participation and opportunities for small businesses.

#### Revenue by source, 2014-2017 (USD)

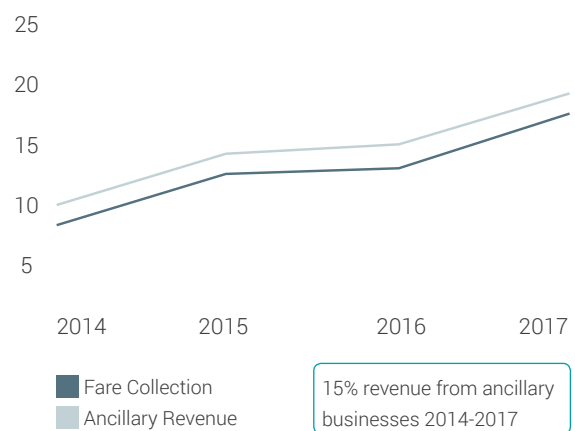


Figure 3. Revenue from farebox and ancillary business  
Source: Mi Teleférico Annual Reports 2014-2017



### PRIVATE SECTOR ROLES AND PARTICIPATION

#### How inclusivity has been addressed

The identified practice is the use of the private sector's expertise to introduce new technologies that help to embed inclusivity objectives and train local workers.

Bolivia's leaders had been planning the cable car system for the cities of El Alto and La Paz since the 1970s. In 2012, Law No. 261 was enacted to authorise the Ministry of Public Works, Services and Housing to procure a specialist cable car provider to implement and deliver a turnkey project for three lines of the cable car system.

Doppelmayr Garaventa Group was awarded the contract for this first phase, as well as for four additional lines in Phase II.

Doppelmayr's role was to provide:

- the technical design, engineering, project management, and construction of the stations and ropeway;
- the fleet of cable cars, and;
- the training of local staff for operations and maintenance.

Doppelmayr provided the technological and technical expertise to build and operate the cable car system based on the unique topography of the cities. It also helped the project meet the required environmental, accessibility and inclusion objectives of the Bolivian Government, such as providing facilities for passengers with disabilities, low-carbon emission technology and safety initiatives.

### Implementation

Doppelmayr was the sole contractor for the design, engineering, construction and provision of the cable cars. As a turnkey contractor, the private firm was directly contracted to provide all the technology solutions to achieve Mi Teleférico's objectives.

#### Training

There is a clause in the contract that requires Doppelmayr to train local Bolivians in all technical aspects of the project. The contractor provided capacity building under the philosophy *aprender haciendo*, that is, learning by doing or on the job training, where international experts provide advice, train, and transfer knowledge to Bolivian workers in relation to technical assistance, engineering, design, operations and maintenance.

#### Universal Design

The project uses Universal Design standards to help ensure facilities are accessible to all users. The stations have ramps, elevators and tactile paving to help disabled passengers.

#### Smart mobility technology

Smart mobility technology, both software and hardware, has been incorporated into the design of the stations, such as the proprietary Passenger Information Systems for announcements, mobile apps, smartcard tickets, public address systems, telecommunication network coverage (including WiFi), fire alarm systems, biometric controls, electronic access gates, 'smart point' top-up machines, fibre optics, radio communication systems, internet and CCTV systems.

#### Energy efficiency technology

To improve energy efficiency solar PV panels have been installed on every cable car. They supply the electricity for the internet connections, lighting and communication systems. In the stations, LED lighting has been specified to reduce 49% of electricity consumption.

Mi Teleférico is 100% electric. Most of its power requirements are supplied by hydroelectric power plants in El Alto.



Figure 4. Elderly passenger assisted by station attendant  
Source: The City Fix (<http://thecityfix.com/blog/in-photos-cable-car-system-takes-transport-new-height-bolivia-el-alto-la-paz-mi-teleferico-gwen-kash/>)



### STAKEHOLDER IDENTIFICATION, ENGAGEMENT AND EMPOWERMENT

#### How inclusivity has been addressed

The identified practice is early and extensive public stakeholder engagement during the design and operations phases of the project.

Stakeholder engagement has helped authorities to win the support of people living near the cable car route and, in particular, identify where towers and stations would be located. They used meetings and fairs to engage with people throughout the design and construction phases and communicate the key benefits of the project.

The 2014-2018 Mi Teleférico Report states that:

- between 2015 and 2018, there were more than 800 meetings with residents, social organisations and authorities with 4,948 attendees;
- 160 meetings were held with local groups, attracting 14,891 attendees;
- 188,697 people participated in 302 fairs; and
- more than 50 school groups visited the facilities to learn more about the project.

Prior to the start of work on Phase II, more than 20,000 citizens were consulted during a series of public events.

## Implementation

### Focus groups and workshops with vulnerable community members

During the design stage of the project, focus groups and workshops were held with people with disabilities and the elderly to ensure their needs were understood and taken into consideration. The focus group meetings were arranged by the Vice Ministry of Transport and were invitation-only events. In the interview with Mr. Cesar Dockweiler, the CEO of Mi Teleférico, he stated that although the draft project met most of the requirements identified by the groups, people's feedback was useful in planning for the operation of the system.

Through their engagement with the community, operators also helped to explain to people how the cable car system would work, as it required a major cultural shift. People would now need to use transport stops and show patience while waiting in queues to create order, discipline and shared values.

### Creation of a website to educate users

A website was set up for users<sup>8</sup>. It provided information on the system and how to use it, as well as information on the mission and values of Mi Teleférico and relevant legislation. The site also includes links to forms for complaints and shares operational details. In 2018, a mobile phone application was launched to create an even stronger connection with users.

### Capacity building and training for vulnerable groups

During operations, capacity building and training has also been undertaken to help vulnerable groups and job seekers to gain employment, and to ensure that people working in the system are trained to assist people with specific needs. For example, in 2016, 59 different types of capacity building activities were completed. They included the maintenance of electrical equipment, first aid, evacuation procedures, fire prevention, Constitutional rights, construction, and technical training. Between January 2017 and March 2018, 136 employees were trained to assist people with disabilities. Training is also provided to help people with disabilities in the workforce. Employment opportunities are provided to people with disabilities and women in Mi Teleférico, who currently represent 4% and 36% of the workforce respectively.

A program titled *Trabajo con Altura* (which translates to "Working with high values") aims to benefit young people who are looking to obtain work experience, and is aimed at public servants and users of Mi Teleférico. Between 2014 and 2018, 886 young people graduated from this program. Additionally, about 30 students have completed internships in the operations, maintenance and finance departments, as well as the project management unit of Mi Teleférico.

### Supervision and monitoring

During the design phase, information on KPIs was collected as a baseline. The number of indicators has since been expanded.

During the operations phase, monitoring is undertaken and reported annually in relation to the service level (e.g. the quality of the service, number of users, punctuality, perception of the service, and complaints), and number of users (including disaggregation of those with preferential tickets – people with disabilities, students and the elderly). This is recorded in yearly reports (2015, 2016 and 2017), which are published on [issuu.com](http://issuu.com). A report was also issued in March 2018, covering the period May 2014 to March 2018<sup>9</sup>.

A socioeconomic survey is planned in 2020 to understand the impact on people who live closer to stations, people who regularly use Mi Teleférico, and people who cannot enjoy the benefits of the service. It is intended to establish:






- how has life changed for people with access to Mi Teleférico; and
- how has life changed for people without access to Mi Teleférico.

The operator will compare areas with and without access to be able to analyse the impacts of the cable car system.

<sup>8</sup> Refer to Mi Teleférico website: <http://www.miteleferico.bo/>

<sup>9</sup> 2017-2018 Management Report, (Mi Teleférico, 2018b)

## Benefits Realisation

Identified benefit	Benefit description
 <p><b>Social equity and social stability</b></p>	<p>2,186 people with disabilities in the cities of El Alto and La Paz benefit from the system – this is 5.2% of the disabled population of 41,827 people living in the area. They have undertaken more than 193,000 journeys, with an average of 138 journeys made per day.</p> <p>68,761 students with preferential cards have taken approximately 8.6 million journeys.</p> <p>36,193 elderly people with preferential cards have made 3.5 million journeys.</p> <p>It was reported that between 29 May 2014 and 31 March 2018:</p> <ul style="list-style-type: none"> <li>• if a person took 30 trips on the red line per month, they would have saved 16 hours in travel time;</li> <li>• if someone took 30 trips on the yellow line per month, they would have saved 17 hours in travel time;</li> <li>• if a user of the blue line took 30 trips each month, they would have saved four hours in travel time; and</li> <li>• 30 trips on the orange line per month would have saved people eight hours in travel time.</li> </ul> <p>They could have spent more time on leisure activities, with their families, working more productively or improving their health.</p>
 <p><b>Increasing gender equity</b></p>	<p>Between May 2014 and March 2018, 36% of employees were women (225 out of 633 people).</p> <p>In 2017, Mi Teleférico opened the <i>Mi Dulce Cabinita</i> (my sweet little cable car) crèche for the children of staff members.</p>
 <p><b>Increasing affordability and accessibility</b></p>	<p>The ticket price balances the need to ensure the project is economically viable with the desire to improve accessibility for the most vulnerable groups in society. The project does not need any subsidies from the state and is therefore a model for other developments.</p> <p>Preferential tariffs (a 50% reduction) are available for people with disabilities, the elderly and students. The Mi Teleférico 2014-2018 Report states that people with disabilities have been able to save more than USD 42,130 (290,388 Bolivianos) during their 193,592 journeys.</p>
 <p><b>Job creation and equal access to labour market opportunity</b></p>	<p>Between May 2014 and March 2018, 36% of employees were women (225 out of 633 employees).</p> <p>People with a disability make up 4% of the workforce.</p>
 <p><b>Technical literacy and knowledge sharing</b></p>	<p>The project has drawn on the experience of teams from around the world. Contractors are required to train Bolivians in all areas of operation, management and maintenance. 551 employees have participated in training since 2014.</p>

## Stakeholders

Key beneficiaries	Role
<b>People with disability/ impaired mobility</b>	Target group for the project to ensure equity of access. Equity requirements for this group addressed in design and operation.
<b>Women</b>	Targets for employment - currently 36% of the workforce are women. Events to address women's safety.
<b>Low-income areas</b>	Connection of the lower income area of El Alto to La Paz.
<b>All users and employees</b>	Collective empathy toward vulnerable groups. Targeted media and education campaigns.

Institutional stakeholders and partners	Role
<b>Ministry of Public Works, Services and Housing</b>	Led the development of Phase I of the project.
<b>Doppelmayr Garaventa Group</b>	World-leading ropeway manufacturer. Directly contracted for the design and construction of Phase I and II of the project.
<b>Mi Teleférico</b>	State company set up to operate and expand the project.
<b>InterAmerican Development Bank</b>	Possible provider of funds for cable line extensions.

## Lessons Learned

### Success factors

**Political support** was crucial. The President of Bolivia demonstrated his support for Mi Teleférico, which was essential to push the project forward. The philosophy of President Morales is to promote social inclusion for all, and this is reflected in efforts to improve access to low-income areas, and mobility for disabled persons and the elderly.

**Building local capacity** was set out in the project's contracts. Mi Teleférico's operators insisted that technology and knowledge should be transferred to local people.

**Social inclusion** is the philosophy of President Morales and was incorporated into the project mission, which specifically addresses accessibility and mobility for disabled persons and the elderly. People were at the heart of this project.

### Key challenges

**Introducing the project into two cities that had no integrated transport system** was a challenge. La Paz and El Alto did not have an integrated transport system prior to Mi Teleférico. Therefore, challenges included teaching people to use dedicated transport stops and travel cards, and queueing procedures. The project included education programs to help address this gap in knowledge.

**Addressing workers' attitudes to people with disabilities** was a further key challenge. Workers had to be trained to assist people with special requirements. The project also sought to include people with disabilities or impaired mobility in the operation of the cable car. Encouraging the wider workforce to treat everyone as equals continues to be an ongoing learning experience.

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Figure 5. President Evo Morales greets construction workers, Source: Mi Teleférico (<https://issuu.com/miteleferico/docs/memoria-2017-2018>)

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## Interviews

Interview with Esther Ruto (18 June 2018), General Manager Technical Services with Rural Electrification Authority, Last Mile Connectivity Program.  
(A. Keller, Interviewer)



## Colombia

## TransMilenio Bus Rapid Transit



Source: TransMilenio Brochure  
(<https://www.transmilenio.gov.co/>)

**A bus rapid transit (BRT)<sup>1</sup> system that seeks to address the physical, communication and attitudinal barriers towards people with disabilities, women and other vulnerable groups.**

TransMilenio is the one of the world's largest bus rapid transit (BRT) systems<sup>2</sup>. It is a network of high capacity buses carrying 2.3 million passengers a day around Bogotá in Colombia.

TransMilenio was created in 1999 to alleviate heavy congestion in the capital and to provide an efficient and cost-effective transportation system for Bogotá's eight million citizens. Plans for the BRT system received strong political support, as well as adequate financial backing and committed participation from the traditional transport industry. It went from a well-defined but general idea to an operational project in just three years. Its successful business model has been replicated in many cities around the globe and it is one of the most cost-effective mass transport solutions available.

In 1999, TransMilenio S.A. was created as a public-private partnership (PPP) to construct and operate the BRT system. In this partnership, the public sector was responsible for the investment needed to develop the infrastructure, and the private sector was responsible for the system's operation and maintenance. Later, in 2012, the Integrated System of Public Transportation (SITP)<sup>3</sup> was established to operate all public transport systems across Bogotá, including TransMilenio and the other bus and taxi operators.

This case study reflects on the role and responsibility a transport infrastructure project can have in creating a more inclusive society. TransMilenio BRT has evolved from its original mission of providing mass transport services to collaborating with other agencies to lead the inclusivity agenda for the citizens of Bogotá. In recent years, it has incorporated inclusive and social governance into its operations and administration. Since 2016, TransMilenio and its concessionaires have jointly developed a model of social responsibility and sustainability, promoting civility, empathy, tolerance and solidarity among passengers and citizens of Bogotá.

<sup>1</sup> BRT systems are networks of high capacity buses that mostly use exclusive lanes. They combine the capacity of a metro system with the low cost and simplicity of a bus system.

<sup>2</sup> Some examples of large BRT systems are Jakarta Koridor, Cambridge Busway, Amsterdam Zuidtangent, São Paulo ABD, and Ottawa BRT. BRTs are the backbone of public transport systems in Latin American cities. They move 21 million passengers a day in 55 cities.

<sup>3</sup> In Spanish, *Sistema Integrado de Transporte Público* (SITP) is the operator for all public transportation in Bogotá, Colombia. It is organised and managed by TransMilenio.

## Project Overview

<b>Key words</b>	Accessibility, disabilities and impaired mobility, women, governance, low-income, inter-agency cooperation
<b>Sector</b>	Transportation
<b>Background</b>	Colombia's urban population has increased significantly over the past 40 years due to socioeconomic factors, with Bogotá, the capital, absorbing a large number of migrants from rural areas. This has created major challenges for infrastructure operators and developers, including in the transport sector. The city and its residents desperately needed a cost-effective and inclusive transport system.
<b>Size</b>	<p><b>Phase I (1998):</b> USD 213 million<sup>*1</sup>.</p> <p><b>Phase II (2014):</b> USD 329.2 million, of which USD 123.9 million was a loan from the International Bank for Reconstruction and Development (IBRD) and USD 10 million was a loan from the Inter-American Development Bank (IADB). The remainder of the amount was contributed by the Capital District of Bogotá<sup>*2</sup>.</p> <p><b>Phase III (pre-financing stage):</b> an estimated USD 860 million<sup>*3</sup>.</p>
<b>Stage</b>	Operational
<b>Why of interest</b>	<ul style="list-style-type: none"> <li>• It is one of the largest mass transport projects in Latin America</li> <li>• It was created to improve access to, and the quality of, public transport for citizens and to connect low-income residents to the city centre</li> <li>• Adapted international best practices and guidelines for Universal Design</li> <li>• Strong political leadership and inter-agency coordination</li> <li>• Social inclusivity programs for vulnerable groups - people with disabilities, women, homeless and informal vendors (traders who operate without a permit)</li> <li>• Stakeholder engagement programs that focus on social inclusivity and collective ownership awareness</li> </ul>
<b>Project objectives</b>	<ul style="list-style-type: none"> <li>• Provide a comfortable, safe and modern transport service</li> <li>• Provide a service that meets minimum standards of quality in terms of travel time</li> <li>• Transform the transport system into one that promotes equal access for all social classes</li> <li>• Comply with internationally recognised quality standards, fulfilling the minimum requirements for engineering, to provide a comfortable, safe and effective service</li> </ul>
<b>Project Lifecycle Assessment</b>	<p><b>Project preparation</b> – the project had strong political support. Project development objectives were consistent with the city's strategic plans. Accessibility design requirements were incorporated into the infrastructure based on national and international standards. A standardised layout was used for all stations, including accessible facilities for passengers with disabilities.</p> <p><b>Project procurement</b> – procurement of buses that enable easy access for passengers with disabilities, and improved vehicle design.</p> <p><b>Construction</b> – public spaces were built in lower income neighbourhoods. Residents were involved in the design process and members of the local community were employed.</p> <p><b>Project monitoring and evaluation</b> – the number of passengers and quality of service are monitored<sup>*4</sup> on a yearly basis through user surveys, and demand and supply data has been captured from 2008. Recent adaptation of ISO 26000 social responsibility guidelines, collection of data on users, annual reports on service, and inclusion of corporate social responsibility (CSR) targets since 2017.</p>

<sup>\*1</sup> Phase I - total investment: USD 213 million. Financed with a local fuel surcharge (46%), general local revenues from a capital reduction of the partially privatised Power Company (28%), a credit from the World Bank (6%), and grants from the National Government (20%). TransMilenio: A high capacity – low cost bus rapid transit system developed for Bogotá, Colombia, (Hidalgo, D., no date).

<sup>\*2</sup> ICR Review Bogotá Urban Services Appraisal Report, (Independent Evaluation Group, World Bank, 2015).

<sup>\*3</sup> JGlobal - Asset Data Sheet, (JGlobal, 2018)

<sup>\*4</sup> Transmilenio has several monitoring systems to produce consolidated annual reports, publicly available on its website. The service surveys are titled, "How are we doing?" or *¿Cómo vamos?* in Spanish.

## Project Description

The TransMilenio BRT system consists of several interconnected BRT lines that mostly run in their own lanes. The first phase of implementation was completed in 2002, with the second phase completed in 2006. By 2012, TransMilenio had 12 lines running through the city.

The main lines are known as trunk lines and cover 112 kilometres (km). Feeder lines that provide access to the trunk lines cover 440 km of routes in the outlying districts. The most recent lines consist of 1,795 km of complementary, urban and special zonal areas.

There are more than 3,500 buses<sup>4</sup>, which carry up to 240 passengers per bus. The buses have a maximum operating speed of 28 km per hour during peak time<sup>5</sup>.

On average, 2.3 million people use TransMilenio daily<sup>6</sup>. They board from raised floor stations that are accessed via footbridges or pathways.

TransMilenio is the first BRT system in the world to reach operational productivity levels equivalent to a metro system<sup>7</sup>. At its peak load, it is the busiest BRT system in the world, carrying more than 250,000 passengers per hour. It is also one of ten BRT systems worldwide to hold the highest Gold rating using the 2013 BRT Corridor Standard, which is based on international best practices for connectiveness, coverage, size and service<sup>8</sup>.

At its inception 18 years ago, the main objective of TransMilenio was to provide a modern and efficient transport scheme for all of Bogotá's citizens. In many cities, the BRT system is used as a tool to promote economic growth, alleviate poverty and achieve social and political integration while improving the environment and regenerating public space. In Bogotá, it also aimed to improve efficiency and safety by providing a fast, reliable and accessible service, especially to low-income neighbourhoods on the outskirts of Bogotá.

It is a mass transport solution that supports private sector involvement in service provision. TransMilenio also offers environmental benefits through reduced air pollution and emissions.

From the start, the project had strong political support, driven by the Mayor of Bogotá, and was developed in line with national and city government policies and strategies. The system was designed to meet national and international standards, drawing on lessons learned from similar projects. It went from the drawing board to operational within three years.

Design and planning were carried out by public institutions including the Bogotá Mayor's office, the Urban Development Institute (IDU), the District Institute of Culture and Tourism, the Secretary for Transportation and Traffic, the Department of Planning, the Secretary of Finance, and the state-owned enterprise, *Metrovivienda*<sup>9</sup>. The IDU was placed in charge of building and maintaining the infrastructure necessary to operate the BRT system.

There has been some criticism of TransMilenio over the past 18 years, mainly in relation to congestion and safety issues. In response, in 2016, TransMilenio and its concessionaires jointly developed a model of social responsibility and sustainability, promoting civility, empathy, tolerance and solidarity among passengers and citizens. As such, TransMilenio has broadened its original mandate to include a social inclusivity agenda, and specialised teams have been created to address outstanding barriers to inclusion.

For the purpose of this case study, the Action Areas identified are **Stakeholder Identification, Engagement and Empowerment, Governance and Capacity Building, Policy, Regulation and Standards, and Private Sector Roles and Participation**. The focus is on Practices that enhance the experience for people with disabilities and impaired mobility, women, homeless and informal vendors. Other relevant Action Areas include Project Planning Development and Delivery, and Affordability and Optimising Finance, however these will not be analysed in detail in this case study.

4 In June 2018, there are 3,568 buses with less than 10 years of deployment, ranging from large bi-articulated buses (240-passenger capacity) to minibuses (19-passenger capacity).

5 Maximum speed achieved in selected sections of the main routes in 2017. The average speed is 25 kilometres per hour.

6 From June 2017 to June 2018, TransMilenio reported an average daily ridership demand of 2,330,000 passengers during weekdays and 250,000 passengers per hour during peak hours.

7 TransMilenio carries more than 400,000 passengers per direction per hour during peak hours, close to the operational carrying capacity of a low capacity metro.

8 The BRT Corridor Standard includes five best practices: service planning; infrastructure; station design and station-bus interface; quality of service and passenger information systems; and integration and access. It was conceived by the Institute for Transportation and Development Policy (ITDP) in 2012. The ITDP is a non-governmental non-profit organisation that focuses on developing BRT systems, promoting biking, walking, and non-motorised transport, and improving private bus operators' margins.

9 Bogotá's State-Owned Enterprise (SOE) for the construction and acquisition of social housing assets.

## Key Practices Identified and Applied



### STAKEHOLDER IDENTIFICATION, ENGAGEMENT AND EMPOWERMENT

#### How inclusivity has been addressed

The identified practices include regular disaggregated data collection to identify vulnerable stakeholder groups and monitor project implementation as it relates to these groups, a dedicated stakeholder communications team and an innovative program to empower stakeholders to confidently use the BRT system.

#### Implementation

##### Data collection

For the past 10 years, the Chamber of Commerce of Bogotá has been conducting semi-annual surveys<sup>10</sup> on the public’s perception of the transport system, and the findings show that, in general, people’s view of the level of safety has always been low. In 2014, Bogotá ranked the worst amongst 16 cities surveyed with the most dangerous transport systems for women<sup>11</sup>. In a parallel survey by the Observatory on Women and Gender Equity of the Secretariat of Women, 75% of the women said they had been victims of sexual harassment in the most recent month and 48% felt fearful when entering the BRT system<sup>12</sup>.

During the development of the second phase of TransMilenio BRT, new routes were identified to reach some of the low-income neighbourhoods on the edge of the city. They were identified according to the income levels (known as strata) recorded in the SISBÉN<sup>13</sup> database. The project focused on Strata 1 and 2 - the lowest income areas.

#### Stakeholder engagement

As outlined in detail in the Governance and Capacity building section, a dedicated communications team was established to focus on inclusivity. It manages stakeholder engagement based on the agreed objective of improving social inclusivity for the most vulnerable groups, such as women, people with disabilities, the homeless and informal street vendors.

#### Simulation centre for TransMilenio BRT System

In 2017, in a cross-governmental agreement with TransMilenio, an innovative pilot program to support people with disabilities was created. A simulation centre was established to help passengers experience boarding, alighting, transferring and moving through the TransMilenio BRT system in a safe, inclusive and stress-free environment. The program hopes to empower people with disabilities so they can use the BRT system on their own and familiarise themselves with the support services available.

People can take a virtual tour of the facilities in the stations and see several different models of buses for passengers with different types of disabilities. The centre is also used as a social space and inclusivity workshops are held to improve awareness of people’s needs.

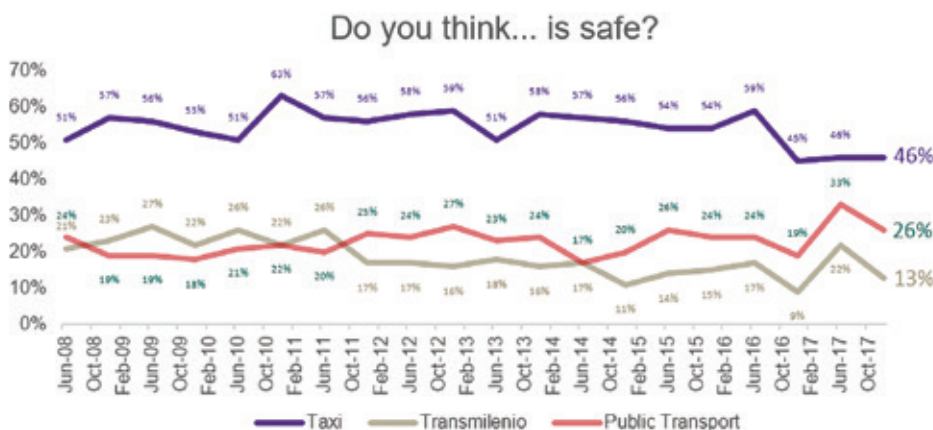


Figure 1. Percentage of the surveyed citizens who think it is safe to travel in taxis, TransMilenio or the Public Transit System except the BRT system.

Source: Historical data from the Survey on Perception of Safety and Victimization in Bogotá.

<sup>10</sup> Perception of Safety and Victimization Survey in Bogotá, (Chamber of Commerce of Bogota, 2018)

<sup>11</sup> Bogotá mayor defends programme for women’s safety on buses, (Moloney, 2014)

<sup>12</sup> Women Travel Safe in Transmilenio, (District Secretariat of Women, 2014)

<sup>13</sup> Identification System of Potential Beneficiaries of Social Programmes or Sistema de Identificación de Potenciales Beneficiarios de Programas Sociales (SISBÉN) in Spanish. The system identifies and categorises low-income citizens to allow them access to public aid services.



## GOVERNANCE AND CAPACITY BUILDING

### Statement of the issue in relation to inclusion and brief introduction

Prior to the introduction of TransMilenio, Bogotá's public transport system was inefficient and underutilised, and therefore, by default, the use of private vehicles was encouraged. In 1999, more than 850,000 private vehicles used 95% of the road network and carried about 19% of Bogotá's population<sup>14</sup>. Most of the public transport operators were informal and private companies competed fiercely for riders, often compromising people's safety and health. In the year before TransMilenio was introduced, there were 52,764 accidents and 1,174 deaths related to traffic incidents, according to the city's reports. Most people relied on these private and low-quality services during their daily commute to jobs and services. There were no dedicated facilities for people with disabilities or impaired mobility.

In addition, decades of civil conflict exposed people to displacement, unrest and violence. From the 1970s to the 2000s, people moved from rural areas to the outskirts of urban areas due to political and social unease. It is estimated that two-thirds of the Colombian population living below the poverty line now live on the edge of urban areas<sup>15</sup>. Connections to these low-income neighbourhoods were poor, particularly at night time. People with disabilities or impaired mobility struggled to access transport services at all. Women were vulnerable in the crowded, disorganised and unsafe environment and elderly passengers were neglected.

Communication barriers appeared during the construction phase, when the works caused major disruption throughout the city; and during operations, because the BRT system was perceived by the community to be of low-quality, particularly in relation to congestion and safety. These issues resulted in a need to improve people's perception of the system and develop a distinctive image through extensive media campaigns, workshops and targeted engagements.

Attitudinal barriers such as prejudice, discrimination, stigmas and low tolerance of vulnerable groups are often observed during the day-to-day running of this busy public transport system. Improving some people's attitudes toward vulnerable groups has been a priority in more recent years. Interventions have focused on the operational workforce and users, to improve their support and empathy towards women, people with disabilities and the elderly.

Negative attitudes towards other users such as informal vendors and homeless people (who use bus stops as shelters) have also been addressed in recent years in line with wider national- and district-level legislation and policies.

### How inclusivity has been addressed

The identified practices are the establishment of a Manual of Social Management which sets out specific guidelines to implement inclusive infrastructure in Bogotá, and a stakeholder communications team to focus solely on promoting inclusivity through awareness campaigns and education.

In 2016, TransMilenio worked with Bogotá City Hall to develop a prescriptive Manual of Social Management<sup>16</sup>, which is updated annually and sets out guidelines for the implementation of intervention strategies, and describes the principles, stages of planning, organisation, execution and document control requirements, as well as the procedures that support them. A team of experts was employed to carry out TransMilenio's social management intervention strategies and engage directly with communities, operators, institutions and target groups.

There have been ongoing reviews and an evaluation of ways to improve accessibility for all citizens throughout the operation of the BRT system. However, since 2016, these reviews have been consolidated, following the establishment of the dedicated team of experts within Transmilenio's social management<sup>17</sup> team and communications team<sup>18</sup>. Implementing TransMilenio's social inclusivity agenda has involved collaboration among many stakeholders, from concessionaires, contractors, designers and operators to all members of society, supported with specific inclusivity policy, communications programs and monitoring.

<sup>14</sup> Bogotá, Colombia Bus Rapid Transit Project – Transmilenio: Case Study (United Nations Development Programme, 2008).

<sup>15</sup> Ibid.

<sup>16</sup> In Spanish, *Manual de Gestión Social*. Created in 2016, the manual is updated annually.

<sup>17</sup> In Spanish, *Gestión Social*

<sup>18</sup> In Spanish, *Subgerencia de Comunicaciones y Atención al Usuario*.

## Implementation

### Institutional Collaboration

The design of the system was overseen by TransMilenio S.A. and was based on inter-agency collaboration, including the Bogotá Mayor's office, the Fund for Education and Road Safety of the Secretary of Transit and Transportation (FONDATT), the IDU, the District Institute of Culture and Tourism, the Secretary for Transportation and Traffic, the Department of Planning, the Secretary of Finance, and *Metrovivienda*.

### A dedicated communications team to focus on inclusivity

The communications team is responsible for implementing the communications strategy to promote social inclusivity. It manages stakeholder engagement based on the agreed objective of improving social inclusivity for the most vulnerable groups, such as women, people with disabilities, the homeless and informal street vendors. The activities of this office include:

- communication campaigns to promote social inclusivity on specific commemorative dates<sup>19</sup> through public campaigns and social media platforms;
- staff training programs on gender equity and anti-discrimination;
- workshops for operators on social inclusivity and anti-discrimination;
- inserting public policy for gender equity into TransMilenio's institutional policy, strategy, operations, and support;
- working with the Institute for Social Economy (IPES)<sup>20</sup> to implement a framework that helps informal vendors in the TransMilenio network move towards socially responsible alternatives for income generation (see Program for informal vendors section); and
- coordination with the Secretary of Mobility Development<sup>21</sup> to support workshops for operators and agents on services for passengers with disabilities.

<sup>19</sup> International Day of Women's Rights, Day of Social Responsibility in Bogotá, Equity Week, Month for People with Disabilities and the International Day for the Elimination of Violence Against Women.

<sup>20</sup> *Instituto para la Economía Social* (IPES), Bogotá's Government Office in charge of providing the informal economic activities of its citizens with formal and productive alternatives of income generation.

<sup>21</sup> *Secretaría Distrital de Movilidad* (SDM), City Government's Office responsible for master planning, design, coordination, execution and evaluation of the city's transport strategies.

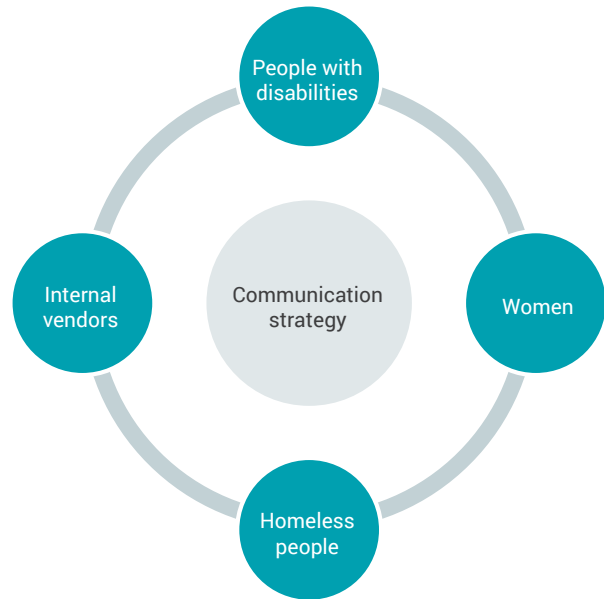


Figure 2. Priority groups for TransMilenio's social inclusivity interventions in 2017

### Public campaign to raise awareness

In October 2017, the City of Bogotá and TransMilenio launched a campaign to promote social inclusivity for people with disabilities, and specifically, people with a visual impairment and people with mobility issues. The messages "I move with Braille"<sup>22</sup> and "TransMilenio moves for everyone"<sup>23</sup> were shared via social and traditional media, and at public events and workshops. The campaign aimed to:

- educate people about the use of Braille across the city's public transport system;
- explain the importance of Braille;
- reduce vandalism and damage to Braille signage across the network;
- inform travellers of the tools available to them if they have a visual impairment;
- communicate the value of all the available services, fare concessions and infrastructure for passengers with disabilities; and
- promote proper civil behaviour and empathy toward people with disabilities.

### Training for staff and operators

TransMilenio has supported several inter-agency training workshops for employees and operators to improve service quality, including putting trained staff in every station so they can help passengers with disabilities. In 2017, TransMilenio trained 11,200 staff members and 12 operators in the BRT system.

<sup>22</sup> *Me Mobilizo con Braille* in Spanish

<sup>23</sup> *Transmilenio se Mueve para Todos* in Spanish

### Practical advice for the public

A guide for helping people with disabilities or reduced mobility has been developed and is available on the TransMilenio website<sup>24</sup>. It provides practical advice on how to correctly address people with disabilities or reduced mobility in a civil and inclusive manner. It relates to people with:

- hearing disabilities;
- cognitive and mental disabilities;
- motor disabilities and reduced mobility;
- visual disabilities; and
- people with a guide dog.



Figure 3. Example of the guide for people with hearing disabilities

### Collaboration with Bogotá City's Secretariat of Women

TransMilenio works with the Secretariat of Women at Bogotá's City Council to implement its Gender Equity Plan, which increases people's awareness of the challenges faced by women in Bogotá. This inter-agency collaboration aims to guarantee safe travel for women in Bogotá. It focuses on two areas in particular: gender stereotypes and stopping violence against women. Workshops and media campaigns were run to question the social roles that have been assigned to women and men, and explore how this leads to inequality.

### Gender equity initiatives

Within TransMilenio, several initiatives have been implemented to improve safety for female passengers and promote equity for women working on the network. Awareness campaigns have focused on reducing violence against women, the number of security guards on the system has been increased, surveillance cameras have been installed and extra training has been provided for staff members.

Specific actions implemented in 2018 include:

- the process for passengers to report sexual harassment within TransMilenio's facilities was revised;
- objectives were defined for the terms of reference of

the Transport Gender Lab<sup>25</sup> for the Inter-American Development Bank (IADB);

- clauses to guarantee women's rights and promote gender equity have been incorporated in the terms of reference for Phase I of the new cable car system planned for Bogotá;
- internal and external communication campaigns to promote gender equity;
- technical assistance for the Secretariat of Women to run workshops for operators on gender equity, safety and anti-discrimination; and
- participation in the 2018 Ranking of Equity and Gender<sup>26</sup>.

In 2019, TransMilenio will implement its new Gender Equity and Inclusion Policy, which will set out specific measures to be implemented within the public transport system (that is, on the BRT, SITP and on TransMicable, the new cable car network that is planned for Bogotá).

### Increasing affordability for vulnerable groups

Lower fares are available for the following groups:

- the elderly (people over 62 years old);
- people with disabilities - TransMilenio provides a 40% monthly discount off the maximum fare over 25 journeys; and
- BRT users with the SISBÉN incentive card – this is a benefit directed at people from low-income neighbourhoods as recorded in the SISBÉN database and recognises that these passengers may need to use several feeder services to reach the main trunk network.

### Program for informal vendors

An inter-agency agreement was developed by the Institute for Social Economy (IPES) of Bogotá City Council and TransMilenio. Under this agreement, elderly vendors and vendors with disabilities are allowed to sell a pre-approved list of goods in designated areas within the stations. The program aims to create small business opportunities for the vendors and enable them to generate income for themselves and/or their immediate family members.

It is currently being run as a pilot scheme. The impact of this business model on the BRT system, its passengers and on the small business vendors will be evaluated before its possible introduction.

<sup>25</sup> Seven cities across Central and South America including Bogotá (Colombia), Buenos Aires (Argentina), Mexico City (Mexico), the State of Jalisco (Mexico), Guatemala City (Guatemala), Quito (Ecuador) and Santiago (Chile) are part of this initiative that seeks to generate a network of knowledge on the design and implementation of policies and initiatives that support gender equality and inclusion in transportation systems. The network of cities works specifically to promote the adaptation of infrastructure relative to urban transport systems according to the specific needs of women.

<sup>26</sup> In Spanish, Ranking *PAR de Equidad de Género en las Organizaciones* 2018. An independent evaluation and ranking of gender equity in organisations in Colombia and Peru.

<sup>24</sup> Please refer to website; <http://www.transmilenio.gov.co/Publicaciones/GUÅKA>

### Initiatives addressing homelessness

TransMilenio participated in the development of the Public Policy on Homelessness, prepared by Bogotá City Hall, and supported the interventions organised by its Secretariat of Social Integration (SDIS)<sup>27</sup> to identify and address the factors that contribute to homelessness. TransMilenio's communication managers worked with 312 people who were seeking shelter in its facilities to help them understand how to interact with passengers appropriately. The BRT operator also collaborated with Bogotá's law enforcement officials to find them alternative accommodation in local refuges.

As a result of the initiatives, passengers reported feeling more secure in their engagement with homeless citizens at stations across the network. Their level of concern decreased from 45% in 2016 to 34% in 2017<sup>28</sup>.

### Supervision and monitoring

Annual *Cómo Vamos* [How are we?] citizen surveys were carried out in Bogotá between 1998 and 2014 and were used to measure satisfaction with TransMilenio in the early years of its operation. The survey is an evaluation tool based on public perception indicators designed for different areas across the city. It was generic in nature and related to travel times and use. However, it did not target any specific potentially vulnerable group. It reported perception indicators including public space and public service provision (electricity, water, sewage, etc.). The survey also covered mobility and several questions related to the perceived performance of public transport in general.

The TransMilenio management team is supervised and monitored by several public offices and non-governmental organisations. Management reports are publicly available from 2010, including traffic statistics and service levels. Results are published on the TransMilenio website, along with clear guidelines regarding its social inclusion programs and activities. Social inclusivity reporting is included in TransMilenio's annual reports with details of all programs, events, plans and results, and reports are published on its website.

In 2017, the TransMilenio communications team published a general report on its social inclusivity program, which is also publicly available on its website. Governance, internal control and monitoring mechanisms are described in the Manual of Social Management with details on the list of events and social inclusion interventions. The communications team, along with a team of specialised social management staff<sup>29</sup>, controls and monitors TransMilenio's social inclusivity program with weekly follow-up meetings to ensure compliance.

<sup>27</sup> *Secretaría de Integración Social*, government office created to assist the homeless and displaced citizens of Bogotá.

<sup>28</sup> Social Responsibility report for TransMilenio, (Transmilenio S.A., 2018b).

<sup>29</sup> In Spanish, *Profesional Especializado de Gestión Social*.



## POLICY, REGULATION AND STANDARDS

### Statement of the issue in relation to inclusion and brief introduction

In 1996, the Colombian government created the National Urban Transportation Program<sup>30</sup>, supported by IBRD financing. The Program centred its strategy on the development of BRT systems and TransMilenio was proposed as part of this plan.

The project had strong political support, driven by the Mayor of Bogotá, Enrique Peñalosa, and was developed through alignment and consistency with several government policies and programs, including the Bogotá Ten-year Spatial Plan<sup>31</sup> and the Comprehensive Neighbourhood Upgrading Program<sup>32</sup>.

### How inclusivity has been addressed

The identified practices are an inclusive approach to governance and the early development of a comprehensive set of inclusive design and planning standards.

An inclusive approach to governance was developed from the outset and became the backbone of the project design. This covered specific objectives to respect diversity and create a transport system that could be accessed by all. It recognised the need to engage low-income residents by providing a route into the city centre, and to design the system so people with disabilities or reduced mobility were able to access public transport.

These objectives were translated into a comprehensive set of project design standards, drawing on national and international design benchmarks and guidelines, and lessons learned from similar projects. TransMilenio's approach was based on the ISO 26000:2010 Guidance on Social Responsibility with emphasis on the fundamental principal of "active participation and engagement of the community". In line with project objectives, the standards incorporated the concept of Universal Design. It includes several achievable principles in its governance practices, such as transparency, environmentally-friendly infrastructure and service for passengers with disabilities, women and the elderly.

<sup>30</sup> In Spanish, *Programa Nacional de Transporte Urbano*.

<sup>31</sup> *Plan de Ordenamiento Territorial* in Spanish

<sup>32</sup> *Programa de Mejoramiento Integral de Barrios (PMIB)* in Spanish



## Implementation

### Policy creation to ensure inclusivity for citizens

The Government of Colombia and the City Council of Bogotá have been progressive in addressing inclusivity in their laws, regulations and policy. The policies mostly focus on accessibility for people with disabilities and gender equity.

As early as 1997, the challenges faced by people with disabilities were recognised and a legal framework that required all transport operators to ensure their services were accessible<sup>33</sup> was developed.

Following the construction of the first phase of TransMilenio in 1998, other legislation and policies have been passed at the national and district levels to strengthen inclusivity within infrastructure. At the city level, the City Council of Bogotá ordered a decree<sup>34</sup> in 2007 to adopt the Public Policy for Disability for the Capital, and specifically proposed that infrastructure be people-oriented to ensure accessibility for people with limited mobility.

The Social Responsibility Agreement 494, 2012 was passed by the City Council of Bogotá to promote social responsibility. The Agreement dictates that TransMilenio must implement certain events and actions. Additionally, it requires monitoring and reporting of TransMilenio's social impact activities.

In 2013, the National Planning Department of Colombia recognised that universal accessibility and social inclusion should be included in its national policy<sup>35</sup> for public works and infrastructure. In that same year, guarantees for universal access were addressed in the Sanctuary Law<sup>36</sup>, which gives people with disabilities certain rights to public transport, and sets a target of 80% of total accessibility within 10 years.

### Regulatory framework for gender equity in transport

Gender equity in the transport sector is supported by a comprehensive regulatory framework. Colombia ranks quite highly in the Americas on gender equity, ranking in the top 25th percentile in gender equity in 2017<sup>37</sup>.

The Constitution confirms the state is obliged to promote conditions for real and effective equity<sup>38</sup>. Furthermore, gender equity is supported by laws, decrees, resolutions,

judgements and agreements<sup>39</sup>. The strong regulatory framework has been reflected in the development of TransMilenio's Manual of Social Management and Gender Equity and Inclusion Policy 2018<sup>40</sup>, which implements guidelines, practices and performance metrics to address three identified challenges: violence against women, inequalities in the workforce and low representation of women at the operational level.

### Priority boarding and alighting zones for passengers with special needs

In 2018, a priority boarding program was introduced at the busiest station, The Americas Station<sup>41</sup>. A designated priority boarding area was reserved on the platforms and additional staff are available to help passengers get on and off the bus safely. The program aims to lower disruption, and reduce accidents and criminal acts against people with special needs during peak hours.

### Supervision and monitoring

Since 2016, TransMilenio has provided monthly traffic statistics to different government secretaries for analysis and to support the formulation of policies. They cover demand, supply and the profile of passengers.

In addition to the social challenges detailed above and despite strong political support, the project encountered several other barriers to inclusivity. In the feeder systems, standards for accessibility were not fully met and several planned designs were not implemented. There were also incidences where, due to constraints (e.g. project budgeting and timeline) and a lack of shared vision between the contractors and the operator, the intention during design was not carried through to construction by the contractors. As result, non-compliance had to be addressed.

Throughout its operation, opportunities to address outstanding physical barriers have been identified, such as making it easier for people with other disabilities (e.g. audio or visual), the elderly, and women with young children. Lowering the physical barriers has required continuous effort by TransMilenio.

<sup>33</sup> Article 59, Law 361, 1997, Colombia

<sup>34</sup> Decree 470, 2007, Bogotá

<sup>35</sup> National Public Policy regarding Disability and Social Inclusion, (Correa-Montoya & Castro-Martínez, 2016)

<sup>36</sup> Article 14, Sanctuary Law 1618, 2013.

<sup>37</sup> Colombia ranks 36th of 144 countries for gender equality in 2017 in the World Economic Forum's report.

<sup>38</sup> Articles 13, 42, 43 of Colombia's Constitution.

<sup>39</sup> Law 22 in 1967: anti-discrimination at work; Law 51 in 1981: elimination of discrimination against women; Agreement 091 in 2003: Bogotá's Plan of Equal Opportunities for Women; Judgement C-804 in 2006: usage of inclusive language; Decree 160 in 2010: gender equity in politics, plans, programs and public projects; Resolution 489 in 2015: structure to implement gender equality at workplace.

<sup>40</sup> The new policy covers all the operators within the TransMilenio system and will be applicable in 2019 after management review and approval.

<sup>41</sup> Located in the south-west of the city, The Americas Station is the main station for the feeder routes from Bosa, one of the poorest districts in Bogotá. It has the largest percentage of elderly passengers and people with disabilities registered in the BRT system. During peak hours, the platforms are overcrowded and passengers board the buses in a disorganised and sometimes violent way, often causing disruptions or accidents and leading to criminal activity. Passengers with special requirements are at risk and struggle to board the buses in these circumstances.



## PRIVATE SECTOR ROLES AND PARTICIPATION

### How inclusivity has been addressed

The identified practice is incorporating and maximising inclusivity benefits through private sector design requirements and contractual obligations.

### Implementation

#### Contractual obligations

Design requirements are communicated to contractors, who are obliged, through their contracts, to ensure everyone can access TransMilenio's facilities and services and that this intention is reflected throughout their work, from the original design to the final installation. They were also required to conduct a comprehensive audit to maintain the system's service levels.





As part of TransMilenio's ongoing improvements to address the physical barriers, it has incorporated:

- standardised station design;
- preferential access and appropriate signalling for passengers with a visual impairment;
- audio devices to announce the opening and closing of gates;
- physical barriers on the platforms to warn users of the potential for falls;
- hand rails to assist passengers when they are on the bridges and in stations;
- bridges, elevators and ramps to improve accessibility;
- wheelchair access for passengers with disabilities, and extra space for pregnant women, young children and the elderly;
- elevated stations to help passengers with wheelchairs easily board and alight from the buses;
- buses on the feeder routes equipped with mechanical ramps to help passengers in wheelchairs get on and off the vehicles;
- assigned priority seats in the buses and dedicated space for wheelchairs; and
- special payment cards in Braille and audio devices to inform and alert visually impaired passengers.

Currently TransMilenio, through inter-agency cooperation with IDU, is investigating the use of cable cars (with wheelchair access) to help people living in elevated areas on the outskirts of the city where there is a higher concentration of people with disabilities. Disaggregated data from the Health Secretariat is being used to identify these sites. Several pilot studies have been initiated prior to full scale roll-out.

## Benefits Realisation

In relation to this case study, the following benefits have been identified. However, it should be noted that quantitative results from TransMilenio's more recent social inclusion activities have yet to be reported.

Identified benefit	Benefit description
 <p><b>Social equity and social stability</b></p>	<p>Increasing public awareness and empathy towards vulnerable groups of people helps to lower incidents of vandalism and crime, improves safety and service quality, and increases the number of passengers using the system. People's general perception of safety improved 5% in 2017<sup>1</sup>.</p> <p>Improved access for people with disabilities – TransMilenio was the first public transport system in Bogotá available to the identified target groups.</p> <p>Improved connectivity between low-income neighbourhoods and the city centre, with an increase in accessibility for 14 of the poorest boroughs (known as zoning planning units, or UPZs).</p>
 <p><b>Increasing affordability and accessibility</b></p>	<p>Travel times were reduced, improving citizens' quality of life. Travel time decreased by 25% along TransMilenio's Avenue Suba BRT corridor in 2008. Overall, the average travel time for passengers reduced from 48 to 31 minutes<sup>2</sup>. This improvement and the new routes provided have increased access to employment, education, health, economic and social opportunities.</p> <p>Lower tariffs for people with disabilities, the elderly and low-income groups. A special card is used that provides a 40% monthly discount off the maximum fare over 25 journeys. In addition, people registered on social welfare also receive a 25% discount on a maximum of 30 journeys per month.</p>
 <p><b>Increasing gender equity</b></p>	<p>Improving safety for women in transit and encouraging passengers to denounce criminal acts against women within the stations.</p> <p>Increasing people's awareness regarding women's rights and equity at work.</p>
 <p><b>Integration of small business opportunities</b></p>	<p>Pilot project that integrates and legalises the activities of elderly and disabled informal street vendors within TransMilenio's small business program to provide them with sources of sustainable income.</p>

<sup>1</sup> Survey by the Chamber of Commerce of Bogotá in 2017, 78% of surveyed citizens reported feeling unsafe when using the public transit system in comparison to 83% in 2016.

<sup>2</sup> IEG ICR Review (2015), Report Number ICRR14775

## Stakeholders

Key beneficiaries	Role
<b>People with disabilities</b>	People with additional requirements, for example, mobility challenges or visual impairments, who are accessing and transiting within the BRT system are considered in the infrastructure and related services.
<b>Women</b>	The safety of female passengers and gender equity in the workforce are top priorities in TransMilenio's social inclusivity strategy and practices.
<b>Informal vendors</b>	Small and informal vendors selling services and goods within the BRT installations are relocated in collaboration with law enforcement. A pilot program to offer the most vulnerable vendors an opportunity to legally operate in TransMilenio was introduced.
<b>People facing homelessness</b>	People who are not transiting through the BRT system but use the facilities for long periods of time are moved to shelters and other accommodation.
<b>Staff</b>	Staff in management and operations at TransMilenio and other BRT operators receive training to provide services to vulnerable groups. They also receive training on gender equity at work.
<b>All users</b>	All BRT users have a role in understanding the needs of others, e.g. people with disabilities. All users are targeted for media and education campaigns.
Institutional stakeholders and partners	Role
<b>Secretaries</b>	Bogotá's public institutions directly involved in designing and implementing social inclusivity programs, policies and guidelines along with TransMilenio.
<b>Mayor's office</b>	Regulators of TransMilenio – primarily through the transit and transport secretariat.
<b>Ministry of Transport</b>	Regulators of TransMilenio – in charge of national policies and plans.
<b>TransMilenio S.A.</b>	A public-private partnership, comprised of regulators, managers and operators of the system.
<b>The <i>Instituto de Desarrollo Urbano</i> [the Institute of Urban Development] (IDU)</b>	Responsible for building and maintaining the infrastructure, which includes bus lanes, terminals, parking and maintenance yards, as well as pedestrian overpasses, plazas and footpaths.
<b>Contractors</b>	Legal entities procured to provide design, engineering, construction and maintenance works. They are also required to meet TransMilenio's social inclusivity standards.
<b>Operators</b>	Firms and companies operating the buses or other services for TransMilenio. They are engaged to deliver inclusive services and practices.
<b>NGOs</b>	Other organisations engaged to collaborate, participate and assist TransMilenio in its inclusivity work.
<b>Multilateral institutions</b>	World Bank (IBRD), and IADB, which provided supporting funds and expertise.

## Lessons Learned

### Success factors

**Institutional and regulatory intervention, inter-agency cooperation and enforcement policies.** Alignment with other plans and programs resulted in early political support for the project.

**Transparent governance.** TransMilenio's management team set clear direction for the roles and responsibilities of the firm, its employees and the operators of the BRT system. The Manual of Social Management outlines TransMilenio's social inclusivity strategy to ensure all programs and applications are implemented, managed, monitored and reported.

**Inter-agency collaboration** between international and local public institutions helped to implement social inclusivity across the city and scale-up the reach and impact of their programs and activities.

**Public consultations and participatory planning** foster community ownership that is essential for the sustainability of the investment.

**A dedicated team of professionals** to implement an inclusivity strategy, engage with different stakeholders and perform monitoring and reporting. The communications team and the social management team work exclusively on implementing TransMilenio's social management strategy and they serve as the first point of contact for the community.

### Key challenges

**Transforming public perception** in relation to vulnerable groups is a constant challenge for TransMilenio. The provision of infrastructure to assist vulnerable groups alone is not sufficient if other users do not respect the spaces designed for these groups. There is a constant challenge for all parties to be united and socially inclusive. This is an evolutionary process that can only be achieved through communication and awareness.

**Long- and short-term expectations.** Social inclusivity is a tool but not a solution to all of society's problems. Milestones set during the implementation phase of inclusivity works require constant adjustment. As such, actions and goals tend to be dynamic rather than quantitative and short-term.

**Incorporating inclusivity and accessibility** into the technical components of future projects requires strong engagement with different stakeholders, operators, contractors and designers to identify innovative ways of improving accessibility and inclusivity. Clear governance, supervision and enforcement need to be common practice. Pilot projects have been used in some instances to identify best practices that work during full-scale implementation.



Figure 5: Disabled passenger using TransMilenio bus,  
Source: TransMilenio Brochure (<https://www.transmilenio.gov.co/>)

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## Egypt

## Cairo Metro



Source: Egyptian Streets (<https://egyptianstreets.com/2015/10/25/9-things-you-should-know-about-the-cairo-metro/>)

**The expansion of the metro network in Cairo required adherence to environmental and social safeguards, which incorporated inclusive stakeholder engagement. The expansion also created training and employment opportunities for young people.**

The Cairo Metro (the Metro), Africa's first urban railway, is owned by the National Authority for Tunnels (NAT), a government agency set up by the Ministry of Transport in 1983, and operated by the Egyptian Company for Metro Management and Operations (ECM). It was built to:

- serve the people of Cairo (the city was home to 10 million residents in 1987 when the first line opened, and almost twice as many people (19.7 million) in 2016);
- reduce severe congestion on the road network; and
- be the centre of a modern, integrated and efficient public transport system.

The Metro has three lines. Line 1 opened in 1987, and Line 2 was completed nine years later in 1996. The construction of Line 3 began in 2006.

Line 3 is being built in four phases. Phase I opened in 2012 and Phase II welcomed its first passengers in 2014. Phase III, which is the primary focus of this case study, is still under construction and is due for completion in 2024. There are plans for a fourth phase, as well as two new lines.

When it is complete, Line 3 will be the first metro line to cross Cairo, linking the east and west of the city. In the third phase of construction, the existing infrastructure is being extended to the west by 17.7 kilometres (km). The project is a key component of the Greater Cairo Transport Master Plan because it will provide two densely populated, socially disadvantaged districts (Imbaba and Boulak El Dakrou) with safe and reliable access to the city centre and central business districts.

Line 3 - Phase III is being developed under the ownership of NAT, with international funding from the French Development Agency (Agence Française de Développement (AFD)), and co-financing from the European Investment Bank (EIB). To meet national legislative requirements, as well as the environmental and social governance processes of the lenders<sup>1</sup>, an environmental and social impact assessment (ESIA) was prepared and updated to meet international standards<sup>2</sup>. A stakeholder engagement plan (SEP) was also developed to ensure discussions about the benefits of the project continued, especially in areas where there were concerns about the impact it would have. The results of the second round of engagement have been disclosed in a Public Consultation Report<sup>3</sup>.

<sup>1</sup> The European Investment Bank's Statement of Environmental and Social Principles and Standards (2009) and the World Bank Operational Policy 4.12 (2001).

<sup>2</sup> Cairo Metro Line 3 – Phase III Environmental and Social Impact Assessment Study, (Grontmij & EcoConServ, 2012)

<sup>3</sup> Ibid

The stakeholder engagement process helped to inform the operator's approach to resettlement and its response to the economic displacement of certain groups. For example, informal shop owners (traders who sell goods and services but are not legally permitted to do so) were asked to move from the area in which they had been operating and risked losing revenue while they waited for the new metro line to open<sup>4</sup>.

This case study considers the employment opportunities associated with the construction of Line 3 - Phase III. It also considers youth employment and training, including on Line 2.

The approach to investment on Line 2 is also discussed. The European Bank for Reconstruction and Development (EBRD), as part of an integrated approach to investment in Cairo's transport sector (which comprises a series of investments across all modes of transport), is financing the rolling stock for Line 2. Part of the agreement is that contractors will provide training and employment opportunities during operation and maintenance.

## Project Overview

<b>Key words</b>	Stakeholder engagement, youth, training
<b>Sector</b>	Transportation
<b>Background</b>	Cairo is one of the world's largest cities, with a population of just under 20 million. Its metro system has three lines. A fourth and a fifth are expected to be built in the future. This case study considers Phase III of Line 3, which is currently under construction, and Line 2, which is already moving passengers around the city. 500 million passengers and 12 million tons of freight are transported on the urban rail network each year.
<b>Size</b>	A total of EUR 2 billion, including: <ul style="list-style-type: none"> <li>• EUR 44 million: grant from the European Union's Neighbourhood Investment Facility;</li> <li>• EUR 300 million: AFD – lead financing institution;</li> <li>• EUR 600 million: EIB – co-financing institution;</li> <li>• EUR 700-900 million: Government of Egypt; and</li> <li>• EUR 435 million: other contributors*<sup>1</sup>.</li> </ul>
<b>Stage</b>	<p><b>Line 1:</b> Opened in 1987, final extension completed 1999.</p> <p><b>Line 2:</b> Opened in 1996, final extension completed 2005.</p> <p><b>Line 3:</b></p> <ul style="list-style-type: none"> <li>• Phase I (2007-2012)</li> <li>• Phase II (2009-2014)</li> <li>• Phase III (2016-2024)</li> <li>• Phase IV (still in planning)</li> </ul> <p><b>Lines 4 and 5:</b> expected in the future.</p>
<b>Why of interest</b>	<ul style="list-style-type: none"> <li>• Identifies different types of stakeholders and how they may be impacted by the project, including a review and update of the approach to stakeholder engagement and identifying vulnerable people</li> <li>• An interesting approach to youth employment and training opportunities</li> </ul>

<sup>4</sup> Note: Whilst the relocation of a shanty-town impacted by the metro project forms an important part of the project, it has not been the subject of this case study.

<sup>1</sup> Neighbourhood Investment Facility: Operational Annual Report 2014, (European Commission, 2015)

## Project objectives

- Increase access to public transport, provide an integrated transport system, and reduce traffic congestion
- Provide reliable and efficient transportation for more than 1.5 million people
- Create job opportunities during construction and operation
- Connect socially disadvantaged districts with the city centre and central business districts

## Project Lifecycle Assessment

**Project preparation** – Independent consultants conducted a social inclusion baseline survey and a stakeholder engagement plan.

**Project procurement** – No relevant practices identified.

**Construction** – Jobs created for skilled and unskilled labour.

**Project monitoring and evaluation** – A mechanism will be put in place by NAT and partner non-governmental organisations (NGOs) to address grievances related to land acquisition and the construction phase of the project.

## Project Description

Cairo is the largest city on the African continent. In 2016, just under 20 million people called the city home, up from 10 million three decades earlier. Cairo's rapid population growth, along with urbanisation, has created challenges for authorities. Reducing road congestion is one of the government's top priorities.

The Cairo Metro, which is the first network of its kind in Africa, was constructed to help address this issue. It provides an integrated public transport system and a modern and efficient service. It was considered as long ago as the 1930s, but detailed studies were not undertaken until 1975 and continued until 1981. The first line (Line 1) was opened in 1987.

Cairo Metro is owned by the National Authority for Tunnels (NAT), a government agency set up by the Ministry of Transport in 1983, and operated by the Egyptian Company for Metro Management and Operations (ECM). Foreign and local companies have been involved in the design and construction of the system.

Cairo Metro currently consists of three lines. Line 1 forms the backbone of the network. It passes through the most important residential and business districts of the city. Line 2 was opened in 1996 and connects to several other railway stations. Line 3, which is still being constructed, crosses Lines 1 and 2 in an east-west direction. It will extend from the north west of Greater Cairo at Imbaba to the north east at Heliopolis and will also serve the city's international airport. Line 3 is being built in four phases. Phase I opened in 2012 and was followed by Phase II in 2014. The third phase, which is the primary focus of this case study, is due for completion in 2024. A fourth phase is expected in the future.



Figure 1. Cairo Metro Network Line 1, 2 and 3 (partially operational).  
Source: Egyptian Streets (<https://egyptianstreets.com/2015/10/25/9-things-you-should-know-about-the-cairo-metro/>)

Line 3 - Phase III will be approximately 17.7km of dual track and will comprise 15 stations, including eight underground stations, five elevated stations, and two street-level stations (indicated in green in Figure 1).

More than 1.5 million people per day are expected to use Line 3 in its entirety once it is completed. Of those passengers, 971,000 are likely to use the segment constructed during Phase III<sup>5</sup>.

Line 3 Phase III is an important component of the Greater Cairo Transport Master Plan. As well as connecting the east and west of the city, it will also provide two densely populated, socially disadvantaged districts (Imbaba and Boulak El Dakrou) with a safe and reliable service to the city centre and central business districts.

However, to construct the line, land will need to be acquired. This will lead to temporary and permanent economic and physical displacement. Building work will also create additional noise, dust and congestion. The operator should aim to mitigate the potential impact and disruption as much as possible during design and construction.

Line 3 Phase III addresses inclusivity in the Action Area of **Stakeholder Identification, Engagement and Empowerment**, which was taken into consideration in the early stages of the project. Stakeholder engagement was part of the environmental and social impact assessment (ESIA) process. It included the collection of detailed data and used the results of a sustainable livelihoods analysis (SLA) to identify vulnerable people and meet the lenders' environmental and social safeguard requirements.

This case study also considers youth employment and training. At the national level, according to the 2018 population estimate, there are 20.2 million young people aged between 18 and 29 in Egypt. They represent 21% of the total population.

The country's unemployment rate, recorded by Egypt's Central Agency for Public Mobilisation and Statistics (CAPMAS), was 10.6% in the first quarter of 2018, and dropped to 9.9% in the second quarter<sup>6</sup>. However, for young Egyptians between the ages of 15 and 24, the unemployment rate was 34.4% in 2017<sup>7</sup>, meaning that a larger portion of this group is unable to find work compared to the overall national employment rate.

A lack of professional skills, inefficient job-matching services, inconsistent information regarding the job market and poor quality of jobs are considered to be the main reasons for the high unemployment levels.

<sup>5</sup> Cairo Metro Line 3 – Phase III Environmental and Social Impact Assessment Study, (Grontmij & EcoConServ, 2012)

<sup>6</sup> Central Agency for Public Mobilization and Statistics, (Central Agency for Public Mobilization and Statistics, 2018)

<sup>7</sup> Unemployment, youth total (International Labour Organization, 2017); Compared to the world average of 13.5%, World Bank Indicators, accessed 2018

NAT is seeking to address some of these problems through the work on Line 3 Phase III by insisting construction contractors invest time in training the workforce. On Line 2, as part of the EBRD's integrated approach (IA) to investment in Cairo's urban transport sector, training and employment opportunities are provided during operation and maintenance .

Therefore, this case study also covers the Action Area **Governance and Capacity Building** in relation to youth employment and training.

## Key Practices Identified and Applied



### STAKEHOLDER IDENTIFICATION, ENGAGEMENT AND EMPOWERMENT

#### Statement of the issue in relation to inclusion and brief introduction

The temporary footprint (needed for construction) and permanent footprint of the project will result in land acquisitions and lead to short- and long-term economic and physical displacement. The construction work will also generate noise, dust and congestion in some areas.



Figure 2. Indicative layout of Phase III of Line 3 showing neighbourhoods. Source: National Authority of Tunnels, Egypt (<http://www.nat.org.eg/english/phase3line3.html>)

### Proposed route

Phase III of Line 3 will pass through a number of different neighbourhoods within the governorates of Cairo and Giza, as shown in the indicative layout in Figure 2. These neighbourhoods range from administrative and commercial districts and high-income residential areas, to low-income housing, agricultural and slum areas, and are summarised in the box below:

- Nasser - primarily an administrative and commercial sector. Includes the Supreme Court, cinemas and hotels.
- Maspero - a commercial and residential neighbourhood, informal expansion of shops. Highly populated, with a middle- and low-income population.
- Zamalek - embassies and higher income residential areas.
- Kit-Kat square - commercial area with street vendors, densely populated low-income housing.
- Sudan - commercial area and middle-income housing.
- Imbaba Airport - densely populated, low-income area with some areas resembling slums.
- El Bouhy - commercial and low- to middle-income housing. Market area.
- El Wehda - densely populated, low-income housing.
- Ring Road and Rod El Faraq Corridor – agricultural, low-income and slums.
- Twafiqiya - commercial area and middle- and low-income housing.
- Wadi El Nil - middle- and higher-income housing.
- Gamet El Doual El Arabia – commercial area and banks. Middle- to upper-income housing.
- Boulak el Dakroul - low-income housing, often informal. Market.
- Cairo University - low-income housing.

There is concern about the impact of construction work on the following areas:

- temporary and permanent economic and physical displacement, in particular in El Bohy, Maspero and the Ring Road, as well as Bolak Abu El Ela. A total of 1,382 people will be displaced by the project<sup>8</sup>, including tenants, owners, workers and squatters. This includes land, home and store owners who will be permanently displaced, tenants of shops who will lose their income in addition to being relocated, and workers who will

be affected by the change in their place of work. Commercial tenants and workers will be affected the most financially;

- restricted access during construction works, including to services such as health facilities;
- potential for subsidence of buildings from excavations and vibration;
- impact on the quality of life of residents who live next to construction sites, including concerns about noise and air quality;
- increased congestion during construction works due to restricted access and movement of construction vehicles;
- potential for accidents during construction (movement of construction traffic and equipment);
- potential for waste to accumulate, which is a health hazard; and
- visual impact of the above-ground stations.

Engagement with stakeholders and the collection of socioeconomic data has been a critical component of this project, as operators seek to limit the impact of the work on the community.

### How inclusivity has been addressed

The identified practice is inclusive and extensive stakeholder engagement activities, with a focus on social groups that are economically and socially impacted by the project.

Line 3 Phase III is being developed under the ownership of NAT, with international funding from AFD and EIB. For that reason, the project was required to meet the environmental and social safeguarding standards of the two organisations. They included the EIB's Statement of Environmental and Social Principles and Standards (2009) and the World Bank Operational Policy 4.12.

The stakeholder engagement was led by two ESIA consultants engaged by the AFD. In 2011, the consultant EQI undertook the first stage of stakeholder engagement and field surveys, which provided information on the people and organisations who would be affected by the project. However, in 2012, the lenders identified gaps in the ESIA process when the results were measured against their own environmental and social safeguards, so AFD commissioned consultants Grontmij and EcoConServ to review and update the ESIA and the associated stakeholder engagement process (that is, they introduced a second stage).

The different stages of stakeholder engagement and data collection are outlined below:

<sup>8</sup> Resettlement Action Plan Metro Line- Phase Three Line Three Final Report. (EcoConServ Environmental Solutions, 2015)

**Stage 1:**

- In October 2011, a field survey of 225 households (an average of 15 households within the proximity of each of the 15 Metro stations of Line 3 Phase III) was conducted by consultant EQI. It sought respondents' opinions on the planned Metro service and construction, and their concerns regarding the possible impact and disruptions;
- Three scoping meetings were held in October 2011 to provide members of the public with information on the project. The locations for these meetings were the Cairo governate (in Zamalek district) and Giza governate (one in Imbaba district and one in Mohandessin district, which includes El Bohy). They were open to all residents along the route of the proposed line; and
- A public disclosure meeting on the findings of the ESIA was held in December 2011. This meeting was held in Zamalek and was open to residents living along the route of the proposed line.

**Stage 2:**

To meet the lenders' environmental and social safeguard requirements, Grontmij and EcoConServ prepared an updated ESIA report and a stakeholder engagement plan (SEP) in 2012.

In the original ESIA, there was insufficient information on vulnerable groups. Therefore, the updated process sought to provide more detail on the people who would be affected and to classify vulnerable groups in line with international best practice. That required consideration of groups such as indigenous people, ethnic minorities, women, migrants, young people and the elderly. The methodology used to identify vulnerable groups and to assess the project's impact on them was based on the sustainable livelihoods approach (SLA), described in greater detail below.

The updated stakeholder engagement process, as recorded in the SEP, sought to address information requests and issues deemed to have not been fully addressed during the first stage of the consultation process, according to the ESIA consultants. It also aimed to provide new information (e.g. exact station sites and alignments of the metro line) not previously presented to stakeholders. In particular, the new engagement process had to meet the social safeguard requirements of the EIB. This included adhering to European Union standards, as set out in the Aarhus Regulation, which grants the public certain rights regarding access to information, participation and access to justice in governmental decision-making processes<sup>9</sup>.

<sup>9</sup> The Aarhus Convention is a multilateral environmental agreement. It grants the public rights regarding access to information, public participation and access to justice in governmental decision-making processes on matters concerning the local, national and transboundary environment. It focuses on interactions between the public and public authorities.

The SEP prepared by Grontmij and EcoConServ also referenced the following principle in relation to inclusivity:

*"Engagement must be inclusive: Care should be taken to identify, invite and engage with all categories of local stakeholders, particularly those categories (e.g. special needs citizens, local transportation providers, low-income households) who may be unable or intimidated to attend public consultations and lack effective representation. Special attention should also be given to those who might be affected negatively by the project, and that their concerns are taken into consideration."*<sup>10</sup>

A report with final recommendations for sustained engagement with stakeholders through to the completion of Line 3 Phase III was prepared and disclosed by the ESIA consultant following the second stage of stakeholder engagement activities<sup>11</sup>.

**Implementation****Multiple data collection methods**

People who were most likely to be affected by construction activity were contacted directly as part of the ESIA process undertaken by EQI, and Grontmij and EcoConServ, and a large volume of quantitative and qualitative data from various primary and secondary sources was accessed to better understand different social groups. Information from secondary sources, such as census data, was collected from various government organisations. Primary data collection from stakeholders was also undertaken, in two stages, to obtain baseline data, to identify vulnerable groups, and to garner people's perception of the project's potential impact.

The initial ESIA consultant, EQI, used a structured questionnaire to collect quantitative data in the field. The questionnaire content covered:

- basic information about the people living and working near the construction sites, the beneficiaries and communities;
- people's perception of the project and its anticipated impact;
- the current type of transportation used; and
- relocation activities.

The questionnaire also asked for the community's views on the proposed project and how willing they were to support it. Only residents were interviewed during stage one.

<sup>10</sup> Cairo Metro Line 3 – Phase III Environmental and Social Impact Assessment Study, (Grontmij & EcoConServ, 2012)

<sup>11</sup> Ibid

A second round of structured questionnaires was developed to include people who missed out during the first survey, for example, vendors, shopkeepers and students. This process was led by Grontmij and EcoConServ.

The questions guiding the survey were:

- which policies and legislation have influenced the project?
- which socioeconomic factors should be considered?
- how do people feel about the project?
- how will the work affect them?
- how can the project be implemented with minimal disruption to the community?
- what mechanisms need to be applied to create an appropriate stakeholder engagement plan?
- what is the capacity and organisational framework that will be applied during the implementation of the stakeholder engagement plan?

225 residents and 135 vendors, shopkeepers, workers and students were interviewed between the first and second stages of consultation, despite some shortcomings in the way relevant social groups were represented.

### Sustainable Livelihoods Approach

The original ESIA did not meet lender requirements because of a gap in identifying vulnerable groups of people. Therefore, one of the key aspects of the work in stage two was addressing that concern. The methodology used to identify vulnerable groups and to assess the potential impact on them was based on the sustainable livelihoods approach (SLA)<sup>12</sup>, which describes the context, motivations and resources of vulnerable households.

It included:

1. assets (social, physical, economic, human and natural assets);
2. risks and vulnerability surrounding individuals; and
3. policies and organisations that govern the implementation of mitigation measures.

The level of vulnerability and the severity of the impact was assessed by reviewing the individual's asset base. If a person has fewer assets, they also have less choice, making it more difficult for them to cope. More attention should be paid to these groups when compensation schemes and/or mitigation measures are being designed.

<sup>12</sup> The Sustainable Livelihoods Approach (SLA) is a method of analysing and changing the lives of people experiencing poverty and disadvantage. It is a participatory approach based on the recognition that all people have abilities and assets that can be developed to help them improve their lives and it allows for the identification of priorities for development activities. The approach has been adapted by various International Finance Institutions.

Vulnerable groups were included in the ESIA report (2012) if they would have been in need of resettlement because of the project, if their livelihoods were at risk, or because they might be affected disproportionately by environmental impacts such as waste, emissions or noise. The consultants believed certain groups would be more vulnerable to environmental impact than others due to higher level of exposure or lack of alternatives or coping strategies. Examples include people who work in shops and have no insurance or health care coverage, people who sell goods in the streets that would be blocked during construction, families in El Bohy market which was to be demolished, and students who enrolled in schools close to their house in Imbaba and would now have to relocate.

### Resettlement Action Plan

The ESIA report identified the need for a Resettlement Action Plan (RAP) to make provisions for the people affected economically or physically by the development, including vulnerable groups.

A RAP, commissioned by the EIB, was prepared by EcoConServ in 2015. The RAP met national and EIB standards and requirements. The RAP study team included two experts who specialised in gender issues.

A gap analysis between national requirements and EIB requirements for resettlement indicated several divergences, including the following that are not provided for in national law and, therefore, were addressed in the RAP:

- resettlement assistance;
- full market replacement value;
- squatters' rights;
- income disturbance allowances; and
- vulnerable groups.

By reviewing the gaps between national and international standards, the RAP covered a wider range of people who were entitled to compensation. The compensation framework identified in the RAP covered compensation for all types of Project Affected Persons (PAP)<sup>13</sup> in line with EIB requirements (such as squatters, disturbance allowances, etc.).

The RAP study team undertook further consultation and detailed data gathering via socioeconomic questionnaires, focus group discussions and semi-structured interviews.

<sup>13</sup> A PAP in this context refers to all persons impacted by the involuntary resettlement, land acquisition, relocation, or loss of incomes that come about due to a project. This includes all members of a household (women, men, girls, boys, and several generations in the case of extended households).

The following activities were conducted during the preparation of the RAP for the PAPs:

- public consultation was conducted with the PAPs for El Bohy in February 2013 where all PAPs were invited. The total number of participants was 109. The majority of participants were illiterate. Women and people living in extreme poverty were invited. El Badr mosque played a major role in reaching the vulnerable groups;
- meeting with the Board of Directors of El Badr Mosque, El Bohy in February 2013;
- public consultation with PAPs in Bolak El Dakrou in February 2013. 44 people took part and again, the majority of participants were illiterate;
- public consultation with the PAPs in Bolak Abu El Ela in February 2013. 18 shop owners and tenants attended;
- meeting with Dar El Tefl School Board members in March 2013; and
- group discussion with owners and tenants of a building to be affected.

Questionnaires were developed with input from the EIB, and pre-tested on people from the community. The test phase was followed by the completion of the questionnaires. The questionnaires were used to obtain data on PAPs, regardless of the legal status of the affected persons and the affected asset.

#### Specialist training on data collection

Local surveyors (enumerators) were employed to carry out the RAP surveys, under the supervision of the RAP consultant's household survey quality assurance specialist. Before launching the surveying process, surveyors received intensive training on:

- how to collect data;
- communication skills;
- how to fill in questionnaires with the PAPs; and
- the ethics of data collection.

Following the training, the surveyors were evaluated and a shortlist of data collectors was developed.

#### Disaggregation of vulnerable groups

In parallel with the data collection process, databases were designed and constructed. During the data collection phase, the completed questionnaires were monitored by data monitoring officers. After sending the questionnaires to the office, they were checked again for quality. Once quality was assured, the data was entered into the designed software. The household survey experts were responsible for analysing the data and interpreting the findings, with involvement from the team of resettlement specialists.

From a vulnerability perspective, the RAP states that the study team worked to ensure disaggregation of the various social groups by age, gender, occupational status, educational status, livelihoods security, access to physical

assets, etc. The level of vulnerability of the affected persons and the severity of the impact was then assessed and determined by looking into the PAPs' asset base using the SLA approach.

#### Focus group discussions

In addition to the above, the study team also used qualitative research methods aimed at assisting the study team in gaining an in-depth understanding of the current socioeconomic and legal conditions of the PAPs, their sources of livelihood, as well as their compensation preferences. This included focus group discussions (FGDs) with the following:

- people earning low incomes who receive financial support from El Badr Mosque;
- people and their relatives who rely on the health centre at El Badr Mosque;
- Bolak Abu El Ela shop owners, tenants and workers;
- female heads of households at the El Bohy market; and
- widowed women who raise their children with no other source of income except selling goods in the street.

Semi-structured interviews were also held with NAT, representatives of the governorate and the municipality, NGOs, mosques and health centres that may be affected by the project, as well as political parties and community leaders.

#### Public stakeholder meetings

Stakeholder engagement meetings were also undertaken during the first and second stages of the stakeholder engagement process. Stakeholders included:

- local residents (owners and tenants) in nearby communities and commuters travelling to/from these areas;
- small business owners/managers and leading employers in the affected communities;
- community-based NGOs and informal groups of local citizens;
- real estate and farm property owners near, or directly impacted by, construction;
- public and private transportation providers (such as bus, micro-bus, tuk-tuk) that serve nearby communities;
- school, youth centre, and hospital administrators in community facilities;
- government ministries; and
- administrative officials and municipal executives in the affected areas of the Cairo and Giza governorates.



In the first stage of consultation, three public meetings were held in the Cairo and Giza governates to share information about the project and ask for people's feedback, and one public meeting was held to disclose the findings of the initial ESIA.

### Stakeholder Engagement Plan

As part of the second stage, the ESIA consultants Grontmij and EcoConServ reviewed the original stakeholder engagement process and prepared a SEP, which recorded the activities already undertaken, proposed new engagement opportunities and made recommendations for work to be led by NAT during the construction phase of the project.

The methods for engagement identified in the SEP and implemented in 2012 included initial meetings with local officials and responsible authorities to present and finalise the plans, and the rationale and proposed schedule for upcoming stakeholder engagement activities.

The ESIA consultants' review of the initial stakeholder engagement process found there was general acceptance and appreciation of the Line 3 Phase III work, with the exception of two communities, where complaints and resistance had emerged. Whilst overall support for the project had been high in lower income neighbourhoods, where they welcomed easier access to the city centre, in the higher income area of Zamalek, residents opposed the extension of the Metro because they did not believe they would use it. They also worried about a potential increase in traffic congestion during the construction phase and the impact of connecting their neighbourhood to lower income areas. In Imbaba/Al Bohi, people were concerned that the over-ground structures that had been proposed were intrusive and that they would not be able to avoid severe traffic congestion during construction.

The ESIA consultants advocated an open dialogue with the communities, and the proposed approach was planned in close cooperation between the ESIA consultants and NAT. It was agreed that two additional public meetings should be held, one in each area. The wider public, including the following people, also attended:

- members of low-income communities;
- those without a high level of education;
- unemployed housewives;
- workers, craftsmen, drivers, and students; and
- farmers from the Ring Road.

### Providing the community with knowledge and resources

Prior to the meetings, factsheets on the design, alignment, construction timeframe and the land or property required for each station and segment of Line 3 Phase III, were disseminated in print and via the NAT website.

Draft plans were presented to communities, covering monitoring and risk mitigation, and the grievance process that would be managed by NAT and partner NGOs.

A public consultation document was prepared and disclosed following the two public meetings. It reports that attendees appreciated being given the opportunity to engage. In Zamalek, residents established a relationship with a NGO that was active in the area and offered to act as facilitator for channelling complaints to NAT.

The ESIA consultant recommended that the non-technical summary of the ESIA, the consultation factsheets and contact information for Line 3 Phase III construction issues and complaints should be made available via the NAT website ([www.nat.org.eg](http://www.nat.org.eg)) to enable people to speak directly with NAT.

The ESIA consultant also suggested that NAT and local government officials continue to make public service announcements and share construction plans with communities, from the start to the end of the project, and that NAT should establish an ombudsperson and public liaison office and maintain a partnership with community-based or advocacy NGOs in communities that had concerns.



## GOVERNANCE AND CAPACITY BUILDING

### Statement of the issue in relation to inclusion and brief introduction

Youth unemployment and the lack of training opportunities are significant issues in Cairo. The youth (15 to 24-year-olds) unemployment rate in Egypt was 34.4% in 2017<sup>14</sup>. This is, in part, because the education and training system has failed to equip young people with skills that match the jobs available. It can also be explained by the limited job opportunities and inadequate youth employment regulations.

According to the ESIA report<sup>15</sup>, 50% of the total population in the area surrounding Line 3 Phase III is 15 to 45 years old. The project area is also known to have high unemployment amongst young people<sup>16</sup>, which reflects the national situation.

<sup>14</sup> Unemployment, youth total (International Labour Organization, 2017)

<sup>15</sup> Cairo Metro Line 3 – Phase III Environmental and Social Impact Assessment Study, (Grontmij & EcoConServ, 2012)

<sup>16</sup> Out of this number, 1/3 are inactive non-students, and the remaining 2/3 are unemployed non-students.

## How inclusivity has been addressed

The identified practice is the provision of employment, expertise and training opportunities to youth and other vulnerable groups throughout the project lifecycle.

The construction of Line 3 Phases I and II generated numerous construction-related jobs and addressed unemployment issues for the unskilled workers, highly skilled workers and administrative staff involved in the project.

This has been achieved through an inclusive procurement process, whereby bidders are encouraged to make training available as part of the tender process, through a requirement for construction contractors to facilitate training resulting in specific qualifications within a stipulated period of time and through a bespoke Inclusion Action Plan involving the project's key stakeholders.

According to NAT's latest records, 3,000 to 4,000 job opportunities will be provided during the construction of Line 3 Phase III, and more than 1,500 permanent jobs will be created during the operational stage<sup>17</sup>.

## Implementation

### Inclusive procurement process

Line 2 of the Metro is one of the projects identified under the EBRD's Integrated Approach (IA)<sup>18</sup> to Greater Cairo's urban transport sector, where identified projects are required to introduce youth inclusion through providing an inclusive procurement process. As part of the tender process, bidders are encouraged to make onsite training placements available, in partnership with participating local vocational schools and job centres.

Economic inclusion is integral to development for the EBRD, particularly in view of growing youth unemployment, the low participation of women in the workforce in some countries of operation, and the stark differences in economic performance between its regions. This element of the project has, therefore, been designed to promote inclusivity by creating onsite training opportunities for unemployed young people.

<sup>17</sup> Interview with Dr. Eng Ashraf A.M. Abu-Krishna (2018, June 30). Tunnelling & Construction Consultant, Vice Chairman, National Authority for Tunnels (NAT).

<sup>18</sup> Egypt: Cairo Integrated Transport Project - Inclusion Component (European Bank for Reconstruction and Development, 2015, October 22)

### Inclusion Action Plan

The EBRD has engaged with the main stakeholders – Egyptian Company for Metro Operations (ECM), Industrial Training Council (ITC), Misr El Kheir and the International Labour Organization (ILO) to discuss the possibility of receiving practical assistance to support training initiatives. The EBRD has also commissioned a consultant to provide an overview of youth unemployment in Egypt, assess employment and training opportunities during operation and maintenance, and develop a bespoke action plan. An Inclusion Action Plan considers the following aspects:

- The number of jobs and onsite training opportunities that will become available as part of the maintenance contracts;
- Development of a clear inclusion methodology and bespoke action plans, involving key stakeholders (for example, client(s), relevant ministries, the National Procurement Office, vocational training institutions, job centres, main international and local contractors and sub-contractors) to open up onsite training opportunities (and related employment opportunities) to young people. The plans should draw on models of international best practice and respond to the specific circumstances and requirements of the construction industry and other local stakeholders in Egypt so as to be relevant and effective in that context. Each action plan also needs to include cost models and specific recommendations as to how to integrate the inclusion component within the overall project design and delivery plan.
- Identification of project delivery, capacity building and monitoring support required throughout project implementation. This should include:
  - i. specific technical support to the project proponent and key stakeholders to ensure the effective implementation of the inclusion methodology;
  - ii. capacity building to the project proponent and relevant stakeholders; and
  - iii. ongoing impact monitoring (including the number of young women and men trained, skill levels achieved, and - where possible - future progression) to establish the impact achieved, to identify lessons learned, and recommend actions to optimise the methodology.
- Direct engagement with the National Procurement Office in Egypt to integrate similar inclusive procurement models across other areas of public procurement in the country in order to achieve wider systemic impact<sup>19</sup>.

<sup>19</sup> Ibid





The EBRD investment aims to open up economic opportunities for unemployed young people (men and women under the age of 25) by introducing a requirement in the procurement process that encourages private sector suppliers to offer onsite training opportunities to unemployed young people in subjects related to rolling stock maintenance, and developing vocational training curricula in disciplines that are directly related to the investment.

### Training by construction contractors

According to the interview conducted, there is a plan to encourage more women to join the project and provide training programs for unemployed young people. However, one of the difficulties faced is the lack of specialised institutions in the country that can provide the level of expertise required for roles in operations and maintenance<sup>20</sup>.

For Phase III of Line 3, the construction contractors and sub-contractors are responsible for facilitating the training process and this is stipulated in the agreement between NAT and the contractors. Specific qualifications must be achieved within a fixed time period.

## Benefits Realisation

Identified benefit	Benefit description
 <p><b>Integration of small business opportunities</b></p>	<p>People living in areas where the line is proposed, such as the Ring Road, have started to develop small businesses in the area (i.e., cafes, restaurants) after they were informed of the proposed Line 3 Phase III location. The businesses will serve the workers and the passengers in the future<sup>*1</sup>.</p>
 <p><b>Increasing affordability and accessibility</b></p>	<p>Metro Line 3 increases accessibility to public transportation and provides access to jobs and health centres in the centre of town. For instance, people in Boulak El Darkrou and Imbaba feel that the project will provide better mobility for its residents.</p>
 <p><b>Job creation and equal access to labour market opportunity</b></p>	<p>The Metro system has generated numerous construction-related jobs and addressed unemployment issues for the unskilled workers, the highly skilled workers and the administrative staff.</p> <p>According to the interviewee, 3,000 to 4,000 job opportunities will be provided during construction work in Phase III of Line 3 and more than 1,500 permanent jobs will be provided in operational stages<sup>*2</sup>.</p>
 <p><b>Technical literacy and knowledge sharing</b></p>	<p>Contractors are required to provide training opportunities during the construction of Line 3 Phase III. However, it is too early to assess the outcome of this requirement. It is also too early to assess the outcome of the EBRD strategy for training in relation to the provision of rolling stock for Line 2.</p>
 <p><b>Social equity and social stability</b></p>	<p>Given the demographic context of Cairo, the project has elements of inclusivity, covering improved mobility and job creation to lower income neighbourhoods.</p>

<sup>\*1</sup> Cairo Metro Line 3 – Phase III Environmental and Social Impact Assessment Study, (Grontmij & EcoConServ, 2012)

<sup>\*2</sup> Interview with Dr. Eng Ashraf A.M. Abu-Krishna (2018, June 30). Tunnelling & Construction Consultant, Vice Chairman, National Authority for Tunnels (NAT).

<sup>20</sup> Interview with Dr. Eng Ashraf A.M. Abu-Krishna (2018, June 30). Tunnelling & Construction Consultant, Vice Chairman, National Authority for Tunnels (NAT).

## Stakeholders

Institutional stakeholders and partners	Role
<b>National Authority for Tunnels (NAT)</b>	NAT is a government agency under the jurisdiction of the Ministry of Transport, incorporated in 1983. It is the entity that owns the Metro system and is responsible for planning and construction of metro lines in Egypt, including Metro Line 3 Phase III.
<b>Egyptian Company for Metro Operations (ECM)</b>	ECM is the operator of the metro system, and therefore will be responsible for the operation of Line 3 Phase III when construction is complete. ECM will also be responsible for the project's environmental performance once the line becomes operational.
<b>Ministry of Transport</b>	The Ministry of Transport is responsible for developing plans to establish subway networks.
<b>Ministry of Finance</b>	The Ministry of Finance transfers funding to NAT to expand the Metro and pay for the purchase of supplies.
<b>Ministry of Education and Technical Education</b>	It is responsible for developing the education system in Egypt and providing qualified workers to the job market.
<b>European Investment Bank (EIB)</b>	As the co-financier for the project, EIB approves the ESIA as per the requirements of the finance package.
<b>Agence Française de Développement (AFD)</b>	As the lead financier for the project, AFD approves the ESIA as per the requirements of the finance package.
<b>Industrial Training Council (ITC)</b>	ITC is responsible for the development and award of vocational competence-based qualifications in Egypt.
<b>Egyptian National Railway</b>	Egyptian National Railway provided for an annual concession fee of USD 1.79 million (LE 32 million), later amended in 2009 to 25% of metro operating annual income until the opening of Line 3.
<b>Egyptian Environmental Affairs Agency (EEAA)</b>	EEAA is the agency responsible for ensuring that an environmental and social assessment is conducted in compliance with national legislation.
<b>SYSTRA</b>	SYSTRA is a transport planning consultancy. SYSTRA's recent contracts for Line 3 include project management and works supervision for construction Phases I and II, and preparing basic designs and tender documents for Phases III and IV of Line 3.
<b>EQI</b>	Consultants hired by AFD to conduct the initial ESIA.
<b>Grontmij and EcoConServ</b>	External consultants hired by AFD to update the ESIA and stakeholder engagement process to support project planning.

Key beneficiaries	Role
Low-income people	Low-income groups were given particular attention during the demographic data collection process and the stakeholder engagement process. The project will link lower income neighbourhoods to the city centre.
Vulnerable groups	The team conducted a study that involved collecting data that could help identify vulnerable groups and those that could be economically and physically displaced by the project. This included, for example, street vendors who were compensated through the RAP process and through the provision of another market to allow them to restart their business; and informal shop owners not covered by insurance or health care who were paid a percentage of their lost business revenue* <sup>1</sup> .

\*1 The exact amount of compensation could not be retrieved.

## Lessons Learned

### Success factors

The approach to the ESIA process and stakeholder engagement for Line 3 Phase III, driven by the need to fulfil lender requirements, has resulted in **the collation of a comprehensive socioeconomic baseline dataset** and the implementation of an **extensive stakeholder engagement process**. In the interview, it was identified that this is the first time that such an extensive undertaking in relation to stakeholder engagement for an infrastructure project had been conducted in the country, to ensure that the concerns of all the communities potentially affected by the project had been heard<sup>21</sup>.

### The review of the stakeholder engagement process

provided an opportunity to identify gaps in the process to date that could be addressed through further consultation. The secondary round of public consultations was reported by the ESIA consultant to have been well received by the two communities that had previously been against the project and helped gain acceptance of the work, as well as identify mitigation measures to be incorporated into the project design and construction phase.

**The incorporation of international standards helped set objective benchmarks** for the project, which focused on all vulnerable groups in relation to the requirement for compensation for economic and physical displacement. As such, a RAP to EIB standards was prepared in 2015 and this included additional stakeholder engagement with affected parties, as well as detailed questionnaires to collect disaggregated data on project affected persons.

Both the ESIA and RAP process used the SLA approach to identify vulnerable groups, so that they could be catered for in terms of engagement and so that their needs could be incorporated into the planning process.

In relation to youth employment, **construction work suppliers are contractually required to provide proper expert knowledge** to the workers. This, supplemented by necessary training, facilitates the transfer of knowledge and the upskilling of workers<sup>22</sup>. The government's wider initiatives to improve vocational training provide an opportunity to align training with large infrastructure project needs.

In respect of Line 2 and youth employment, the EBRD's IA encourages transport infrastructure projects in Cairo to provide **specific requirements for training within contracts**. The EBRD has approved a multi-year EUR 750 million investment, and one of the projects falling under this IA approach is the Cairo Metro Line 2. The contract for the procurement of additional trains promotes youth inclusion by encouraging private sector contractors to open onsite training programs for the youth to help enhance their skills and improve employability<sup>23</sup>.

<sup>21</sup> Interview with Dr. Eng Ashraf A.M. Abu-Krishna (2018, June 30). Tunnelling & Construction Consultant, Vice Chairman, National Authority for Tunnels (NAT).

<sup>22</sup> Ibid

<sup>23</sup> Strategy for Egypt: As approved by the Board of Directors at its meeting on 8 February 2017. (European Bank for Reconstruction and Development, 2017)

## Key challenges

During the data collection exercise to identify vulnerable groups, **not all stakeholders fully understood the purpose of the survey, while some were reluctant to provide personal data** (e.g. incomes). Therefore, they were not always supportive or honest in their answers, which can compromise the integrity of the data. The poor quality of collected data can lead to a costly and time-consuming exercise of validating data accuracy<sup>24</sup>.

The **evaluation mechanism for projects needs to be more transparent**. For instance, it was reported in the interview that quarterly monitoring reports were prepared by NAT and submitted to the lender for Line 3 Phase III, however, these are not made available to the public.

**Displacement of people** because of the project was challenging, especially in neighbourhoods such as Zamalek, where residents identified that they would not use the Metro. Identifying these issues and fully engaging with these residents through further stakeholder engagement was useful to understand and address these concerns.

**While contractors are encouraged to hire young unemployed people, there is no legal requirement** (either in local law or in the loan documents between the government and the financing institutions) which makes this a binding obligation.

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<sup>24</sup> Interview with Dr. Eng Ashraf A.M. Abu-Krishna (2018, June 30). Tunnelling & Construction Consultant, Vice Chairman, National Authority for Tunnels (NAT).

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Interview with Dr. Eng Ashraf A.M. Abu-Krishna (2018, June 30). Tunnelling & Construction Consultant, Vice Chairman, National Authority for Tunnels (NAT). (T. Ashour, Interviewer).





## Kenya

## Last Mile Connectivity Program



Source: Presentation for the World Bank  
([http://cega.berkeley.edu/assets/miscellaneous\\_files/CEGA\\_Energy\\_REPP\\_June2015.pdf](http://cega.berkeley.edu/assets/miscellaneous_files/CEGA_Energy_REPP_June2015.pdf))

### A government initiative to connect Kenyan households to the national electricity grid.

The Government of Kenya (GoK) has introduced a series of projects to stimulate economic growth and create jobs. They include the Last Mile Connectivity Program (LMCP), which aims to ensure everyone has access to electricity by 2020.

The project focuses on rural areas and slums where connectivity is poor. People who do not have access to electricity are unable to achieve the same standard of living as the households that do, and they have limited access to economic opportunities.

Connecting low-income households to electricity in rural areas has been a challenge for decades. This is because of the “high costs of supplying rural and peri-urban households” with electricity, a “lack of appropriate incentives”, “weak implementing capacity”, “population growth”, and the “cost of the internal wiring of consumers’ premises”<sup>1</sup>.

The Last Mile Connectivity Program addresses some of these challenges by lowering the cost of connection from USD 398 (KES 35,000) to USD 171 (KES 15,000)<sup>2</sup> per household, with the help of subsidies. Subsidised loans are also available for households unable to afford this subsidised connection fee.

This project illustrates how to overcome the so-called “last mile”<sup>3</sup> by reaching out to groups in society that did not benefit from previous electrification projects in Kenya. It also identifies socioeconomic and technical complexities that may need to be addressed in the long-term.

The Last Mile Connectivity Program follows the African Development Bank’s (AfDB) gender and social inclusion strategies for enhancing social benefits and implementing complementary activities. It also follows the environmental and social governance requirements of the National Environment Management Authority of Kenya (NEMA) and the World Bank.

<sup>1</sup> Development of a Power Generation and Transmission Master Plan, Kenya, (Lahmeyer International GmbH, 2016)

<sup>2</sup> Exchange rate used as per Economics of “Last Mile” Electrification study, (Lee, Miguel, & Wolfram, 2015)

<sup>3</sup> In this case, the “last mile” in Phase I of the Program referred to the final connection to unserved households living within 600 metres of an existing transformer. In later phases, this was expanded to also include new transformers and the extension of the low-voltage network.

## Project Overview

<b>Key words</b>	Affordability, access to electricity connection, pro-poor, rural
<b>Sector</b>	Energy
<b>Background</b>	The Last Mile Connectivity Program improves access to electricity in slums and rural areas in Kenya and aims to help achieve universal access. In April 2018, 73% of the population had access to electricity* <sup>1</sup> .
<b>Size</b>	<b>Phase I – III:</b> USD 450 million total <b>Phase IV:</b> EUR 180 million
<b>Stage</b>	<p><b>Phase I:</b> Financed jointly by the GoK with USD 150 million loan from the AfDB. It involved connecting households located within 600 metres of an existing transformer.</p> <p><b>Phase II:</b> Financed by the GoK with USD 150 million loan from the World Bank. Targeted areas on the outskirts of cities and towns. Involved the installation of new transformers and the extension of the low-voltage network.</p> <p><b>Phase III:</b> Financed by the GoK with USD 150 million loan from the AfDB. Involved the installation of new transformers and the extension of the low-voltage network.</p> <p><b>Phase IV:</b> Financed by the GoK with EUR 90 million loan from the French Development Agency (Agence Française de Développement (AFD)), EUR 30 million grant from the European Union (EU) and EUR 60 million loan from the European Investment Bank (EIB). Involved increasing connections to distribution transformers and the installation of additional transformers.</p>
<b>Why of interest</b>	<ul style="list-style-type: none"> <li>• Initiative aimed at increasing access to electricity in urban and rural areas</li> <li>• Study of rural households on sensitivity to price and demand for electrification</li> <li>• Specialised loan packages for people unable to afford the subsidised connection fee</li> <li>• Proximity of new transformers to public facilities in all communities, e.g. local health clinic to ensure connectivity</li> </ul>
<b>Project objectives</b>	<ul style="list-style-type: none"> <li>• Respond to the most urgent needs of the rural population regarding electricity connectivity</li> <li>• Support the country's objective to reach universal access by 2020</li> <li>• Increase affordability by providing subsidies and loans, and lowering the connection fees</li> </ul>
<b>Project Lifecycle Assessment</b>	<p><b>Project preparation</b> – identifying the transformer location, consulting with the communities, and conducting surveys on technical readiness and project design, including budget.</p> <p><b>Project procurement</b> – national legislation exists in Kenya to promote inclusion in procurement practices (however its implementation has not been assessed in this case study)*<sup>2</sup>.</p> <p><b>Construction</b> – stakeholder engagement, connecting households, fee collection and loan agreement as necessary.</p> <p><b>Project monitoring and evaluation</b> – monitoring of active household connections and loan repayments.</p>

\*<sup>1</sup> Kenya leads East Africa peers in access to electricity, (Kenya Power, 2018, May 8)

\*<sup>2</sup> More details on government procurement legal requirements can be found at <https://www.agpo.go.ke/pages/about-agpo>

## Project Description

In 2015, the government announced the Last Mile Connectivity Program to provide universal access to electricity by 2020. The ambitious strategy, which is being rolled out in phases, was developed based on international good practice and experience. It achieves economies of scale and aims to provide five million new connections in five years, primarily targeting informal settlements in urban areas and low-income households in rural areas. It has contributed to Kenya having one of the world's fastest rates of progress on the Sustainable Development Goal (SDG) 7 on access to electricity<sup>4</sup>. At the end of April 2018, 73.4% of people in Kenya had access to electricity, up from 56% in 2016<sup>5</sup>.

A study on barriers to electrification in rural Kenya in 2014<sup>6</sup> identified that electrification rates were very low, despite previous significant investments in grid infrastructure. Taking a large sample of households, the study identified that half of the unconnected households were “under grid”<sup>7</sup>, or clustered within just 200 metres (m) of a low-voltage power line, where connecting to the grid should be relatively low-cost. It highlighted the potential opportunity to reduce energy poverty by targeting “last-mile” connections (the final stage of the electricity system) in “under grid” communities and argued that “to leverage existing infrastructure and economies of scale, subsidies and new approaches to financing connections are necessary”.

Key challenges to achieving the goal of universal access include people's ability to afford the connection fee, their ability to pay electricity bills and the cost of wiring the house. Prior to 2015, the connection fee of USD 398 (KES 35,000)<sup>8</sup> was considered high, relative to most households' annual income of below USD 1,000<sup>9</sup>. Residents in most low-income areas were unable to afford the cost of electrification, and viewed electricity as a luxury, which affects their willingness to pay. Households in rural areas prioritise spending on food and clothing and may prefer to spend their disposable income on social and leisure activities.

The absence of electricity due to affordability, income and willingness to pay may affect people's quality of life, and it prevents households from pursuing income generating activities. Children and other certain groups in society (e.g. women) trying to enhance their skills or take part in educational activities have fewer hours per day to read or study because they do not have quality lighting. Communities without access to electricity have a limited ability to operate health centres at night, which is essential for pregnant women and the critically ill. Furthermore, without electricity, health centres cannot operate basic electronic laboratory equipment or the fridges that store vaccinations and other items.

Working closely with the Rural Electricity Authority (REA), a group of researchers conducted a randomised evaluation to measure the price sensitivity of electricity connection. After gathering baseline data, the Ministry of Energy announced it would help families to get connected at a cost of USD 171 (KES 15,000). The Phase I criteria for applicants to enjoy the low connection fee was that the household needed to be within 600 metres of an existing transformer.

Though the poverty line was not explicitly considered during the community selection or prioritisation process for the Last Mile Connectivity Program, the communities were identified with the help of constituency representatives and the Members of the County Assembly. Many of these communities that do not have access to electricity are poor and have limited opportunities to improve their skills or engage in additional income-generating activities.

Given the financial and technical constraints, many Kenyans (off-grid and “under the grid”) may obtain energy from private sector providers that have pioneered pay-as-you-go (PAYG) distribution models for off-grid solar devices and mini-grids<sup>10</sup>. The complementary interface of off-grid solutions with traditional grid extension has been recognised by the Government of Kenya and the World Bank. Both institutions support the Kenya Off-grid Solar Access Project (KOSAP), launched in 2018. Its aim is to expand electricity services to under-served areas through mini-grids and off-grid solar devices. KOSAP will run alongside the Last Mile Connectivity Program.

<sup>4</sup> Tracking SDG7: The Energy Progress Report 2018, pages 2-3 (The World Bank, 2018a)

<sup>5</sup> The World Bank Database shows that in 2016, the overall electrification rate in Kenya was 56% (with the rural electrification rate being 39% and urban 77.6%).

<sup>6</sup> Barriers to Electrification for “Under-Grid” Households in Rural Kenya (Kenneth Lee, E. B., 2014)

<sup>7</sup> “Under the grid” refers to households that are close to a low-voltage line, and should be able to connect at a relatively low cost, but for various reasons may still not be connected.

<sup>8</sup> Exchange rate used as per Economics of “Last Mile” Electrification study, (Lee, Miguel, & Wolfram, 2015)

<sup>9</sup> Rural Electric Power: Evaluation of Household Electricity Connections in Kenya, Innovation for Poverty Action and Kenya Power (Innovations for Poverty Action (IPA), 2015)

<sup>10</sup> Knowledge from Atkins' ongoing energy access projects in East Africa and experts based in Kenya. In Kenya, it is estimated that over three million off-grid solar devices have been distributed since 2014, Off-Grid Solar Market Trends Report 2018 (Global Off-Grid Lighting Association (GOGLA), 2018).

The LMCP illustrates a number of Action Areas on inclusive infrastructure. Most relevant from an inclusivity perspective is the effort to optimise the electricity connection fee to make access more affordable to households not yet connected to the grid, relevant to the Action Area on **Affordability and Optimising Finance**. The project features elements of policy (Action Area: **Policy, Regulation and Standards**) and of active community engagement (Action Area: **Stakeholder Identification, Engagement and Empowerment**). The focus is on 'energy poverty', often in low-income communities, while separate consideration was given to specific groups, such as women and children.

## Key Practices Identified and Applied



### AFFORDABILITY AND OPTIMISING FINANCE

#### Statement of the issue in relation to inclusion and brief introduction

Prior to 2015, the electricity connection fee, at a fixed price of USD 398, was unaffordable for households in low-income areas. In addition, households had to pay the upfront in-house wiring costs<sup>11</sup>, buy electric appliances and pay the electricity bills. Many people viewed the connection as a luxury and were not willing to pay for it, even if they could afford it<sup>12</sup>.

In many low-income households, the electricity they use will be for lighting. Based on 2005 and 2006 data, the median monthly expenditure per household on kerosene for lighting was USD 1.55 (KES 156), while the median expenditure on electricity per household was USD 3.30 (KES 332)<sup>13</sup>. The difference created a perception that electricity costs are high, and many households preferred the cost of continued use of kerosene for lighting.

The demand for electricity connections remained low, especially in rural areas, because of the economy, household income and expenditure structure. The need for food and clothing was prioritised over the use of electricity. Even when households were given financial assistance and offered subsidised connection fees, the electrification rate in rural areas was just 39% in 2016<sup>14</sup>.

There were other challenges too, including a shortage of investment and difficult geography.

<sup>11</sup> The household needs to engage a qualified electrical contractor who is registered by the Energy Regulatory Commission to do the wiring and issue the commencement of work certificate, completion of work certificate and wiring certificate.

<sup>12</sup> Experimental Evidence on the Demand for and Costs of Rural Electrification, (Lee, Miguel, & Wolfram, 2016)

<sup>13</sup> Household Lighting Fuel Costs in Kenya, (Ondraczek, Stöver, Lay, & Jacobson, 2012).

<sup>14</sup> Electrification rate in Kenya, (The World Bank, 2018b)

The communities are remote and far apart, which led to higher construction, implementation and operating costs. Private sector participation was limited due to the higher risk of financial loss and the large investment needed with uncertain return.

## How inclusivity has been addressed

The identified practice is the lowering of the electricity connection fee and the availability of loan products to help increase the access rate.

### Selection of communities

Communities were selected by constituency representatives and Members of the County Assembly (MCA), who shared the information with the Rural Electricity Authority (REA). The key criteria were whether the community already had access to electricity and its technical readiness<sup>15</sup>. Before houses could be connected, they needed to be technically ready, and cables and power points had to be installed before construction work started. The prioritisation of communities depended on the county's willingness to support certain communities. The REA's priorities were based on technical rather than social criteria – for example, Phase I included households within 600 metres from the existing grid, and in Phase II, this was extended to include all communities one to two kilometres from the existing grid. The second criterion to be met was a minimum population density per new transformer (included in Phase II), which had to be within a 600-metre radius of that transformer. The location of the new transformer was determined following a survey.

### Determination of an affordable connection fee

Prior to the Program, the initial connection fee was USD 398 per household. In 2014, the World Bank, the Berkeley Energy and Climate Institute, and the Development Impact Lab, together with the Rural Electricity Authority (REA) and Kenya Power, responded to concerns that it was too costly. They conducted research to support the REA's estimate of a more appropriate connection fee and set up a database for subsequent projects. To support this process, a baseline survey was conducted in relation to 150 installed transformers<sup>16</sup> in Busia and Siaya counties, identified as locations with vulnerable groups, in terms of economic development, low electrification rate and relative high-density population.

<sup>15</sup> Technical readiness means the number of households that already have the required electrical distribution network inside the house.

<sup>16</sup> Selection criteria included the following: distance between any two transformers was at least 1.6 kilometres, each transformer is an REA project and the transformer must have been in use for at least one year.

The research team visited communities and conducted surveys to build a sample database, which consisted of 12,001 surveyed unconnected households. As per the REA construction cost management plan, households that were within 600 metres of a transformer and also no more than 400 metres away from a low-voltage line were selected from this database. Based on that threshold, 2,504 households in total (including 2,289 unconnected and 215 connected) were studied in more detail to understand electricity spending patterns and preferences.

According to the results, each unconnected household had an average of 2.99 young people and the monthly lighting spend was USD 5.52, in comparison to USD 15.38 for the connected household. The research results showed that the demand for connection declines rapidly with an increase in connection fee. The theoretically accepted price point concluded from the survey was much lower than the price set by policymakers. Despite large investments in grid infrastructure in the past, the rate of connectivity was low even for relatively well-off households and businesses.

The focus of the practice addressed in this case study is on the connection fee only and does not consider the general electricity tariff and its affordability<sup>17</sup>.

## Implementation

### Reduced connection fee

In May 2015, the Ministry of Energy and Petroleum announced a reduction in the electricity connection fee from USD 398 to USD 171, which was enabled by public investments and subsidies. The lower connection fee is only applicable to households in communities covered under the Last Mile Connectivity Program, for which the Government of Kenya secured USD 364 million in funding from the African Development Bank, the World Bank and the European Investment Bank.

For those households unable to pay the connection fee at the time of connection, they can pay in instalments over three years. This translates to payments of USD 4-5 (KES 416) per month, which will be added to their monthly bill after they successfully apply for a Stima Loan<sup>18</sup>. The rationale for reducing the cost of the connection fee was the economies of scale that could be achieved – when one

<sup>17</sup> The applicable electricity tariff for the 50-1500KWh usage band is KES 22.77 for domestic use. This is a significant increase from KES 16.18 in 2008. Since a peak in July 2014, the government aims to further reduce the tariffs through the introduction of new, low-cost power generation sources.

<sup>18</sup> The Stima Loan Program has not been specifically created for the Last Mile Connectivity Program, however households covered by the project can make use of it. All customers are required to deposit 20% of the borrowed amount and pay an administration fee of 5%. They are advanced a loan valid for 24 months with no interest charges. Repayment of the loan commences one month after connection. (Kenya Power, 2018, September 12)

additional household connects, the cost per household becomes less expensive. The experimental average total cost (ATC) curve prepared by the research team showed the budgeted ATC per connection decreased as the proportion of the community connected increased. The ATC dropped dramatically from USD 3,500 per installation with no connections, to USD 1,000 with 15 homes connected<sup>19</sup>. This finding had major implications for the design of the project:

- the location of the transformer needed to cover as many households as possible, with a mandatory requirement to also connect a health centre; and
- the identified transformer coverage was limited to a 600-metre radius due to the technical limitations of the transformer and voltage loss.

The exact location of the transformer (and consequently, the households covered within the 600-metre radius) was determined following a site survey by the REA, which designed the network grid, prepared the budget and defined material requirements.



## POLICY, REGULATION AND STANDARDS

### How inclusivity has been addressed

The identified practice is the establishment of an independent energy regulator and an oversight authority tasked with enhancing connectivity and promoting socioeconomic development.

## Implementation

### Independent regulatory body

The most relevant legislation in relation to the project is the Kenya Energy Act No. 12 of 2016. It set up the Energy Regulatory Commission (ERC), an independent regulator responsible for formulating licensing procedures, issuing permits, making recommendations for further energy regulations, setting and adjusting tariffs, approving power purchase agreements (PPAs) and preparing national energy plans.

<sup>19</sup> "Last Mile" Electrification study, (Lee, Miguel, & Wolfram, 2015)

### Electricity oversight and promotion authority

Most relevant for the Last Mile Connectivity program is the Rural Electrification Authority (REA), established to enhance rural electrification in the country. As part of the program, the REA oversees the connection of potential customers located near installed transformers supplying public utilities. The REA became operational in July 2007 with the mandate of accelerating the pace of rural electrification to promote sustainable socioeconomic development.

### Energy legislation

Under the Energy Act, the REA is tasked to undertake the following functions:

- manage the Rural Electrification Program Fund;
- develop and update the rural electrification master plan;
- promote the use of renewable energy sources including small hydro, wind, solar, biomass, geothermal, hybrid systems and oil-fired components, considering the specific needs of certain areas. For example, the potential for using electricity for irrigation and support for off-farm income generating activities;
- implementation and sourcing of additional funds for the rural electrification program; and
- management of the delineation, tendering and award of contracts for licences and permits for rural electrification.



### STAKEHOLDER IDENTIFICATION, ENGAGEMENT AND EMPOWERMENT

#### How inclusivity has been addressed

The identified practice is the establishment of a dedicated stakeholder engagement team to coordinate with local leaders and members of the community.

### Implementation

#### Community engagement

Public consultations aimed at understanding project impact and benefits, risks and potential mitigation measures started in January 2014.

Before any construction work could start, local communities and other stakeholders were consulted. The same group also participated in screening residents' actual electricity demand, identifying potential technical constraints to determine the key issues and agreeing how to address the concerns of various parties.

The REA assigned a team of consultants to undertake stakeholder engagement. The team worked with the local Member of the County Assembly and community leaders to organise regular gatherings where all households without access to electricity (including the most vulnerable, such as women and the households with the lowest income) were invited<sup>20</sup>. At the end of the meetings, the team recorded the names and contact details of attendees. By doing so, the team established communication channels that they could use to secure buy-in as the project developed.




Communities located more than one to two kilometres from the existing electricity grid were not considered for electrification. Households located outside the 600-metre radius of the transformer were also unlikely to benefit. If a household beyond the 600 metres wished to be connected, a request could be made to Kenya Power. Subsequently, a survey would be conducted to identify how many other potential customers could benefit from the connection. A proposal for connecting them as part of a wider scheme is then made to spread the cost of connection among all the potential customers<sup>21</sup>.

Overall community engagement activities identified were general in nature. The case study has not identified any specific focus on women, young people or the extremely poor.

<sup>20</sup> The project follows the Environmental and Social Impact Assessment (ESIA) guidelines of the National Environment Management Authority (NEMA) of Kenya.

<sup>21</sup> Last Mile Connectivity Program Q & A, (Kenya Power, 2018)

## Benefits Realisation

Identified benefit	Benefit description
 <p><b>Increasing affordability and accessibility</b></p>	<p>The reduction of the connection fee from USD 398 to USD 171 increases the affordability of electricity. Furthermore, the Government of Kenya cooperates with external financiers to provide low-income families who cannot afford the fee with a loan package, allowing them to make payments by instalments through the Stima Loan Program. The following targets for the LMCP were set for each phase and progress is ongoing:</p> <p><b>Phase I:</b> 314,200 households targeted</p> <p><b>Phase II:</b> 312,500 households targeted</p> <p><b>Phase III:</b> 385,700 households targeted</p> <p><b>Phase IV:</b> 397,000 households targeted*<sup>1</sup></p>
 <p><b>Social equity and social stability</b></p>	<p>Access to electricity reduces social inequality, although this alone does not address all challenges to achieving social equity.</p> <p>Connecting communities to health clinics improves public access to health care services and further reduces disparities with other connected communities.</p>
 <p><b>Reducing poverty and income inequality</b></p>	<p>Communities targeted under the project are poor. Access to electricity increases their living standard through improved lighting, the ability to power electronic equipment, and their ability to pursue revenue generating and leisure activities. Nonetheless, a direct link between access to electricity and reduced income inequality could not be established in this case study.</p>

\*<sup>1</sup> Last Mile Connectivity Program Q & A, (Kenya Power, 2018)

## Stakeholders

Key beneficiaries	Role
<b>Communities without electricity access, poor people in rural areas</b>	The key role of these groups is to be present in the engagement and consultation process and participate in the project while sharing their views and concerns. As the main target group and beneficiary, this group is viewed as the key stakeholder. The households who cannot afford the connection fee are involved in the consultation before construction work, and they are provided with a subsidised price and financial assistance (if they are unable to afford the connection fee, they are allowed to pay through instalments for a period of three years).
Institutional stakeholders and partners	Role
<b>Rural Electrification Authority (REA)</b>	REA is a government entity charged with implementing the Rural Electrification Program and has been operating since July 2007. It is responsible for the project design, procurement and construction of the new electrification systems in the communities. When the projects are complete, they are handed over to Kenya Power.
<b>Ministry of Energy</b>	The ministry is charged with the development of energy resources for national development and ensuring every Kenyan has access to electricity by 2020.
<b>Kenya Power and Lighting Company (KPLC)</b>	Kenya Power, also referred to as Kenya Power and Lighting Company (KPLC), is a limited liability company with a 50.1% public controlling stake which transmits, distributes and retails electricity to customers throughout Kenya.
<b>African Development Bank (AfDB)</b>	Financier of the loan package provided to the Government of Kenya, which is partly used to provide subsidies to households that cannot afford the cost of the connection fee.
<b>World Bank</b>	Financier of the loan package provided to the Government of Kenya in support of Phase II of the Program, which covers all 47 counties targeting peri-urban areas.
<b>Agence Française de Développement (AFD)</b>	Financier of a loan package provided to the Government of Kenya in support of Phase IV of the Program, which involves the maximisation of existing distribution transformers and the installation of additional ones.
<b>European Investment Bank (EIB)</b>	Financier of a loan package provided to the Government of Kenya in support of Phase IV of the Program, which involves the maximisation of existing distribution transformers and the installation of additional ones.
<b>European Union (EU)</b>	Provider of a grant to the Government of Kenya in support of Phase IV of the Program, which involves the maximisation of existing distribution transformers and the installation of additional ones.



## Lessons Learned

### Success factors

**Reducing the electricity access connection fee** is the key success factor. The baseline study of willingness to pay was conducted at the planning stage, early enough to influence the overall project design and to determine an affordable fee. As a result, the Government of Kenya lowered the price by almost 60% for certain households and provides a loan package to finance the upfront cost.

**Stakeholder engagement in the project planning and assessment process** was important. Stakeholders were consulted during the project planning and implementation stages.

**The cost-benefit trade-off finding** was also crucial. The average total cost per connection decreases as the number of people connected increases, hence the requirement to have a minimum number of households within a 600-metre radius of the transformer. There is a clear cost/benefit ratio. The downside is that households beyond the 600-metre radius do not get electricity access, creating exclusion. They can submit a special request and will be issued with a proposal to be connected, but with associated costs. People can then decide to accept the proposal or wait until subsequent phases are implemented.



Figure 1. Customers completing household surveys. Source: Presentation for the World Bank ([http://cega.berkeley.edu/assets/miscellaneous\\_files/CEGA\\_Energy\\_REPP\\_June2015.pdf](http://cega.berkeley.edu/assets/miscellaneous_files/CEGA_Energy_REPP_June2015.pdf))



Figure 2. Kenya Power installs prepaid meters, Source: Presentation for the World Bank ([http://cega.berkeley.edu/assets/miscellaneous\\_files/CEGA\\_Energy\\_REPP\\_June2015.pdf](http://cega.berkeley.edu/assets/miscellaneous_files/CEGA_Energy_REPP_June2015.pdf))

### Key challenges

**Public funding constraints** are a key challenge for Kenya's infrastructure development authorities in general. Low population density and low incomes in rural areas lead to higher investment requirements. The remote location of the projects and uncertainty over payments from households add to the problem.

**A lack of detailed socioeconomic data in gender, income levels and age** makes it difficult to develop specific solutions for vulnerable groups. The collection of detailed and disaggregated data is costly and requires a long-term perspective to realise benefits.

**Cost of electricity access is still high** for many households. Although affordability has increased, in many poor households, household incomes still do not cover the payments required to maintain a connection and willingness to pay is low, given other priorities such as food and clothing. In households where there is limited use and affordability of electrical appliances, it may be appropriate to consider lower levels of access than the grid connections, such as household solar, which allows for lighting and phone charging.

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## Interviews

Interview with Esther Ruto (18 June 2018), General Manager Technical Services with Rural Electrification Authority, Last Mile Connectivity Program. (A. Keller, Interviewer)



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## Key Literature



## Key Literature

NO.	TITLE	YEAR	SOURCE / AUTHOR	MAIN THEMES
1	A moving issue for women: is low cost transport an appropriate intervention to alleviate women's burden in South Africa?	1990	Doran, J.	Gender, Infrastructure
2	Of Nets and Assets: Effects and impacts of employment-intensive programs - A review of ILO experience	1998	International Labour Organization	Employment, Inclusivity
3	Good Governance: An Overview	1999	International Fund for Agricultural Development	Governance
4	A Sourcebook for Poverty Reduction Strategy: Core techniques and cross-cutting issues	2002	World Bank	Policy, Poverty
5	Accounting for poverty in infrastructure reform - learning from Latin America's experience	2002	World Bank	Poverty, Infrastructure
6	Integrity, Transparency and Accountability in Public Administration: Recent Trends, Regional and International Developments and Emerging Issues	2005	United Nations Public Administration Network	Policy
7	Better practice in supplying water to the poor in global Public Private Partnerships	2007	Atkins Global	PPP, WASH
8	The Benefits of Positive Action: Thematic Discussion Paper	2008	International Centre for Migration Policy Development (ICMPD)	Inclusion
9	Multi-criteria analysis: a manual	2009	Department for Communities and Local Government, UK Government	Project appraisal, Stakeholder, Policy
10	Empowering Rural India: Expanding Electricity Access by Mobilizing Local Resources. Analysis of Model for Improving Rural Electricity Services in India through Distributed Generation and Supply of Renewable Energy	2010	South Asia Energy Unit, Sustainable Development Department, The World Bank	Inclusion, Electrification
11	Equality Act 2010	2010	UK Government	Access, Inclusion
12	Governance rules! The principles of effective project governance	2010	Kelly, Éamonn V.	Governance

13	Strategic Community Investment: A Good Practice Handbook for Companies Doing Business in Emerging Markets	2010	International Finance Corporation (IFC)	PPP, Economics, Inclusion
14	The Worldwide Governance Indicators: Methodology and Analytical Issues	2010	Brookings Institution and World Bank Group	Governance
15	Inclusive Design Standards	2012	London Olympic Delivery Authority	Inclusion
16	Participation strategies the silver bullet for public acceptance?	2012	Rau, Irina, Schweizer-Ries, Petra and Hildebrand, Jan	Stakeholder Engagement
17	The impact of infrastructure on growth in developing countries	2012	International Finance Corporation (IFC)	Infrastructure, Low-income, Inclusion
18	Best Practices and Case Studies	2013	Community Transport Organisation, and Australian Government	Transport
19	Canadian Women Grabbing the Baton	2013	Royal Bank of Canada	Gender
20	Gender and Urban Poverty in South Asia: Proceedings Report of the 2012 Subregional Workshop	2013	Asian Development Bank	Gender, Poverty, Governance, PPP
21	Integrating Gender Considerations into Energy Operations	2013	World Bank	Gender
22	Minnesota Multi-Purpose Stadium Operations Equity Plan	2013	Minnesota Sports Facilities Authority	Inclusion
23	Vulnerability, Risks, and Complexity: Impacts of Global Change on Human Habitats.	2013	Kabisch, Sigrun et al.	Sustainability
24	Accessibility Design Guide: Universal design principles for Australia's aid program	2014	Australian Government	Disability inclusion
25	Inclusive and Sustainable Industrial Development	2014	United Nations Industrial Development Organization (UNIDO)	Inclusion
26	Maximising the benefits to the poor from infrastructure programs aimed at increasing growth	2014	UK Department for International Development (DFID)	Low-income
27	Sustainable Infrastructure for Competitiveness and Inclusive Growth	2014	Inter-American Development Bank	Infrastructure, Inclusion

<b>28</b>	Voice, Empowerment and Accountability: Topic Guide	2014	GSDRC and DFID	Policy
<b>29</b>	All on Board: Making Inclusive Growth Happen	2015	Organisation for Economic Co-operation and Development (OECD)	Inclusive growth
<b>30</b>	Closing the Last Mile for Millions	2015	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ)	Water, Sanitation
<b>31</b>	Sustainable Development Goals	2015	United Nations	Sustainability, Inclusion, Low-income, Inequality, Environment
<b>32</b>	The Impact of Leadership on the Governance of Infrastructure Development in Nigeria	2015	Onolememen, Michael Oziegbe	Governance
<b>33</b>	The Power of Parity: How Advancing Women's Equality Can Add \$12 Trillion to Global Growth	2015	McKinsey Global Institute	Gender, Equality, Inclusion
<b>34</b>	Transparency and the Performance of Outsourced Government Services	2015	Mulgan, Richard	Stakeholder, Governance, Policy
<b>35</b>	E-Government in support of Sustainable Development	2016	United Nations	Policy
<b>36</b>	How about defining Open Government principles?	2016	Open Government Partnership	Governance, Policy, Inclusion
<b>37</b>	Infrastructure: A Game-Changer for Women's Economic Empowerment. A Background Paper for the UN Secretary-General's High-Level Panel on Women's Economic Empowerment	2016	DFID Infrastructure and Cities for Economic Development	Gender, Infrastructure, Inclusion
<b>38</b>	International UNECE PPP Forum Implementing the United Nations 2030 Agenda through effective, people-first Public-Private Partnerships	2016	United Nations Economic Commission for Europe (UNECE)	PPP, Inclusion
<b>39</b>	Leave no-one behind: infrastructure and inclusion	2016	Knowledge, Evidence and Learning for Development (K4D)	Infrastructure, Inclusion
<b>40</b>	Leaving no one behind: A critical path for the first 1,000 days of the Sustainable Development Goals	2016	Overseas Development Institute (ODI)	Development, Policy, Governance

41	Stakeholder empowerment through participatory planning practices: The case of electricity transmission lines in France and Norway	2016	Späth, Leonhard, and Scolobig, Anna	Stakeholder, Policy
42	Strategy for the Promotion of Gender Equality 2016-2020	2016	European Bank for Reconstruction and Development (EBRD)	Gender
43	Theory and background of multi-criteria analysis: Toward a policy-led approach to mega transport infrastructure project appraisal	2016	Ward, E. John, Dimitriou, Harry T., and Dean, Marco (OMEGA Centre)	Project appraisal, Stakeholder, Policy, Development
44	Closing the Financing Gap: Infrastructure Project Bankability in Asia	2017	Chua, Maximillian, Lee, Eddison and Chalmers, Blair (Marsh & McLennan Companies' Asia Pacific Risk Center)	Financial inclusion, Infrastructure
45	Delivering Inclusive and Sustainable Infrastructure: Featured Infrastructure Projects and Initiatives	2017	Inter-American Development Bank	Inclusion
46	Economic Inclusion Strategy (EIS)	2017	European Bank for Reconstruction and Development (EBRD)	Inclusion
47	Enabling Inclusive Cities: Toolkit for Inclusive Urban Development	2017	Asian Development Bank	City development
48	Improving Transparency and Accountability in Public-Private Partnerships: Disclosure Diagnostic Report--Nigeria	2017	World Bank	PPP, Inclusion
49	Smart Power for Rural Development: Transforming Lives Through Energy Access	2017	The Rockefeller Foundation	Energy, Inclusion
50	Sustaining Communities - What is the spectrum of public participation?	2017	International Association of Public Participation (IAP2)	Stakeholder, Policy
51	Transport Pricing and Accessibility	2017	Brookings Institution	Transport, Accessibility
52	Trends and Challenges in Infrastructure Investment in Low-Income Developing Countries	2017	International Monetary Fund (IMF)	Infrastructure, Low-income
53	Youth scoping study: Boosting Youth Employment through Infrastructure Programming	2017	Hageman & Limbu for European Institute for Cooperation and Development (IECD) & DFID	Youth



54	Advancing Women in Business	2018	Canada-United States Council for Advancement of Women Entrepreneurs & Business Leaders	Gender, Inclusion
55	Affordability Issues Surrounding the Use of ICT for Development and Poverty Reduction	2018	Adams, Carl, and Takavarasha Jr., Sam	Affordability, ICT, Low-income
56	Community Employment Benefits General Guidance	2018	Infrastructure Canada	Inclusion, Engagement, Infrastructure
57	BUILD UP Skills Norway	2018	Intelligent Energy Europe, European Commission	Policy, Inclusion
58	Guide to Community Engagement for Power Projects in Kenya	2018	Power Africa	Public participation, Policy, Development
59	Humanitarian inclusion standards for older people and people with disabilities	2018	Age and Disability Capacity Program	Inclusion, Disability
60	Impact Evaluation of Road Improvements and Rural Poverty— Baseline Survey in the Ningxia Liupanshan Area of the People's Republic of China	2018	Asian Development Bank	Transport, Low-income
61	Infrastructure, Poverty Reduction and Jobs	2018	International Labour Organization	Inclusive infrastructure, Low-income
61	The Changing Wealth of Nations 2018: Building a Sustainable Future	2018	World Bank Group	Infrastructure, Wealth distribution
63	Guiding Principles on People-first Public-Private Partnerships in support of the United Nations Sustainable Development Goals	2019	United Nations Economic Commission for Europe (UNECE) – Committee on Innovation, Competitiveness and Public-Private Partnerships	Inclusion
64	Putting the Guiding Principles on People-first Public-Private Partnerships into practice	2019	UNECE – Committee on Innovation, Competitiveness and Public-Private Partnerships	Inclusion





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ACN 602 505 064  
ABN 46 602 505 064

Online Resource ISBN: 978-0-6480762-4-7 (Reference Tool on Inclusive Infrastructure and Social Equity)

Hard Copy ISBN: 978-0-6480762-5-4 (Reference Tool on Inclusive Infrastructure and Social Equity)

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## CONTACT US GLOBAL INFRASTRUCTURE HUB

P: +61 2 8315 5300

E: [contact@gihub.org](mailto:contact@gihub.org)

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