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[64]. Standards are usually written in a formal document, which establishes uniform criteria, methods, processes and practices, including of an engineering or technical nature[65].

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[66]. 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"[67].

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[68]. 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.

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[64] 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".

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

[66] 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.

[67] Best Practice & Case Studies, Community Transport Organisation, (Tramby, 2013)

[68] 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 (XX1), 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[69].

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[70].

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.

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[69] All on board: Making inclusive growth happen, (OECD, 2015)

[70] 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[71]. 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.

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[71] Community Employment Benefits – General Guidance, Infrastructure Canada, (Canadian Government, 2018)

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..

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[72].

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? [73]

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[74]. 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.

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[72] A sourcebook for Poverty Reduction Strategies : Core techniques and cross-cutting issues, (Klugman, et al., 2002)

[73] A sourcebook for Poverty Reduction Strategies : Core techniques and cross-cutting issues, (Klugman, et al., 2002)

[74] "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[75]. 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[76]. 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[77].

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[75] All on board: Making inclusive growth happen, (OECD, 2015)

[76] Equality Act 2010 – UK Government, (UK Government, 2010)

[77] 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[78] 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.

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.

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[78] The EBRD regions include countries in the regions of Europe, Central Asia and the Mediterranean, (European Bank for Reconstruction and Development, 2018)

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*)[79]**.**

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[80] 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[81] provides recommendations for undertaking, reviewing, and assessing a competent and principled approach to diversity and inclusion in the workplace.

ISO/AWI 30415 Diversity & Inclusion[82] (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).

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80 ISO 26000:2010, (International Organization for Standardisation, 2010)

81 BS 76005:2017, (British Standards Institution, 2017)

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

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

The Gender Equality Framework[83] 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[84]*. 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.

The London Olympic Delivery Authority developed the *Inclusive Design Standards[85]*, 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[86] 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.

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[83] Gold Standard for the Global Goals Gender Equality Requirements & Guidelines (Gold Standard, 2018)

[84] Humanitarian inclusion standards for older people and people with disabilities, (Age and Disability Capacity Programme, 2018)

[85] Inclusive Design Standards, (London Legacy Development Corporation, 2012)

[86] 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[87]. 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[88]. It is worth noting that it is better to address inclusivity at the outset. Retrofitting can be much costlier and add to future risks.

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[87] Accessibility Design Guide: Universal design principles for Australia's aid program, AusAID, (Australian Government, 2014)

[88] 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
Pre-travel information	Information regarding the level of accessibility at all stations and plans to upgrade or improve it
Substitute transport – pre-planned and emergency	Identify alternative transport for people who cannot use a DfT mandated service
Car parking	Location, dimensions, number of spaces, markings, monitoring and enforcement, approach to stations, set-down and pick-up locations, considerations for obstructed access
Building features	Doors, lighting, floors, walls, transparent walls, furniture, free-standing devices
Signs	Directional information, fonts, sign design, sign lighting, tactile (embossed/Braille) signs, display screens, maps and detailed information
Announcements	Passenger announcements, induction loops, emergency alarms
Help points	Locations, functions, requirements for access
Ticket sales points	Booking offices, information provision, customer service desks, ticket sales points, ticket barriers

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CHECKLIST	EXPLANATION
Elevation change	Lifts, emergency lifts, platform lifts, ramps, stair and step design, landings and areas beneath stairs, handrails, escalators, moving walkways
Platforms	Platform design, train interfaces, seating, waiting rooms, shelters
Toilets	Provision and location of wheelchair toilets, opening hours, doors, design and layout, rails, basins, finishes, lighting, emergency, baby-changing
Crossing the track	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
Support for passengers at stations	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[1], provision of ramps and lifts at major stations, and ramps on to all trains at stations.
Support for passengers on trains	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).

[1] 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.

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[89] 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[90] 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.

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.

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[89] Public Service Vehicles Accessibility Regulations, (UK Government, 2000)

[90] Bus Services Act, (UK Government, 2017)

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[91]. 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[92] (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[93].

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.

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

92 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

93 All on board: Making inclusive growth happen, (OECD, 2015)