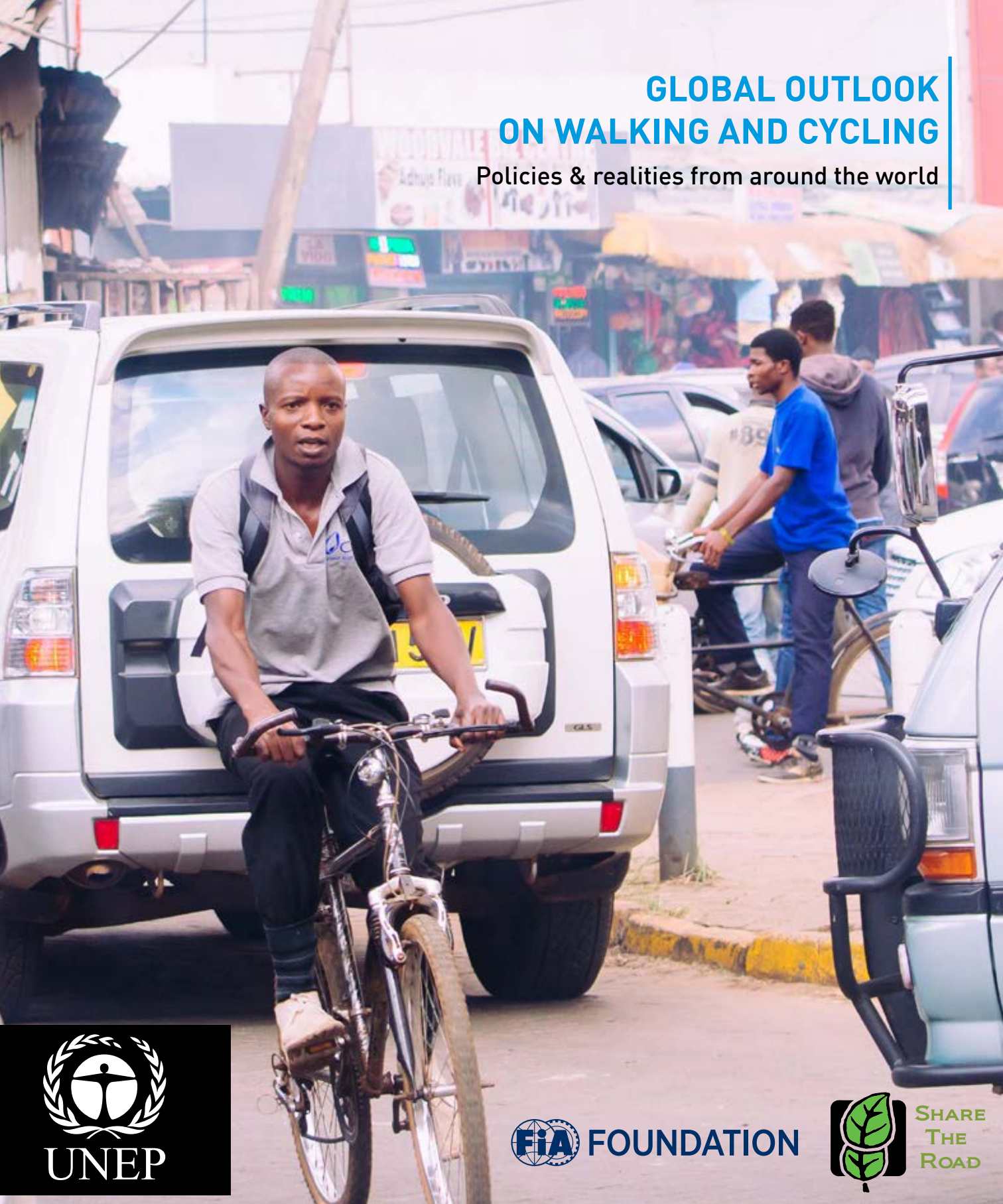
GLOBAL OUTLOOK ON WALKING AND CYCLING

Policies & realities from around the world



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SHARE THE ROAD

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Definitions

Active mobility / transport	A term used largely in Europe, Latin America and in some West African countries for NMT
BRT	Bus Rapid Transit
IMT	Intermediate Means/Modes of Transport. IMT broadly refers to low-cost transport innovations that increase the load carrying capacity beyond head, shoulder or back loading and/or increase travel speeds beyond walking. They include low engine capacity vehicles such as motorcycles and motor tricycles and sidecars or trailers attached to these
Low income country and middle-income country	The World Bank classifies countries into four income groups. These are set each year on 1 July. Economies were divided according to 2016 GNI per capita using the following ranges of income: • Low income countries had GNI per capita of US$1,025 or less • Lower middle income countries had GNI per capita between US$1,026 and US$4,035 • Upper middle income countries had GNI per capita between US$4,036 and US$12,475 • High income countries had GNI per capita above US$12,476
NMIMTs	Non Motorized (NM) and Intermediate Modes of Transport (IMTs). This definition includes walking, head, shoulder or back loading, the use of wheelbarrows, hand-carts ('mikokoteni'), animal transport (horses, camels, donkeys, mules and oxen as beasts of burden), animal-drawn carriages (such as sledges), bicycles and tricycles to transport passenger and freight

NMT	Non-Motorized Transport (walking, cycling, animal-drawn transport, intermediate transport, skateboarding or other non-motorized modes)
NMT commitment	An NMT commitment, in this context, refers to a deliberate plan of action taken by national government to guide decisions and to achieve a particular outcome. Commitments are usually official written documents: policies; laws, legislation or regulations; strategies; engineering or design guidelines; frameworks; or planning documents. Such Commitments are endorsed or signed by government officials to legitimise the document and demonstrate that it is considered in force
NMT Performance	In this context, NMT performance refers to how safe, pleasant and acceptable it is to use NMT modes. Further detail can be found on page 38
NMVs	Non-motorized vehicles
UD or UA	Universal Design or Universal Access: the concept of designing the built environment and transportation facilities to be usable to the greatest extent possible by everyone, regardless of their age, ability, or mobility, visual or other impairments
VRU	Vulnerable road users (includes motorcyclists)

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Foreword

Around 140 people will die in road accidents while you read this report; one every thirty seconds. That's 1.3 million dead mothers, fathers and children in 2016, with more each year we fail to fix the problem.

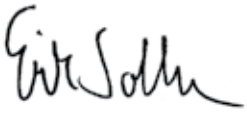
By 2030 that will add up to almost 30 million lost friends and family. There would be an international scandal if the world knowingly let the entire population of Australia, Ghana or Nepal die in just 15 years. Yet we quietly accept more than that will die in road accidents. Even worse, we accept it knowing there are alternatives. That's why this report highlights both the risks and some startlingly simple solutions. Around the world, many people rely on walking and cycling for transport. Many more begin and end each trip on foot. Such affordable, people-powered transport offers huge social, economic and environmental benefits for urban and rural areas. But many of these people risk their lives every time they travel. More than a quarter of the people killed in road accidents are pedestrians; a number increasing steadily due to a tragic lack of investment.

In fact, transport has hard hitting consequences for almost every aspect of the life for drivers, cyclists and pedestrians. For example, it generates nearly a quarter of all carbon dioxide emissions and is the fastest growing contributor of greenhouse gasses. It also feeds air pollution that is killing seven million people a year and increasing health problems like bronchitis, asthma, heart disease and brain damage.

However, we can reverse those trends and make rapid progress towards ending poverty, healing our planet and making it secure by 2030. For example, many Kenyan children can't get to school because they live so far away. With some 500 pedestrians dying in Nairobi each year, it's easy to see why parents are unwilling to risk their child's life. Many of the children who do walk arrive late or tired, especially girls who must also find time and energy for housework. The Kenyan Government, World Bicycle Relief and World Vision are changing this by helping local communities distribute and maintain bikes for students. Newly trained mechanics have jobs; students arrive on time and ready to learn; and their families more easily transport water to their homes, goods to market and sick people to health facilities.

Scaling up that kind of change starts by deciding to take the first step, which can be as simple as creating a cycling and walking policy. This report looks at ideas from around the world, including the policies for decision makers and the realities for citizens, to show what really works.

As the population heads towards nine billion, we need to design mobility for our people instead of mobility for our cars. I hope this report will inspire decision makers from across the public and private sector to explore where they live and work on foot and on two wheels, assess their commitments and adopt more of the great ideas from this collection.



Erick Solheim
Excecutive Director
UN Environment

Introduction

Rio de Janerio
©Bikeworldtravel

Walking and cycling are more than low-carbon modes of transport that enhance urban quality and facilitate social cohesion; they are cheap, flexible, personal modes without which the majority of people in low- and middle-income countries are unable to participate in the economy and community, or access education, health-care and other urban services.

At the same time, many low- and middle-income countries are undergoing rapid, debilitating and unconstrained urbanisation, and local and national authorities are buckling under severe pressure to plan, guide development, provide services, and manage their cities. One consequence is that cities and rural areas exhibit poor accessibility and mobility, and the needs of people remain unmet.

Better walking and cycling environments can change this. Access and mobility are key not only to sustainable mobility but to sustainable development. NMT, primarily walking and cycling, is the most sustainable form of movement, whether as a local access or an arterial or mobility mode. Yet NMT only often recieves marginal recognition in many low- and middle-income countries – whether in policy and legislation, or in budget, resource and space allocation. These same countries have the worst global road safety rates (between 40-80% of fatalities in low-income countries are NMT users), and the highest rates of poverty, unemployment and associated ill-health and limited life opportunities.

There is an urgent need to improve this environment and significantly reduce the risks of injury or death, and facilitate a shift to lower carbon modes. Even where governments are resource-constrained, a solid commitment to NMT can change the experiences of millions of pedestrians and cyclists every day.

Thus the purpose of this report has been to document the inclusion of NMT in national or city policies in a sample of low- and middle-income countries in Africa, Asia and Latin America, which we achieved through a survey, and detailed policy content analysis.

In particular, we wished to investigate whether the existence of a country NMT policy in some way correlates with the safety of people who walk and cycle every day.

The index is not a ranking of top 'NMT countries or cities' with first and last position, but an index and report of key findings, in which we began to explore whether NMT policies lead to safer roads, and how policies and their outcomes could be strengthened. The Index (see page 28) reports on the intersection between the level of NMT commitment in a country, and the safety and comfort of NMT users.

The report concludes that countries have certainly made a start in policy development; every participating country has at least one national transport commitment that recognises the value of non-motorised modes in their country, cities and rural regions. However, our index suggests that the implementation of NMT policies to date has not yet led to substantive changes in the reality for pedestrians and cyclists; road fatalities, discomfort and risk remain unacceptably high.

To this end, the report makes a number of recommendations based on our research, which we believe will increase the impact of this emerging and valuable commitment to non-motorized transport modes in low- and middle-income countries.

Method

Literature review

Before beginning this survey and analysis, we undertook a literature review to better understand the essential components of an NMT policy, and the core actions required in order to create an enabling environment for better walking, cycling and other NMT modes (such as cycle rickshaws and handcarts). (Refer to References, page 95.)

The literature suggests that a combination of both standalone and integrated NMT policies; political will; clear, measurable goal-setting as part of local strategies; a variety of supporting policies; and traffic calming or speed- and vehicle-reduction interventions; will produce cities and countries where walking, cycling and other NMT modes is significantly more safe, attractive, comfortable and desirable.

Data collection

Secondly, we compiled a detailed database of individual stakeholders from at least four countries within East Africa, four from Southern Africa, and five from Asia and Latin America1. Our goal was to survey at least 20 countries. Stakeholders were selected from within government or civil society who were likely to have insight into and knowledge of NMT policy status and access to data in their region, country or city. Each stakeholder was invited to add to the stakeholder list. These stakeholders were from a range of independent or university institutes, global agencies, non-government organisations, consultants, individual activists or government officials.

Over a period of three months (March-May 2016), we contacted each person on the database at least three times – by either email, social media, text or telephone call – asking them to fill in a fairly detailed online survey. We explained matters of confidentiality, the purpose of our survey and the intended output. We also asked each stakeholder to upload or email NMT policies, strategies or other important NMT documentation from their country or city.

Indicators and data quality

As an indicator of commitment we used questions relating to:

- the number and type of NMT standalone and supportive policies and other commitments;
- evidence-based planning;
- monitoring, evaluation and reporting methods;
- institutional capacity and financing;
- local-level planning;
- and civil society involvement.

As an indicator of performance (how safe, pleasant and acceptable it is to use NMT in each country) we used:

- NMT fatalities per 100 000;
- and the quantity of bicycle infrastructure, where available.

A challenge in attempting to assess 'performance' has been this lack of existing, available or verifiable data, in particular mode share (rural vs urban), mobility and trip rates, vehicle/foot miles travelled, and fatality data. We know that this is a constant challenge in developing countries and cities. As a result, what is not addressed or included in our index calculation are levels or rate of motorization and the way in which these intersect with fatality numbers; injury rates; mobility and trip rates and risk ratios per mode.`

Limitations

Neither our index nor the accompanying country summaries and analysis captures every country or local commitment or action that is being taken in support of NMT. Nor were we able to take into account multiple nuances or subtle indicators when developing the weighting (refer to our note on data, page 10). Further, the index does not indicate the duration of time a country has had an NMT policy in place. Instead, this is a first step in broadly identifying the characteristics of NMT policy commitments, the challenges in sourcing comparative and useful data, and developing an overview of the status of NMT policy development in particularly developing and emerging economies.

Key Findings

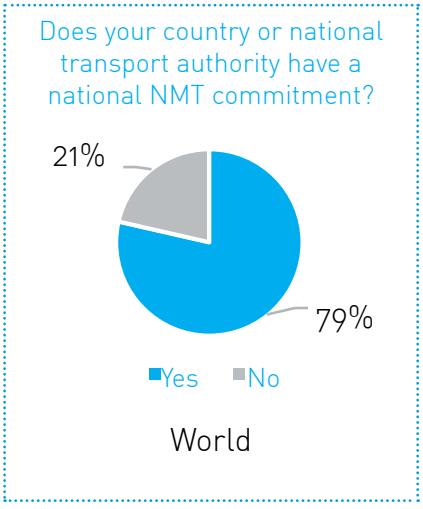
This section reports on and discusses key findings of our survey, which asked questions relating to NMT commitment and NMT performance. Specifically, this section summarizes findings on national NMT commitments (whether countries do have some level of NMT commitment); the type of NMT commitment and supportive documentation (whether these are, for example, national acts, plans, by-laws or other policies); whether NMT planning is conducted at local level; monitoring, evaluation and reporting; the way in which NMT modes are promoted; the quality of NMT infrastructure; funding issues; and data quality and institutional capacity.

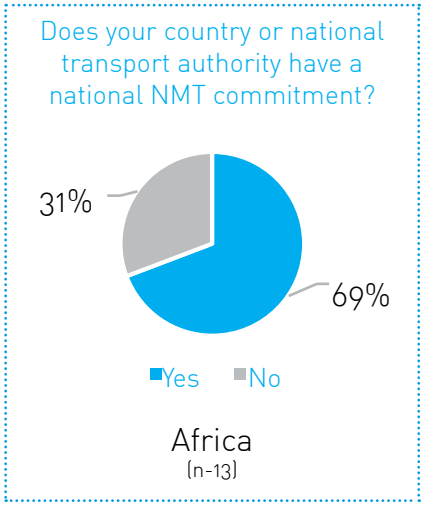
The answers to survey questions are summarized by continent (Africa, Asia and Latin America) and reported in both narrative and graphic format. In some instances, examples from specific policies are given.

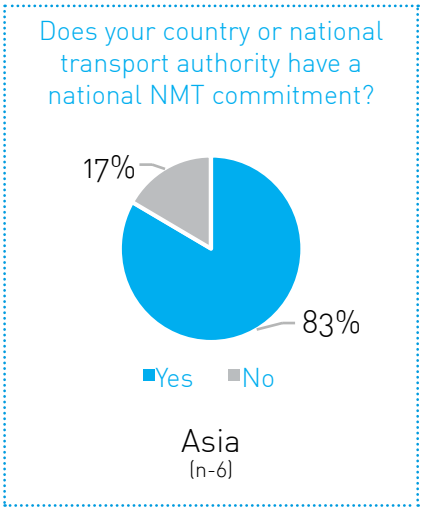
Levels of NMT commitment

Our survey asked respondents to answer whether a country has some level of national NMT commitment (in this context, an NMT Commitment refers to a deliberate plan of action taken by national government to guide decisions and to achieve a particular outcome, see Definitions, page 4). The graphs below indicate simply whether or not a country has a national NMT commitment (yes/no). Further details about specific country policies are available under the section Country summaries, page 37.

Policy attention has in recent years turned to NMT, perhaps because of attention paid to the intersection of poverty and transportation in line with the United Nations Sustainable Development Goals (SDGs). Every responding country has listed at least one policy document that states an intention to give walking and cycling increased attention. These commitments vary, from relatively insubstantial sections in a general transport or mobility policy, to standalone national NMT policies (such as Uganda and South Africa). (Refer to figure 2 on page 12).







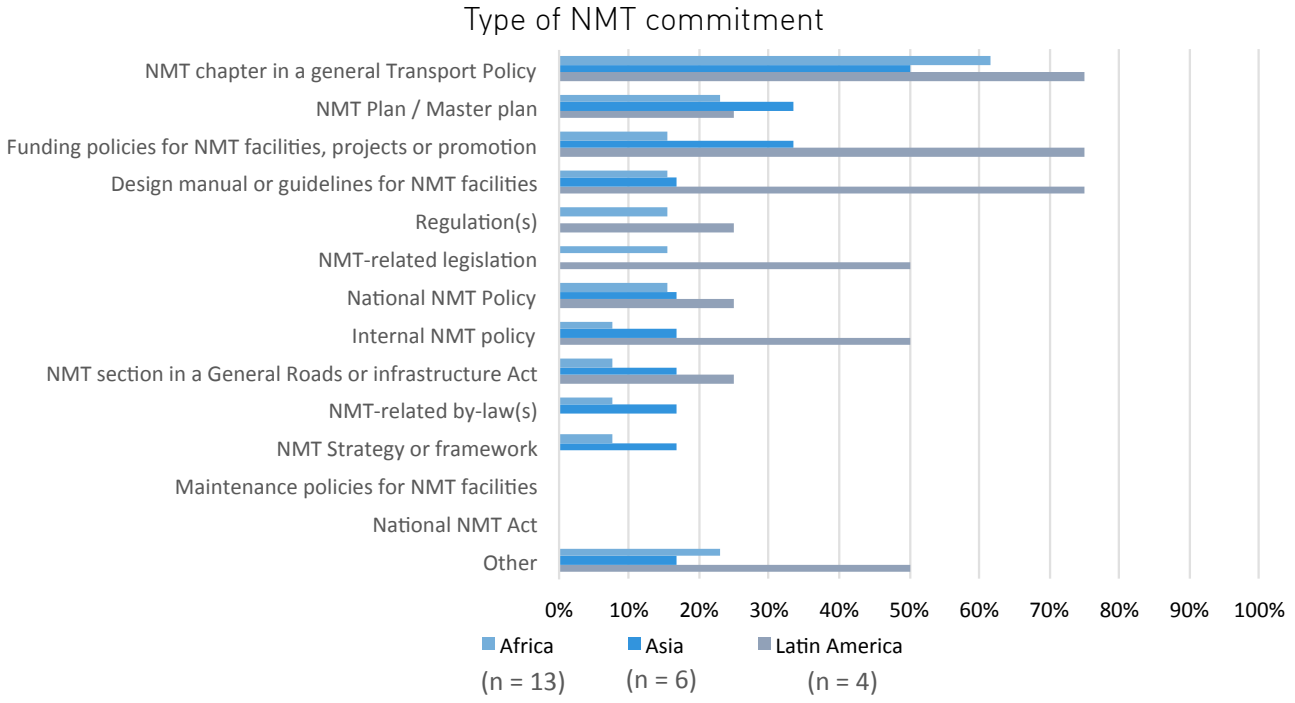
n=sample size per region.

[Figure 2: Level of NMT commitment, globally and by region]

Type of NMT commitment

This survey question asked respondents for a greater level of detail regarding NMT commitments – whether these were national NMT Acts, funding policies, NMT chapters in a general transport policy, etc. Every responding country has listed at least one document that states an intention to give walking and cycling increased attention, whether this be a city, regional or national document. These commitments vary, from relatively insubstantial sections in a general transport or mobility policy to standalone national NMT policies (such as Uganda and South Africa) – the most type of NMT commitment being an NMT chapter in a general transport policy.

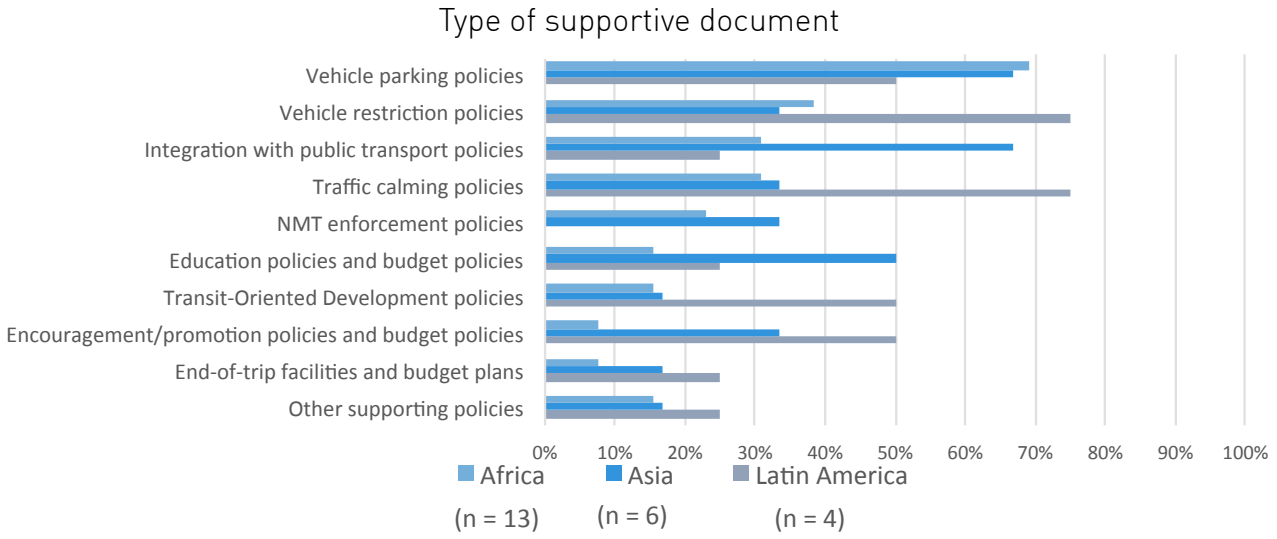
Neither NMT policies nor transport departments on their own are able to reverse the trend of road fatalities, motorization and congestion, and deteriorating urban and air quality. Many of the Latin American and Asian countries have developed integrated Urban Mobility or Sustainable Mobility plans and policies – in collaboration with environmental or urban planning units. South Africa's national department of transport works in collaboration with national agencies such as The SA National Roads Agency, and the Department of Environmental Affairs.



n=sample size per region.
[Figure 3: Type of NMT commitment by region)

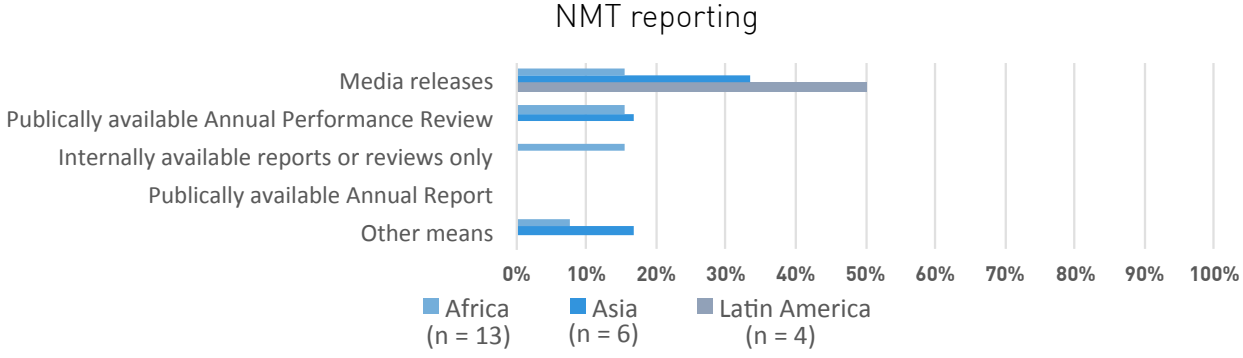
Type of supporting policy

This survey question asked respondents for details of policies or programmes that supported the overarching NMT commitments and together could contribute to safer and more comfortable NMT environments. Supporting policies include traffic-calming policies, public transport integration plans, enforcement policies, etc. Vehicle parking policies were the most commonly reported supporting policy in Africa and Asia, while Latin America reported vehicle restriction and traffic calming policies. End-of-trip facilities are poorly represented, and in Africa in particular, a lack of promotion policies is evident.



n=sample size per region.

[Figure 4: Policies to support NMT provision and commitment, by region]



n=sample size per region.

[Figure 5: : Goal setting and measuring, by region)

Key NMT policy themes

Common themes within NMT polices or chapters include:

- Facilities design and maintenance plans
- Funding strategies
- Road safety concerns
- A recognition of the environmental
- Poverty and equity impact of increased and improved NMT use
- The importance of inter-modal integration
- The need for promotion
- Information and training
- The importance of stakeholder engagement
- Provision for NMT vehicle purchase assistance and support for micro-enterprise
- And a focus on women, children, and/or rural access

Country	National Recognition that a strategy or policy is required	Objectives	Measures, monitoring & evaluation	Action Plan	Pedestrian facilities	Bicycle facilities and parking	Maintenance	Universal Design	Modifications to road space (incl traffic calming and speed reduction)	Regulation, enforcement & legislation	Funding for NMT projects	Inter-modal interface	Safety	Focus on women & vulnerable groups	Recognition of environmental role	Recognition of barriers to NMT use	Information & promotion	Training and education	Recognition of role of advocacy	Recognition of equity & poverty	Capacity building	Support for micro-projects	Rural footpaths	Stakeholder engagement & user needs	Purchasing assistance
Argentina (Sustainable mobility plan)	X				X	X	X		X	X	X	X	X					X	X				X		+
Bangladesh (General chapters)	X	-			X	X	X								X				X	X		X			
Brazil	X	-	-	-	X	X			X	X	X	X	X		X					+					+
Burundi (Concept document)	X		-								X	X			X		+	X		X	X			X	
Cape Town (Standalone city policy)	+	-	-	-	X	X	X	X	X	X	X	X	X		X	X	X	X	X	+	X	X		X	
Chile (Santiago city plan)		+	+	+		X	X		X		X	X	X	+	X	X	+	+	+	+	+			+	
Cote d'Ivoire (Abidjan transport master plan)				X	X			X	X			X	X		X										
Ghana (Chapter in a national policy)	X	X			X	X	X		X	X	X		X		X	X								X	X
India (NMT chapter in general policy)	+	-			X	X	X	X	X			X		X	X	X	X	X	X	X		X		X	X

Country	National Recognition that a strategyror policy is required	Objectives	Measures, monitoring & evaluation	Action Plan	Pedestrian facilities	Bicycle facilities and parking	Maintenance	Universal Design	Modifications to road space (incl traffic calming and speed reduction)	Regulation, enforcement & legislation	Funding forr NMT projects	Intermodal interface	Safety	Focus on women & vulnerable groups	Recognition of environmental role	Recognition of barriers to NMT use	Information & promotion	Training and education	Recognition of role of advocacy	Recognition of equity & poverty	Capacity building	Support for micro-projects	Rural footpaths	Stakeholder engagement & user needs	Purchasing assistance
Kenya (Standalone city policy)	X	+	+	X	X	X	X	+	X	X	X	X	X	X	X	X	X	X	X	X	+	X	X	+	X
Malawi (National transport policy)	X	X					X							X			X			X					
Namibia (Local – Windhoek)		+	-	+	X	X			X	X		X	X		X	+	+	X	X	X				X	
Nepal (Local chapter)	X	-				X									X		X	X							X
Nigeria (Local - Lagos)	X		-	X	X	X		X		X		X	X			X	X							X	X
Nigeria (National cycling policy)	X	-	-	-		X	X			X		X	X	X										X	
Rwanda (Chapter in a national policy)	X		-		X	X	X	X	X	X		X	X		X	X		X		X	X		X	X	X
South Africa (Stand alone national policy)	+	-	-	-	+	+	X	+	X	X	X	+	X		X	X	X	X	X	+	X	-	X	X	
Tanzania (Chapter in a national policy)	X				X																X		X		
Uganda (Stand alone national policy)	+	-	-	-	X	X	X	X	X	X	X	X	X	X	X	X		X	+	X		-		+	
Zambia (Rural Access and mobility programme)	X	X	-	X										X				X		X		X	X		X

– Existing but weak commitment or engagement with the issue
X Engagement with the issue on some level
\+ Strong engagement with the issue

NOTE
Only countries for which a supporting document was available are included in this table.

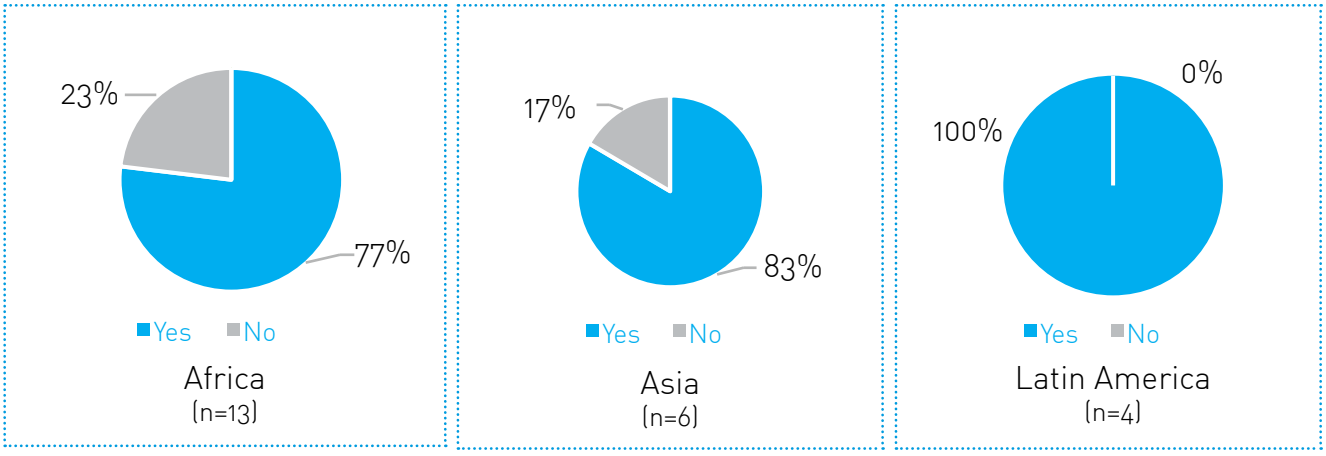
Local NMT planning

National NMT policies set the strategic direction for NMT in a country, while implementation and promotion is more usually a local competency. This survey question asked respondents for details of city, regional or provincial NMT commitments – although the majority of respondents indicate that such planning has taken place, this seldom includes standalone NMT plans or strategies.

The NMT commitments we have gone through offer all-encompassing visions and objectives, making general statements committing to favouring NMT modes above motorized modes or putting people first; establishing a network; providing safe infrastructure; increasing mode shares; improving regulations and enforcement; bringing about a more equitable allocation of road space; or encouraging greater use of non-motorized modes by offering central financial assistance for this purpose.

These are important policy statements, but remain too broad to implement, and there is insufficient devolution of NMT focus to local level, where the effective, on-the-ground NMT planning and implementation at local level happens. (Refer to the figures below).

Is there a city, county, region or province in your country that has developed their own NMT Commitments?



n=sample size per region.

[Figure 6: Devolution of NMT planning to local level, by region]

Sao Paulo Brasil
©Curitiba, PR

India, South Africa and Brazil mandate cities and metropolitan areas to develop their own mobility strategies or integrated transport plans; and even where not mandated, many cities have drafted such documents. Only a few cities within the surveyed countries have drafted standalone local NMT policies – in particular, within South Africa, Kenya, Ghana, India, Brazil and Argentina. (Refer to figures above).

South Africa's National Land Transport Act 5 of 2009 (NLTA) stipulates that every municipality must produce a Comprehensive Integrated Transport Plan (ITP), which includes an NMT strategy. Each province must produce a Provincial Land Transport Framework (PLTF), which must also contain a chapter on NMT.

Bicycle-specific planning:
Although we received no pedestrian strategies during our research process (pedestrians are usually subsumed under general NMT categories), a number of countries or cities have recognized the significant differences between walking and cycling modes and have developed bicycle mobility strategies, such as Nigeria (national), Cape Town (South Africa), Medellin (Colombia) and Sao Paulo (Brazil). Santiago (Chile) (Refer to figure 7) has developed a citizen-led Cycle Strategy without the initial national policy direction.

Monitoring, evaluation and reporting

This discussion reflects on findings from the survey as well as the policy analysis (see page 16, Key NMT Policy Themes), and briefly considers the extent to which respondents' policies include detailed action plans with measurable goals and reporting strategies.

A number of the NMT policies in our surveyed countries are relatively new, and perhaps it is too soon to except a significant impact. Nairobi's policy was finalized in 2015; a number of the Brazilian mobility strategies are two or three years old; and South Africa's policy was drafted in 2008 but has not yet to be finalized.

What is concerning, however, is that where NMT commitments have been in place for at least five years or more, the policy outcome or impact is insufficiently measurable. Few cities or regions are able to measure the changes they have sought to bring about in many instances because baseline data is not available. An exception is Santiago (Chile), which has been able to show an almost doubling of its bicycle mode share in ten years.

Few NMT commitments have been translated into action-oriented strategies (Refer to figure 7), or offer measurable goals, indicators, monitoring, verification and evaluation plans. There is inadequate evidence of policy success, and insufficient data by which to measure success. With the exception of Nairobi and a number of draft South African city policies (which note that developing indicators and collecting baseline data should be a priority action), few quantify their success criteria.

Nairobi City's NMT Policy sets a good precedent by setting measurable targets for specific increases in mode share, within specified time frames: from 47% to 50% for trips up to 5 km by 2025 (walking), and from 2% to 10% for trips up to 15 km by 2015 (cycling). Further, the Policy aims to reduce the percentage of road users who consider NMT as a mode for the poor to 40% by 2020.

The NMT Policy's goal is to reduce pedestrian fatalities from 500 (2015 data) to 50 or less by 2025, and to reduce cyclist fatalities from 20 (2015 data) to 5 by 2025.

Not only do vague or general goals mean success is difficult to measure, but it leaves civil society and other interested parties less able to hold authorities accountable for making good their commitments.

Largely, when Monitoring & Evaluation(M&E) is undertaken, these assess output rather than outcome or impact (as one example, South Africa assesses performance in terms of the number of kilometers of bicycle lanes constructed).

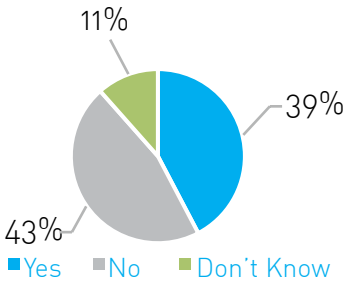
Nairobi differentiates between output and outcome indicators in its NMT Policy, for example noting that the output of safe NMT crossings will lead to the outcome of reduced NMT crashes.

M&E is a key concern in Uganda's national NMT Policy, which notes that there is very little monitoring or assessment of existing facilities for bicyclists and pedestrians. To remedy these concerns, the Policy commits the government to establishing a National Road Safety Authority (NRSA) and a Multi Sectorial Transport Regulatory Authority (MTRA). 'The Government will charge NRSA with coordinating the monitoring of the progress of its NMT strategy and inform Government of inadequate situations.'

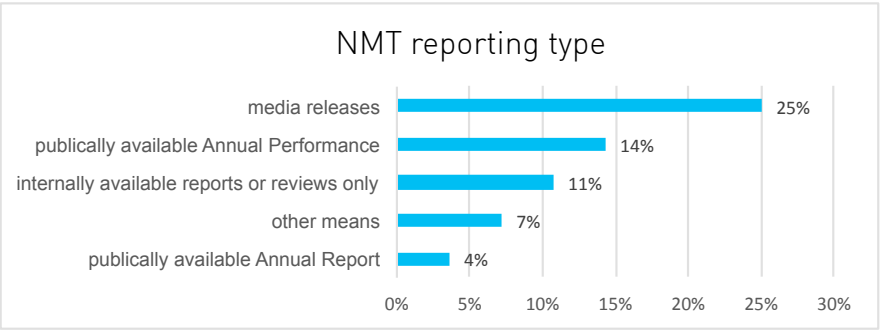
New York, USA
©Benis Arapovic

The survey also asked respondents to note whether they report on NMT successes or challenges, and in what way they do so. Media releases are the most common form of reporting, and no respondent reported publishing annual reports that included NMT successes.

Does your country or relevant national transport authority report on its NMT successes or challenges?

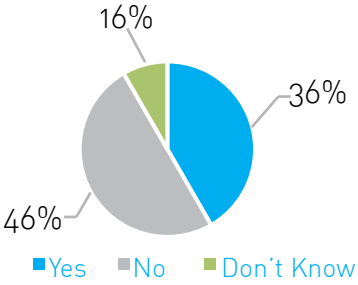


World



n=sample size per region.

Does your country or relevant national transport authority report on its NMT successes or challenges?



Africa
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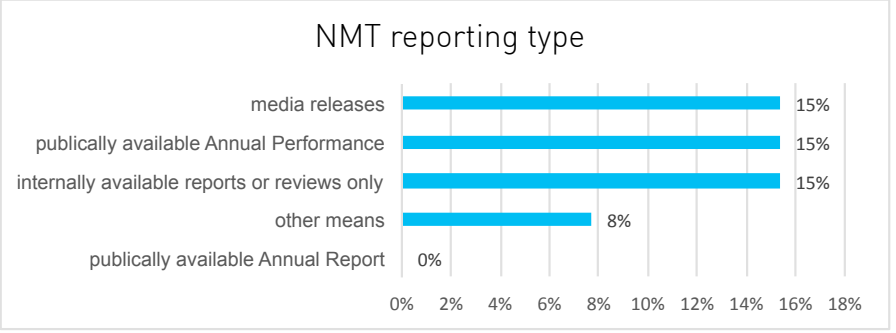
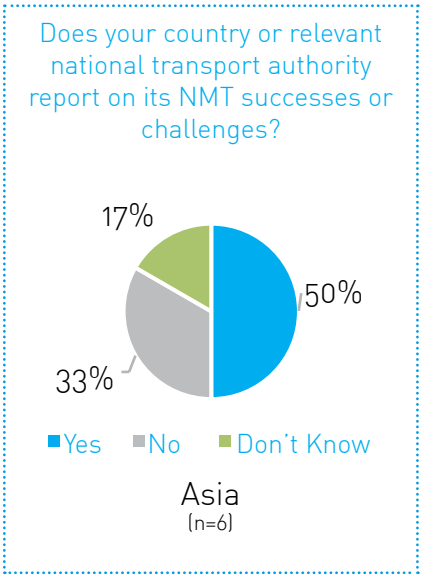
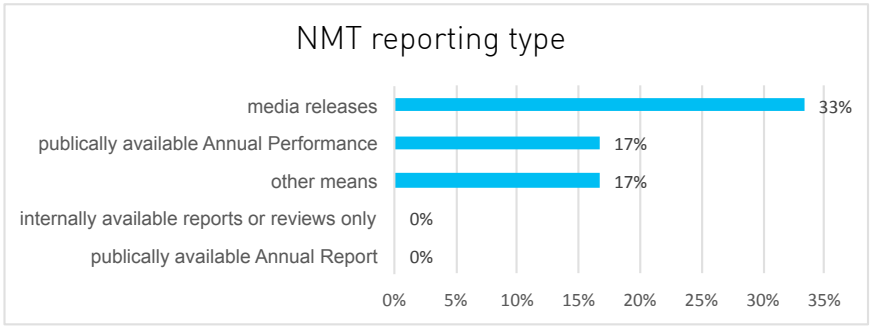
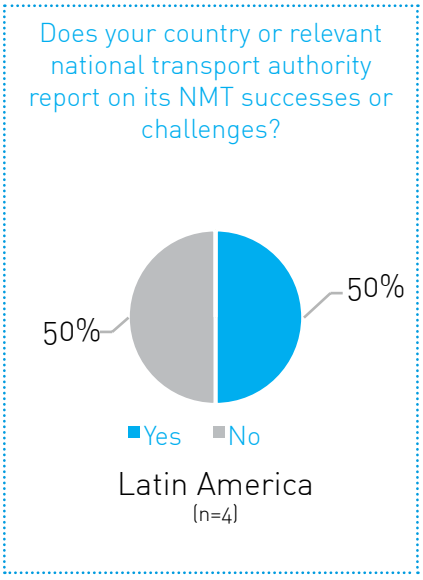
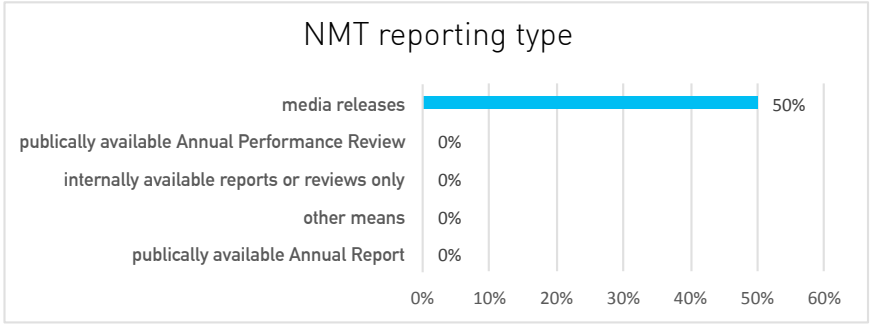






n=sample size per region.





[Figure 7: Goal Setting and Measuring by region]

Promotion of NMT modes

Generally, bicycle policies seem to be drafted with the overarching goal to increase mode share, while pedestrians plans within general NMT commitments seem more geared toward providing for those who already walk, in terms of infrastructure and safety.

Yet while all policies note that NMT 'should be promoted' in some way, few (with an exception of Namibia) pay attention to the complexities of behaviour change processes. The Sustainable Urban Transport Master Plan for Windhoek, for example (2013) notes that 'it is increasingly important that campaigns in developing countries focus on the hard and soft measures simultaneously, in which improved NMT facilities are provided concurrently with campaigns to change the perception of NMT modes and users being inferior.'

We did not source detailed strategic communication or promotional campaign materials as part of this research process, and have made this assessment based on the policy documentation provided or sourced.

Quality of pedestrian and bicycle infrastructure and availability of guidelines

Where bicycle or pedestrian infrastructure has been provided within the countries surveyed, evaluations (if conducted at all) have found them almost routinely to be of poor or haphazard quality, disconnected and insufficiently part of a network (with a few exceptions in South Africa and Brazil), (Clean Air Nepal, 2015; Tefe, 2008; Joshi et al, 2015); Jennings et al, 2017)

Even in Curitiba, Brazil, writes Mikael Colville-Andersen, CEO of the Copenhagenize index, "much of the bicycle infrastructure does not accommodate urban life..." The quest for livable cities in Brazil is an urban planning battleground with polar opposite focuses on vehicle infrastructure and bicycle infrastructure.' João Guilherme Lacerda, consultant with NPO Transporte Ativo in São Paulo, says "bicycle infrastructure is talked about but is not a priority". Another problem, besides lack of political will, is lack of expertise in cycle planning.

In Accra, Ghana, consultants (Tefe, 2008) concluded that 'there were many design flaws in the Accra case which reduced the capacity and even rendered the track useless (with cyclists abandoning sections and using the motor traffic carriageway).

Uganda's 2012 NMT Policy states that 'even recently installed NMT infrastructure such as pedestrian crossings on highways have been incorrectly located...'

South Africa, Tanzania, Chile, China and India have drafted high-quality engineering design and construction guidelines for bicycle and pedestrian facilities (Refer to figure 8), although these remain guidelines rather than requirements. The UN Environment Share the Road programme has developed NMT design guidelines for Africa, which can also be adapted for other regions. The guidelines include pedestrian infrastructure, cycle ways, modifications to the road space, intermodal interface matters, and social infrastructure (UN Environment).

Funding for NMT

This discussion reflects on findings from the policy analysis (see page 29, Key NMT Policy Themes) and Country summaries (see page 37, as well as References, page 91).

Funding for NMT interventions is almost always a concern, although Nairobi City (Kenya) has taken the bold step to commit to ensuring that at least 20% of its existing and future road construction budget is allocated to NMT and public transport infrastructure and services.

In South Africa, the funding of NMT infrastructure is facilitated through the Public Transport Infrastructure and Systems Grant (PTISG), administered by the country's national Department of Transport, which invites local authorities to submit budget proposals for development and implementation of non-motorized transport facilities.

In Brazil, the Brazilian Urban Mobility Law (2012) requires municipalities with more than 20 000 inhabitants to prepare urban mobility plans, and then apply for national funding.

In Mexico, respondents note that funding is still skewed in favour of private vehicles - in 2011, 66% of the total resources allowed to public works, went to automobile infrastructure. In comparison, 22% of the total was allocated to public space, public transport and cycling infrastructure (ITDP, 2012).

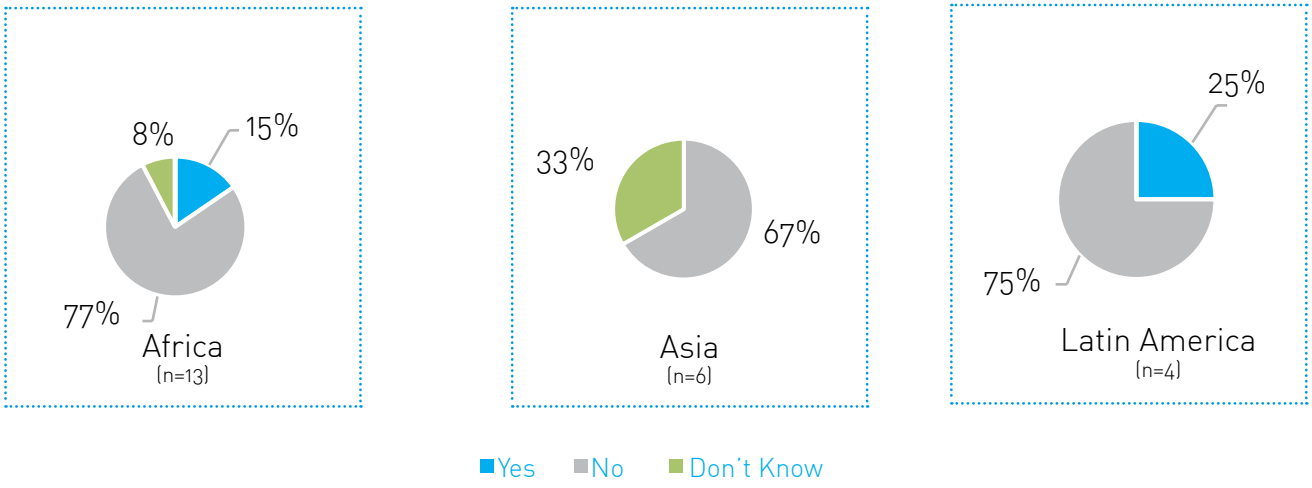
Data quality and institutional capacity

In order to understand data quality and institutional capacity, our survey asked questions regarding the collection of national household travel data, mode share and fatality data, and whether institutions employed staff solely responsible for NMT

Overwhelmingly, data is a substantive gap in NMT planning, and transport planning in general, in developing cities (see for example Bruun, 2016; and SSATP, 2015). Very few of our survey respondents reported collecting household travel survey data, or were able to provide evidence that they report on actions and outcomes. Few were able to provide analysis of user needs, details of mode share, or fatality data (with Ghana and Nairobi being notable exceptions). Yet this is key to evidence-based planning, and the revising of policies and programmes.

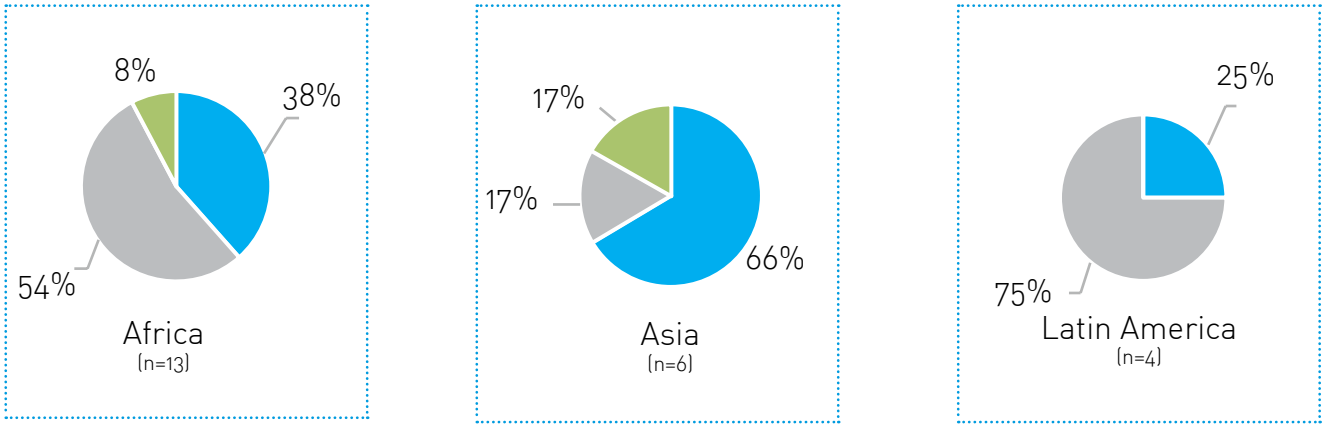
Data was a challenge for our research team when preparing the index and analysis. Many of the survey entries were partial, and we have attempted to verify and supplement information through online searches using both scholarly and general searches. Only a few respondents uploaded documents by which we would verify the information provided. This work largely reflects the data and information provided by country respondents. We thus acknowledge that the summary of findings presented here might not reflect the accurate or most recent picture – and we look forward to preparing an updated report.

Does your relevant national transport authority employ an official who is solely responsible for NMT?



n=sample size per region.
[Figure 8 : NMT planning capacity, by region]

Does your country conduct a national household travel survey?



n=sample size per region.
[Figure 9 : countries collecting household travel survey data,by region]

NMT index and method

Method

We used the survey data collected (see page 31 for detailed method) to draft an index that we hope will help to better understand the relationship between the level of policy commitment to NMT and the safety of NMT users within a country.

Our survey questions were designed to provide data for two 'axes' on the index: NMT commitment, and NMT performance. Our survey also attempted to solicit responses that indicate the degree to which countries exhibit political will; have drafted clear, measurable goals and engage supportive policies, traffic-calming and vehicle-reduction programmes. Answers were given a weighting (using a pair-wise comparison method over a five-scale rating).

Axis description

Policy and planning

What is the level of commitment a country displays toward NMT?

Indicators

Questions related to the number and type of NMT standalone and supportive policies and other commitments:

- Evidence-based planning
- Monitoring
- Evaluation and reporting method
- Institutional capacity and financing
- Local-level planning
- Civil society involvement

Performance

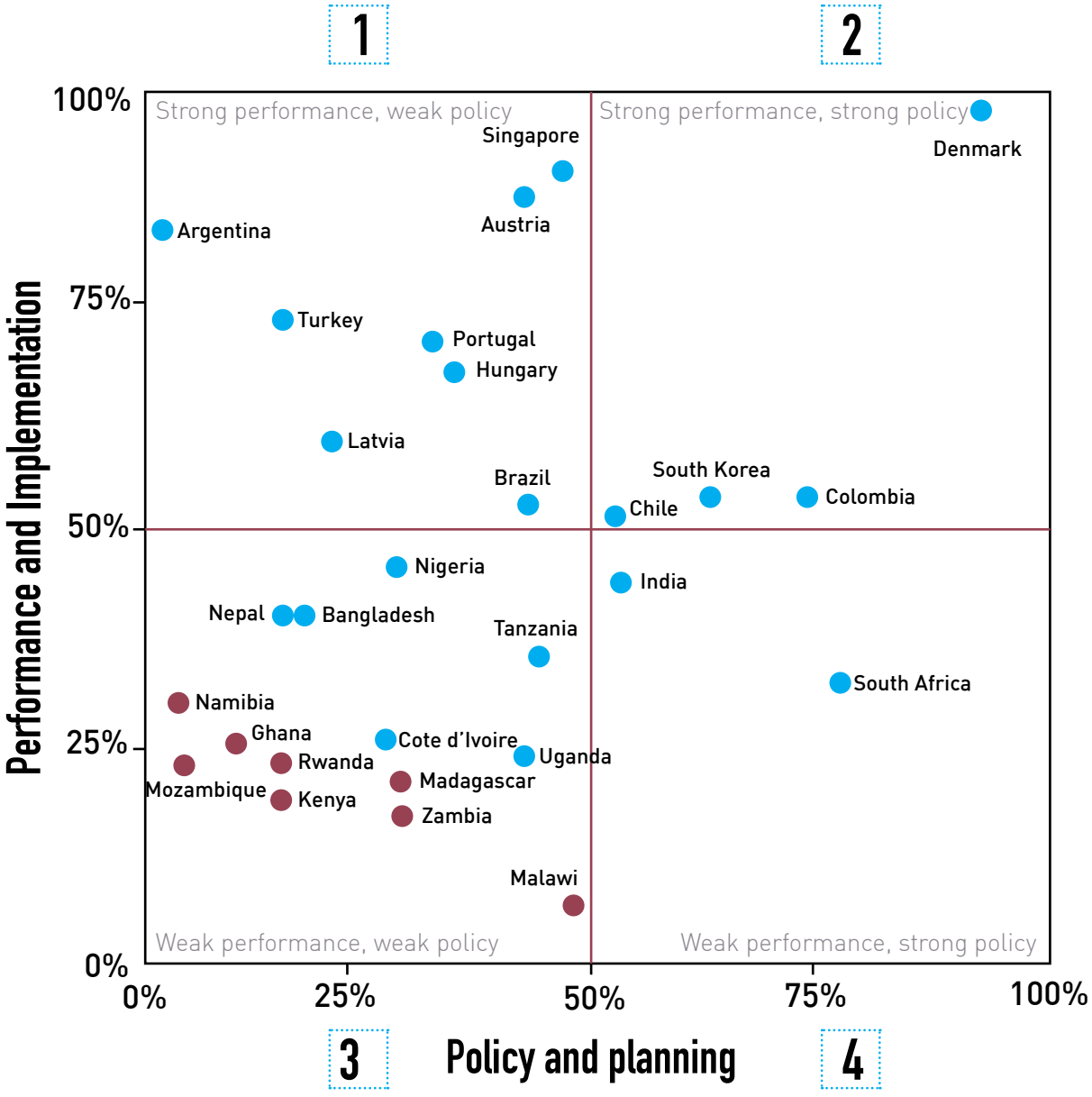
How safe, pleasant and acceptable is it to use NMT in each country?

Indicators

Questions related to the day to day reality for people walking and cycling:

- NMT fatalities per 100 000
- Quantity of bicycle infrastructure

NMT Index



Key

Respondents were asked "does your city have a formal public transport implementation programme?"

● - % YES ● - % NO

[Figure 10: Depiction of the intersection between NMT performance/action NMT commitment]

Discussion

Every country included in this report exhibits at the least an interest in NMT, and has some form of national commitment or plans to develop a national policy. Nevertheless, Denmark finds itself alone in the very top right quadrant (one), which is not surprising. Denmark, one of the safest and most pleasant countries to walk or cycle in, along with a number of other countries from the developed world, was included as a proof of concept to validate the model.

South Korea, Chile and Colombia have been earning a reputation as countries to watch for best practice within the developing world context, and this matrix bears this out.

India, Uganda, Tanzania and South Africa have relatively strong national policy environments (including design guidelines and supportive policies), and Uganda and South Africa each have a standalone national NMT policy. Thus, because of the way in which expert panel weighted the data (see page 34 for detailed method), these countries cluster toward or within the 'strong policy commitment' half of the matrix. However, each scores low in terms of NMT performance (both rank high among countries in which NMT users have a beyond acceptable risk of fatality), and therefore fall into the lower quadrant (strong policy commitment but weak performance). South Africa and India are the only two countries to fall squarely within the lower right quadrant, quadrant four. Although together with many of their cities, these countries publish a significant number of NMT policies, plans, regulations and other supporting publications, and a high level of NMT planning is required from provinces and local authorities (a high policy commitment), their roads remain among the most dangerous globally for pedestrians as well as cyclists, with a relatively unchanging high fatality rate (low NMT performance).

If a higher weighting had been given to countries with city NMT policies then Kenya, Namibia and Brazil would have shifted further toward quadrant four.

Each of the countries in quadrant three (weak NMT performance and weak policy commitment) has lower levels of motorization and urbanization than South Africa and India; this may account for their lower fatality rates. In addition, South Africa is burdened with the spatial legacy of apartheid, which sees pedestrians using freeways (highways) as crossings (with high fatality rates – Behrens, et al). Malawi has an exceptionally high rate of bicycle transport (as much as 90% of wheeled transport on rural roads are cyclists); therefore the higher rate of fatalities is not unexpected. Nuanced data that would have enabled us to combine risk ratio, fatalities per trip, and levels of motorization, would have enable a more fine-grained analysis.

Our findings therefore, despite the limitations of the study, suggest that the NMT policies and plans in developing countries have not yet made sufficient impact, or been inadequately enforced, implemented or assessed for effectiveness, as the risk for NMT road users remains unacceptably high. NMT planning is relatively new in the developing world, and we recognize and support the emerging interest and commitment to this mode.

Sao Paulo Brasil
©Curitiba, PR

Public transport transformation or improvement

Of particular interest to us was the role quality public transport, public transport transformation or improvement, or Bus Rapid Transit (BRT), might play in pedestrian and cyclist safety, or as a catalyst to NMT planning. The characteristics of BRT as a concept inherently give it the potential to serve marginalised road users, and as a surface mode (rather than rail) are able to be better integrated with urban space and non-motorized transport (NMT) facilities (Venter, 2013). BRT is widely held to improve road safety on and around trunk corridors. Around an 88% reduction in traffic fatalities has been reported in the Transmilenio corridor (Venter, 2013).

Tiwari and Jain (2012) have estimated the impacts of the Delhi BRT on accident risk for cyclists and pedestrians, showing that risk has been reduced to near-zero for cyclists and bus users, but that pedestrians are still at risk from motor vehicles.

We asked respondents to answer whether their country either had public transport transformation plans, or had recently enacted public transport improvements. The chart below overlays countries reporting public transport improvements upon the above index, suggests that the assumptions above have validity: an emphasis on improving public transport access seems to correlate with a safer NMT environment.

Focus on vulnerable groups in African NMT policies

People who walk, cycle and use two- and three-wheelers are the most vulnerable group of road-users. The majority of people killed on Africa's roads are young breadwinners (62% are between the ages of 15 and 44, and three out of every four deaths are males). (Jobanputra, 2013; Ogendi et al., 2013; Masaoe, 2013). Yet women, children, the elderly and the disabled face additional challenges, with the hardships that transport-disadvantage brings. These vulnerable groups have poor mobility overall, which influences their access to health-care, education and other economic opportunities; they are less able to access and afford transport facilities, make use of the facilities that do exist, purchase intermediate transport vehicles or bicycles, or make use of Non Motorized and Intermediate Modes of Transport [NMIMT] vehicles to earn a living and improve their mobility.

A number of African, Asian and Latin American policies pay particular attention to the needs of these vulnerable users. Here we focus on African policies:

South Africa's NMT Policy (draft, 2008) is explicit that NMT policy should serve marginalized people, which it defines as women, the disabled, children, rural communities and the poor. The policy notes the all-encompassing role of transport in a society: 'a key indicator in social, political and economic development, transport is not simply about mobility and infrastructure, but also about socio-cultural roles and responsibilities that impede the development of women and girls, including the impact on women and children accessing health services, educational facilities and employment, as well as participating in key decision-making forums.'

The rights of people with disabilities are protected by the country's constitution. When it comes to mobility planning for people with disabilities, South Africa tries to serve the broadest definition of disability, which includes people with prams, pregnant women, children, people accompanying children and walking in groups, elderly people, people with disabilities and people carrying or moving loads), cyclists and Animal-Drawn Vehicles (ADVs). This type of planning approach is usually referred to as Universal Access or Universal Design.

Universal Design [UD] principles are also central to Uganda's National NMT Policy (2012), to 'ensure that there is appropriate pedestrian access everyone, including the elderly, men and women in wheelchairs, people with small children and those with various disabilities, including mobility problems and visual impairment.'
The policy goes as far as to remind planners that UD features such as ramps, hand-rails,

a lack of obstructions, and clear signs,have a negligible effect on overall costs when included at the design stage' and that these must be included in all new and refurbished NMT transport infrastructure.

In Ghana, the National Transport Policy (2008) commits the state authority to consider 'accessibility for women, children, the aged and physically challenged' in transport facilities.

Malawi and Zambia, which like Ghana has a large rural population, are committed to ensuring that the rural transport needs of women and other vulnerable groups are met (Malawi National Transport Policy, draft, 2014; Zambia's Rural Accessibility and Mobility Programme), through promoting access to NMIMTs, and to ensure that NMT facilities are sufficiently integrated to serve the needs of women, children, the elderly and the disabled.

Kenya's national and local policies recognize that women and girls are more likely to fall into poverty because of their lack of access to transport facilities and options.

The Integrated National Transport Policy (2009) notes that the transport burden is borne mostly by women and girls, and that there is 'an urgent need to balance the load by reducing women's time spent on transport activities around the village, such as fetching water, collecting firewood, trips to market centres, health clinics, grinding mills, and the time spent on harvesting.' The policy proposes, in particular, to ensure that NMIMTs are therefore more accessible to women.

Nairobi's NMT Policy (2015) highlights the fact that women and children have difficulties travelling without assistance, and that more than other road users, fear being robbed and harassed. The elderly, children and people with disabilities are other users vulnerable to criminal attack and anti-social behaviour. When planning NMT routes and facilities, safety and security needs therefore need to be carefully attended to.

Namibia's Sustainable Urban Transport Master Plan (SUTMP, 2013) is especially detailed when it comes to NMT planning and education facilities, and challenges motorists to understand that children are relatively unpredictable and that due to their size, are difficult to see. 'As such, it is necessary to design a forgiving NMT network in the vicinity of this vulnerable user group, to accommodate safe travel to and from school. This will include facilitating physical separation from moving traffic where possible and crossing priority over vehicles.'

Figure 12: The ratio of women:men killed in road-traffic related deaths (not only NMT related). The first column shows the ratio of female:male road fatalities; the second two columns show the number per 100 000.

Source: Age-standardized death rates (15+ years), road traffic accidents, per 100 000. Adapted from World Health Organisation, 2012. Global Health Observatory data repository. Accessed on 30/08/16 from http://apps.who.int/gho/data/view.main.53100.

	Ratio	Female	Male
Argentina	1:3,47	7,6	26,4
Bangladesh	1:3,48	7,3	25,4
Brazil	1:4,65	11,3	52,5
Burundi	1:3,18	11,9	37,8
Cote d'Ivoire	1:2,23	17,2	38,3
Chile	1:4,07	5,6	22,8
China	1:1,96	15,6	30,5
Colombia	1:4,84	7,4	35,8
Denmark	1:2,88	2,6	7,5
Ghana	1:2,27	18	40,9
Kenya	1:5,75	9,1	52,3
Madagascar	1:2,38	16,7	39,7
Malawi	1:2,77	15	41,6
Mexico	1:4,11	6,5	26,7
Mozambique	1:1,48	22,3	32,9
Namibia	1:1,87	18,9	35,3
Nepal	1:2,15	18,1	38,9
Nigeria	1:2,14	25,8	55,1
Republic of Korea	1:3,20	6,9	22,1
Singapore	1:3,77	2,6	9,8
South Africa	1:2,94	16,2	47,7
Uganda	1:2,57	25,6	65,8
United Republic of Tanzania	1:1,36	29,9	40,8
Zambia	1:2,04	20,4	41,7

Figure 13: 65% of countries surveyed (not only in Africa) included a strong engagement on women and vulnerable groups; 30% included some engagement, while 5% did not include women and vulnerable groups as a separate focus.

Conclusions

A question we asked ourselves, and our respondents, is why, in the face of the long-standing and growing evidence of NMT use, and the value of non-motorized travel, countries have been slow to provide for this mode. Why does it seem that we are unable to reverse motorization and fatality rates?

A key government official from one of Africa's largest economies told us that 'the use of cars ... is based on a colonial legacy of associating motorized transportation with education, affluence and elevated status in society. Therefore, the attitude towards NMT tends towards negativity. Thus the use of bicycles, walking and wheeling are associated with the poor.' This is echoed by work conducted in South Africa, by the National Department of Transport and the Council for Scientific Research (CSIR): 'No one wants to be associated with poverty' (Mashiri et al., 2013a).

Nigerian transport officials have described to us how 'acquiring a car is a goal for most citizens who believe riding a bicycle [or walking] is less safe, less convenient, and less attractive, making the forecast decline of NMT a self-fulfilling prophecy....'

This is of course not unique to the African continent. Mikael Colville-Andersen suggests that many other larger cities [in Latin America] see building motorways a sign of progress. As Joshi & Joseph have described the situation in India: 'The marginalisation [of NMT] is seen in the backdrop of an emerging automobile culture linked with rising incomes, post-liberalisation and skewed notions of modernity. The continued dominance of motorized modes seeks to claim a larger share of road space mirroring the social power structure.'

Before beginning this survey and analysis, we undertook a literature review to better understand the essential components of an NMT policy, and the core actions required in order to create an enabling environment for better walking, cycling and other NMT modes.

The literature suggests that a combination of both standalone and integrated NMT policies; political will; clear, measurable goal-setting as part of local strategies; a variety of supporting policies; and traffic calming or speed- and vehicle-reduction interventions; will produce cities and countries where walking, cycling and other NMT modes is significantly more safe, attractive, comfortable and desirable.

Five recommendations for national and city policy makers to save lives, reduce pollution and get cities moving

Take the first step	Introduce a national or city NMT policy if you don't have one. Use our policy checklist as a guideline on what to include. If you do have a policy do you need to revise it?
Budget for NMT	Set aside at least 20% of the total transport budget to fund NMT programmes at national and city level.
Measure the Miles	Set quantifiable and measurable goals, then collect the data you need and evaluate your success. If you don't know if and how your policy is working, you won't know whether you are heading in the right direction. Have the courage to change course.
Work Together	Access and mobility affects everyone and almost every area of our lives. So include a diverse range of stakeholders in your planning and implementation. Ask users where they walk or ride and what they need. Pay particular attention to more vulnerable users, such as women, children, the elderly and people with mobility challenges. Don't try to replicate what other cities or countries do without taking your local context into account
Do as you say	'Political will' is not only about developing and implementing policies, but about actively championing NMT as a mode of equal status to private cars... For as long as NMT is seen as a low-status alternative, it will not receive the road space, budgets and attention it deserves.

Note

These recommendations are based on the research presented in the key findings section, the survey, literature review and policy content analysis, and refer specifically to ways in which to strengthen the NMT policy environment and impact. For general NMT recommendations and infrastructure guidelines please refer to www.unep.org/Transport/sharetheroad/.

COUNTRY SUMMARIES

Introduction

The summaries that follow briefly describe the key NMT commitments and policy goals or policy statements of 28 countries from Africa, Asia and Latin America. These countries are included either because respondents provided detailed information or the policy documentation itself. The full policies and documents are available for download, and further details can be found on page 92, References.

Each summary includes an indication of the country's national NMT commitment, local NMT commitment, and the status of civil society involvement.

A table indicating mode shares and fatality rates of each country is included on the following page. Each country of which there is a summary is included in the table, even if no mode share or fatality data is available.

An icon (see Legend on page 39) indicates the NMT status of each country, for example, whether the country has a standalone NMT policy, an NMT chapter in a general transport policy, a regional NMT plan, a bicycle-specific policy, etc.

Non-Motorized Transport and walking in particular, is the major mode of transport in all countries surveyed (with the exception of Singapore), with mode shares of between 20-65%. In African cities, cycling is a minor mode, with shares of less than 1%-5% (with the exception of rural Malawi, Zambia and Burundi). In Asia and Latin America the share of cycling higher and in some Chinese cities, as high as 60%. Cycle rickshaw travel is a significant mode in Indian and Bangladeshi cities (e.g. 29% in Dhaka).

NMT Modal Share and Fatality Rates

COUNTRY	OVERALL NMT MODE SHARE	APPROX. MODE SHARE: WALKING	APPROX. FATALITY RATE: WALKING	APPROX. MODE SHARE: CYCLING	APPROX. FATALITY RATE: CYCLING
Africa					
Burundi	60% (Bujumbura)	60% (Bujumbura)	*	80-90% (rural)	15%
Cote d'Ivoire	*	*	35%	*	2%
Ghana	73%	64.4%	42%	9%	5%
Kenya	49%	47% (Nairobi)	47% (country)	2% (Nairobi)	14% (country)
Madagascar	*	*	*	*	*
Malawi		47% (country)	49% (country)	80-90% of traffic on rural roads are bicycles	14-17% (country)
Mozambique	46%	*	*	*	*
Namibia	22%	21% (Windhoek)	35% (country)	1% (Windhoek)	*
Nigeria	30%	*	30%	*	*
Rwanda	50%	*	*	*	*
South Africa		30-60%	50%	0.5-2%	3%
Tanzania	45-70% (Dar)	*	31% (country)	*	11% (country)
Uganda	50%	50%	40%	*	8%
Zambia	56%	40%	37%	*	12%

COUNTRY	OVERALL NMT MODE SHARE	APPROX MODE SHARE: WALKING	APPROX FATALITY RATE: WALKING	APPROX MODE SHARE: CYCLING	APPROX FATALITY RATE: CYCLING
Asia					
Bangladesh	50-70%	20-30%	32%	50-60% (bicycle rickshaw) 4-7% bicycle	2-11%%
China	65%	30-65%	26%	11-55%	8%
India	40-70%	40-50%	9%	11-21%	4% (bicycles) 34% two-three wheelers
Nepal	42.5%	40%	49%	1.5%	
Singapore	*	*	27%	*	9%
South Korea	28%	26.7	39%	1.7 %	5%; 16% motorized two-three wheelers
Latin American					
Argentina	*	*	10%	*	2%
Brazil	28-47%	*	20%	*	3%
Chile	*	39% (Santiago)	39%	3.9% (Santiago)	8%
Colombia	*	*	29%	5% (Bogota)	5%
Mexico	*	*	30%	*	1%

*General or disaggregated data not available as part of the comparable WHO dataset.

[Figure 1: NMT Modal Share and Fatality Rates]

Legend

Thinking about NMT

Design guidelines

Standalone national NMT policy

Chapter in a general policy

City NMT plan

Active civil society & social enterprise

Regional NMT plans

Pedestrian Priority Programme

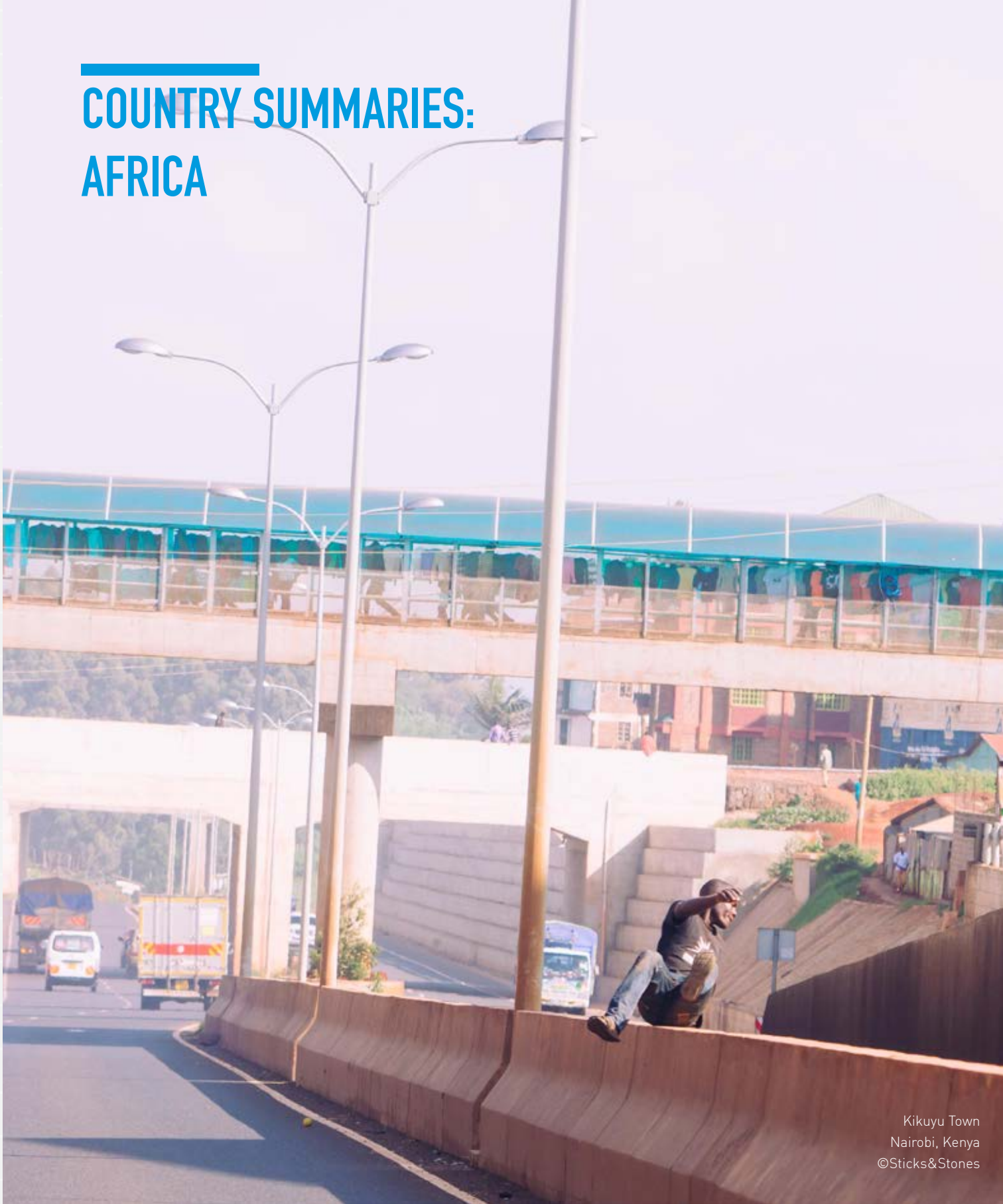
Bicycle Infrastructure

Bicycle-specific policy

Bike-share

University bike-share

COUNTRY SUMMARIES: AFRICA



Kikuyu Town
Nairobi, Kenya
©Sticks&Stones

Burundi

National commitments

In 2015, with the assistance of UN Environment Share the Road, the Ministry of Transport, Public Works and Equipment undertook an environmental and social impact assessment for an NMT pilot corridor in the capital city, Bujumbura.

Ultimately, the project aims to develop a national NMT Plan, increase national coordinated capacity in NMT planning and air pollution management, and dramatically improve the road safety record of the country. The country is preparing a budget for an NMT design study, and already its roads policy indicates that at least 1.5 m must be set aside for pedestrian and bicycle use.

Burundi has developed a National Capacity Building Project and Non-Motorized Transport Development project document (2016), which plans to integrate NMT, public transport and individual motorized transport to improve the efficiency of urban mobility, and to encourage a change in attitude toward NMT and public transport.

Côte d'Ivoire

National commitments

Pedestrian facilities are inadequate or non-existent, and the number of crashes in which pedestrians are involved has been increasing noticeably over the years. In 2015 the Cote d'Ivoire Ministry of Construction, Housing, Sanitation and Urban Development (MCLAU), together with JICA (Japan International Cooperation Agency) produced a document titled Project for the Development of the Urban Master Plan in Greater Abidjan. Concerns about pedestrian safety and urban quality are frequently raised in the document, with the directive to provide facilities such as crosswalks, pelican crossings, and pedestrian bridges/underpasses. In addition, narrow or poorly maintained sidewalks along the urban roads are to be improved.

The Cote d'Ivoire urban master plan in greater Abidjan recognizes both walking and cycling as key feeder modes to public transport, and notes that linked networks 'should be easy to access, aesthetic, clean and safe.' Transit malls and 'walking streets' are to be promoted.

Within the section on residential design, the urban master plan proposes the development of a network of sidewalks and bicycle paths that provide interior circulation, as well as connections to nearby schools, shops, or other activity centres.

Ghana

In Ghana, 'cycling is socially not seen as an acceptable means of mobility, and conditions for pedestrians are not conducive, as road infrastructure design does not provide for safe and passable sidewalks' (SSATP,2014). Infrastructure for NMT in urban centres and schools is inadequate. There are also a lack of safety measures for IMT operators, hawkers and others who make use of the few available facilities.

'NMT Infrastructure shall be developed to improve affordability and accessibility for urban and rural communities – aiming for 10% of passenger movement.' (National Transport Policy 2008)

National commitments

Ghana has in recent years undertaken steps to developing an NMT policy framework, although NMT policy is scattered across a number of policy documents. A range of different agencies and Ministries are responsible for their implementation and delivery.

This National Transport Policy (2008) recognizes the value of NMT as a mode that 'alleviates congestion, cuts travel time, increases mobility at low cost, promotes fitness and is environmentally sound.' In a chapter dedicated to NMT, the Policy states that: 'NMT Infrastructure shall be developed to improve affordability and accessibility for urban and rural communities – aiming for 10% of passenger movement.' Strategies include raising awareness of the benefits of NMT among drivers and potential users, an analysis of user needs, the provision of regulations, NMT facilities and bicycle credit schemes, and stricter safety enforcement.

The vision for draft urban transport in Ghana (Urban Transport Policy Framework of the Urban Transport Policy 2008) is 'an affordable, safe and efficient urban transportation system that supports the overall development and competitiveness of the urban area.' As part of this policy there are also a number of NMT-supporting policy statements.

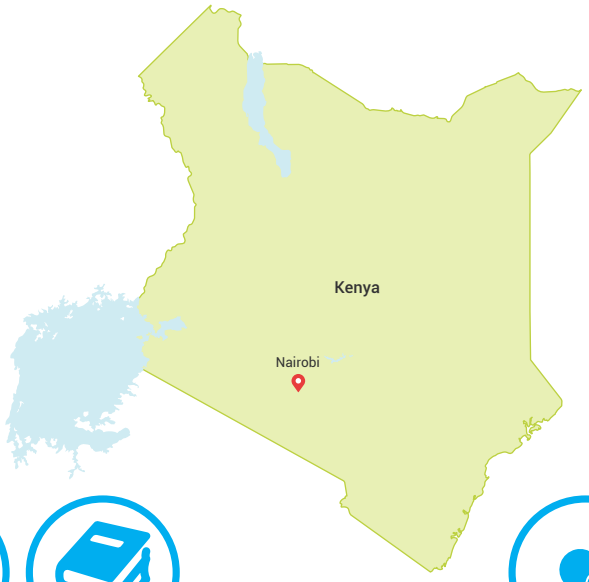
Further, the National Road Safety Policy also focuses on the safety of pedestrians, cyclists and other vulnerable road users (e.g. motorcyclists).

In October 2015 the Ghana Ministry of Transport and National Road Safety Commission launched a stakeholder engagement process with the aim of developing a standalone national NMT policy.

Local commitments

The municipal assemblies (local governments) of Tema & Ashaiman, Sekondi-Takoradi and Accra have prepared Active Mobility (NMT) master plans.

Kenya



The Vision of the Nairobi City County Government is to be a County where NMT is the mode of choice for short and medium trips.

National commitments

The Kenya Urban Roads Authority (KURA) is mandated to oversee and implement NMT infrastructure and planning, and to advise the Ministry of Transport and city authorities how best to provide NMT facilities. However, according to respondents, NMT provision remains poor and insufficient.

Within the Kenya Ministry of Transport: Integrated National Transport Policy (Moving a Working Nation) (2009), there is a chapter with specific reference to NMIMTs (non-motorized and intermediate means of transport).

The Policy recognises that NMIMTs are already in use in various parts of the country, but that 'no action has been taken to integrate them into the national transport network so that they can effectively play a complementary role to road and other transport modes for both passengers and goods.'

The National Traffic Act provides for all Local Authorities (county governments under the Kenya Constitution, 2010) to develop by-laws for managing traffic, while agreements between the government and development partners have enabled the agencies to support the city urban mobility projects (Mitulllah et al, 2016).

Local commitments

There have been several cycles in the development of specific walking and cycling policy in Kenya. The City Council of Nairobi (CCN) Strategic Plan for 2006-2012 did not provide for NMT, although it indicated that the road network would be enhanced (Mitulllah et al, 2016). However, with support from UN Environment, the Nairobi City County Government launched a NMT Policy in March 2015.

This Nairobi NMT Policy is an exemplar in many respects, particularly when it comes to intensive stakeholder engagement, and developing clear indicators and goals, linking measurable outputs and outcomes to objectives.

Nairobi's National NMT Policy, subtitled 'Toward NMT as a mode of choice', aims to develop and maintain a transport system that fully integrates NMT as part of the Nairobi transport system. It provides a clear set of actions and aims, as well as an action and implementation plan, a pilot project/evaluate approach, as well as a 'quick wins package' – 'interventions that can be implemented in a short time using existing general information, using small investments at many locations, and having high easily measurable immediate impacts'.

The overall objectives of this policy are to:

- Increase mobility and accessibility
- Increase transport safety
- Improve amenities for NMT
- Increase recognition and image of NMT in Nairobi County
- Ensure that adequate funding/ investment is set-aside for NMT infrastructure.

The expected output indicators are:

- Increased NMT space coverage
- Increased services along NMT facilities
- Safe NMT crossings (street signals, footbridges, underpasses, marked crossings)
- Better designed streets
- Improved NMT user satisfaction.

The expected outcome indicators include:

- Increased modal share of cyclists and public transport
- Reduced NMT crashes
- mproved multi-modal network that includes pedestrian walkways & cycling lanes.

Civil society and social enterprise

In Kenya there are more than ten million school-age children. Many of them have difficulty getting an education due to distance. 10,6% live too far from school while 50% live 3+ miles away. One in 10 never completes primary school. Walking long distances increases tardiness, fatigue and absenteeism. Decreased attendance and low enrollment are particularly acute for girls who carry the burden of household chores.

In 2015, World Bicycle Relief distributed 3 000 sturdy bicycles to 22 schools across three counties in partnership with the Ministry of Education and World Vision Kenya. Locally formed Bicycle Supervisory Committees select the students most in need and oversee bicycle use.

Now students with bikes arrive at school on time, safe and ready to learn. Other family members use the bicycle to ferry garden produce to market, transport the sick to health facilities, access water and mills, and visit distant relations. In Kenya, distance is one of the main reasons students drop out of secondary school.

At least one field mechanic for every 100 bicycles has been trained to maintain the bicycles and provide spare parts. This helps keep students in school and leads to increased economic opportunities for mechanics and their families.

Madagascar

Although data has been difficult to source about transportation in Madagascar, it is clear that NMT is a significant mode. Head loading, ox-carts, canoes and bicycle-travel are key modes in this largely rural country. Poor maintenance and erosion have rendered a significant portion of the road network (mostly unpaved) unsafe. Transport has been widely recognized as a barrier to the provision of and access to health services in rural areas.

National commitments

In April 2000, Madagascar adopted a comprehensive transport sector policy and strategy, which aimed to focus on strategic planning, sector oversight and coordination, and rehabilitate transport infrastructure to appropriate levels. The World Bank reports that unfortunately since the political crisis of 2009, there has been little tangible progress in further transport sector reform.

Civil society and social enterprise

In February 2015, a partnership between Transaid (an international development charity that facilitates local transport solutions) and Malagasy NGO Lalana developed a training curriculum for bicycle assembly, maintenance, repairs and management of bicycles for community health workers – enabling these workers to visit more people in a day, travel further, and attend to emergencies quicker.

Since 2011, the organization has also facilitated an emergency transport initiative to reduce maternal and neonatal deaths, using non-motorized modes. The Madagascar Community-Based Integrated Health Programme operates in 7 districts in the country. Bicycle ambulances and carts are manufactured in Madagascar itself, as part of an 'Enterprise Box' project that also sells and repairs bicycles.

Malawi

'The people of Malawi have the right to walk and cycle in safety.' Malawi National Transport Policy 2014

The following policy statements indicate the direction for NMT planning for Malawi:

- To raise the profile of NMT in planning and programming for transport
- To promote incorporation of facilities for NMTusers including women, children, the elderly and disabled
- To promote equality among all road users
- To improve awareness of the social and cultural issues surrounding NMT
- To ensure proper maintenance of the facilities provided.

National commitments

Malawi's first Transport Policy was drafted in 1999, and revised in 2004 and again in 2014. Its goal is to 'ensure the development of a coordinated and efficient transport infrastructure that fosters the safe and competitive operation of viable, affordable, equitable and sustainable transport services.'

The National Transport Policy includes a short chapter on NMT, noting that 'there is a need for specific consideration of NMT users to ensure that walking and cycling are promoted as healthy, sustainable, economical and non-polluting means of transport in both rural and urban areas, and that the people of Malawi have the right to walk and cycle in safety.'

Mozambique

National commitments

In 2012 Mozambique adopted ProMaputo, a development programme that also serves as an urban plan, land use and infrastructure development policy for its capital, Maputo, and neighbouring Matola. In 2014 Mozambique formulated a Project for the Comprehensive Urban Transport Master Plan for the Greater Maputo, which addresses the lack of policy and plans for a public transport network and road improvements, and includes a pre-feasibility study for priority projects identified in the master plan.

The Master Plan has a vision to provide 'socially and environmentally sustainable urban transport systems'. The Master Plan does not include bicycle planning, and currently there are no bicycle facilities.

Civil society and social enterprise

In 2015 Mozambikes (a Mozambican for-profit social venture company that customises and develop bicycles for the local market) formed a partnership with US-based Alta Planning and Design to prepare a Maputo Bicycling Safety and Mobility Study. This study included a phase 1 pre-feasibility study for a bicycle lane network in Maputo, and the potential for incorporating bicycle facilities within the planned BRT corridor.

Namibia

National commitments

In 2012, the City of Windhoek, together with the Ministry of Works and Transport and other stakeholders, began the development of a Sustainable Urban Transport Master Plan (SUTMP) for the capital. The goal of the master plan was to provide for 'efficient, affordable, equitable, safe and convenient public and NMT for residents of the city and its surroundings'.

The SUTMP takes an unusually nuanced approach to barriers to NMT, and pays attention to social, financial, infrastructure, institutional and administrative barriers to increase the use of walking and cycling. The Master plan also includes an exceptionally comprehensive and detailed action plan and budget.
In addition, Windhoek and the Ministry are developing an NMT Strategy based on the SUTMP, which will cover network development, quality standards, a communication/information strategy and accompanying pilot measures.

Civil society and social enterprise

BEN Namibia is a local non-profit organization (founded 2005) that imports new and second-hand bicycles, parts and accessories from overseas partner organisations and distributes them through local bicycle enterprises. BEN helps establish these enterprises by training local people in bicycle mechanics and small business management, and supports them in managing their own social enterprise, with profits used to support local grassroots initiatives such as orphan feeding programmes and kindergartens.

As of July 2016, BEN Namibia has imported and distributed more than 47 000 bicycles through its projects. BEN Namibia has partnered with 60 community-based organizations, mainly focused on home-based care services for people living with HIV/AIDS and orphans and vulnerable children. Bicycles are distributed to volunteers and staff who use them to greatly improve the efficiency of their work. Through these partnerships, the organization provides bicycles to children living long distances from school and to low-income earners. A new project is a bicycle-based recycling scheme, with the aim of collecting household recyclable waste using bicycle trailers and creating more local employment opportunities.

Nigeria

Although around 30% of Lagos' mobility is on foot or by bicycle, the interaction between pedestrian and motorized vehicles in Lagos is unplanned and dangerous. There is almost no recognition of this mode, with few segregated traffic facilities for pedestrians (such as walkways, zebra crossings, footbridges, underpasses and signs), and bicycle lanes. As a result, pedestrians share the roadway with motorized transport. Where efforts have been made to provide facilities, these are under-used because of poor enforcement; many walkways are used as parking lots, trading and storage areas for abandoned material. However, a National Cycling Policy and Strategy and a pedestrian manual do exist in draft form.

> Unfortunately, the more people and cities progress economically, the more active transportation keeps fizzling out of existence in low-income areas. But there are still some localities in which cycling is viewed with pride.

National commitments

At the federal or national level, there is no standalone policy on NMT. Such a policy will require a paradigm shift from car-oriented to NMT systems. Nigeria has 36 states and a Federal capital; of these, only Lagos state is consciously developing a NMT policy (see below).

The fundamental goal of Nigeria's National Policy on Transportation (2015) is to develop an 'adequate, safe, environmentally sound, efficient, affordable, preferred and integrated transport system within the framework of a progressive and competitive market economy. The purpose of the National Transport Policy is to establish a framework that can guide the planning and development of transport activities in a systematic and sustainable manner for the social and economic development of Nigeria.'

NMT is situated within the context of tourism, sport, and recreation, and the Policy aims to stimulate the use of NMT for these purposes.

In the Policy's chapter on road infrastructure, NMT (pedestrian mobility in particular) is given prominence, with stated objectives to:

- Provide facilities for alternative modes – walking and cycling

- Develop a multimodal 10-year transport network plan for major cities to include strategies for the development of pedestrian, cycling, public transit facilities and services along the roadway network.

The policy commits government to developing and implementing a strategy for public transport, that walking and cycling become a desired choice of travel for residents and reducing reliance on the private car. In addition, the Draft National Policy on Cycling 2014-2017 aims to 'make our cities' roads cycle friendly, and get 20% of Nigerians cycling by choice before the end of 2016.

Local commitments

LAMATA's 2013 NMT and Safety plan recognizes that NMT has been usually ignored by policymakers when defining transport plans, preferring motorized transport because they regard it as technologically driven. This preference has orientated policies and actions leading to an unsafe and less attractive NMT. LAMATA has committed to developing a cycling and walking policy for Lagos in 2016'

Among the catalysts for improved NMT facilities has been the introduction of the Bus Rapid Transit (BRT) service, where all arterial roads, intersections and the most common walking routes towards BRT and LRT stations represent key elements for the establishment of accessibility improvements.

Attitudes to NMT in Nigeria

Our respondents provided a vivid picture of the status of NMT in Nigeria. As Dr Anthonia Ekpa (Director, Road Transport & Mass Transit Administration, Federal Ministry of Transport) notes, the use of cars is based on a colonial legacy of associating motorized transportation with education, affluence and elevated status in society. Thus the attitude towards NMT tends to be negative, and the use of bicycles, walking, and other NMT modes are associated with the poor. As such, it is in rural areas (villages) or semi–urban communities populated by the urban poor where the use of bicycles is predominant. Even in such communities, the proliferation of motorcycles (popularly called okada) and tricycles (keke) has made it increasingly difficult for Nigerians to appreciate and value NMT.

NMT has traditionally been considered as 'not modern' and not worth including in transportation plans (LAMATA, 2014). 'Many people were born into walking as a matter of necessity rather than choice. Now, bicycle riding and walking are considered symptomatic of poverty in Nigeria. Acquiring a car is a goal for most citizens who believe walking or riding a bicycle is less safe, less convenient, and less attractive, making the forecast decline of NMT a self-fulfilling prophecy.'

And in most instances, they are right about the inconvenience of NMT. In most cities, trees are not planted along the roads to give shade, thus hence cycling or walking under intense sun becomes burdensome. NMT travel times are long and unproductive, while there is considerable lack of facilities. 'The political attitude toward pedestrians is often neglectful or hostile. Pedestrian space is continually being eroded. The lack of policy on NMT means that motorists drive on pedestrian lanes with impunity, thereby endangering the life of legitimate users.'

Rwanda

NMT and IMT should be encouraged 'not only by providing infrastructure but by ensuring that pedestrians and other NMT users feel safe and secure in their environment and that services and land use is orientated towards the NMT network.'

The Strategic Transport Master Plan for Rwanda, 2012

National commitments

The vision of Rwanda - Vision 2020 – is to deliver modern infrastructure and cost effective and quality services with due regard to safety and environmental concerns.

Walking and cycling are not mentioned explicitly in the 2008 Transport Sector Policy, although there is a clear focus on the need to improve access, contribute to poverty reduction, and reduce air-pollution and congestion – all of which NMT is able to facilitate.

In 2011, Rwanda embarked upon a partnership with UN Environment Share the Road to develop a concept paper for the development of walking and cycling facilities for urban and semi-urban roads (FABIO, 2011).

The objective of the concept caper was to 'emphasize the need for provision of NMT road infrastructure in the urban and rural classified national road networks in Rwanda. 'The concept paper included ideas for improving road design for both walking and cycling and a national NMT policy.

The Strategic Transport Master Plan (STMP) for Rwanda, 2012, recognizes that Africa in general has been lagging behind other developing regions in its adoption of NMT and IMT, to some extent because policy makers view motor transport as the only feasible alternative. Further, planning and decision-making processes do not take into account the mobility needs of rural people simply because of the gap in data.

The STMP contains significant reference to NMT, and notes that both NMT and IMT should be encouraged 'not only by providing infrastructure but by ensuring that pedestrians and other NMT users feel safe and secure in their environment and that services and land use is orientated towards the NMT network.' A key strategy in the document is the reduction of pedestrian fatalities.

South Africa

'Non-Motorized Transport will be a sustainable and stimulant mode of transport for social and economic development within an integrated efficient transport system.'
South African National NMT Policy (draft 2008)

National commitments

South Africa's key guiding NMT document, published by the national Department of Transport in 2014, is its NMT Facility Guidelines. This 165-page illustrated document includes information about policy and legislation, planning, maintenance, pavement materials and draft designs.

This is not the country's first core NMT commitment, however. In 2008 South Africa published its first South Africa's Draft NMT Policy, the vision and objectives of which are reproduced in the detailed Country Report (online ref).

South Africa's Transport Strategy and Action Plan (2007) is a central policy document on public transport, noting that NMT is the key aspect of the 'first mile' and 'last mile' of a trip. The intention is to introduce public transport that would reduce unacceptable walking distances and improve high quality NMT links to public transport.

Both the National Road Traffic Act 93 (1996) (NRTA) and the National Road Traffic Regulations (2000) (NRT Regulations) make provision for NMT. In addition, the National Department of Transport is developing a National Transport Masterplan (NatMap 2050), which will include and promote the integration of NMT and public transport.

In 2015, South Africa's draft NMT Policy (2008) was included in an updated form in the (draft) National Roads Policy, and has three primary objectives:

- To increase the role of NMT as one of the key transport modes
- To integrate NMT as an essential element of public transport and provide a safe NMT infrastructure
- To allocate adequate and sustainable funding for the development and promotion of NMT.

Local commitments

100% of the national government's NMT budget is spent on policy development, as infrastructure and other supporting work is delegated to provincial or local authorities.

In South Africa, the cities of Cape Town, Ekurhuleni, Johannesburg, Rustenburg, Tshwane, and Stellenbosch each have prepared a number of standalone NMT commitments, as have the provinces of the Western Cape and Gauteng. These are available online, and beyond the scope of this report, which selected only one city for detailed discussion.

Civil Society and social enterprise

South Africa is well served by civil society organisations that focus on NMT (mostly cycling. One such organisation in Qhubeka (qhubeka is a Nguni word that means to carry on, to progress, or to move forward), which supplies bicycles to people who need them, in return for work done to improve communities, the environment or academic results.

Research by Statistics South Africa indicates that 11 million out of a possible 17 million students in South Africa walk to school, with 'walking all the way' being the primary means of travel. Of students walking to school, half a million walk for more than an hour – up to 6 km each way – thus impacting concentration and learning ability.

The challenge of distance results in increased tardiness, frequent absenteeism, exhaustion and often the complete withdrawal of the child from the education system. Bicycles are the most effective and economical method of quickly addressing this problem.

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Over 60% of students who walk to school in South Africa are in the lowest income group and rural students (8,1%) are more likely than urban (3%) or metropolitan (2.7%) students to walk more than 60 minutes to school.

The challenge of distance results in increased tardiness, frequent absenteeism, exhaustion and often the complete withdrawal of the child from the education system. Bicycles are the most effective and economical method of quickly addressing this problem.

- A child's commute time to school is reduced by up to 75% with a bicycle
- A bicycle increases a person's carrying capacity by five times
- Healthcare workers can visit more than double the amount of patients per day with a bicycle
- Marks improve by an average of 25% for children who ride a bicycle to school
- Schools where children ride bicycles see attendance rates rise by 18% on average

Durban, South Africa
©lcswart

Tanzania

Deteriorating road infrastructure means that the conditions are unpleasant for walking and cycling. In some parts of the city, sidewalks for NMT are almost non-existent, and even where they do exist they are occupied largely by parked cars. The sidewalks are generally not paved, which creates a poor walking environment and leads to pedestrians walking in the road (Bruun et al, 2016).

National commitments

In 2011 a new national transport policy was drawn up with support from International Development (DFID), which supported public transport, BRT and land use planning, and facilitated the establishment of Dar es Salaam Urban Transport Authority (DUTA) as a central coordinating body on urban transport issues. The World Bank is now funding the introduction of the BRT system named DART (SSATP, 2015).

> The Tanzanian government is committed to 'improv[ing] the road network together with improved pedestrian facilities and at the same time enhance management of the urban road network, especially in Dar es Salaam and emerging cities.' Tanzania National Transport Policy (2011)

This Draft National Transport Policy emphasizes rural NMT and IMT modes as well as urban pedestrians. It makes no mention of bicycle transport.

One of its policy objectives, under the chapter on rural mobility, includes the promotion of rural mobility 'through [the] introduction and adoption of different forms of NMTs / IMTs, and provision of complementary safe and affordable motorized rural transport services for all rural communities.'

The Policy commits government to promote 'developing and facilitating the introduction and adoption of NMTs / IMTs for short distance travel and transport in rural communities... [and the] provision of safe and affordable long-distance motorized travel and transport services penetrate all rural communities. The NMTs/ IMTs will be publicised and, where appropriate, their initial adoption will be supported with technical advice and financial loans.'

Under the chapter on improving and managing the urban road network, the Policy commits government to 'improve the road network together with improved pedestrian facilities and at the same time enhance management of the urban road network, especially in Dar es Salaam and emerging cities.'

Uganda

> Walking and bicycling are healthy, sustainable, economical and non-polluting means of transport: the citizens of Uganda have the right to walk and cycle in safety, while conforming to appropriate regulations, in their pursuit of work and family tasks and in accessing social and economic activities and services.'
> Mission statement: Uganda National NMT Policy, (2012)

Despite increasing motorization in Uganda, non-motorized transport modes are still the main means of transport in the country. The majority of people of Uganda do not use motorized transport daily, but depend on walking, carrying and the use of bicycles for their basic livelihoods and access requirements. Walking and cycling are extremely important for rural people to access water, fuel, wood, fields and livestock, education, health and work.

This increasing motorisation, combined with inadequately maintained infrastructure, has made NMT unsafe, in both urban and rural areas. The needs of NMT are routinely omitted from the designs of road improvements (NMT Policy, 2012). Roads were designed (if at all) and constructed without taking into account the needs of pedestrians and non-motorized vehicles. As a result of low density, poor residential areas and lack of roads, many people have to walk long distances in order to be served by public transport. Both bicycles and motorcycles are used as a mode of for-hire transport, either for passengers or goods, and it is common to see a bicycle carrying a load twice the size of the rider.

National commitments

Uganda has a National Transport Master Plan (2008) which sets a 15-year scenario for future development and management of the transport sector, including a transport sector investment plan, and an outline of the required institutional and regulatory framework and its implementation.

National NMT Policy (2012) – Uganda

In October 2012 the Uganda Ministry of Works and Transport published a standalone NMT, which notes that NMT is the most popular means of transport in Uganda, but 'also the most unsafe'. This policy attempts to redress this through the achievement of the following objectives:

- Increase the recognition of walking and cycling in transport, planning, design, & infrastructure provision
- The provision of safe infrastructure for pedestrians and cyclists
- Resources for walking and cycling in being mainstreamed in agencies' financial planning
- The development and adoption by all agencies of universal design standards that provide for access to all sectors of the community
- An improvement in regulation and enforcement to enhance safety for pedestrians and cyclists.

The policy also pays particular attention to Universal Design, and notes that everyone has the right to the road, as 'the hierarchy of presumed rights has no legal or moral basis and cannot be justified. Further, it states that 'men and women have equal rights to own and use bicycles and that gender discrimination should be actively discouraged.'

Among other commitments as a result of the policy, national government of Uganda will now require that:

- All national road designs, and related infrastructure such as bridges, should include a non-motorized transport statement explaining how the needs of pedestrians and cyclists have been incorporated into the designs. This should include a statement as to the adequacy of the hard shoulder width close to trading centres.
- All relevant construction and maintenance contracts should require a NMT statement explaining how the needs of pedestrians and cyclists should be incorporated into the works. Government will require the relevant bodies to verify that there is compliance with these requirements.

Monitoring and evaluation is a key concern in the Policy, which notes that there is very little monitoring or assessment of existing facilities for bicyclists and pedestrians. To remedy these concerns, the Policy commits government to establishing a National Road Safety Authority (NRSA) and a Multi Sectoral Transport Regulatory Authority (MTRA). 'The Government will charge NRSA with coordinating the monitoring of the progress of its NMT strategy and inform Government of inadequate situations.'

The Policy actively encourages the involvement of both civil society and the media, who should be 'encouraged to engage in the process, identify problems and encourage appropriate solutions.'
The Policy proposes that every relevant public organization should have a designated officer responsible for reporting NMT issues relating to that organization. Their concerns should include facilities for pedestrians and cyclists within that organization (for staff and visitors) and the work that the organization does that is relevant to pedestrians and bicyclists

Jinja, Uganda
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Civil society and social enterprise

Bicycle-share for university students in Kampala

As part of a project called Promoting Cycling in Kampala, funded by UN Habitat and the Dutch Cycling Embassy, a pilot bike-sharing scheme was introduced from 2013 at Makerere University campus. The local implementing partner, Uganda Sustainable Transport-Network (UST-Network), engaged in various other activities and events such as car-free days, fun rides and advocacy meetings with relevant authorities.

Village bicycle ambulances

In 2012, the Village Ambulance was created by Kampala-based NGO Pulse, to provide affordable, high-quality transportation in rural areas, and is now 400 bicycle ambulances are in use in 35 districts in Uganda. The NGO estimates that for every village ambulance, two lives are saved per week.

Zambia

Transport has been recognized by Zambia's national government as key to reducing poverty, facilitating trade both nationally and internationally and as an avenue to increase access to social services such as health and education.

National commitments

The Transport Policy of 2002 sought reforms in the road sector and was the result of consultations with several international and national stakeholders.

The Policy led to the enactment of laws governing road traffic, public roads, and national road funding.

In 2013, the then Ministry of Transport Works Supply and Communication (now the Ministry of Transport and Communication) started to revise the 2002 Transport Policy due to challenges and demands on the transport infrastructure and service provision. A consultant was hired to prepare a new Transport Policy and the new Policy will be ready in 2016.

Promotion of IMTs in Zambia

The focus in Zambia is on Intermediate Modes of Transport (IMTs), since rural footways and roads are rudimentary and do not permit any motorized transport.

In Zambia the first IMT project ran between 1998 and 2005. This project aimed to increase access and improve the levels of ownership of IMTs. This project was known as the Rural Travel and Transport Programme and was funded by the World Bank. According to an independent review, the project achieved many successes, such as improving mobility of people to the markets and other socio-economic amenities as a result of IMTs acquisition by some beneficiaries. IMTs, especially donkeys, greatly contributed to poverty reduction in terms of mobility and agricultural inputs.

The successor programme to RRTP was the Rural Accessibility and Mobility Programme, also funded by the World Bank; it ran from 2006 to 2016. The programme had two components: Community Transport (CTI) Infrastructure, and IMTs.


©World Bicycle Relief
Lusaka, Zambia

Civil society and social enterprise

Emergency transport

More MAMaZ (More Mobilising Access to Maternal Health Services in Zambia) is a programme that aims to increase the use of maternal and newborn health services among rural communities. The programme works through government and community-based structures, building district capacity. MAMaZ was funded by UK Aid and was operational from March 2010 to May 2013. MORE MAMaZ is funded by Comic Relief in partnership with TRANSAid and was implemented from March 2014 to September 2016.

The programme makes use of Emergency Transport Services, which uses bicycle ambulances to reduce the access barrier in rural areas between communities and health facilities. The bicycle ambulances are strong with a full canopy for privacy and protection from the elements and a canvas stretcher for ease of cleaning and repair. They have a high ground clearance to enable easier maneuvering in rough terrain, sand and through shallow streams.

Transport costs, including the transport of emergency cases, put a strain on often already limited district health budgets, making emergency ambulance services difficult to sustain. Where free ambulance services are not available the cost of emergency transportation to a referral hospital is often a barrier to accessing health services for people living in remote rural areas. Research has indicated that a large percentage of the three mortality rates (infant, child and maternal) could be reduced by providing or supporting some intermediate modes of transport. More than 60% of people in developing countries live more than 8km from a healthcare facility and the need for timely and highly responsive health care services is made more urgent by the HIV/AIDS crisis in many countries.

COUNTRY SUMMARIES: ASIA

©Galyna Andrushko
Dhaka, Bangladesh

Bangladesh

> The vision for urban transport in Dhaka is 'it achieves a sustainable social and economic growth, ensures social equity, and ensures a healthy and secure urban environment.' Dhaka Urban Transport Development Study (2010)

National commitments

In 2005 the government of Bangladesh formulated a Strategic Transportation Plan (STP) in cooperation with the World Bank, and in 2010 followed this with the Dhaka Urban Transport Development Study.

The Study further recommended the implementation of pedestrian facilities such sidewalks, paths, and trails, and proposed rickshaw improvements, such as a programme for the re-licensing of rickshaw owners and operators and a means to improve the skills of the drivers and the quality of the vehicles, rickshaw stands, segregated lanes and route maps. The Study proposed separate lanes and crossings for bicycles, and supporting local industries for manufacturing bicycle to make them affordable.

The Dhaka Integrated Transportation Study (DITS) strongly supported the use of the bicycle as an alternative to motorized travel and as a replacement of the rickshaw. In this context, the recommendations were the:

- Expansion of credit schemes for bicycle purchasing
- Promotion of bicycle use among students through bank credit or grants
- Strengthening NGOs working in the urban sector to encourage bicycle use (Tiwari et al, 2008).

Our project respondents are concerned, however, that Bangladesh as yet has no formal or official NMT policy commitments, and that the outcomes of the STP, above, have under the guise of 'improvements' at times resulted in the banning of NMT vehicles from some of the main corridors.

China

The majority of Chinese cities don't need to promote bicycling as a mode of transport, as mode shares are well into the double digits; 'but they do need to defend the modal share the bicycle currently has' (ITDP, 2010). The challenge facing the urban transport system in Chinese cities is that the modal share of public transport and non-motorized transport modes is decreasing gradually, while private vehicle trips increase rapidly (Tiwari et al, 2008).

Design Guidelines in China therefore recommend a network of segregated bicycle lanes, and suggest a density of one bicycle road every 1 to 3 km, one segregated bicycle lane every 400 to 60 m, and one painted bike lane or branch road and path to residential apartment buildings every 150 to 200 m. The guidelines recommend that a bicycle lane be 1 m wide, adding 0.25 m where such a lane is next to a curb or median. Planning guidance assumes that a bicycle lane will handle 1 500 bicycles per meter of the lane width and 1 000 per hour at the intersection (Clean Air Asia, 2013).

Bike-share

- Jiangmen
- Shenzhen
- Dungguan
- Guangzhou bike-sharing scheme, largest in the world, launched in June 2010 along the BRT corridor
- The Lanzhou bike sharing system opened in June 2014.

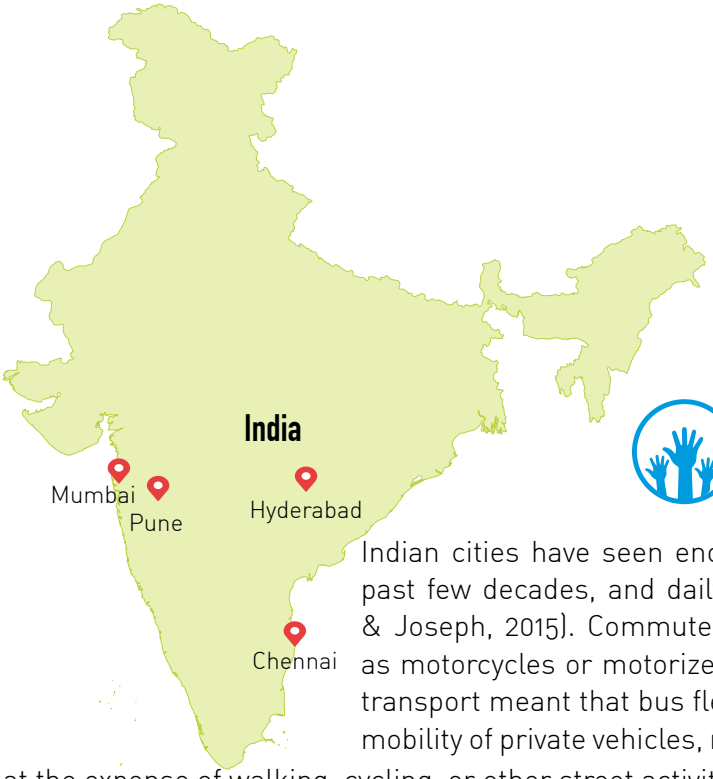
NMT improvement policies and projects

- Tianjin (Heping District in the city center)
- Yichang
- Guangzhou
- Harbin
- Huizhou
- Wuhan
- Lanzhou
- Yichang

Complete Streets

- Yichang
- Lanzhou
- Tianjin
- Dungguan
- Harbin

India



'People occupy center-stage in our cities and all plans should be for their common benefit and well being.'
National Urban Transport Policy, India, 2008

Indian cities have seen enormous growth and spatial expansion over the past few decades, and daily commutes have extended significantly (Joshi & Joseph, 2015). Commuters have thus begun using 'faster' modes such as motorcycles or motorized vehicles, although underinvestment in public transport meant that bus fleets have became less efficient. To facilitate the mobility of private vehicles, roads were routinely widened and highways built at the expense of walking, cycling, or other street activities (Joshi & Joseph, 2015).
Yet despite the recent decrease in mode-share, non-motorized modes still dominate the modal share of Indian cities, and even in the megacities (population > 8 million), the modal share of NMT ranges between 40% and 50%.

National commitments

The Indian Roads Congress (IRC) formulated Guidelines for Pedestrian Facilities in 1989, with the basic aim of reducing pedestrian conflicts with vehicular traffic (HAD).

In 2006 India developed its National Urban Transport Policy (NUTP, 2006), which acknowledges that there are certain sections of society, especially the non-motorized commuter groups, which face mobility challanges.

The NUTP drafted a vision to 'recognise that people occupy center-stage in our cities and all plans should be for their common benefit and well being.'
Among the policy objectives were to:

- Bring about a more equitable allocation of road space with people, rather than vehicles, as its main focus.
- Encourage greater use of public transport and non-motorized modes by offering central financial assistance for this purpose.

The policy promised funding support and priority to the construction of segregated cycle paths, bicycle parking and pedestrian crossings, under the Jawaharlal Nehru National Urban Renewal Mission (JnNURM, 2005-12), to enhance safety and the use of non-motorized modes, for possible replication in other cities.

Cities were encouraged to explore the possibilities of public bicycle programmes. Although pedestrian and bicycle facilities were created as part of Indian cities' BRT services, these have received criticism for poor design.

Local commitments

In 2007 the national ministry indicated that each city is to develop a Comprehensive Mobility Plan (CMP) focusing on the mobility of people rather than vehicles and accordingly give priority to pedestrians, NMT, and all modes of public transport.

The Pune CMP (2008), for example, makes provision for NMT uses by committing to provide separate bicycle lanes of at least 2 m wide. Parking may need to be relocated to make way for the NMT facilities at certain locations.

The Master Plan of Delhi 2021 specifies that all roads should be made pedestrian, disabled- and bicycle-friendly; Delhi has also developed a Bicycle Sharing Policy, and instituted a pilot project in Dwaka. Mumbai, Vishakapatnam, Aizawl, Gurgaon each have NMT specific city plans, which may be viewed at India's Sustainable Urban Transport project site (www.sutpindia.com), a collaboration between the government of India and the Global Environment Facility , 2013 In Chennai, the Corporation of Chennai has partnered with the Institute for Transportation and Development Policy (ITDP) to build protected cycle lanes, pedestrian plazas, and greenways. ITDP has also advised the city on the introduction of a public cycle-sharing system. Other cities such as Coimbatore, Gandhinagar, Pondicherry, and Tiruchirapalli have sought technical advice from ITDP to launch similar cycle sharing systems.

Hyderabad is developing a bicycle master plan as well as an NMT policy and strategy.

Rajkot, India
© dp Photography

Nepal

Though the share of NMT (walking and cycling) is significantly high compared to other travel modes, it has not been prioritized in urban transport planning. Pedestrians walk on narrow and poorly maintained sidewalks, and cyclists share the roadway with motorized traffic.

A walkability study (assessment of pedestrian infrastructureand services) in 2010 showed that 94% of surveyed road stretches in Kathmandu are categorized as'Not Walkable'.

National commitments

In 2012 JICA (Japan International Cooperation Agency) undertook a survey to make recommendations on traffic improvement in the Kathmandu Valley – many of these proposed improvements involved NMT.

The Kathmandu Sustainable Urban Transport Project, founded in 2015, is being implemented with the assistance of the Asian Development Bank, and consists of four major improvement components comprising public transport, traffic management, pedestrianisation, and air quality.

In addition, Nepal has an Environment-friendly Vehicle and Transport Policy (2014), which aims to provide a subsidy scheme for the promotion of electric and non-motorized vehicles.

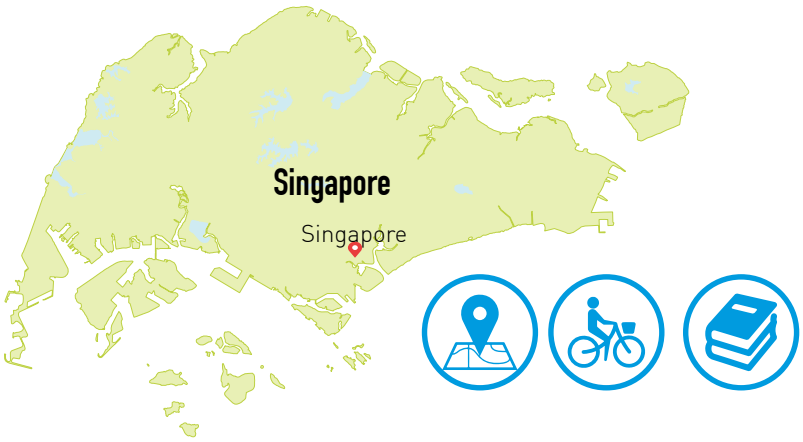
Bicycle lanes in Kathmandu

A 2.7 km bicycle lane was recently built in Kathmandu, but it is neither designed nor constructed well, say our respondents - 'improper network and connectivity deter the cycle uses from using the track. Instead of using the existing cycle track, people prefer to use the carriageway.

Kathmandu's masterplan (draft, 2012) includes the following NMT recommendations:

- Separation from vehicles is crucial in the central commercial and heritage areas where walking is the most important travel mode.
- Establish a pedestrian network plan as the most primary travel mode.
- Bicycles have the potential to become citizens' means of daily transportation. The future masterplan shall take into account the latent possibility of bicycle use in Kathmandu Valley.
- Promoting walking and cycling will not only contribute to decreasing the vehicles but also contribute to improved environment in air quality and noise and to decrease the energy consumption.

Singapore



'We will foster mutual accommodation and graciousness among the public transport commuters, motorists, cyclists and pedestrians who share our road space.'
Land Transport Master Plan,
Singapore, 2013

Singapore is known for its policies supporting public transport and congestion tax, and as a city state that pays significant attention to sustainability. Singapore's Land Transport Master Plan (launched in 2008 and updated in 2013) is a 'people-centered' plan that aims to achieve efficiency through multi modal integration. The focus is very much on public transport, but does also cover walking and cycling.

To enhance pedestrian safety, Singapore has implemented pedestrian crossing lines with enhanced dash markings, traffic calming markings and 'pedestrian crossing ahead' road markings. The City has installed road studs that flash in tandem with the green crossings to alert motorists to stop for pedestrians on the road.

Since the development of the Land Transport Master Plan, Singapore has started working towards becoming a bike-friendly city; the initiative started with construction of 1 500 bike parking facilities in the Mass Rapid Transit stations. This led to provision of signalized bike crossing facilities in many junctions. The main objective was to promote bicycles as an access mode to public transport. The Park Connector network promotes corridors and legalized the sharing of footpaths between pedestrians and cyclists.

This initiative has led to development of a National Cycling Plan. Under this plan, the first strategic step is to provide off-road dedicated cycle lanes, to facilitate cycling between towns and to connect major transport notes.

South Korea

National commitments

In 1995 the Republic of Korea established a 'Cycling Promotion Law' with an investment of 478 billion won. This initiative was supported by a second national plan with an additional investment of 500 billion won. (Clean Air Asia 2013). With increasing investment and facilities, bicycling trip mode share increased from 1.85% in 1995 to 2.4% in 2002.

By 2007 the country had enlarged cycling infrastructure such as bike lanes and parking facilities and improving safety and benefits of cyclists. Nearly 1500 kilometers of bike paths were available in Korea by 2009 (Clean Air Asia, 2013).

Yet despite this investment and bicycle-friendly legislation, the level of bike use remained insufficiently unchanged (Choi, 2014). To enhance the effectiveness of cycling policies, the Ministry of Public Administration and Security developed a 'National Cycling Master Plan' and encouraged local governments to set up their own master plans and promote cycling in 2008 (MOPAS, 2008).

Local commitments

In 2008 the City of Seoul introduced a 'City Cycling Master Plan', with the aim of increasing the bike share of transport of 1.6% in 2008 to 4.4% by 2012, and to 10% by 2020. However, meaningful increase in the use of bikes has not yet been demonstrated (Choi, 2014).

In order to further support cycling as a transport mode, authorities under the green growth initiative and its five year plan have targeted an increase in bike trip mode share to 5% by 2013. Under the new initiative, to promote bicycling, a smart phone application provides bike riders with information on such matters as public bicycles, bike paths, and transfer points is being promoted.

South Korea's bicycle master plan proposes the following targets for 2019 (Clean Air Asia, 2013):

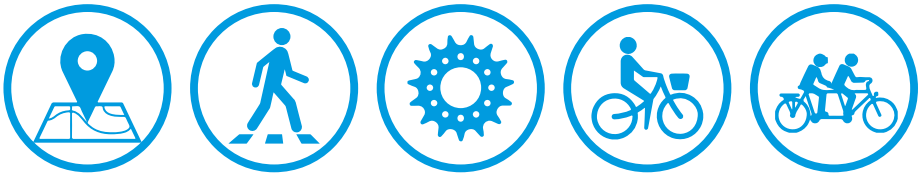
- Build a total of 17 000 km of dedicated bicycle lanes and 30 000 km of bikeways (painted) in South Korea as a whole by 2019
- Achieve 10% of bike trip mode share and achieve 30% of commuting ratio
- Decrease 30% of bike accidents
- Achieve 15% of bike trip mode share in 10 pilot cities
- Achieve 20% of bike tourism among total
- Invest 1 trillion won (approximately 0.8 billion USD) to construct bike infrastructure

COUNTRY SUMMARARIES: LATIN AMERICA

Buenos Aires, Argentina
© dp Photography

Argentina

> Argentina's Pedestrian Priority Programme aims to 'put pedestrians first, make bold changes to public spaces to strengthen the diversity of activities, and promote social and functional recovery'. (2008)



Local commitments

Although Argentina has no national NMT commitment or policy, Buenos Aires as well as several smaller towns and local governments have made a concerted effort in the last few years to support and encourage sustainable transport modes.

In 2008, Buenos Aires developed a Pedestrian Priority Programme as part of the Healthy Mobility initiative within the Ministry of Urban Development. It was designed to 'put pedestrians first, make bold changes to public spaces to strengthen the diversity of activities, and promote social and functional recovery'. Primary objectives were to promote pedestrian traffic, encourage more active lifestyles and improve the environmental conditions of the city (PEARL, 2015).

In 2009, Buenos Aires launched its Sustainable Mobility Plan (Plan de Movilidad Sustentable), aiming to improve access to daily needs, prioritize NMT and public transport, bring order to general traffic, decrease congestion, and reduce traffic accidents and casualties (Escayol, 2015). In line with the Sustainable Mobility Plan (www.buenosaires.gob.ar/movilidad), the city restructured its 20-lane 9 de Julio avenue into a public transit corridor, with 100 blocks of pedestrianisation, a 300 km bicycle network, a public bicycle system (ecobici), and a number of pedestrian-priority intersections. Ecobici now features 200 automated stations, 3 000 bicycles and 24-hour service.

Complementing these interventions are policies that encourage the installation of bicycle parking, education programmes, and credit assistance to purchase bicycles. Bicycle transport now makes up 3.5% of all trips in the city. Before the construction of the separated cycle ways and the inauguration of the bike-sharing programme, the cycling share in Buenos Aires was a mere 0.4% (Escayol, 2015). The bike lanes are not without their detractors, though, with the Copenhagenize index (2015) noting that many of the protected bike lanes are narrow, bidirectional stretches along the curb.

Bicycle priority planning in Buenos Aires

In 2007 the city passed the Sistema de Transporte Público de Bicicleta law (Public Bicycle Transportation System) that mandated the creation of a bicycle-share network together with secure bike infrastructure (Escayol, 2015).

The Bicicletas de Buenos Aires (Bicycles of Buenos Aires) strategy identified four main focus areas:

- To develop a network of protected cycleways
- To provide adequate and sufficient bicycle parking
- To implement a bike sharing scheme
- To promote the use of bicycles among commuters (Escayol, 2015)

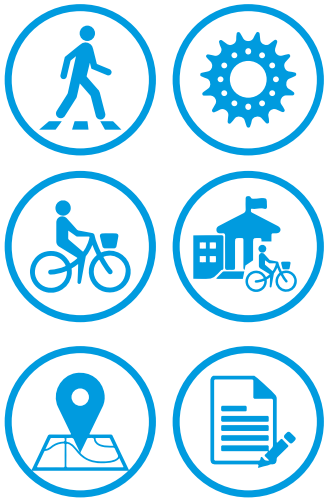
By the end of 2012, the share of cycling had increased from 0.4 % to 2% (Escayol, 2015). Today, more than 3.5 % of commute trips are by bicycle.

Soft loans to purchase bicycles

Due to import controls, high tariffs and the small scale of the national bike industry, bicycles in Argentina can cost triple the price that they do in the US (Escayol, 2015). In 2012, the city government made it easier to purchase bicycles via soft loans, in partnership with the state-owned Bunco Ciudad de Buenos Aires; the programme consisted of a line of loans to finance bicycle purchases, payable in 50 installments and with zero percent interest rates.

By the end of January 2013, the Bunco Ciudad de Buenos Aires had granted more than 3 300 loans to purchase bicycles; 200 of the loans were given to pensioners.

Brazil



Brazil's sprawling urban development is particularly inequitable and unsustainable, where workplace and leisure opportunities are concentrated in the central areas while poorer people live on the periphery, with inadequate infrastructure and amenities. This spatial inequity causes long travel times and distances, and are people highly dependent on transport systems. Most motorized trips are made by bus, but congestion, noise and air pollution levels are high. Individual modes (such as private cars and motorcycles) are becoming more popular. Motorcyclists are the main victims of road crashes. Overall, the majority modes are bicycle and pedestrian travel. This mobility crisis experienced by Brazilian cities has led to a renewal of interest in improving public transport and planning for NMT.

National commitments

In 2003 the Ministry of Cities was created by the federal government, and within this Ministry, the National Department of Transport and Urban Mobility was established to formulate and implement the National Policy for Sustainable Urban Mobility. Key to this Policy was the integration of transport and urban development policy in order to provide broad and democratic access to urban space, prioritising public and non-motorized transport and ensuring secure, socially inclusive and sustainable mobility.

In 2012 the National Secretary of Transport and Urban Mobility and the presidency signed the Brazilian Urban Mobility Law, with the stated goal to promote urban mobility with a safe, socially inclusive and equitable use of public space, contributing to the construction of sustainable cities. The Urban Mobility Law was explicit in favouring NMT at the expense of motorized transport, and public transport at the expense of individual motorized modes.

The concept of equity is key – to ensure access of all citizens to the urban mobility system, in particular of those with reduced mobility. This right covers both those who make use of public transport and those who use sidewalks and crossings. The Act also commits the state to promote the use of bicycles, control emissions, and improve enforcement of public spaces.

The law states that municipalities with more than 20 000 inhabitants should, by 2015, have their urban mobility plans.

The Ministry has also produced a free Guideline for Cyclists (Carthila do Ciclista), Ministry of Cities, which provides information about routes, how to lock a bike, travel on public transport with a bicycle, and how to read bicycle signage – in association with the World Resources Institute.

Local commitments: Joinville

The City of Joinville is the third largest municipality in the southern region of Brazil, after Curitiba and Porto Alegre. Joinville has prepared a master plan that focuses specifically on non-motorized transport (here known as active transport) (Master Plan for Transportation Active, City of Joinville, 2015)

Among the key issues in the Master Plan is the need to promote the accessibility of public places; the safe movement of people and goods; and to ensure the right of access to inclusive and environmentally sustainable mobility. The Joinville Plan promotes non-motorized modes, and establishes priority actions, instruments, targets and indicators for walking and cycling improvements.

Currently, 23% of trips in the city are made on foot and 11% by bicycle. The Plan aims to support the pedestrian mode share, and increase the bicycle mode share to 20%. Proposed actions include the construction of sidewalks and bike paths, and the development of a walkability map, paying particular attention to destinations within a 5-10 minute walk.

Local commitments: Rio de Janeiro

Rio de Janeiro featured in the Copenhagenize Index 2013 Bicycle Friendly Cities as the 12th best city for bicycles in the world. The city has had bicycle lanes since 1991, when as part of its preparation for the first Earth Summit in 1992 it created a cycle lane along the Copacabana Beach, at the expense of a car lane.

Neighbourhoods farther along the coast, such as Ipanema and Leblon, extended the network and today Rio de Janeiro has more than 300 km of separated bicycle infrastructure.Rio as well as Sao Paulo has bicycle-share systems. Bike Rio was launched in 2011, and is a partnership between the municipal government and Banco Itau. The system has 4 000 bicycles and 400 rental stations.

Many Brazilian cities host car-free Sundays for cycling, walking, rollerskating, skateboarding, and other active modes. In Rio de Janeiro, the entire stretch of the beachfront from Copacabana to Leblon is closed to traffic.

Local commitments: Sao Paulo

In 2014, São Paulo provided more than 108 km of protected bike lanes, citywide, and its bicycle share system reached more than 1 500 bikes at 158 stations. The city's new Master Plan (2014) addresses pedestrian accessibility in particular, and eliminates along public transport corridors citywide.
These restrictions will reduce approximately 4 000 parking spaces, or more than 10%.

Chile

National commitments

In 2015, the Ministry published what is now the core NMT document in Chile, a manual for inclusive road design. Its key goals were to support national urban development policies regarding NMT, and provide technical knowledge to decision-makers related to NMT. The publication developed out of the 2014 National Urban Development Policy, which recognized the way in which motorized traffic had monopolized public and urban space.

The vision of the Vialidad Ciclo-Inclusiva is that streets operate from a user-centered design: the document seeks to deliver guidelines for safe and comfortable road infrastructure that delivers satisfaction to users and results in a better urban experience for all. Non-motorized modes are recognized as accessible, equitable, affordable and sustainable modes. The Guidelines set out the following objectives:

- That bicycles must be recognized and integrated into multi-modal traffic
- That all urban roads are cycle-inclusive
- That bicycle paths are by default considered in roads planning, traffic volume and speed-permitting
- Where traffic volumes and road speeds are inappropriate for shared spaces, exclusive facilities will be provided.

Santiago Chile
©Claudio Olivares Medina

Civil society action and local commitments

A significant participatory effort led by citizens (Living City) as well as local and regional governments, with support from a Dutch NGO, has seen the increase of cycling's modal share in a relatively short period (2006-2012) to 3% (Sagaris, 2014). Today, thanks to this ongoing civil society engagement, Chile and Santiago in particular has an NMT Master plan as well as funding policies, and a new design manual for inclusive streets.

In 2009, through a participatory action-mapping process, cyclists' evaluation of existing infrastructure became a part of the diagnosis that led to a significant update of Santiago's Cycling Master Plan (Sagaris, 2014). The Santiago Cycling Master Plan Commission met regularly in the regional government's chamber throughout 2008 and 2009, developing objectives and involving a broad and expanding set of actors, including neighbourhood associations, recyclers (who use cargo-bikes based on tricycles) and other groups not directly involved in cycling (Sagaris, 2014).

The Santiago NMT Master plan aims to raise walking from 38% to 40% mode share by 2020, and cycling form 4% to 20% by 2020. The idea is to target trips under 2 km as walking trips – by ensuring that grocery stores/basic supplies/ primary schools are all within such a distance.

In 2013, the Bikesantiago public bicycle scheme was launched in Santiago's Vitacura and Barnstaple neighbourhoods.

Colombia

National commitments

Key policies and plans for sustainable transportation in Colombia are the National Development Plan, the National Urban Transport Policy, and the Action Plan for Sector Mitigation (Transportation).

The National Urban Transport Policy focuses on structuring, and restructuring, passenger transport systems in the cities of Colombia, and pays particular attention to NMT and road safety, and to supporting and promoting mass transit.

The 2014-2018 National Development Plan (Law 1753 of 2015) made explicit mention of NMT in article 31 (noting financing needs and investment plans for NMT) and article 32, where the state committed to taking action to increase the use of NMT modes (journeys on foot, bicycle or tricycle). Article 204 commits the Ministry of Transportation to designing a strategy to include bicycle and NMT facilities in future road projects.

In 2016 the Sustainable Urban Mobility Unit, funded by the World Bank and attached to the Department of Transport and Traffic of the Ministry of Transport, published a guideline for cycle infrastructure in Colombia Cities, drafted as a result of expert national and international input, including citizen groups and workshops.

Local commitments: Bogota

Bogotá, the capital of Colombia with almost 8 million people, is internationally recognised for its sustainable transport actions, in particular the 55 km TransMilenio BRT. The city also has an impressive network of bicycle lanes, of around 350 km) and a mode share of cycling trips of around 5%. There is also a current commitment to build 120 kilometers of bikeways between 2016-2019 and to double cycling trips in that period.

Bogotá was the first substantial case of carbon crediting in the transportation sector, used for the financing of vehicle procurement for the TransMilenio BRT system. The certification of the carbon credits was based on the scrapping of old buses and replacement with more energy efficient vehicles and improved system operation (Massink et al, 2011).

Car and vehicle parking restrictions, through a license tag system and prohibition from Bogotá's central city streets during peak hours, are further key interventions (Cervero, 2005).

Bogotá is also what Cervero calls an extraordinary example of matching infrastructure hardware with public-policy software: Latin's America's most extensive network of cycleways, local parks, the world longest pedestrian corridor, and the planet's biggest Car Free Day, in existence since 1974, where the city closes 120 km of main roads for seven daylight hours to create a ciclovia (cycling way) for cyclists, runners, skaters, and pedestrians. By 2005, 43% of the city's transport investment budget goes to ancillary policy measures (Cervero, 2005).

Local commitments: Medellin

Medellin has a free public bike system, EnCicla, with has 50 stations, and 1 300 bicycles, integrated to the mass transport system of the city through the Metro and Metropla's stations. The system was developed as part of Medellin's Metropolitan Bicycle Master Plan. The goal is that by 2030, 10% of total trips in the Aburra Valley are by bicycle.

Civil society and social enterprise

Postobón, one of Colombia's largest beverage companies and long-time sponsor of Colombian professional cycling, is using Buffalo Bicycles from World Bicycle Relief to improve education quality and performance in rural communities. To date, their program Mi Bici has provided 1 740 bicycles to students, teachers and community leaders in two districts where travel times average 45 minutes to two hours – even with access to a local bus. Postobón has observed that students with Buffalo Bicycles have reduced their commute by up to one hour plus absence rates have decreased by 80% on average.

Mexico

At present, Mexican cities are dominated by motorized modes and recent estimates suggest an 'alarming' trend in increased use of private cars, the vehicle fleet may reach 70 million vehicles in 2030 (CTS-INE, 2010). Thus, challenges of traffic congestion and air pollution resulting especially from an old vehicles fleet and lack of investments in NMT experienced in Mexico City, are replicated throughout the country. On average, Mexicans spend 2 hours per day in transport (Source: Mario Molina Centre), time which is not only lost to social lives, but also results in economic losses.

According to a study by the ITDP in 2012, the negative externalities of congestion, local pollution, noise, emissions of greenhouse gases and car accidents in five metropolitan areas of Mexico (Valley of Mexico, Monterrey, Guadalajara, Puebla-Tlaxcala and Leon) that constitute 42% of the urban population and 40% of the vehicle fleet of the country; generated a social cost equal to 4% of the total GDP of these cities.

Additionally, transport governance is fragmented in the country, and there is no single entity at national level responsible for sustainable urban mobility. Nor are there any national policies (ITDP 2012) that co-ordinate sustainable transport matters. In this extent, the Secretariat of Agrarian, Terrestrial and Urban Development (SEDATU) was created in 2013 to generate public policies on cities and housing development as well as the administration of national territories; on the other hand, the infrastructure is led by the Secretariat of Communications and Transportation (SCT); the environmental regulation is led by the Secretariat of Environment and Natural Resources (SEMARNAT); and the transport governance is coordinated and invested by state and city entities. As an example of better governance on environmental challenges, the National Commission for the Megalopolis (CAMe) was created in 2013 to coordinate political decisions on the atmospheric basin of the central area of Mexico composed by six states (Mexico City, State of Mexico, Hidalgo, Morelos, Puebla and Tlaxcala). Moreover, Alternatives to car use are still scarce, a problem even exacerbated by an investment of only 12% of national infrastructure budget in the improvement of public transport and walking access and 65% into maintenance and new street infrastructure (2012).

National commitments

In 2007, in response to the significant challenges, Mexico City developed the Green Plan (Plan Verde), which included programmes on transportation and mobility. Together with an Integrated Urban Transportation Programme and a bicycle mobility strategy, the city has focused on the development of mass transit and NMT (Pearl, 2015). The goals included the following goals:

- Improve the quality and availability of public transportation
- Lower the number of private vehicles on the roads
- Promote NMT
- Speed up mobility on the road
- Foster a road culture that respects cyclists and pedestrians

On regular Sundays for the past nine years (since 2007), part of the Paseo de la Reforma, the biggest city centre street, is closed to cars to provide space for pedestrians and cyclists as part of the "Muévete en bici" (Bike Move). This event has grown to become the fifth largest car-free day in Latin America, with 48 km of streets closed to motorized traffic (City Fix). In 2008 the Ministry of Environment opened a Non-Motorized Mobility Strategy Office to coordinate the building of better bike infrastructure, integrating cycling into the wider transport system, creating a cycling culture, and increasing access for all the city's residents to cycling. Pedestrianization of the city's historical centres and neighbourhoods began in 2010. Cycling-infrastructure was introduced as part of the "Programa de Corredores de Movilidad No Motorizada" (Non-Motorized Lanes Programme), adding 31 km of bicycle lanes.

"Ecobici" public bicycle system (bike-share) is one of the success stories of promoting sustainable uses of transport. The public bike share system was launched in 2010 as part of the city's Bicycle Mobility Strategy and NMT Master Plan of Mexico City. It began operations with 85 stations and currently has 444 with a coverage area of 32 km. EcoBici users are surveyed and the system evaluated every year. It counts around 30,000 uses during week days and it has been used 36 million times since 2010 (Source: Ecobici website) and makes it the 4th biggest public bike share scheme in the world.

All in all, Mexico City has constituted the national reference on NMT programmes; "Muévete en bici" is being replicated nationwide and bike-share systems have been implemented at least in three cities: "Mi Bici" in Guadalajara, "Huizi" in Toluca and "Smartbike/Cycloshare" in Puebla (ITDP, 2016).

Policy development and content check list

Policy development

- [ ] 1. Vision
- [ ] 2. 'Problem statement'
- [ ] 3. Mission statement and goals
- [ ] 4. Clear, measurable objectives
- [ ] 5. A measurable strategy that will achieve these objectives
- [ ] 6. Indicators: on what basis will you measure success?
- [ ] 7. Baseline data and data collection strategy: Where are you now, and how will you measure change?
- [ ] 8. Do you have a detailed action plan, with time-lines and performance measures
- [ ] 9. Do you have other directorates, units and government tiers on board?
- [ ] 10. Have you asked users and stakeholders for their needs and priorities?
- [ ] 11. Have you asked for peer or international review?

Policy Content

- [ ] 12. Have you undertaken a gap analysis?
    - What laws, by-laws and regulations are missing in your current policy environment?
    - Does this policy plan to develop the relevant regulatory measures?

- [ ] 13. Provision or requirement for local planning
    - Does this policy plan to develop the relevant regulatory measures?

    - What policies, strategies and other planning are cities and districts required to do, as a result of this national policy?
    - What training is in place to ensure that these cities or counties know how to master plan?
    - Does your NMT policy require or support the development of supportive local policies, such as traffic calming, pedestrianisation, car-free events, law-enforcement, etc

☐ 14. Infrastructure

- Do you have technical infrastructure guidelines
- Are there plans for pedestrian facilities and maintenance
- Are there plans for bicycle facilities and maintenance
- Do you have bicycle parking designs
- Traffic-calming measures
- Traffic signaling priority and signage policies
- Speed-reduction measures

☐ 15. Focus areas

- Intermodal planning (access to public transport)
- A focus on women, children and other vulnerable groups?
- Microenterprise opportunities within NMT?
- Purchase assistance for NMT vehicles?
- Rural footpaths and bridges
- Animal-drawn transport and intermediate modes
- A safety and enforcement plan?
- Capacity building for staff and contractors

☐ 16. What will you do with your policy now?

Do you have:

- A market-segmented promotion strategy?
- A communication plan?
- Stakeholder engagement strategy
- A funding strategy?
- A monitoring, evaluation and revision plan?
- A stakeholder and media reporting plan?

☐ 17. What human and other resources do you need in order to implement this policy?

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