



### FROM THE GROUND UP: Local views on mobility and development

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## Introduction

More people are on the move today than ever before. People across the globe take more than 7.5 billion trips in cities alone each day.<sup>1</sup> There are currently over 1.7 billion registered vehicles and vehicle ownership is expanding rapidly, particularly in emerging economies. Many governments now prioritize infrastructure development — for instance road, air, rail and water transportation — to connect and empower more people.

At the same time, if we are to adjust to shifting socioeconomic and environmental conditions and meet sustainable mobility demands, the world must constantly invest and innovate.

#### WHILE WE ARE MORE MOBILE OVERALL, FREEDOM OF MOVEMENT IS NOT SHARED BY EVERYONE.

Populations are ageing and inequality is increasing in many corners of the world, affecting the degree to which people can move around. Meanwhile, rising populations and economic activity stretch cities to their limits — more than half of the world's population now lives in urban areas and by 2030 that number is expected to rise to over 60 percent.

Some mobility systems and programs we have come to rely on damage the environment and contribute to changes in climate. Transport is responsible for over 27 percent of all carbon emissions, traffic jams worldwide cost up to US\$1.4 trillion annually and global traffic related fatalities are expected to triple to over 3.6 million per year by 2030.<sup>2</sup> People living in developing countries are disproportionately affected by these dynamics as unfettered growth, high population density and poverty limit access to safe and efficient transport.

#### HISTORY HAS SHOWN THAT EQUITABLE AND ACCESSIBLE MOBILITY IS CRITICAL TO ECONOMIC GROWTH AND OPPORTUNITY.

Freedom of movement can also broaden access to

critical social services, such as health and education, and help even the most marginalized individuals, families and communities reach their potential. Further, mobility influences all other development sectors, from major development priorities like agricultural and economic development to crosscutting sectors like gender and disability.

#### ACHIEVING A SAFE, SUSTAINABLE AND MOBILE FUTURE WILL DEPEND ON OUR ABILITY TO UNDERSTAND BOTH THE CHALLENGES WE FACE AND THE SOLUTIONS AT OUR DISPOSAL.

The source of these insights should not be limited to policymakers, engineers and economists, but also development professionals and representatives of local communities who each day experience how mobility inhibits and empowers their work and lives.

In this report, Devex teamed up with the Toyota Mobility Foundation so local development voices can join the important discussions around mobility. We conducted 48 in-depth interviews with development professionals working across six developing regions and we asked them to reveal mobility challenges and solutions that affect their day-to-day work. Our interviewees have diverse professional experience across the economic development, health, education, agriculture and transportation sectors. To supplement these interviews, we also conducted an online survey that garnered more than 1,200 responses from the international development community.

The report is not a comprehensive assessment of the many mobility challenges the world faces; rather it attempts to add a new dimension to the mobility conversation by addressing root causes and capturing local, on-the-ground voices and bottom-up perspectives. We hope the report contributes to the ongoing dialogue around mobility in developing countries and helps identify actionable possibilities for the future.

<sup>&</sup>lt;sup>1</sup> HTTPS://UNHABITAT.ORG/URBAN-THEMES/MOBILITY/

<sup>&</sup>lt;sup>2</sup> HTTPS://WWW.THEFUTURESCENTRE.ORG/TREND-CARD/INCREASED-MOBILITY

# Methodology

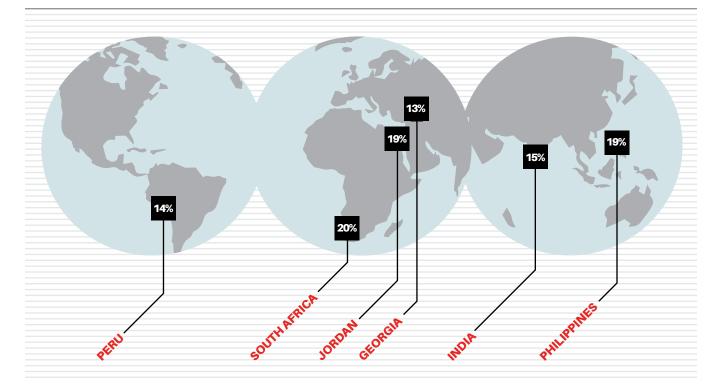
#### **DEFINING MOBILITY**

Mobility is a broad term with different meanings. For the purposes of this report, we define mobility as the ability to freely and easily move goods and people. Our definition purposefully excludes other mobility concepts, for instance international migration and social mobility. This report characterizes mobility through the lens of local acute challenges and solutions. This local focus allows us to better appreciate underlying mobility issues that lead to more widespread global problems.

#### **MEET THE 48 DEVEX INTERVIEWEES**



We spoke to development professionals from six middle-income countries representing the six largest developing regions. While each country and region faces unique mobility challenges and solutions, we discovered many similarities that bind them together.



#### WHERE ARE INTERVIEWEES BASED?

### SOUTH ASIA

Home to over 1.3 billion people, India's mobility challenges relate directly to the sheer number of people moving around. A growing economy and insufficient public transport has resulted in a shift towards vehicle ownership, worsening the country's debilitating pollution and congestion. An unwieldy government bureaucracy and neglected rural areas add to the country's mobility challenges.

**EUROPE & CENTRAL ASIA** 

The Central Asian country Georgia

has a relatively small population

barriers to accessible and efficient

depend on outdated infrastructure

and social challenges. The country

has made recent strides to improve

its mobility policies, governance and

that exacerbates technical, economic

of 3.9 million, but faces critical

transport. Georgia continues to

**GEORGIA** 

regulations.

#### SOUTH EAST ASIA PHILIPPINES

Nearly a quarter of the Philippines' 103.8 million inhabitants reside in or near the greater Manila area. As the country's economy improves, an inefficient public transport network comprised of both informal and formal services has contributed to a car-centric culture. The country's island geography compounds mobility challenges in rural areas.

### LATIN AMERICA & CARRIBEAN PERU

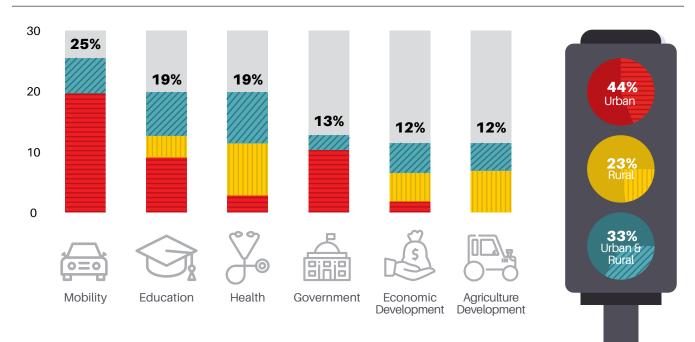
Only 30 percent of Peru's population of 31.7 million owns a private car and the government is working to implement a national environmental strategy, opening up opportunities for the country to become a global leader in low-carbon transportation. Peru is grappling with how to best balance economic growth and infrastructure development and root out corruption in the transport sector.

#### AFRICA SOUTH AFRICA

Apartheid-era land use policies continue to affect transportation with dense urban centers and townships separated by large swaths of land. The distance also adds to high transportation costs which exclude large segments of the population from economic opportunity. Public transport innovations, such as Uber, have sparked conflict with longstanding informal minibus and taxi operators who view new services as a threat to their livelihood.

#### MIDDLE EAST & NORTH AFRICA JORDAN

Currently hosting around 700,000 Syrian refugees, Jordan's population of 7.7 million has increased by more than 10 percent in the last few years, which has strained this Middle East country's transport network and systems. Costs of transporting goods within Jordan are particularly high and damage the country's economic prospects. Several large-scale, innovative and people-centered approaches to transport have surfaced in recent years.



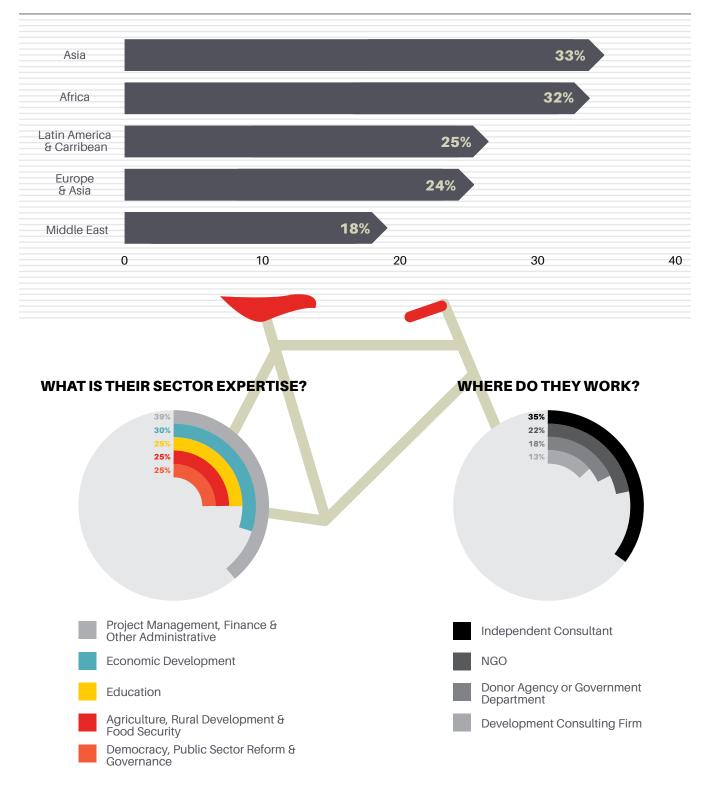
#### IN WHICH SECTORS AND WHAT AREAS DO OUR INTERVIEWEES WORK?

#### **MEET THE 1,239 DEVEX ONLINE SURVEY PARTICIPANTS**



Tapping into the Devex network of over one million development professionals, we reached out to thousands of development professionals with balanced representation across regions, sectors and work experience.

#### IN WHICH REGION DO OUR SURVEY RESPONDENTS HAVE THE MOST EXPERIENCE?



## Critical Linkages Between Mobility and Development

Strong and inclusive mobility solutions link people and communities to essential services, such as education and healthcare, enable access to employment opportunities and open the door to domestic and international markets. The Devex online survey and in-depth interviews reveal an across-the-board consensus that mobility is essential to local, regional and global development. At the same time, 90 percent of online survey respondents believe solving mobility challenges should take higher priority in global development. The majority contend that shifting to a more holistic approach whereby development and social agencies address and incorporate mobility can lead to better outcomes. Here are some of the reasons why.

#### **MOBILITY FOSTERS LIVELIHOODS...**

At the community and household level, Devex interviewees note that mobility enables people to diversify their livelihoods and access jobs. Mobility also helps poorer people cope with external shocks and can even facilitate access to credit or other financial services. Efficient transport can link rural and urban areas, which helps share knowledge, technology and skills and increases the flow of goods and services to marginalized communities.

**60% OF DEVEX** 

INTERVIEWEES SAY THAT BETTER MOBILITY LEADS TO MORE OPPORTUNITIES AND ECONOMIC DEVELOPMENT

"In small rural areas, there are no service cars or buses, so transport is expensive. People need to use transport to get to their workplace, but their salaries do not cover the costs, which makes it highly inefficient." Rawan Ababneh, Development Consultant, Jordan

#### LINKS THE LOCAL TO THE GLOBAL...

Devex interviewees note that improved transportation helps local firms and producers access global value and supply chains. Mobility has the power to expand market access, help individuals and producers use new technology, provide access to cheaper inputs, and enable firms to move into the production of higher value industrial or agricultural commodities.

#### AND INFLUENCES NEARLY ALL DEVELOPMENT SECTORS AND ACTIVITIES

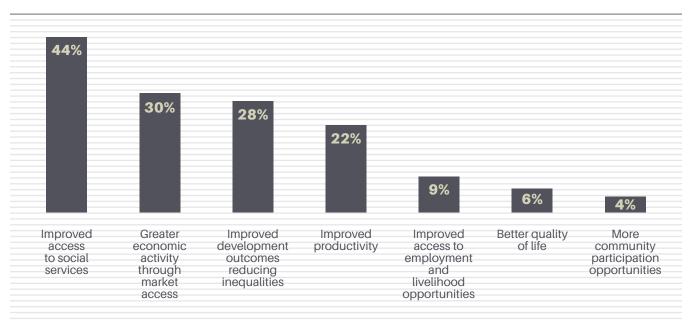
Devex interviewees and online survey participants agree that mobility is critical to alleviate poverty and enable people to access social services. In both rural and urban settings, transportation options facilitate access to basic primary health care, prenatal care, emergency care, immunization programs and improve the supply of vital drugs and equipment.

Devex interviewees also note that mobility allows people to assert more control over their lives, expand freedom and choices, for instance over where to live and work, and advance human development. Interviewees suggest that the design and implementation of local mobility solutions that address acute social problems can enable more people to play more productive roles in their communities.



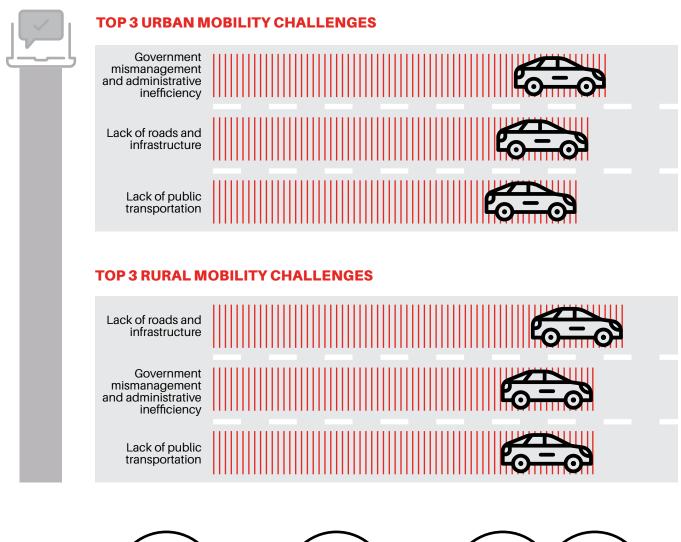


### HOW CAN ENHANCING MOBILITY CONTRIBUTE TO LOCAL SOCIO-ECONOMIC DEVELOPMENT?



## Mobility Challenges and Barriers

Severe mobility challenges plague most developing countries. The forces of urbanization strain existing transportation systems, while remote communities often lack even basic road access. According to the Devex online survey, the top three drivers of mobility challenges in developing countries are poverty and resource constraints, rapid urbanization, and rapid population growth. But there are other more nuanced mobility challenges in developing countries that are best understood within the local context. Here is what we learned.

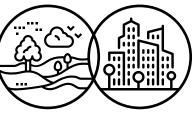


LEGEND:

RURAL

CHALLENGE

URBAN CHALLENGE



RURAL & URBAN CHALLENGE

#### POOR INFRASTRUCTURE REMAINS THE BIGGEST PROBLEM IN RURAL AREAS...



Over 56 percent of Devex interviewees note that access to transport infrastructure and services remains the biggest challenge for people in developing countries, especially in rural areas, where over one billion people lack access to all weather roads. But interviewees also point to a consistent lack of maintenance and general poor quality of roads where they exist. A shortage of technical skills and financial resources as well as insufficient political will to invest and improve rural infrastructure inhibit mobility progress.



74% OF INTERVIEWEES WORKING IN RURAL AREAS BELIEVE INFRASTRUCTURE IS CRITICAL TO IMPROVE MOBILITY

"Limitations in maintenance expenditure remain a problem, as countries focus on developing rather than maintaining or stabilizing the network. The quality of the secondary and particularly the tertiary road network remains poor, on average, and in some countries, responsibilities for management and maintenance remain unclear."

Martin Humphreys, Lead Transport Economist, World Bank, South Africa

#### AS WELL AS A LACK OF AFFORDABLE AND ACCESSIBLE TRANSPORT OPTIONS



Devex interviewees find that in places where rural populations can access transport infrastructure, inefficient or expensive public transportation options limit the mobility of the population, particularly the rural poor. With few financial incentives for the private sector to step in where public transport is inadequate, rural and remote communities in developing countries are often among the least mobile populations.



61% OF DEVEX INTERVIEWEES WORKING IN RURAL AREAS NOTE THAT RELIABLE AND WELL-MAINTAINED TRANSPORT SERVICES ARE LACKING "It's not feasible for the private sector to invest in public buses for small villages of 2,000 or 3,000 inhabitants. At most they may have a bus that leaves in the morning and another that arrives in the evening. If villagers miss a bus, they have to wait for another day to travel."

Anwar Elhalah, Development Consultant, Jordan



MORE THAN HALF OF DEVEX INTERVIEWEES SAY THAT RURAL TRAVEL IS CONSTRAINED BY GEOGRAPHIC CONDITIONS AND CLIMATE

#### **GEOGRAPHY AND CLIMATE MATTER**



In many developing countries, distinct geographical and climate-related challenges hinder access to transport services and infrastructure. The Philippines' island geography perpetuates mobility problems as do mountainous regions in Georgia that are regularly cut off by heavy snowfall. Monsoons and flooding are a common challenge in many countries, leading to impassable roads and permanently damaged infrastructure.

"Schools are everywhere so they are generally within reach, but during the winter this can change drastically. This is not so much a problem in the cities, but definitely in mountainous areas, which make up 30 percent of Georgia's territory. Children living there experience difficulties moving from their homes to their schools when there is heavy snowfall." Tamta Golubiani, Team Leader, Save the Children, Georgia

"When it is monsoon season, the heavy rainfall disrupts work on the roads and brings transport to a standstill." Shakil Anwar, Integrated Development Foundation, India

#### BUREAUCRATIC CHALLENGES CAN LIMIT PROGRESS



Devex interviewees emphasize that developing countries can also face severe bureaucratic

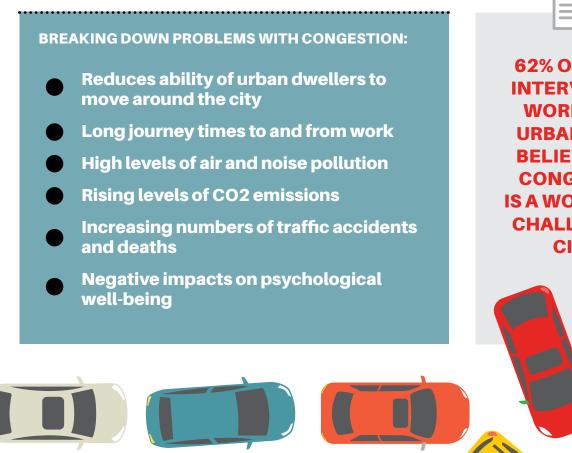
hurdles that limit progress on mobility. In many cases, local and national mobility policies lack coordination across different government agencies that tend to operate in silos and focus on their specific sectoral issues rather than collaborate to address mobility as a common concern. Limited bureaucratic capacity, corruption and competing interests of stakeholders further constrain the policy and implementation process. "Institutional structures are an added challenge in Metro Manila, which consists of 13 cities, and several provinces in the Greater Manila Area. So, it's a relationship between the central and local governments. In Manila, the main road crosses seven cities. For something to happen, you would need many people sitting at the table, but they rarely agree with each other." James Leather, Senior Transport Specialist, Asian Development Bank, Philippines



#### **CONGESTION CAN IMPACT QUALITY OF LIFE**



Rapid population growth, urbanization and rising consumer wealth in developing countries has prompted a surge in private car ownership. In 2010, the number of vehicles worldwide surpassed one billion for the first time and is projected to reach two billion by 2035. Yet, infrastructure development has in many cases not kept pace. Devex interviewees contend that congestion is among the biggest problems in urban areas which impact economic growth and stifle people's quality of life.



62% OF DEVEX INTERVIEWEES WORKING IN URBAN AREAS BELIEVE THAT CONGESTION IS A WORSENING CHALLENGE IN CITIES

"Across the country, in any city, no matter how big or small, travel times have been increasing, and this is leading to a poor quality of life." Prashanth Bachu, Urban Transport Specialist, GearChange



#### LACK OF ALTERNATIVE INFRASTRUCTURE



Devex interviewees acknowledge that private cars are important for mobility, but they say governments often over prioritize road infrastructure to accommodate cars at the expense of alternative forms of transport. This limits resources available for other mobility projects.

While expanding road infrastructure is necessary in many cases, interviewees suggest that roads alone will not solve congestion in urban centers and governments should target imbalances in demand versus capacity across all transport networks.

"The mobility system in Amman is unbalanced. Investments have traditionally favored private cars, through building new roads, bridges and intersections. Little has been done to improve conditions on other modes, such as public transport and walking."

Hazem Zureiqat, Engicon, Jordan

"If you think the solution to traffic congestion is building more roads, it's just like buying a bigger pair of pants to solve obesity." Cresencio Montalbo, Associate Professor, University of the

Philippines



68% OF DEVEX INTERVIEWEES WORKING ON URBAN DEVELOPMENT ISSUES BELIEVE THAT TRANSPORT NETWORKS NEED URGENT UPGRADING AND DIVERSIFICATION

#### **MISMANAGEMENT OF PUBLIC TRANSPORT**

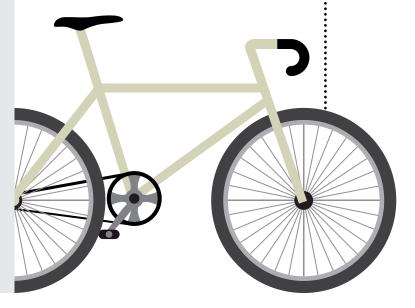


When public transportation is poorly regulated and underfunded, quality and safety declines and turns away potential users. In South Africa, for instance, some poorly managed public transport systems are hotspots for robbery and vandalism. Public transport networks turn unreliable when governments fail to prioritize or effectively manage them. This neglect can result in declining demand and begin a downward spiral where policymakers and government officials give up on the system entirely.



"We have a metro system but only two new stations were opened since the Soviet Union collapsed. At the same time the city has expanded considerably." Simon Gabritchidze, Executive Director, Welfare Foundation, Georgia

people rely on private cars and so on." Raj Cherubal, CEO, Chennai Smart City Mission, India



#### POORLY INTEGRATED NON-MOTORIZED TRANSPORT



Devex interviewees note that across developing countries, non-motorized transport or NMT, such as cycling and walking, is not well-integrated with other transport options or overlooked completely. While the Indian city of

Pune was once known for its use of bicycles, recent years have seen a steady decline in cycling, a direct effect of increasing car use that endangers cyclists. In other cases, there is a glaring absence of a cycling or walking culture which is aggravated by a chronic lack of pedestrian and bicycle infrastructure. "Walkability is the most pressing mobility challenge in the Philippines. If you want to reduce congestion on the road, if you want to be more environmentally friendly, you have to address walkability."

Marie Danielle V. Guillen, Australia-ASEAN Focal Point, Women in Transportation Leadership (WiTL), Philippines

#### 40% OF DEVEX INTERVIEWEES CITE A NEED TO PROMOTE NMT SOLUTIONS, BUT CONCEDE THAT THERE IS A LACK OF AWARENESS REGARDING THESE OPTIONS

#### **GENDER, POVERTY AND DISABILITY LIMIT MOBILITY**



Women face a unique set of challenges in relation to mobility. In some contexts, religious and cultural beliefs and norms constrain women's mobility, while in other cases safety concerns are hindering women's ability to move freely. Devex interviewees point out that these challenges also undermine women empowerment. Not only can a lack of mobility lead to disadvantages in the labor market, but it can also affect females at an early age and increase school drop-out rates.

"It is very traditional where we go. The women have their roles: they take care of the kids, they make the food, they wash the clothes and the dishes in the river. The men fish and hunt, and go to peers. So, the men are the ones that go on the boats to the city to sell the food. It really is turning to be genderbased."

Diane Bowie, Country Director, DB, Peru





60% OF DEVEX INTERVIEWEES CONTEND THAT MARGINALIZED GROUPS, PARTICULARLY WOMEN, PEOPLE WITH DISABILITIES AND THE POOR FACE THE BIGGEST MOBILITY CHALLENGES "For the poor who are now forced to relocate away from the city centers, it is difficult for them to access public transport, which is often lacking. So they have to rely on private transit, which is much more expensive and worsens their situation." Prashanth Bachu, Urban Transport Specialist, GearChange



54% OF DEVEX INTERVIEWEES NOTE THAT CURRENTLY AVAILABLE TRANSPORT OPTIONS ARE NOT AFFORDABLE TO MOST PEOPLE



Devex interviewees note that low incomes and a lack of access to affordable public transport influence mobility. Relocation further exacerbates the issue of the urban poor away from city centers.



According to Devex interviewees, mobility in developing countries is also highly restrictive for people with disabilities. In most cases, public and quasipublic transport is not adapted to the requirements of disabled users, and also makes transport more expensive.



"Vehicles are not adapted for people with wheelchairs. If you need to be transported with a wheelchair in a taxi, the person would have to pay for his or her transport and the transport of the wheelchair."

Barbara Stemmert, Program Director, Ikamva Labantu, South Africa

## Local Mobility Solutions

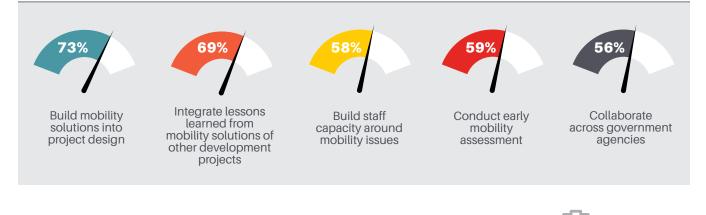
Addressing mobility challenges at scale in developing countries will not be easy. The design and implementation of sustainable solutions requires innovative strategies, coordinated planning, and proper resourcing that follow global best practices and are effectively tailored to local contexts. But the good news is that there are plenty of positive stories and examples of developing country governments and various stakeholders reducing mobility limitations which open up a host of other socio-economic development opportunities. Here are some of the lessons we learned about how developing countries and local communities should approach and resolve mobility challenges.

"Mobility is a need and not a want. Mobility cannot be left behind as other development needs to be addressed."

Neo Moono, Online Survey Participant, South Africa



### **5 WAYS TO BETTER INTEGRATE MOBILITY SOLUTIONS INTO DEVELOPMENT PROJECTS:**



#### PLANNING AND IMPLEMENTATION REQUIRES COORDINATION...

Mobility projects can be very complex and typically involve various levels of government. Politicians, national government and local government agencies can play significant roles in initiating, facilitating, and maintaining mobility projects. According to the Devex online survey, government mismanagement and administrative inefficiency is the leading barrier to mobility solutions, while governance and policy implementation is the most important factor driving mobility solutions.

According to Devex interviewees, effective governance and policy requires a diversification and strengthening of collaboration across government agencies and with other stakeholders. Respondents also cite the importance of bottom-up and demand-driven approaches into long-term strategies as well as transparent policies which incentivize new solutions. 67% OF DEVEX INTERVIEWEES RECOMMEND COLLABORATION WITH GOVERNMENT AGENCIES AND POLICY-RELATED INTERVENTIONS TO ENABLE AND REGULATE MOBILITY "WRI is assisting countries in developing their policies for low-carbon transport. The reason Peru is a good case study is because it has worked both horizontally and vertically. Currently, Peru is establishing and implementing climate-relevant processes and active dialogue throughout several governmental agencies: Ministry of Transport, Ministry of Environment, Ministry of Finance, and Ministry of Mines and Energy. It is really an all-inclusive approach because it can't just be standalone within the Ministry of Transport." Angela Enriquez, World Resource Institute (WRI), Peru

#### AND ADEQUATE AND SUSTAINABLE FUNDING

In order for mobility solutions to get off the ground and affect people's lives, they must be properly funded. Financing mobility goes beyond the public sector and includes new actors, channels and models. According to Devex interviewees, incentives for new types of financing will open up important paths for mobility in the future. Devex interviewees highlight how financial uncertainty and struggles create bottlenecks for mobility investments and project implementation. They cite the need to invest sustainably in basic infrastructure through predictable government budgeting and disbursements. This especially applies to rural areas where access to basic services like healthcare or education is hindered due to a lack of hard infrastructure. Respondents also highlight the influence of the private sector and innovative approaches, such as shared mobility, low-cost mobility options or micro financing, to supplement government capacity and funding.



#### RESOURCE AND FINANCIAL MANAGEMENT IS AMONG THE TOP 3 DRIVERS OF MOBILITY SOLUTIONS

### INTERVIEWEES CITED THE FOLLOWING MOBILITY FUNDING STREAMS:

- Official Development Assistance (ODA)
- Other international development partnerships
- Private sector investment and public-private partnerships
- Development impact bonds
- Cost sharing between national and local government
- Microfinance and micro insurance
- User fees

"With respect to affordability of health services, we work with a lot of financial institutions, particularly for people who are in the informal sector. So it's not just about the medical costs, but also about indirect costs to access care, such as transportation costs and lost wages. These costs can make access to care unaffordable, regardless of whether you provide health services for free or not. In the Philippines and other countries, you have micro insurance companies that pay per diem if you are hospitalized. Beneficiaries can choose to use that per diem to cover indirect costs." Gabriela Salvador, Global Manager, Freedom from Hunger, Philippines



#### SOLUTIONS SHOULD ADAPT TO THE PEOPLE THEY INTEND TO SERVE...

Many of the most effective mobility solutions are peoplefocused. Devex interviewees stress that while mobility implementers should reference global standards and best practices, there is simply no one-size-fits-all approach to mobility. By taking a more human-centered perspective in mobility design and execution, planners and implementers can build more inclusive solutions that provide access to critical social services, such as health and education. "Human-centered design" requires that planners and implementers immerse themselves within local communities to better understand the problems and challenges and install continual feedback systems to determine the effectiveness of mobility solutions. According to respondents, humancentered approaches result in more inclusive mobility that offers more people access to dignified, safe, affordable and convenient transportation.





**50% OF INTERVIEWEES** RECOMMEND **ADDRESSING** THE MOBILITY **OF SPECIFIC** GROUPS **SUCH AS PEOPLE WITH DISABILITIES**, THE ELDERLY, **REFUGEES**, **THE INFORMAL SECTOR, THE** MIGRANT POPULATION AND WOMEN

"Promoting inclusive and adapted transport means directly fostering human rights."

#### Tamta Golubiani, Team Leader, Save the Children, Georgia

"I'm an advocate for dignity of travel. People should not be judged for the transport choices that they make. Like if you take public transport or if you ride a bicycle, you should not be judged as poor. For me, dignity of travel is the ability to travel without being judged for the choices you make. It is not having to run for our lives when we cross a street nor run after a vehicle to get a ride. It is the ability to travel efficiently, safely and conveniently."

Cresencio Montalbo, Associate Professor, University of the Philippines School of Urban and Regional Planning

"We do local participative rapid appraisals to find out about people's mobility to plan for future perspectives and on a strategic level. We are aiming for open civil societies or NGOs to involve everybody to really make a contribution, especially for women to move towards more empowerment. So, from that perspective, yes, I think it is important to understand why we need to focus on inclusive mobility." Rawan Ababneh, Development Consultant, GIZ/USAID, Jordan



77% OF DEVEX INTERVIEWEES BELIEVE THAT BESPOKE FORMS OF TRANSPORT ARE CRITICAL TO ADDRESS MOBILITY CHALLENGES

#### AND THE CONDITIONS ON THE GROUND

Mobility is often hindered by difficult and unaccommodating geography, weather and other on-the-ground conditions. In rural areas, poor mobility leads to a loss of opportunity as basic service facilities, such as schools and health centers, are extremely difficult to access. To address these issues and reach more people, Devex interviewees recommend bringing solutions to the communities themselves and other bespoke forms of mobility.

In the Philippines, local NGOs distribute bicycles and boats to communities. The Yellow Boat of Hope Foundation provides transport for school children to reach schools in remote areas with no road access. The program has delivered 900 yellow boats serving 40 communities.

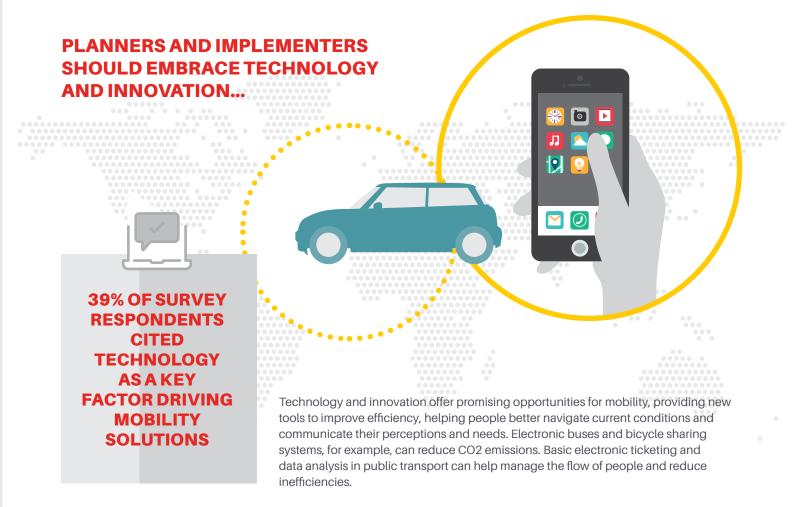
In India, organizations are providing mobile business training facilities. The Mann Deshi Foundation offers a "business schools on wheels" that visits 72 remote villages a year to provide intensive training to women, many of whom dropped out of school and married early.

In Georgia, medical care and other social services are extended to remote communities through mobile technology. The Welfare Foundation sends health screeners equipped with mobile devices to test for diabetes and other diseases and determine treatment options.

### BUT SOLUTIONS ARE NOT ALWAYS MOTORIZED

Devex interviewees say there is limited awareness of non-motorized transportation options and developing countries are struggling to include these alternative forms of mobility into wider development plans. Cheaper, safer, scalable and more environmentally-sustainable, non-motorized transport options are vital in efforts to find long term mobility solutions. Devex interviewees recommend cycling-related interventions in both urban and rural settings. Public bicycle systems designed to provide efficient mobility for short, utilitarian urban trips are gaining ground in both South Africa and the Philippines, while bike distribution programs are also popular in rural areas in India. Other interviewees highlight the impact of basic walking infrastructure, such as elevated pedestrian walkways and sidewalks linking to public transport systems. 56% OF DEVEX INTERVIEWEES ASSERT THAT NON-MOTORIZED TRANSPORT SOLUTIONS SUCH AS BICYCLES AND PEDESTRIAN INFRASTRUCTURE ARE A CRITICAL ASPECT OF MOBILITY In South Africa, dedicated cyclist and non-motorized traffic lanes are safely easing traffic and simultaneously providing environmental benefits. "It's time that we accept that the bicycle is the most efficient transport mode that we can have, that any country can have," says Louis de Waal who is the chairman of the Bicycle Empowerment Network in South Africa.

In India, planners are focused on relieving crowded intersections and alleviating congestion through basic solutions that improve the pedestrian experience. "We removed chokepoints and bottlenecks and strengthened pedestrian infrastructure by providing pedestrian refuge islands for people crossing the road and pedestrian signals," reveals urban transport and road safety manager Binoy Mascarenhas of WRI India Sustainable Cities.



The Waze Connected Citizen Program relies on the free exchange of crowd-sourced data to improve local and global mobility. In Jordan's capital city Amman, an app helped create the city's first bus map by automatically processing the availability and frequency of public transport.

Technology can not only expand but also replace physical mobility, through virtual mobility. App- and computer-based services can bring healthcare or education into people's homes eliminating the need to travel. E-health services can provide answers to basic medical questions, especially for people in rural or remote areas.



#### 60% OF DEVEX INTERVIEWEES INDICATE THAT THEIR COUNTRIES CAN "LEAPFROG" MOBILITY SOLUTIONS THROUGH TECHNOLOGY



54% OF DEVEX INTERVIEWEES POINT TO SOME FORM OF TECHNOLOGY AS VIABLE SOLUTIONS TO MOBILITY CONCERNS "Technology can play a role in mitigating these problems. What you need is the right infrastructure to allow these technologies to play. You need a more robust integrated road network that allows these technologies to be useful. You need a system that encourages and protects private companies where they work in this space. You need to have one eye focusing on tomorrow, and on where technology is going to be taking mobility."

Binoy Mascarenhas, Urban Transport and Road Safety Manager, WRI India Sustainable Cities, India

#### **TECHNOLOGY SOLUTIONS FOR ADVANCING MOBILITY:**

- Public transport websites and apps
- Ridesharing apps
- GPS mapping
- Electric vehicles
- E-healthcare and telemedicine
- Online learning

#### WHILE ALSO PROMOTING BEHAVIOR AND ATTITUDE CHANGE

Systems and infrastructure are not the only factors impacting mobility. Improving mobility in developing countries will also require people to change their behavior. To achieve these changes, Devex interviewees suggest an appropriate mix of reward and regulation. For instance, implementing a well-functioning, integrated public transport system coupled with restrictions on private vehicle ownership, such as toll fees, high parking rates and other taxes.

Devex interviewees also stress that solutions are more sustainable when stakeholders generate awareness of mobility challenges and solutions. Interviewees recommend behavior-changing interventions, such as training community members in boatbuilding and mechanics, or assigning individuals to create emergency transportation plans for the sick, pregnant or elderly. Some governments promote and incentivize behavioral changes in local communities. In India, Raahgiri Day is the country's first sustained propedestrian citizen initiative which began in the city of Gurgaon and expanded to 35 locations in 20 cities across the country. "Raahgiri Day initially was an achievement to close one road for four hours on a Sunday, but the real achievement was that people realized that this is exactly what they want," reveals urban transport specialist Prashanth Bachu of GearChange.





65% OF DEVEX INTERVIEWEES ADDRESS CHALLENGES BY EFFECTING BEHAVIOR CHANGE AROUND MOBILITY ISSUES

"For anything to succeed, there has to be a buy-in of the grassroots, of the people. Otherwise, people will resist it, and they will not own the intervention, or be held accountable. If you engage your stakeholders, you develop in them a sense of ownership, as well as a sense of accountability. For any intervention that aims to effect or create behavior change, the behavior change is people opting for the more sustainable travel modes or transport choices."

Cresencio Montalbo, Associate Professor, University of the Philippines School of Urban and Regional Planning



MORE THAN HALF OF DEVEX INTERVIEWEES BELIEVE THAT WORKING WITH LOCAL COMMUNITIES AND BUILDING LOCAL CAPACITY IS CRITICAL TO FINDING MOBILITY SOLUTIONS

## Where We Go From Here

#### WE ARE AT A CRITICAL POINT IN TIME TO DETERMINE THE FUTURE OF MOBILITY

Mobility is central to nearly everything we do. The freedom to move goods and people around impacts our communities and livelihoods as well as our health, education and social engagement. The issue cuts across urban and rural settings, touches nearly all other development sectors and affects productivity, inclusivity and quality of life.

Our ability to improve mobility at scale, particularly in developing countries, is constrained by many intrinsic problems that are growing more nuanced and complex and will not be easily solved. According to the Devex online survey, now is not a time for complacency — fewer than half of survey respondents believe mobility will improve in developing countries in the future. If we fail to understand and address cross-sector mobility challenges within different local contexts, we all stand to lose.

Yet, the world is beginning to think creatively about mobility solutions. New policies, funding streams, technologies and business models can reshape mobility planning and action across both the private and public sectors. Government leaders, mobility decision-makers and other stakeholders are increasingly committed to deeper dialogue and new forms of collaboration to secure a more mobile future for more people. As this report illustrates, development professionals play an important role in this evolving ecosystem.

