MobiliseYourCity

Global Monitor

2023

Mobilise Your City

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Donors

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AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

Federal Ministry for Economic Cooperation and Development

Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection

FFEM

MINISTÈRE DE LA TRANSITION ÉCOLOGIQUE
Liberté Égalité Fraternité

Implementing partners

AFD AGENCE FRANÇAISE DE DÉVELOPPEMENT

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

ADB

ADEME AGENCE DE LA TRANSITION ÉCOLOGIQUE

Cerema CLIMATE & REGIONS, THE FUTURE

Codatu

European Bank for Reconstruction and Development

KFW

Wuppertal Institut

Knowledge and Network Partners

ECF EUROPEAN CYCLISTS' FEDERATION

Global Network for Popular Transportation

ITDP Institute for Transportation & Development Policy

PLATFORMA LOCAL & REGIONAL INTERNATIONAL ACTION

SSATP Africa Transport Policy Program

TRUFI ASSOCIATION

UCLG United Cities and Local Governments

UN HABITAT FOR A BETTER URBAN FUTURE

In collaboration with

tumi Transformative Urban Mobility Initiative

Euroclima+

Financiado por la Unión Europea

Digital Transport for Africa

EuroMed Transport SUPPORT PROJECT

SUSTAINABLE mobility FOR ALL

Marrakech Partnership

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Executive Summary

Mobility planning helps mobilise the money, which is already leading to implementation. To date, with 40.7 million euros in grants from our donors, we have been able to support the preparation of 31 SUMPs and 9 NUMPs. Out of the 16 completed SUMPs and 5 completed NUMPs, we have identified 22.3 billion euros in investment needs. Following our support, our member cities and countries have been able to leverage 1.7 billion euros for implementation, the greatest part from international loans. The financed investments are primarily for public transport infrastructure, but also roads and public space, walking and cycling, and public transport vehicles.

We are able to project that these investments will contribute to low-carbon, safe, and just cities by helping mitigate GHG emissions, enabling 8.8 million additional people to have improved access to public transport, increasing the model share of sustainable transport modes by 5%, saving lives through better road safety and improving the job quality of transport workers.

Because of these results, **seven years into existence, the Partnership is still growing and attractive to important players**. We see continued demand to join: the German Federal Ministry for Economic Cooperation and Development joined in July as a donor, the Asian Development Bank joined in December as implementing partner, and the cities of Ankara, Türkiye, Thiès and Mbour in Senegal and Puebla in Mexico joined as members over the year. This increasing interest is also visible on our social media, with an increase of 45% in the number of our followers across channels over the course of 2022.

At the heart of our practice, **we work as a knowledge hub. We continuously equip member cities and countries and enable the exchange of knowledge**. Because of our now-established reputation for hands-on trainings, more than 800 mobility practitioners gained practical skills through 16 training sessions. To be able to do more of this, we have released 15 sets of training materials, enabling tested capacity-building content to be readily adaptable and scalable. Learning from implementation in over 30 cities and countries has allowed us to update the MobiliseYourCity Emissions Calculator. All this content is available on the MobiliseYourCity Knowledge Platform, which had more visitors this year spending more time engaging with content than ever before, particularly from the Global South.

Offering solutions and **articulating the link between transport and climate continues to be the focus of MobiliseYourCity**. The MobiliseYourCity Emissions Calculator remains our most downloaded product, with over 6,000 views. We participated in the UNFCCC COP27, offering our members and partners a stage and raising the importance of mobility planning to decarbonise transport. We also continue equipping cities and advocating for a transformation of paratransit, which represents the majority of public transport in most of our geographies while being a large source of GHG emissions.

Looking forward to 2023, we will introduce toolkits on our core topics, including training materials to scale up capacity-building. We will restructure our website to guarantee better access to our tools and methodologies. Last but not least, we will finally launch the MobiliseYourCity SUMP guidelines, the cornerstone of our methodological offer. These guidelines are tailored for MobiliseYourCity geographies. They build on the European SUMP guidelines and seven years of experience of the Partnership, developing SUMPs in the Global South.

All these results are made possible by the strong collaboration between our partners, who bring their own expertise to the Partnership, strengthening their ties and delivering the best service to our member cities and countries.

1 The MobiliseYourCity Global Partnership

Since being launched in December 2015 at COP21, the MobiliseYourCity Partnership has become the leading global Partnership for sustainable urban mobility planning, policy development, and increasing investment for sustainable transport in developing and emerging economies.

Our Implementing Organisations, primarily the Agence Française de Développement (AFD) and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), are working with cities and countries across the world to develop scalable solutions to improve mobility in complex environments.

Today, the Partnership has 69 member cities with a combined population of over 126 million people in 32 countries. Thanks to the generous contributions of the European Union (EU), the Agence Française de Développement (AFD), the French Ministry for the Ecological Transition (MTE), the German Federal Ministry for Economic Cooperation and Development (BMZ), the German Federal Ministry for the Environment, Nature Conservation, Nuclear Safety, and Consumer Protection (BMUV) and the French Facility for Global Environment (FFEM), as of February 2023, the Partnership has raised 40.7 million euros in grants to support 38 member cities and 8 member countries, 4 non-member countries and 6 non-member cities with technical assistance and project preparation, which has already mobilised additional loans for concrete sustainable urban mobility projects. With this investment, we expect an additional 8.8 million people to have access to public transportation services.

The Partnership was founded by Agence de l'Environnement et de la Maîtrise de l'Energie (ADEME), Agence Française de Développement (AFD), Coopération pour le Développement et l'Amélioration des Transport Urbains et Périurbains (CODATU), Centre d'études et d'expertise sur les risques, l'environnement, la mobilité et l'aménagement (Cerema) and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH. We are an international transport initiative under the UN Marrakesh Partnership for Global Climate Action and a member of the SuM4All Consortium.

Our vision

A climate compatible and socially just future mobility

We work together as partners to shape low-carbon mobility systems that contribute to economically vibrant, safe, and just cities for all urban residents of today and the future.

Our mission

Paving the way through collaborative planning and action

Our mission is to incubate scalable solutions, accelerate the adoption of proven approaches, and facilitate complex change processes to transform urban mobility.

We are a Partnership dedicated to enabling transformative change in urban mobility. By leveraging the unique core competencies of a wide range of organisations, we act as a knowledge hub and collaborate to generate solutions that exceed what we could do alone, helping make lasting positive change possible.

How we support cities and countries

The MobiliseYourCity Partnership supports member cities and countries through four main service areas. Already 40.7 million euros have been raised to fund projects in these four service areas.

Mobility planning

Supporting implementation and investment ready plans for inclusive and low-carbon transport.

- Supporting member cities in preparing city-level sustainable mobility plans and project preparation.
- Supporting member countries in preparing country-level urban mobility policies and investment programmes.
- Deploying digital technology to improve mobility planning.

Implementation support

Empowering members to bridge planning with implementation for green and just cities.

- Piloting small-scale innovative finance to support walking and cycling.
- Professionalising and improving jobs in the paratransit sector, in particular by building on digital technologies.
- Supporting institutional and regulatory reforms to enable implementation.

Capacity building

Equipping practitioners with tested and scalable solutions.

- Developing tailored methodologies and tools for our focus areas.
- Scaling our training offer to mobility professionals through strategic partnerships.
- Enhancing our digital platform for trainings, exchange and knowledge dissemination.

Advocacy

Encouraging institutions and individuals to embrace and resource sustainable mobility.

- Communicating local results to influence the global agenda.
- Engaging new partners and members to animate ambitious actions.
- Empowering local behavioural change through evidence-based messaging.

Figure 1. MobiliseYourCity's 4 service areas

"Mobility planning (NUMPs and SUMPs) has the potential to guide urban mobility to net zero emissions by 2025."

André Eckermann

Head of Section, Competence Centre for Energy and Transport, GIZ

Mobility planning

Supporting implementation and investment ready plans for inclusive and low-carbon transport

Our Implementing Organisations, primarily the Agence Française de Développement (AFD) and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), support our member cities and countries to shift from road-centric transport planning to mobility planning that focuses on meeting the needs of all people while balancing the needs of our planet. They are working with cities and countries all over the world to prepare implementation-ready mobility plans and finance-ready projects to improve mobility in complex environments. They support member countries in developing urban mobility policies and investment programmes (NUMPs) and member cities to develop sustainable urban mobility plans (SUMPs), encouraging the use of digital technology to improve mobility planning.

Facilitating access to finance

After receiving technical assistance for mobility planning and project preparation, member cities and countries are supported to identify accessible and affordable financing solutions by either directly financing certain parts of the SUMPs and NUMPs in the case of our banking partners and/or linking investments to other potential financiers of mobility infrastructure and equipment.

Implementation support

Empowering members to bridge planning with implementation for green and just mobility

We offer targeted implementation support to bridge the implementation gap for small-scale and critical measures that is due to low local capacities to allocate finance and, generally, too small amounts to attract external financiers. We focus on three areas: walking and cycling, paratransit, and policy and regulatory reforms.

Capacity building

Equipping practitioners with tested and scalable solutions

Our partners work together to develop tailored methodologies and tools to develop the capacity to plan, finance and implement sustainable mobility solutions. We bring together global experts and local practitioners to generate ambitious, adaptable and achievable solutions. By acting as a knowledge hub, we ensure methodologies are constantly improved, knowledge is scaled, and insights are extracted from the SUMPs.

Trainings and training materials: We offer our members access to webinars and trainings to develop their skills to improve mobility in their city or country. All the materials from the trainings that we offer are made available for anyone to deliver the trainings themselves.

An online knowledge platform: To allow local partners access to the latest knowledge on sustainable mobility, our website offers a mobility library gathering resources on mobility from all our partners. The platform offers guidance to the most relevant resources for each step of the planning process.

Advocacy

Encouraging institutions and individuals to embrace and resource sustainable mobility

We advocate for a change in how cities and countries approach mobility by using the enable-avoid-shift-and improve model (EASI), which puts people's need for connection and access at the forefront of mobility planning. Because we are convinced that this is a successful way of improving urban mobility and decarbonising transport, we advocate for increased resources for technical assistance to scale up this approach and the financial resources to implement it. Our advocacy work is grounded in our experience implementing this model through SUMPs and NUMPs in our member cities and countries.

Who the Partnership brings together

The MobiliseYourCity Partnership brings together partners working together to support cities and countries in advancing sustainable urban mobility. The modes of participation can be distinguished into four different partnership categories:

- **Member cities and countries**
- **Donors**
- **Implementing partners**
- **Knowledge and Network Partners**

City and country members

The MobiliseYourCity Partnership has 69 member cities and 15 member countries. Our Implementing Partners are supporting 31 cities and 9 countries in preparing SUMPs and NUMPs, respectively.

	Member cities	SUMPs	Member countries	NUMPs
Worldwide	69	31[1]	15	9[2]
Population	126 million people	72 million people	722 million people (urban population)	210 million people (urban population)
Africa	34	12	8	2
Asia	13	8	4	2
Latin America	18	9[1]	3	6[2]
Eastern Europe	5	3	0	0

1 Two SUMPs supported in non-member cities

2 Three NUMPs supported in non-member countries

The MobiliseYourCity Global Partnership

Our members and donors

69 Cities

15 Countries

6 Donors

Click on the city/country of your interest to be redirected to the factsheet.

Donors

European Union
France (AFD, FFEM, MTE)
Germany (BMUV, BMZ)

Eastern Europe

Cities
Chernivtsi, Ukraine
Lviv, Ukraine
Poltava, Ukraine
Vinnytsia, Ukraine
Zhytomyr, Ukraine

Latin-America and the Caribbean

Countries
Colombia
Dominican Republic
Ecuador

Cities
Córdoba, Argentina
Baixada Santista, Brazil
Belo Horizonte, Brazil
Brasilia, Brazil
Curitiba, Brazil
Fortaleza, Brazil
Recife, Brazil
Teresina, Brazil
Ibagué, Colombia
Havana, Cuba
Santo Domingo, Dominican Republic
Ambato, Ecuador
Cuenca, Ecuador
Loja, Ecuador
Quito, Ecuador
Puebla, Mexico
Arequipa, Peru
Trujillo, Peru

Africa

Countries
Burkina Faso
Cameroon
Ethiopia
Madagascar
Morocco
Togo
Tunisia
Uganda

Cities
Bobo Dioulasso, Burkina Faso
Ouagadougou, Burkina Faso
Douala, Cameroon
Yaoundé, Cameroon
Dire Dawa, Ethiopia
Hawassa, Ethiopia
Kumasi, Ghana
Abidjan, Ivory Coast
Bouaké, Ivory Coast
Antananarivo, Madagascar
Mahajanga, Madagascar
Nouakchott, Mauritania
Agadir, Morocco
Al-Assima (Rabat Salé), Morocco
Beni Mellal, Morocco
Casablanca, Morocco
El Jadida, Morocco
Fes, Morocco
Kenitra, Morocco
Khemisset, Morocco
Khouribga, Morocco
Marrakech, Morocco
Oujda, Morocco
Sefi, Morocco
Settat, Morocco
Maputo, Mozambique
Windhoek, Namibia
Niamey, Niger
Dakar, Senegal
Mbour, Senegal
Thiès, Senegal
Dodoma, Tanzania
Lomé, Togo
Sfax, Tunisia

Asia

Countries
India
The Philippines
Sri Lanka
Thailand

Cities
Yerevan, Armenia
Tbilisi, Georgia
Ahmedabad, India
Kochi, India
Nagpur, India
Medan, Indonesia
Mandalay, Myanmar
Abbottabad, Pakistan
Mingora, Pakistan
Peshawar, Pakistan
Kurunegala, Sri Lanka
Ankara, Türkiye

Mobilise Your City

Figure 2. Our members and donors

Donors

Our funds to support cities and countries come from the European Union and the governments of France and Germany.

Donors		Amount
The European Union		**21.5 M€**
European Commission's Directorate-General for International Partnerships (DG INTPA)	EUROCLIMA+	13.0 M€
	EUROCLIMA + Country dialogue	2.0 M€
	Asian Investment Facility	3.5 M€
	Intra-ACP	3.0 M€
France		**11.5 M€**
Agence Française de Développement (AFD)	MobiliseYourCity Africa	3.0 M€
	MobiliseYourCity Asia	5.0 M€
French Ministry of Ecological Transition (MTE)		1.5 M€
French Facility for Global Environment (FFEM)		2.0 M€
Germany		**11.7 M€**
The German Federal Ministry for economic cooperation and development (BMZ)	Transformative Urban Mobility Initiative (TUMI)	0.7 M€
	ProMovis Colombia	To be determined[3]
	Contribution to EUROCLIMA+	To be determined[3]
German Federal Ministry for the Environment, Nature Conservation, Nuclear Safety, and Consumer Protection (BMUV)	IKI TRANSfer III	7.0 M€
TOTAL		40.7 M€

3 BMZ contribution to the MobiliseYourCity Partnership through the EUROCLIMA+ programme and ProMovis Colombia will be determined as the projects move to implementation.

Implementing Partners

Implementing partners provide our city and country members with technical assistance to elaborate Sustainable Urban Mobility Plans and National Urban Mobility Policies or Investment Programmes.

Implementing Partners	SUMPs supported	NUMPs supported	Total volume of projects
AFD	25[4]	3	23.4 M€
GIZ	7[5]	7[6]	30.0 M€[7]

4 Including collaborations or subcontracting with ADEME, ADB, Cerema and CODATU

5 Two in non-member cities

6 Three in non-member countries

7 Includes a 9.1M€ contribution from BMZ for SUMPs in Ukraine, prior to BMZ joining the Partnership. Specific MobiliseYourCity funding implemented by GIZ reached 20.9 M€.

The Agence Française de Développement (AFD) is the French public institution in charge of implementing France's policy in the areas of development and international solidarity. The AFD funds, supports, and accelerates the transition to a fairer and more sustainable world. The AFD has already supported the development of 9 completed or nearly completed SUMPs [8] and 2 completed NUMPs in Cameroon and Tunisia. With 23.8 million euros for implementing MobiliseYourCity-related activities, AFD is currently supporting the development of SUMPs and NUMPs, as well as pilot projects and other technical assistance, in 31 cities and 5 countries, respectively.

The Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH is Germany's leading provider of international cooperation services. As a federal enterprise, it supports the German Government in achieving its objectives in the field of international cooperation for sustainable development. GIZ supports the development of SUMPs and NUMPs and provides staff for the Secretariat of the Partnership. With 30 million euros for implementing MobiliseYourCity-related activities, GIZ is currently supporting the development of SUMPs and NUMPs in 7 cities and 7 countries, respectively, as well as 5 pilot projects or other technical assistance. On behalf of the German Federal Ministry of Economic Cooperation and Development, the GIZ also supported 3 MobiliseYourCity member cities in Ukraine for the preparation of their SUMPs.

The Asian Development Bank (ADB) assists its members, and partners, by providing loans, technical assistance, grants, and equity investments to promote social and economic development. ADB maximises the development impact of its assistance by facilitating policy dialogues, providing advisory services, and mobilising financial resources through co-financing operations that tap official, commercial, and export credit sources. Together with AFD, ADB supports the development of SUMPs in 4 MobiliseYourCity cities in Indonesia and Pakistan.

ADEME is a French public agency aiming at supporting the ecological transition. It is active in implementing public policy in the environment, energy and sustainable development.

Cerema is a French public institution supporting public policies, working under the authority of the French Ministry of the Ecological and Inclusive Transition and the Ministry of Territories' Cohesion and Relationship with Local and Regional Authorities.

CODATU (Cooperation for urban mobility in the developing world) is an association with an international focus which works to promote sustainable urban mobility policies through training activities, scientific exchanges, technical assistance and advice to local and national authorities. CODATU provides staff to the Secretariat of the Partnership under a convention with the AFD. The CODATU members are local governments and transport authorities, training and research institutes, the private sector and individual experts.

The European Bank for Reconstruction and Development (EBRD) works across three continents to further progress towards 'market-oriented economies and the promotion of private and entrepreneurial initiative'.

KfW is a German state-owned development bank, based in Frankfurt. It promotes sustainable prospects for people, companies, the environment and society. It focuses on topics aligned with the UN's Sustainable Development Goals (SDGs).

Wuppertal Institute is a leading international think tank for sustainability research focused on impacts and practical application. The organisation's activities are centred on developing transformation processes aimed at shaping a climate-friendly and resource-efficient world.

8 Medan, Indonesia; Dire Dawa, Ethiopia; Douala and Yaoundé, Cameroon; Havana, Cuba; Santo Domingo, Dominican Republic; Tbilisi, Georgia; Arequipa, Peru; Bouaké, Ivory Coast.

Knowledge and Network partners

Knowledge and Network Partners are internationally- or regionally-operating or country-focused not-for-profit organisations, institutions, think tanks, affiliated technical assistance programmes or other organisations associated with the MobiliseYourCity Partnership.

ITDP is a global organisation at the forefront of innovation, using technical expertise, direct advocacy, and policy guidance to mitigate the impacts of climate change, improve air quality, and support prosperous, sustainable, and equitable cities. They have worked with over 100 cities in more than 40 nations to design and implement transport and urban development systems and policy solutions that make cities more viable, fair, and liveable.

PLATFORMA is the pan-European coalition of towns and regions - and their national, EU and global associations - active in city-to-city and region-to-region development cooperation. They are a hub of expertise on European local and regional governments' international action and aim at boosting European local and regional governments' contribution to EU development cooperation policies and international frameworks.

UCLG, as a global network of cities and local, regional, and metropolitan governments and their associations, is committed to representing, defending, and amplifying the voices of local and regional governments to leave no-one and no place behind.

UN-Habitat works with partners to build inclusive, safe, resilient and sustainable cities and communities. UN-Habitat promotes urbanisation as a positive transformative force for people and communities, reducing inequality, discrimination and poverty.

The European Cyclists' Federation (ECF) has been the voice of European cyclists for nearly 40 years. As Europe's biggest pro-cycling federation, ECF represents organisations in 40 countries with over 500 000 active members. The ECF has pledged to ensure that bicycle use achieves its fullest potential to bring about sustainable mobility and public well-being. To achieve these aims, ECF seeks to change attitudes, policies and budget allocations at the European level. ECF stimulates and organises the exchange of information and expertise on bicycle-related transport policies and strategies as well as the work of the cyclists' movement.

Global Network for Popular Transportation works hand-in-hand with informal urban transportation systems of the Global South to advance innovation, improve services, and change business models. By leveraging new technology and innovative policies, informal networks can confront climate change and make cities work for everyone.

Trufi Association is a non-profit NGO which works to improve access to public transportation through free geographical data and software.

Our contribution to the SDGs

By assisting cities and countries in the planning and implementation of effective measures to decarbonise urban transport, the Partnership supports the goals set forth under the UNFCCC dialogue and many urban-related goals specified in the New Urban Agenda as well as the Sustainable Development Goals (SDGs). We also support countries in meeting their Nationally Determined Contributions (NDCs) targets by reducing GHG emissions.

3 GOOD HEALTH AND WELL-BEING

Ensure healthy lives and promote well-being for all at all ages

Targets

3.6 - By 2020, halve the number of global deaths and injuries from road traffic accidents

MobiliseYourCity Contribution

The member cities of Antofagasta, Bouaké, Douala, Medan, and Trujillo have projected that the successful implementation of their SUMPs will improve road safety and lead to saving together over 830 lives every year.

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation

Targets

9.1 - Develop quality, reliable, sustainable and resilient infrastructure

9.a - Facilitate sustainable and resilient infrastructure development in developing countries through enhanced FA and TA

MobiliseYourCity Contribution

Developing reliable, sustainable, and resilient infrastructure is at the heart of the MobiliseYourCity Partnership. In just nine cities (Douala, Yaoundé in Cameroun, Santo Domingo in Dominican Republic, Lviv, Poltava and Zhytomyr in Ukraine, Casablanca in Morocco, Curridabat and Montes de Oca in Costa Rica, San Juan de Comalapa in Guatemala), 4 metro lines, 7 BRT corridors, 6 bus corridors, 6 tram lines, 1 cable car, and more than 34 transport hubs, stations and depots will be financed through mobilised investments by the Partnership.

40 million euros in TA provided by the Partnership has leveraged 1.7 billion euros to build quality, reliable, sustainable, and resilient infrastructure. An additional 16 billion euros in investments in infrastructure have been identified and are ready to be developed.

11 SUSTAINABLE CITIES AND COMMUNITIES

Make cities and human settlements inclusive, safe, resilient and sustainable

Targets

11.2 - By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations

11.6 - By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality

MobiliseYourCity Contribution

In just seven member cities, an additional 8.8 million people will benefit from improved access to safe, affordable, accessible, and sustainable public transport. MobiliseYourCity is directly supporting an additional 40 cities with a combined population of 126 million people.

In Santo Domingo, $600,000 have been secured for improving access to public transport for disabled persons. Another $600,000 will be invested in conducting a study to develop a tariff subsidy for the most vulnerable populations.

MobiliseYourCity contributes to improving air quality in cities. A MRV approach has been developed by the Partnership, but data is not yet available.

13 CLIMATE ACTION

Take urgent action to combat climate change and its impacts

Targets

13.2 - Integrate climate change measures into national policies, strategies and planning

13.3 - Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning

MobiliseYourCity Contribution

MobiliseYourCity implementing partners are supporting 9 countries to integrate climate change measures into national policies through NUMPs.

Successful implementation of SUMPs is expected to lead to annual GHG emissions reduced by an average of -16% (ranging from -3% to -38%), compared to business as usual. 6 cities with calculated projections will achieve a total reduction of annual GHG emissions of 3.79 Mt CO2 in 2030, compared to business-as-usual (BAU).

MobiliseYourCity developed and supports its GHG Emissions Calculator, a free-to-use tool for transport-related emissions inventory, for BAU projection and for comparison with climate/SUMP/NUMP scenarios. 5 member cities and 2 member countries have already used it for their GHG emissions projections. In total at least 24 cities and 7 countries worldwide are using the Emissions Calculator.

17 PARTNERSHIPS FOR THE GOALS

Strengthen the means of implementation and revitalise the global partnership for sustainable development

Targets

17.3 - Mobilise additional financial resources for developing countries from multiple sources

17.9 - Enhance international support for implementing effective and targeted capacity building in developing countries to implement all the sustainable development goals

17.19 - Enhance the global partnership for sustainable development to share knowledge, expertise, technology and financial resources, to support the achievement of the SDGs

MobiliseYourCity Contribution

The technical assistance provided by the Partnership to the first completed SUMPs and NUMPs has already leveraged 1.7 billion euros (secured finance) and is expected to leverage an additional 3.96 billion euros (planned finance).

MobiliseYourCity is a global partnership for sustainable development that mobilises and shares knowledge, expertise, technology, and financial resources to support the achievement of the SDGs in 15 member countries and 69 member cities.

The Partnership has established a knowledge platform as a particular instrument to share knowledge on sustainable mobility.

2 Mastering Mobility: Capacity building and methodologies

In 2022 we released 15 new sets of training materials to allow tested capacity-building content to be readily adaptable and easily scaled

In addition to the 15 sets already available, 11 sets are currently under development. The complete list of training materials is available in our MobiliseYourCity training materials catalogue. The catalogue provides a description of each module and its content and presents the way MobiliseYourCity can support the use of the materials at the local level.

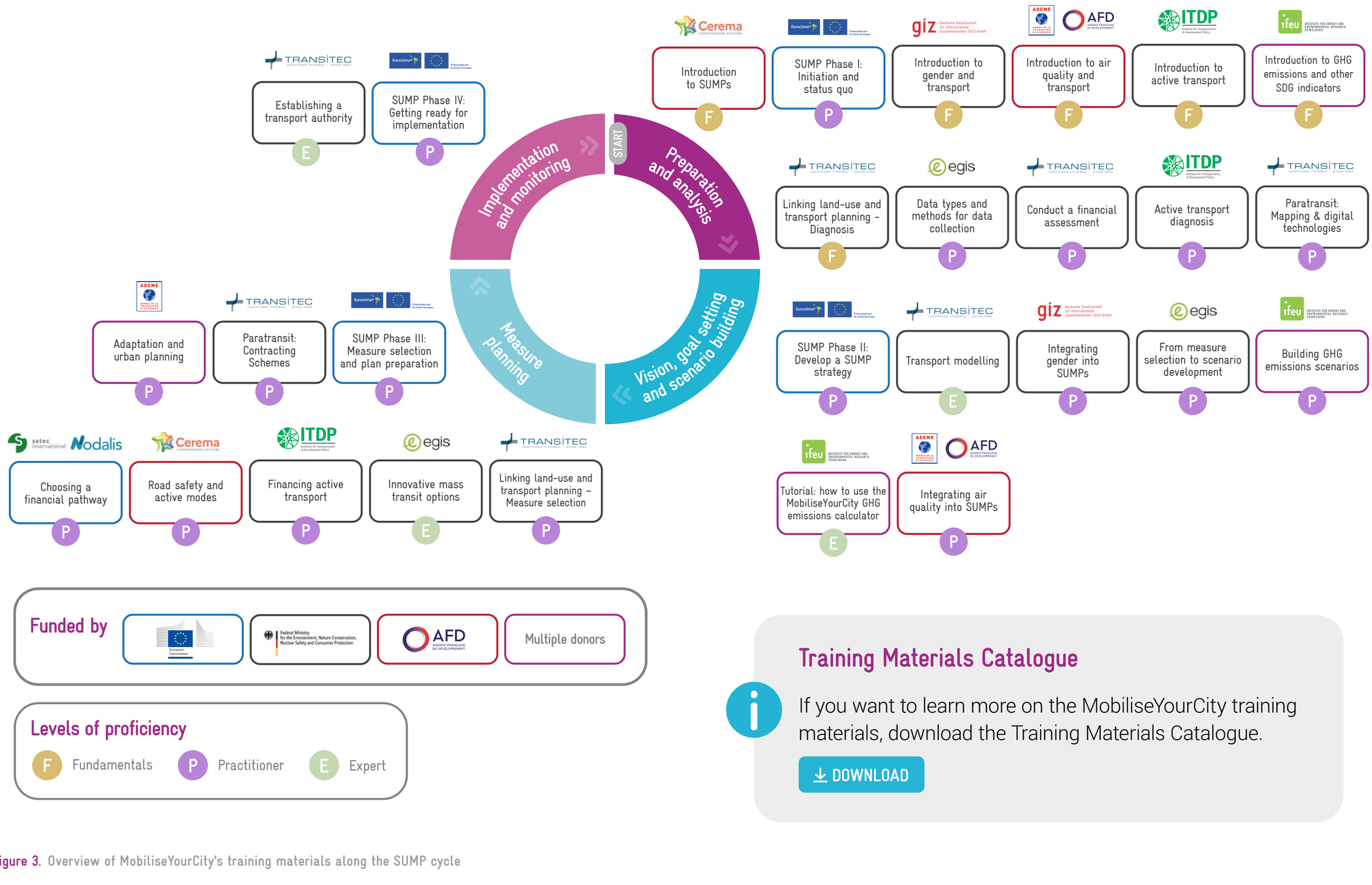
MobiliseYourCity training materials include all the elements and tools a trainer needs to organise a training session on a range of topics related to sustainable urban mobility planning. The individual modules cover a wide range of sustainable mobility topics. These training materials include PowerPoint presentations to exercises and additional resources for participants. The modules intend to facilitate the task of implementing partners, consultants, and experts in building the capacities of local and national authorities.

"The training materials prepared by MobiliseYourCity are a significant achievement of the Partnership in 2022 and a cornerstone of MobiliseYourCity contribution to building capacity worldwide. As partners of the MobiliseYourCity Partnership, we are responsible for getting familiar with these enormous sets of materials and for facilitating their dissemination among the various partners with whom we collaborate globally".

Lise Breuil

Transport and Mobility Division Manager, AFD

MobiliseYourCity's training materials along the SUMP cycle



Training Materials Catalogue

If you want to learn more on the MobiliseYourCity training materials, download the Training Materials Catalogue.

DOWNLOAD

Figure 3. Overview of MobiliseYourCity's training materials along the SUMP cycle

Over 800 mobility practitioners gained practical skills through 16 training sessions

People around the world - from at least 54 African, Asian, European, and Latin American cities - joined the Mastering Mobility sessions that were offered in a mix of French, Spanish and English in 2022. We mobilised our organisational partners and the consultants who have been working on SUMPs throughout the world to deliver practical, experience-based and tailored training sessions for our members.

Together with GIZ and AFD as our main implementing partners, we delivered training sessions on gender and participatory processes. ITDP, GPIT, Trufi, and Cerema prepared and covered training activities on paratransit, digital mapping, active modes, and road safety. Furthermore, while providing light technical assistance at the local level to Abidjan, Ivory Coast, MobiliseYourCity delivered training sessions on governance and paratransit reform. For the first time, MobiliseYourCity and the Transformative Urban Mobility Initiative (TUMI) conducted a joint training session on planning urban mobility for vulnerable groups in Africa.

What is the difference between a training session and a training material set?

MobiliseYourCity constantly delivers training sessions for sustainable urban mobility practitioners worldwide, either online or in person. While a training session constitutes an event in which one or several speakers explain a topic relevant to MobiliseYourCity, the training materials are a set of resources aiming at facilitating the replication of the training sessions. The MobiliseYourCity training materials include mainly the annotated slide deck, draft agenda, proposed exercises and a list of additional literature to support capacity development activities in different geographies.

Access all MobiliseYourCity materials

MobiliseYourCity makes all session recordings available on its YouTube channel, as well as all used materials in the Knowledge Platform.

▶ YOUTUBE CHANNEL | KNOWLEDGE PLATFORM

Global attendance at the Mastering Mobility Series

Training sessions online

2020 8 | 2021 20 | 2022 16

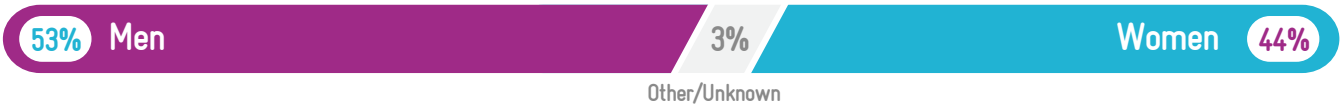


Figure 4. MobiliseYourCity Mastering Mobility Series: Overview of 2022 sessions and participants by profession and gender

"The training series helped me understand the benefits of active modes for urban mobility. The main concepts, approaches and tools for increasing active transport enhanced my knowledge. It is now possible [for me] to understand how to evaluate active transport modes while using different data types and sources."

Dilek
Transportation planner from Istanbul

"The training courses I attended have enabled me to better understand the challenges of urban mobility and transport and have allowed me to better exchange with partners such as the World Bank on the financing of a roadmap resulting from the 1st international forum on urban mobility in Niamey. The acquired knowledge and skills have also helped me to improve the formulation of projects for the city of Niamey (digitalisation of paratransit, strengthening of public transport) and enhance my address book on partners in the field of urban mobility."

Ousmane
Director of Studies, Programming and Forecasting from Niamey

"The knowledge on paratransit was useful to carry out work at the university, where it was applied to a policy instrument that is currently serving to strengthen public transport and reorganisation processes in my city."

Fredy
Project coordinator at Despacio

As the needs of our partners evolve, so does our methodological offer, with state-of-the-art operational guidance on paratransit, participatory processes and transport modelling

The continuous enhancement of MobiliseYourCity's methodological offer is possible due to our high technical expertise and close working relationships between implementing partners and member cities and countries. As we learned from the specific challenges in our geographies related to the transformation of urban mobility, MobiliseYourCity produced global and regional publications adapted to our members' needs.

These new publications materialise our goal of strengthening our methodological offer by learning from implementation and focusing on the operational aspects of the planning process. In 2022, the launched publications included the following:

Topic Guide - Participatory processes in urban mobility planning (EN)

Topic guides dive deeper into specific areas to be mainstreamed while preparing SUMPs and NUMPs, in this case, participatory processes. This Topic Guide has been developed based on the experience of lessons learned from participation activities in Yaoundé, Cameroon; Antofagasta, Chile; Santo Domingo, Dominican Republic; Kisumu, Kenya; and Zhytomyr, Ukraine.

DOWNLOAD

Recommandations pour Abidjan sur la professionalisation du transport artisanal (FR)

Based on two consultation sessions with the Grand Abidjan's transport authority (AMUGA, its acronym in French), MobiliseYourCity prepared a document for decision-makers to reform the paratransit sector. Recommendations primarily aim to provide public authorities with the necessary tools and insights for the current reform process, focusing on operators' identification and defining a medium-term pathway towards professionalisation and consolidation of existing services.

DOWNLOAD

Paratransit in Asia (EN)

This document makes a case for the paratransit sector in Asia. The publication includes a comprehensive diagnosis of paratransit in the continent and highlights Asian singularities. It also proposes guidelines to support its modernisation and integration in that specific context. The document complements the previously launched MobiliseYourCity Paratransit Toolkit as a regional zoom-in. For this publication, research on paratransit from India, Nepal, Pakistan, Indonesia, the Philippines, Thailand, Vietnam, and Cambodia was held.

DOWNLOAD

Modelar y planificar la movilidad urbana en tiempos de crisis (ES)

MobiliseYourCity developed a lessons-learned and recommendations document on data collection and transport modelling during the COVID-19 pandemic. It provides insights into how to adapt the MobiliseYourCity SUMP Model Terms of Reference when data collection campaigns are altered due to crisis conditions, based on alternative data collection methods. The publication is based on the experience of Havana, Cuba; Cordoba, Argentina; Arequipa, Peru and Baixada Santista, Brazil, which adapted their SUMP preparation process due to the COVID-19 pandemic.

DOWNLOAD

In 2022, MobiliseYourCity reached a comprehensive methodological framework that goes beyond SUMPs, NUMPs and MRV and encompasses urban mobility planning, paratransit and GHG calculation.

MobiliseYourCity's tools and methodologies in 2022

PHASE I Preparation and analysis

NUMP Model Terms of Reference

DOWNLOAD

SUMP Model Terms of Reference

DOWNLOAD

SUMP FAQs

DOWNLOAD

Understanding Paratransit

DOWNLOAD

NUMP Guidelines

DOWNLOAD

Topic guide – Participatory processes in urban mobility planning

DOWNLOAD

PHASE II Vision, goal setting and scenario building

Emissions Calculator

DOWNLOAD

Modelar y planificar la movilidad urbana en tiempos de crisis

DOWNLOAD

PHASE III Measure planning

Reforming Paratransit

DOWNLOAD

Driving change: reforming urban bus services

DOWNLOAD

SUMP Annotated Table of Contents

DOWNLOAD

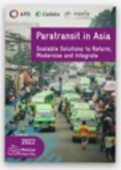
Going electric: A pathway to zero-emission buses

DOWNLOAD

PHASE IV Implementation and monitoring

Monitoring and Reporting Approach for GHG Emissions

DOWNLOAD



Paratransit in Asia

DOWNLOAD

Core Indicators and Monitoring Framework

DOWNLOAD

Recommendations to Abidjan

DOWNLOAD

Figure 5. Our methodological offer in 2022

With feedback from implementation in over 30 cities and countries, we updated the MobiliseYourCity Emissions Calculator

Several cities, especially in Latin America, have provided feedback on using the MobiliseYourCity emissions calculator. After being a must-use tool for cities and countries to model scenarios and calculate the GHG impact of SUMPs and NUMPs, MobiliseYourCity has collected feedback from practical implementation to enhance the excel-based tool and adequately adapt it to our geographies. Practical implementation of the tool in Ambato, Ecuador; Guadalajara, Mexico; and Chile, and Uruguay have made evident challenges regarding the inclusion of transport modes specific to MobiliseYourCity city and country members and the need to make more flexible the selection of the reference year for GHG baseline and climate scenarios.

The MobiliseYourCity Emissions Calculator keeps improving to facilitate the crucial task of accounting for GHG emissions of urban mobility. Version 1.4 of the MobiliseYourCity is now future-proof thanks to the inclusion of additional fuels (e.g., LNG, hydrogen) and vehicle types (e.g., coach, cargo-bikes), enabling more flexible timeframe and reference years for scenario building, as well as improvements to the user's interface.

The new version of the MobiliseYourCity Emissions Calculator is being used in the framework of a light technical assistance for Tunisia, in partnership with the EU-funded initiative EuroMed-Transport Support Project. The overall objective of the project is to assess the impacts of the SUMP of Sousse (Tunisia) on the reduction of GHG by applying the MobiliseYourCity's Emissions Calculator and disseminating results to Euromed and MobiliseYourCity cities. The establishment of joint technical assistance is a strong signal to the European Union and country members in terms of capacity to coordinate European initiatives in the Mediterranean region.

A LinkedIn group for users of the MobiliseYourCity Emissions Calculator is now available to facilitate peer exchange and learn from each other's experiences. This group led by the MobiliseYourCity Secretariat gathers users from all continents to exchange good practices, questions, feedback and other useful information related to the calculation of mobility-related GHG by using the tool.

Going beyond our geographies, the MobiliseYourCity Emissions Calculator is acknowledged and highlighted in European guidelines and projects. The tool was included in the brand-new ELTIS SUMP Topic Guide on Urban Mobility Decarbonisation as an efficient tool to do calculations of GHG emissions for SUMP development in line with European guidance.
The United Nations Economic Commission for Europe (UNECE) has worked hand in hand with MobiliseYourCity to implement the Emissions Calculator in the European context.

5 member cities and 2 member countries have already used the MobiliseYourCity Emissions Calculator for their GHG emissions projections. In total at least 24 cities and 7 countries worldwide are using the Emissions Calculator.

The MobiliseYourCity Emissions Calculator helps member cities and countries to evaluate and monitor the impact of GHG emissions in the field of urban mobility in order to enable the inclusion of NUMPs and SUMPs in the GHG emission reduction targets defined by the NDCs, updated at the COP26 held in Glasgow in November 2021.

EuroMed-Transport Support Project

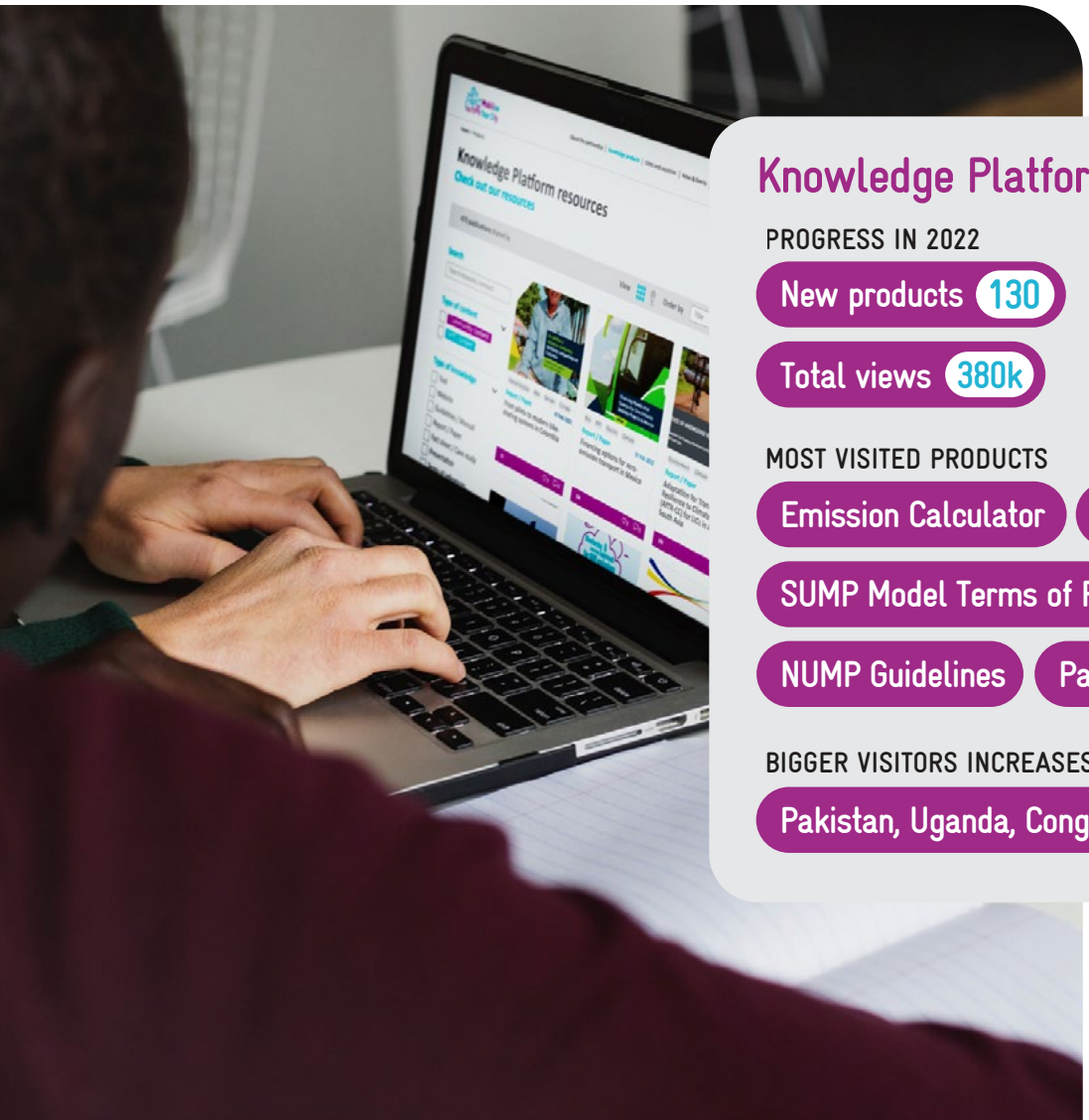
The MobiliseYourCity Knowledge Platform had more visitors spending more time engaging with the content than ever before, particularly from the Global South

Over 130 new products from MobiliseYourCity, our Partners, and other sources were added to the Knowledge Platform in 2022, bringing the total to over 480+ products. These resources were collectively viewed over 380,000 times, an increase of 10% from 2022. Clearly, our Knowledge Platform has become an important resource library in the field of sustainable urban mobility planning.

The heart of the MobiliseYourCity Knowledge Platform is increasingly the products prepared by the Partnership itself. With more than 28,100 downloads of our key tools, methodologies and communications documents, twice as many MobiliseYourCity-prepared products were downloaded in 2022 than in all previous years combined.

Some of our most popular tools during the last year included the MobiliseYourCity's Emission Calculator with over 6,000 views, the Global Monitor with over 3,100 views, the SUMP and NUMP resources and the Paratransit toolkit between 1,500 and 6,000 views.

France, Germany, Belgium, and the United States continue to be the countries with the most significant number of visitors in 2022. However, the number of visitors from countries of the Global South is rising at a high rate due to the increase in the visibility of MobiliseYourCity in those regions. These included Pakistan, which increased by more than 300% in the last year, Uganda by more than 230%, and Congo by more than 235%. First-time visitors also increased by 10% in 2022.



Knowledge Platform activity overview

PROGRESS IN 2022

New products 130

Total views 380k

MOST VISITED PRODUCTS

Emission Calculator

Global Monitor

SUMP Model Terms of Reference

NUMP Guidelines

Paratransit Toolkit

BIGGER VISITORS INCREASES

Pakistan, Uganda, Congo

Downloads of MobiliseYourCity's main publications 28,102

MobiliseYourCity Communication Products 9,557

Global Monitor: 3,192

Factsheets: 5,442

MobiliseYourCity tools and methodologies: 923

» Showcasing the Partnership's achievements

Emissions Calculator 7,173

MobiliseYourCity Emissions Calculator: 6,021

MobiliseYourCity Monitoring and Reporting approach for GHG Emissions: 1,152

» Build and compare scenarios based on the GHG mitigation impact

Sustainable Urban Mobility Plans (SUMPs) 6,691

Summaries and final reports: 3,663

SUMP Model Terms of Reference: 1,064

Core indicators and monitoring framework: 481

Annotated table of contents: 429

Topic Guide: Participatory processes in urban mobility planning: 416

Modelar y planificar la movilidad urbana en tiempos de crisis: 383

SUMP Frequently Asked Questions: 255

» All you need to successfully elaborate a SUMP

Paratransit 3,069

Understanding paratransit: 1,352

Reforming paratransit: 1,095

Paratransit in Asia: 514

Recommendations to Abidjan for paratransit reform: 108

» Diagnose and transform the paratransit sector

National Urban Mobility Policies and Investment Programmes (NUMPs) 1,612

MobiliseYourCity NUMP Guidelines: 1,300

NUMP Model Terms of Reference: 312

» Step by step guidance to develop a NUMP

Figure 6. Downloads of MobiliseYourCity's main knowledge products

Knowledge Platform users by country and gender

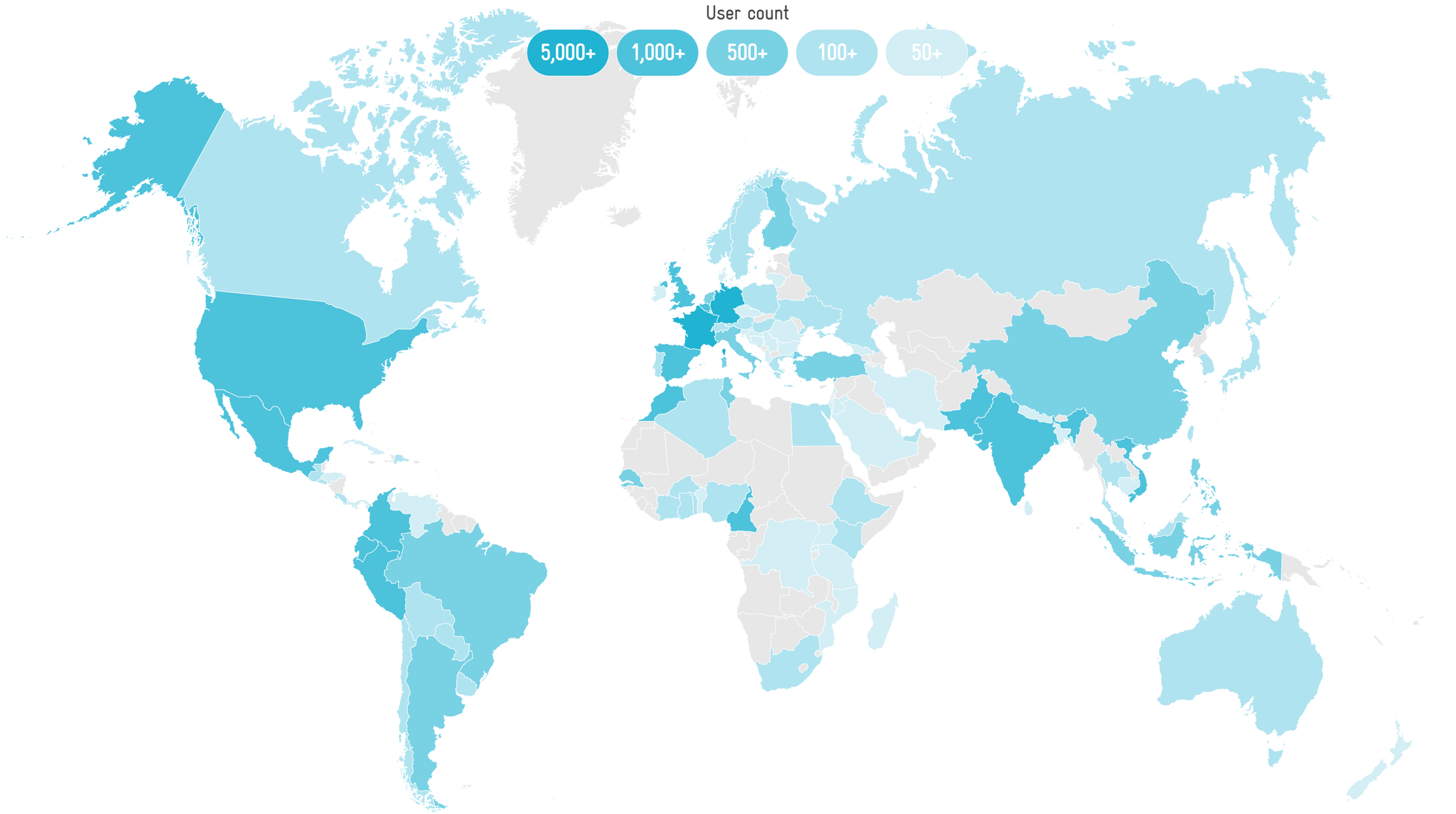


Figure 7. Knowledge platform users by country and gender

Our Communities of Practice on sustainable urban mobility are more vital than ever, with a very engaged group of practitioners

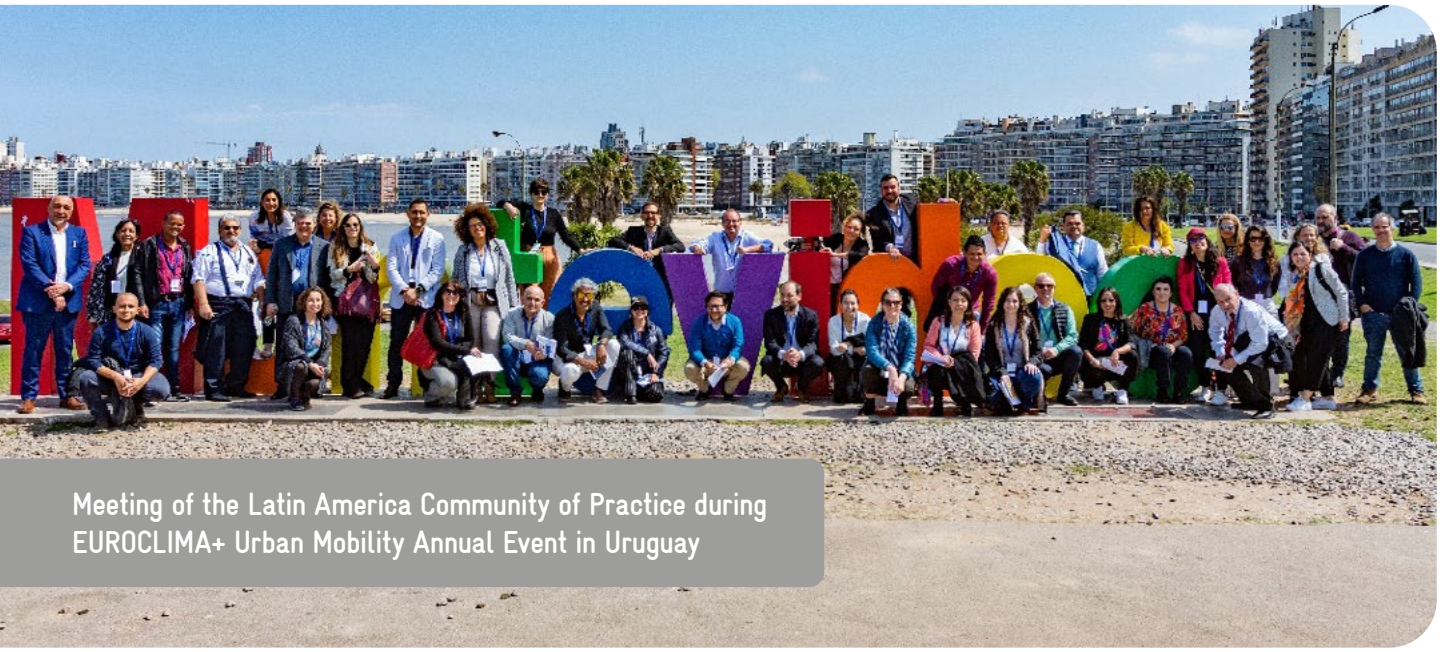
Leveraging the momentum created by Sustainable Mobility and Climate Week 2022, MobiliseYourCity reunited its African Community of Practice. AFD and CODATU, key implementing partners of MobiliseYourCity, summoned a large community in Dakar, Senegal, for African urban mobility practitioners to gather and exchange. In this context, MobiliseYourCity held the MobiliseYourCity African Community of Practice meeting:

- We gathered more than 20 city and country representatives of the MobiliseYourCity African Community of Practice and the TUMI e-bus mission in Africa. They shared experiences on the transformation of urban mobility in Africa and the development of their SUMPs and NUMPs. TUMI and MobiliseYourCity conducted training and exchanged sessions on electric mobility, transit-oriented development (TOD), and pressing issues such as paratransit and active modes.
- MobiliseYourCity seized the opportunity to bring the African voices of our Community of Practice to COP27 by recording videos of our representatives answering their expectations from the international community to boost the transition of urban mobility in the continent towards a low-carbon, resilient system. MobiliseYourCity, in collaboration with TUMI, prepared an impactful video shown at SLOCAT's Transport Day at COP27 to increase the visibility of the needs and perspectives of local urban mobility practitioners in the context of such an important event.

The MobiliseYourCity African Community of Practice meets at CODATU's Dakar Conference

With the firm support of EUROCLIMA+, *Plataforma de Movilidad Urbana Sostenible* consolidated as a strong group of practitioners interested in transforming urban mobility in the region. With GIZ as the lead in coordinating this community of practice, several activities were planned to share experiences, develop capacities, and advocate for more substantial commitments towards sustainable urban mobility.

- The 4th EUROCLIMA+ Urban Mobility Annual Event took place in Uruguay between 26-29 September 2022. This meeting was the occasion to share the results of 19 projects and six actions on urban mobility, reflect on the following steps to transit from planning to implementation of the SUMPs and NUMPs developed, and conduct training sessions on active and electric mobility.
- EUROCLIMA+ has made great strides in its engagement with Latin America's Community of Practice. It accompanied its partner cities throughout the entire SUMP development process by conducting a comprehensive learning programme on SUMPs with the cities' decision-makers and practitioners, thus enabling continuous exchange and peer learning. Together with nine other engaged organisations working on sustainable urban mobility in the region, EUROCLIMA+ has consolidated a fertile environment for transforming mobility.
- EUROCLIMA+ launched the LinkedIn group for the Plataforma de Movilidad Urbana Sostenible to facilitate peer exchange and keep abreast of partners' activities. Despite being active for only a year, the LinkedIn group has reached 860 active members who often share news, publications, events, and any other information of interest. This platform facilitates access to information, connects experts, promotes virtual and in-person gatherings, and builds the capacities of local and national governments.



Meeting of the Latin America Community of Practice during EUROCLIMA+ Urban Mobility Annual Event in Uruguay

3 Mobility Planning: Supporting SUMPs and NUMPs

The core of our offer to member cities and countries is to support implementation and investment-ready plans for inclusive and low-carbon urban mobility systems. MobiliseYourCity supports member cities in preparing city-level Sustainable Urban Mobility Plans (SUMPs) and project preparations and member countries in preparing country-level urban mobility policies and investment programmes (NUMPs). We encourage the deployment of digital technologies to improve urban mobility.

Our Implementing Partners, particularly the Agence Française de Développement (AFD) and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), are working with 31 local and 9 national governments in 35 countries around the world to prepare implementation-ready mobility plans and finance-ready projects. In addition to supporting planning and project preparation, the Partnership also supports 23 cities with designing and implementing a diverse set of pilot projects, from introducing low-speed zones around schools to setting up shared e-bicycles schemes.

MobiliseYourCity members tend to be large, fast-growing cities, and the planning area often covers many municipalities. In the 31 cities where MobiliseYourCity Partners are supporting SUMPs, the average urban population is over 2 million with a growth rate of around 2%, four to six times the urban growth rate in France and Germany, which was approximately 0.5% and 0.3% in 2020, respectively. Established yet adaptable tools and methodologies, such as SUMPs and NUMPs guidelines, enable practitioners to work effectively in complex and quickly changing environments.

However, adapting and applying the SUMP and NUMP preparation process is long and requires financial and technical resources that may not be available to local or national authorities. Therefore, supporting the preparation of projects and policies through technical assistance is necessary to enable further implementation of adequate measures to tackle local challenges in cities and contribute to global sustainability agendas.

SUMPs and NUMPs preparation have helped mobilise nearly 1.7 billion euros

SUMPs and NUMPs effectively mobilise finance and enable a finance-based shift towards sustainability. Without a paradigm shift, investments in urban transport often tend to favour assets that reinforce and lock in unsustainable urban growth. SUMPs and NUMPs enable such a shift and have effectively identified and kicked off the preparation of projects that contribute to more sustainable urban transport.

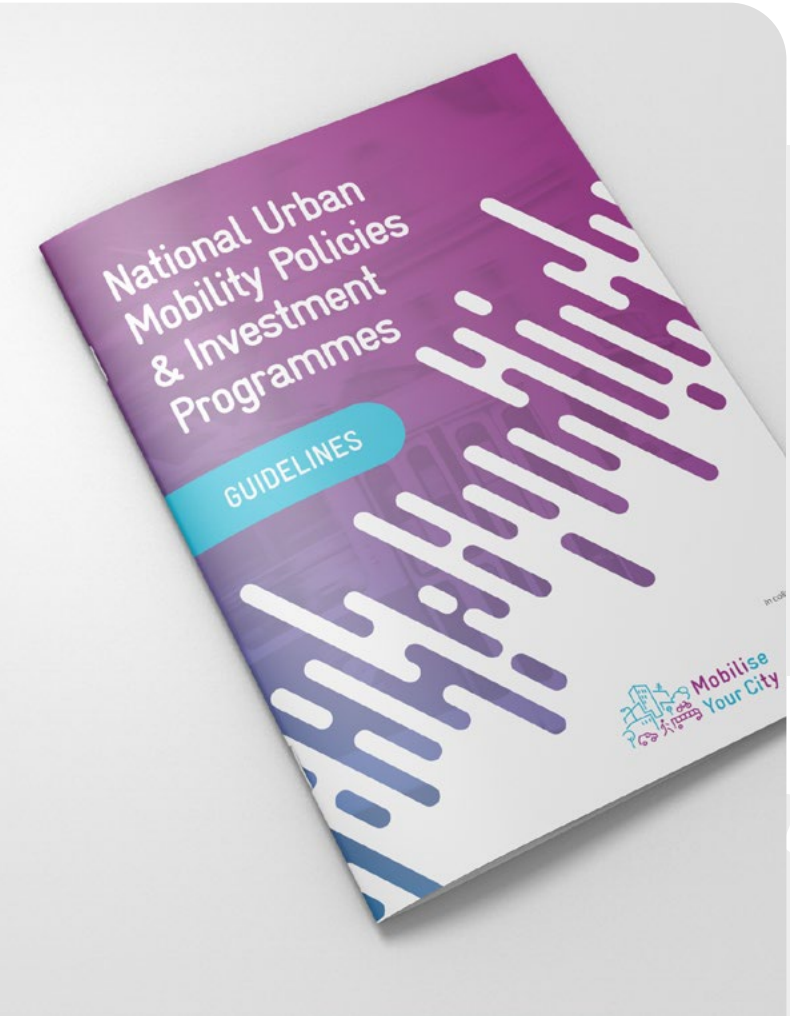
Since 2019, when the first MobiliseYourCity SUMPs and NUMPs were completed and approved, their financial leverage has increased annually. The investment needs of SUMPs and NUMPs action plans partly depend on the current status of urban mobility, related challenges, and people's needs.

What is a NUMP?

A National Urban Mobility Policy or Investment Programme (NUMP) is a strategic, action-oriented framework for urban mobility developed by national governments, enacted to enhance the capability of cities to plan, finance and implement projects and measures designed to fulfil the mobility needs of people and businesses in cities and their surroundings in a sustainable manner.

What is a SUMP?

A Sustainable Urban Mobility Plan (SUMP) is a strategic plan developed in a participatory and integrated way to meet people's and businesses' mobility needs in cities and to harmonise and integrate existing planning approaches. It sets cities on a sustainable course regarding land use and urban mobility. Because each city is starting with a different baseline of transport plans, the MobiliseYourCity implementing partners and city members work together to adapt the SUMP process for local needs.



National Urban Mobility Policies and Investment Programmes (NUMP) - Guidelines

The NUMP Guidelines were developed within the MobiliseYourCity Partnership and are available online. They provide practical guidance to facilitate developing or strengthening an existing NUMP.

DOWNLOAD

However, financial requirements for SUMP and NUMP implementation are closely linked to the projected future scenarios and the ambition of the vision established during the planning process.

By the end of 2022, four member countries[1] have adopted a NUMP, and sixteen of our member cities[2] have either adopted a SUMP or are in the process of adopting it. They have taken the next step and secured 1.7 billion euros in financing for selected measures, including physical infrastructure or public transport vehicles, but also complementary studies, capacity building and additional technical assistance needed to support the implementation.

In addition to the fact that a SUMP or NUMP, as a strategic roadmap, helps to channel available funding to selected measures, these plans also help to mobilise additional financing by providing new arguments to donors and international financial institutions. In particular, SUMPs and NUMPs are proof of a concerted planning process, which guarantees donors that financing a project within its action plan is framed under a long-term policy strategy for urban mobility. For instance, the existence of Ambato SUMP has improved its funding favourability from the Ecuadorian Development Bank and KfW.

As in previous years, the finance leveraged continues to be dominated by investments in public transport infrastructure, representing 68%[3] of the total identified investment need by SUMPs and NUMPs and 68% of the total leveraged finance. At least 1 billion euros has been secured for public transport investments identified through SUMPs and NUMPs. These investments include metro lines, BRT and bus corridors, cable cars, tramlines, stations, hubs, depots, and many rolling stock projects, i.e. buses.

In addition to the investments for public transport, SUMPs have also identified the need for 2.3 billion euros to improve the road infrastructure, nearly 640 million euros for dedicated walking and cycling facilities and around 40 million euros to support port-area-logistics investments.

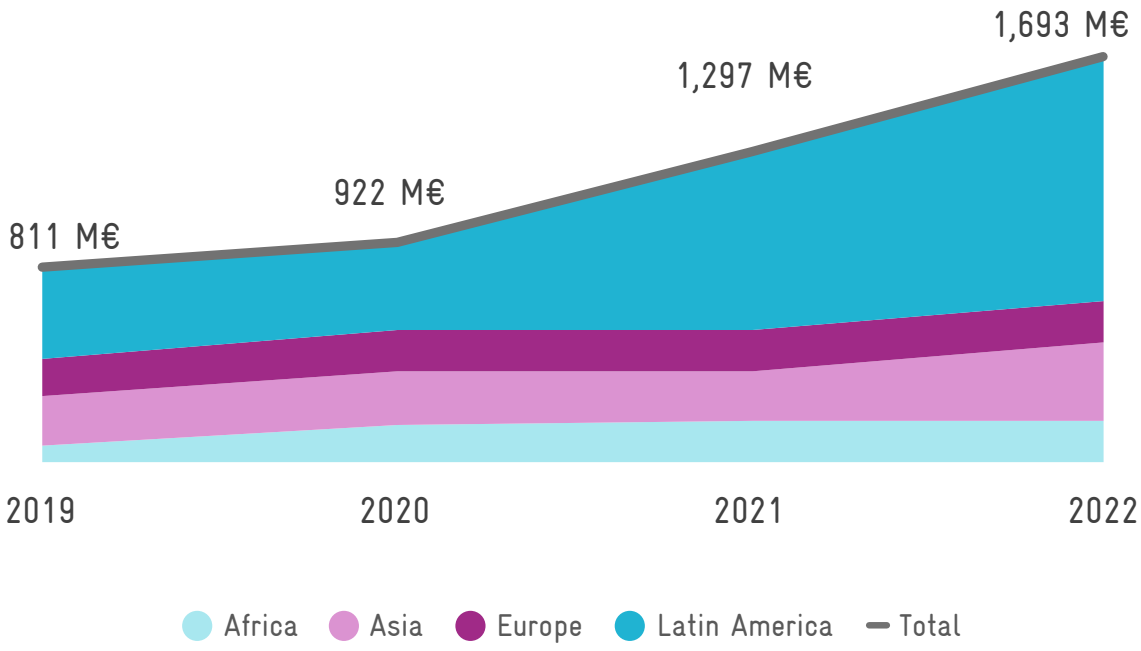


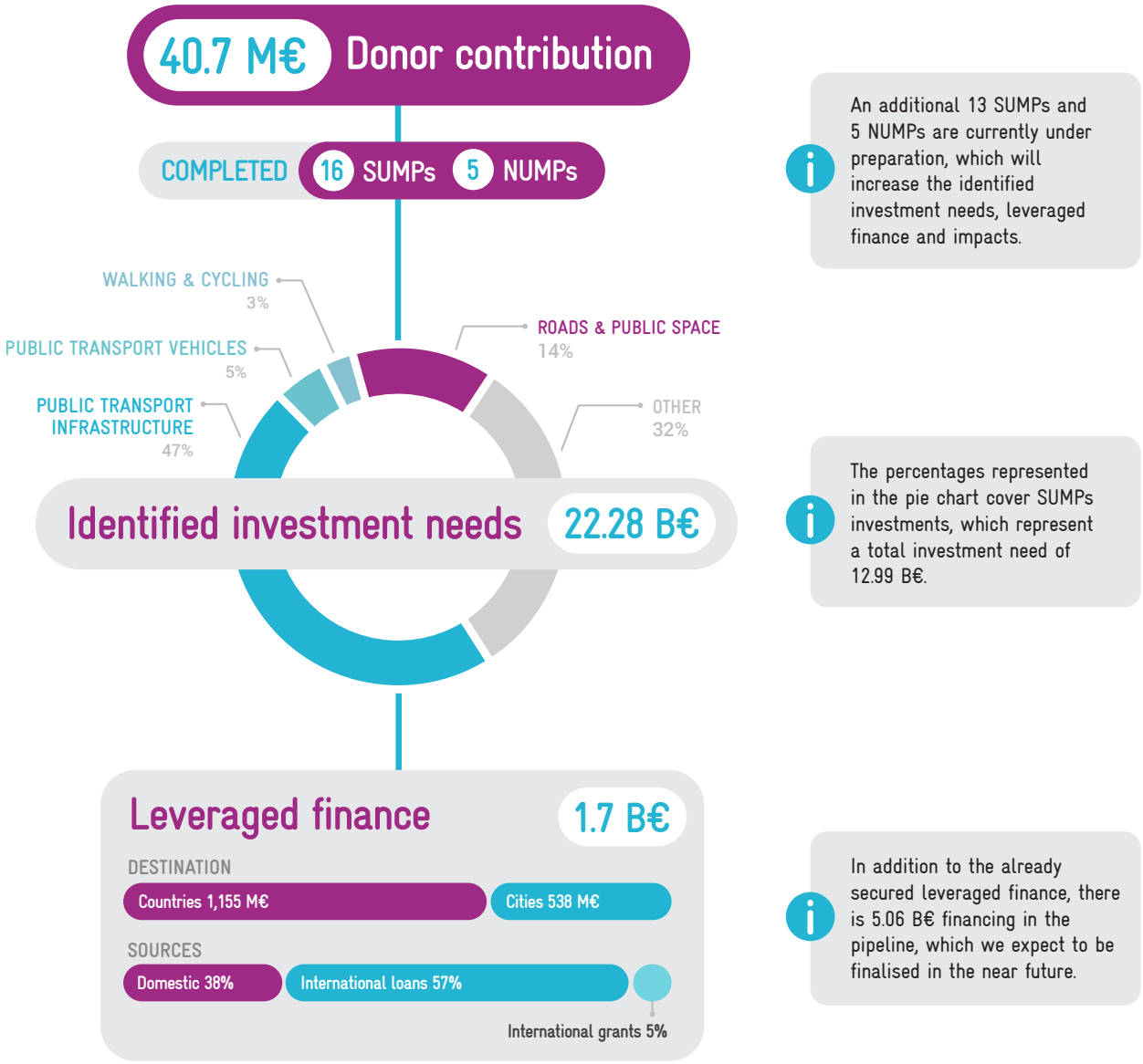
Figure 8. Evolution of secured financing (million €) leveraged through mobility planning

1 Cameroon ; Colombia; the Philippines; Tunisia.

2 Douala and Yaoundé, Cameroon; Dire Dawa, Ethiopia; Bouaké, Ivory Coast; Tbilisi, Georgia; Medan, Indonesia; Lviv, Poltava and Zhytomyr, Ukraine; Antofagasta, Chile; Havana, Cuba; Santo Domingo, Dominican Republic; Ambato, Ecuador; Guadalajara, Mexico; Arequipa and Trujillo, Peru.

3 Public transport infrastructure represents 68% of the investment needs excluding non-specific measures, and 47% of the total investment needs.

Leveraging finance from SUMPs and NUMPs



An additional 13 SUMPs and 5 NUMPs are currently under preparation, which will increase the identified investment needs, leveraged finance and impacts.

The percentages represented in the pie chart cover SUMPs investments, which represent a total investment need of 12.99 B€.

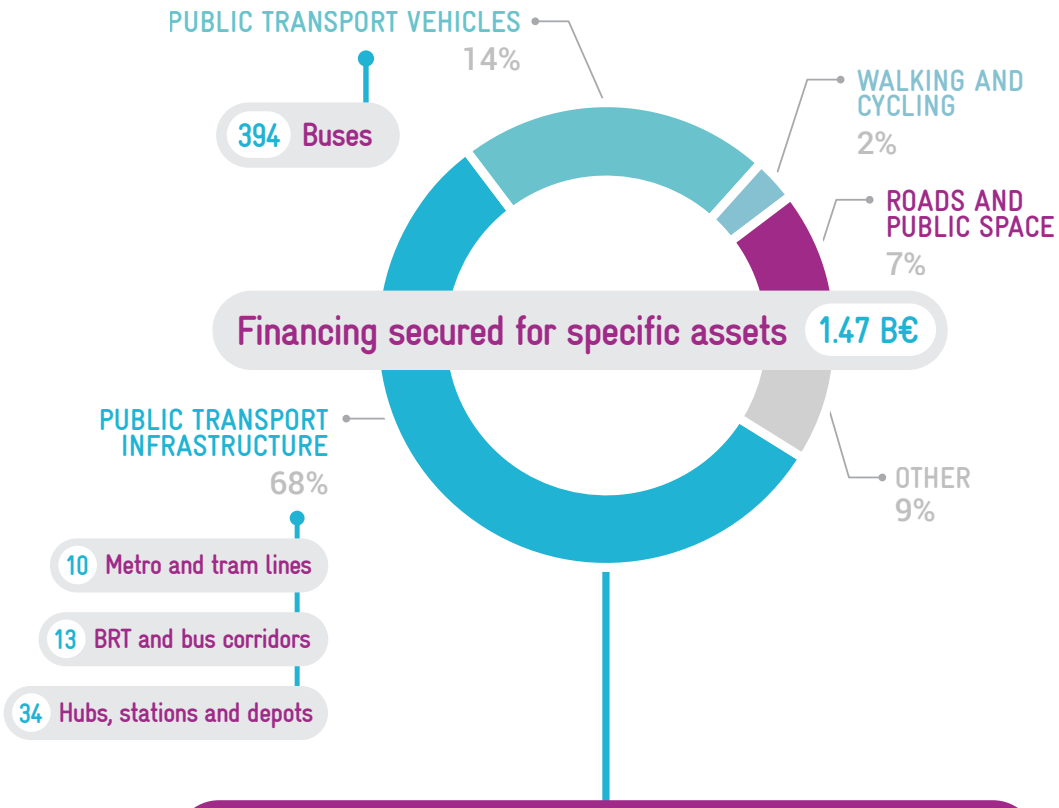
In addition to the already secured leveraged finance, there is 5.06 B€ financing in the pipeline, which we expect to be finalised in the near future.

Mobility plans are key in securing financing

SUMPs and NUMPs help our city and country members identify the right projects or programmes for their needs, and we are able to identify the selected measures with cost estimates.

Figure 9. Leveraging finance from SUMPs and NUMPs

Financed investments and projected impacts



Contributing to low-carbon, safe, and just cities

- Annual GHG emissions in 2030 will be 15.56 $MtCO_2$ lower (compared to BAU)
- SUMP implementation will enable cities to cut 16% of their annual emissions by 2030
- 8.8 million additional people will have access to public transport
- +5% modal share of sustainable transport modes (compared to BAU)
- 832 lives saved annually through better road safety
- Improved job quality for transport workers

Figure 10. Financed investments and projected impacts

SUMPs and NUMPs elevate walking and cycling in their investment plans

The SUMP approach ensures that walking is not overlooked in urban transport planning. Just as notably, our standard SUMP and NUMP Terms of Reference recommend considering walking during investment planning.

Out of the 14 cities that provided modal split data before the SUMP diagnosis, 4 cities did not include walking as a mode of transport in their data. Additionally, in some cases, the accuracy of the data provided is questionable. For example, data collected for the Dire Dawa, Ethiopia SUMP show that the modal share of walking had been strongly underestimated in previous projects and is accounting for 46% of the city's daily trips. Dire Dawa's SUMP aims at keeping the current modal share of active modes while making the city entirely walkable.

Walking is a crucial mode of transportation for the majority of member cities. Cities like Casablanca, Morocco and Dakar, Senegal, report that a substantial percentage of their trips, approximately 60% and 70% respectively, are made by foot. In Kochi and Nagpur, India, where walking accounts for a relatively lower proportion of modal share (12% and 10%, respectively), it remains a crucial mode for individuals to access their desired destinations, mainly where connectivity with transport modes or public transport lines is poor or suboptimal.

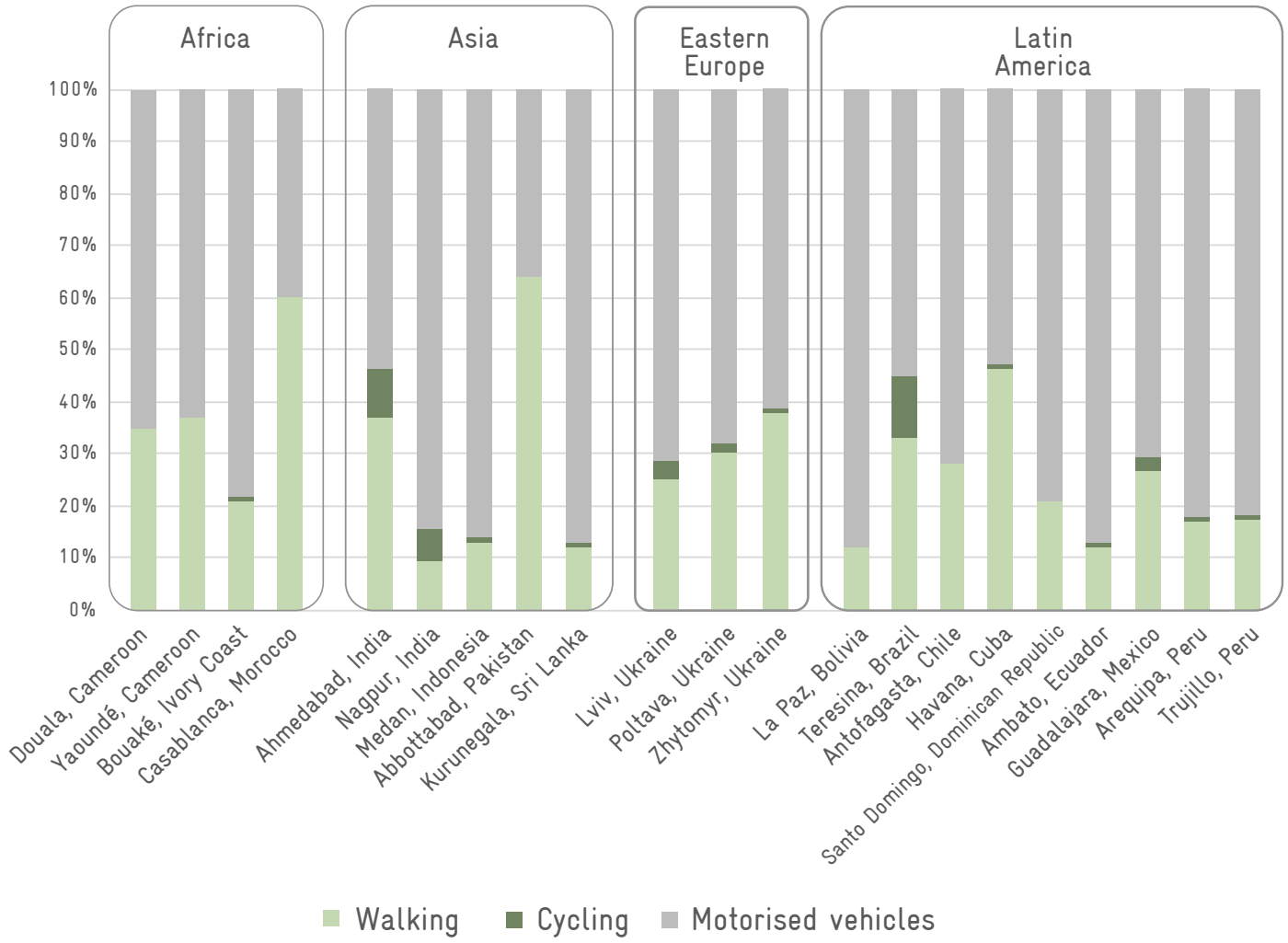


Figure 11. Modal share of active mobility in MobiliseYourCity member cities

12 completed or nearly completed MobiliseYourCity SUMPs, and NUMPs have identified an investment need for 640 million euros to improve walking or cycling infrastructure. Antofagasta and Arequipa are alone contributing to most of this figure, after including walking action plans in their SUMP for 400 million euros. In these two cities, local or national domestic financing should cover a significant share of the cost estimates. However, only 25 million euros or 4% of the total identified investment need for walking and cycling, cities and countries have already secured financing from international sources.

Two main reasons might explain the low financing for active modes and improved roads identified by SUMPs and NUMPs. Firstly, road infrastructure is usually financed by the domestic budget of local or national governments, and the MobiliseYourCity Secretariat does not have access to data on secured domestic financing after completing technical assistance for SUMP preparation. Secondly, financing walking and cycling may face barriers to international funding due to low financial volume, difficulty justifying financial returns on investment, or insufficient experience or capacity for these modes. MobiliseYourCity partners recognised this challenge and have made supporting implementation and financing for walking and cycling a key priority since 2020.

"As walking is largely dominant in our cities, the Mobility Strategy 2035 being developed [for Dakar] through the MobiliseYourCity Partnership should contribute to this."

Amadou Ba
Prime Minister of Senegal

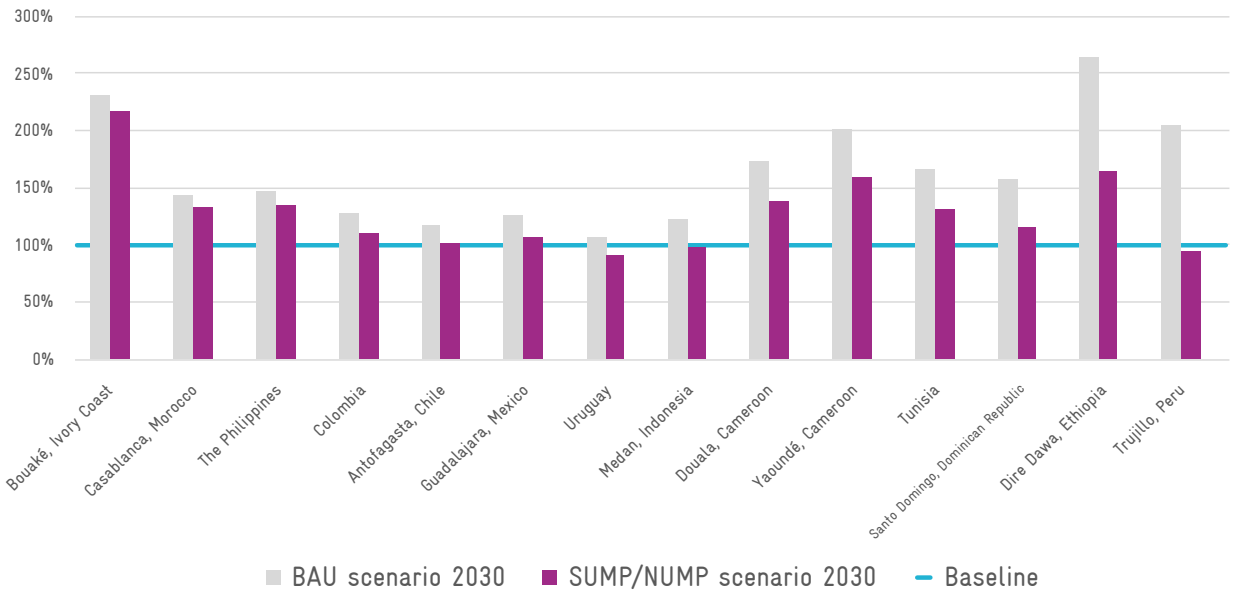
SUMPs and NUMPs are potent instruments to contribute to the decarbonisation of urban mobility

Transport is the top or the second-highest greenhouse gas-emitting sector in more than three-quarters of the world's countries. Extensive evidence shows that cities have an instrumental role in climate mitigation action. Urban trips create a large portion of these greenhouse gas (GHG) emissions and will significantly increase with urban growth; by 2050, 70% of the global population is estimated to live in cities. Tackling urban mobility emissions is necessary to achieve the 2°C target for global temperature rise.

National Urban Mobility Policies and Investment Programmes (NUMPs) connect Nationally Determined Contributions (NDC) ambition with locally appropriate action on urban mobility by aligning efforts to deliver on international climate change commitments. Reflecting NDC climate action goals in NUMPs and vice-versa can secure transformative action on sustainable urban mobility. The latest COP27-led initiative on transport, L^{C}O$_2$TUS, included this interlinkage between climate action and urban mobility planning.

Most MobiliseYourCity member cities are on an inevitable trajectory of high urban-transport GHG emissions increase driven by demographical growth, economic activity and car ownership. However, the projected impacts of SUMPs and NUMPs show their implementation could lead to significant GHG emission reductions. Future projections of MobiliseYourCity SUMPs and NUMPs show their potential to set a new trajectory of GHG emissions significantly lower than the business-as-usual scenario.

The ex-ante projection of SUMP or NUMP implementation's impact on GHG emissions is possible thanks to the MobiliseYourCity Emissions Calculator, a tool that large cities such as Guadalajara, Mexico and Medan, Indonesia applied in 2022. Urban transport activity in Guadalajara emits 8.67 Mt CO_2eq today. Under a Business-As-Usual scenario, urban transport will produce 10.87 MtCO_2eq in 2030 (without SUMP) and only 9.30 Mt CO_2eq if the SUMP is implemented. Guadalajara would thus achieve a reduction of almost 15% in GHG emissions by 2030 compared to BAU. By adopting its SUMP, Medan is about to follow a similar dynamic, with a reduction of almost 20% in transport-related GHG emissions in 2030 compared to BAU.



**The further to the right the cities and countries are in the graph, the greater the climate impact/ mitigation potential of the SUMP/NUMP scenario compared to the Business-as-usual scenario*

Figure 12. GHG impact of SUMPs in MobiliseYourCity reference cities

The ex-ante projections of GHG emissions reduction are expected due to transport demand evolution, a shift toward less carbon-intensive modes of transport, improved public transport or freight efficiency, or emission factors evolution, mainly related to improved fuel efficiency. For instance, Antofagasta's SUMP considers a substantial increase in fuel efficiency, constituting the main contributor to GHG emissions reductions. By 2030, it is projected that the private vehicles fleet using alternative fuel will reach 21%, causing a 26% drop in GHG emission per vehicle-kilometre: from 96 to 71 g CO_2eq/vkm.

As SUMPs and NUMPs are progressively starting to reach implementation, measuring and monitoring mitigation outcomes emerge as a need to demonstrate the actual impact of sustainable urban mobility in the fight against climate change. This necessity comes when the climate agenda is integrated into the urban mobility planning cycle in a city's particular context. NUMPs, SUMPs and NDC sectorial transport plans need robust Monitoring, Reporting and Verification (MRV) systems to prove that actions implemented within their framework keep the ex-ante-projected trend. Institutional arrangements, guidelines, tools, and capacities are required to establish reliable MRV systems; otherwise, it is impossible to quantify mitigation outcomes of urban mobility actions for NDC achievement.

MobiliseYourCity has proposed Sustainable Urban Mobility Observatories to tackle this lack of information. These observatories establish a monitoring system for urban mobility data and GHG emissions indicators, from SUMP and NUMP development (ex-ante) to implementation (ex-post). The objective of this system is to analyse existing trends, understand impact scenarios, and evaluate SUMP and NUMP implementation impact. MobiliseYourCity cities, including Antofagasta, Chile; Ambato, Ecuador; Kochi, Nagpur, and Ahmedabad, India, have already implemented the first steps to implement sustainable urban mobility observatories to meet the data gap.

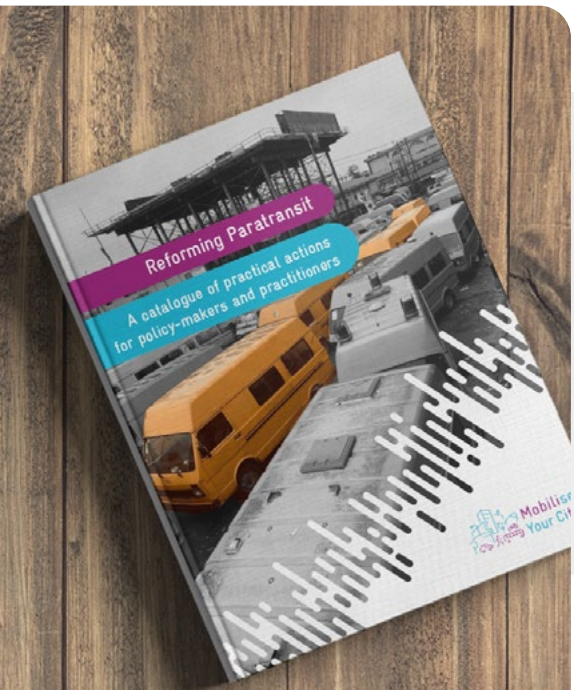
Measures to professionalise paratransit are being included in SUMPs and NUMPs, and these measures are moving to implementation

Paratransit, or informal transport services providers like *tuk-tuks*, *boda bodas*, *peseros* and others, comprise a predominant share of the trips made in Africa, Asia and Latin America and are responsible for a significant portion of urban transport-related emissions. Despite the ubiquity of these informal transport modes, the solutions to the challenge of professionalising their services - including improving safety, upgrading their fleets to lower polluting vehicles, and better integrating them into formal transport systems - fall short considering the sector's transformation needs. This situation is mainly due to the lack of data on such services' informal nature and the institutional fragmentation of regulating authorities.

This data gap is now being closed by the several SUMPs finalised and adopted by MobiliseYourCity member cities. We know now that while paratransit is omnipresent throughout Africa, Asia and Latin America, the importance of these services, and their impact on the local mobility system, varies significantly in degree and form across contexts. For instance, Trujillo's bus system is partly informal, with collective taxis making up 10% of motorised trips. In Medan, Indonesia, more than 7,000 minibuses and 8,000 tricycles contribute significantly to traffic congestion in the city while supplying only 6% and 3% of all trips, respectively. In African cities, such as Dire Dawa, Ethiopia, and Bouaké, Ivory Coast, thousands of tricycles and motorcycles constitute 41% and 67% of the modal share, respectively, while minibuses, although existent, play a marginal role in the public transport supply.

Governments increasingly recognise the importance of integrated public transport systems that leverage the strengths of the different types of vehicles and services. This is why measures to support and improve the paratransit sector and investments in mass transit are being identified in SUMPs. Minibus services are receiving special attention as a central means to combat private motorisation and the uncontrolled growth of lower-capacity vehicles. SUMPs of Antofagasta, Chile; Bouaké, Ivory Coast; Dire Dawa, Tanzania; Havana, Cuba; Medan, Indonesia and Trujillo, Peru, include comprehensive reform measures that encompass redesign and rationalisation of the paratransit network, modernisation of the fleet, industry consolidation, professionalisation (e.g. visual labelling of vehicles with good performance records and capacity building) and integration (e.g. integrated ticketing systems and intermodal infrastructure).

Reforming paratransit requires investment to put in place the identified measures in SUMPs. Fleet modernisation is the most expensive of all actions, adding up to more than USD 700 million among the above-listed cities. Although estimations vary significantly, the remaining measures do not exceed USD 1 million per individual measure in any city. For example, the cost estimate of route rationalisation and network redesign is as low as USD 70 thousand in Antofagasta, Chile and as high as USD 850 thousand in Bouaké, Ivory Coast.



The MobiliseYourCity Paratransit Toolkit

Together with our African Community of Practice and our partners Agence Française de Développement and CODATU, MobiliseYourCity developed the Paratransit toolkit. The toolkit includes two documents: one to prepare an in-depth diagnosis of the sector and another with an easy-to-use catalogue of 50 practical measures to help local and national governments reform paratransit. A new version of the toolkit will be released in 2023.

DOWNLOAD

The relationship between SUMPs and land use planning is increasingly making it into SUMPs

The relationship between land use patterns and urban mobility decisions is twofold. On the one hand, mixed land uses improve access to jobs and services located near residential areas within a short distance, thus reducing the need for long commutes and encouraging more sustainable modes of transport. On the other hand, placing high-quality urban transport facilities shapes land use patterns. Public transport provision and accessibility influence where people choose to live and work and the economic activities attracted to different city areas.

In MobiliseYourCity cities, rapid urbanisation and informal settlements jeopardise efforts related to transport services provision, as policy-making and infrastructure projects cannot promptly address urban growth. In Dakar, Senegal, the concentration of jobs in the city centre leads to pendular mobility, and income disparities between Dakar and the suburban areas increase private vehicle use. Bouaké, Ivory Coast's monocentric organisation attracts urban travel while low-density residential areas predominate in the outskirts. In Antofagasta, Chile, even though 60% of the population live in the northern sector, most of the city's services, employment, and economic activities remain concentrated in the centre, causing congestion and putting pressure on the fatigued transport network.

A SUMP should be guided by the vision defined in the strategic or land use plan where such plans are mandated and available. Conversely, the SUMP can support operationalising the link between the two sectors by including relevant measures in the SUMP action plans or measure packages aligned with the *Transit-Oriented Development* principles. Four main categories of mobility-related actions have a powerful influence on urban regulation and land use:

1. Widening and requalification of existing roads for dedicated lanes for mass public transport and increasing space for walking and cycling.
2. Creating secondary and tertiary poles to enable densification and improve the efficiency of urban mobility.
3. Enabling virtualisation, density and functional mixture along the main transport axes.
4. Setting up an adequate urban mobility governance system over the whole metropolitan area, leading to adequate coordination between urban mobility planning and operation and land use planning and development.

Land use and mobility planning are seldom effectively integrated. The SUMP preparation process has been a step in the right direction to remedy the situation. The MobiliseYourCity SUMPs, particularly those completed in 2022, include several examples of measures in these categories. There are, for example, road design guidelines and road axis upgrade in the Dire Dawa SUMP. In addition to actions that concretely impact urban space, the Ambato SUMP recommends urban and public space planning in specific city areas. The Antofogasta SUMP includes a policy measure for integrating logistics and land/use planning.

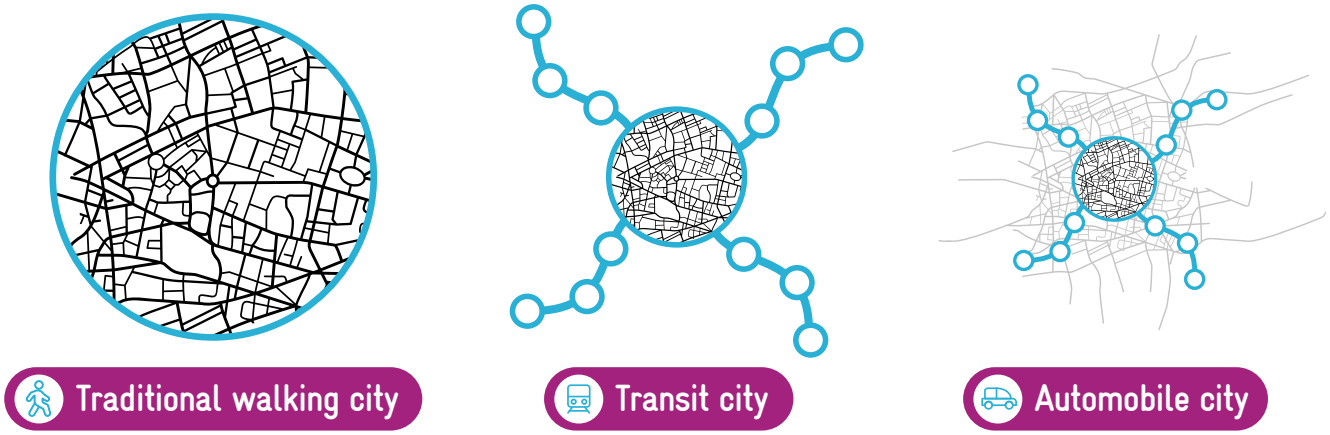


Figure 13. City typology depending on the relation between urban form and available transport modes

SUMPs participatory processes are encouraging more ambitious long-term visions and objectives

The definition of a long-term vision for a city's and country's mobility system is moving beyond planning for vehicle-centric cities to address sustainability issues: accessibility to opportunities for all citizens, improving the quality of life in the city and encouraging sustainable modes of transport, in particular public transport, walking and cycling. Moreover, such visions are being defined as a participatory matter, thus encompassing the needs and aspirations of broad segments of society, as documented in our recently published Topic Guide on Participatory Processes in Urban Mobility Planning.

Stakeholders involved in SUMP development include decision-makers, technical staff, political leaders, business groups, academics, social groups, NGOs representatives, cycling, disabled and women groups, regulatory entities, neighbourhood associations, municipalities, auditing entities, transport operators, national and local institutions, logistics operators, ministries, school's groups, and the community. Following the SUMP cycle, it is required to agree on a shared vision for the city among a large, diverse group of stakeholders after the diagnostic phase. Different methods and strategies have been put in place to reach high levels of participation, depending on the specific needs of stakeholders and citizens. In Trujillo, Peru, a two-fold communication and socialisation strategy was carried out to raise awareness around SUMP. The campaign enabled the consideration of the wants and needs of a large group of stakeholders which, in turn, enhanced the SUMP quality. In Antofagasta, Chile, two stakeholder groups followed the SUMP development: the technical and the social boards. The social board participated intensely in the co-construction of the SUMP vision and objectives and in selecting and prioritising measures.

A review of the visions defined in our SUMPs worldwide demonstrates that sustainability in all its dimensions is a priority for the future of mobility, independent of context. As many SUMPs are completed, some common topics are included in their long-term visions and measure packages: the importance of natural assets in the urban environment, safety and efficiency for sustainable modes, mainly walking, cycling and public transport.

Figure 14. Concepts included in SUMP visions

Our data confirms general global trends but also has some limitations

The annual data collection exercise reveals interesting facts and trends, such as Africa's lower per capita GHG emissions than Latin America. Although most conclusions and recommendations derived from the data are consistent with other sources of knowledge, there are still some limitations in data quality due to various factors: limited sample size, lack of reliable sources, non-standardised units and methods, or simply the low quality of locally available data.

There have been significant improvements in recent years, nonetheless. With more detailed diagnoses delivered, reaching 20 in 2022 compared to 16 last year, besides 13 SUMP action plans available, our aggregated data become significantly representative. Our partners have access to an increased pool of examples, lessons learned and information that is strategic for coordinating future projects.

Moreover, the MobiliseYourCity GHG emissions calculator has been successfully used by four cities and two countries leading the way as part of their SUMP or NUMP, demonstrating how investing in sustainable urban mobility can contribute to meeting climate commitments. While local data availability is the main barrier to using this calculator, providing orientation or default data based on ongoing research should activate a virtuous circle and make this tool increasingly accessible.

Other future improvements are expected as mobility observatories emerge in our member cities and countries. These information platforms enable citizens and partners to access and follow the relevant mobility data but also serve as a driver to deliver better information on urban mobility.

Additionally, while MobiliseYourCity continues supporting the improvement of mobility data availability through technical assistance and the preparation of SUMP and NUMP, the Partnership also tackles this challenge by publishing data-focused methodological tools, organising webinars and disseminating training modules.

Finally, initiatives led by partner organisations, such as Digital Transport for Africa (DT4A) and Transport Data Commons Initiative (TDCI), hope to achieve a significant impact on data availability by facilitating open data approaches at the local level, by promoting data standards, or by setting up data exchange facilities.

4 Advocacy and outreach: connecting and communicating for a systems' transformation

Through our fourth service area, advocacy, we encourage institutions and individuals to embrace and resource sustainable mobility. We communicate local results to influence the global agenda, engage new institutional partners and city and country members to animate ambitious action, and empower local behavioural change through evidence-based messaging.

Articulating the link and offering solutions between transport and climate continues to be the focus of MobiliseYourCity

Since being launched at COP21, the MobiliseYourCity Partnership has encouraged a shift in the political agenda and public opinion towards strengthened climate action. This year, the Secretariat linked climate change with several other topics of interest for our community, such as paratransit, active modes, and governance. Our effort in this sense concretised into training sessions, the participation in two communications campaigns on active modes organised by SLOCAT and ITDP, and the organisation of several events on climate change-related stages:

Transport and Climate Change Week 2022

12 May 2022 - Berlin, Germany - 80 participants

The MobiliseYourCity Partnership brought together its partners from Germany, France, the EU, and across the world in high-panel discussions on how to shape low-carbon mobility systems that contribute to efficient, safe and just cities with active and public transport.

WATCH THE EVENT

Latin America and the Caribbean Climate Week

18 to 22 July 2022 - Santo Domingo, Dominican Republic

The Secretariat engaged in two events at the Latin America and the Caribbean Climate Week in the Dominican Republic. One focused on paratransit (in partnership with SLOCAT, INTRANT, and GPIT), and another focused on the contribution of NUMPs to NDC achievement (in collaboration with EUROCLIMA+ and the Ministries of Environment of Uruguay and the Dominican Republic).

WATCH THE EVENT

Sustainable Mobility and Climate Week 2022

3 to 7 October 2022 - Dakar, Senegal - Over 40 participants

More than 40 participants and 20 city and country representatives of the MobiliseYourCity African Community of Practice and the TUMI e-bus mission gathered in Dakar, Senegal, to share experiences on the transformation of urban mobility in Africa. TUMI and MobiliseYourCity focused on electric mobility, transit-oriented development (TOD), and building capacities on pressing issues such as paratransit and active modes.

COP27 UN Climate Change Conference

17 November 2022 - Sharm El Sheikh, Egypt - Over 100 participants

The Secretariat organised a side event at COP27 in the EU Pavilion. The event, entitled "Moving towards sustainable urban mobility: perspectives from Africa, Latin America and the European Union", discussed the importance of the application of Sustainable Urban Mobility Plans and National Urban Mobility Policies as methodological tools to transform urban mobility and their practical implementation in different contexts: Dakar, Senegal; Uruguay and the European Union.

WATCH THE EVENT

We continued highlighting the work of our member cities and countries to animate action and resource implementation

The 2022 Global Monitor, with detailed city and country factsheets, has over 1,000 downloads. The final reports and summaries of the completed SUMPs/NUMPs from Yaoundé, Santo Domingo, Lviv, and the Philippines registered 2,000 downloads reaching practitioners and local actors on the ground. To, even more, reduce the gap between planning and implementation of sustainable mobility projects, we tried to reach and involve local agencies of our core partners in the Partnership's activities. Thanks to several opportunities offered by the European Commission, we organised stands at high-level events offering a perfect stage to showcase the results of our six-year-old European Partnership:

European Development Days

21, 22 June 2022 - Brussels, Belgium

Thanks to the contribution of the European Commission Directorate-General for International Partnerships, the Secretariat held a stand which allowed establishing direct contact with EU partners, particularly from EU delegations leading to a subsequent invitation to present MobiliseYourCity to a large group of EUD heads of infrastructure. Following the event, some EUDs expressed interest in working more closely with MobiliseYourCity, including Gambia, Togo, Kenya, and Senegal.

Urban Mobility Days 2022

21 September - Brno, Czech Republic

MobiliseYourCity highlighted the relevance of adapting proved-methodologies in rapidly changing contexts and the need to provide national political and methodological support for the development of SUMPs. The Secretariat also presented the case from Santo Domingo, Dominican Republic, whose SUMP smoothly transitioned to implementation with the support of the EU and AFD.

WATCH THE EVENT

EuroMed Transport Support Project Regional Workshop

11, 12 October 2022 - Brussels, Belgium

The Secretariat made a case on how urban mobility planning is essential for the fight against climate change. Delegates from transport ministries from North Africa and the Middle East attended the event.

EU InfoPoint

12 October 2022 - Brussels, Belgium - Over 80 participants

We organised an EU InfoPoint thanks to the strengthened relationship with the European Commission Directorate-General for International Partnerships. The main objective was to re-introduce MobiliseYourCity to EU delegations to ensure they consider the resources offered by the Partnership in their activities.

WATCH THE EVENT

With 1,422 new followers in 2022, we are creating interesting and relevant content for mobility practitioners globally

This year, we updated our communications strategy and decided to give a more personal touch to our communications products. Returning to in-person events allowed us to interview 20 city representatives from across Africa gathered in Dakar, Senegal, for the Sustainable Mobility and Climate Week on their needs to move towards a greener efficient, more inclusive transport system.

After producing knowledge products and trainings with our partners and making them available on our Knowledge Platform, we continually invest a lot of energy into ensuring that the right people receive this information. We use cross-channel communication to generate traffic to our Knowledge Platform and ultimately to ensure the knowledge produced supports our member cities and countries in their work. With 1,422 new followers in one year on social media, representing a 26% increase from 2021, we are creating interesting and relevant content for mobility practitioners globally. Compared to last year, we believe that this engagement has led to an increase in participation in our training, in downloads of our communication products, in the views of our knowledge products and in the contributions of new products to our knowledge platform.

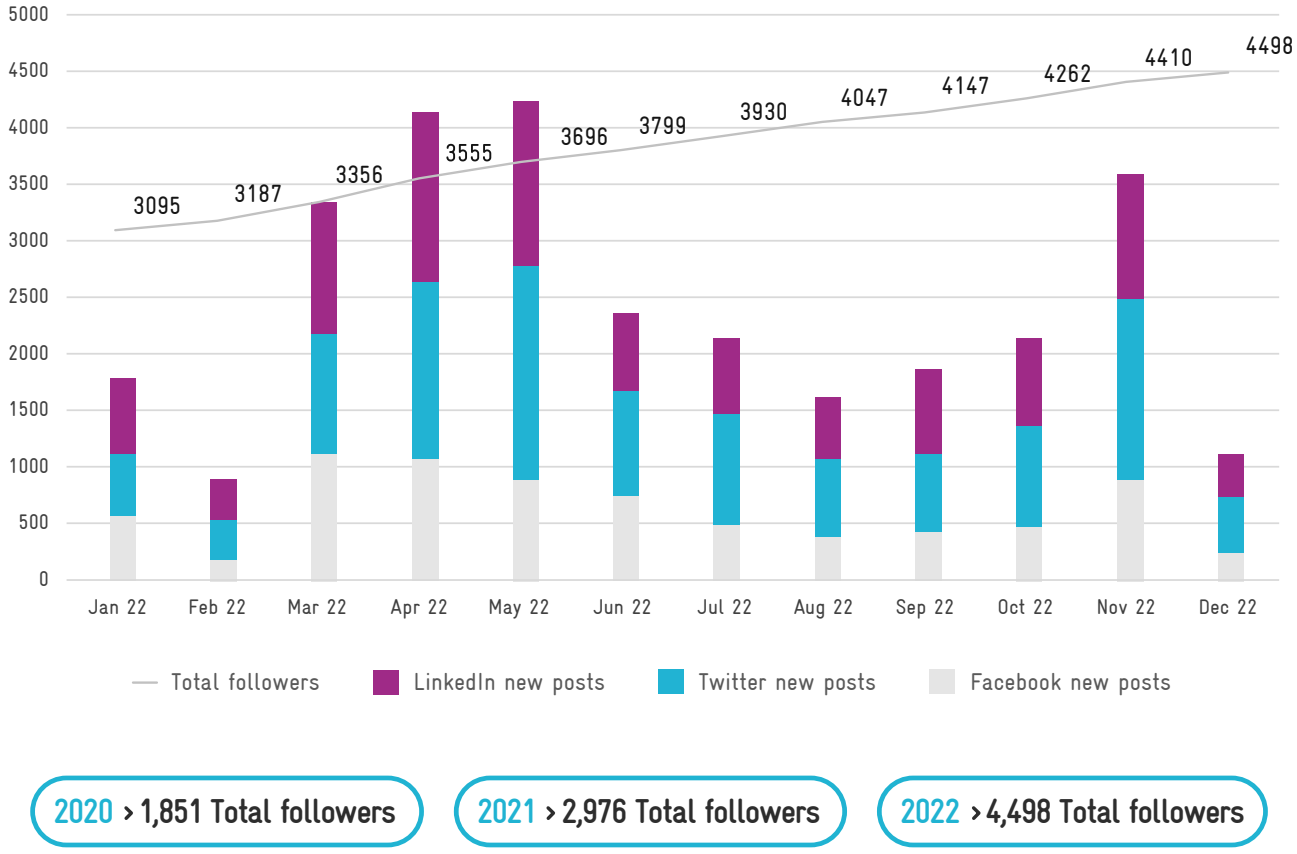


Figure 15. More engagement, more followers: 819 new posts and 1,422 new followers in 2022 on social media and total followers' evolution

5 Behind the scene: the life of a Global Partnership

Ankara, Türkiye, Thiès and Mbour, Senegal and Puebla, Mexico joined the Partnership in 2022

We are now nearly 100 partners strong, with 69 member cities and 15 member countries from the Global South.

This September, the city of Ankara became MobiliseYourCity's latest member and is already turning its commitment into concrete action. With support from the Partnership, Ankara aims to reduce the city's carbon footprint and improve the quality of life of its 5.7 million inhabitants by promoting more sustainable, low-carbon transport. With funds from the European Union and AFD, Ankara is in the process of developing a SUMP and extending its Light Rail Transit system to combat urban sprawl, low service accessibility, heavy traffic congestion, and decades-long neglect of public transport and active mobility.

After their application in late 2022, Thiès and Mbour in Senegal and Puebla in Mexico also became official partners of MobiliseYourCity. The city of Puebla, Mexico, has been working with EUROCLIMA+ since 2018 to improve the accessibility of the existing BRT system. With a budget of 500,000 EUR, the pilot project is building bicycle parking stations and a cycling corridor, hereby upgrading BRT stations into intermodal hubs.

"It is essential to bridge the gap between planning and implementation."

Anne Chaussavoine
Transport Project Team Leader, Mobility and Transport Division, AFD

MobiliseYourCity welcomes the German Federal Ministry for Economic Cooperation and Development (BMZ) and the Asian Development Bank (ADB)

BMZ officially became a donor of MobiliseYourCity in July 2022. The Ministry participated in the 11th Steering Committee Meeting in Paris for the first time and presented its expectations. This partnership with BMZ ensures the continuous engagement of Germany to MobiliseYourCity. While BMUV helped launch the Partnership at COP21, as MobiliseYourCity moves towards implementing the first adopted SUMPs and NUMPs, BMZ is a great natural partner.

During the 12th Steering Committee Meeting of the Partnership in December, MobiliseYourCity welcomed ADB as its latest Contributing Partner. Following their successful collaboration with AFD in MobiliseYourCity Asia over the last three years, ADB has sent a letter to the chair of the Steering Committee, expressing their interest in officially joining the Partnership as a contributing and implementing partner. ADB is firmly committed to supporting sustainable urban mobility in Asia and the Pacific and has promoted MobiliseYourCity and contributed to its implementation since its inception.

MobiliseYourCity animates ambitious action on sustainable transport across various groups

The secretariat remains active in various groups and task forces to advocate on behalf of MobiliseYourCity members. These include the Marrakesh Partnership for Global Climate Action, the Eltis SUMP Platform Coordinating Group, the SLOCAT Task Force on Transport Community Engagement in the UNFCCC and the SLOCAT Partnership Annual Meeting 2022, the Movin'On LAB Africa Steering Committee, the DT4A Steering Committee and the Transport Data Commons Initiative, working group "data architecture and users requirements stocktaking".

The Secretariat was glad to see concrete results from these various engagements and our active promotion of the Partnership's knowledge products. We have noticed references to some of our key knowledge products by institutions outside our community of partners. We were glad to notice some of the focus topics of the Partnership becoming more prominent in the projects of our key partners.

Two new people joined the Secretariat

The team kept evolving this year, and several colleagues left for new opportunities. On the other hand, two new professionals joined the team in 2022: Réka Aguilar, Website Manager, and Kim Giang Do, Capacity Building Intern.

They joined Sasank Vemuri, Coordinator of the Partnership and head of the Secretariat; Eleonore François-Jacobs, Partnerships and Outreach Manager; Mateo Gomez, Associate Mobility Expert; Vincent Larondelle, Monitoring and Evaluation Manager; Elena Tanzarella, Communications Officer, and Nicolas Cruz, Sustainable Mobility Expert who had joined the Partnership in 2019, 2020 and 2021.

This expansion has been made possible thanks to funding from AFD and BMUV.

6 Looking forward

We will launch the MobiliseYourCity SUMP Guidelines, the cornerstone to our methodological offer

In 2023, MobiliseYourCity is introducing its new Sustainable Urban Mobility Plan Guidelines, which adapted the EU-proposed methodology for the specific challenges of cities in Africa, Asia, Eastern Europe, and Latin America. With these new guidelines, we hope to contribute to the systematic transformation of sustainable urban mobility by tackling diverse but common challenges present in our geographies: lack of technical capacities of local governments, poor governance and institutional frameworks, low levels of private motorisation, a high share of active modes and public transport, and paratransit as the main, if not the only, public transport mode. We have leveraged European knowledge in sustainable urban mobility planning while bringing insights and lessons learned from its practical implementation worldwide.

MobiliseYourCity developed the SUMP Guidelines through a participatory process in which we asked city members to share their experiences developing a SUMP. We brought experiences from Ahmedabad, India; Ambato, Ecuador; Antofagasta, Chile; Arequipa, and Trujillo, Peru; Bouaké, Ivory Coast; Córdoba, Argentina; Dakar, Senegal; Guadalajara, Mexico; Havana, Cuba; Kumasi, Ghana; Kurunegala, Sri Lanka; Lviv, Poltava, and Zhytomyr, Ukraine; Maputo, Mozambique; Peshawar, Mingora, and Abbottabad, Pakistan; and Tbilisi; Georgia.

We thank all our partners and members involved in the process, and we hope the MobiliseYourCity SUMP Guidelines will facilitate the endeavour of developing SUMPs worldwide.

We will introduce toolkits on our core topics, including training materials to scale up capacity building

Giving priority to our core topics while learning from practice, the Partnership is preparing resources crucial when transitioning towards a low-carbon, sustainable and resilient urban mobility. We have condensed knowledge about such topics into guidelines, tools, training materials, and case studies, including guidelines, methodologies, tools, and training materials in this regard.

Sustainable Urban Mobility Plans (SUMPs), National Urban Mobility Policies and Investment Programmes (NUMPs), greenhouse gas (GHG) emissions calculations and monitoring, reporting and verification (MRV), paratransit and governance will remain our priority topics for methodological and capacity development support.

MobiliseYourCity's methodological offer

SUMP Toolkit

MobiliseYourCity SUMP Guidelines

SUMP Frequently Asked Questions

Topic Guide: Participatory processes in urban mobility planning

Topic Guide: Transport modelling for mobility planning

Topic Guide: Integrating land-use and urban mobility planning

Core indicators and monitoring framework

SUMP Model Terms of Reference

SUMP Annotated table of contents

Modelar y planificar la movilidad urbana en tiempos de crisis

Summaries and final reports

NUMP Toolkit

MobiliseYourCity NUMP Guidelines

NUMP Model Terms of Reference

GHG Emissions Calculator Toolkit

MobiliseYourCity Emissions Calculator

MobiliseYourCity Monitoring and Reporting Approach for GHG Emissions

User manual of the MobiliseYourCity Emissions calculator

Paratransit Toolkit

Understanding paratransit

Diagnose paratransit services

Reforming the paratransit sector

Contracting options for paratransit reform

Paratransit in Asia

Recommendations to Abidjan for paratransit reform

Paratransit case studies

Governance Toolkit

Understanding urban mobility governance

Diagnosing urban mobility governance

Enhancing urban mobility governance

Who pays what for urban mobility

Urban mobility governance case studies

Figure 16. Our full methodological offer

We will restructure our website to guarantee better access to our tools and methodologies

In 2022 we began collecting feedback from the Knowledge Platform users and our partners. There was a clear demand for the Secretariat to optimise the Knowledge Platform to achieve a better structure of the content, a newer design, and the possibility of finding the content more effortlessly.

In 2023, the MobiliseYourCity website is getting a brand-new look in its structure and design. This new platform will better reflect MobiliseYourCity's new strategy, present the latest activities and help new and current visitors navigate the platform and more easily find resources, trainings, news, and events related to the Partnership.

The renewed website will be available this April. We hope it will help disseminate MobiliseYourCity tools and methodologies even more broadly and support our work promoting sustainable urban mobility.

ADB will host the first MobiliseYourCity Conference in Asia

On November 7-9, in Manilla, the Philippines, our partner ADB will host the first MobiliseYourCity Conference in Asia, jointly organised with AFD and the MobiliseYourCity Secretariat. The three-day event will bring together city officials, practitioners, experts, and partners of MobiliseYourCity to address pressing mobility issues in the region.

This flagship event will stimulate the dialogue among the members of the MobiliseYourCity Asia Community of Practice as well as with potential new city members. In addition, this event will showcase the outcome of the four-year collaboration between AFD and ADB on MobiliseYourCity in Asia and kick off the second phase of this collaboration.

7 City and Country Factsheets

The MobiliseYourCity Partnership has 69 partner cities and 15 partner countries. Our Implementing Partners are supporting 31 cities and 9 countries in preparing SUMPs and NUMPs respectively.

31 Supported SUMPs

9 Supported NUMPs

The MobiliseYourCity Global Partnership

Status of technical assistance

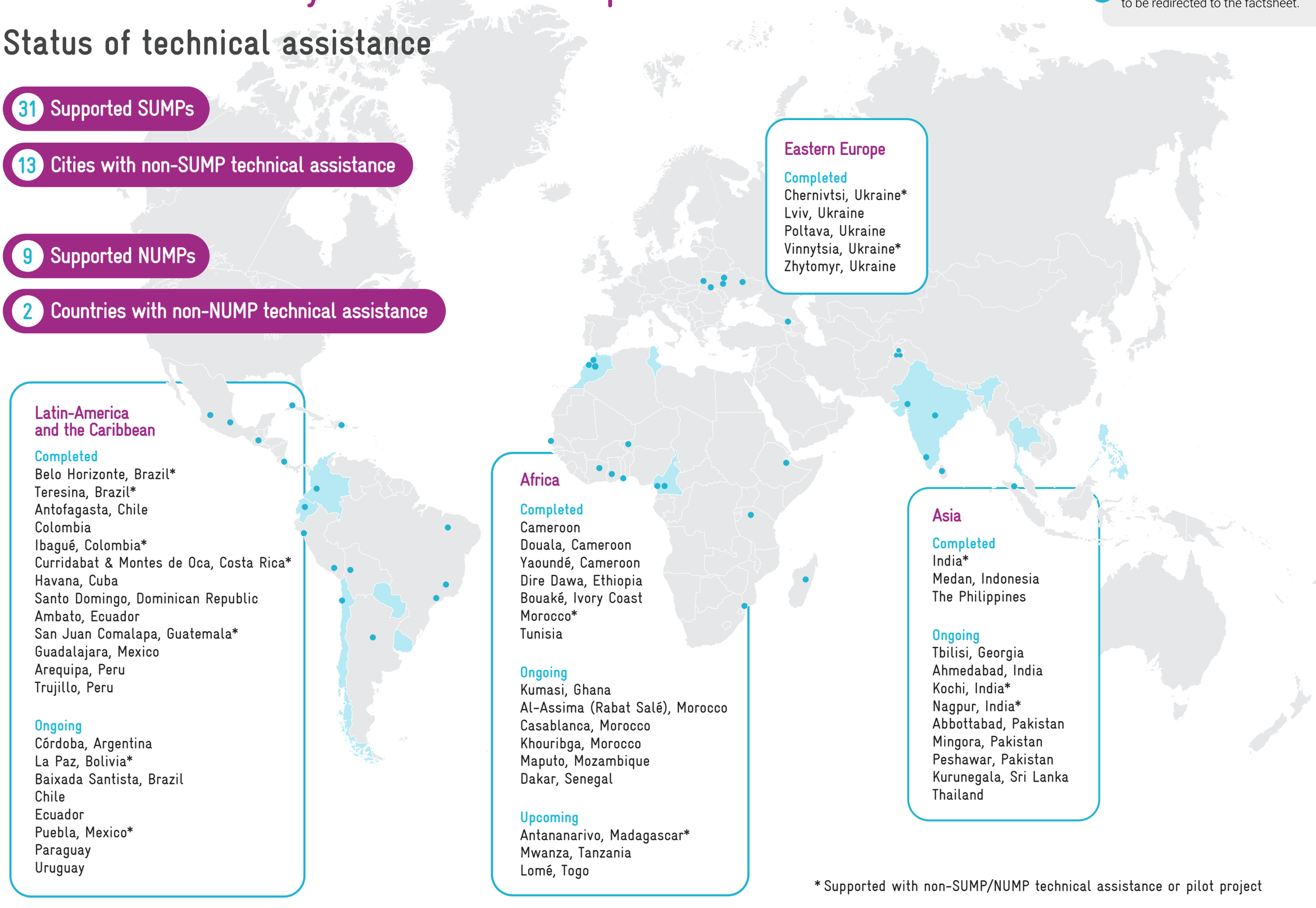
Click on the city/country of your interest to be redirected to the factsheet.

31 Supported SUMPs

13 Cities with non-SUMP technical assistance

9 Supported NUMPs

2 Countries with non-NUMP technical assistance



Latin-America and the Caribbean

Completed
Belo Horizonte, Brazil*
Teresina, Brazil*
Antofagasta, Chile
Colombia
Ibagué, Colombia*
Curridabat & Montes de Oca, Costa Rica*
Havana, Cuba
Santo Domingo, Dominican Republic
Ambato, Ecuador
San Juan Comalapa, Guatemala*
Guadalajara, Mexico
Arequipa, Peru
Trujillo, Peru

Ongoing
Córdoba, Argentina
La Paz, Bolivia*
Baixada Santista, Brazil
Chile
Ecuador
Puebla, Mexico*
Paraguay
Uruguay

Eastern Europe

Completed
Chernivtsi, Ukraine*
Lviv, Ukraine
Poltava, Ukraine
Vinnytsia, Ukraine*
Zhytomyr, Ukraine

Africa

Completed
Cameroon
Douala, Cameroon
Yaoundé, Cameroon
Dire Dawa, Ethiopia
Bouaké, Ivory Coast
Morocco*
Tunisia

Ongoing
Kumasi, Ghana
Al-Assima (Rabat Salé), Morocco
Casablanca, Morocco
Khouribga, Morocco
Maputo, Mozambique
Dakar, Senegal

Upcoming
Antananarivo, Madagascar*
Mwanza, Tanzania
Lomé, Togo

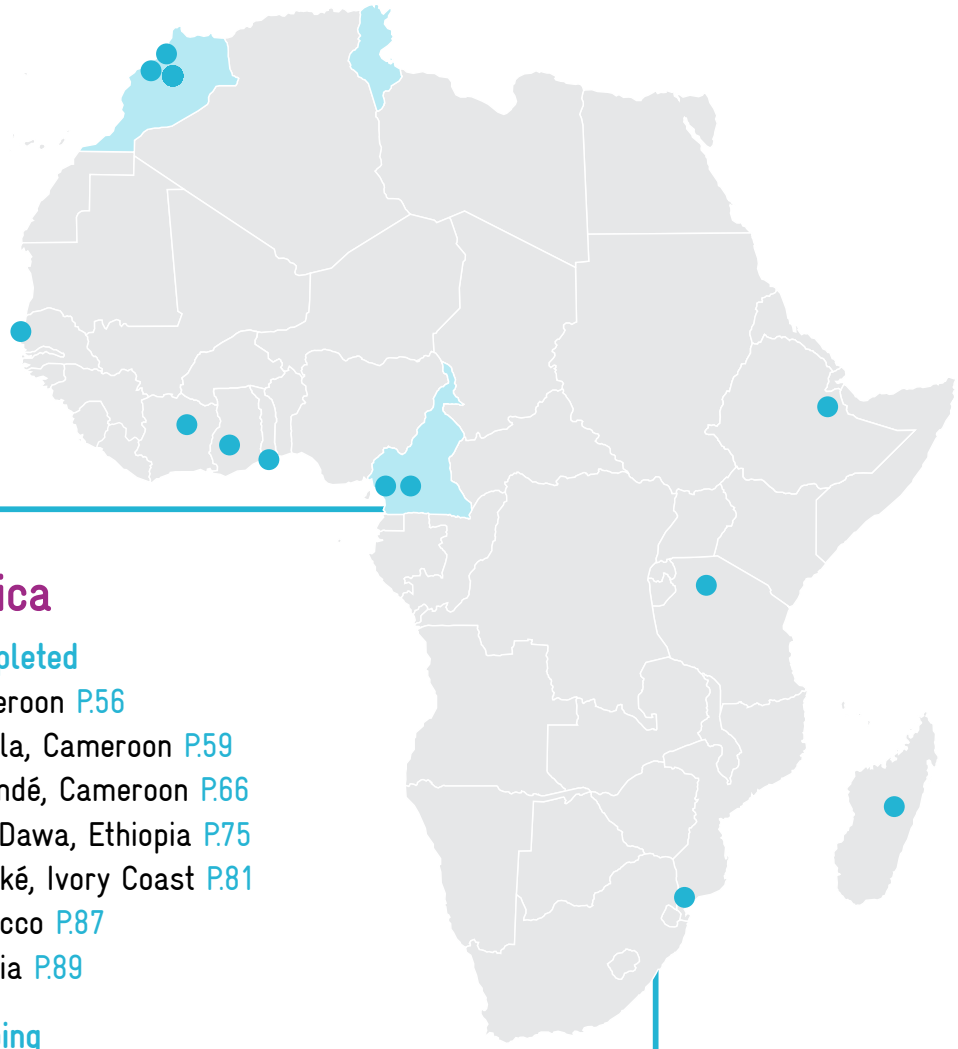
Asia

Completed
India*
Medan, Indonesia
The Philippines

Ongoing
Tbilisi, Georgia
Ahmedabad, India
Kochi, India*
Nagpur, India*
Abbottabad, Pakistan
Mingora, Pakistan
Peshawar, Pakistan
Kurunegala, Sri Lanka
Thailand

* Supported with non-SUMP/NUMP technical assistance or pilot project

Africa



Africa

Completed

Cameroon P.56
Douala, Cameroon P.59
Yaoundé, Cameroon P.66
Dire Dawa, Ethiopia P.75
Bouaké, Ivory Coast P.81
Morocco P.87
Tunisia P.89

Ongoing

Kumasi, Ghana P.95
Al-Assima (Rabat-Salé-Temara), Morocco P.99
Casablanca, Morocco P.101
Khouribga, Morocco P.104
Maputo, Mozambique P.106
Dakar, Senegal P.109

Upcomig

Antananarivo, Madagascar P.113
Mwanza, Tanzania P.115
Lomé, Togo P.117

Cameroon

Partner country

Status of the project: **Completed National Urban Mobility Policy or Programme**

Basic Information

Population: **27,744,989** | Growth rate: **2.54%**

Percentage of urban population: **57%**

GDP per capita: **USD 1,498**

Percentage of the population living below the national poverty lines: **69%**

Nationally Determined Contribution (NDC): **no quantified transport related NDC**

National GHG emissions per capita: **0,4 (tCO_2eq)**

Proportion of transport related GHG emissions: **53%**

Exposure to climate change: **HIGH**

Context

Cameroon is undergoing a rapid population growth. With over 55% of the population living in cities, it is the most urbanised country in Central Africa, and it is expected that the urban population will reach 22 million by 2035. The geographical, economic, and social context of the country is complex and diversified but is largely dominated by two major cities, Douala, economic capital and Yaoundé, administrative capital.

Yet the quality and efficiency of urban mobility systems, and ultimately its performance, is not satisfactory. Growing congestion in cities and the unpredictability of traffic are the most visible signs of these problems. The slowness, cost and discomfort of, mostly informal, public transport also greatly affect populations who have no other choice for their journeys. Walking is particularly neglected in Cameroonian cities. The high number of accidents and victims, often pedestrians, calls for emergency measures. Finally, Cameroon's greenhouse gas emissions from urban transport, although very low in absolute terms, could be better addressed.

Generally speaking, and with the notable exception of Douala, urban communities have neither the institutional nor the human resources to carry out some of the essential tasks entrusted to them by law, in particular the organisation and management of public transport and traffic management. Urban communities also do not fulfil their role of continuous monitoring of urban mobility, its performance and the service provided to citizens by urban transport infrastructure and systems.

In this context, and as Sustainable Urban Mobility Plans were being developed for Douala and Yaoundé, it appeared necessary for Cameroon to have a National Urban Mobility Policy (NUMP) that facilitates and guides local actions and is shared and appropriated by all actors, whether at the level of cities or the State.

The NUMP was delivered and presented in September 2019 during the MobiliseYourCity Africa Mobility Conference organised in Yaoundé.

Support from the Partnership

Technical assistance: National Urban Mobility Policy or Program (NUMP)

Type of NUMP: Policy NUMP

Funded by: European Union

Funding amount: EUR 500,000

Implemented by: AFD through the MobiliseYourCity Africa Program

Local counterpart: Ministère de l'Habitat et du Développement Urbain

Main purpose of the NUMP: Offer cities a general enabling framework for SUMPs

Objectives:

The NUMP for Cameroon provides guidance and actions recommendations focusing on four main targets:

- Reinforcement of urban mobility governance;
- Increase of financing resources for urban mobility;
- Restructuration and modernisation and public transport;
- Better use of state-of-the-art technologies for transport.

Status of implementation

Project start date: 2018 Q1

NUMP adoption date: 2019 Q3

Completed outputs:

- National Urban Mobility Policy: Diagnosis, national vision, and strategic measures for its realisation

NUMP key measures and cost estimates

The following list highlights the most significant measures and recommendations identified in the NUMP.

Measure	Cost Estimate
1. Strengthen the governance of urban mobility • Strengthen the capacity of urban communities • Better integrate the activities of all urban mobility stakeholders • Strengthen MINHDU • Develop human resources and capacities at all levels • Develop governance tools • Develop an approach for the metropolitan governance of urban governance of urban mobility	Not quantified
2. Improve the financing of urban mobility • Increase planning and spending capacities of urban communities on urban mobility • Strategic area: The State must continue to finance urban mobility while optimising its contributions	Not quantified
3. Restructure and modernisation of public transport • Introduce in Yaoundé and Douala strong public transport axes by bus, starting with the congested roads • Organise and professionalise the motorbike taxi sector by building on existing structures to drive organisation • Organise and professionalise taxi services in the main cities and encourage the development of new taxi services	Not quantified
4. Better use of transport technologies • Gradually improve the vehicle fleet • Improve road maintenance technologies • Develop knowledge of the issues and institutional capacities in the digital field, and promote pilot projects	Not quantified

Finance leverage

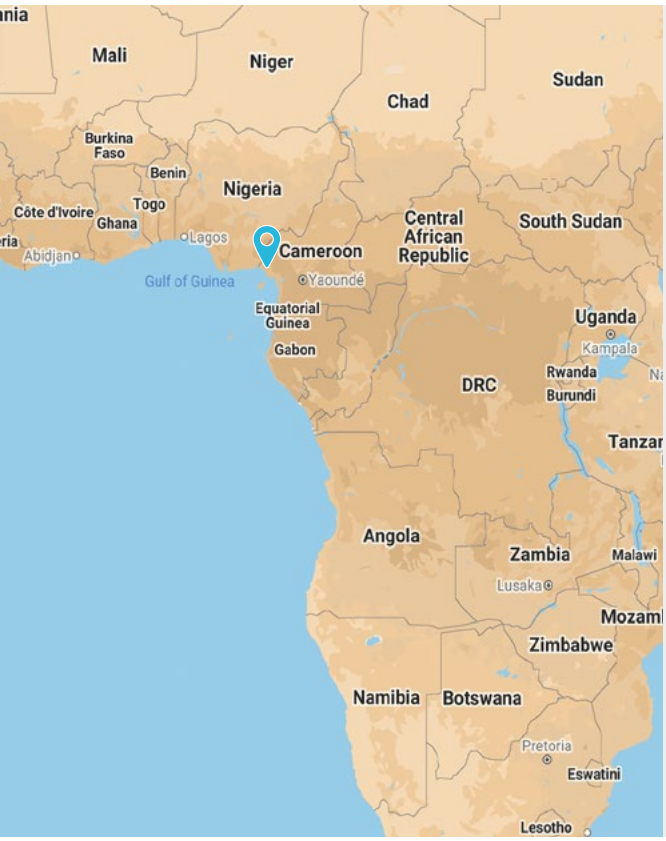
Leveraged financing (resulting or enabled by the NUMP preparation process)

As a prerequisite to the adoption of sustainable urban mobility plans in Yaoundé and Douala the national urban mobility policy in Cameroon, has indirectly enabled securing financing, including nearly 75 million euros in grants or similar, for investments and further technical assistance in these two cities. This is presented in detail in the factsheets or SUMP summaries of Douala and Yaoundé.

Douala, Cameroon

Partner city

Status of the project: **Completed Sustainable Urban Mobility Plan**



Basic Information

Urban area: **923 km^2**

Population: **3,663,227** | Growth rate: **3.6%**

Region capital city

GDP per capita: **USD 2,952**

Modal Share:

- **Minibuses (paratransit): 1%**
- **Walking: 35%**
- **Private cars: 5%**
- **Private motorbikes or 2-wheelers: 4%**
- **Taxis (paratransit): 12%**
- **Moto taxis (paratransit): 40%**
- **Other: 3%**

National GHG emissions per capita: **0.4 (tCO_2eq)**

Exposure to climate change: **HIGH**

Context

The port City of Douala, the main economic hub of Cameroon, lies on a low coastal plateau, with many natural drains and flood prone valleys. With a population of more than 3.6 million inhabitants, which is expected to increase to 4 million by 2023, Douala is a dynamic, fast-growing city. Douala's rapid growth is particularly pronounced on the outskirts, where the access to formal public transport services is very low or non-existent. Urban sprawl is forcing people to travel further distances to access jobs, markets, health, and education. The low quality and inadequacy of infrastructure for walking and cycling adds up to the low provision of public transport services.

This combination of factors pushes travellers to rely on informal motorcycle taxis and mini-bus services, instead of more sustainable modes such as walking, cycling and higher capacity public transport. Informal transport services have taken an increasingly large modal share in outskirt areas but also in the city centre. This entails threats to the citizen health, safety, and comfort, as the precariousness of working conditions and high competitiveness of paratransit services are associated with higher risk of traffic accidents and sexual harassment toward women. Aging or badly maintained vehicles also lead to a significant increase in air and water pollution, and in greenhouse gas emissions.

Regulating and supervising urban development are major challenges for the public authorities, as a large percentage of the urban territory is subject to unsanctioned land use, associated with the isolation of working-class neighbourhoods, the lack of tertiary roads, saturation of industrial zones and growing informal settlements on often unsuitable land.

In addition to this, the lack of dialogue between the land-use planning, on the one hand, and mobility planning authorities, on the other, exacerbates the urban transport problem. Above all, it is necessary to create the conditions for a viable integration between urban and transport planning. This diagnosis was translated into the need to initiate a planning approach that is more operational than those previously at work, in order to be able to respond to the challenges resulting from the rapid development of the metropolitan areas.

Support from the Partnership

Technical assistance: Sustainable Urban Mobility Plan (SUMP)

Funded by: European Commission and FFEM

Funding amount: EUR 400,000

Implemented by: AFD through the MobiliseYourCity Africa Program

Local counterpart: Urban Community of Douala

Finance leverage: EUR 422,000,000

Supported activities:

- Organisation of Mobilise Days, in conjunction with Yaoundé, to officially launch SUMP development and raise awareness.
- Preparation of a Sustainable Urban Mobility Plan for Douala, with three main objectives:
  - Improving citizens' access to destinations, activities and services offered in Douala;
  - Improving the urban environment in Douala;
  - Renewing the governance of Douala, its mobility, and projects.

Status of the SUMP process

Project start: 2018 Q1

Project completion: 2019 Q3

Completed outputs:

- Sustainable Urban Mobility Plan
  - Diagnosis
  - Vision and goals
  - Action and financing plan

SUMP key measures and cost estimates

The following table highlights the most significant measures identified in the SUMP.

Measures	Cost estimates in M€	Proposed Financing Source	Implementation by
Physical investments (infrastructure, rolling stock, etc.)	**508 M€**		
Road infrastructure projects	**107 M€**	Domestic financing	2021
Purchase of 283 Bus 12m 2021: 150 2024: 133	66 M€ 2021: 33 M€ 2024: 33 M€	World Bank & Domestic Financing	2021 2024
Bus facilities (stations)	**24 M€** 2021: 4 M€ 2024: 20 M€	World Bank & Domestic Financing	2021 2024
Purchase of 164 BRT 18m 2021: 50 2024: 75 2029: 39	**66 M€** 2021: 20 M€ 2024: 30 M€ 2029: 16 M€	World Bank & Domestic Financing	2021 2024 2029
BRT facilities (stations)	**92 M€** 2021: 18 M€ 2024: 49 M€ 2029: 25 M€	World Bank & Domestic Financing	2021 2024 2029
Cable Car line	**26 M€**	World Bank & Domestic Financing	2024
Development of 5 major multimodal interchange centre and 15 transfer points	**15 M€** 2021: 4 M€ 2024: 6 M€ 2029: 5 M€	World Bank & Domestic Financing	2021 2024 2029
Walking plan	**15 M€** 2021: 3 M€ 2024: 7 M€ 2029: 5 M€	World Bank & Domestic Financing	2021 2024 2029
Investments for cycling	**5 M€** 2024: 1 M€ 2029: 4 M€	World Bank & Domestic Financing	2024 2029
Reinforcement of river links to Manoka	**4 M€**	Domestic financing	2021
Development of river and rail transport infrastructure	**5 M€**	Domestic financing	2029
Centralised Control Centre	**10 M€** 2021: 3 M€ 2024: 4 M€ 2029: 3 M€	World Bank & Domestic Financing	2021 2024 2029

Measures	Cost estimates in M€	Proposed Financing Source	Implementation by
Project management, call for interest and contingency provision	**63 M€** 2021: 15 M€ 2024: 37 M€ 2029: 11 M€	Domestic financing	2021 2024 2029
Development of logistical hubs and truck parking spaces	**11 M€** 2024: 7 M€ 2029: 4 M€	Domestic financing	2024 2029
Complementary actions and policy reforms in three phases	**38 M€** 2021: 10 M€ 2024: 10 M€ 2029: 38 M€		
Technical (studies, plans, designs, etc.)			
Short term complementary studies and strategy setting			2021
Guidelines for logistics platforms and trucks parking			2021
Concerted plans and strategies for • Upkeep and maintenance of the road network • Valorisation/distribution of the public space • Tariff and ticketing of public transport			2021
Integration of mobility and other urban networks (water, sewage, energy, waste)			2024
Municipal traffic and parking plans			2024
Anticipation of future plans after the SUMP			2029
Policy & regulation			
Informal transport project Continuous formalisation of moto-taxis and informal Buses through the establishment of a new institution Responsible for vocational training, schedules Regulation, the administrative formalisation		European Union	2024
Implementation of **digital action plan** • Open data policy • Support to development of information and service platforms • Mobility Observatory			2024
Strengthening the **capacity of police** officers in relation to mobility			2024
Adaptation of public transport service and recruitment policy to tackle **gender-related issues**			2024
Improved **road upkeep** and maintenance			2024
Improved **road signage**			2024
Creation of a **transport organising authority**		European Union	2029
Monitoring and reporting of **air quality** and water pollution			2029
Emergence of new public transport operators			2029

Measures	Cost estimates in M€	Proposed Financing Source	Implementation by
Public support to the adoption of **clean vehicles** through financial incentives			2029
Optimised integration of **port activities** and reconversion of industrial disused sites			2029

The following table summarises the total capital expenses (CAPEX) estimates for different types of measures in the SUMP.

Urban transport investment measures	CAPEX Estimate
Public transport and NMT	328 M€
Street shaping urban roads and traffic management	107 M€
Other measures	74 M€
Total	**509 M€**

Finance leverage

Leveraged financing (resulting or enabled by the SUMP preparation process).

Description	Source of financing	Secured?	Amount
International loan for the BRT and other investments (associated)	World Bank		370 M€
Domestic contribution to the BRT and other investments (associated)	Government of Cameroon		50 M€
Grant for the implementation of SUMP soft measures	European Union		2 M€

Projected impacts

Indicator	Impact 2030 (SUMP vs BAU)	Baseline - 2019	Projected 2030 BAU	Projected 2030 SUMP scenario
Total annual GHG emissions (Mt CO_2eq)	-0,19 Mt CO_2eq -20 %	0.548 Mt CO_2eq	0.95 Mt CO_2eq	0.76 Mt CO_2eq
Annual transport related GHG emissions per capita (kg CO_2eq)	-36 kg CO_2eq / capita -20.7 %	161 kg CO_2eq / capita	174 kg CO_2eq / capita	138 kg CO_2eq / capita
Access Increase of the proportion of the population living 500 meters or less of a public transport stop	Improved but not quantified	Not quantified	Not quantified	Not quantified
Air pollution Decrease in mean urban air pollution of particulate matter (in µg PM2.5) at road-based monitoring stations	Improved but not quantified	Not quantified	Not quantified	Not quantified
Modal share Increase of the modal shares of trips by public transport, walking and cycling	Formal public transport: +5% Informal public transport: 0% Walking: +6% Cycling: 0% **TOTAL: +6%**	Formal public transport: 2% Informal public transport: 1% Walking: 35% Cycling: 0% **TOTAL: 38%**	Formal public transport: 1% Informal public transport: 0% Walking: 34% Cycling: 0% **TOTAL: 35%**	Formal public transport: 6% Informal public transport: 0% Walking: 40% Cycling: 0% **TOTAL: 46%**
Road safety Decrease of traffic fatalities in the urban area, per 100.000 inhabitants	Improved but not quantified	Not quantified	Not quantified	Not quantified

Perspectives for implementation

A research-action pilot project to improve moto-taxi services in Douala

A pilot project for moto-taxi professionalisation, identified soon after the adoption of the Douala SUMP in 2019, is expected to be implemented by Codatu to start in 2023. The objective of the project is to implement measures to improve the services of moto-taxis for both drivers and users, and provide the public authorities with a knowledge base to regulate the system. The project relies on a research-action approach, using a mixed methodology to collect data on the supply (drivers) and demand (users) of moto-taxis through GPS trackers, semi-directive interviews, questionnaires, and direct observation.

Insights from practice: lessons learned from the SUMP process

The three key strengths of Douala SUMP: it is integrated, realistic, and inclusive

It links mobility and urban planning, includes existing actors and modes of transport, and proposes innovative solutions beyond road infrastructure, such as the construction of a cable car line.

The SUMP's Action, Financing and Governance Plan is fully fundable through a mix of already available financial resources, identified new resources, and international finance. It is based on a transport investment plan from the previous 10 years, with additional revenues generated from increased taxation of fuel, car ownership, and car park. Funding occurs within the public budget, resulting in a positive revenue to expenditure ratio for the operation of the public transport network. The SUMP is also tailored to the context, location, and places, ensuring a progressive and realistic implementation of the plan.

The Douala SUMP is inclusive, with information workshops and thematic focus groups that include young people, women, and actors from both modern and informal private sectors. This participatory process identifies overlooked issues related to population groups and finds adequate solutions. These public and stakeholder consultations mobilised new actors to get involved in organising a car-free day.

Significant governance and institutional reforms are prerequisites to SUMP implementation

Although the Douala Sustainable Urban Mobility Plan (SUMP) has its strengths and opportunities, there are still structural and urban limitations that need to be acknowledged. The liberalisation of the economy and decentralisation have led to a proliferation of actors with different interests, sometimes conflicting with the existing laws and regulations, which complicates the organisation of the transport sector.

The management of regulatory urban planning is a significant challenge in Douala and other African cities of similar size, given the creation of new districts on the outskirts, requiring new infrastructure and improvements in urban transportation that may not be sustainable for the city's current investment and management capacity.

Additionally, mobility data is often outdated and unavailable in a format suitable for long-term urban planning. Institutional reforms are necessary, including the creation of a Transport Organising Authority, an Urban Planning Agency, and a Mobility Observatory to improve coordination between urban planning and mobility. These institutions should prioritise the representation of women and consider vulnerable groups such as children and elderly people, who face systemic mobility challenges such as safety and lack of suitable infrastructure, as identified by the diagnostic.

Yaoundé, Cameroon

Partner city

Status of the project: **Completed technical assistance**

Basic Information

Area: **Administrative limits: 304 km²**

Urbanised area: **183 km²**

Population: **4.1 million (2020, functional urban area)**

GDP per capita: **USD 1,529 (2018, Cameroon)**

Key facts

City, Country	Yaoundé, Cameroon
Population	4.1 million (2020, functional urban area)
Growth rate	3.5%
Land area	Administrative limits: 304 km² Urbanised area: 183 km²
GDP per capita	USD 1,529 (2018, Cameroon)
Baseline motorisation rate[1]	58 cars per 1000 inhabitants 18 motorbikes per 1000 inhabitants
Annual transport emissions per capita[2]	241 kg CO_2eq
Local Partner (organisation)	Urban Community of Yaoundé (CUY)
Implementing partners	Agence Française de Développement (AFD), Codatu
Donors supporting technical assistance for SUMP	French Facility for Global Environment (FFEM)
Amount in technical assistance	Approximately €350,000[3]
SUMP implementation timeline	Joined MobiliseYourCity in November 2016 MobiliseDays in June 2016 Start of SUMP in March 2018 SUMP completed and approved in September 2019

1 For comparison with motorisation rates in European capital cities, Berlin has a motorisation rate of 330 car per 1000 inhabitants, and other capital cities in Austria, Belgium, Denmark, France, Hungary, Ireland and the Netherlands have a motorisation rate under 450 cars per 1000 inhabitants. Source: Eurostat Regional Yearbook 2020.

2 For comparison, the annual transport (except air travel) emissions per capita in Germany are 1.61 tC02eq. Source: Die Umweltwirtschaft in Deutschland: Entwicklung, Struktur und internationale Wettbewerbsfähigkeit. www.umweltbundesamt.de

3 From a FFEM envelope of 2 M€

City, Country	Yaoundé, Cameroon
SUMP Vision	No concise vision formulated
Approximate Total SUMP Investment Requirement (CAPEX/OPEX)	**CAPEX by term** • 298,1 M€ (2025) / 554,7 M€ (2035) **Yearly OPEX to term** • 15 M€ (2035) **Total CAPEX & OPEX requirements by 2030** • CAPEX: 550 M€ • OPEX: 151 M€ • Total CAPEX and OPEX: 701 M€

Diagnosis: Urban Mobility in Yaoundé

Like many other major cities in Sub-Saharan Africa, Yaoundé is experiencing rapid population growth. The metropolis suffers from a lack of mobility infrastructure and the financial resources to properly maintain what it has, whether it is the public transport network, the organisation of small-scale transport offer, parking facilities or even simply roads and pedestrian areas. The economy of the city suffers from the lack of infrastructure, and struggles to attract investors.

Following the current evolution of rapid urban growth, the population will reach 5.5 million inhabitants in 2035, and the urban area will reach a radius of 25 km by the end of the century. The increase in the demand for travel, and in the rate of motorisation accompanying the rise in income, may rapidly lead to the saturation of the existing system. Hence, travel times will increase significantly along with the overall cost of travel, due to the consumption of more fuel by private vehicles and taxis.

Existing mobility and transport services

The transport system in Yaoundé, while being relatively fluid, is accident prone, uncomfortable, polluting, and expensive for the population.

There are about 8 million of trips travelled every day, from which one third are short distance trips travelled by walking or by moto-taxis. For longer trips, taxis, motorbikes, and cars are the main modes of transport. Official bus service and informal minibuses currently only play a minor role.

All these modes of transport use the same poorly maintained road network, where only 300 km from 2700 km of roads are asphalted. The state of the road network limits both private and public transport. In particular, it suffers from the following problems:

- Most of the secondary and local roads are unasphalted
- Main and metropolitan roads are not optimally laid out and do not provide for the sharing of the road network between low-capacity modes and high-capacity modes (bus) and soft modes
- Degraded road surfaces or unmanaged intersections create traffic bottlenecks
- Vehicle, including freight vehicles are parked on the road
- Geographical elements and neighbourhoods that are densely built on several km² without wide roads constitute obstacles to transit traffic of cars and public transport

Walking: 4 million trips travelled every day by pedestrians and walking is the main mode of transport. However, the lack of sidewalk combined with a chaotic traffic poses a threat to pedestrians' safety, and they are particularly exposed to traffic accidents.

Taxi service: Less than 5% of vehicles are taxis, but they have a 38% share of the modal split by distance. They transport all categories of the population, and with an average occupation rate of 3 passengers, they are the main motorised mode of transport. Taxis, even used collectively, are relatively expensive: for one passenger out of four, taxi fares only represent over 15% of their household income.

Moto-taxis: Moto-taxis are particularly present in the outlying districts. Their flexibility and agility allow them to use roads that are unpracticable for other vehicles, due to the poor state of the pavement or the narrowness of the road. Moto-taxis, often operated informally by very young drivers, are notably resistant to any regulation, which is nevertheless necessary to address the safety issues associated with this mode of transport.

Private cars: Cars are handicapped by the state of the road network and only 10% of trips are made by private cars. The car ownership rate, which is highly dependent on household income, is nevertheless increasing along with the standard of living.

Informal minibuses: Informal minibuses are of lesser importance in comparison to other African cities. In Yaoundé, they are mainly used for transport between the centre and the periphery, following fixed routes and departing from bus stations.

Formal buses: A formal bus service is available through the private company Stecy and is growing, but remains a minority element in the current mobility landscape. No facilities are in place to encourage this mode of transport. Buses travel on the same roadway as other vehicles and suffer from congestion and low commercial speed.

Environmental challenges

The vehicle fleet is very old (20% of vehicles are over 20 years old) and is very polluting, emitting large amounts of greenhouse gases and air pollutants.

Internal trips within the CUY emit the equivalent of 635 $ktCO_2$ per year. Along with distances travelled by vehicles, emissions follow a strong growth. Unfortunately, the gradual improvement in the performance of the vehicle fleet linked to its renewal does not counterbalance this trend.

In a list of 54 countries, Cameroon ranked 15th among the most polluted countries in Africa in 2017. While the average concentrations of pollutants are not sufficiently documented, punctual measurements have observed peak concentrations of fine particulate matters PM2.5 that were one hundred times higher than the WHO standard.

Safety and comforts are key issues to be addressed

Safety is a major issue for mobility in Yaoundé, where accidents cause around 1,000 deaths and 5,000 serious injuries per year. A specific study on a sample of taxi drivers revealed that 73% of them had an accident in the two previous years. In addition to accidents, inquired passengers raised the issue of the risk of assault in taxis.

Comfort is also often a problem: long waits in hot or rainy environments, difficulty in finding an available taxi in certain areas, or vehicles overloaded with passengers and goods.

Gender disparities, women travel less and use less comfortable modes of transport

The diagnosis describes a slight difference in the number of journeys made by women, which can be linked to significant disparities in terms of full-time formal employment (15% of women compared to 27% of men). Compared to men, women in Yaoundé make half as many journeys using private cars but travel more by foot or on moto-taxis.

The high cost of transport puts low income users under pressure

After housing and food, transport is the third largest item of expenditure for Yaoundé residents and accounts for more than 11% of household spending. This is particularly critical in this city where inequalities are extremely high, and the highest 20% of incomes are on average more than 7 times higher than the bottom 20%.

The high cost of transport is attributed to the low efficiency of minibuses, taxis, and motor taxis, linked with a poor road network, and the weakness of public transport offer.

Institutional and financial capacity of the CUY: a gap remains between mandate and resources

The Urban Community of Yaoundé is the transport organising authority, both legally and in practice.

However, in spite of notable capacities, the CUY does not currently have the institutional means nor the adequate human resources to perform some of the essential tasks assigned to it by law, including the following: (i) the organisation and management of public transport, (ii) the traffic and parking management, and (iii) continuous monitoring of performance the urban transport system and the quality of service provided to citizens.

As the majority of the city will develop outside the administrative boundaries of the CUY by 2035, the municipal authorities, i.e. the CUY and the peripheral municipalities will have to develop together an integrated organisation for public transport and define a structuring infrastructure network and priority multimodal investment plans on the scale of the future large conurbation.

In total, financial resources allocated to the construction and maintenance of roads, nearly 40 M€ per year, are in line with expectations based on the economic status of the city and country. However, the CUY has an insufficient share of these resources in perspective of its mandate. The national level compensates financially with its much greater resources and the support of international donors, but coordination is insufficient between the city and the ministries responsible for urban development and public works.

The SUMP preparation process and stakeholder involvement

In order to take the future urban development into account, the perimeter of the study covers a surface of about 700 km², from which 304 km² are within the administrative boundaries of the city.

Throughout the process of developing the SUMP, the various stakeholders involved in mobility were associated through technical committees, specific exchange workshops, and bilateral meetings.

The technical committees gathered the Yaoundé Urban Community, the Ministries of Urban Development, Transport, Public Works, Economy and Planning, Environment, the Police, the various taxi, and motorbike taxi unions, the Stecy bus company and the Agence Française de Développement (AFD).

Specific workshops in small groups linked representatives of the technical committee with academics, officials from the local districts, rail transporters, and managers of places that generate large amounts of travel such as markets. These workshops enabled the different actors to take sufficient ownership of the approach.

In addition to the members of the technical committee, the team in charge of developing the SUMP also met bilaterally with international donors and representatives of the local districts.

Three time-horizons were considered:

E. The very short term: horizon of 1 to 2 years in order to highlight quick wins
F. The medium term: horizon of 5 to 7 years in order to observe the effects of the first SUMP measure
G. The long term: horizon of 15 years to aim at significant results, to anticipate possible needs for reorientation

Vision setting and definition of scenarios

Strategic Vision

The SUMP of Yaoundé does not propose clear vision and goals for urban mobility in the city. However, it fully adopts the EASI framework and puts a strong emphasis on identifying challenges and solutions. Challenge-related objectives of the SUMP are:

- Improving traffic conditions by developing a network of roads beneficial to all
- Reducing the cost of mobility supported by households
- Improving the quality of life in the city with a less dangerous and less polluting system

How does the SUMP adopt the EASI framework?

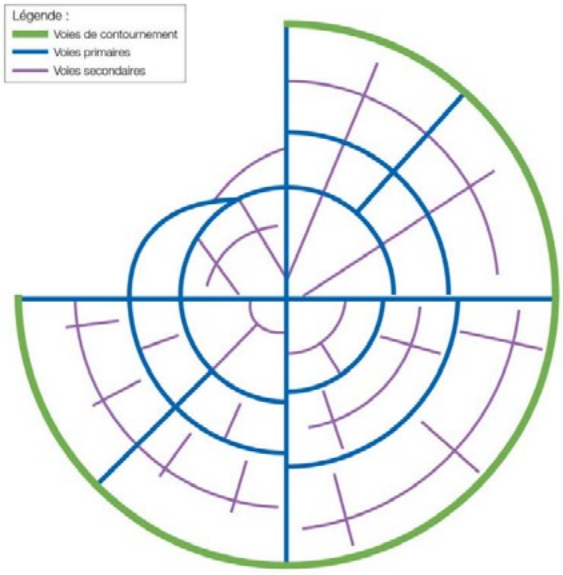
ENABLE - Improvement of steering and financing

AVOID - Transit Oriented urban Development, urban densification, densification around developing mass transit routes

SHIFT - Multimodal transport scheme, complementarity of transport modes

IMPROVE - Optimisation of the road network and improvement of the vehicle fleet

- Developing main roads
- Sharing space
- Traffic regulation
- Renewing the vehicle fleet towards less polluting and lower emissions



The SUMP develops the concept of coherent road network: The Cross.

The network builds up on existing roads and makes use of north-south and east-west metropolitan axes, and of multiple hierarchical levels of roads.

The road infrastructure will provide an efficient inclusion of the bus offer, for example with reserved lanes on congested sections.

Test scenarios and selected scenario

Three specific scenarios where defined in order to assess the impact of the SUMP by 2025 and by 2035, each one developed with a different level of ambition.

Baseline scenario: No SUMP implementation takes place, but existing laws and regulations are implemented. Private car ownership will increase, and the modal share of public transport will decrease. Travel times are expected to increase sharply, especially due to the increasing congestion in the capital.

Central scenario: This scenario provides immediate solutions to issues related to the road network. It is an ambitious infrastructure project focused on increasing the capacity of the roads to accommodate increased private vehicle traffic. However, with the appropriate road layout and the establishment of mass transport lines, this scenario allows for a significant shift to public transport, whose modal share is expected to evolve positively.

Ambitious scenario: The ambitious scenario also includes an important road infrastructure component in the short term, but focuses more on the creation of mass transport lines, including a train-tram project by 2035.

The scenario finally selected is the **Central scenario**. This scenario aims at the completion in the short term (2025) of a more efficient, adequate, and structuring road network. A public transport offer will also be put in place, but on a reduced number of lines, aiming at a good level of service and reliability, an offer that is affordable for the user and financially balanced. After having proven its effectiveness and relevance and gotten the adhesion of users, the public transport offer can be extended and replicated on a larger scale according to a level of ambition yet to be defined. Indeed, the current measures respond to imperative needs but will not make it possible to meet all the long-term challenges, particularly the reduction of greenhouse gas emissions. The SUMP therefore recommends a reassessment in 2025 and envisages an increase in ambition in terms of public transport in the long term.

Key SUMP measures

Measure	Cost estimates in M€	Proposed Financing Source	Implemented by
Total cost	**891.9 M€**		
Physical investments, infrastructure and rolling stock	SUBTOTAL: 852.8 M€		
Bypass roads	2025: 157 M€ 2035: 304 M€	Domestic financing / No international financing identified	2025 2035
Primary roads	2025: 29.7 M€ 2035: 94.5 M€	Domestic financing / No international financing identified	2025 2035
Secondary roads	13 M€	Domestic financing / No international financing identified	2035
Intersections and road measures	2025: 51.5 M€ 2030: 19.8 M€	AFD	2025 2030
Space for pedestrians, including the pilot neighbourhood "Coeur de Ville"	2020: 5 M€ 2035: 1.4 M€/year	AFD	2020 2035
Public transport lines (bus and minibus) and related road facilities	2025: 54.9 M€ 2035: 102.4 M€	Domestic financing / No international financing identified	2025 2035
Additional studies and plans	SUBTOTAL: 28.7 M€		
Studies and support reorganisation plan for bus lines	2025: 9.7 M€ 2035: 19 M€	Domestic financing / No international financing identified	2025 2035

Measure	Cost estimates in M€	Proposed Financing Source	Implemented by
Regulation, institution and policy reforms	SUBTOTAL: 10.4 M€		
Informal transport project			
Reform of the taxi and moto-taxi systems			
Continuous formalisation of moto-taxis and informal buses through the establishment of a new institution responsible for vocational training, schedules regulation, the administrative formalisation	4.5 M€	European Union	2024
Institutional reforms: creation of a local commission and a technical service for mobility	2.1 M€	Domestic financing / No international financing identified	2020
Control and training centre for mobility and transport	3.8 M€	Domestic financing / No international financing identified	2023

Projected results and impact

The implementation of the measures identified in the SUMP is expected to lead to a significant impact in terms of GHG emission reduction, improvement of the modal share of sustainable transport modes, and more. The following table presents the expected results and impact.

Impact Area: GHG emission (SDG 11)

Projected emissions in absolute value:

	Baseline 2018	BAU 2025	SUMP 2025	BAU 2035	SUMP 2035	SUMP vs BAU 2035
Per capita	241 kg CO_2eq	284 kg CO_2eq	251 kg CO_2eq	367 kg CO_2eq	271 kg CO_2eq	-26.16%
Total	0.78 Mt CO_2eq	1.14 Mt CO_2eq	1.01 Mt CO_2eq	2.00 Mt CO_2eq	1.48 Mt CO_2eq	-26.00%

Projected increase of annual GHG emissions by 2029, in percentage of the baseline:

- Business-as-usual scenario: +101%
- SUMP scenario: +59%

Impact Area: Accessibility (SDG 11)

	Baseline 2018	BAU 2025	SUMP 2025	BAU 2035	SUMP 2035
Total population covered	2,212,283	4,028,557	4,028,557	5,599,757	5,599,757
Population at 500m or less of public transport stops	1,350,000	1,415,700	1,405,500	1,528,900	1,888,600
% Access	42%	35%	35%	27%	34%

Impact Area: Air pollution (SDG 11)

Improved but not quantified

<table>
<tr><th>Impact Area</th><th>Expected Impact</th></tr>
<tr><td>Modal share</td><td>Percentage of total trips being realised with Public Transport
<table>
<tr><th></th><th>Baseline 2018</th><th>BAU 2025</th><th>SUMP 2025</th><th>BAU 2035</th><th>SUMP 2035</th></tr>
<tr><td>Modal share of Public Transport</td><td>2%</td><td>1%</td><td>9%</td><td>2%</td><td>19%</td></tr>
<tr><td>Modal share of walking and cycling</td><td>32%</td><td>31%</td><td>34%</td><td>29%</td><td>35%</td></tr>
<tr><td>Total</td><td>34%</td><td>32%</td><td>43%</td><td>31%</td><td>54%</td></tr>
</table></td></tr>
<tr><td>Road safety (SDG 3)</td><td>
<table>
<tr><th></th><th>Baseline 2018</th><th>SUMP 2025</th><th>SUMP 2035</th></tr>
<tr><td>Deaths</td><td>1000</td><td>800</td><td>500</td></tr>
<tr><td>Heavily wounded</td><td>5000</td><td>4000</td><td>2500</td></tr>
</table></td></tr>
<tr><td>Mobilised finance (SDG 17)</td><td>• 66 M€ - Secured international grant from AFD for “Yaoundé Coeur de Ville” project
• 2 M€ - Secured grant for the implementation of SUMP governance measures, including the creation of a Transport Organising Authority, an Urban Planning Agency, and the formalisation of moto-taxis and informal buses through outreach
(European Union)</td></tr>
<tr><td>Expected institutional impact</td><td>The measures identified in the SUMP are complemented with a National Urban Mobility Policy, adopted in parallel to the SUMP process</td></tr>
</table>

Lessons learned

On the occasion of the 3rd MobiliseYourCity conference in Yaoundé in 2019 and the official presentation of the SUMP, a reflection group[4] composed of different stakeholders proposed areas for improvement for future SUMPs, particularly on the African continent.

I. **Placing the project owner at the centre of the SUMP process is important: authorities responsible for mobility should lead the planning process, with the support of MobiliseYourCity partners.**

Recommendation: When drafting the ToRs, clearly state the role of the responsible local authorities in project ownership and ensure their capacity to monitor the process.

II. **Ambitious surveys such as “household travel surveys” are expensive, are sometimes not adapted to the local context and available resources, and can produce unreliable data.**

Recommendation: Demographic surveys (with car and two-wheeler motorisation rates) can be carried out on the basis of existing national surveys. They should be supplemented by origin-destination surveys (such as a simplified household survey, or road corridor and public transport network surveys) and qualitative socio-anthropological fieldwork to better capture the individual and collective factors behind the behaviour of respondents in terms of urban mobility. These two methodologies can be complementary and origin-destination surveys would allow the rapid identification of large masses of journeys.

III. **Predictive traffic models are expensive to develop, can create the illusion of a “scientific” approach and may generate a gap between their results and their real appropriation by technicians and local elected officials.**

Recommendation: Limit the use of models, base them on the observation and expertise of local counterparts and consultants (expert opinion). The SUMP must help identifying “strong lines”, a concept that does not necessarily lead to the choice of one mode rather than another, and to use the models in a second stage, like during pre-feasibility studies.

4 Reflection group led by CODATU: Patrice Berger and Thibaut Descroux (UrbaLyon), Thierry Goin (CEREMA), Marie Dols (consultant), Philipe Bossuet (SYTRAL), Jean-Jacques Helluin, Mael Martinie, Sofia Martin, Antoine Clémot (CODATU).

IV. **The link between transport and urban planning is insufficiently considered, even though transport planning documents can be used as a lever for the implementation of other types of plans.**

Recommendation: Strengthen local project management, institutional structuring, and governance, build capacities of local contracting authorities, and provide them with a framework for steering the implementation of SUMP action plans. When master plans exist for urban planning in African cities, they should be included in the terms of reference of the SUMP, even if their application is limited to a limited number of projects. Work done at national level (NUMP) should contribute to providing a legislative and legal framework and sources of funding.

Progress on implementation

I. **Implementation and improvement of crossroads and terminals in the framework of the Yaoundé Centre Programme**

This programme aims at enhancing access conditions to the city centre by improving crossroads and public transport terminals as well as upgrading walking infrastructure. The detail studies to implement the project started in 2019 and finished in late 2021. Its construction is expected to start in 2022.

II. **Construction of a ring road**

This project is expected to enhance traffic conditions in the city by the construction of a ring road around Yaoundé. The technical studies were completed for two of the five road segments of the ring, leading to the tender for their construction. Studies for the third ring segment are under preparation, and the project has been declared of public utility. Construction works for the first two segments are expected to start in 2022.

III. **Inclusive and Resilient Cities Development Project (PDVIR for its acronym in French)**

In 2019, this project kicked off with the objective of providing accessible transport infrastructure for the most underprivileged. The project will improve connectivity of two Districts in Yaoundé through 15 km of structural roads and two pilot projects to promoting walking.

IV. **Implementation of TRANSYAOUNDÉ**

A BRT system, called TRANSYAUNDÉ, is under study since late 2020 in the framework of the programme CICLIA (Cities and Climate Change in Sub-Saharan Africa Initiative), cofinanced by AFD, the EU and the Suisse cooperation agency. This study focuses on the design, operational conditions and technical characteristics of the system. Feasibility studies for the first of three BRT lines are under elaboration.

V. **Paratransit reform**

In order to make of public transport more attractive and rise its modal share, a road map for the paratransit transformation was developed in 2021. This road map intends to enhance service conditions for users of minibuses, collective taxis, and moto-taxis. Parallelly, it also seeks to improve the labour conditions for paratransit professionals.

VI. **Support to the cities of Douala and Yaoundé in the implementation of their SUMPs**

This project financed by the EU allows capacity development support for Cameroonian authorities in relation to urban mobility by financing decentralised cooperation between Bordeaux Metropole and Yaoundé and Douala. Besides strengthening local capacities, the project goals include structuring a transport authority, creating a mobility observatory, organising participation workshops, and structuring an urban planning agency. The project will be launched in 2022.

VII. **Training for city officials**

Awareness of city officials in charge of road projects has been raised in the topics of multimodality and public spaces management. Training sessions have been conducted to propose low-cost, soft measures, such as crossroad redesign, bus stops, circulation schemes, etc. to boost implementation.

VIII. **Implementation of instruments to reduce air pollution**

Together with other Cameroonian authorities, Yaoundé's administration developed a programme to tackle air pollution, following the SUMP adoption. Considering the alarming results of preliminary measurements of air quality, the city requested a grant to the French Ministry of Economy and Finance to implement actions fighting air pollution. The Air Quality Week took place in November 2021.

Dire Dawa, Ethiopia

Partner city

Status of the project: **Completed technical assistance**

Basic Information

Urban area: **70 km²**

Population: **408,000 (2020)** | Growth rate: **4,4%**

Region capital city

GDP per capita: **USD 855,8 (2019)**

Modal Share:

- **Informal public transport: 42%**
- **Walking: 46%**
- **Private cars: 4%**
- **Private motorbikes or 2-wheelers: 1%**
- **Other: 8%**

National GHG emissions per capita: **1,60 (tCO_2eq)**

Exposure to climate change: **HIGH**

Context

Located on a large flat plain between Addis Ababa and Djibouti, Dire Dawa is meant to become the main economic hub of eastern Ethiopia. Nowadays, it presents a high density of commercial activities, including markets that generate important flows of goods and people at different scale, putting some pressure over roads and public spaces. In the midterm, national freight transit shall boom, along with the development of the national road network and the integration of the new railway into the logistic system.

477 000 trips are made daily in Dire Dawa. Mobility patterns reveal a relatively high propension to move (1,8 daily trips per inhabitants). Dire Dawa is located on a secondary national/international freight corridor between Addis Abeba and Djibouti, meaning that a significant volume of trucks transits through the city, Dire Dawa currently does not have any transport master plan.

Two railway lines currently serve Dire Dawa. The century old Ethio-Djiboutian railway is now nearly disused and only keeps one or two regional services between Dire Dawa and Dewele at the Djibutian border. The new Chinese-built railway line between Addis Abeba and Djibouti is operating since 2018 and links both passenger and freight services with a planned dry port near the new station. Railway does not yet appear as a competitive alternative to road freight, but services are only beginning.

The road network in Dire Dawa is able to bear the different mobility flows going through the city, whether for transit, exchange, or internal purposes, without major disturbance. However, the pressured exerted on the network is extremely unbalanced, with an overwhelming weight on local roads and a limited lineage of structuring ones (primary, secondary, tertiary).

There is no existing mass transit system. Bajaj represent most of the public transport supply, with 6,000 units and a hundred lines, It can be used for both people and goods. Bajaj supply varies quite a lot according to places in the city and time of the day, Bajaj is a fully private supply that only targets the most solvent market segments and does not address properly the others, leaving some mobility demand unanswered. On peak hours a few minibuses provide a complementary supply to Bajaj on three routes. The publicly operated service city bus is very limited and consists of 10 urban routes limited to peak hours (four rides a day).

Urban and road transport are managed at both federal and local level. Although responsibilities and perimeters are properly defined, some interfaces regarding road or urban transports can be uneasy to manage. Both the city and the region of Dire Dawa are under the authority of the mayor. The nine urban *Kebeles* are managed by the city administration with different transport related duties falling under its authority: city bus, road authority and traffic police. The Federal Transport Authority (FTA) is another major player regulating the transport sector through the delivery of licenses. It is the main interlocutor for Bajaj drivers associations. The Ethiopian Road Authority (ERA) manages the interurban road network and national interest road projects in the city (industrial park).

Dire Dawa Administration, the local counterpart, has mandate and responsibility to finance mass public transport infrastructure and the running cost of public transports is part of the public authority's budget. The budget for the urban transport sector was set between 480 and 655 million BRR (14 – 19 M USD) in the past few years.

Challenges and main aim of the SUMP

Mobility in Dire Dawa faces several problems at the same time. They include:

- Lack of road network structuring
- Lack of integrated road axis management
- Lack of proper Bajaj supply structuration
- Lack of infrastructure for non-motorised modes leading to poor consideration in planning, investments and policymaking
- Lack of robust logistic chains organisation
- Lack of an integrated mobility strategy or multimodal approach
- Lack of coordination between economical, urban and mobility development strategies

The technical assistance will contribute to institutional strengthening by providing training sessions on the following topics:

- Data analysis and updating (including household surveys analysis) – module 3 or 4
- Modelling and demand studies – module 3 or 4 (after the model has been developed)
- SUMP follow-up and evaluation use and analysis of the household surveys – module 4

Support from the Partnership

Technical assistance: Sustainable Urban Mobility Plan (SUMP)

Funded by: European Commission

Funding amount: EUR 550,000

Implemented by: AFD through Intra-ACP

Local counterpart: Dire Dawa Administration mayor and Cabinet Affairs Office, Finance and Economy Bureau

Supported activities:

- Project implementation support of the city government for the preparation of a SUMP

Status of implementation

Project start: 2019 Q4

Expected project completion: 2022 Q1

Completed outputs:

- Reporting notes following missions 1 & 2
- Minutes of stakeholders meeting
- Surveys results
- Module 1 report (Urban mobility diagnosis)
- Module 2 report (Vision, goal setting and measure planning)
- Training conducted on transport modelling in July 2021
- Module 3 Action plan
- Presentation of the final SUMP and implementation strategy

SUMP key measures and cost estimates

The following table highlights the most significant measures identified in the SUMP.

Measure	Cost Estimate
Main road projects	EUR 94,635,000
Micro road projects	EUR 15,000,000
Road design guidelines	EUR 312,458
Road maintenance plan	EUR 312,458
Target road and crossroad network	EUR 312,458
Road axis upgrade projects	EUR 6,014,120
Traffic and mobility management	EUR 14,120
Circulation plan	EUR 387,458
Mobility management integrated taskforce	EUR 28,239
Paratransit structuration and development	EUR 6,034,053
Quality of service targets/charter/commitment	EUR 234,136
Target local transit network	EUR 387,458
Paratransit sector capacity reinforcement	EUR 900,000
Bus network development	EUR 27,080,457
BRT development	EUR 157659204
Mass transit development plan	EUR 612458
Mass transit fare integration	EUR 600000
Main NMT projects	EUR 3000000
NMT micro projects	EUR 6624450

Measure	Cost Estimate
Bikes for all	EUR 150000
NMT integration in transport and mobility projects	EUR 24917
NMT development plan	EUR 609136
Pedestrian-centred approach	EUR 300000
Walking in Dire Dawa	EUR 300000
Freight terminals	-
Urban logistics projects	EUR 9000000
Urban logistics development plan	EUR 450000
Logistic pilot	EUR 24917
Transport hubs reorganisation	EUR 3593750
Sustainable mobility planning process	EUR 3322
Mobility data management	EUR 150000
SUMP evaluation	EUR 9967
Multimodality strategy	EUR 600000
Energy-wise mobility development	EUR 450000
Demand management	EUR 300000
Integrated Transport Authority	EUR 28239
Integrated Mobility financing	EUR 28239
Sustainable mobility project management	EUR 450000
Inclusive, green and gender aware mobility	EUR 300000
Inclusive, green and gender aware mobility	EUR 28239
TOD[5] projects opportunities	EUR 6016611
TOD handbook	EUR 230814
TOD development plan	EUR 225000
TOD funding opportunities	-

The following table summarises the total capital expenses (CAPEX) estimates for different types of measures in the SUMP.

Urban transport investment measures	CAPEX Estimate
Public transport and NMT	EUR 204,516,269
Street shaping urban roads and traffic management	EUR 117,016,311
Other measures	EUR 21,889,098
Total	**EUR 343,421,678**

5 TOD: Transit Oriented Development

Projected impacts

The impact projections presented in this section should be read in light of the prospect of a significant population increase, with an estimated population of 408,000 in 2020 and an urbanisation rate of 4,4% averaged over recent years, the population will reach 627,574 inhabitants in 2030, following the current trend.

Indicator	Impact 2030 (SUMP vs BAU)	Baseline - 2020	Projected 2030 BAU	Projected 2030 SUMP scenario
Total annual GHG emissions (Mt CO_2eq)	-0,011 Mt CO_2eq -40% compared to BAU	0,011 Mt CO_2eq	0,029 Mt CO_2eq	0,018 Mt CO_2eq
Annual transport related GHG emissions per capita (kg CO_2eq)	-19 kg CO_2eq / capita	27 kg CO_2eq / capita	47 kg CO_2eq / capita	28 kg CO_2eq / capita
Access Increase of the proportion of the population living 500 meters or less of a public transport stop	+28%	84%	58%	86% (+196,500 people with access compared to baseline)
Modal share Increase of the modal shares of trips by public transport, walking and cycling	Public transport: +1% Walking: +4% Cycling: NA% **TOTAL: +5%**	Public transport: 42% Walking: 46% Cycling: 0% **TOTAL: 88%**	Public transport: 43% Walking: 40% Cycling: NA% **TOTAL: 83%**	Public transport: 44% Walking: 44% Cycling: NA% **TOTAL: 88%**
Affordability of public transport Percentage of disposable household income spent on public transport for the second quintile household income group	- 1%	12%	10%	9%

Highlights

Dire Dawa completes preparation of its SUMP to keep pace with strong ambitions and rapid urban growth

Dire Dawa, Ethiopia, has completed the preparation of its Sustainable Urban Mobility Plan (SUMP) in 2022. This SUMP is a key document that outlines the city's strategy to improve its transportation system, reduce traffic congestion, and promote sustainable mobility.

The process of developing the SUMP involved extensive consultation with stakeholders, including government officials, private sector representatives, civil society organisations, and community members. The plan's objectives include increasing public transportation services, improving road safety, reducing greenhouse gas emissions, and promoting non-motorised transport modes such as walking and cycling.

The SUMP is expected to have a significant impact on the quality of life of Dire Dawa's residents, as it will help to create a more sustainable and efficient urban environment. The plan is also aligned with Ethiopia's national transport policy, which aims to promote sustainable and inclusive transportation systems.

This achievement highlights the commitment of Dire Dawa's authorities to improve the city's transportation system and promote sustainable mobility, and the crucial role played by AFD and the MobiliseYourCity Partnership in supporting cities in their transition towards sustainable mobility.

Linking urban planning and mobility planning will become essential considering the changing city scale

The number of inhabitants in Dire Dawa is expected to triple by 2040 (reaching 800 000 – 900 000 people). The patterns of this growth will significantly influence the mobility behaviour in the city. The SUMP scenarios are thus structured around the different future shapes of the city, taking the construction of an already planned new industrial city 15km away from the urban core into account. While the *scattered city scenario* could increase the urban area by 114km^2, significantly increasing the length of trips, the alternative, desired scenarios of a polycentric city would ensure more efficient and sustainable transport through a densified development. They would also significantly reduce the newly urbanised areas until 2040 to 41km^2.

A structural plan for urban development has already been prepared by the municipality. Linking the SUMP to the structural plan and coordinating between urban development and mobility planning will be key to future sustainable mobility in Dire Dawa.

Walking is a shadow mode – data can shed a better light on its importance

The household survey results indicated that most trips in Dire Dawa are made on foot (46%). Collecting this data showed that the importance of walking had been underestimated before by local decision-makers and helped to put active modes of transport on the agenda in the SUMP process. Thus, the SUMP aims to keep the current modal share of active modes while making the city entirely walkable. Non-motorised modes will, for instance, be considered in planning and upgrading roads to ensure that enough space is provided for pedestrians.

Bouaké, Ivory Coast

Partner city

Status of the project: **Ongoing preparation of the Sustainable Urban Mobility Plan**

Basic Information

Urban area: **120 km²**

Population: **800,000** | Growth rate: **+3%**

Regional capital city

GDP per capita: **USD 2,286 (National)**

Modal Share:

- **Motorcycle: 54%**
- **Walking: 20%**
- **Taxi: 11%**
- **Individual car: 10%**
- **Tricycle: 2%**
- **Minibus "Gbaka": 2%**
- **Truck: 2%**
- **Bicycle: 1%**

National GHG emissions per capita: **0.98 (tCO_2eq)**

Exposure to climate change: **HIGH**

Context

Bouaké is located at the intersection of two important international road corridors in the centre of the Ivory Coast, connecting Abidjan with Burkina Faso, Mali, Ghana, southern Guinea, and Liberia. The city is also a rail and air travel hub, and home to an important wholesale market of regional food products, which is the heart of its economy.

Transport system

While the main network is well-maintained along the central axes of the National Road Network, the secondary road network is underdeveloped, and the tertiary roads within residential areas is almost not driveable. This results in the isolation and spatial segregation of some neighborhoods. In 2014, only 20% of the 582 km road network had been paved (122km) – mainly in the city centre. Another 23% (135km) was considered passable. There are no parking problems due to the currently low rates of individual motorisation, even though parking on the sidewalk is an issue. However, the wide roads are not designed for parking nor to ensure the safety of cyclists and pedestrians. This situation has a direct impact on road safety.

The majority of the mobility demand has been covered by informal transport since the bankruptcy of the previous public transport company (*Société de Transport Urbain de Bouaké* – STUB) in 2011. Due to the frequent use of butane gas as fuel and the related risk of explosions, informal taxis are a particularly challenging part of the rolling vehicle stock. Minibuses ("Gbakas") represent a smaller traffic share but are more structured.

In this context, public transport service by bus was redeployed in 2020 with several lines operated by SOTRA (Société des Transports Abidjanais). To enhance intercity transport, a regional bus terminal is planned at the outskirts of the city to reduce traffic disruption in the centre. Currently, informal modes (e.g. minibuses with 20 to 30 seats, called Massa / Dianra or Badjan) dominate the interregional transport of people and goods.

The most important mode of motorised transport is two-wheelers (including motorcycle taxis). It is economical, fast, better suited to road conditions and less sensitive to traffic congestion. However, motorcycles and moto-taxis have a predominant presence (60% in 2016) in accidents. Although hard to quantify, walking is an important mode of mobility.

The transport of goods in the urban area is mainly provided by small vehicles (tricycles, pickups, or tarpaulin vans), whose traffic and parking contribute to traffic congestion. Heavy truck traffic and parking, especially those that cross the city in lack of an alternative route, have an extremely negative impact on traffic and on the condition of the roads.

Institutional context

The local authorities most involved in issues to improving urban mobility are the town hall of Bouaké, the Regional Directorate of Transport, and the prefecture. Local institutions do not yet have the means to organise and regulate the transverse and multi-sectoral issues related to mobility. However, the Mayor of Bouaké created a working group on urban mobility (*Groupe de Travail sur la Mobilité Urbaine* – GTMU) in 2022, intending to enhance cooperation and improve planning.

At this stage, the Mairie de Bouaké does not have the capacity to finance mass public transport infrastructure, and there is no demand for such a system. It does not have authority to borrow from international finance sources. No systems and procedures are in place to monitor, evaluate and report on urban mobility. The GTMU will be one tool to improve the monitoring of urban mobility.

Challenges and main aim of the SUMP

Mobility in Bouaké faces several problems at the same time. They include:

- The overall mono-centric organisation of the city, which attracts a lot of urban travel, and the low density of the urban grid which extends travel distances.
- The inadequate quality of the road network, its weak functional hierarchy and its radial organisation which converges towards the city center.
- The improper use of the asphalt-surfaced road (deficient organisation of traffic, management of intersections and parking, serious road safety issues).
- Traffic congestion in the city centre and road safety issues.
- Lack of public mass transport service. The trips from and to certain neighbourhoods are limited to the use of moto-taxis and walking.
- The omnipresence of low-capacity passenger and goods transport service/paratransit sector.
- Lacking local institutional capacities to organise and regulate such transverse and multi-sectoral problems.
- A lack of regulation through the taking of coercive measures and the absence of police power regarding transport.

The challenge for the city of Bouake today is to be able to adopt a strategy for sustainable urban mobility in line with the Urban Master Plan (SDU). This strategy is expected to consider the current and future challenges linked to climate change and sustainable development and the specific mobility needs of people in vulnerable situations (children, physically disabled, pregnant women, etc.).

The technical assistance contributes to institutional strengthening by collecting data on the current situation, supporting the authorities in identifying the main challenges and best measures to face them, and organising tailor-made workshops on key mobility issues.

Support from the Partnership

Technical assistance: Sustainable Urban Mobility Plan (SUMP)

Funded by: European Commission

Funding amount: EUR 400,000

Implemented by: AFD through the MobiliseYourCity Africa Program

Local counterpart: Municipality of Bouake

Supported activities:

- Implementation of a SUMP

Status of the SUMP process

Project start date: 2021 Q1

SUMP expected adoption date: 2023 Q1

Completed outputs:

- Elaboration of specific Terms of Reference
- Launch of the consulting call
- Evaluation of the proposals
- Selection of the consultant and administrative assignment of the mission (contract signed in January 2021)
- Diagnosis of urban mobility in Bouaké
- Survey on mobility practice in Bouaké
- Mobility scenarios: business as usual, improved, and ambitious
- Modelling of urban mobility
- Choice of a scenario and development of measures
- Creation of a GTMU

Next expected outputs:

- Final report of the SUMP

SUMP key measures and cost estimates

The total cost of the measures, focusing on (1) urban planning, (2) transport organisation and (3) governance, is 18.2 billion CFA francs, or 27.8 million Euros, to be spread over the next 15 years.

The following table lists the measures identified in the SUMP action plan.

Measure	Cost Estimate (EUR)
Urban planning	**Sub-total: 21,340,000**
M01 - Improve strategic junctions and traffic lights	EUR 2,500,000
M02 - Moderate traffic zones (30 and semi-pedestrian zones)	EUR 500,000
M03 - Develop/safeguard road crossings	EUR 500,000
M04 - Plant and decorate pedestrian walkways and waiting areas for public transport	EUR 30,000
M05 - Secure pedestrian routes in neighbourhoods	EUR 560,000
M06 - Pedestrian crossings in the lowlands	EUR 30,000
M07 – Develop the "grand marché" area through reallocating public space, support for itinerant merchants and traders, and cross-section improvement	EUR 1,500,000
M08 - Organise and rehabilitate interurban stations	EUR 2,2500,00
M09 - Cycle and pedestrian routes along the main network *Including 10 km of sidewalk and 5 km of cycleway*	EUR 250,000
M10 - Lorry parking areas organisation	EUR 8,000,000
M11 - Horizontal signs	EUR 720,000
M12 - Redesign the main network to promote safety and mixed use uses	*Included in road projects*
M13 – Bus infrastructure improvements	EUR 3,350,000
M14 – Exchange areas between small-scale transport and buses	EUR 1,000,000
M15 - Motorbike taxis stations	EUR 150,000
Transport organisation	**Sub-total: 4,400**
M16 - Raise awareness of good transport practices	EUR 50,000
M17 - Institutional transport: study of services pricing and marketing	EUR 300,000
M18 - Strategic study for the sustainability and development of SOTRA in Bouaké	EUR 1,000,000
M19 - Define and implement a traffic plan	EUR 750,000
M20 - Regulate the access of heavy goods vehicles and their circulation in the city	EUR 10,000
M21 – Taxi sector reorganisation	EUR 100,000
M22 – Establish collective taxis lines	EUR 800,000
M23 - Revitalise *gbaka* minibus routes and improve their governance	EUR 700,000
M24 – City centre parking management	EUR 170,000
M25 – Evaluate and promote electric motorbike taxis and tricycle development	EUR 150,000
M26 – Motorbike taxi sector regulation and professionalisation	EUR 200,000
M27 – Changing the image of motorbike taxi sector through good practice promotion	EUR 150,000
M28 - Encourage the development of a motorbike taxi booking platform	EUR 20,000

Measure	Cost Estimate (EUR)
Governance	**Sub-total: 2,050**
M29 - Empowerment of the town hall as urban mobility organising authority	*Integrated into M30*
M30 - Technical assistance for the town hall urban mobility group	EUR 1,000,000
M31 - Entrust the City Council with the joint management of rehabilitation projects	*No cost expected*
M32 - Strengthen the routine maintenance service for rapid interventions	EUR 700,000
M33 - Create a traffic service - Set up a signalling system	EUR 200,000
M34 - Create transport planning service	EUR 150,000

The following table summarises the total capital expenses (CAPEX) estimates for different types of measures in the SUMP.

Urban transport investment measures	CAPEX Estimate
Public transport and NMT	EUR 12,420,000
Street shaping urban roads and traffic management	EUR 4,650,000
Other measures	EUR 10,720
Total	EUR 27,790,000

Finance leverage

Leveraged financing (resulting or enabled by the SUMP preparation process)

Description	Source of financing	Secured?	Amount
Bouaké local financing for SUMP	Commune de Bouaké	Planned	EUR 300,000
National financing under local management for SUMP	Ivory Coast national government	Planned	EUR 5,800,000
National financing for SUMP	Ivory Coast national government	Planned	EUR 12,200,000

Projected impacts

Indicator	Impact 2030 (SUMP vs BAU)	Baseline - 2021	Projected 2038 BAU	Projected 2038 SUMP scenario
Total annual GHG emissions (Mt CO_2eq)	-0,012 Mt CO_2eq	0,086 [1]Mt CO_2eq	0,198 Mt CO_2eq	0,186 Mt CO_2eq
Annual transport related GHG emissions per capita (kg CO_2eq)	-6,1 %	98 kg CO_2eq / capita	226 kg CO_2eq / capita	213 kg CO_2eq / capita
Modal share Increase of the modal shares of trips by public transport, walking and cycling	Not quantified	Formal public transport: 0% Informal public transport: 42% Walking: 20% Cycling: 1% **TOTAL: 63%**	Not quantified	Not quantified
Road safety Decrease of traffic fatalities in the urban area, per 100.000 inhabitants	-2.95 fatalities/100 000 hab	5.9 fatalities/100 000 hab	5.9 fatalities/100 000 hab	2.95 fatalities/100 000 hab

Insights from practice: perspectives for implementation

Adopting a financially realistic plan is key to move into implementation

The total cost of the measures and actions of the SUMP is 27.8 million Euros, to be spread over the next 15 years. While the amounts to be mobilised seems relatively modest for a SUMP, it is realistic and suited to the identified needs. The objective seems quite attainable provided that the SUMP is supported by a strong political will.

The financing of the SUMP will have to be ensured essentially with the support of the State and donors with EUR 18.6 million from the state own budget or donor programme, EUR 8.8 million as retrocession from donor loans to the local authority and EUR 0.3 million from the local budget.

Highlights in the past year

The SUMP assists Bouaké and Ivorian authorities in improving and securing urban mobility in Bouaké

In 2022, the team in charge of the SUMP focused on developing a scenario, selecting the right measures, and supporting the local authorities in creating the Urban Mobility Working Group (GTMU), leading to the adoption of the action plan during the first meeting of the GTMU in October 2022. As consultants are finalising the full SUMP final report, local authorities are identifying priority measures to implement with the expected financial support of AFD.

A research project to address road safety specifically

Road accident data is collected by the police forces and health workers and automatically updated in an app to show in real-time how many accidents have occurred and where they have taken place. This pilot data collection project is being implemented by the *Institut de Recherche pour le Développement* (IRD, French) and the University of Bouaké, with support of AFD.

1 Estimated by the MobiliseYourCity Secretariat based on SUMP deliverables.

Morocco

Partner country

Status of the project: **Completed Technical assistance**

Basic Information

Population: **35,740,000** | Growth rate: **1,20%**

Percentage of urban population: **58% (2010)**

GDP per capita: **USD 8,612 (2017)**

Percentage of population living below the national poverty lines: **4,8% (2013)**

Nationally Determined Contribution (NDC): **Quantified transport related NDC**

National GHG emissions per capita: **1.75 (tCO_2eq)**

Context

Over the last decade, the Government of Morocco has developed a national policy with the objectives of improving urban mobility and addressing the current and future challenges Moroccan cities are facing. The planning process is therefore already at an advanced level of maturity in the country.

The organisation of a National Day for Urban Transport (JNTU) in 2013 was an opportunity to relaunch the public debate over the main urgent challenges of urban mobility policies. The creation of the Fund for Urban and Inter-urban Road Transport Reforms (FART) and the empowerment of local authorities in the context of devolution and decentralisation, contributed to a redefinition of the national strategy. In 2016, the "MobiliseDays" event in Rabat highlighted the need for evolutions of the national framework and the role of SUMPs as a leverage to structure sustainable urban mobility policies.

Moreover, as the host country of the COP22 in 2016, the government of Morocco committed to reducing its greenhouse gas (GHG) emissions by 13% by 2030 and was one of the first countries to join the MobiliseYourCity Partnership. In 2021 Morocco increased its ambitions. In its updated nationally determined contributions, the country aims to reduce the GHG emissions by 18.5% until 2030 unconditionally and could even reach 45.5% reduction with the support of other parties of the Paris Agreement (conditional target).

Support from the Partnership

Technical assistance: Develop a national vision for urban mobility.

Funded by: FFEM

Implemented by: AFD, Ademe, Cerema and CODATU, through the MobiliseYourCity Morocco Program

Local counterpart: Ministry of Home Affairs, directorate general of local authorities (DGCL)

Supported activities:

The support to Morocco is to develop a coherent framework for the improvement of urban mobility, in relation with city level actions. Specifically, it aims at building capacities both at national and local level, and at developing 2 policy documents:

- National vision for urban mobility in 2030 (NUMP)
- Action plan for implementation of the urban mobility national strategy.

Status of implementation

Project start: 2017

Expected project completion: 2019

Completed outputs:

- National vision for urban mobility in 2030 (NUMP)
- Action plan for implementation of the urban mobility national strategy

NUMP key measures

The Morocco National vision for urban mobility in 2030 outlines several significant measures to integrate mobility into sustainable development, improve funding and governance, and promote the efficient organisation of public transport, among other initiatives.

The following list highlights the most significant measures identified in the NUMP.

- Integration of the mobility dimension into the actions of the other major related sectors
- Organisation and planning of urban mobility to contribute to sustainable development
- Maintenance and redeployment of government funding
- Increase and rationalisation of funding from the municipalities
- Completion of the legal and institutional framework and implementation pilot operations for all other possible sources of funding
- Development of legal and technical framework for new urban mobility solutions in terms of legislation, regulations, and technical choices
- Implementation of high-impact pilot projects
- Promotion of integrated and efficient organisation of all modes of public transport
- Maintenance of realistic and easy-to-manage public transport fare policy
- Development of governance tools
- Strengthening institutional and human resource capacity for better governance at central and local levels
- Development of institutional capacity and skills for digital solutions for urban mobility
- Development of better understanding of the challenges and priorities for action of digital technology as applied to urban mobility
- Improvement of delegated management of public transport

Tunisia

Partner country

Status of the project: **Completed technical assistance**

Basic Information

Population: **11,540,000** | Growth rate: **1.1%**

Percentage of urban population: **70%**

GDP per capita: **USD 3,317**

Percentage of the population living below the national poverty lines: **15.5%**

Nationally Determined Contribution (NDC): **no mobility/ transport related NDC**

CO_2 Emissions (total in million tonnes CO_2/ per capita in tonnes): **32.07 / 2.74**

CO_2 Transport Emissions (total in million tonnes CO_2/ per capita in tonnes): **7.27 / 0.62**

Proportion of transport related GHG emissions: **21%**

Context

The development of the transport sector in Tunisia resembles a pathway that is common across most countries in the Global South; Tunisia is experiencing a steady rate of urbanisation that is expected to result in three-fourths of the population living in urban areas by 2030. A growing citizenry exerts increasing pressure to the existing urban transport infrastructure, already characterised by an inefficient public transport service that has been historically underfunded – state budgets for road infrastructure development are as high as those for public transport - and unable to satisfy the mobility demands of the urban population. These factors have resulted in an increasing motorisation rate, particularly private means of transportation, and subsequently high GHG emission levels:

- Individual transport accounts for 63% of all motorised passenger journeys. This percentage stands in opposite relation to 1970s modal distribution, when public transport represented 70% of the modal share.
- Nonetheless, active mobility constitutes still an essential means of transportation that is commonly used by more than 50% of inhabitants in medium-sized cities and approximately 36% of citizens in Tunis, Sousse and Sfax.
- Paratransit has experienced tremendous gains since 2011 with the number of permits granted increasing by 89% for private taxis and 260% for collective taxis between 2001 and 2015.
- The vehicle fleet has steadily increased by more than 55% between 2006 and 2015, comprising now more than 1.5 million cars.
- In 2012 the transport sector emitted 6.5 $MtCO_2e$, or 21% of total net GHG emissions.
- Congestion in urban areas has become a frequent problem, for example reducing average speeds to 7 km/h during rush hours in the capital city, Tunis and inflicting a cost of up to 2% of the country's GDP.
- Air pollution represents a significant health and economic problem, its cost amounting to between 2% and 10% of GDP.

- While the transport sector accounts for 30% of the country's energy consumption, 94% of this share is concentrated in road transportation, which is in turn disaggregated by the following sub-sectors:
  - Passenger cars: 49%
  - Commercial vehicles: 19%
  - Buses: 15%
  - Freight transport: 18%

Support from the Partnership

Technical assistance: National Urban Mobility Policy and Investment Programme (NUMP)

Type of NUMP: Policy NUMP

Funded by: FFEM and BMU-ICI

Funding amount: EUR 0.3 M (FFEM), 0.1 M (Cerema) and 0.2 M (BMU-ICI)

Implemented by: GIZ, AFD, Codatu and Cerema

Local counterpart: Ministry of Transport

Finance leverage: EUR 850,000

Main purpose of the NUMP: Contribute to the country's NDC and offer cities a general enabling framework for sustainable urban mobility planning

Supported activities:

With support from MobiliseYourCity's implementing partners AFD, GIZ, Cerema, and Codatu, the Tunisian Ministry of Transport began the process of developing a National Urban Mobility Policy (NUMP) after the country submitted its first NDC in 2015 and joined the Partnership in 2016. The Tunisian NUMP has a strong focus on climate change mitigation and aims to contribute to the country's NDC target of reducing carbon intensity (tCO_2e/GDP) in 2030 by 41% compared to the reference year 2010.

The Tunisian NUMP is comprehensive in nature and includes a broad package of measures to decarbonise transport, increase institutional capacities and improve the governance of the sector:

- Development of technical and institutional framework to support Tunisian cities in SUMP development
- Identification of sustainable urban mobility measures, including action plan for paratransit reform
- Establishment of national fund for urban mobility
- Establishment of National Urban Mobility Observatory
- Capacity building programme for local and national agencies
- Support to the ongoing decentralisation process in the country through creation of local administrative entities

The NUMP, which included an emissions inventory, scenario modelling and definition of mitigation actions, was adopted by the national government in May 2020. The implementation of priority measures is currently undergoing with support from grant funding by AFD.

Status of implementation

Project start: 2017 Q1

Project completion: 2020 Q2

Completed outputs:

- Initial diagnostic and priority setting
- Definition of a vision and strategic orientations
- Definition of action plan, responsibilities and resources
- NUMP elaboration
- Official adoption of the NUMP by the national government
- Tunisian MRV approach
- Tunisian SUMP approach

Next expected outputs:

- Sustainable Mobility Forum to kickstart the implementation of the NUMP
- Support SUMP elaboration in the Great Tunis area
- Mobilisation of international experts to support the Ministry of Transport implement prioritised actions: Preparation of framework and identification of administrative resources and competencies for the establishment of local transport authorities, to be mandated by law
- Development Policy Loan funded jointly by AFD and World Bank using NUMP as backbone of a public policy matrix

NUMP key measures and cost estimates

The following list highlights the most significant measures identified in the NUMP.

Strategic area 1: Governance

- Establishment of appropriate structures at the local level for planning, development and management of sustainable mobility
- Creation of Central Technical Support Unit for implementation of the NUMP
- Creation of National Commission on Urban Mobility
- Implementation of good governance measures for the mobility sector

Strategic area 2: Capacity building

- Development of capacities of managerial and administrative staff
- Integration of urban mobility in training programs of civil engineers, urban planners and administrative staff
- Establishment of networks for knowledge exchange and dissemination within the sector
- Development of implementation plan for awareness raising of civil society, elected officials and media
- Development of capacities of technical and operational, and administrative staff involved in urban mobility

Strategic area 3: Financing sustainable urban mobility

- Improvement of role of the State through establishment of National Fund for Urban Mobility
- Definition of competences of local governments to finance urban mobility

- Revision of fare policy and financing of public transportation
- Reduction and redirection of fuel subsidies to Urban Mobility Fund
- Improvement of compensation system for school transport

Strategic area 4: Urban public transport

- Development of public transport rationalisation plans
- Establishment of public transport regulatory unit within metropolitan mobility authorities
- Restructuring of public transport companies
- Set up public service delegation contracts between authorities and public transport companies
- Regulation of paratransit services

Strategic area 5: Improved coordination between transport and land-use planning

- Promotion of integration between master development plans, urban travel plans, and urban development plans
- Establishment of legal provisions for greater coherency between land-use and transport planning
- Promotion of densification of major transit routes through Transport Oriented Development (TOD)

Strategic area 6: Management of individual motorised transport development

- Improvement road sharing between different modes
- Design of legal and regulatory framework for carpooling
- Establishment of company travel plans for public organisations
- Mainstreaming and support on the development of traffic management plans at the local level
- Feasibility study for introducing restrictive parking policies
- Implementation of initiatives to improve freight transport efficiency
- Promotion of intermodality and fare integration between collective transport modes
- Expedite implementation of mass transit projects

Strategic area 7: Promotion of active transportation

- Development of Active Mobility Action Plan at the national level
- Development of Active Mobility Master Plans in main urban areas
- Implementation of sidewalk rehabilitation campaign
- Improvement of enforcement capacities to fight illegal use of public space
- Integration of active mobility into major infrastructure projects

Strategic area 8: Promotion of safer, cleaner and more inclusive urban mobility

- Improvement of road safety in urban areas
- Promotion of e-mobility and alternative fuels
- Introduction of vehicle emission standards
- Promotion of accessibility for most vulnerable population

Strategic area 9: Development of digital solutions for urban mobility

- Implementation of action plan Smart Mobility Tunisia

Finance leverage

Financing resulting from the NUMP	Source	Amount
Grant fund to support NUMP implementation	AFD	EUR 250,000
Grant fund to develop urban mobility plan for the Greater Metropolitan Area of Tunis	Republic of Tunisia	EUR 600,000
Grant fund to finance actions of the NUMP (studies, capacity building and tender support for NUMP implementation)	AFD	EUR 400,000

Projected impacts

Indicator	Impact 2030 (SUMP vs BAU)	Baseline - 2015	Projected 2030 BAU	Projected 2030 SUMP scenario
Total annual GHG emissions (Mt CO_2eq)	-3 300 000 tCO_2eq	9 200 000 tCO_2eq	15 300 000 tCO_2eq	12 000 000 tCO_2eq
Access Increase of the proportion of the population living 500 meters or less of a public transport stop	Unknown	Unknown	Unknown	80%
Modal share Increase of the modal shares of trips by public transport, walking and cycling	TOTAL: 31.4 %	TOTAL: 53.6 %	Unknown	TOTAL: 85 %
Road safety Decrease of traffic fatalities in the urban area, per 100.000 inhabitants	-50 %	-55 fatalities/100 000 hab	Unknown	-22 fatalities/100 000 hab

Highlights

New governance framework for urban mobility and a National Mobility Fund

Since 2021, an AFD-funded consultant assists the Ministry of Transport for the implementation of a new governance framework for urban mobility, and a National Mobility Fund:

At a national level, the national government is planning the creation of a National Urban Mobility Commission (CNMU) to ensure the political support of the NUMP as well as all the structural reforms proposed, and a Central Technical Support Unit (UTAC) providing technical support to the CNMU and responsible for the operational implementation of most of the actions recommended by the NUMP. It should be first hosted in-house by the Ministry of Transport, to become later an independent public institution.

To ensure that State funding is stable and predictable, the NUMP also plans to create a National Urban Mobility Fund (FNMU) in 2022, to which certain national tax resources from transport such as the road tax would be allocated, as well as certain local taxes. The decentralisation process in Tunisia is still a major challenge, and adjustments to the legal framework to solve the governance problems created by the contradictions between the Local Authorities Code and Law 2004-33 of April 19, 2004, on the organisation of land transport still need to be done. An additional challenge is to find out the right legal status for the new entities created at the national level in a context of political instability and very limited budgetary space.

At local scale, depending on the size of the urban areas, Metropolitan Urban Mobility Authorities (AMMU) will be created, as well as Urban Mobility Departments (DMU) within the municipalities, in particular to ensure the development of local mobility strategies and the management of public transport networks. Additionally, there has been advanced discussion with the AUGT (Urban Planning Agency) for the preparation of a SUMP for the metropolitan area of Tunis.

The European Union supports the development of capacities for the transition to low-carbon mobility and the achievement of the Tunisian NDC

Tunisia has committed to reducing its GHG-emissions by 45% by 2030 compared to 2010, and transport must contribute to 37% of this reduction target. To support the implementation of the new Regional Transport Action Plan, the **EU launched the EuroMed Transport Support Project (ETSP)** for a duration of 7 years (January 2017 to December 2023), including an extension due to the pandemics context.

This support includes a specific technical assistance project for the secondary city of Sousse. This technical assistance aims to develop the capacity of local authorities to support the transition to low-carbon mobility. Activities include the use of the MobiliseYourCity greenhouse gas emissions calculator to analyse the potential impact of different mobility planning approaches on emissions trajectories. This technical assistance is directly supported by the MobiliseYourCity Secretariat.

Kumasi, Ghana

Partner city

Status of the project: **Ongoing preparation of the Sustainable Urban Mobility Plan**

Basic Information

Urban area: **2,603 km²**

Population: **3,490,000** | Growth rate: **+ 4.43%**

Region capital city

GDP per capita: **USD 4,700 (National)**

Motorised Modal Share (Road Space Usage):

- **Formal public transport (Bus): 15%**
- **Informal public transport (Trotro): 53%**
- **Private cars: 14%**
- **Taxis: 12%**
- **Freight vehicles: 1%**
- **Other (LDV): 4%**

National GHG emissions per capita: **1.5 (tCO_2eq)**

Exposure to climate change: **MEDIUM**

Context

Since the 2010s, more than half of the population in Ghana lives in urban areas. Despite their rapid expansion in size and population, most cities remain small by world standards. In the last few years, institutions have been unable to cope with the rapid urban transition and Ghana has started to see the side effects of rapid urbanisation, including congestion, unregulated urban expansion, and limited access to services and affordable quality housing.

Kumasi is the second largest city in Ghana and the greater Kumasi Metropolitan Area (gKMA) is the result of multiple extensions of the city's perimeter, including inner Kumasi (KMA) and twelve additional municipalities and districts. It covers a total land area of 2,603km² with a total population of 3,190,473. Kumasi is set to more than double its population. The population density is expected to substantially increase from 159 people per hectare (in 2010) to 279 per hectare in 2033.

Transport system

Rapid urbanisation in Ghana has implications for urban mobility. Severe traffic congestion and road safety issues are the consequence of over-reliance on low-capacity passenger vehicles, inadequate traffic management, heavy dependence on informal public transport services, inadequate facilities for walking and cycling, occupation of roads by hawkers, and so on.

The predominant mode of transport in Kumasi are *trotros*, minibuses carrying between 14 and 23 passengers, and shared taxis which take four passengers. These vehicles do not provide scheduled services and they operate with the 'fill and go' principle, preventing passengers from planning their trips effectively.

The limited capacity of these vehicles is compensated for by their large number. Distribution of vehicles on routes depends on the preferences of the operators, usually linked with the conditions of the roads, leading to an uneven distribution of transport services.

A study carried out in 2011 found that 68% of users travel by *trotro*/buses, 12% by taxis. By contrast, *trotros* occupy less than 30% of road space usage, whiles private vehicles carrying only 14% of passengers account for 33%. The congestion level also affects the route choice for drivers.

The city has received 60 buses from the Ministry of Transport for the introduction of a mass transit service (pilot BRT), but only 20/25 are operated as the rest of the fleet waits for full study and implementation.

Institutional context

The different Metropolitan, Municipal, or District Assemblies (MMDAs), which are part of gKMA, are empowered by law with legislative responsibilities to make policies, including the enabling legislative instruments, to provide leadership for local transport policy and planning, pass common bye-laws on passenger transport and facilitate a fair and efficient regulatory environment, by providing priority for operators using traffic management measures.

There is an existing Greater Kumasi Urban Development Master Plan, sponsored by JICA and coordinated by the Spatial Planning Department of KMA in collaboration with the 6 adjoining Assemblies that formed the gKMA. Unfortunately, there has been neither formal coordination among them nor any higher-level authority to regulate inter-MMDA transport.

At the national level, the Ministry of Roads and Transport (MoRT) is responsible for road infrastructure, the Ministry of Port, Harbors, and Railway is in charge of the mass-transit railway.

The Local Counterpart does not have the authority to borrow from international finance sources. Systems and procedures are partially in place to monitor, evaluate and report on urban mobility.

Challenges and main aim of the SUMP

The main urban mobility challenges Kumasi is facing are described below:

- Poor integrated land use planning and control procedures, resulting in urban sprawl, traffic congestion on major roads and poor road safety
- Poor traffic management and poor condition of existing road network, connected with a low traffic capacity, misuse of road space and parking issues, and lack of continuity of pedestrian space
- Inadequate facilities and general inefficiency of the public transport system, which is unable to meet the demand
- Institutional framework not optimised for mobility operators and organisations, affecting profitability and preventing fleet renewal and enforcement of policies
- An excessive level of air pollution, because of the exhaust gas from a fleet of vehicles that is mainly old and poorly maintained

The main aims of the SUMP are to produce a high-quality document, ready for adoption by the different assemblies of the gKMA that identifies different measures to:

- Regulate public transport (incl. paratransit) for efficiency, safety and affordability;
- Improve traffic management and traffic safety measures, particularly reducing traffic congestion in the city center;
- Improve pedestrian/Non-Motorised Transport facilities for walkability and safety;
- Improve the institutional and financial framework in view of greater effectiveness for planning, designing, building, regulating and operating the mobility system in the city;
- Improve technical capacity of the professionals in the area of transport and GHG reduction;

- Build capacities of local experts and other mobility actors in Kumasi to implement, monitor and revise the Sustainable Urban Mobility Plan, serve as advocates of sustainable urban mobility planning, and transfer gained knowledge and experience with other cities in Ghana or subregion.

The technical assistance contributes to institutional strengthening by inter-alia and providing training sessions on selected topics.

Support from the Partnership

Technical assistance: Sustainable Urban Mobility Plan (SUMP)

Funded by: AFD

Funding amount: EUR 500,000

Implemented by: AFD and CODATU through the MobiliseYourCity Africa Program

Local counterpart: Kumasi Metropolitan Assembly (KMA)

Supported activities:

- SUMP for Kumasi (including support for inception, diagnosis, vision and strategic objectives, scenario development and action planning, financing requirements and public participation)
- Specific mission: Establishment of an Observatory on urban mobility data and GHG emissions

Status of the SUMP process

Project start: 2021 Q1

Expected project completion: 2023

Completed outputs:

- Signature of a Memorandum of Understanding between a delegate of Kumasi Metropolitan Assembly (KMA) – representing the different assemblies of the Greater Kumasi Metropolitan Area (GMA) and AFD
- Support for the tender and selection of consultants
- Inception phase and inception report
- MobiliseDays
- Diagnosis phase

Next expected outputs:

- Vision/scenario phase
- Action plan
- Final SUMP report

Core impact indicators

Indicator	Baseline - 2022
Annual transport related GHG emissions per capita (kg CO_2eq)	280 kg CO_2eq / capita (country wide average)
Road safety **Decrease of traffic fatalities in the urban area, per 100,000 inhabitants**	9,61 fatalities / 100,000 hab

Highlights in the past year

The SUMP diagnosis brings new insights on mobility in Kumasi current situation and future trends

After a thorough analysis of Kumasi's urban mobility system, several key takeaways emerged that provide insights into the strengths, weaknesses, opportunities, and threats of the city's transportation network.

- Kumasi is experiencing strong population growth, which is expected to increase housing demand and urban growth. This growth is likely to lead to more congestion, higher travel times, and saturation in the city centre.
- Car ownership rates are expected to rise in Kumasi, particularly as the gender gap between men and women gradually decreases. This will lead to even more competition for urban space and a decrease in space for public transport stations and terminals.
- The current public transport system in Kumasi is working well and is affordable for passengers, but it faces significant challenges. For example, there are conflicts between different modes of transport, and there is a lack of coordination between transport and urban planning.
- Kumasi's road network is relatively complete and logical, and the roads are of good quality where most urgent maintenance works have been done. However, there is a lack of alternatives to the road network, and the traffic conditions in the city center around Kejetia market are difficult.
- Kumasi faces both opportunities and threats in terms of its urban mobility. Some opportunities include the existence of DOTs and transport unions, the acceptance of public transport by the population, and interest in Kumasi from investors. Threats include inadequate space and pressure on land use for public transport terminals, the risk to the economic model of trotros and affordability, and fast unplanned growth of the metropolis.

Al-Assima (Rabat-Salé-Temara), Morocco

Partner city

Status of the project: **Technical assistance**

Basic Information

Urban area: **1,910 km²**

Population: **2,134,533 (2014)** | Growth rate: **1.6%**

Country capital city

GDP per capita: **USD 3,217**

National GHG emissions per capita: **2.62 (tCO_2eq)**

Exposure to climate change: **HIGH**

Context

Rabat is the capital city of Morocco and the second largest region of the country. It is both the administrative and business center of the country. Rabat's agglomeration "Al Assima" includes the cities of Salé and Temara. Salé is the biggest cities among the three cities (982 163 inhabitants in 2014), followed by Rabat (577 827 inhabitants), and Temara (574 543 inhabitants). In 2024, the agglomeration's population is expected to reach 2 549 000 inhabitants, which will result in an increase of mobility.

Al-Assima has an existing mass transit system as well as a transport master plan. The local counterparts, Etablissement de la Coopération Intercommunale Al-Assima (ECIAA) and Société du Tramway de Rabat-Salé (STRS), have the mandate and responsibility to finance mass public transport infrastructure. They have the authority, with the central government guarantee, to borrow from international finance sources. Currently, there are no systems and procedures are in place to monitor, evaluate and report on urban mobility.

Al-Assima plans to develop a Sustainable Urban Mobility Plan (SUMP), by mandating a consultant. The future mobility plan will replace the former mobility plan of Rabat and integrate the whole urban area, including the cities of Salé and Temara.

- Structuring the project (governance, feedback on terms of reference)
- Providing STRS with assistance for developing urban mobility diagnosis and vision-building modules
- Assistance for integrating a participatory approach
- Capacity-building (throughout the process)
- Providing technical expertise for the review of SUMP deliverables
- Delivering an expertise programme for the definition and implementation of a local measuring, reporting and verifying greenhouse gas emissions approach, in link with the national level (Rabat is one of the 3 pilot cities of this specific programme)

The technical assistance contributes to institutional strengthening through capacity building for implementation and a large stakeholder engagement process.

Support from the Partnership

Technical assistance: Support to pilot a Sustainable Urban Mobility Plan (SUMP)

Funded by: CEREMA

Funding amount: EUR 500,000 (in kind)

Implemented by: CEREMA through MobiliseYourCity Morocco

Local counterpart: Etablissement de la Coopération Intercommunale "Al-Assima" ECIAA, Société du Tramway de Rabat-Salé (STRS)

Supported activities:

Technical assistance to support STRS and the SUMP

- Deliverable reviews
- Support during the SUMP committees

Status of implementation

Project start: 2021 Q4

Expected project completion: 2023 Q1

Completed outputs:

- Elaboration of SUMP ToRs
- Diagnosis report
- SUMP elaboration study

Highlights

SUMP preparation study ongoing after being delayed due to pandemics

After the procurement of the SUMP had been delayed in 2020 due to the COVID-19 pandemic, the study on the elaboration of the SUMP started in September 2021. It is planned for a duration of 18 month (until March 2023). As of February 2022, the SUMP is in the diagnosis phase.

Due to the limited availability of new or aggregated data, the factsheet has only marginally been updated in 2023.

Casablanca, Morocco

Partner city

Status of the project: **Ongoing preparation of the Sustainable Urban Mobility Plan**

Basic Information

Grand Casablanca urban area: **1,117 km²**

Population: **4,047,066** | Growth rate: **0.85%**

Region capital city

GDP per capita: **USD 2,832 (2016)**

Modal Share:

- **Formal public transport: 13%**
- **Informal public transport: 6%**
- **Walking: 60%**
- **Private cars: 13%**
- **Private motorbikes or 2-wheelers: 4 %**
- **Taxis: 4%**

National GHG emissions per capita: **2.62 (tCO_2eq)**

Exposure to climate change: **HIGH**

Context

Located in the western part of the country, Casablanca is the largest city in Morocco and operates as the country's economic capital, with the industrial and service sectors contributing a viable share in the country's GDP (World Bank, 2017). Statistics show that the region of Casablanca-Settat alone accounted for 34% of Morocco's economy in 2014, positioning the city as the backbone of the country's economy.

Regardless of serving as an important financial hub, the metropolitan area is facing exponential mobility challenges such as increasing traffic congestion, degrading air quality and a public transport network unable to meet the growing demands and take its fair share of the 7.8 million trips taken daily in the city. In 2005, only 15% of inhabitants used public transport system to commute. Since then, the Moroccan government and the municipality of Casablanca have committed to significantly increasing access to mass public transport by tackling various underlying issues.

In line with this objective, the municipality formulated a strategic development plan focusing on expanding and improving existing tram and bus networks to integrate different neighbourhoods, and foreseeing the development of approximately 100 km of new public transport network by 2025, consisting of four tram lines and two rapid bus lines (Casa Transports SA, 2020). The highlight of this project was the implementation of tramway line 1 (31 km in 2012) and line 2 (19 km in 2018) to develop efficient and green public transport. Additionally, tramway line 3 (14 km) and line 4 (18km) and the BRT lines 5 and 6 are in the pipeline, expected to operate fully in 2022. Alongside the tram lines, the project features a green corridor and improving pedestrian facilities to ensure enhanced safety and security of citizens. By strengthening various components of the public transport system, the city is committed to reducing private vehicle ownership and cut on GHG emissions in line with Morocco's NDCs.

There is an existing transport master plan or similar document. Casa Transports, the local counterpart, has the mandate and responsibility to finance mass public transport infrastructure. It has authority to borrow from international finance sources. Systems and procedures are in place to monitor, evaluate and report on urban mobility.

The technical assistance has contributed to institutional strengthening by supporting Casa Transports in the stakeholder engagement process.

Support from the Partnership

Technical assistance: Project management assistance to the Sustainable Urban Mobility Plan (SUMP)

Funded by: AFD

Funding amount: EUR 90,000 (total cost of the SUMP EUR 1,500,000)

Implemented by: AFD through the MobiliseYourCity Morocco project

Local counterpart: Casa Transports

Finance leverage: EUR 100,500,000

Supported activities:

The objective of the MobiliseYourCity service is to assist Casa Transports in piloting the SUMP study in order to contribute to its technical quality, its implementation, its coherence with the MobiliseYourCity orientations as well as with the different approaches at national and local level in terms of low-carbon transport planning.

- Mission 1: Evaluation and assessment of the urban mobility plan 2004
- Mission 2: Data collection, surveys, and counts
- Mission 3: Realisation of the diagnosis
- Mission 4: Definition of scenarios and choice of a scenario
- Mission 5: Formalisation of the SUMP Project
- Mission 6: Design and implementation of a mobility observatory

Status of the SUMP process

Project start date: 2017 Q3

SUMP expected completion date: 2022 Q4

Completed outputs:

- Inventory and diagnosis; goal setting and strategy development
- Scenario elaboration
- Formalisation of the SUMP project

Next expected outputs:

- Full SUMP report

SUMP key measures and cost estimates

The following table gives an overview of the measures and cost estimates identified at a preliminary stage of the SUMP process.

Measure	Cost Estimate
Implementation of a Transport Authority	EUR 1,000,000
Mass Transit lines implementation	EUR 4,600,000,00
Bus network and taxis reorganisation and related bus lane	EUR 140,000,000
Circulation plan and parking policy upgrade	EUR 250,000,000
Non-motorised transport policy upgrade	tbd
Intermodality facilities upgrade	tbd
Freight regulation enhancement	tbd
Transversal: improve road safety and reduce private car disturbance	tbd

The following table summarises the total capital expenses (CAPEX) estimates for different types of measures in the SUMP.

Urban transport investment measures	CAPEX Estimate
Public transport and NMT	EUR 4,741,000,000
Street shaping urban roads and traffic management	EUR 250,000,000
Other measures	EUR 0
Total	**EUR 4,991,000,000**

Finance leverage

Financing resulting from the SUMP	Source	Amount
Line 3 and 4 of the tramway networks	AFD Loan	EUR 100,000,000
Technical assistance for Casa Transport	AFD Grant	EUR 500,000

Projected impact

Indicator	Impact 2030 (SUMP vs BAU)	Baseline - 2019	Projected 2030 BAU	Projected 2030 SUMP scenario
Total annual GHG emissions (Mt CO_2eq)	-0,1 Mt CO_2eq	1,05 Mt CO_2eq	1,50 Mt CO_2eq	1,40 Mt CO_2eq
Annual transport related GHG emissions per capita (kg CO_2eq)	-17 kg CO_2eq / capita	262 kg CO_2eq / capita	257 kg CO_2eq / capita	240 kg CO_2eq / capita

Due to the limited availability of new or aggregated data, the factsheet has only marginally been updated in 2023. As the completed SUMP is not yet available, aggregated figures related to SUMP measures, finance leverage and projected impact may be incomplete.

Khouribga, Morocco

Partner city

Status of the project: **Ongoing preparation of the Sustainable Urban Mobility Plan**

Basic Information

Urban area: **52 km²**

Population: **216,397** | Growth rate: **0.65%**

GDP per capita: **USD 3,237**

National GHG emissions per capita: **2.62 (tCO_2eq)**

Exposure to climate change: **HIGH**

Context

Khouribga is an inland urban area and an industrial hub in central Morocco. Located 120 km from Casablanca and 154 km from Rabat, Khouribga serves as the capital of Khouribga province in Béni Mellal-Khénifra region. The city emerged in 1923 by French authorities after the discovery of rich mineral reserves and held a strong position as the biggest exporter of phosphate in the world. Due to various mining sites in the region, the local economy is heavily dependent on the mining sector as it contributes significantly to Morocco's economy accounting for about 10% of the GDP and 72% of national phosphate exports in 2013.

The city is located at the intersection of two major roads. Khouribga has a small railway station for interurban transport located in the centre of the city. It is used for passenger and freight transport. The railway station was one of the stops of the journey of the climate train from Casablanca to Safi during the COP22 in Morocco, raising awareness for sustainable transport. Apart from a city bus, there is no existing mass transit system in the city.

There is no existing transport master plan or similar document. The Municipality of Khouribga, the local counterpart, does not have the mandate and responsibility to finance mass public transport infrastructure, even though it has the authority to borrow from international finance sources. Systems and procedures are not in place to monitor, evaluate and report on urban mobility.

Support from the Partnership

Technical assistance: Project management assistance for Sustainable Urban Mobility Plan (SUMP)

Funded by: AFD

Funding amount: EUR 100,000

Implemented by: AFD through MobiliseYourCity Morocco

Local counterpart: Commune de Khouribga

Supported activities:

- Support the Khouribga Commune in the preparation, launching and piloting of the SUMP study to contribute to its technical quality, its implementation, its coherence with the MobiliseYourCity orientations as well as with the different approaches at the national and local level in terms of low-carbon transport planning.
- Ensure that the SUMP study is well articulated with opposable planning documents (urban planning, environment).

Status of the SUMP process

Project start: Q2 2019

Expected project completion: 2023

Completed outputs:

- Terms of reference for the SUMP
- Procurement process to hire a consultant for the SUMP study finalized
- Launching the SUMP process with local consultant

Next expected outputs:

- SUMP process

SUMP key measures, leveraged financing and projected impact

SUMP deliverable and specific information are not yet available at this stage of the SUMP process.

Due to the limited availability of new or aggregated data, the factsheet has only marginally been updated in 2023.

Maputo, Mozambique

Partner city

Status of the project: **Ongoing preparation of the Sustainable Urban Mobility Plan**

Basic Information

Urban area: **2,200 km²**

Population: **2,541,000** | Growth rate: **+2,5%**

National capital city

GDP per capita: **USD 1,376**

Modal Share:

- **Formal public transport: 9.2%**
- **Informal public transport: 32.9%**
- **Walking/cycling: 45.9%**
- **Private cars: 10.2%**
- **Private motorbikes or 2-wheelers: 0.2%**
- **Freight vehicles: 0.7%**

National GHG emissions per capita: **1.24 (tCO_2eq)**

Context

Maputo is the capital of Mozambique and a port city located on the Indian Ocean coast in Southern Africa. The Maputo Metropolitan Area is the political and commercial centre, and the most populated area of Mozambique, where approximately 8.8% of the country's population lives. Furthermore, the Metropolitan Area of Maputo includes the densest municipality (Maputo city), the most populated municipality (Matola city), and the largest municipality in the country (Boane city). The district of Marracuene and Maputo city is the most urbanised area of the agglomeration. The major economic activities in Maputo are trade, transportation, communication, and manufacturing. The attraction of economic opportunities in the capital has therefore resulted in population growth which is spiralling into neighbouring cities and districts. There is continuous growth further away from the central area towards the outskirts of Maputo.

The current demand for public transport is greater than the offer, which leads to an increase in private vehicles ownership, traffic congestion and irregular parking on public roads. The poor state of road infrastructures reduces the quality and durability of public transport and the fluidity of traffic. The city also lacks proper infrastructure for active mobility, a high number of road accidents and a lack of security for women in transport. These mobility issues can undermine the economic development of the area, due to the limited access to employment opportunities, poor health, and time-consuming trips. This situation especially affects low-income populations and leads to a severe impact on air quality and climate.

Transport system

An urban transport master plan for the Great Maputo area has been prepared under JICA funding in 2014. According to this document, the two dominant transport modes were walking (46%) and chapas/minibus (33%). Chapas is an informal

public transport, owned by private operators and following a "fill and go" system, usually waiting at terminal areas until being fully loaded. 4,500 chapas were licensed and operating in the Maputo Metropolitan Area in 2004. However, many additional chapas are operating without licenses.

The master plan forecasts significate growth in mobility demand in the forthcoming years. Urban trips are expected to double between 2012 (3.3 million trips/day) and 2035 (expected 6.7 million trips per day). As a result, congestion is expected to increase to unbearable levels if no action is taken to make mobility patterns more efficient in Maputo. The 2014 master plan proposes a prioritised action plan to tackle these mobility challenges that feed into the SUMP. The main proposed actions are the development of a mass rapid transit network combined with road network improvements.

Institutional context

The Metropolitan Transport Agency of Maputo (AMT – Agencia Metropolitana de Transportes de Maputo) was created in 2017 through Decree No. 85/2017, and it started operating in August 2018 after the appointment of the Board of Directors (PCA). AMT has the responsibility in the Metropolitan Area of Maputo to plan, implement and manage collective public transport, and to respond to the interests of municipalities, provincial, district governments and private partners in the Maputo metropolitan area, as well as the central government, in matters of public transport.

AMT's precise role, competence, and financial framework are still to be precisely defined. Refined objectives shall be reflected in a strategic plan for the AMT itself, aiming at the structuration and consolidation of the authority. A partnership with UITP, under World Bank funding, has started to develop such a strategic plan but is currently on hold. The AMT staff is supported by the think tank Waza, involved as a partner under the T-SUM project. The AMT currently does not have the mandate and responsibility to finance mass public transport infrastructure. It does not have the authority to borrow from international finance sources. Systems and procedures are not in place to monitor, evaluate and report on urban mobility.

In this challenging environment, some of the main issues for public stakeholders to tackle are the lack of a common metropolitan vision, poor coordination between stakeholders, limited technical and institutional capacities, and limited options for tax collection and revenues from the transportation system. The Transport Agency for Maputo Metropolitan Area, together with the municipalities of the Metropolitan Area, want to develop a Sustainable Urban Mobility Plan (SUMP) to work on the current issues related to urban mobility, and to expand the public transport system to all neighbourhoods. The plan shall also improve access routes, consolidate the overall transport system and help with the relationship with other main stakeholders. In the organisational aspect, the SUMP assignment shall support AMT in the finalisation of the institution structure strategic plan that is under formulation.

Support from the Partnership

Technical assistance: Sustainable Urban Mobility Plan (SUMP)

Funded by: AFD

Implemented by: AFD through the MobiliseYourCity AFD Africa Program

Local counterpart: Agência Metropolitana de Transporte de Maputo (AMT)

Supported activities:

- SUMP preparation for Maputo Metropolitan Area, managed by the local transport authority, Agência Metropolitan de Transportes de Maputo (AMT)

Other related activities supported by AFD outside of MobiliseYourCity scope and financing:

- Technical assistance to the AMT (Financing of one Senior and one Junior position)
- Quick wins actions

Status of the SUMP process

Project start: 2021 Q1

Expected project completion: 2023 Q2

Completed outputs:

- Mobilise Days (2019)
- Elaboration of Terms of Reference
- Selection of the consultant and administrative assignment of the mission (February 2021)
- Inception phase (completed in January 2022)

Next expected outputs:

- Diagnosis phase
- Vision and scenario phase
- Action plan and final SUMP

SUMP key measures, leveraged financing and projected impact

SUMP deliverables or specific information are not available at this stage of the SUMP process.

Due to the limited availability of new or aggregated data, the factsheet has only marginally been updated in 2023.

Dakar, Senegal

Partner city

Status of the project: **Ongoing preparation of the Sustainable Urban Mobility Plan**

Basic Information

Urban area (Dakar Region): **550 km²**

Population: **4,042,225 (2022)** | Growth rate: **+2.8%**

Country capital city

GDP per capita: **USD 1,636 (2021)**

Modal Shares (in 2015):

- **Walking: 70%**
- **Formal public transport: 11.7 %**
- **Informal public transport (minibuses): 6.8 %**
- **Informal collective taxis: 3.5 %**
- **Private cars: 4.2 %**
- **Formal Taxis: 3.0 %**
- **Private motorbikes or 2-wheelers: 0.8%**

National GHG emissions per capita: **0.6 tCO_2eq at national level in 2016: 2.1 tCO_2eq/capita**

Exposure to climate change: **MEDIUM**

Context

The Dakar region is a fast-growing conurbation that includes the cities of Dakar, Guédiawaye, Pikine, and Rufisque. It is home to over 4 million people and accounts for 25% of the country's population and 50% of the urban population. The population is expected to reach 5 million by 2030 with a growth rate twice as high as in the past 30 years.

The high population density of the region (7 350 inhabitants/km²) masks significant disparities between urban areas and territorial imbalances due to the peninsula geography and uncontrolled urbanisation. The concentration of jobs in Dakar city center leads to pendular mobility, and income inequality between Dakar and suburban cities increases the use of private vehicles.

The limited space in Dakar and road congestion have led the government to pursue ambitious urban projects outside the current agglomeration, such as the Diamnadio urban pole, which is planned to be the future administrative center of Senegal.

Walking is the most common mode of transportation, accounting for 70% of trips, but is imposed rather than chosen due to the absence or poor condition of sidewalks and obstacles from larger roads. Cycling is hindered by a lack of infrastructure and unsafe road conditions, encouraging a shift to private vehicles.

Public transportation options in Dakar include the public operator Dakar Dem Dikk (DDD) with 42 standard bus lines, 14 private operators with 64 minibus lines under the AFTU's, informal minibus operators, Clando taxi operators, and the Petit Train de Banlieue. Two mass rapid transit projects are underway: an Express Regional Train (already in operation),

between Dakar downtown and the Blaise Diagne International Airport located in Diamniadio at 36 km distance, and a BRT line between Dakar downtown and Guédiawaye suburb.

The total number of trips within the region of Dakar stands at 3.36 trips per person on average on weekdays. Of these trips, 1.0 trips are made using motorised modes.

The Conseil Exécutif des Transports Urbains de Dakar (CETUD) manages mobility in Dakar and is responsible for financing mass transit infrastructure and implementing a transport master plan. CETUD's mission is to organise and regulate urban transport and promote healthy competition in accordance with state policies. CETUD is revising its transport master plan with the support of the MobiliseYourCity Partnership to create a Sustainable Urban Mobility Plan (SUMP) 2020-2035.

CETUD has the mandate and responsibility to finance mass public transport infrastructure. Working under the direct authority of the national governments, it has the means to borrow from international finance sources. Systems and procedures are in place to monitor, evaluate and report on urban mobility.

Support from the Partnership

Technical assistance: Sustainable Urban Mobility Plan (SUMP)

Funded by: FFEM

Funding amount: EUR 400,000

Implemented by: AFD through the MobiliseYourCity Africa: Support of a SUMP preparation process for the city of Dakar, managed by the local mobility authority, Conseil Exécutif des Transports Urbains de Dakar (CETUD)

Local counterpart: CETUD (Conseil Exécutif des Transports Urbains de Dakar)

Supported activities:

Update the existing urban mobility plan into a SUMP which:

- Builds upon existing studies, plans and documents
- Is aligned with the national urban mobility strategy
- Is the result of a participatory process
- Is ready to be adopted by the CETUD and the relevant authorities

Status of the SUMP process

Project start date: 2020 Q2

SUMP expected completion date: 2023

Completed outputs:

Update the existing urban mobility plan into a SUMP which:

- Evaluation of the existing transport master plan report
- Inception report
- Diagnostic report
- Scenario and financing report

Next expected outputs:

- Vision, objectives, and action plan of the SUMP
- Monitoring and reporting of the SUMP
- Reports about the participatory process of the SUMP

Core impact indicators baselines

Indicator	Baseline (2015)
Total annual transport related GHG emissions (Mt CO_2eq)	0.924 Mt CO_2eq
Annual transport related GHG emissions per capita (kg CO_2eq)	243 kg CO_2eq
Access to public transport Proportion of the population living 500 meters or less of a public transport stop	56%
Air pollution Mean urban air pollution of particulate matter (in µg PM2.5) at road-based monitoring stations	45 µg/m³ of PM2.5
Road safety Annual traffic fatalities in the urban area, per 100,000 inhabitants	2.9 fatalities / 100,000 inhabitants (2014)
Affordability of public transport Percentage of disposable household income spent on public transport for the second quintile household income group	14.3% (2015, EMTASUD)

Highlights in the past year

Future projections show the need for increased ambition, beyond ongoing project

In 2022, the SUMP process delivered a vision and possible scenarios for 2035. In Dakar, urban mobility is already experiencing significant change with the arrival of the BRT and light train TER, the network's restructuring, and the construction of new infrastructures. However, projections show that despite the current efforts, meeting the increased demand resulting from population growth will be difficult and costly, as peak hour demand cannot be met by the currently projected transport supply. The scenario-building phase highlighted the need for increased ambition to prevent saturation and meet the city's colossal mobility challenge.

The involvement of various stakeholders makes the SUMP a recognised and valuable plan

Throughout the SUMP process, the responsible committees and the SUMP task force put a strong focus on involving diverse stakeholders in the development of the plan. Workshops were conducted with private and institutional actors as well as the population. The topics of the workshops covered a broad variety of SUMP related issues, including the sharing of roads and the importance of gender for transport. The results from the diagnosis were also presented during a public event to collect feedback on the outcomes. The success of these participatory events is visible through the acknowledgement that the SUMP was able to gain. While the urban mobility plan from 2007 was unknown to some stakeholders, their involvement in the process of preparing the SUMP led to an increased awareness for the aims of the plan.

A multi-modal transport system that favours public transport is key for sustainable mobility

The road network in the densely populated districts of Dakar is already under pressure under the current motorisation rates. At the same time, most trips are still taken by foot as large parts of the population cannot access or afford public transport. In this context, the collaboration of CETUD with paratransit operators to support the professionalisation and upgrading of their buses, as well as the planned development of a BRT system, feed into the SUMP process. Approaches for increasing a multi-modal transport system that focuses on public transport also include the development of a fare system adjusted to the household income and the improvement of conditions for walking and cycling.

Urban planning and transport planning go hand in hand as part of the SUMP

Urban development is a crucial driver for the increasing transport demand in Dakar. Differences in the density among urban districts influence mobility and transport systems. To effectively integrate land use and transport planning, the Ministry of Urban Planning is an essential partner in the SUMP development and has been involved from the start. The objectives of the urban master plan (Dakar 2035) directly feed into the SUMP process. Especially in the less densely populated districts in the outskirts of Dakar, the SUMP aims to focus on developing compact city structures according to the principles of the 15min city.

Antananarivo, Madagascar

Partner city

Status of the project: **Upcoming technical assistance**

Basic Information

Urban area: **85,01 km²**

Population: **3,209,933** | Growth rate: **+4.84%**

Country capital city

GDP per capita: **USD 522**

National GHG emissions per capita: **0.13 (tCO_2eq)**

Context

Antananarivo, also known by its shorthand form Tana, is the capital and largest city of Madagascar. It is located in the centre of the Island at 1,280 m above sea level and concentrates the bulk of the country's industrial and administrative activity.

The city is subject to high demographic growth leading to overcrowding and traffic congestion, as well as issues of waste management, extreme air pollution, security, public water and electricity shortage among others. Limited funds and management issues have hampered the effort of the local authority to manage these issues linked to the rapid population growth.

According to a public report by the French Embassy, walking - which accounts for more than 60% of travel in Antananarivo- is the preferred mode of travel. Paratransit constitutes the bulk of motorised trips, of which *taxi-bé* minibuses account for nearly 72%.

There is no existing mass transit system in the city to deal with the rising travel demand.

The city suffers from severe road congestion. Urban mobility issues are linked both with population growth, the low level of infrastructure development and the lack of support and regulation for the *taxi-bé* network. The city currently does not have an updated urban mobility planning document to deal with these issues.

Urban transport and suburban transport are respectively organised by the urban commune of Antanarivo (CUA), and the suburban transport agency (ATT), which depends on the national level. The overlapping of certain competences, the lack of financial means and the outdated regulations make the organisation of urban mobility more complex.

Significant efforts have been made in the past to address mobility challenges in the Malagasy capital. Unfortunately, the Urban Mobility Improvement Programme (PAMU) launched in 2008 has not led to the hoped-for improvement in rolling stock. Numerous studies have been carried out in recent years, notably on the creation of a transport organising authority, an economic analysis of the *taxi-bé*, the definition of specifications and the structuring of operators for the acquisition of rolling stock, the implementation of a ticketing system, and the training of operators. More recently, the World Bank has launched a study to produce a master plan for urban transport, proposing an articulation of the different modes of travel and a coherent transport network.

In addition to the studies and plans, the city is invested in several recent or ongoing ambitious projects. They include an electric cable transport project, the construction of an urban train network, the inauguration in 2021 of a by-pass road,

a Bus Class pilot project to improve the taxi-bé service, as well as a project initiated in 2011 and supported by AFD (EUR 33m) and the EU (EUR 3m) to improve pedestrian mobility and traffic on certain roads in the urban area.

The technical assistance provided under the Partnership aims to:

- Organise an *urban mobility forum* in Antananarivo, enabling all the involved actors to coordinate around a common roadmap.
- Pilot project for paratransit improvement and reform in Antananarivo.

The technical proposition of the pilot project aims to modernise and professionalise the collective transport system in Antananarivo, the capital city of Madagascar. The project seeks to demonstrate that it is possible to significantly improve the service rendered to users, reduce air pollution, greenhouse gas emissions, and road insecurity, while improving the working conditions of the sector. All of this will be achieved without any public subsidy and while maintaining the principles of collective transport by Taxi-Be on the pilot line.

The project will be implemented in phases, starting with the demonstration of the profitability of the new rolling stock on a new infrastructure operated by a private operator or a consortium, followed by the creation of a group of owners who will agree to acquire the new rolling stock and respect the new operating rules. CODATU will provide technical assistance throughout the process, including advising the steering committee, drafting technical and operating specifications, providing support to operators for the creation of the group, training, evaluation, and generalisation of the project. The complexity of the project, which will involve a profound modification of the systemic components of its environment, positions CODATU as the only actor capable of supporting the project as a whole.

Support from the Partnership

Technical assistance: Urban mobility forum and pilot project

Funded by: AFD and National Government of Madagascar

Funding amount: EUR 35,000 for the urban mobility forum and EUR 600,000 for the pilot project

Implemented by: Codatu

Local counterpart: Commune Urbaine d'Antananarivo (CUA)

Supported activities:

- Urban mobility forum and development of an urban mobility roadmap
- Roadmap for the governance of urban mobility in Greater Antananarivo
- International technical assistance to the local authority for:
  - Governance improvements
  - Ticketing
  - Securing procedures
  - Change of rolling stock
  - Training for transport operators
  - Digital opportunities and passenger information
  - Communication
  - Monitoring and evaluation

Status of implementation

Project start: 2023 Q1

Expected project completion: TBD

Mwanza, Tanzania

Partner city

Status of the project: **Upcoming Sustainable Urban Mobility Plan**

Basic Information

Urban area: **425 km²**

Population: **1,311,000** | Growth rate: **5.3%**

Region capital city

GDP per capita: **USD 1,089**

Modal split:

- **Walking: 61%**
- **Cycling: 3%**
- **Public transport: 25%**
- **Motorcycle: 7%**
- **Private car: 2%**

National GHG emissions per capita: **0.206 (tCO_2eq)**

Exposure to climate change: **HIGH**

Context

Mwanza is one of the fastest growing cities in Tanzania. It has a prime location on the Lake Victoria and it has a great potential to become a leading urban centre in the Lake Region and all East African Community. Due to its locational advantage, Mwanza offers great investment opportunities that will increasingly attract investors and visitors from all over the Globe. In view of the rapid population growth and economic advantages that Mwanza poses, the Government of Tanzania decided to prepare a masterplan to serve as a tool for guiding the spatial and economic growth of this City. This master plan is anticipated to serve as a tool for coordinating actors and projects, attracting planned economic ventures and providing certainty over investment.

Sustainable transport modes dominate commuting choices in intermediate cities in Tanzania. Analysis from available Master Plans suggest walking is the dominant transport mode, accounting for between 50% and 70% of trips in most cities surveyed. Cycling, an equally sustainable alternative, is used by an additional 3% to 8%. In larger cities such as Mwanza and Arusha, public transportation is the second most-used mode, accounting for 20% and 27% of trips, respectively, while other motorised vehicles account for 8% of trips (see figure below).

Administratively the country is organised into the Regions which are subdivided into Districts; and Districts are further subdivided into wards. All the administrative divisions are represented by respective Governments, except at wards which are governed by District Authorities. Regional Government i.e. Regional Secretariat, acts as a coordinator between the National level and Local Governments as well as assists in institutional capacity building of Local Governments. Administrative structure at Region and District level is elaborated in the Figure 2.6. Based on the settlement population and other criterion established by The Urban Planning Act, certain districts are classified into Urban District and Rural District. Urban Districts are ruled by City/ Municipal Councils where as Rural Districts are ruled by District Councils.

Mwanza City comprises of Nyamagana and Ilemela Districts. In 2000, Nyamagana District attained the City status and since then it is referred as Mwanza City which is ruled by the City Council. Ilemela District is largely rural and it is ruled by Municipal Council. The city has 12 Divisions, 21 wards of which 12 wards are in Nyamagana district and 9 wards in Ilemela district. In addition to that, the city has a total of 481 subwards (Mitaas), 8 villages and 72 sub-villages (vitongoji) as per Mwanza City Master Plan 2008-28. Mwanza City and Ilemela local governments collectively occupy surface area of 1337 km^2 out of which 900 km^2 belongs to the Lake water leaving dry land area (including islands) of 437 km^2.

Support from the Partnership

Technical assistance: Sustainable Urban Mobility Plan (SUMP)

Funded by: AFD under the funding line MobiliseYourCity Africa

Funding amount: EUR 375 000

Implemented by: AFD through the MobiliseYourCity Africa Program

Local counterpart: Mwanza City Council

Status of the SUMP process

Tender publication: 2022 Q4

Project start date: 2023

Expected outputs:

- Component 1: Active inception of the SUMP process
- Component 2: Diagnosis
- Component 3: Definition of a vision and strategic objectives, construction of scenarios, formulation of priority measures proposed by the SUMP
- Component 4: Detailing the selected scenario into an action plan, including monitoring and evaluation indicators, implementation modalities and horizons, budgeting and financing of measures
- Cross-cutting mission: Participatory Process (concertation and consultation)
- Final SUMP report

Lomé, Togo

Partner city

Status of the project: **Upcoming Sustainable Urban Mobility Plan**

Basic Information

Urban area: **333 km^2**

Population: **1,477,660**

National capital city

GDP per capita: **USD 1,700 (Togo)**

National GHG emissions per capita: **1.06 (tCO_2eq)**

Context

Lomé is the capital and largest city of Togo and represents nearly 20% of the country's population. Lomé is located on the Gulf of Guinea and serves as an important port city, as well as a commercial and industrial hub. The city is home to various economic activities, including agriculture, manufacturing, and services.

The transport system in Lomé is primarily composed of taxis, both collectives and motorcycles. Minibuses are also present, but mostly reserved for intercity transport. The absence of a mass transit system results in significant traffic congestion and limited mobility for residents. There is no formal transport master plan, but the *Organisation du transport urbain artisanal* report from 2019 provides some relevant data for the sector.

Local institutions, including the *Délégation à l'Organisation du Secteur Informel* (DOSI), are responsible for managing the transport system. However, there are no clear mandates or responsibilities for financing mass public transport infrastructure, and institutions lack the authority to borrow from international finance sources. Although some systems and procedures exist to monitor, evaluate, and report on urban mobility, they are only partially in place.

The lack of a mass transit system and inadequate transportation infrastructure are significant challenges for the city. These problems have negative impacts on the environment, public health, and economic development. The main objective of the Sustainable Urban Mobility Plan (SUMP) is to develop a comprehensive transport strategy that addresses these challenges, improves mobility for residents, and contributes to sustainable urban development.

The technical assistance provided will contribute to institutional strengthening by improving the capacity of local institutions to develop and implement sustainable urban transport policies and programs. This will involve working with local stakeholders to identify key challenges, develop action plans, and establish mechanisms for monitoring and evaluating progress. By supporting the development of a SUMP, the technical assistance will help to create a more efficient, safe, and sustainable urban transport system in Lomé, ultimately benefiting the city's residents and contributing to economic growth.

Support from the Partnership

Technical assistance: Sustainable Urban Mobility Plan (SUMP)

Funded by: AFD under the funding line EU Covenant of Mayors Sub-Saharian Africa

Funding amount: To be defined

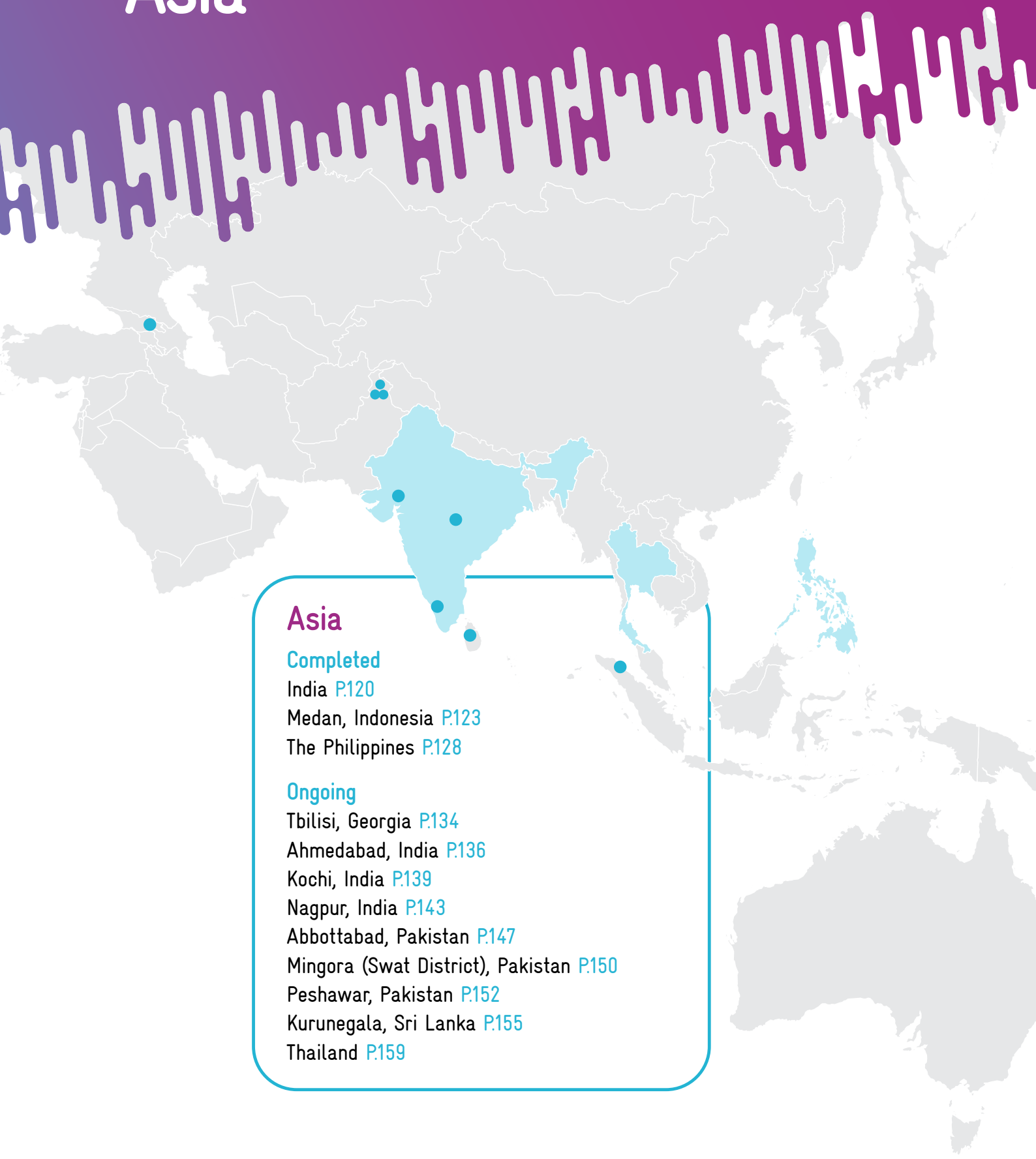
Implemented by: AFD through the MobiliseYourCity Africa Programme

Status of the SUMP process

Project start date: 2023

SUMP adoption date: To be defined

Asia



Asia

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India

Partner country

Status of the project: **Ongoing technical assistance**

Basic Information

Population: **1 352 642 280 (2018)** | Growth rate: **1.1%**

Percentage of urban population: **34% (2018)**

Urban population growth rate: **2.3% (2018)**

GDP per capita: **USD 9,027**

Percentage of the population living below the national poverty line: **21.9% (2011)**

Nationally Determined Contribution (NDC): **Unquantified transport related NDC**

National GHG emissions per capita: **1.728 (tCO_2eq)**

Context

Home to more than one out of every six inhabitants of the planet, India has the size and weight of a continent. Every city has its own transport system, and their level of development is heterogeneous. The steady economic growth in cities is counterbalanced by the insufficient planning of urban development and the subsequent mobility issues. Private modes of transport are growing rapidly at the expense of greener public and non-motorised transport, which are suffering from lack of investment in infrastructure. The consequences are road congestion, lack of parking space, deteriorating air quality in cities and increased number of traffic accidents.

A specific MobiliseYourCity programme for India aims at (1) supporting three pilot cities, Nagpur, Kochi and Ahmedabad in their efforts to reduce their greenhouse gases (GHG) emissions related to urban transport by implementing sustainable urban mobility plans at local level and at (2) helping India at national level to improve their sustainable transport policy. The programme is implemented with the support of the Ministry of Housing and Urban Affairs and the Government of India at the national level, and the support of the pilot cities through their respective municipal corporations.

At the national level, the foremost tasks include linking urban transport policies to GHG emission reduction and developing a MRV structure to measure and report impact, in order to enable access to climate finance. The envisaged strategy and its operational documentation tools will contribute in achieving the Nationally Determined Contributions (NDCs) outlined by the Government of India under the Paris Agreement, which ambitions "to reduce the emission intensity of its GDP by 33%-35% in 2030 compared to 2005 level". The strategy, known as "Climate Change Mitigation Strategy for Urban Transport (CCMSUT) in India and definition and preparation of an MRV system" is prepared with support of French Development Agency (AFD) and Urban Mass Transit Company Ltd. (PIU of MobiliseYourCity India Programme).

Support from the Partnership

Technical assistance: Elaboration of a climate change mitigation strategy for urban transport

Funded by: EU Asia Investment Facility (AIF)

Funding amount: EUR 490,000

Implemented by: AFD through the MobiliseYourCity India Project

Local counterpart: Ministry of Housing and Urban Affairs (MoHUA)

Main purpose of the technical assistance:

Support India at the national level to improve their sustainable transport policy (policy-based strategy), notably by elaborating a Climate Change Mitigation Strategy (CCMS) that could be registered under the United Nations Framework Convention on Climate Change (UNFCCC).

The improved sustainable transport policy shall include an updated vision for urban transport and the identification strategic measures for its implementation, such as institutional development, financing, capacity building among others.

Supported activities:

- At national level, MobiliseYourCity is assisting the Government of India (GoI), through the Ministry of Housing and Urban Affairs, in improving their sustainable urban transport policy.
- Linking urban transport policies to GHG emissions reduction as part of the climate change mitigation agenda.
- At local level, MobiliseYourCity is providing support to three pilot cities - Nagpur, Kochi and Ahmedabad - in their efforts to reduce GHG emissions in the urban transport sector by elaborating and implementing SUMPs.

Status of implementation

Project start: 2018 Q3

Expected project completion: 2023

Completed outputs:

- First Project Steering committee meeting
- Climate Change Mitigation Strategy
- MRV system Inception
- 9 capacity building sessions conducted at the national level
- Improvement of toolkit to develop Comprehensive Mobility Plans (CMP)

Next expected outputs:

- MRV system implementation

NUMP key measures, leveraged financing and projected impact

Final NUMP deliverables and specific content will be published after official completion of the project.

Highlights in the past year

Improvement of India's toolkit to develop Comprehensive Mobility Plans (CMP)

Comprehensive Mobility Plans are India's strategic planning framework for local governments. They share similar characteristics to Sustainable Urban Mobility Plans, as their main purposes are to develop a long-term vision and goals for a city's urban mobility system, design a plan with urban mobility and land use measures and determination of the necessary steps for its implementation.

India's national government has a toolkit in place to guide cities in the development of CMPs. The toolkit, however, was outdated. With support from MobiliseYourCity, it is being updated and improved along the following lines:

- A self-assessment tool shall provide additional support to cities to identify the current status and preparatory steps needed before developing or improving a CMP.
- Climate change shall gain a more prominent role by acting, for instance, as guiding principle in the prioritisation of measures and recommendations.
- Comprehensive Mobility Plans shall be incorporated as statutory documents in Master Plans.

Focus on public transport system resilience, and non-motorised alternatives, as pandemic severely impacts profitability

Transportation is a fast-growing sector linked with infrastructure development, adoption of new technologies and innovative funding mechanisms. However, the Covid-19 pandemic has strongly reduced revenue and brought new operational and management challenges. Major issues affect collective transport in particular and are related to the decrease in attendance, volatile demand, additional costs of security and disinfection measures, or availability of staff.

Over the past year, knowledge and guidelines have been shared via webinars on how to approach the financial and operational challenges faced by public transport systems, for crisis management, but also in perspective of the post-covid recovery. Electric buses might be part of the response strategy, as they have lower operation costs and higher reliable, on top of the low emissions of GHG and air pollutants.

The stakeholders involved in MobiliseYourCity India have contributed significantly to knowledge development and sharing, and have held webinars and published guidelines on smart-mobility, non-motorised transport modes, the link between air quality and urban planning, tactical urbanism, multimodal integration, and many other topics. These contents are available online on the MobiliseYourCity knowledge platform.

Due to the limited availability of new or aggregated data, the factsheet has only marginally been updated in 2023.

Medan, Indonesia

Partner city

Status of the project: **Completed Sustainable Urban Mobility Plan**

Basic Information

Urban area: **3,151 km²**

Population: **4,795,186** | Growth rate: **+1.1%**

Regional capital city

GDP per capita: **USD 12,400**

Modal Share:

- Public transport: 6% of which
  - Minibus: 94%
  - Bus: 5%
  - Train: 1%
- On-demand transport services: 7% of which
  - Tuk-tuk: 40%
  - Ojek: 50%
  - Taxi: 10%
- Private transport: 72% of which
  - Car: 23%
  - Motorcycle: 77%
- Non-motorised transport: 15% of which
  - Walking: 94%
  - Cycling: 6%

National GHG emissions per capita: **3.45 (tCO_2eq)**

Context

Located in the northern part of Sumatra Island, Medan is the capital and largest city of the North Sumatra Province and the fourth largest city in Indonesia. Its population is 2.3 million inhabitants, while its metropolitan area has 4.8 million inhabitants, and it is expected to continue to grow. Medan Metropolitan Area is composed of four Kota (cities) and two Kabupaten (regencies): Kota Medan, Kota Binjai, Kabupaten Deli Serdang and (part of) Kabupaten Karo.

Belawan, the third biggest container port in Indonesia, is located in Medan, as well as Kualanamu International Airport (the fifth busiest airport of the country). The city's economic growth rate of 6.4% is higher than the national average, which makes the Medan metropolitan area an important industrial and economic hub in Indonesia.

The Medan Metropolitan Area is facing a rapid increase of private motorised vehicles use, predominantly motorcycles. In the meantime, road lengths are increasing by only 0.8% a year. The increased number of vehicles causes congestion issues.

Public transport operates on fixed routes in Medan and consists of public passenger cars and small, medium and large buses. The area also benefits from a rail network as an alternative transport mode. It is to be noted that there is no Public Transport Authority in the City of Medan and the Metropolitan Area.

The completion of the Sustainable Urban Mobility Plan (SUMP) for Medibangro in 2022 marks the conclusion of a two-year participatory process of studies and developing a vision, future scenarios, and an action plan. While focusing mainly on developing public transport, the SUMP supported by AFD also provides significant methodological contributions by testing digital solutions for mobility diagnosis to overcome obstacles such as the COVID-19 pandemic.

A rapidly growing and multi-centric metropolitan area dominated by private motorised mobility

With more than 4.8 million inhabitants, Mebidangro is the largest metropolitan area outside Java, and its urban population keeps growing. The increased dependency on private motorised vehicles leads to congestion along main road axes, time loss, and increased environmental and social externalities, including GHG emissions, traffic fatalities and air pollution.

The mobility diagnosis evidenced a deficient use of public transport even though a massive bus fleet is available. Only 6% of the trips are collective and almost exclusively made by angkot, the local informal minibuses. Private vehicles, particularly motorcycles, prevail in the city, with 72% of the trips. In total, individual motorised mobility reaches nearly 80%, and only 15% of trips are made by walking or cycling.

The lack of effective urban planning, leading to unmanaged urban sprawl, governance issues on procurement, and articulation between local and provincial levels are other vital issues.

While the COVID-19 pandemic limited data acquisition, the mobility planning process benefited from innovative tools, a mobile application for safe surveys, an online communication platform and live translation for stakeholder engagement activities and workshops.

A vision made possible through an ambitious action plan

As an essential part of the SUMP elaboration, a participative process developed a common vision to provide a sustainable, integrated, and equitable mobility system. The SUMP action plan seeks the achievement of this vision through 6 measure packages:

1. The most significant measure package aims at developing **a better public transport system**. It includes 6 BRT corridors, new rapid rail lines, improvements on the existing bus and rail network, optimisation of the minibuses service (called angkot), fleet renewal, and multimodal hubs. This 3.2 billion USD investment package will help shift 15% of trips from individual motorised modes to public transport. Over 550,000 additional people will have access to the public transport network.
2. **Urban planning**, transit-oriented development, and public space optimisation will reduce urban sprawl and provide better conditions for walking and cycling.
3. **Road infrastructure investments** will focus on enabling public transport and addressing traffic black spots.
4. **Digitalisation** will improve fare intermodality, passenger information and traffic monitoring.
5. Reforms will ensure sustained, comprehensive **governance of mobility**, including the set-up of a metropolitan transit authority, a reform of the informal minibus system, and the separation of tracks management and train operation between distinct entities.
6. **Environment-specific policies** will incentivise the reduction of fuel consumption and foster the use of cleaner and renewable energy. The outcome will be measured through an air quality monitoring and GHG-emissions MRV system.

Support from the Partnership

Technical assistance: Sustainable Urban Mobility Plan (SUMP)

Funded by: AFD

Funding amount: EUR 510,155

Implemented by: AFD through MobiliseYourCity Asia

Local counterpart: North Sumatra Province (and the representatives of the Medan Metropolitan Area authorities from Kota Medan, Kota Binjai, Kabupaten Deli Serdang and Kabupaten Karo)

Supported activities:

- Support of a SUMP process for the Medan Metropolitan Area
- Capacity development activities (after inception phase approval)
- Develop a citizen participation process and a communication plan
- Creation of an observatory on urban mobility data and GHG emissions

Finance leverage: USD 132 million

Status of the SUMP process

Project start: 2020 Q3

Project completion: 2022 Q2

Expected SUMP approval (by provincial and national authorities): 2023 Q1

Completed outputs:

- Inception Phase
- Diagnosis
- Construction of scenarios and formulation of priority measures
- Action plan that includes indicators and budget and financing measures
- Final SUMP document

Next expected outputs:

- SUMP adoption by provincial and national authorities
- Establishment of an Observatory on urban mobility data and GHG emissions

SUMP key measures and cost estimates

The following table highlights the most significant measures identified in the SUMP.

Measure packages	Cost Estimate (CAPEX) up to 2040	Cost Estimate (OPEX) up to 2040
Urban planning and non-motorised transport • Periodical closure of roads • Mixed-use zones • Comfortable and safe sidewalks • Development of safe bicycle lanes • Law to restrict urban sprawl • Transit Oriented Development framework	USD 64,100,000	
Public transport • BRT-wider network • Urban rail wider network • Increase rail service levels • Bus lines for schools • Minibus route optimisation and rejuvenation • Waterbus lines • Public transport promotion campaign	USD 3,274,000,000	
Road network and private vehicles • Road link Medan – Berastagi • Medan circular roads • Quality road network across Mebidangro • Standardised road signage • Traffic calming measures and blackspots • Limitation on freight vehicles operating hours • Dedicated Park and Ride at transit hubs • Multimodal hubs	USD 222,300,000	OPEX were assessed for all quantifiable and operational actions. These include public transport and digital systems, and exclude governance measures that require further specification through additional studies.
Governance • Creation of Metropolitan Transport Authority • Corporate tax on mobility • Capacity building through technical assistance • Separation of train and track operators • Reorganisation and reform of the minibus industry	USD 8,100,000	
Environment • Incentives to reduce fuel consumption • Tax on motorised vehicles using urban roads • Cleaner energy sources for all road vehicles • Renewable energy for rail • Air quality stations • Awareness raising campaign	USD 2,900,000	
Digitalisation • Mobility as a Service • Fare integration • Passenger information systems • Traffic monitoring systems	USD 600,000	
Total	USD 3,572,000,000	USD 1,400,000,000

Finance leverage

Leveraged financing (resulting or enabled by the SUMP preparation process)

Description	Source of financing	Secured?	Amount
Loan to build the 1st BRT line	World Bank, AFD	Secured	USD 132,000,000

Projected impacts

Indicator	Impact 2035 (SUMP vs BAU)	Baseline - 2020	Projected 2035 BAU	Projected 2035 SUMP scenario
Total annual GHG emissions (Mt CO_2eq)	-0618 t CO_2eq or 15% reduction	2225 t CO_2eq	3196 t CO_2eq	2578 t CO_2eq
Annual transport related GHG emissions per capita (kg CO_2eq)	-124 kg CO_2eq / capita	549 kg CO_2eq / capita	641 kg CO_2eq / capita	517 kg CO_2eq / capita
Access Increase of the proportion of the population living 750 meters or less of a mass transit stop	+7,3%	3,8%	3,8%	11,1%
Air pollution Decrease in mean urban air pollution of particulate matter (in µg PM2.5) at road-based monitoring stations	N/A	N/A	N/A	N/A
Modal share Increase of the modal shares of trips by public transport, walking and cycling	Public Transport3: 13.7% NMT4: 0% of total trips **TOTAL: 13.7%**	Public Transport: 9.6% NMT: 15% of total trips **TOTAL: 24.6%**	Public Transport: 9.6% NMT: 15% of total trips **TOTAL: 24.6%**	Public Transport: 23.3% NMT: 15% of total trips **TOTAL: 38.3%**
Road safety Decrease of traffic fatalities in the urban area, per 100,000 inhabitants	-9.0 fatalities/100 000 hab	10.4 fatalities/100 000 hab	13.9 fatalities/100 000 hab	4.9 fatalities/100 000 hab (Target)
Affordability of public transport Percentage of disposable household income spent on public transport for the second quintile household income group	-15,5%	13,0%	20,5%	5,0% (Target)

Perspectives for implementation

After official approval by the provincial authorities through a provincial and national decree expected in Q1 2023, the SUMP implementation will start with the creation of a task force that will be in charge of setting up a Metropolitan Transport Authority and establishing of an observatory on urban mobility data and GHG emissions.

In addition, due to the SUMP development, with the financial support of the Agence Française de Développement and the World Bank, Medan city will benefit from the Indonesia Mass Transit Project, under which it will develop its first BRT line with a loan of USD 132 million. Planned for 2023, it will provide 24km of a BRT corridor, with 12 direct service routes and 45 stations.

The Philippines

Partner country

Status of the project: **Completed technical assistance**

Basic Information

Population: **109,035,343 (May 2020)** | Growth rate: **1.63%**[1]

Percentage of urban population: **51.2%**[2]

GDP per capita: **USD 3,299**[3]

Percentage of the population living below the national poverty lines: **23.7%**[4]

Annual average infrastructure expenditures as percentage of GDP: **5%**[5]

Nationally Determined Contribution (NDC): **75% (2.71% unconditional, 72.29%) of a projected 3,340.3 $MtCO_2e$ (2020-2030)**[6]

National GHG emissions per capita: **1.39 (tCO_2eq)**

Proportion of transport related GHG emissions: **26.1% of energy-related emissions**

Exposure to climate change: **HIGH**

Context

The Philippines is rapidly urbanising, with 51.2% of its over one hundred million population now living in just 145 cities—33 of which account for more than 70% of the national income. The country has a relatively young population (60% under 30 years old) and, until 2019, an average economic growth rate of over 5% per year.

Active transport and public transport have historically been underfunded on the national and local levels, despite these modes comprising ~80% of trips in Metro Manila and the surrounding provinces. The COVID-19 recovery budget includes increased spending on these modes, which can translate into long-term improvements. In 2018, it was estimated that congestion was costing the economy over PHP 3.5 billion daily in lost productivity, time, and unnecessary vehicle costs—not counting other effects such as GHG emissions and traffic collisions.

1 https://psa.gov.ph/content/2020-census-population-and-housing-2020-cph-population-counts-declared-official-president#:~:text=The%20Philippine%20Statistics%20Authority%20(PSA,Philippines%2C%20pursuant%20to%20Proclamation%20No.

2 https://psa.gov.ph/content/urban-population-philippines-results-2015-census-population

3 https://data.worldbank.org/indicator/NY.GDP.PCAP.CD?locations=PH

4 https://neda.gov.ph/statement-on-the-2021-first-semester-official-poverty-statistics/#:~:text=As%20reported%20by%20the%20Philippine,more%20Filipinos%20living%20in%20poverty.

5 https://www.bworldonline.com/infrastructure-gets-budget-boost/

6 https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Philippines%20First/Philippines%20-%20NDC.pdf

The Philippines faces a range of challenges constraining the ability of the country to transition towards sustainable urban mobility. These challenges include:

- Outdated policies and regulations
- Insufficient collaboration among agencies and lacking capacities of public institutions
- Insufficient capacities within government agencies to plan, implement, and monitor initiatives
- Uncertain funding sources for sustainable urban mobility
- Limited data to monitor and properly plan sustainable urban mobility initiatives
- Limited planning and design guidelines for sustainable urban mobility initiatives

The Philippine Urban Mobility Programme (PUMP) provides mechanisms by which the national government is able to support local governments planning and implementing sustainable urban mobility systems, with focus on public transport, active transport, urban freight, travel demand management, and transit-oriented development. The Programme considered inputs from national- and local-level stakeholders, was developed closely with the Department of Transportation. It has likewise been approved by the National Economic and Development Authority—the country's oversight planning agency—who recognised that it was in line with the National Transport Policy released in 2017.

The GIZ-run TRANSfer project provides ongoing technical assistance for the programme's implementation through several activities such as the data collection toolkit development, which aims to present government partners with a manual that identifies sustainable urban mobility indicators and how to gather the necessary datapoints to monitor them.

In 2022, the approved national budget for road-based transport is at PHP 13.3 billion, higher that the PHP 12.9 billion from 2021 (counting both the COVID-19-recovery fund and usual budget).[7] Of this PHP 13.3 billion, PHP 7 billion is for public transport service contracting, PHP 1.8 billion is for the Public Utility Vehicle (PUV) Modernisation Program including social support, and PHP 2 billion is for active transport.

Support from the Partnership

Technical assistance: National Urban Mobility Program (NUMP)

Type of NUMP: Mixed NUMP

Funded by: BMU

Funding amount: EUR 1,500,000

Implemented by: GIZ through the TRANSfer III Project

Local counterpart: Department of Transportation

Finance leverage: EUR 3,403,000,000

Main purpose of the NUMP:

- Offer cities a general enabling framework to formulate, adopt, and implement Sustainable Urban Mobility Plans (SUMPs)
- Identification of measures to support improvements in active transport, travel demand management, transit-oriented development and urban freight

Vision:

- Social objective: 'A people-first approach that ensures inclusive, comfortable, safe and dignified access to public services';

7 https://docs.google.com/spreadsheets/d/1rhd2weqzt4d5qdcVVlUjnMBsDECoV_CaDrl7k2zFa-E/edit#gid=2058725729

- Environmental objective: 'An urban transport system which reduces its negative impacts imposed on the environment and on public health towards healthy cities';
- Economic objective: 'Efficient, affordable and economically sustainable transport, which supports economic vitality for the individual and for the city'.

Supported activities:

- Status Quo Report
- Visioning Workshops with national government agencies
- Capacity building workshops (including study tours and online trainings) with government, academia, and private sector
- Technical studies for government (e.g., improvements in public transport operations, building on the Jeepney+ NAMA, service contracting for public transport, production of base maps)
- Development of a Data Collection Toolkit/Manual

Status of implementation

Project start: 2017 Q1

Project completion: 2019 Q4

Completed outputs:

- EDSA-Bus Case Study: Operations and Business Model (2018 Q4)
- Public Utility Vehicle Modernisation Program Early Evaluation (2019 Q4)
- The Philippines Urban Mobility Programme Concept Document (2019 Q4)
- Sustainable Urban Mobility Data Collection Toolkit (beta version: 2021 Q4)[8]

NUMP key measures and cost estimates

The following table highlights the most significant measures identified in the NUMP.

Measure	Cost Estimate
Develop National walking and cycling Policy	EUR 200,000
Collect data to enable planning	EUR 300,000
Increase dedicated staff in Department of Transportation & Local Government Units	EUR 55,000,000
Increase focus on NMT in planning process	EUR 200,000
Address lack of political support	EUR 100,000
Continued ring-fenced funding for walking and cycling projects in HUCs	EUR 500,000,000
Develop NMT guidance	EUR 200,000
Tackle behaviors that discourage walking and cycling	EUR 5,000,000
Train existing and future staff on planning for walking and cycling	EUR 1,000,000

8 https://bit.ly/PHTransportDataCollection (https://mobilitydatatoolkit.notion.site/mobilitydatatoolkit/Sustainable-Urban-Mobility-Data-Collection-Toolkit-for-the-Philippines-f10af05a5c9748eeb642ab157619e7de)

Measure	Cost Estimate
Jeepney modernisation program	EUR 5,800,000,000
Develop freight data collection mechanism	EUR 200,000
Develop and implement vehicle standards	EUR 300,000
Establish national freight operator dialogue forum	EUR 300,000
Support consolidation and professionalisation of the freight sector	EUR 300,000
Establish a motor vehicle inspection system	EUR 340,000,000
Promote and assess modern fleet pioneers	EUR 200,000
Explore scrappage and buyback program	EUR 200,000

The following table summarises the total capital expenses (CAPEX) estimates for different types of measures in the NUMP.

Urban transport investment measures	CAPEX Estimate (€M)
Public transport and NMT (Active Transport)	EUR 62,000,000.00
Street shaping urban roads and traffic management	Unknown
Other measures (Urban Freight)	EUR 1,500,000.00
Total	Unknown

Finance leverage

Financing resulting from the NUMP	Source	Amount
Public Utility Vehicle Modernisation Program	Private sector investments	EUR 3 160 000
Loans	Local development banks	EUR 36 000 000
Pilot phase of Jeepney+ NAMA (equity subsidy and social support programme)		EUR 56 000 000
Support for local production of public transport manufacturer	National government	EUR 150 000 000
	Development Bank of the Philippines	EUR 8 140 000

Associated financing supporting measures in the NUMP	Source	Amount
Budget for Metro Manila Greenways	National government	EUR 136,000,000
Budget for National Greenways	National government; ADB technical assistance loan	EUR 175,000,000
Budget for Green Green Green Program	National government	EUR 45,300,000
Budget for bikeways	National government (through Bayanihan 2)	EUR 22,900,000
Budget for public transport service contract	National government (through Bayanihan 2)	EUR 97,200,000

Associated financing supporting measures in the NUMP	Source	Amount
Budget for common station connecting LRT 1, MRT 3, MRT 7 and Subway	National government	EUR 48,800,000
Budget for active transport	National government (2022 General Appropriations Act)	PHP 2 billion / EUR 34,250,000
Budget for public transport service contract	National government (2022 General Appropriations Act)	PHP 7 billion / EUR 120,000,000
Budget for PUV Modernisation	National government (2022 General Appropriations Act)	PHP 1.8 billion / EUR 30,800,000

Projected impacts

Indicator	Impact 2030 (NUMP vs BAU)	Baseline - 2020	Projected 2030 BAU	Projected 2030 NUMP scenario
Total annual GHG emissions (Mt CO_2eq)	-2.5 Mt CO_2eq	20 Mt CO_2eq	29.5 Mt CO_2eq	27 Mt CO_2eq

Highlights

The Philippines' COVID-19 recovery plan focus on urban mobility counterbalances the impact of the pandemics on PUMP implementation

As part of its pandemic recovery plan, the government released a four-pillar socio-economic strategy covering the following areas and amounting to at least PHP 2.57 trillion: financial aid, improvements to healthcare, monetary actions, and job creation. This includes the *Bayanihan to Recover as One Act*, a law which allocates emergency funding of PHP 5.58 billion for public transport service contracts and PHP 1.32 billion for bike lanes and sidewalks.

COVID-19 has highlighted the need for better active transport infrastructure and policies, more green spaces, and stronger government financial support for public transport. However, the continued spread of the virus and widespread lockdowns have also affected implementation of the PUV Modernisation Program and any urban freight initiatives.

NUMP: a driving force behind the Philippines' sustainable urban mobility efforts, despite challenges in communication and coordination

The National Urban Mobility Policy (NUMP) is being implemented in coordination with the Department of Transportation and the National Economic and Development Authority, providing guidance on sustainable urban mobility indicators and active and public transport measures. However, it appears that the implementation of NUMP is running parallel to the government's other measures, and it is unclear if it is being used as a consistent strategy or the driving force.

For the success of the policy, effective communication is key, as better-known Transport Oriented Development plan supported by JICA have been cited more widely by the public than the NUMP supported by MobiliseYourCity. Nonetheless, the NUMP has still played a significant role in raising awareness and building the capacities of authorities and civil society.

Despite the challenges, the government's efforts to improve sustainable urban mobility are crucial, particularly in light of the pandemic's impacts on transportation and the environment. Greater consistency in the implementation of NUMP measures and communication efforts could help to further drive progress in urban mobility policies in the Philippines.

Leveraging the required funds for implementation is still a major challenge

Some measures identified in the NUMP are experiencing challenges in securing continuous funding from national and local government agencies, due both to more pressing issues (e.g., COVID) and a prioritisation of heavy infrastructure projects (e.g., rail, roads) over other programs and policies (e.g., reallocation of road lanes for biking and walking). This is reflected in the budget for road-transportation for 2022, of which only 10% has been allocated to active transportation. However, an increase in the transport budget relative to previous years has been made possible by an active civil society movement.

Political commitment needs to be secured across electoral cycles

Political commitment faces difficulties related to national and local elections, potentially leading to the loss of institutional knowledge in partner agencies (e.g., several key staff and offices in the Department of Transport will depart with the existing administration). This potential barrier is currently being addressed through engagement and communication with several transport agencies (e.g., NEDA).

Sustainable Urban Mobility Data Collection Toolkit supports the monitoring of NUMP Implementation

In 2022, the Sustainable Urban Mobility Data Collection Toolkit developed in 2021 continued to play a crucial role in informing the planning of urban transport systems and monitoring the implementation of the National Urban Mobility Policy (NUMP). The toolkit provides recommendations on methodologies, tools, and governance aspects for collecting urban transport data, enabling stakeholders at the national and local levels to make informed decisions. The collection of such data is particularly important for policymakers as they work towards sustainable urban mobility amidst the pandemic's impacts on transportation and the environment.

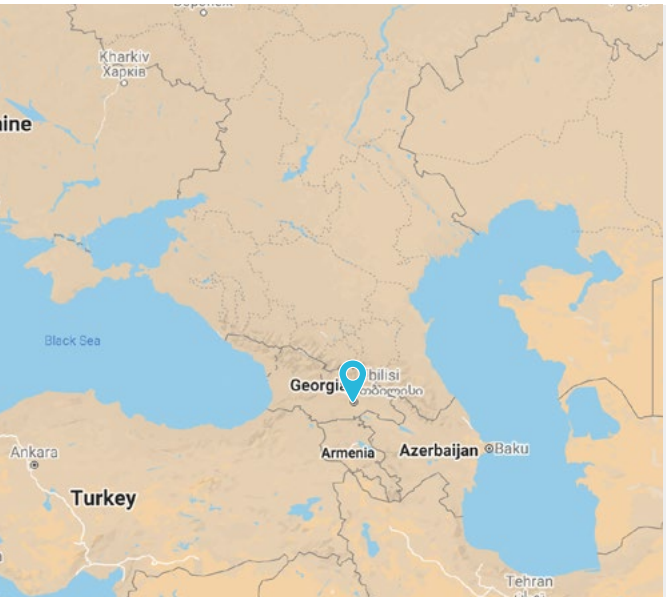
MobiliseYourCity partners continue to support sustainable urban mobility in the Philippines

MobiliseYourCity partners continue to provide support to the Philippines in 2022 through the Urban ACT project. This project builds on the work previously done by Transfer III as part of MobiliseYourCity, focusing on finding solutions to support cities in financing sustainable urban transport measures. Additionally, MobiliseYourCity Asia is hosted in the Philippines, providing a regional center of knowledge and expertise on sustainable urban mobility.

Tbilisi, Georgia

Partner city

Status of the project: **Completed technical assistance**



Basic Information

Urban area: **726 km²**

Population: **1,108,717** | Growth rate: **1.33%**

GDP per capita: **USD 5,422**

Modal Share:

- **Public transport: 49%**
- **Walking: 28%**
- **Private cars: 20%**
- **Taxis: 2%**

National GHG emissions per capita: **4.61 (tCO_2eq)**

Context

Tbilisi is the largest city and capital of Republic of Georgia, located in the South Caucasus, in East Georgia along the bank of River Mtkvari. Due to its strategic location between Europe and Asia and its proximity to the Silk Road, the city serves as an important trade route between neighbouring countries thereby significantly experiencing high traffic levels especially through the Tbilisi Metropolitan Area. The population census indicates that around 1,108,717 inhabitants currently reside in the city which accounts for approximately 30% of Georgia's total population (Tbilisi Sustainable Urban Transport Strategy, 2015)

Tbilisi is on the road towards sustainable urban mobility and is working on major areas to promote it. Previously, the city was heavily dependent on private vehicle ownership resulting in major traffic congestions and environmental challenges such as air and noise pollution. However, from 2010s onwards, the city has invested extensively in green transport network in line with Tbilisi Sustainable Urban Transport Strategy. Today, Tbilisi counts with a 27.6 km long soviet-era metro network – servicing an average of 450,000 passenger trips a day and accounting for approximately 13% of total trips1– operating as the backbone of the public transport system. The metro is complemented by an expanding BRT system and extensive municipal and minibus services with a ridership of more than 350,000 daily passengers, a recently introduced bicycle road network.

The city, however, still faces major mobility-related challenges, of which three of the most pressing relate to a lack of infrastructural and fare integration of the diverse public transport services, a persistent predominance of private motorised transport and a very low modal share of active modes, especially cycling. Tbilisi joined the MobiliseYourCity Partnership in 2019 and is now part of a new project aiming at supporting city administrations in the South Caucasus to design, implement and further develop their urban transport systems in the frame of a participatory, sustainable, and integrated urban development.

Georgia's capital is cooperating with various implementing partners of MobiliseYourCity to develop, among others, a Sustainable Urban Mobility Plan (SUMP), improve the existing BRT system in the city center, promote active transport, strengthen the capacities of the local government and develop a cable-car service.

Support from the Partnership

Technical assistance: Sustainable Urban Mobility Plan (SUMP)

Funded by: AFD for MobiliseYourCity Asia

Funding amount: EUR 406,000

Implemented by: AFD in collaboration with ADB and GIZ

Local counterpart: Municipality of Tbilisi

Finance leverage: EUR 400,000

Supported activities:

By Asian Development Bank (ADB)

- Infrastructure development and financing of the SUMP

By Agence Française de Développement (AFD)

- Technical assistance to the Transport Department of the Tbilisi City Hall to monitor SUMP elaboration
- Follow-up on initiatives related to active mobility with the Tbilisi City Hall
- Complementary study on (i) improvement of existing BRT-light in the city center; (ii) improvement of the standard bus network; (iii) potential development of a cable car system; (iv) development of bike share scheme and cycling master plan

Status of the SUMP process

Project start: Q1 2019

Expected project completion: Q1 2023

Completed outputs:

- Sustainable Urban Mobility Plan

Next expected outputs:

- Adoption the Sustainable Urban Mobility Plan by Tbilisi City Hall

SUMP key measures, leveraged financing and projected impact

Final SUMP deliverables will be published after official approval by Tbilissi local authority.

Ahmedabad, India

Partner city

Status of the project: Ongoing technical assistance

Basic Information

Urban area: 1,866 km^2

Population: 7,800,000 | Growth rate: 2.54%

Region capital city

GDP per capita: USD 2,771

Modal Share:

(Source: Metro DPR)

- Formal public transport: 11.4%
- Informal public transport: 6.1%
- Walking: 37.2%
- Cycling: 9.1%
- Private cars: 3.9%
- Private motorbikes or 2-wheelers: 25.9%
- Other: 6.3%

National GHG emissions per capita: 2.41 (tCO_2eq)

Exposure to climate change: MEDIUM

Context

Ahmedabad is one of the oldest and most densely populated cities in Gujarat and being a hub to industries, including manufacturing, services, textiles, etc. is further experiencing rapid growth in its region. The Greater Ahmedabad (GA) region is expected to grow from 8.1 million in 2011 to about 12.5 million in 2031. Major industrial developments in the city are being planned in areas like Viramgam, Changodar and Bechraji Special Investment Regions (SIRs) in west part of the Greater Ahmedabad area. To strengthen the growth in the city, another major employment node, GIFT city, is being planned between Ahmedabad and Gandhinagar as a major financial centre. While some industrial investments are also being envisaged in Kadi, Kalol, and Mehmedabad; Sanand, Dehgam, Kheda and Bavla are being developed as residential towns.[1]

All these planned developments will add another 1.75 million trips in the study area by 2031, a 15%-fold increase from the current levels. Today, about 21% of the population is covered by the public transport system in Ahmedabad, whereby the mode share for Public Transport is about 11 per cent with about 0.9 million passengers boarding on AMTS (Ahmedabad Municipal Transport Service) buses and 0.15 million on BRTS. Ahmedabad has a compact city structure having poly centric nodes & mixed land use throughout the city, along major roads. Trip patterns are dispersed, so the average trip lengths (5.5km) are lower than comparable size cities in India.

1 Integrated Mobility Plan for Greater Ahmedabad Region, Vol. 1

Until 2007, Urban Transport was a state function and had systematically been taken care of in the city of Ahmedabad, especially in the old heritage city. Ahmedabad Municipal Transport Services (AMTS) comprises 201 routes covering 549 kms of road. AMTS has a coverage area spread over 88% of the developed AMC area. The AMTS data 2012, it caters to 11% of trips within the city i.e. 0.9 million passengers per day. The first closed system BRT in India was deployed in Ahmedabad in 2009 and is operated by Ahmedabad Janmarg Limited (AJL), a special purpose vehicle (SPV) formulated by Ahmedabad Municipal Corporation, Ahmedabad Urban Development Authority and Government of Gujarat. The BRT system operates on 13 routes with a network length of 82 km and a daily ridership of 130,000 passengers daily with peak headways of 2.5 to 3 minutes.

Ahmedabad Municipal Corporation, the local counterpart, has the mandate and responsibility to finance bus transport infrastructure, whereby it can possibly borrow from international finance sources too. The performance of bus services is monitored and evaluated periodically by Municipal Corporation.

The local authority is willing to strengthen integrated land-use transport planning, aiming at addressing the lack of land for public spaces, public transport utility or depots and the absence of walking and cycling infrastructure. Other important challenges are the promotion of fare integration of public transport, the last mile connectivity, the reduction of the travel distance and time and the adoption of on-street design, management, and integration in Local Area Plans.

AFD, through the MobiliseYourCity India Program, supports Ahmedabad in developing a Sustainable Urban Mobility Plan and establishing an Urban Mobility Observatory. Technical assistance will contribute to institutional strengthening by building the capacity of local urban bodies on mobility issues and sustainable urban development.

Support from the Partnership

Technical assistance: Sustainable Urban Mobility Plan (SUMP) and establishment of Urban Mobility Observatory in Nagpur, Kochi, and Ahmedabad

Funded by: European Union

Funding amount: EUR 901,000

Implemented by: AFD through the MobiliseYourCity India Project and supported by UMTC as Project Implementation Unit

Local counterpart: Ahmedabad Municipal Corporation

Supported activities:

1. Preparation of SUMP & creation of mobility observatory
2. Preparation of Handbook for Physical Planning of Transit Interchanges
3. Capacity Building activities for stakeholders in the city

Status of implementation

Project start: 2018 Q4

Expected project completion: 2023 Q1

Completed outputs:

- MobiliseDays (Feb. 2019)
- Inception phase and inception report delivered (Dec. 2021)
- Publication of the *General guidelines and Concept Plan for Transit Interchanges in Ahmedabad*
- Capacity building: in-person workshops and online webinars

- Meetings of the local steering committee, SUMP task force, and other related instances
- Mobility diagnosis report
- Draft Mobility Observatory (online platform)

Next expected outputs:

- SUMP Vision and Goal Setting, Construction of Scenarios, Measures prioritisation
- SUMP Action Plan
- Participatory process
- Finalised Mobility Observatory and MRV systems for Nagpur, Kochi, and Ahmedabad

Core impact indicators baselines and projected impacts

Indicator	Baseline – 2020	Projected 2030 BAU	Projected 2030 SUMP scenario	Impact 2030 (SUMP vs BAU)
Total annual GHG emissions (Mt CO_2eq)	1569.4	Data not yet available	Data not yet available	Data not yet available
Annual transport related GHG emissions per capita (kg CO_2eq)	180 kg CO_2eq / capita	Data not yet available	Data not yet available	Data not yet available
Modal share Increase of the modal shares of trips by public transport and active modes (% of total trips)	Public Transport: 10.3%	Public Transport: 22.6%	Public Transport: 27.9%	Public Transport3: +5,3%
Access to public transport Proportion of the population living 500 meters or less of a public transport stop	21% (IMP 2031)	Data not yet available	Data not yet available	Data not yet available
Air pollution Mean urban air pollution of particulate matter (in µg PM2.5) at road-based monitoring stations	33 µg/m³ of PM2.5[2] As on Date 13-02-2021	Data not yet available	Data not yet available	Data not yet available
Road safety Annual traffic fatalities in the urban area, per 100,000 inhabitants	5 fatalities / 100,000 hab (2019)	Data not yet available	Data not yet available	Data not yet available

2 https://aqicn.org/station/

Kochi, India

Partner city

Status of the project: Ongoing technical assistance

Basic Information

Urban area: 632 km^2

Population: 2,100,000 (2011) | Growth rate: 1%

GDP per capita: USD 2,800 (2017)

GHG emissions per capita: 1,7 tons (India, 2014)

Modal share:

- Motorcycle: 26%
- Cars: 10%
- Public bus: 42%
- Cycling: 3%
- Walking: 12%
- Other motorised: 7%

National GHG emissions per capita: 2.41 (tCO_2eq)

Coastal City

Context

Kochi, one of the most important cities in South India is also known as the commercial capital of Kerala. Its influence area spreads much wider than the municipal corporation area of 95 km² and its 650,000 inhabitants. The mobility demand in the city is exploding and as per the latest estimates, the metropolitan region accounts for almost two million passenger trips per day (CMP, 2017).

AFD has supported the city of Kochi in the construction of a light metro and the restructuration of its urban mobility. An innovation-driven project that greatly contributes to transforming Kochi into a Smart City.

Kochi has initiated various successful initiatives for the multimodal integration of the first phase of the metro in development. The city has introduced an integrated smart card, has an agreement with rickshaw associations, and integrated metro stations with walking and cycling infrastructure.

The city has two railway stations, namely Ernakulum North and Ernakulum South, with an estimated daily passenger volume of 65,000. The two stations are linked through a 3.8 km corridor with major activity centers, including Ambedakar Stadium, Lissie Hospital, KSRTC Bus terminal & depot. However, the connectivity is poor, and dominant modes of transport are walking and auto-rickshaw (intermediate public transport). And despite continuous efforts, the urban local authority has not been able to improve the connectivity between the two stations because of lack of a suitable design and clarity on the optimal movement patterns.

In the recent years, there has been a renewed interest on the need to improve mobility along the corridor. The city plans its development as a green corridor, improving connectivity as well as aesthetics, cleanliness, and security, thereby

raising land value all along. The intent is also to facilitate multi-modal integration by improving the accessibility of metro stations with the identified activity centers. The specific objective of the project is to promote mobility focusing on pedestrians and non-motorised modes to create a more walkable, safe, environment friendly and humane city.

Several challenges remain to be tackled: lack of appropriation of the Comprehensive Mobility Plan (CMP) by the involved stakeholders, the lack of consideration for climate impact in the CMP, disappointing metro ridership and revenues (probably caused by inappropriate fares and competition with city buses), and lack of data availability on urban mobility.

Support from the Partnership

Technical assistance: Improve existing city mobility plan and support prefeasibility study for priority pilot project

Funded by: EU Asia Investment Facility (AIF)

Funding amount: Approx. EUR 700,000

Implemented by: AFD through the MobiliseYourCity India Project, supported by WRI for project management and coordination

Local counterpart: City of Kochi

Supported activities:

1. Elaboration of a toolkit for the preparation of sustainable and appropriated Comprehensive Mobility Plans (CMPs), and definition of monitoring indicators;
2. Capacity-building for Municipal Corporations and Unified Metropolitan Transport Authorities to (i) implement the toolkit in their cities, (ii) elaborate strategies for low carbon transport with the city stakeholders, (iii) ensure monitoring of the implementation of those strategies through data collection, and (iv) transfer the data at the national level;
3. Preparation of CMP improvements with city stakeholders: bus route rationalisation study in Kochi;
4. Preparation of a prefeasibility for a priority pilot project: North South Green Mobility corridor in Kochi;
5. Creation of a dedicated unit within Urban Local Bodies to collect data and monitor the progress of CMP implementation as a “mobility observatory.”

Status of the SUMP process

Project start: 2018 Q4

Expected project completion: 2023 Q4

Completed outputs:

- Mobilise Days
- Launch of the Bus Route rationalisation study
- Mobility improvement plan of the north-south rail corridor
- 8 capacity building sessions

Next expected outputs:

- Establishment of urban mobility observatory
- Implementation of Green Mobility Corridor
- Bus Route rationalisation study

Key measures, leveraged financing and projected impact

Deliverables or specific information are not available at this stage of the process.

Highlights

How Kochi aims to transform the walking experience of more than 10,000 users along the Green Mobility Corridor

As the economic capital of Kerala state in India, the metropolitan agglomeration of Kochi is home to approximately 2.2 million urban dwellers out of which 640,000 inhabitants are in the core city. As mobility demand continues to rise, the city plans to restructure its urban mobility with support from AFD and the European Union. In addition to the construction of a light metro, Kochi is also tackling non-motorised modes, which account for 15% of all trips. The preparation of a Mobility Improvement Plan along the North-South Railway Station corridor also referred to as the Green Mobility corridor, is one of the major outcomes of this endeavour.

Moving along an active railway - an uncomfortable and dangerous route

The corridor that was considered for mobility improvement is the shortest connection (2.5 km length) between the Ernakulam North and Ernakulam South railway stations. No continuous road exists along the corridor and the area is dominated by difficult accessibility, uneven paths and lack of lighting at night. Despite these conditions, the four mobility surveys that were conducted in February 2020 as part of the diagnosis phase of the study indicated that almost 15,000 people travel along the corridor every day, including:

- 10,000 pedestrians that either walk along and on the tracks due to the difficult walking conditions (60%) or cross the tracks (40%)
- 3,000 autorickshaw users that use complex and congested routes parallel to the corridor, transporting 8,000 people
- 400 cyclists that use the parts of the corridor that are accessible to them

The diagnosis of the current situation along the corridor indicated the need to improve the connectivity between the railway stations as well as with the city centre and the surrounding areas as part of the inclusion of the area into the urban space of Kochi. The currently unsafe and unattractive conditions further accentuated the need for improved urban management.

Ensuring safe and comfortable movement along the railway - design and planning principles of the Green Mobility corridor

Based on the analysis of the current conditions and taking into account the results of surveys with current users of the corridor, the plan for the Green Mobility corridor consists of four main components:

- The development of a green corridor adapted to non-motorised transport (mainly focused on pedestrians and cyclists)
- The development of e-rickshaw services on a separate line to provide a fast and environmentally friendly alternative to the current autorickshaws
- Development of hubs and connections to the city centre at core intersections like the KSRTC Bus Terminal to foster intermodal connections and create public spaces
- Development of social and commercial activities to increase the attractiveness of the corridor

The design principles for the proposed project mainly focused on increasing the amenity and accessibility of the area for non-motorised transport modes through the levelling of the ground and the development of pathways of 3 - 4.5 m that allow for a safe passage of cyclists and passengers in the existing right of way. As part of the aim to increase the security of users, the implementation of fences and hedges to create separation to the railway tracks was included in the plan. An illumination concept will further ensure safe and attractive use during the night and can also support the beautification of the corridor. Efforts to integrate existing trees into the new design are planned to further enhance the attractiveness and comfort of walking and cycling on the route.

On the walkway towards implementation

In this preliminary stage of the project, the implementation costs were estimated at 250 million INR, approximately 3.31 mill USD, excluding land acquisition. The estimated user frequency of the corridor and the associated benefits in terms of emission reduction and increase in social and economic activities include:

- Increase of pedestrians and cyclists by 50% (including transfer from autorickshaws, motorcycles and car users)
- Emission reduction potential of 84t CO_2/year based on a transfer of 2,400 vehicle-km/day to green modes on the corridor
- Considerable improvements in safety (prevent people from walking on the railway tracks)
- Attractive public space for the 30,000 people who live, work or study around the corridor

The Mobility Improvement study suggests that the project could be implemented in the short term, and first steps have already been taken by the municipality in this regard. The project was reviewed and updated by the technical department of the Kochi Municipal Corporation and a preliminary assessment of the land ownership was made to elaborate the feasibility. Even though the Covid-19 pandemic and change of municipal government delayed the progress of the project, the project report has been presented and approved by the Municipal Council to begin the Detailed Project Report process for further implementation.

Due to the limited availability of new or aggregated data, the factsheet has only marginally been updated in 2023.

Nagpur, India

Partner city

Status of the project: Ongoing technical assistance

Basic Information

Urban area: 217 km^2

Population: 2,893,000 | Growth rate: 1.5%

Region capital city

GDP per capita: USD 3,000

Modal Share:

- Formal public transport: 9.8%1
- Informal public transport: 26% (autorickshaw, minibus, school bus, chartered bus etc.)
- Walking: 9.5%
- Cycling: 6%
- Private motorbikes or 2-wheelers: 42.6%
- Private cars: 5.7%

National GHG emissions per capita: 2.41 (tCO_2eq)

Exposure to climate change: HIGH

Context

Nagpur is known as the Orange city of India, the third largest city in the state of Maharashtra and second capital of the state. Nagpur lies precisely at the centre of the country with Zero Mile Stone indicating the geographical centre of India. It is a major commercial and political centre of the Vidarbha region of Maharashtra. With nearly 3 million people, Nagpur accounts for 6.5% of the total urban population of the state. The total population including the surrounding towns of Kamptee, Kalmeshwar, and Hingna was 3.6 million in 2021.

Nagpur has been the main centre of commerce in the state and is an important trading location. The city is also home to various food manufacturing units. The city is undertaking the Multi-Model International Passenger and Cargo Hub Airport at Nagpur' (MIHAN) project, which is the biggest economic development project currently underway in India in terms of investments.

Nagpur is one amongst the Indian cities having a Metro Rail System. Majority of commuters currently commute by buses as the metro project is still undergoing. Phase I of Nagpur metro was sanctioned in 2015 and its construction began in December 2020. Nagpur metro started commercial operations at 16 of its stations, and received approval for Phase 2. Nagpur metro has undertaken initiatives to integrate the metro system with other modes such as station and area design for physical integration and a digital app and card for fare integration.

Apart from the metro, the city bus service is a crucial mode of transport run by Nagpur Municipal Corporation (NMC). The bus service provides connectivity within the city and with suburban areas such as Butibori, Katol, Kalamna etc. NMC recently procured electric buses to run under the "Tejaswini" scheme, a bus service exclusively reserved for women. The Smart City Corporation of Nagpur (Nagpur Smart and Sustainable City Development Corporation Ltd) is also working to improve transport conditions in the city with various proposals such as PBS, Smart Parking, MLCPs etc. and is working with AFD on the preparation of a transition plan to electric buses.

A proposal was also sent to Maharashtra Government for establishing a Unified Metropolitan Transport Authority (UMTA) in Nagpur. The proposal in under consideration.

As other municipal corporations in India, Nagpur Municipal Corporation, has the mandate and responsibility to finance bus transport infrastructure, whereby it can possibly borrow from international finance sources too. The performance of bus services is monitored and evaluated periodically by municipal corporations.

Whereas the ongoing development of a new phase of the metro will provide a new leap in public transport to counterbalance the negative impact of the increase in private vehicle traffic and provide more sustainable mobility solutions for the future, the city still faces significant challenges, such as the financial sustainability of the public transport system and its very low walkability due to the lack of pedestrian infrastructure. Beyond investment and technology, a transformation of mindset and system is required to move beyond the current reliance on individual mobility, for which increased public awareness on the benefits of a more sustainable mobility system will be critical.

Considering that the last comprehensive mobility plan (CMP) was prepared in 2013 and since CMPs are revised in 10 years, a new version may be taken up in the upcoming years. Further mobility needs, patterns and challenges have evolved with the introduction of the metro in the city and warrant an updated planning framework. In addition, the old CMP did not focus on e-mobility aspects which have gained traction in last few years.

AFD is supporting the Nagpur Municipal Corporation in the improvement of the existing CMP, the development of an e-bus transition plan and the creation of a mobility observatory.

Support from the Partnership

Technical assistance: mobility plan update, mobility observatory and complementary study

Funded by: European Union though the EU Asia Investment facility

Funding amount: EUR 350,000

Implemented by: AFD through the MobiliseYourCity India Programme

Local counterpart: Nagpur Municipal Corporation via Nagpur Smart and Sustainable City Development Corporation Ltd.

Supported activities:

1. Update of the existing Comprehensive Mobility Plan (CMP)
2. Development of Transition Plan of Municipal buses to Electric Buses
3. Creation of a mobility observatory

Status of implementation

Project start: October 2018

Expected project completion: December 2022

Completed outputs:

- MoU signed - August 2018
- Local Steering Committee meetings were held during November 2019, December 2019, December 2020 and Technical task force committee settled in March 2019
- 8 Trainings and capacity building workshops - July 2019, December 2019 and February 2020
- Online webinars were conducted during the period of June 2020 – Jan 2021
- Elaboration of a Transition Plan for Municipal Bus Network In Nagpur – Final report "Pre-feasibility study for electric buses deployment"

Next expected outputs:

- CMP improvement
- Mobility Observatory
- Government approval of the e-buses deployment plan

Core impact indicators baselines

Indicator	Baseline – N/A
Total annual transport related GHG emissions (Mt CO_2eq)	507,300 Mt CO_2eq
Annual transport related GHG emissions per capita (kg CO_2eq)	197 kg CO_2eq / capita
Air pollution Mean urban air pollution of particulate matter (in µg PM2.5) at road-based monitoring stations	49.2 µg/m³ of PM2.5
Road safety Annual traffic fatalities in the urban area, per 100,000 inhabitants	10 fatalities / 100,000 hab
Affordability of public transport Percentage of disposable household income spent on public transport for the second quintile household income group	12%

Highlights in the past year

With the support from AFD, the Nagpur Municipality has developed a transition plan that aims at progressively replacing existing internal combustion buses with e-buses

The transition plan to electric buses builds on Nagpur's Comprehensive Mobility plan, which envisaged a progressive increase of the bus fleet size by almost 90% in 2018 and up to 4.5 times its current size by 2041, for a total of 2,418 buses.

The transition plan not only addresses the electrification requirements of a significant share of the bus fleet, but also includes recommendations on route rationalisation for a better integration with the recently introduced metro and adaptations to the contractual framework to guarantee operational and financial viability of the new system.

The pre-feasibility study focused on the electrification impacts and operational requirements of the bus fleet that shall be replaced by 2022, as foreseen in the existing contracts. In total, 237 standard diesel buses shall be replaced with 202 newer vehicles. For this purpose, three scenarios were assessed:

- **Reference scenario:** Replacement with new standard diesel buses
- **Scenario 1:** Replacement with new electric buses of 350 kWh battery capacity
- **Scenario 2:** Replacement with new electric buses of 400 KWh battery capacity

The pre-feasibility study showed that all modernisation scenarios required higher OPEX and CAPEX. The e-bus scenarios require significantly higher resources than the reference scenario. This difference is caused by a significantly higher CAPEX of e-buses relative to diesel buses compared to a lower OPEX for the former.

To close this funding and financing gap, both the study and the transition plan recommend three potential solutions:

1. **Increased cost efficiency through improved contractual frameworks:** Such adaptations could include extending the contract duration from 5 to 10 years, providing additional incentives to increase operational efficiency and renegotiating existing contracts or launching new competitive tenders for the new electric buses.
2. **Investment subsidies:** Different sources could be leveraged by the Nagpur Municipality to cover the increasing costs, such as advertisement revenue, land-value taxes, as well as international support in the form of soft loans and grants for capital expenditures from diverse sources, such as the Green Climate Fund or the Clean Technology Fund. The study however did not include any of these sources in its financial analysis, hence their potential remains unclear.
3. **Increased fare box revenue:** Currently, Nagpur's tariff levels are relatively low compared to agglomerations sharing similar characteristics, as the city has given priority to service affordability, by relying on public subsidies to close the ensuing gap. According to the study, the current conditions provide some flexibility to potential fare increases, assuming that these are progressive and their impact on ridership levels remains limited.

The necessary investments to electrify the bus fleet can be justified by non-quantified positive externalities, such as improved health and air quality and reduced GHG emissions. Even with high emission factors stemming from the electricity grid, battery electric buses have the potential to reduce CO_2 emissions by 30% compared to diesel buses and could save approximately 100 ktCO_2e over a period of 15 years.

Nagpur's transition plan and the pre-feasibility study can be accessed in the MobiliseYourCity Knowledge Platform using this link.

Due to the limited availability of new or aggregated data, the factsheet has only marginally been updated in 2023.

Abbottabad, Pakistan

Partner city

Status of the project: Ongoing technical assistance

Basic Information

Urban area: 1,967 km^2

Population: 981,590 (district scale) | Growth rate: 1.82%

GDP per capita: USD 1,284 (Pakistan, 2019)

Modal split:

- Walking: 64%
- Formal public transport: 5% (including school and staff buses)
- Informal public transport: 16% (minibus)
- Private cars: 6%
- Private motorbikes or 2-wheelers: 5%
- Other: 4%

National GHG emissions per capita: 0.9 (tCO_2eq)

Exposure to climate change: HIGH

Context

The city of Abbottabad is located 61 km northeast of Rawalpindi, in the Hazara Division of Khyber Pakhtunkhwa province, in the northwest of Pakistan. It is a gateway to the picturesque Kagan valley. It is connected by road with Indus plain and the Kashmir region, and by rail with Peshawar. The city is a district market and trade center and stands out for being a communication route with China and northern parts of Pakistan. The population of Tehsil Abbottabad is 981,590, distributed over an area of 1,967 km². The administration of the city is under District Administrator Abbottabad.

Currently, the major issues related to urban mobility in Abbottabad are:

- High influx of vehicles due to tourism
- High number of commercial vehicles passing through the city, affecting capacity and safety
- Lack of infrastructure such as alternative routes/bypasses, underpasses/flyover, parking areas, intersection improvement, facilities for non-motorised transport
- Lack of road safety and traffic management
- Air pollution from vehicles
- Lack of master plan framework for urbanisation and transportation
- Lack of formalised institutional setup for addressing mobility issues

The Local Counterpart, the Khyber Pakhtunkhwa Urban Mobility Authority, has the mandate and responsibility to finance mass public transport infrastructure. It does not have the authority to borrow from international finance sources. Systems and procedures are partially in place to monitor, evaluate and report on urban matters.

The SUMP elaboration aims to provide a comprehensive sustainable mobility plan at the urban scale and propose a conceptual design for priority projects to identify.

Support from the Partnership

Technical assistance: Sustainable Urban Mobility Plan (SUMP)

Funded by: AFD

Funding amount: EUR 1,200,000 global budget for SUMPs 3 cities within the Khyber Pakhtunkhwa province

Implemented by: AFD and ADB through MobiliseYourCity Asia

Local counterpart: Transport Department Government of Khyber Pakhtunkhwa province and the Khyber Pakhtunkhwa Urban Mobility Authority

Supported activities:

- Support the SUMP process for the city of Abbottabad
- Conceptual design for priority projects to identify

Status of the SUMP process

Project start: 2021 Q3

Expected project completion: 2023 Q1

Completed outputs:

- Inception report
- Urban mobility diagnosis

Next expected outputs:

- Scenario building
- Action plan

Highlights in the past year

One SUMP process for three cities

As the financing of urban mobility lies within the purview of the provincial government, only one SUMP process is carried on developing the SUMPs of three cities, Abbottabad, Peshawar, and Mingora, located within the province of Khyber Pakhtunkhwa.

The management and supervision of the SUMP is the responsibility of the Khyber Pakhtunkhwa Urban Mobility Authority (KPUMA), recently created with support from the Asian Development Bank, to plan and regulate transportation within the province. The capacities of the transport authority will be strengthened throughout the planning process to facilitate the coordination with the three cities and the management of the elaboration and implementation of the SUMP. Additionally, the staff will be trained to use tailored software that will allow them to plan future investments more effectively in urban mobility – a prerequisite to ensuring the successful implementation of the SUMP.

The development of the SUMP is being conducted with the participation of both the provincial and local authorities, under the leadership of KPUMA. This coordination process has been facilitated by establishing three technical SUMP committees for each city, Abbottabad, Mingora, and Peshawar.

The urban mobility diagnosis was conducted and provided a clear situation of the mobility issues in Abbottabad. For instance, identifying the spatial mobility flows at the scale of Abbottabad shows that the urban traffic is channelled on the main road axis (RN No.35). The data collection process and activities are implemented by three different teams on the ground, one for each city. The SUMP for Abbottabad is now at the stage of elaborating and discussing the mobility scenarios.

Mingora (Swat District), Pakistan

Partner city

Status of the project: **Ongoing technical assistance**

Basic Information

Urban area: **5,337 km² (district scale)**

Population: **2,309,570 (district scale)**

Modal Share:

- **Public transport: 25%**
- **Walking: 58%**
- **Private motorised modes: 17%**

National GHG emissions per capita: **1.99 (tCO_2eq)**

Context

Mingora is the largest city and commercial centre of the Swat district, while Swat's administrative capital is Saidu Sharif. Mingora is located on the Swat River side, north of Saidu Sharif. This district is part of the Malakand division of Khyber Pakhtunkhwa province of Pakistan. It is renowned for its natural beauty and well known as a tourist centre. Mingora is connected by the N-95 and N-45 highways to Peshawar and Islamabad through Mardan. Locally, the administration is run by the Deputy Commissioner. Tehsil Municipal Administration is responsible urban transport and the Regional Transport Authority regulates private vehicles.

Mingora suffers from inadequate road capacity (including infrastructure facilities such as flyovers and underpasses) in view of the high traffic growth rate and rising private vehicle ownership. Road safety is a major issue due to a lack of proper traffic control devices (such as signs, signals, markings) and a little enforcement of regulations by traffic wardens. There is currently no masterplan for transportation and land use available.

The local Counterpart, the Khyber Pakhtunkhwa Urban Mobility Authority has the mandate and responsibility to finance mass public transport infrastructure. It does not have the capacity to borrow from international finance sources. Some systems and procedures are partially in place to monitor, evaluate and report on urban issues.

The Sustainable Urban Mobility Plan (SUMP) elaboration aims at providing a comprehensive sustainable mobility plan at the urban scale and at proposing a conceptual design for priority projects that will be identified in the SUMP.

Support from the Partnership

Technical assistance: Sustainable Urban Mobility Plan (SUMP)

Funded by: French Development Agency (AFD)

Funding amount: EUR 1,200,000 (budget includes SUMP for 3 cities in the Khyber Pakhtunkhwa province)

Implemented by: AFD and the Asian Development Bank (ADB) through MobiliseYourCity Asia

Local counterpart: Transport Department Government of Khyber Pakhtunkhwa province and the Khyber Pathtunkhwa Urban Mobility Authority

Supported activities:

- Development of a Sustainable Urban Mobility Plan
- Conceptual design for identified priority projects

Status of the SUMP process

Project start: 2021 Q3

Expected project completion: Q1 2023

Completed outputs:

- Inception report
- Urban mobility diagnosis

Next expected outputs:

- Scenario building
- Action plan

Insights from practice: highlights from the past year

SUMP diagnosis provides preliminary insights into Mingora's Urban Mobility

As part of the joint SUMP process for the city of Mingora, a diagnosis of urban mobility has been conducted in 2022, revealing some key findings, which will be used to develop a comprehensive and sustainable mobility plan for the city of Mingora.

The primary mode of transport in Mingora is paratransit, with a share of around 25% of total trips, followed by walking. Three-wheeler rickshaws and Qing-qis dominate the urban transport services, mainly serving work and school-related trips. These paratransit services operate on specific routes, with three-seat rickshaws and six-seat Qing-qis accounting for around 80% of paratransit services.

The city has limited interactions between paratransit regulation, road planning, design, maintenance, and traffic regulation, which can affect decision-making and administration. The lack of a municipal scale can also hinder the focus on mobility and transport issues. However, the KP province administration has significant decision-making capacity and gathers expertise in mobility and urban development.

The city also has some significant ongoing projects, such as the Kanju Interchange, which is being constructed to reduce congestion, the planned Swat motorway extension, and the Kanju Township Park, which is being developed to accommodate part of the urban growth.

Peshawar, Pakistan

Partner city

Status of the project: **Ongoing preparation of the Sustainable Urban Mobility Plan**

Basic Information

Urban area: **1,217 km²**

Population: **4,269,079** | Growth rate: **+3.29%**

GDP per capita: **USD 1,406 (Pakistan)**

Modal Share:

- **Formal public transport (excl. BRT): 16%**
- **BRT: 4%**
- **Private cars and motorbikes: 25%**
- **Walking: 55%**

National GHG emissions per capita: **1.99 (tCO_2eq)**

Exposure to climate change: **HIGH**

Context

Peshawar is the capital city of Khyber Pakhtunkhwa province. This city is located 160 km west of Pakistan's capital city Islamabad. It has 1,970,042 inhabitants, spread over an area of 157 km². The metropolitan area counts 4,269,079 inhabitants spread over an area of 1,217 km². The city is run by the Peshawar Municipal Corporation.

The city has recently introduced a Bus Rapid Transit (BRT) system, the "Zu Peshawar". It was conceived and built with assistance from the Asian Development Bank (ADB) and the Agence Française de Développement (AFD) and started operating in August 2020. Operated by TransPeshawar, the BRT system includes one main corridor stretching over 28 km from Chamkani in the east, to Hayatabad and Karkhano Market in the west, and is complemented by a 68 km long network of 8 feeder routes, which connects the main corridor system and provides service to other parts of the city.

According to a feasibility study conducted ahead of the implementation of the BRT system, the modal share of cars and motorcycles dominated largely, representing respectively 62% and 22%. Public transport, including Rickshaws only represented 15% of the modal share.

Peshawar lacks a sufficient public service offer, forcing people to rely on private cars which leads to traffic congestion, road safety issues and poor air quality. The city does not have a sufficient road network, infrastructure for non-motorised transport or proper traffic management. The city has also identified a need for better control of land use and urban development.

To overcome these challenges and prepare a comprehensive plan addressing not only transport issues but also improving the quality of life in the city the Khyber Pakhtunkhwa Urban Mobility Authority (KPUMA) has decided to develop a Sustainable Urban Mobility Plan (SUMP). The SUMP would also consider local economic development and health issues, among other mobility-related topics.

The SUMP should allow to develop a Transport Management Plan and establish a Road Safety Authority. It will also include measures to improve non-motorised transport. Another area of the SUMP should consist in equipping the city to better monitor traffic and GHG emissions. Finally, it will build capacities in KPUMA for sustainable mobility planning.

Support from the Partnership

Technical assistance: Sustainable Urban Mobility Plan (SUMP)

Funded by: AFD

Funding amount: EUR 1,200,000 (budget includes SUMP for 3 cities in the Khyber Pakhtunkhwa province)

Implemented by: AFD and ADB through MobiliseYourCity Asia

Local counterpart: Transport Department Government of Khyber Pakhtunkhwa province and the Khyber Pakhtunkhwa Urban Mobility Authority

Supported activities:

- SUMP elaboration for the city of Peshawar
- Conceptual design for identified priority projects (i.e., BRT transit corridor and line extensions, cable car)

Status of the SUMP process

Project start: 2021 Q3

Expected project completion: 2023

Completed outputs:

- Inception Phase
- Diagnosis report

Next expected outputs:

Action plan, including following measures:

- Development of urban mass transit corridors
- Consolidation of the existing public transport network
- Improvement of the road and parking management
- Institutional reform

Core impact indicators baselines

The diagnostic data will be published as part of the adoption of the SUMP by the local authorities and is not available at this stage.

Highlights in the past year

Zu Peshawar: The First Gold Standard BRT in Pakistan is Changing the Way People Travel

The authorities responsible for urban mobility in Peshawar have an ambitious vision to transition towards more sustainable urban transportation. As the SUMP is in preparation with support of MobiliseYourCity partners, significant investments are foreseen, including the development of Zu Peshawar BRT, the first Gold-Standard BRT in the Indian sub-continent.

The ambition and efforts of Peshawar in the area of sustainable mobility have been recognised internationally. In 2022, the city was nominated with an honorable mention by the International Transport Development Policy (ITDP) Sustainable Transport Award. This recognition highlights Peshawar's commitment to prioritising the needs of its citizens and to ensuring that their transportation needs are met in a sustainable and inclusive manner. As the city moves forward with its SUMP and planned investments, it is poised to become a leader in sustainable urban transportation in the region and beyond.

Find out more in a case study, co-developed by ITDP, TUMI and TransPeshawar.

Kurunegala, Sri Lanka

Partner city

Status of the project: **Completed Sustainable Urban Mobility Plan**

Basic Information

Urban area: **11 km²**

Population: **122,172** | Growth rate: **1.4%**

Region capital city

GDP per capita: **USD 3,853**

Modal Share:

- **Formal public transport: 25.3%**
- **Informal private transport: 16.2%**
- **Walking: 11.8%**
- **Cycling: 1%**
- **Private cars: 22.3%**
- **Private motorbikes or 2-wheelers: 18.7%**
- **Taxis: 1.3%**
- **Other: 3.4%**

National GHG emissions per capita: **1.67 (tCO_2eq)**

Exposure to climate change: **LOW**

Context

Kurunegala has 120,000 inhabitants, including 30,000 in the urban core. Despite being a relatively small city for Sri Lanka, it is the capital city of both the North-western Province and the Kurunegala District.

According to the National Physical Plan (NPP) updated by the National Physical Planning Department (NPPD) of the Ministry of Megapolis and Western Development (MMWD) in 2018, Kurunegala urban area could grow to 1,000,000 inhabitants by 2050. This city should meet an annual growth rate of 2.5%, the highest of Sri Lanka. Kurunegala should become one of the main urban centres – even a "metro region" – of the East-West Development Corridor that guides the spatial and economic development at the national scale. Consequently, Kurunegala will face many challenges regarding urban development, employment, and transportation. The city must plan its internal transport as well as connections with the other cities of the corridor and with Colombo, the national Capital City.

The city has a railway station (located in the Southeast of the urban core) and is located on a rail axis, but it does not play a major role in daily commuting as people usually commute by private motorised vehicles (car, motorbike and tuk-tuk) or by public bus. Currently, the Municipality of Kurunegala (the SUMP local counterpart) does not have the mandate or responsibility to finance mass public transport infrastructure nor the authority to borrow from international finance sources. The running costs of the collective transport system are, however, part of the public authority's budget.

The objective of the project is the elaboration of a SUMP for the city of Kurunegala from the ground up since there is neither an existing public mass transit system nor an existing transport master plan for the city.

Support from the Partnership

Technical assistance: Sustainable Urban Mobility Plan (SUMP)

Funded by: AFD

Funding amount: EUR 400,000

Implemented by: AFD through MobiliseYourCity Asia

Local counterpart: Municipality of Kurunegala

Supported Activities:

- MobiliseDays (35 participants)
- Diagnosis workshop (32 participants)
- Public Transport focus group
- Scenario analysis workshop

Status of the SUMP process

Project start: Q1 2019

Project completion: Q4 2021

Completed outputs:

- Inception report (September 2019)
- Diagnosis report (March 2020)
- Scenario elaboration and comparison report (1st Draft, May 2020/ Revised Draft, December 2020)
- Final SUMP report

SUMP key measures and cost estimates

The following table highlights the most significant measures identified in the SUMP.

Measure	Cost Estimate	Implementation Period
Introduce a road hierarchy for Kurunegala	60,000	2021-2023
Speed regulation and enforcement	80,000	2021-2023
Parking Mangement	60,000	2021-2023
	120,000	2023-2026
Outer Ring Road		
Develop Green Corridors/Pedestrian/Bicycles	60,000	2021-2023
City Center Calming	120,000	2021-2023
Introduce linked ATM system for city including PT priority at signals	100,000	2021-2023
	100,000	2023-2026

Measure	Cost Estimate	Implementation Period
Develope Transit Corridor	To be costed in feasibility sudy (FS)	TBD in FS
Provide mini-bus stands at the city centers	To be costed in FS	TBD in FS
Provide park-and-ride at the city centers	To be costed in FS	TBD in FS
Develop Multimodal hub at rail central station	To be costed in FS	TBD in FS
City bus network (Current services improvement)	80,000	2021-2023
City bus network (Public Service Obligation)	200,000	2023-2026
Develop ITS for Public Transport (ticketing, digital mapping)	60,000	2021-2023
	120,000	2023-2026
Develop fare integration within KMC area (for PT, rail)	200,000	2023-2026
School bus parking	60,000	2023-2026
Freight Transport	120,000	2023-2026
Bike and E-rickshaw promotion	200,000	2021-2023
Preparation & promulgation of auto rickshaw regulations	120,000	2021-2023
Institutional support and progressive development of coordinated urban transport arrangements	440,000	2021-2023
Improve pedestrian and vehicular access to the Kurunegala Teaching Hospital	F.S to be costed	F.S to be costed
Street design toward inclusion pedestrians and non-motorised transport	120,000	2021-2023
Muttetugala overpass	F.S to be costed	F.S to be costed

Projected impacts

Indicator	Impact 2030 (SUMP vs BAU)	Baseline - 2018	Projected 2030 BAU	Projected 2030 SUMP scenario
Total annual GHG emissions (Mt CO_2eq)	-0.0002 Mt CO_2eq	0.0827 Mt CO_2eq	0.0935 Mt CO_2eq	0.0933 Mt CO_2eq
Veh.km of formal public transport Increase of the availability of public transport	Formal public transport: 7,698 Veh.km	Formal public transport: 51,209 Veh.km	Formal public transport: 66,748 Veh.km	Formal public transport: 74,446 Veh.km

Highlights in the past year

Kurunegala's SUMP prioritises measures for their implementation

The implementation of the SUMP has been structured by identifying primary and secondary actions. The former refers to main SUMP projects that will be developed and implemented on their own and on a priority basis. The latter will function to enhance the impact of primary projects and are considered as subordinate to these.

In total, 26 measures were identified in the SUMP, and two development scenarios were proposed that could be implemented separately or collectively, depending on their level of ambition. Considering the project objectives, scenario two was finalised for implementation. It focused on medium-term goals (till the year 2025) regarding public transport development and implementation of governance structures overall shaping the mobility framework for the city of Kurunegala.

The Kurunegala Municipal Council (KMC), Road Development Authority (RDA), and SriLankan Transport Board (SLTB) oversee the implementation of most of these measures. The funding for the different measures is expected to be assumed with support from International Funding Institutions (IFI), and will be complimented by KMC, RDA, and Urban Development Authority (UDA). The financial mechanism for these measures is rather complex as it involves multiple stakeholders for the different measures, and to date remains unclear.

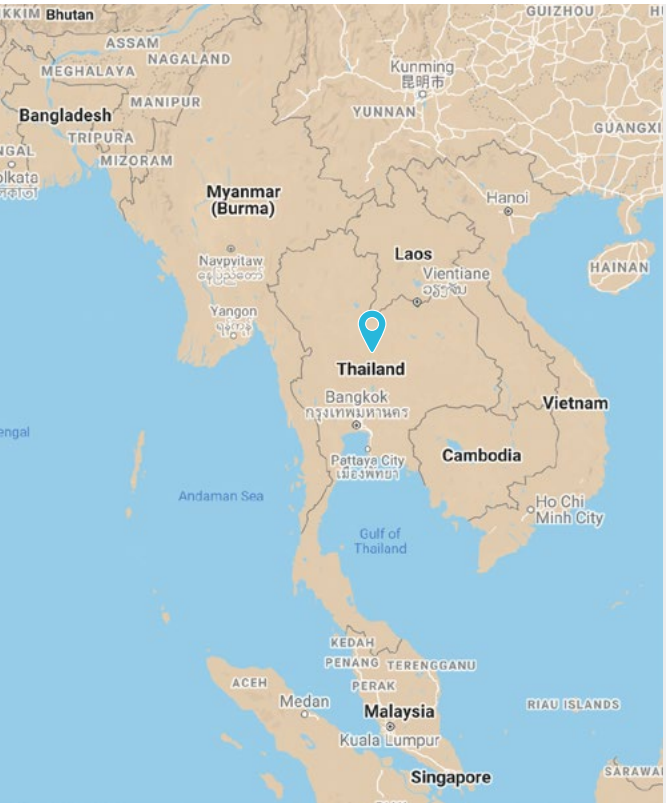
Political unrest puts Kurunegala's mobility plan on hold

Due to the current political climate in Sri Lanka, the approval and implementation of the Sustainable Urban Mobility Plan of Kurunegala have been put on hold. As a result, the city might struggle to address important mobility-related challenges, including traffic congestion, air pollution, and limited access to public transportation. The future of the plan remains uncertain until the political situation stabilises.

Thailand

Partner country

Status of the project: **Ongoing National Urban Mobility Policy or Programme**



Basic Information

Population: **66.17 million (2021)** | Growth rate: **-0.01%**

Percentage of urban population: **34.47%**

GDP per capita: **USD 6,730.31 (2020)**

Percentage of the population living below the national poverty lines: **6.84%5 (2020)**

Nationally Determined Contribution (NDC):

Reducing annual GHG emissions by 20%, or 115.6 $MtCO_2$, in 2030 compared to BAU. Transport will aim to reduce 41 $MtCO_2$ or 35.42% of the total NDC target (MoT)

National GHG emissions per capita: **5.37 tCO_2eq (excluding LULUCF), 3.99 tCO_2eq (including LULUCF)**

Proportion of transport related GHG emissions: **25.93% (including LULUCF)**

Exposure to climate change: **HIGH**

Context

Thailand is in the heart of Southeast Asia, and it borders Lao PDR, Myanmar, Cambodia, and Malaysia. Its capital is Bangkok or Krung Thep in Thai. Thailand has the second largest economy in Southeast Asia after Indonesia. The services sector represents 45.75% of jobs in Thailand and contributes to 58.59% of the total GDP, followed by the agriculture sector, which employs 31.62% of the active workforce and contributes to 8% of the GDP. Last is the industry sector, which employs 22.63% of the active workforce and contributes to 33.4% of the GDP (Statista, 2019). Thailand relies heavily on tourism, with nearly 40 million visitors in 2019. This puts Thailand in one of the top 10 most visited countries in 2019. However, many sectors have suffered from the decline in tourism due to the COVID-19 pandemic, which had a major impact on Thailand's economy. Thailand experienced negative GDP growth in 2020 for the first time since 1998.

Private vehicles are the most popular mode of transportation in Thailand. Bangkok has the most diversified transport offer in the country, including BTS (sky train), MRT (subway), metered taxis, motorcycle taxis, Tuk Tuks. However, the city is still notorious for traffic congestion as people prefer to use private vehicles for convenience and flexibility. To travel across the country or to the suburbs, there is an abundance of minivans and buses that connect most cities and popular destinations. Thailand also has 38 airports, seven of which are international airports. It typically takes around an hour to reach anywhere in Thailand by plane. Thailand also has a rail system spanning 4,925 km (BOI), which serves every part of the country albeit it is not a high-speed train.

The national government has collaborated with GIZ to develop a National Urban Mobility Programme (NUMP) called the Thai Clean Mobility Program aiming at reducing GHG emissions from the transport sector, reducing air pollution and promoting a modal shift away from motorised private vehicles to public transport.

The development of the NUMP is a participatory process and requires several preparatory steps and discussions. These steps include:

- Building on existing sector studies to assess current funding, financing and transport planning mechanisms and implementation of cities and national government
- Identifying support needs for cities that are to be included in the NUMP (capacity, financial instruments, funding, planning procedures, institutional framework)
- Assessing the current main barriers to low-carbon transport in Thailand
- Providing recommendations for "Vision & Goal setting" to:
  - Draft a national vision for urban mobility (in line with the NDC action plan);
  - Define the objectives of the National Urban Mobility Programme; and
  - Provide strategic direction on using the various levers of action available (governance, financing, funding, capacity building, technological choices, etc.) in Thailand

Support from the Partnership

Technical assistance: National Urban Mobility Programme (NUMP)

Type of NUMP: Programme NUMP

Funded by: BMU

Funding amount: EUR 1,661,634

Implemented by: GIZ through the TRANSfer III Project

Local counterpart: Office of Transport and Traffic Policy and Planning (OTP), Ministry of Transport

Main purpose of the NUMP:

- Provide necessary groundwork that allows policy makers in the Thai government to make an informed decision on the implementation of the NDC action plan
- Develop a funding mechanism that supports the implementation of urban transport measures
- Provide a planning framework for urban transport planning (quality standards, clear guidance on roles and responsibilities, capacity development)

Objectives and supported activities:

The 'Thai Clean Mobility Program' consists of three pillars:

- Congestion charging
- Set-up of a Clean Transport Fund
- Public transport electrification

Status of implementation

Project start: 2017 Q1

Expected project completion: 2022 Q4

Completed outputs:

- Study Tour to Berlin and London (February 2020)
- Pre-feasibility study on congestion charging design for Bangkok (November 2020)
- 2 congestion charge videos for communication and educational purposes for broad public as well as for the expert and policy maker community (December 2020)
- Study for development of Clean Transport fund (December 2020)
- Thailand Clean Mobility vision of the youth (July 2022)
- Study for Thailand's upscaling public and private investment on public transport electrification (October 2022)

NUMP key measures and cost estimates

The following table highlights the most significant measures identified in the NUMP.

Measure	Cost Estimate
Congestion Charge	EUR 662,279,406
Bus Modernisation	EUR 124,902,630
BTS/MRT Fare Subsidy	EUR 290,633,646

Core impact indicators baselines

Indicator	Baseline - 2016
Total annual GHG emissions (Mt CO_2eq)	68.26 Mt CO_2eq from the energy sector
Annual transport related GHG emissions per capita (kg CO_2eq)	1.04 kgCO_2eq
Air pollution Decrease in mean urban air pollution of particulate matter (in µg PM2.5) at road-based monitoring stations	43 µg/m^3 of PM2.5
Road safety Decrease of traffic fatalities in the urban area, per 100,000 inhabitants	11 fatalities / 100,000 habitants (2020)

Insights from practice: lessons learned from the NUMP process

Balance is key, as implementing congestion charging represents a political risk

One key lesson learned from this project is that implementing a congestion charging system can be a complex and politically sensitive process. It involves balancing the objectives and constraints of multiple stakeholders, which can be challenging.

In this project, a steering group and working group were formed to ensure that all relevant stakeholders were included in the policy design process. However, due to the upcoming national election in Thailand, gaining political buy-in for the actual implementation of the congestion charge in Bangkok has been difficult, as decision-makers may fear that proposing such a system could reduce their popularity with the public.

Supporting sustainable urban mobility in Thailand requires addressing institutional and regulatory barriers

Implementing the Clean Mobility Fund presents an opportunity to address institutional and legal barriers to congestion charging. Although the Ministry of Finance has reservations due to past performance of similar funds, this presents an opportunity to ensure transparency and good performance in this initiative. The feasibility study has identified key roles and stakeholders involved in implementing the system, and it is recommended that cooperation between these stakeholders is set up to ensure successful implementation. Additionally, legal issues related to vehicle identification, charging, and payment enforcement need to be addressed. Addressing these issues will ensure a strong foundation for the Clean Mobility Fund and pave the way for effective policy recommendations.

Highlights in the past year

A youth vision on clean mobility in Thailand

The Transportation Institute at Chulalongkorn University is working with the GIZ TRANSfer project to help the Office of Transport and Traffic Policy and Planning (OTP) develop a roadmap for implementing congestion charges in Bangkok. As part of this effort, a workshop was held in July to raise awareness of congestion charging among youth and university students, with a focus on the Thailand Clean Mobility Programme (TCMP). The workshop aimed to help students understand the planning and technical factors that have contributed to the success of congestion charge policies in other countries, and to introduce approaches that could be adapted to the Thai context.

During the workshop, students were divided into groups and tasked with developing solutions for implementing congestion charges in specific areas of Bangkok. Some of the suggestions included reducing fees for vulnerable groups who need to use personal cars for medical treatment, optimising public transport with funds generated from the charges, and restricting vehicle types and entry times with variable fees. After presenting their ideas, the students voted on the best solutions, and shared their perspectives with professors and experts.

The goal of the workshop was to encourage young people to get involved in shaping policies that promote clean mobility and sustainable transportation in Bangkok. By fostering a better understanding of congestion charging and its potential benefits, the workshop aimed to contribute to the successful implementation of the TCMP and to help build a more sustainable future for the city.

The Future of Thailand's Sustainable Clean Mobility - TRANSfer Project Closing Event for Thailand

On 26 September 2022 – the Office of Transport and Traffic Policy and Planning (OTP), together with the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH celebrate their successful collaboration in Thailand's Sustainable Clean Mobility under the implementation of the Facilitating the development of ambitious transport mitigation actions (TRANSfer) project.

Over the past five years, OTP and the TRANSfer-Thailand project have jointly engaged with many related agencies to explore alternative solutions for solving the most enduring urban transport issues, i.e., emission mitigation, traffic congestion, and public transport service improvement. On this occasion, H.E. Georg Schmidt, the Ambassador of Germany to Thailand, Mr. Daniel Bongardt, TRANSfer Project Director, Dr. Dominika Kalinowska, Director of GIZ Transport Projects Thailand / ASEAN, Ms. Birgit Schwenk, Director-General at the Federal Ministry for Economic Affairs and Climate Action, Germany, and Mr. Punya Chupanit, Director General at the Office of Transport and Traffic Policy and Planning (OTP), reported and took part in the panel discussion under the topic "Move Forward Climate Change Mitigation Actions in the Transport Sector". Around 100 participants from other related agencies in the public sector, private sector, educational institutions, and international organisations also joined the Closing Seminar.

Although the TRANSfer project has reached the final chapter, the OTP is still determined to work towards GHG emissions reduction and to continue the legacy of the TRANSfer project through, for instance, the study of the possibility and suitability of a congestion charge scheme in Bangkok and the plan for the establishment of the Clean Mobility Fund to improve public transport services.

The finding of the project's pre-feasibility study showed that if the congestion charge is implemented, it can help to decrease congestion and air pollution and at the same time increase travel speed and the number of commuters on public transport. Moreover, a financial analysis found that the Total Cost of Ownership (TCO) of an electric public bus is 23 percent lower than that of a fossil fuel public bus, mainly because the difference between fuel and electricity costs. If 3,200 public buses that use natural gas are replaced with electric vehicles, GHG emissions can be reduced by 184,000 tonnes of carbon dioxide equivalent annually. However, the improvement of the service quality of public buses still needs support from the government to work out long-term solutions.

The support and cooperation that the OTP obtained from the TRANSfer project is a vital part in helping Thailand to reach its GHG emissions reduction target and sustainable transportation.

Eastern Europe

Eastern Europe

Completed

Chernivtsi, Ukraine P.165
Lviv, Ukraine P.166
Poltava, Ukraine P.169
Vinnytsia, Ukraine P.176
Zhytomyr, Ukraine P.177

Chernivtsi, Ukraine

Partner city

Status of the project: **Completed technical assistance**

Basic Information

Urban area: **153 km²**

Population: **266,366**

Region capital city

GDP per capita: **USD 8,668**

Context

Chernivtsi is located in the south-west of Ukraine, 40 km from the border with Romania. The relief is characterised by a significant difference in elevation, between 150m and 537m above sea level.

Chernivtsi is viewed as one of Western Ukraine's main cultural centres. The city is also considered one of Ukraine's important educational and architectural sites. It is a major regional rail and road transportation hub, also housing an international airport.

Chernivtsi has a long tradition of public transport, being home of a tramway network during 70 years from 1897 to 1967. Today, Chernivtsi passengers use several types of public transport: trolleybuses, shuttles, minibuses and taxis. The network includes 43 bus lines and 9 trolleybus lines. This offer is completed by about 20 radio taxi services providers.

The main means of public transport in the city is the trolleybus. This type of transport appeared in Chernivtsi on 1 February 1939, but was completely rebuilt after its destruction during the Second World War. The existing trolleybus network has been in operation since 1966.

Support from the Partnership

Technical assistance: Technical assistance related to transport modelling

Funded by: The German Federal Ministry for Economic Cooperation and Development (BMZ), Swiss State Secretariat for Economic Affairs (SECO)

Implemented by GIZ through the project **Integrated urban development in Ukraine**

Local counterpart: City Council of Chernivtsi

Supported activities:

- Capacity building related to transport modelling
- Development of transport models for Chernivtsi
- Optimisation of the public transport network through modelling based on existing SUMP

Status of implementation

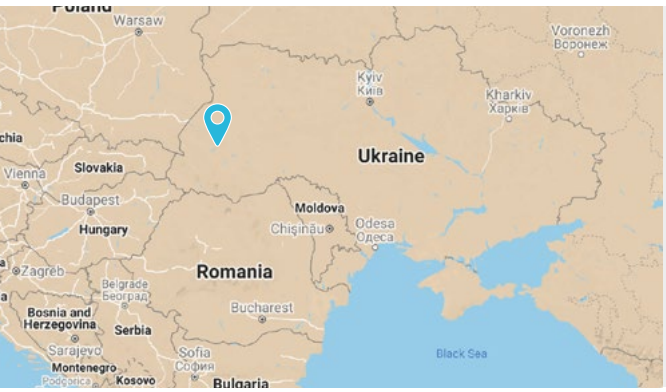
Project start: 2017 Q4

Project completion: 2019 Q4

Lviv, Ukraine

Partner city

Status of the project: **Completed technical assistance**



Basic Information

Urban area: **171.71 km²**

Population: **734,000** | Growth rate: **0%**

Region capital city

GDP per capita: **USD 8,668**

Context

Car ownership increased a lot in Lviv, which will cause traffic to become denser and denser. In the long term, this situation could become intolerable and jeopardise every effort to capitalise on the attractivity of the historic city. Parking is also an issue as it takes away valuable space for public and private transport as well as for pedestrians.

Car ownership in the Ukraine increased significantly since the independence in 1991. However, there were still only 220 motor vehicles per 1,000 inhabitants in 2012 (excluding motorcycles and other two wheeled vehicles) compared to 580 in Poland or 588 in Germany. Even though figures for Lviv are far above the Ukrainian average, traffic in the city will become denser in future. Moreover, the UNESCO world heritage area is expected to attract more visitors when tourists will no longer be deterred by the political insecurities.

Public transport and traffic are not only impeded by car in movement, but also by static cars. Indeed, parking in the city centre takes away valuable space for public and private transport as well as for pedestrians. In most of the European cities with a comparable historical center, let alone UNESCO heritage, cars are banned totally from the center. This is in theory true for the inner cordon of world heritage area in Lviv too but not always in practice. Moreover, the historical center of high urban value and exquisite buildings in Lviv is not confined to the UNESCO boundaries.

Support from the Partnership

Technical assistance: Sustainable Urban Mobility Plan (SUMP)

Funded by: The German Federal Ministry for Economic Cooperation and Development (BMZ), Swiss State Secretariat for Economic Affairs (SECO)

Implemented by GIZ through the project Integrated urban development in Ukraine

Local counterpart: City Council Lviv

Supported activities:

- Capacity building for designing, applying, and implementing processes and standards of integrated and sustainable urban development
- Preparation of priority infrastructure projects and implementation of small scale, low budget, and high impact investments (quick wins)
- Establishment of suitable communication, coordination, and cooperation mechanisms

Status of implementation

Project start: 2017 Q4

Project completion: 2019 Q4

Completed outputs:

- Development of **the Integrated Urban Development Concept** for Lviv in close cooperation with the Chief Architect and the City Institute and in accordance with the **Leipzig Charter** on Sustainable European Cities.
- Active involvement of the Representatives of municipal units of Lviv in the process of developing **the Sustainable Urban Mobility Plan**, including City Institute, Spatial Development Institute, municipal transport operator "Lvivavtodor", municipal company "Lvivelectrotrans", Department of Housing and Infrastructure, Transport office, Architecture and Urban Development Department, as well as international experts from Switzerland and Germany. Many meetings were held with residents and stakeholders.
- Organisation of a comprehensive training program called **"Management Competences"**, aimed at improving the capacity of Lviv City Council and enhancing closer cooperation between different structural units, better coordination of projects and optimisation of administrative management at both vertical and horizontal levels.
- Creation of the Green Line, **the Demonstration Infrastructure Project** is a pedestrian-bicycle connection from Sykhiv District to the city center, passing through green territories, an industrial zone and connecting buildings of Ukrainian Catholic University. The concept has been developed and working documentation is being prepared for the first section along the southwestern part of Park Ivan Pavlo II to Shuvar Market at Khutorivka.

Next expected outputs:

- Continue the implementation of the Integrated Urban Development Concept
- Further implementation of objectives set out in the Sustainable Urban Mobility Plan, including transport solutions and urban space renovations in accordance with the principles of sustainable mobility
- Further work on implementing the Green Line as a good example of alternative connections in the city should be continued

SUMP key measures and cost estimates

The following table highlights the most significant measures identified in the SUMP.

Measure	Cost Estimate
Implementation of e-ticketing	-
Acquisition of 10 low-floor trams	10,000,000
Acquisition of 100 buses	12,000,000
Acquisition of 50 trolleybuses	12,000,000
New bus depot	12,000,000
Reconstruction of 15 km of trolleybus catenary	13,000,000
Implementation of the Ukraine Urban Road Safety Program	37,800,000

The following table summarises the total capital expenses (CAPEX) estimates for different types of measures in the SUMP.

Urban transport investment measures	CAPEX Estimate (€M)
Public transport and NMT	
Street shaping urban roads and traffic management	
Other measures	
Total	

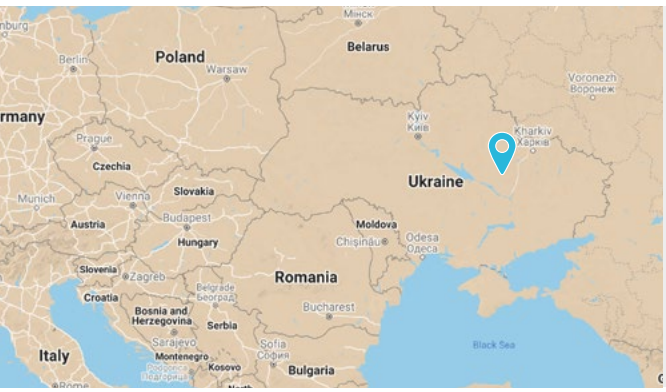
Finance leverage

Financing resulting from the SUMP	Source	Amount
Loan leveraged through MobiliseYourCity for the implementation of SUMP infrastructure, fleet and e-ticketing measures	EBRD and EIB	59,000,000
Loan for the financing of the Ukraine Urban Road Safety Program	EBRD and EIB	37,800,000
Loan for the financing of the second phase of the Ukraine Urban Public Transport Program	EBRD and EIB	70,000,000
Loan for the financing of the Lviv E-Bus project	IFC	50,000,000

Poltava, Ukraine

Partner city

Status of the project: **Completed technical assistance**



Basic Information

Urban area: **106.4 km²**

Population: **106.4 km²** | Growth rate: **0%**

GDP per capita: **USD 4,621,31**

Key facts

City, Country	Poltava, Ukraine
Population[1]	287,000
Land area (Poltava City)[2]	106,4 km²
GDP per capita	USD 4,621,31
Baseline motorisation rate[3]	152 cars / 1,000 inhabitants
Local Partner (organisation)	Poltava City Council
Implementing partners	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH through the project Integrated urban development in Ukraine
Donors supporting technical assistance for SUMP	• German Ministry for Economic Cooperation and Development (BMZ) • Swiss Federation State Secretariat for Economic Affairs (SECO)
Amount in technical assistance	Included in the Integrated Urban Development in Ukraine project which has a budget of 9,100,000 EUR to support multiple cities
SUMP implementation timeline	• Joined MobiliseYourCity in June 2017 • MobiliseDays in September 2018 • Start of SUMP elaboration in 2019 • SUMP completed and approved in 2020
SUMP Vision	Making Poltava a more liveable urban environment and a powerful regional centre, integrated into the national and global economy. The focal points of the SUMP are strengthening the city's economy and promoting a healthier and more inclusive lifestyle

1 State Statistics Service

2 Poltava City Master Plan

3 Regional service center in Poltava region, Ministry of Internal Affairs of Ukraine, 2015

Thanks to the funding of BMZ, the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH has supported the Poltava City Council in developing a Sustainable Urban Mobility Plan (SUMP). The project includes the diagnosis of the current situation, the definition of sustainable urban mobility priorities and goals, the analysis of possible future scenarios and, finally, the identification of priority measures.
Although participatory processes had previously taken place in the city, such as online public consultations and civil society actions, the project went much further and ensured a very broad involvement of residents and specialised professionals in the area.

The implementation and development of the selected SUMP measures is expected to give access to transport to the entire population, especially low-mobility groups, increase the ecological compatibility and strengthen the economy and touristic attractivity of the city.

Diagnosis: Urban Mobility in Poltava

Poltava is an important regional city characterised mostly by a flat territory with a maximum level of relief plains fixed at +159,2 m above sea level. The demographic growth is negative in its urban area, characterised by low fertility and high mortality rates. However, the level of motorisation until 2031 is expected to grow by 330 cars / 1000 inhabitants, which will have a significant impact on the road network and traffic of the city.

The spatial organisation of the city is heterogenous. Although the average population density is high, it is very different among micro districts. The majority of workplaces and points of attraction are located in the centre, the surroundings of the southern station and in the southern part of the city. The northern part of the city is less populated.

These indicators are important for analysing the mobility of its inhabitants and the formation of a public transport system. Working trips make a significant share of traffic in the city and affect the loading of the road network in the morning peak period in the direction home - work, and vice versa in the evening.

Mobility demand and transport services

According to the mobility survey carried out in May 2018, Poltava's daily travel rate is 2.1 trips per person. As shown in **Figure 1**, the modal split highlights the current dominance of motorised travels (car and public transport), which represent 67.6% of trips against 32.3% of non-motorised modes (walking and cycling).

75 % of households do not own a car and the share of car users is limited compared to cities of the same size in Ukraine or elsewhere in Europe. In consequence, the share of public transport is high (55.2 %), making public transport the most often-used mode in Poltava. Walking is the second most often-used mode with a share of 30.5 % of all trips.

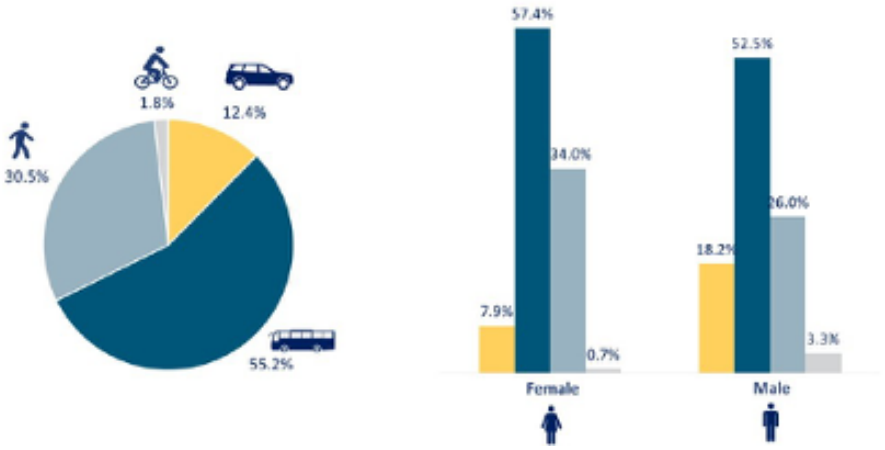


Figure 1 - Modal split

Overview of the mobility services

Public transport services (trolleybus and bus)

The city counts 10 trolleybus and 65 bus routes.[4] 15% of the final stops of these bus routes are located outside the territorial borders of the city, which makes the route network of the city accessible to the population in the near settlements. 87.9% of local residents live within 500 m to public transport stops.

The length of the network of urban electric transport (trolleybuses) is 73 km, while the total length of the network of is 250 km[3] (**Figure 2**). The public transport system has 407 stopping points.

Figure 2 - Public transport network

Although the network is relatively well developed, a renewal of both bus fleet and electric trolleybuses is necessary. Today 49% of Poltava's bus fleet are low-capacity buses, while the current age of 70% of the rolling stock of the trolleybus fleet exceeds 15 years[5].

Walking

Streets in Poltava do not systematically consider the needs of pedestrians. An acute challenge for the city is to ensure the barrier-free pedestrian space for people with limited mobility, since 10% of Poltava's population consists of people with disabilities. Besides, all sorts of obstacles often occupy pedestrian space, which impede the free movement of pedestrian.

Cycling

The cycling infrastructure is still undeveloped in the city, but its geographical characteristics as well as its wide streets represent a great potential for its emergence.

Private vehicles

Although private cars represent a limited share of the modal split, Poltava experiences significant issues related to mass spontaneous street parking, as the city lacks a single scheme for the city parking space management, as well as a control system for parking.

4 Register of urban passenger transport routes as of December 1, 2017, Poltava Transport and Communications Department

5 According to the data of KP "Poltavaelektroavtotrans" as of 01.12.2017

Social issues

The diagnosis revealed that the existing public transport vehicles equipment does not offer an adequate service to vulnerable groups, such as elderly people and people with limited mobility.

In addition, several surveys highlighted gender issues, especially related to cycling. Among all active bicycle users in Poltava, only 9% are women[6]. This gender gap indicates the perception of cycling as a highly dangerous mode. On the other hand, women are more likely to use electric trolleybuses compared to men.

Road safety represents an important concern in Poltava, especially for pedestrians who are the most frequent victims. Based on the analysis of heat maps of traffic violence with victims, places not meeting the minimal standards for pedestrian accessibility and barrier-free space (for example, underground pedestrian crossings) are usually the most dangerous for pedestrians in Poltava.

SUMP vision and goals

Vision for urban mobility in Poltava

Poltava is a city of healthy lifestyles, friendly to young people, that values and support the elderly. It is a tolerant and safe city with a strong, socially responsible community.

Poltava's SUMP identifies six main priorities and some related goals aiming at improving the mobility situation.

Priority 1: Improving the attractiveness of public transport

- Improve the quality of public transport services
- Introduce an efficient public transport management system
- Improve conditions for people with limited mobility
- Develop a multimodal and integrated public transport
- Prioritise public transport in traffic

Priority 2: Improvement of parking space

- Unload roads and sidewalks in the city centre from parking
- Provide a sufficient parking space in residential areas
- Implement parking management near public and commercial institutions
- Reduce large-sized vehicles from the city centre

Priority 3: Collection and analysis of data and creation of an intelligent transport system

- Create a unified information system
- Implement an electronic payment system for transport services
- Provide information to road users
- Renew infrastructure in accordance with the latest technologies

Priority 4: Cycling development

- Promote cycling among citizens and tourists
- Create a management mechanism for cycling development
- Improve cycling infrastructure to ensure quick and safe trips

6 According to the cyclists survey results of "CITYLAB", 2015-2016

Priority 5: Development of pedestrian spaces and accessibility

- Increase the attractiveness of walking as a transport mode
- Develop safe and comfortable facilities for pedestrians
- Create a municipal management system of walking facilities

Priority 6: Increasing road safety

- Create a safe urban environment
- Improve the traffic culture

Key SUMP measures

Within the SUMP framework, specific measures for each priority area were identified. They can be divided into five points:

- **Infrastructure measures** to enhance inclusiveness and safe access to transport and to ensure city resilience in the long-term.
- **Management and organisation measure** relevant for the development of management systems and strategic documents to support a high-quality urban environment and mobility.
- **Monitoring and data collection measures**, essential to assess the urban transport skyline and identify its problems.
- **Capacity building measures** aiming at raising the awareness of the main stakeholders, such as politicians and planners, about sustainable mobility.
- **Promotion and awareness measures** aiming at scaling up citizens' participation and understanding of the sustainable urban mobility transition.

The following table presents the main measures planned on the short term.

Measures	Cost estimates in M€	Proposed Financing Source	Implementation by
Physical investments			
(Infrastructure, rolling stock, etc.)			
Short term acquisition of 11 buses	0.8M€	Domestic financing	2019
Acquisition of 40 low floor trolleybuses and modernisation of 3 traction substations	10M€	European Bank for Reconstructions and Development (EBRD) loan	2021
Technical (studies, plans, designs, etc.)			
Setup of a working group for cycling infrastructure and appointment of a cycling envoy			

Projected results and impact

The implementation of the measures listed before will lead Poltava to consolidate its regional importance as an ecologically oriented city desiring to improve its citizens' quality of life. The following table presents the expected results and impact.

Impact Area	Expected Impact
GHG emissions (SDG 11)	Improved but not quantified
Accessibility (SDG 11)	**Accessibility for the entire population** • Baseline: 87.9%[7] • Improved but not quantified **Accessibility for people with reduced mobility** • Baseline: 11%[8] • Improved but not quantified
Air pollution (SDG 11)	Improved but not quantified
Modal share	Percentage of total trips by public transport • Baseline: 55%[9] • SUMP scenario: improved but not quantified
Road safety (SDG 3)	• Baseline: 0.04 accident/ 1000 inhabit.[10] • Improved but not quantified
Mobilised finance (SDG 17)	10M€ - Loan leveraged through MobiliseYourCity (EBRD)
Infrastructure and assets with committed financing (SDG 9)	The first priority of Poltava's SUMP is to improve the attractiveness of public transport. For that reason, most of Poltava SUMP measures are related to the optimisation and reorganisation of the route network. The main actions are: • Reduce duplication on urban public transport routes; • Unload the network from small-capacity vehicles; • Reduce travel time for passengers; • Optimise the transport system operational cost; • Build a network with the most efficient vehicles; • Increase electric transport; • Introduce additional trolleybus routes; • Introduce new types of public transport, such as car sharing, ride sharing (i.e., Uber), bike sharing or municipal taxis; • Upgrade infrastructure in accordance with the latest available technologies; • Introduce bicycle infrastructure in all areas of the city with recreational areas and tourist facilities.
Expected institutional impact	Poltava's SUMP includes several actions related to governance aiming at building effective management systems to guarantee the achievement of its goals and priorities. The expected impact at the institutional level can be deducted by the following list of recommended measures: • Creation of a single centralised management system of public transport in the city; • Creation of a municipal management system of walking facilities; • Creation and approval at the municipal level the responsible for the development of cycling transport terms of reference; • Establishment of a responsible authority for the organisation and management of the unified data system; • Creation of municipal service for the control of parking; • Conduct regular training in the field of management, development of public transport and the collection and analysis of traffic data to members of the relevant local authorities; • Development and implementation of a Programme for Street Design; • The creation and approval at the municipal level the responsible for the development of pedestrian infrastructure terms of reference; • Establishment of a municipal authority responsible for the road safety coordination in Poltava; • Inclusion of an independent "road safety audit" component to the projects of streets repairing and reconstruction.

7 Based on data about place of voters registration

8 Characteristics of Urban Passenger Transport, 2008

9 Estimated based of Mobility Survey, Dornier Consulting International GmbH, 2018

10 Information of the Police Department of Poltava in 2015

Highlights

Two years after the adoption of the SUMP, significant progress has been made to make public transport and cycling more attractive in Poltava

Since the SUMP was approved by the Poltava City Council in 2020, the most progress have been made in priority 1 *increase the attractivity of public transport* and priority 4 *development of cycling.*

Priority 1: attractivity of public transport

- Effective purchase of 11 buses in 2019 as well as 40 low-floor new trolleybuses in 2020 (financed by EBRD)
- Real-time information systems to passenger, including mobile app and GPS trackers embedded in trolleybuses
- Transport model has been developed to improve public transport routes
- 23 public transport stops repaired, 10 equipped with real-time information systems to passenger
- Preparation of EUR 4.5 million investment project by the European Investment Bank (EIB), to develop the trolleybus network lines and infrastructure, including power station
- Process to integrate fares has started

Priority 4: development of cycling

- A working group has been created for cycling infrastructure development
- Specific action plan for cycling in Poltava has been prepared and approved
- The development of bicycle infrastructure is ongoing, with further support from GIZ, including bike park installations for schools, libraries and sport infrastructures, shared bicycle for public administration and the identification of new cycling routes
- Communication and advocacy efforts have been made in the local media and schools, in collaboration with the police services, to improve attractivity but also safety of cycling in Poltava

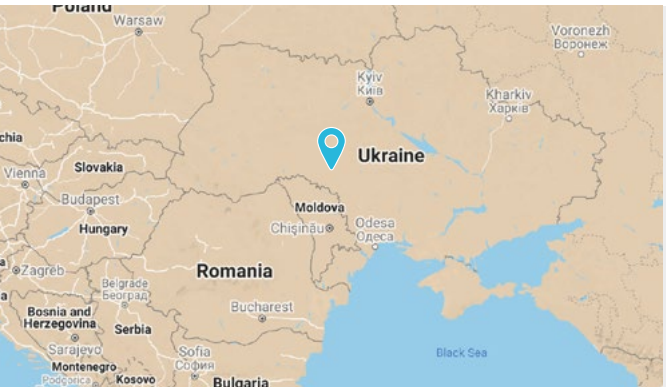
The political situation is impeding the domestic financing of SUMP measures

The main obstacle for the SUMP implementation is the access to domestic public financing, aggravated by the political situation, and the reallocation of budget to national defence. As international tensions have transitioned to a military conflict with the Russian Federation, there is hardly any perspective that this situation will improve in the short term.

Vinnytsia, Ukraine

Partner city

Status of the project: **Completed technical assistance**



Basic Information

Urban area: **113 km²**

Population: **369,900 (2018)** | Growth rate: **0,27%**

Region capital city

GDP per capita: **USD 8,668**

Context

The city of Vinnytsia has a relatively well-structured transport network that serves most housing and employment districts and connects them with the centre. The size of the system is optimal for trams and buses, but railway and vast industrial areas represent a barrier for soft modes of transport.

Topography, hydrography, and industrial infrastructure have a strong influence on the development of the road network. Only few relations exist over the Southern Bug river. A direct connection between outer districts does not exist, and most of outer districts have low population and employment density.

The recent developments have been strongly oriented toward individual motorised traffic, and there is room for improved traffic management, profiles of the existing streets offer enough space for all different modes of transport, including cycling, and for quality urban space with tree lined avenues.

Support from the Partnership

Technical assistance: Sustainable Urban Mobility Plan (SUMP)

Funded by: The German Federal Ministry for Economic Cooperation and Development (BMZ), Swiss State Secretariat for Economic Affairs (SECO)

Implemented by: GIZ through the project **Integrated urban development in Ukraine**.

Local counterpart: Vinnytsia City Council

Supported activities:

- Capacity building for designing, applying, and implementing processes and standards of integrated and sustainable urban development
- Preparation of priority infrastructure projects and implementation of small scale, low budget, and high impact investments (quick wins)
- Establishment of suitable communication, coordination, and cooperation mechanisms

Status of implementation

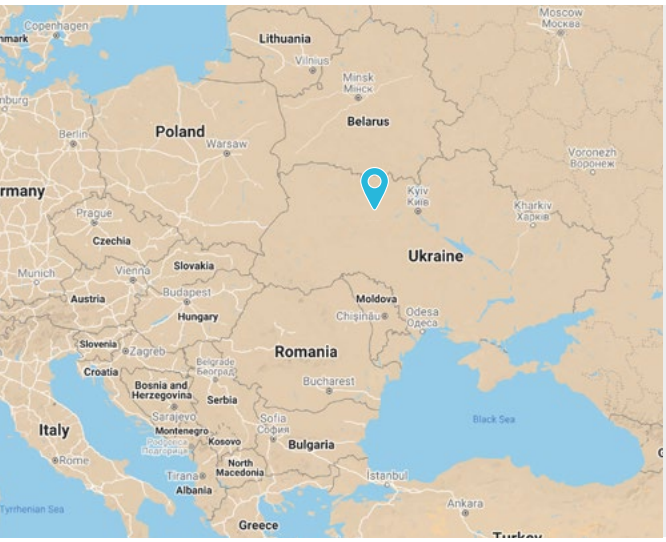
Project start: 2017 Q4

Project completion: 2019 Q4

Zhytomyr, Ukraine

Partner city

Status of the project: **Completed technical assistance**



Basic Information

Urban area: **93 km²**

Population: **264,300 (2018)**

GDP per capita: **USD 8,668**

Modal share:

- **Motorised vehicles: 15%**
- **Public transport: 46%**
- **Walking: 37.8%**
- **Cycling: 1.3%**

Context

Zhytomyr is a city in the north of Ukraine, and is an important hub of inter-city road transport, due to its position as a crossroads between Kiev and the western cities of the country. It is also an important railway hub linking Kiev, western Ukrainian cities, Minsk, and Russia via Belarus.

The city has a long tradition of electric public transport, with the adoption of the tramway in 1988, and the trolleybus since 1962. The trolleybus network grew steadily until 2008, when it was streamlined from 19 to 11 lines. Every year, the city's trams and trolleybuses carry almost 40 million passengers. The length of the electric transport routes reaches 125 km.

Several transport and mobility related challenges were identified during the SUMP preparation process. The fleet of public transport rolling stock needs to be updated. The average age of the trolleybus is 27.5 years, the tram is 32.5 years old and the standard period of operation is 10 and 15 years, respectively. Road accidents are frequent and road markings are absent on a variety of secondary roads and alleys, where it is particularly important to replenish the markings. In terms of walking infrastructure in the city, Zhytomyr has a problem of narrow pedestrian walkways, which are common in residential areas. Most traffic lights have no sound equipment. The street lighting focuses only on roads, which leads to insufficient lighting on the sidewalks.

Support from the Partnership

Technical assistance: Sustainable Urban Mobility Plan (SUMP)

Funded by: The German Federal Ministry for Economic Cooperation and Development (BMZ), Swiss State Secretariat for Economic Affairs (SECO)

Implemented by GIZ through the project **Integrated urban development in Ukraine**

Local counterpart: City Council Zhytomyr

Finance leverage: EUR 10,000,000

Supported activities:

- Capacity building for designing, applying, and implementing processes and standards of integrated and sustainable urban development
- Preparation of priority infrastructure projects and implementation of small scale, low budget, and high impact investments (quick wins)
- Establishment of suitable communication, coordination, and cooperation mechanisms

Status of implementation

Project start: 2017 Q4

Project completion: 2019 Q4

SUMP key measures and cost estimates

The following table highlights the most significant measures identified in the SUMP.

Measure	Cost Estimate
Reconstruction of central streets and sidewalks	Not available
Envoy for bicycle transport is needed within the structure of the city administration	Not available
Further work on the concept of changes of Sobornyi and Peremohy squares, elaboration of feasibility studies, looking for funding	Not available

The following table summarises the total capital expenses (CAPEX) estimates for different types of measures in the SUMP.

Finance leverage

Financing resulting from the SUMP	Source	Amount
Trolley buses	EBRD	EUR 10,000,000

Latin-America and the Caribbean

Latin-America and the Caribbean

Completed

Belo Horizonte, Brazil P.180
Teresina, Brazil P.183
Antofagasta, Chile P.186
Colombia P.191
Ibagué, Colombia P.196
Curridabat & Montes de Oca, Costa Rica P.199
Havana, Cuba P.203
Santo Domingo, Dominican Republic P.208
Ambato, Ecuador P.217
San Juan Comalapa, Guatemala P.223
Guadalajara, Mexico P.227
Arequipa, Peru P.231
Trujillo, Peru P.235

Ongoing

Córdoba, Argentina P.240
La Paz, Bolivia P.242
Baixada Santista, Brazil P.244
Chile P.247
Ecuador P.252
Puebla, Mexico P.255
Paraguay P.258
Uruguay P.261

Belo Horizonte, Brazil

Partner city

Status of the project: **Completed pilot project**

Basic Information

Urban area: **14,420 km²**

Population: **5,700,000** | Growth rate: **1.05%**

Region capital city

GDP per capita: **USD 17,239**

Modal Share:

- **Formal public transport: 28%**
- **Walking: 35%**
- **Cycling: 0.4%**
- **Private cars: 33%**
- **Motorcycle: 4%**

National GHG emissions per capita: **5.12 (tCO_2eq)**

Context

Belo Horizonte is the capital of the state of Minas Gerais and located in the south-eastern region of Brazil. It is the third-largest metropolitan area in the country and has a population of over 2.4 million, with 5.7 million in the official Metropolitan Area (IBGE, 2014). Considering the rather moderate ambition level of Brazil's NDC, local action in cities play a crucial role for climate change mitigation. Belo Horizonte is one example of an active mid-sized city committed to sustainable development.

In its NDC, Brazil commits to reduce greenhouse gas emissions by 37% below 2005 levels by 2025. The NDC also contains a subsequent indicative contribution to reduce greenhouse gas emissions by 43% below 2005 levels in 2030. Compared to the 1990 level this translates to 6% respectively 16% reduction. With this target Brazil is the first major developing country to commit to an absolute GHG reduction below 1990 levels.

Belo Horizonte has a series of plans (Master Plan, PlanMob-BH, Belo Horizonte – a Smart City, etc.) and policies in place that are reviewed and monitored on a regular basis to help guide the urban development of the city. Belo Horizonte has already made important progress towards sustainability and in the medium and long run Belo Horizonte envisions becoming an example of smart and sustainable urban development for Brazil and Latin America. However, road transport remains responsible for 53% of greenhouse gas emissions in Belo Horizonte and could reach 6 million tons of CO_2 emissions by 2030. With regard to mobility, Belo Horizonte already has an innovative Sustainable Urban Mobility Plan (2010, reviewed in 2016), called PlanMob-BH, with comprehensive measures related to eight strategic areas: (1) active mobility, (2) collective mobility, (3) motorised individual mobility, (4) traffic calming and circulation, (5) urban logistics, (6) sustainable city, (7) universal accessibility, and (8) management, supervision and operation. Each strategic intervention is complemented by actions and indicators for short (2020), medium (2025) and long-term (2030) planning horizons.

Since 2017 Urban Pathways has been supporting Belo Horizonte in the implementation of active mobility projects. For this, Urban Pathways has invited the city to participate in several international fora, training, and peer-to-peer learning. Moreover, Urban Pathways has provided technical assistance in the development of project proposals to be submitted to

donors. As a result, in 2019 Belo Horizonte implemented four "Zones 30", one of which counted with the support of Urban Pathways from conceptualisation to financing, the Zone 30 Confisco. The successful implementation of Zones 30 in Belo Horizonte has led to a great acceptance from citizens and political support.

The Zone 30 pilot-project foresees a wide deployment of vertical and horizontal signalling, reallocation, and repositioning of parking spaces to provide the reduction of the speed, and enlargement of sidewalks with the creation of small areas of coexistence for pedestrians with the insertion of urban furniture. Beyond the immediate mobility related issues, Belo Horizonte also recognises these measures as an opportunity to revitalise the downtown area and enhance the quality of life by creating pedestrian streets and giving the space used for cars back to the people.

In terms of capacity building, Urban Pathways involved Belo Horizonte in webinars on e-scooters, tactical urbanism, public space interventions, AQ sensors, etc. Urban Pathways also supported the participation of Belo Horizonte in the Transport and Climate Change Week 2018 and 2022 (Berlin), Sustainable Urban Infrastructure Forum (Quito), International Conference on Climate Action 2019 - ICCA (Heidelberg), a site visit to Santiago de Chile (2020), among others. Thus, Urban Pathways would like to continue supporting Belo Horizonte in the development of active mobility projects, awareness raising, and cross-sectorial integration related to climate change mitigation.

Support from the Partnership

Technical assistance: Pilot Project development

Funded by: BMU through the International Climate Initiative (IKI), WRI Brasil, TUMI

Funding amount: EUR 100,000

Implemented by: Wuppertal Institute and UN-Habitat through the project Urban Pathways

Local counterpart: Belo Horizonte Transport and Traffic Company (BH-TRANS)

Supported activities:

- Pilot project financing and implementation
- Capacity building, training, and participation in international fora
- Assistance in the development of project proposals for donors

Status of implementation

Project start: 2017

Project completion: 2022

Completed outputs:

- Pilot project implementation of Zone 30 in Confisco neighbourhood
- Pilot project implementation of EcoZone in Santa Tereza neighborhood
- Capacity building and webinars on e-scooters, tactical urbanism, public space interventions, AQ sensors

Insights from practice: key pilot project takeaways

The necessity of a pilot project as first step for implementing zone 30 in Belo Horizonte

The pilot project, implemented in the Confisco neighbourhood since 2019, aimed to create a low-cost Zone 30, increase safety around the school area, and enhance social cohesion in the neighbourhood. The positive results of the project, including increased public perception and city-wide replication, have led to the institutionalisation of this type of intervention in Belo Horizonte. Despite the success of the pilot project, there is still room for improvement in the intervention strategy and specificity of project results. Possible improvements include addressing measurement errors, increasing assessment days, and incorporating awareness-raising activities related to waste.

Incorporating sustainability and awareness-raising activities in future urban intervention projects: Insights from the Confisco Zone 30 pilot project

The pilot project showed that community participation, before and after assessments, and inter-institutional cooperation are crucial elements for the success of an urban intervention project like the Confisco Zone 30. The positive results of the project, such as increased safety around the school area and social cohesion in the neighborhood, as well as the public's positive perception, have led to the institutionalisation of this type of intervention in Belo Horizonte. BHTrans is now creating a Zone 30 guide to help replicate this success city-wide.

The pilot project also revealed that there is still room for improvement in the intervention strategy and specificity of project results. For example, the results of the Smart Citizen Kit did not exhibit the desired results during the mobility week, and the relative numbers of pedestrian and cyclist counts hardly exhibited any difference in mobility behaviour in the surroundings of the school. To address these issues, covering a longer period of time before and after the intervention and increasing assessment days could help reduce data biases and measurement errors.

Finally, some elements that could be included in future urban intervention projects were identified, such as the fabrication of urban furniture with local partners using recycled materials and the inclusion of awareness-raising activities related to waste. The Confisco Zone 30 already incorporated some of these elements, but further attention to these topics could improve the success of future projects. Overall, the pilot project provided valuable insights into what works and what could be improved in urban intervention projects, serving as a model for future initiatives.

Results and perspectives for scaling

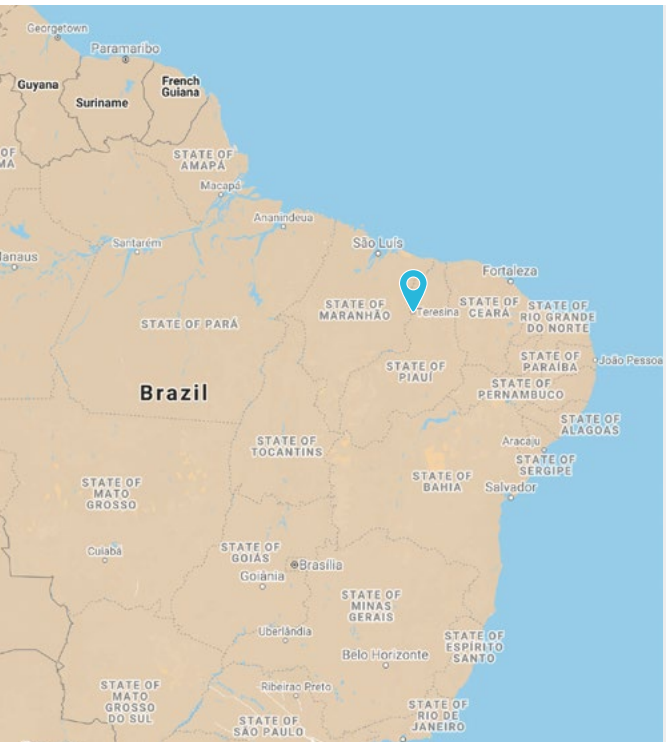
Belo Horizonte's Model for Safe and Sustainable Mobility: A Blueprint for Cities Worldwide?

While the project's specific implementation may not be directly replicable in other locations, the project's emphasis on community engagement, inter-institutional cooperation, and low-cost interventions can serve as a model for similar projects around the world. The creation of a Zone 30 guide can be a valuable tool for other cities interested in pursuing similar initiatives.

Teresina, Brazil

Partner city

Status of the project: **Completed pilot project**



Basic Information

Urban area: **1,392 km^2**

Population: **1,203,922** | Growth rate: **1.21%**

Region capital city

GDP per capita: **USD 6,729**

Modal Share:

- **Formal public transport: 21.3%**
- **Walking: 32.6%**
- **Cycling: 11.8%**
- **Private cars: 24.8%**
- **Private motorbikes or 2-wheelers: 5.8%**

National GHG emissions per capita: **5.12 (tCO_2eq)**

Exposure to climate change: **MEDIUM**

Context

Teresina is a low-density agglomeration of 1.2 million inhabitants, located in the north-east of Brazil. The city is located at a crossroads near major cities of the north coast of the country, notably Fortaleza and Sao Luis, which contributes significantly to its economic development. However, the city suffers from urban sprawl, which increases travel time, costs and reduces the efficiency of public transport.

The 2008 Master Plan for Transport and Urban Mobility states that 1.91 million trips are made per day in the greater Teresina, standing out on foot (32.6%), followed by private car trips (24.8%), and municipal public transport (21.3%), with less representation, bicycle (11.8%) and motorcycles (5.8%). The relatively low share of public transport illustrates existing issues related to efficiency, accessibility and affordability of public transport accessibility but also affordability issues. Public transport in Teresina is currently provided by about 100 bus lines, as well as a BRT system under development. This network is operated by 4 main companies with a total fleet of 550 vehicles. This network is supplemented by 8 alternative service routes, operated by 45 vehicles from minor operators organised under the SINTRAPI (Alternative Passenger Transport Operators Union).

During the last year, the current "conventional" bus system has gradually been replaced by the new Integrated BRT System. This evolution redesigns the bus routes, previously classified into (i) radial, (ii) circular, and (iii) *diametrais* (from one side of the city to the other, going through the city center) all converging to the Central Business District, and leading to overlapping itineraries and a saturation of some segments in the system.

The Integrated BRT System introduces a new feeder-trunk system, operating with a set of feeder lines that connect neighborhoods to zone terminal, and trunk lines (BRT) departing from terminals to city center or linking terminals. It divides the city in 4 main zones (South, Southeast, East, Center-North - Teresina doesn't have West zone inside the municipal jurisdiction), each zone with 2 bus terminals, and the CBD has 4 unloading terminals. The bus route concession was allocated by zone, and each operator holds the concession for the set of routes of a zone.

Teresina Municipality Town Hall, the local counterpart, has the mandate and responsibility to finance mass public transport infrastructure. It has authority to borrow from international finance sources. Systems and procedures are partially in place to monitor, evaluate and report on urban transport.

The project supported by the MobiliseYourCity Partnership implements an Open Innovation approach which aims at (i) identifying the key issues of the transport system management and (ii) developing relevant digital solutions that can address those issues and scale up strategy.

The specific objectives of the Project are to:

- Provide **a rapid assessment of the current public transportation system of Teresina;**
- **Co-identify and prioritise the main issues faced by the public transportation system;**
- **Identify solutions and technologies which could address those prioritised issues, including blockchain;**
- **Provide methodology and resources to prototype pilot projects;**
- **Lesson learned** from the pilots, documentation and definition of the pilot implementation strategy.

The technical assistance contributes to institutional strengthening by tackling trust issues between all the stakeholders of the mobility sector through data and technological solutions.

Support from the Partnership

Technical assistance: Pilot Project development

Funded by: EUROCLIMA+

Funding amount: EUR 500,000

Implemented by: AFD through the project

Local counterpart: Teresina Municipality Town Hall, Secretary of Planning and Coordination (SEMPLAN)

Supported activities:

- Install the blockchain platform and promote its use by the actors involved in the Teresina transport system.
- Implement a public transport governance system based on co-management and the opening of data and processes whereby the municipality, companies, users and the treasury interact in a collaborative way.

Status of implementation

Project start: 2019 Q4

Project completion: 2022 Q1

Completed outputs:

- Signature of a MoU between Teresina and AFD
- Finalisation Diagnosis
- Finalisation Setup of The Open Innovation
- Finalisation Pilot Conception
- Finalisation Proof of concept
- Scale-up strategy

Core impact indicators baselines

Indicator	Baseline - 2020
Total annual transport related GHG emissions (Mt CO_2eq)(Brazil)	1,070.08 Mt CO_2eq
Annual transport related GHG emissions per capita (kg CO_2eq)(Brazil)	5,120 kg CO_2eq / capita
Air pollution Mean urban air pollution of particulate matter (in µg PM2.5) at road-based monitoring stations	13 µg/m³ of PM2.5
Road safety Annual traffic fatalities in the urban area, per 100,000 inhabitants	22.8 fatalities / 100,000 hab

Insights from practice: key pilot project takeaways

Breaking Down Barriers: How Teresina's Pilot Project Overcame Data Inefficiencies in Transport Management

The pilot project in Teresina aimed to improve the efficiency of the BRT system by implementing an innovative information and interrelationship system. By reducing information asymmetries between stakeholders, decision-making was improved, making it easier to adjust to the interests of each actor. The project successfully tackled the challenges of inefficient data management and analysis, paving the way for more effective traffic reorganisation policies in the future.

The use of this information system is also intended to improve the levels of traffic norms infringement of private companies in terms of fines and infractions committed, in addition to providing better traceability of the process.

Open innovation process allowed for public interest and sharing of data, but political will is lacking to expand solutions

Implementing blockchain technology in the transportation sector is very innovative and became a challenge in the open innovation process, as there were few participants who could integrate it into the solutions. The open innovation process allowed for citizen participation and interest in the management of the transportation system, and internally, the municipality had to coordinate to share data and public information. As a result, the information has been shared publicly in a website: https://observatorio.stardust.dev.br/. However, the lack of political interest from the high officers and the remaining basic challenges of the public transport system, did not allow for systemic change.

Results and perspectives for scaling

Scaling-up strategy developed from the outset connects to potential funding for the city

The scaling up of Teresina's pilot project was included from the beginning. Solutions developed in the Open Innovation process were structured in a strategy to be implemented by the city and to be included as part of a potential funding for expansion of the Proof of Concept, through the AFD Project "Teresina 2030".

Antofagasta, Chile

Partner city

Status of the project: **Completed Sustainable Urban Mobility Plan**

Basic Information

Antofagasta urban area: **30,718 km²**

Population: **388,545** | Growth rate: **2%**

Region capital city

GDP per capita: **USD 47,000**

Modal Share:

- **Formal public transport: 25.08%**
- **Walking: 28.31%**
- **Cycling: 0.33%**
- **Private cars: 35.13%**
- **Taxis: 9.13%**
- **Freight vehicles: 1.28%**
- **Other: 0.74%**

National GHG emissions per capita: **5.92 (tCO_2eq)**

Exposure to climate change: **MEDIUM**

Context

Antofagasta is 30 km long and on average 2 km wide, where about 380 thousand citizens live, according to the 2017 census. The city, whose economic development is mainly linked to the copper mining industry, is characterised as being the destination of tens of thousands of migrants seeking job opportunities. The intercensal variation (2002-2017) shows a higher population increase of 22.99%, which is greater than the growth experienced in the country (16.26%). The total population growth in Antofagasta stands out, with 72,396 new inhabitants in the intercensal period. An important part is immigrants who come to the region are attracted by the climate and job opportunities.

Around 100,000 vehicles circulate daily in the city, and the average travel distances are between 5.9 and 7.4 km. Geographic restrictions and demographic pressures have pushed the city's development to the north and the south, and more than 60% of the population live in the northern sector. However, most of the city's services, employment, and economic activities remain concentrated in the centre, creating congestion and putting additional stress on the city's already fatigued and poorly functioning transport network. The transport network has, in turn, only exacerbated urban development and land use challenges. The two branches of the private train that transports materials from the mines to the port pass through the heart of the municipal territory, dividing the city in two, interrupting traffic flows and consuming a large part of the urban territory with its right of way.

Faced with this, the Regional Government, in conjunction with the Local Government and other institutions, have promoted a series of mobility initiatives that complement the current public transport system and the urban transport master plan. However, these are not necessarily linked to each other, and their impact in terms of emissions is unknown.

The regional Government of Antofagasta has the mandate and responsibility to finance mass public transport infrastructure, not its operation. It has the authority to borrow from international finance sources. Systems and procedures are not yet in place to monitor, evaluate and report on urban transport development.

The SUMP process has already achieved important milestones. A Technical Board that institutionally and politically validates the development of the SUMP has been established, as well as a Social Board responsible for including the demands and perspectives of citizens and other stakeholders in the SUMP. The authorities also set up a website (www.movilidadantofagasta.cl) that is the primary communication tool with citizens, hosting surveys and news.

Phases 1, 2 and 3 of the SUMP development process have ended. There is already a consolidated vision, objectives, indicators, and goals for the SUMP and a selection of measures. SUMP's official launch happened in November 2022.

Support from the Partnership

Technical assistance: Sustainable Urban Mobility Plan

Funded by: European Union

Funding amount: EUR 500,000

Implemented by: GIZ through the EUROCLIMA+ Programme

Local counterpart: Regional Government of Antofagasta

Supported activities:

- Develop an Integrated Sustainable Urban Mobility Plan, which adds environmental goals and monitoring, reporting and verification (MRV) mechanisms to existing measures and isolated modal plans
- Support the integration of various modes of transport and improve existing bike lanes, sidewalks and public transport infrastructure
- Formalise the Technical Board for Sustainable Mobility in the city
- Train regional and municipal government officials
- Promote citizen empowerment and give them access to decision-making, focusing on investments

Status of the SUMP process

Project start date: May 2018

SUMP adoption date: 2022 Q4

Completed outputs:

- Status quo analysis, including emissions inventory
- Implementing the communications and participatory process strategy, including the web page and social networks accounts
- Implementation and results of online surveys
- Implementation of the Technical Board
- Implementation of the Social Board
- MRV plan
- Phase I to IV completed
- Draft SUMP policy document

- Implement an Observatory for Sustainable Urban Mobility in the city of Antofagasta
- Communications products (graphic summary of the policy text, short video, poster)
- Launch of SUMP implementation

SUMP key measures and cost estimates

The following table highlights the most significant measures identified in the SUMP. The measures presented here are part of the prioritised set of measures[1].

Measure	Cost Estimate
Total prioritised measures	**USD 1,222,680,555**
Physical (infrastructure, rolling stock, etc.)	**USD 1,202,049,946**
Renewal of buses and collective taxis fleet	USD 417,000
Mass transit system	USD 576,666,667
Shelters and public transport transfer zones	USD 2,027,778
Network of high-standard pedestrian axes	USD 299,042
Extending the network of cycle lanes and cycle parking areas	USD 7,381,944
Urban renovation zones and incentives for residential use	USD 1,291,667
Traffic calming measures	USD 4,861,111
Enabling and consolidating urban transects	USD 78,889
Continuity of north-south road axes	USD 214,930
Integrated intermodal stations and terminals	USD 16,541,667
Technical (studies, plans, design)	**USD 76,000**
Restructuring of the taxi-bus service network	USD 76,000
Policy & regulation	**USD 20,569,444**
Parking management policy	USD 55,555
Incentives for the generation of centralities	USD 3,166,667
Incentivos para la generación de centralidades	USD 69,444
Integration of logistics in land-use planning	USD 576,389
Establishment of a regional metropolitan transport corporation	USD 76.389
Development of the Public Space Infrastructure and Mobility Plan	USD 16,625,000

The following table summarises the total capital expenses (CAPEX) estimates for different measures in the SUMP.

Urban transport investment measures	CAPEX Estimate
Public transport	USD 579,284,722
Active transport	USD 314,965,277
Disincentive to car use	USD 17,888,888

1 Measures that due to their technical, financial feasibility and GHG emissions reduction potential are indispensable to kick-off the implementation of Antofagasta's SUMP.

Urban transport investment measures	CAPEX Estimate
Land use and public space	USD 430,152,777
Freight and logistic transport	USD 716,027,777
Intermodality	USD 310,513,888
Governance	USD 16,701,388
Total	USD 2,385,534,722

Projected impacts

Indicator	Impact 2030 (SUMP vs BAU)	Baseline – 2017	Projected 2035 BAU	Projected 2035 SUMP scenario
Total annual GHG emissions (Mt CO_2eq)	-0.36 Mt CO_2eq	0.343 Mt CO_2eq	0.400 Mt CO_2eq	0.364 Mt CO_2eq
Annual transport related GHG emissions per capita (kg CO_2eq)	Not quantified	815 kg CO_2eq / capita	Not quantified	600 kg CO_2eq / capita
Access Increase of the proportion of the population living 500 meters or less of a public transport stop	Not quantified	80.4% (2018)	Steady	90%
Modal share Increase of the modal shares of trips by public transport, walking and cycling	Not quantified	63.3% (2018)	Gradually decreasing	70%
Road safety Decrease of traffic fatalities in the urban area, per 100,000 inhabitants	Not quantified	5.56 fatalities / 100,000 hab (2018)	Gradually increasing	3.50 fatalities/100 000 hab

Perspectives for implementation

Public authorities are working together to allocate funding for SUMP implementation

The regional Government has been working during December 2022 with other central and local government public agencies to develop a programming agreement for financing the projects of the SUMP. A programming agreement is a financing agreement between two or more financial institutions, such as Ministries, Municipalities and Regional Governments, aimed at pooling resources for the achievement of an objective of high regional interest.

Insights from practice: lessons learned from the SUMP process

Global methodologies need to be adapted to the local context

Transport planning methods and tools used for SUMP development must meet the requisites of the Chilean national investment system; otherwise, projects cannot get financial resources from the central Government. Learning from Antofagasta's SUMP, the regional Government has overcome this problem in a new project when developing terms of reference for Calama's SUMP. The central Government accepts the used planning methods and tools so that projects can opt for public resources.

Participation is a crucial component of the SUMP formulation. Still, related strategies must be the most cost-efficient alternatives considering the available resources are important to consider public participation from the beginning of the SUMP process. This trade-off worked very well for the Antofagasta SUMP case, becoming one of the strengths of this experience. Public participation was particularly relevant for understanding the current problems and needs of the Antofagasta population.

Although the generation of two participatory roundtables (the Technical Roundtable and the Social Roundtable) was a successful process in Antofagasta, it required more resources and the need to cross-reference the work carried out in both spaces. Generating a single broad participatory roundtable (multi-sectoral, multi-level and multi-stakeholder) from the beginning of the SUMP can reduce costs and increase efficiency for process management.

It is vital to be able to communicate progress while the SUMP is under development so that people can become involved in it to generate a «collective awareness» about the urgency of acting in the transport sector to mitigate the climate crisis. Implementing the website and other digital tools was of great help in this regard.

Even if it is not a binding policy instrument, ensuring budget at different levels of government and governance bodies can uphold the SUMP

The Antofagasta SUMP is a non-binding public policy instrument, so its approval rests in the hands of the principal, which corresponds to the Regional Government of Antofagasta. However, to secure part of the public funding required for the plan, the Regional Government has committed to sign a «Programming Agreement», which is the general instrument through which Regional Governments engage shared funding with Ministries to finance local initiatives.

The Regional Secretariat of the Ministry of Housing and Urban Development has decided to give continuity to work carried out by the SUMP participatory roundtables, merging them and taking over their leadership. This leadership will make it possible to exercise control over the SUMP's implementation and continue empowering the stakeholders involved.

Sustainable urban mobility should be planned in interaction with other urban planning instruments and adapted to the local context

Antofagasta conceived its SUMP as compatible with other urban public policies, such as regeneration, housing or development plans, since authorities should not understand mobility from a single sectoral perspective. Several urban components influence urban mobility and vice-versa.

For the SUMP development in Antofagasta, the SUMP team harmonised the SUMP methodology proposed by MobiliseYourCity with existing transport or mobility planning processes and experiences in the local territory. Existing transport plans already addressed aspects such as modelling, indicators or measures' scope.

Antofagasta launches Chile's first SUMP mobility observatory

As part of the SUMP process, Antofagasta presented its Mobility Observatory, a platform that allows the visualisation of the indicators of the SUMP, the first of its kind in a Chilean city. The observatory consists of a web platform that monitors the implementation of the Antofagasta SUMP and its strategic objectives. Read more on EUROCLIMA+ website.

Colombia

Partner country

Status of the project: **Completed National Urban Mobility Policy or Programme**

Basic Information

Population: **50,662,678 (2020)** | Growth rate: **0.8%**

Percentage of urban population: **77.1%**

GDP per capita: **USD 5,334**

Percentage of the population living below the national poverty line: **27%**

Annual average infrastructure expenditures as a percentage of GDP: **1.8%**

Nationally Determined Contribution (NDC): **Committed reduction of 51% of overall GHG emissions compared to BAU by 2030, unquantified mobility target**

National GHG emissions per capita: **3.75 (tCO_2eq)**

Proportion of transport-related GHG emissions: **12%**

Exposure to climate change: **HIGH**

Context

Colombia is Latin America's third most populated country after Brazil and Mexico. Bogota is its capital and most populated city, the country's economic, political and financial centre. 77.1% of Colombian citizens live in cities, and in rural areas, access to education, public health and other essential services is still limited in many regions. Poverty and inequality are significant challenges for Colombia, with a multidimensional poverty index of 20.2% and a GINI index of 0.522, placing it as the second-most unequal country in Latin America, only after Honduras. The Gross Domestic Product (GDP) has been growing for the last two decades, with an average annual growth rate of 3.8%, according to the National Ministry of Finance and Public Credit reports. This economic growth is remarkable, given the country's long-standing internal conflict. Colombia is an upper-middle-income country. Historically, oil and other energetic products have played an important role in Colombia's economy. The country's priority exports and industrial growth areas are oil, electronics, agriculture, information technology, and shipbuilding.

Since road transportation in Colombia was responsible for 12% of the overall country-wide GHG emissions (37.8 $MtCO_2e$) in 2018, tackling the transport sector is crucial for complying with climate change mitigation goals. Electric mobility can be a powerful tool for achieving such goals. Additionally, public concern about the negative impacts of air pollution on public health has increased over the past years. The transport sector (Diesel freight and public transport, mainly) is responsible for 25% of PM2,5 emissions in large cities, the most relevant air pollutant in the Colombian context.

Buses play an important role in Colombia's transport landscape, from small feeder buses to bi-articulated high-frequency buses. They contribute to 23% of Bogota's local air pollution. However, given the increasing urban population densities and the deteriorating air quality, the bus systems' various configurations present an untapped potential for providing access to clean urban mobility. Electrification of public transport is an intersectoral priority of at least four national policy agendas (Energy Efficiency, Climate Change, Air Pollution and Urban Mobility) and three international policy commitments: the Paris Agreement, the New Urban Agenda and the Sustainable Development Goals.

Since the electrification of transport is vital for complying with climate commitments, promoting green growth, and protecting human health, the National Government has started developing a National E-Mobility Strategy in 2019. As electric buses have considerably higher upfront investment costs than traditional technologies and the technology is relatively new in Colombia, the technical assistance aimed to overcome these barriers with a program that supports the electrification of Colombia's public passenger transportation systems.

The technical assistance had four workstreams aiming at creating a suitable environment for electromobility deployment in cities without significant zero-emission fleets:

- Technical and regulatory design: Identify the technical and regulatory needs that should be located at the transport policy level in the country to enable the transition to electric public transport systems.
- Financial design: Analyse the context, barriers, costs, and economic conditions of public passenger transportation in Colombia to construct, in conjunction with our counterparts, an instrument to facilitate investments in electric fleets and infrastructure.
- Design of coordination and governance scheme: Through a systemic process with the national government counterparts, define the decision-making frameworks and methods to approve and follow up on the policies and plans that enable technological advancement.
- Design of MRV system: Build methodologies and capacities to monitor the development of policies and their impacts, especially regarding the mitigation of Greenhouse Gases.

Support from the Partnership

Technical assistance: National Urban Mobility Policy or Programme (NUMP)

Type of NUMP: Programme NUMP

Funded by: German Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection (BMUV)

Funded amount: EUR 800.000

Implemented by: GIZ through the TRANSfer III project

Local counterpart: Ministry of Transportation

Main purpose of the NUMP:

The TRANSfer project helped develop a National E-Bus Promotion Programme. This programme comprises a national investment fund to finance the upgrade of public transportation fleets and set the institutional arrangements and capacities for large-scale monitoring, reporting and verification methodology for e-buses deployment.

Supported activities:

- Financial and economic analysis for e-bus deployment at a large scale
- Prefeasibility of a public investment fund
- Support to legally structure a national fund for e-buses
- Supporting implementation of a national framework on e-mobility and its governance
- Diagnosis of technical gaps and barriers for policymakers
- Ex-ante and ex-post MRV system preparation

Finance leverage: USD/EUR 870,000

Status of implementation

Project start date: 2019 Q1

NUMP adoption date: 2022 Q1

Completed outputs:

- Zero emissions vehicles' investment fund for buses and freight legally established
- Fleet replacement and investment scenarios for every transport system in the country
- Prefeasibility, structure proposal and stakeholder awareness for the instrument
- National-scale institutional arrangement for e-mobility
- Operation and maintenance of an e-bus training program in place with an employability and gender perspective
- Course for e-buses system planning and electricity procurement for operators
- Mitigation potential and MRV methodologies for e-buses in line with the National Registry of Emissions Reductions (RENARE)
- Assessment of regulatory and capacity building needs, technical and policy barriers for e-bus deployment
- International course on transport systems based on e-buses (with Moving Chile)
- Employability strategy and technical curriculum with a gender perspective
- Electricity procurement guidelines
- E-bus workshop in Cali, Colombia (24-25 February 2020, 70 participants from cities, Ministry of Transportation, and academia)

Next expected outputs:

- Fund running by 2023 Q3

NUMP key measures and cost estimates

The following table highlights the most significant measures identified in the NUMP.

Measure	Cost Estimate
Public fund to finance bus fleet renewal (estimated from medium investment scenarios)	USD 460 million

The following table summarises the total capital expenses (CAPEX) estimates for different types of measures in the NUMP.

Urban transport investment measures	CAPEX Estimate (€M)
Nationwide bus fleet renewal (estimated from medium investment scenarios)	USD 850 million
Street shaping urban roads and traffic management	0
Other measures	0
Total	**USD 850 million**

Finance leverage

Leveraged financing (resulting or enabled by the NUMP preparation process).

Financing resulting from the NUMP	Source	Amount
E-motion project funding proposal for Latin America to the Green Climate Fund	AFD	EUR 570.000
Public fund investment manuals and implementation	ADB	EUR 300.000

Projected impacts

Indicator	Impact 2030 (NUMP vs BAU)	Baseline - 2019	Projected 2030 BAU	Projected 2030 NUMP scenario
Total annual GHG emissions (Mt CO_2eq)	-5.7 [1]Mt CO_2eq	34 Mt CO_2eq	43.4 Mt CO_2eq	37.7 Mt CO_2eq
Annual transport-related GHG emissions per capita (kg CO_2eq)	- 113 kg CO_2eq / capita	675 kg CO_2eq / capita	862 kg CO_2eq / capita	749 kg CO_2eq / capita

Perspectives for implementation

The Colombian congress approved a 2021 law creating the national fund for e-bus renewal

In 2021, a national law for climate action (Ley 2169 – 2021) was enacted, aiming to establish goals and actions to achieve carbon neutrality, climate resilience and low-carbon development in Colombia in the short, medium, and medium long term. The law creates a national fund for the technological upgrading of public transport systems and freight fleets. This fund will promote purchasing low or zero-emission vehicles and the support infrastructure required for the energy supply. The potential financial sources for the fund include local authorities, non-reimbursable technical cooperation, grants, and financial revenues, among others. Together with the government, the implementing partner (GIZ) is committed to keeping the support to find feasible funding alternatives to feed the created fund.

Despite the National government change, GIZ positioned the project in the political agenda for implementation

The technological upgrade fund for public transportation fleets and light freight was a process approved by law 2169 on December 2021. Its implementation has been a dynamic process taking most of 2022, significantly since the country changed national government, and the new administration needed to reprise implementation.

Given that the fund is part of the law, its implementation was practically assured. Nonetheless, the GIZ carried out the following activities for the project to be kept a for decisions makers:

- Ensuring the resources for the investment manuals with other cooperation institutions
- Including the mandate for implementation and potential funding sources as part of the government plan of the new administration
- Consider adding additional transport modes (taxis and heavy freight) to the fund's scope

1 Calculations made by the MobiliseYourCity Secretariat based on Colombia first NDC (https://unfccc.int/NDCREG) and Colombia MRV method (https://changing-transport.org/wp-content/uploads/Infografia-traCS-EN-1.pdf)

Insights from practice: lessons learned from the NUMP process

Decision-makers' ownership of the project contributes to keeping it alive

The experience with Colombia's technology upgrade fund showed that the key to achieving the project's adoption and implementation is to generate ownership among decision-makers and their advising teams. Also, it is necessary to shield the process from political conditions by achieving their legal approval as part of more significant initiatives.

The electrification of public transport in Colombia still needs public investment to cover capital costs

Studies indicated that the total cost of ownership difference between an internal combustion engine bus and an electric unit was considerably high. As a result, transport authorities and public transport operators in intermediate and small-sized cities cannot cover electrification's capital costs through soft loans. Instead, a considerable package of subsidies from the national government is required to make the e-bus technology competitive regarding its capital cost investments.

Nationwide emission reductions programmes in the transport sector can be comprehensive but flexible

The technical assistance delivered in Colombia did not follow the traditional NUMP formulation approach but tried to meet the needs of four pre-identified barriers for deploying electric mobility at the national scale and achieving effective mitigation outcomes. Thus, the four workstreams of the project (finance, governance, capacities and MRV) interacted harmonically to deliver concrete results related to political and financial commitment to the renewal of the public transport fleet in the country. However, the project did not follow the guidelines for formulating a NUMP.

Electrification's sustainability goes beyond ensuring funds and includes support infrastructure, capacity development, and systemic change

Building capacities in electric mobility within the transport sector is critical to ensure the sustainability of a solid fleet-renewal policy. Transport authorities must interact with the energy sector to enable fertile conditions for electromobility deployment. Moreover, operators and technicians need to be trained in the maintenance and mechanics of electric vehicle systems so operation management is not at risk. The inclusion of a gender focus in this component intended to close the gap for women to access jobs in the transport sector.

Highlights in the past year

New elected national government (2022-2026) includes the technology upgrade fund as part of their strategic sustainable mobility and decarbonisation tools

The newly elected government validated the implementation of the fund, including the possible funding alternative that could be used for the investment (General Budget, Demand Management Tools, and green taxes) and broadening the scope to taxis and heavy-duty freight.

Ibagué, Colombia

Partner city

Status of the project: **Completed technical assistance and ongoing pilot project**

Basic Information

Urban area: **56,8 km²**

Population: **529,635** | Growth rate: **0.69%**

Region capital city

GDP per capita: **USD 5,024**

Modal Share:

- **Formal public transport: 34.37%**
- **Informal public transport: 0.3%**
- **Walking: 26.89%**
- **Cycling: 0.9%**
- **Private cars: 11.1%**
- **Private motorbikes or 2-wheelers: 15.08%**
- **Taxis: 7.26%**
- **Other: 4.7%**

National GHG emissions per capita: **3.58 (tCO_2eq)**

Exposure to climate change: **MEDIUM**

Context

Ibagué has 541,101 inhabitants (DANE, 2018), distributed 501,991 (92.77 %) in the municipal capital and 39,110 (7.23 %) in populated and dispersed rural centres. Urban area is located in the Andean region with great environmental richness, and it is strategically placed within the country, establishing economic, social, and cultural interactions with cities such as Bogotá and Cali, 205 km and 279 km away, respectively. According to the report Ibagué Sostenible (2018), the city has great opportunities to consolidate its vocation and play a more relevant role at the national level. Regarding territorial articulation, Ibagué is an obligatory point of passage between the Pacific and the centre of the country. This circumstance has positioned the city as a road articulator facilitating the mobilisation of passengers and cargo. Additionally, Ibagué's economy revolves around commerce, services, agriculture and mining, generating products and services of high added value.

Ibagué's urban growth in recent years, especially in its outskirts, has generated accessibility problems to city's downtown and caused travel times to increase substantially. Hence, it is important to integrate new mobility models that connect the historic centre where much of the urban equipment is located. Mobility and Public Space Master Plan estimated that 905,000 trips are made in Ibagué every day, of which 36% are made to work, 25% study, 11% are for personal errands and the remaining 28% for shopping, and accessing health, recreation, and others. Mobility accounts for 32% of total CO_2 emissions in Ibagué, which makes it the second most polluting sector in the city. The city has 35.4 kilometres of cycle infrastructure.

The municipality of Ibagué does not have exclusive roads for public transportation since the Strategic Public Transportation System (SEPT – Mass Transit System) was approved in August 2020 and now it is under implementation.

According to the Mobility and Public Space Master Plan, the public transportation service has 32 routes with a vehicle fleet of 1,018 vehicles, of which 73% are buses, 16% are coaches and the remaining 11% are minibuses 11%. The city has a Master Plan of Mobility and Public Spaces.

The Mayor's Office of Ibagué, headed by Mayor Andrés Fabián Hurtado Barrera (2020-2024) has 15 sectoral secretariats: General, Planning, Finance, Administrative, Government, Health, Education, Economic Development, Culture, Environment and Risk Management, Community Social Development, Agriculture and Rural Development, Infrastructure, Mobility and Information and Communication Technologies – TIC. The local Counterpart has the mandate and responsibility to finance mass public transport infrastructure. It does not have authority to borrow from international finance sources. Systems and procedures are partially in place to monitor, evaluate and report on urban mobility.

The project implemented by GIZ through the EUROCLIMA+ Program consists in a pilot plan for the implementation of a sharing system for assisted pedalling bicycles for the city of Ibagué. This system will have eight stations, 69 mechanical bicycles and 16 electric-assisted bicycles across the city centre. The strategic objective of the project is to increase the number of residents and circulating populations in downtown using shared bicycles while promoting cycling as main mode of transportation. Additionally, the pilot project aims to build capacities for sustainable mobility of public authorities. The pilot seeks to reduce the levels of environmental pollution from mobile sources and promote healthy lifestyles by increasing the modal share of bicycles from individual motorised transport.

For the implementation of the public bicycle system pilot, EUROCLIMA+ counts as a strategic ally with INFIBAGUÉ, an entity that seeks to encourage, promote, and contribute to sustainable development and a social sense of the city by bringing together government agencies, economic associations and citizens. The mentioned organisation will be responsible for the implementation of the pilot project. To this end, licenses have been arranged with the Planning Secretariat for the installation of the stations in public spaces and the mechanisms for the future sustainability of the pilot have been coordinated with the Municipal Council.

The technical assistance contributes to institutional strengthening by improving the capacities of the mayor's staff involved in the project by linking them to the private sector and other experiences through the Community of Practice on sustainable urban mobility.

Support from the Partnership

Technical assistance: Pilot Project Development

Funded by: European Commission

Funding amount: EUR 500,000

Implemented by: GIZ through the EUROCLIMA+ Program

Local counterpart: Ibagué Municipality - INFIBAGUÉ

Supported activities:

- Formulation of a bike sharing pilot project
- Development of a strategic planning document that ensures the sustainability of the project
- Proposal of a business model combining both public and private resources for the bike sharing system
- Capacity building of public authorities for sustainable mobility planning

Status of implementation

Project start: 2019

Project completion: 2023 Q1

Completed outputs:

- Technical, legal and financial structuring in the feasibility stage and support in the tender process for the system implementation
- Successfully completed tender process, in which the implementation and start-up of the pilot was awarded in Q3 of 2021
- INFIBAGUÉ managed permits for the installation of stations in public spaces with the Planning Secretariat
- Manufactured bicycles, and stations and software development
- The bicycles arrived in the country at the end of March 2022
- Installation and stations deployment Q3, 2022
- Tender process to select an operator: November 2022
- Consultant additional support to identify new income sources and business models for future operation (when the system consolidates and leaves pilot stage)

Next expected outputs:

- Pilot project selection of operator and contract signing: January 2023
- Inauguration of the system in February 2023
- Deliverables of consultant additional support: March 2023

Insights from practice: key pilot project takeaways

Considering that the transport sector in Ibagué is the second responsible for CO_2 emissions, it is paramount to promote strategies to decarbonise transport. The implementation of a public bicycle pilot is in line with this objective, as well as promoting healthy lifestyle habits and offering alternatives for people with low income.

Lessons Learned from Ibagué

The implementation of public bicycle systems requires a clear and defined steering structure within the city, which should ideally be implemented from the project structuring stage, so that it reaches maturity and can be operated smoothly.

In the same way, it is essential that the city selects a business model according to its specific conditions, it is advisable to incorporate various funding sources to reach financial closure more easily.

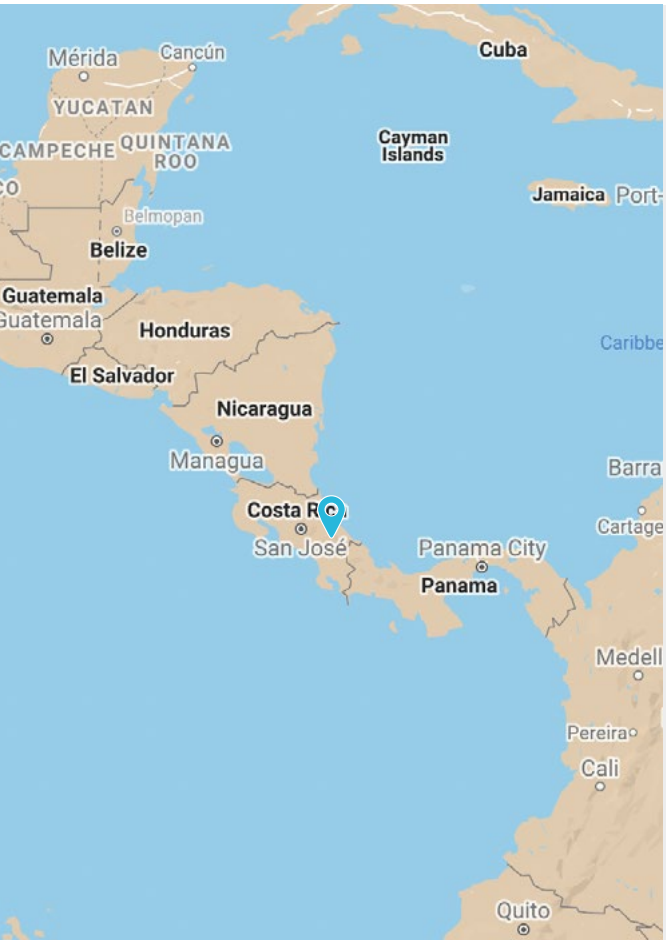
Results and perspectives for scaling

The findings and lessons learned from the structuring process of the Ibagué public bicycle system are part of the Guide for the implementation of Public Bicycle Systems issued by the national government on August 2, 2022 with the support of EUROCLIMA+ and C40 Cities Finance Facility, as part of the actions included in the National Active Mobility Strategy with a gender and differential approach - ENMA (also supported by EUROCLIMA+). This guide includes a step-by-step guide and recommendations for replicating and scaling up the implementation of public bicycle systems in Colombia.

Curridabat & Montes de Oca, Costa Rica

Partner city

Status of the project: Completed pilot project



Basic Information

Urban area: Curridabat 15.92 km^2
Montes de Oca 15.16 km^2

Population: 79,577 (Curridabat) and 62,533 (Montes de Oca) | Growth rate: 0.78% (Curridabat) and 0.36% (Montes de Oca)

Cantons of the Metropolitan Area of San José

GDP per capita: USD 11,215

Modal Share (Metropolitan San Jose Area, 2016):

- Formal public transport: 26%
- Informal public transport: 2%
- Walking: 36%
- Cycling: 1%
- Private cars: 27%
- Private motorbikes or 2-wheelers: 5%
- Taxis: 2%
- Train: 1%

Exposure to climate change: MEDIUM

Context

Montes de Oca and Curridabat are two of the 21 municipalities of the metropolitan area of San José; an urban agglomeration with more than 1.5 million inhabitants (one-fourth of the total national population). They are conurbations in the east zone of the metropolitan sprawl. Both cantons have a very high development, with a service-based economy. Moreover, Montes de Oca hosts many well-known universities in the country. Most of the residential and commercial activities for both municipalities are located in connection to the limit with the canton of San Jose, Costa Rica's capital.

As of 2016, more than 2.6 million trips were generated within the metropolitan area of San Jose in a working day. Although sustainable transport alternatives dominate the modal split (36% walking and 26% public transport), private modes (cars and motorbikes) have gained relevance, sharing 32% of the total trips. The motorisation rate is 0.5 cars per household and is expected to grow 4% annually. In contrast, cycling has a very low penetration as a transport mode.

Half of the trips in Curridabat and Montes de Oca are either internal or "inter-cantonales", falling within their own territorial boundaries. The rest have the canton of San Jose as the destination. Historically, and due to their geographic and social circumstances, cycling has held a more significant role in urban mobility in Curridabat and Montes de Oca compared

to neighbouring districts. This preference for the bicycle is influenced by the presence of students in the area and the working class in medium- and low-income settlements (mostly men).

There is no mass transit system in the municipalities, as in the rest of the metropolitan area. However, in 2017 an Integral Sustainable Urban Mobility Plan (PIMUS for its acronym in Spanish) was formulated for the metropolitan area of San Jose aiming at integrating all the modes of transport with urban planning. The PIMUS proposes the promotion of active modes of transport and the deployment of cycling infrastructure.

Since 2002, Curridabat's administration has promoted and encouraged a progressist and environmental vision of the city. Under the slogan "Ciudad Dulce" (Sweet City) the local government has undertaken interventions favouring biodiversity and the balance between constructed and natural environments. The canton has set a long-term commitment for active mobility. Decision-makers and city officials in both municipalities consider themselves as active urban cyclists. In turn, Montes de Oca implemented one of the first dedicated cycling lanes in the metropolitan area enhancing its connection with the canton of San Jose.

The local counterparts do not have the mandate and responsibility to finance mass public transport as it is national jurisdiction. As for the transport or cycling infrastructure, responsibilities are shared between national and local authorities, depending on the type of roads where cycling lines are located. Systems and procedures are partially in place to monitor, evaluate and report on urban mobility.

Considerable efforts were needed to consolidate the existing cycling infrastructure and to enlarge it beyond isolated initiatives. Additionally, governance schemes that could enable the construction and maintenance of cycling infrastructure were missing, leading to limited coordination between national ministers and local governments. In this context, the lack and atomisation of cycling infrastructure, and the blurry responsibilities of public authorities for active mobility planning threatened the long-term scalability of such initiatives.

The objective of the pilot project was to improve the conditions for the mobility and accessibility of urban cyclists in the cantons of Curridabat and Montes de Oca by developing cycling demand data, a plan for cycling infrastructure for both cantons, and the design and adequation of a prioritised network of cycling lanes. Participatory and educational processes for data collection and systematisation were implemented with cycling communities in the study area, though the pandemic limited in-person activities.

Support from the Partnership

Technical assistance: Pilot Project development

Funded by: European Union through EUROCLIMA+

Funding amount: EUR 400,000

Implemented by: GIZ through the EUROCLIMA+ Program

Local counterpart: Municipality of Montes de Oca, Municipality of Curridabat, Ministry of Public Infrastructure and Transport, Ministry of Planning, Ministry of Environment (through Dirección de Cambio Climático) and Ministry of Foreign Affairs

Supported activities:

- Information gathering: Collect information on cycling infrastructure needs in a participatory manner in the cantons of Montes de Oca and Curridabat
- Diagnostic: Identify the infrastructure needs of people who use bicycles as a means of transport, prioritised based on data collected, technical criteria, and participation
- Implementation: Design and build the infrastructure in the cantons of Montes de Oca and Curridabat while strengthening the urban cycling planning capacities
- Evaluation: Systematise and disseminate experiences and lessons learned during the project implementation

Status of implementation

Project start: 2019 Q4

Project completion: 2021 Q4

Completed outputs:

- Participatory data collection: participatory workshops with medium- and low-income cyclists to collect information on urban cycling in the canton identified infrastructure and capacities needs on urban cycling for participants. During the lockdowns related to the COVID-19 pandemic, some workshops were held virtually, and information was gathered through interviews and secondary sources.
- Prioritised planned infrastructure: identified priority infrastructure for urban cycling based on data collected, technical and participatory criteria. This proposal included 54km of cycling lanes in Montes de Oca and 60km in Curridabat. 20 km were to be implemented with EUROCLIMA+ funds.
- Adequation of cycling lanes: permanent implementation of an initial 4-km cycling lane in Montes de Oca in March 2021 followed by the implementation of another 16 km in a second phase finished in late 2021.
- Scaling-up experience: experience and lessons learned documented and disseminated, to promote the development of similar and complementary projects in other cantons of the San Jose Metropolitan Area.
- Strengthening capacities: Population of the cantons of Curridabat and Montes de Oca sensitised about better urban cycling.

Insights from practice: key pilot project takeaways

Tactical cycling interventions favour efficient use of resources

The selection of tactic alternatives for cycling lanes implementation was a wise move that enhanced efficiency regarding the use of the limited available resources. Thus, the bike lanes were implemented with the minimal required elements for their operation, though ensuring adequate conditions of road safety and considering the national technical guidelines. The bicycle lines implemented in this project became permanent as the experience tested and provided feedback to the national technical guidelines for cycling infrastructure adopted during the project execution. Other actions aiming at fostering intermodality made part of other activities linked to the pilot project, such as cycle-friendly adequations in train stops to allow cyclists to access public transport facilities.

Both political commitment and interinstitutional coordination enable project success

The driver for success in this project was the joint political commitment regarding active mobility and the coordinated work among technical officials and decision-makers. This group of collaborators was flexible and acted promptly to tackle emergent challenges. They also leveraged opportunities, especially those coming from the sanitary situation in the pandemic context. This group sought to enable synergies with other stakeholders in the public and private sectors and civil society. A governance structure for active mobility was created: “Red Intercantonal de Movilidad Activa - RIMA” (Intercantonal network of active mobility) to consolidate the cycling and walking network among different levels of government.

Results and perspectives for scaling

Replicability in the near future is ensured due to the assignation of both national and local resources to continue the cycling network expansion

Replicability in the future is expected to occur through a snowball effect. Efforts aiming at planning cycling infrastructure at the metropolitan level produced the Intermunicipal Territorial Plan of Active Mobility.

As the municipalities gained experience in how to adequate cycling infrastructure and better coordinate with the national government, implementation of the rest of the cycling lanes is likely to take place. Curridabat's municipality is already financing the expansion of its cycling network. This situation enables the incremental improvement of the existing network in both the short and long term. The Council of Road Safety (COSEVI for its name in Spanish) will also contribute to installing bollards in zones where cars reach high speeds.

Curridabat and Montes de Oca push cycling forward in the metropolitan policy agenda

In the launch of the RIMA, both Curridabat and Montes de Oca took the lead to continue the implementation of the Intermunicipal Plan of Active Mobility, encouraging neighbouring municipalities to undertake actions to deploy infrastructure for walking and cycling.

Stakeholders and project participants achieved coordination with the Costa Rican Railway Institute (INCOFER for its acronym in Spanish) to allow cyclists access to the train infrastructure. The model is replicable.

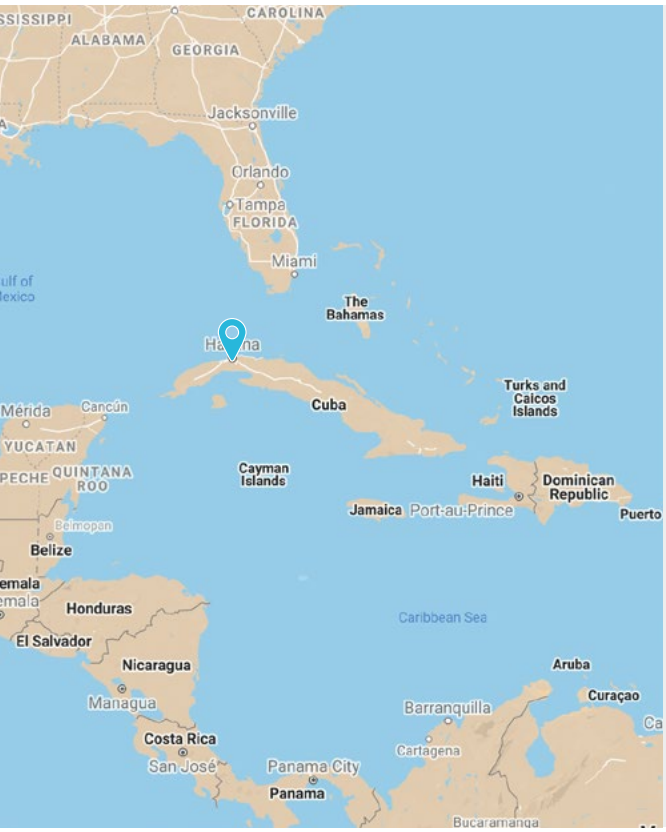
The municipalities approved budgets to expand cycling infrastructure. The Pilot Project also leveraged additional financial resources from the EU-funded MUEVE project to build part of the priority cycling corridors.

As the project was completed in December 2021, the factsheet has only marginally been updated in 2023.

Havana, Cuba

Partner city

Status of the project: **Completed Sustainable Urban Mobility Plan and ongoing pilot project**



Basic Information

Urban area: **728 km²**

Population: **2,132,183** | Growth rate: **0.16%**

Country capital city

GDP per capita: **USD 9,499 (2020)**

Modal Share:

- **Formal public transport: 43,6%**
- **Walking: 46,2%**
- **Cycling: 1,1%**
- **Private cars: 6%**
- **Private motorbikes or 2-wheelers: 3,2%**
- **Taxis: N/A**

Moto taxis and Freight vehicles: **N/A**

National GHG emissions per capita: **3.74 (tCO_2eq)**

Exposure to climate change: **HIGH**

Context

Havana, the Cuban capital, occupies 728,26 km², representing 0.7% of the national area. With 15 municipalities, Havana is home to almost 20% of the country's population. The municipalities Centro Habana, Habana Vieja, Cerro, Plaza de la Revolución and Diez de Octubre are the most densely populated. Centro Habana stands out notably with a gross population density of around 41,000 inhabitants/km² while the net density in the city's residential areas is only 18,000 inhabitants/km² approximately.

Havana has a polycentric structure, and its growth has preserved the oldest fabrics of some neighbourhoods. The axes that linked the oldest nucleus with the periphery were the basis for the sprawl from the founding heart to the west, southwest, south, and southeast, which defined a tree-like pattern for the communication routes.

The bay, the fundamental reason for the final location of the city, conditioned a slower pace in the city's expansion towards the east. The construction of the tunnel of the bay in 1958 allowed for the beginning of development in this direction. These aspects determined the current structure of the transportation system, which follows a territorial model with a central zone, an intermediate zone and a peripheral zone. Despite the development beyond the central area, the main concentrations of jobs, the cultural and recreational infrastructure and tourism are in a narrow strip close to the sea, which conditions current mobility patterns. Even today, the tunnel seems insufficient in terms of mobility.

Despite being a polycentric city, the leading metropolitan functions and the most significant number of jobs are located in Havana's so-called central areas. The remaining sub-centres have weakened, limiting their ability to offer service and employment to the population. This situation forces many people living far away from the centre to commute daily to

access essential services (schools, hospitals, shops, etc.). The poor conditions of the existing urban mass transport imply that citizens consume excessive time for transportation.

The city has a public transit system and already has an existing transport master plan or similar document. Havana has organised public bus transportation (or *guaguas*) into two categories: a fleet of articulated buses with greater capacity for main routes and conventional buses for approximately 100 secondary routes.

Both the secondary and primary routes are operated by the Havana Provincial Transportation Company, which operates 17 main routes and 104 secondaries corridors and has 17 bus terminals for their operations. There are also bus services between Havana and other provinces (Viazul, Transtur, Transgaviota in CUC, and National Buses in CUP).

The Ministry of Transportation (MITRANS) is responsible for organising the transportation sector in Cuba, and the General Directorate of Provincial Transportation of Havana (DGTPH) is responsible for managing the transportation sector in Havana. The General Directorate of Provincial Transport of Havana (DGTPH), the local counterpart, has the mandate and responsibility to finance mass public transport infrastructure. It does not have the authority to borrow from international finance sources. Systems and procedures are partially in place to monitor, evaluate and report on urban transport.

The technical cooperation seeks to formulate a Sustainable Urban Mobility Plan (SUMP) in Havana, allowing for a diagnosis of the city's mobility and sponsoring working sessions with the Convention of Territorial Planning and Urbanism and the Scientific Convention of Engineering and Architecture. The SUMP will generate proposals implying a change in modal distribution, improvement of transit, public transport, cycling and pedestrian mobility. In turn, the pilot project seeks to recover the Eje de Galeano to guarantee high pedestrian flow and thus provide better public pedestrian spaces that guarantee accessibility.

The transformation of the pedestrian heavy Eje de Galeano will be an example of a pro-sustainable urban mobility transformation with an impact on the improvement of the urban environment and a great impulse for the reception of the SUMP. This pilot project expects to decrease the pollution load, increase pedestrian safety on the axis, and improve access to public space, social resources, and cultural facilities.

Support from the Partnership

Technical assistance: Sustainable Urban Mobility Plan (SUMP) and pilot project

Funded by: European Commission

Funding amount: EUR 700,000

Implemented by: AFD through the EUROCLIMA+ Programme

Local counterpart: General Directorate of Provincial Transport of Havana (DGTPH)

Supported activities (SUMP):

- Development of a SUMP for the city of Havana

Supported activities (Pilot Project):

- Definition and preparation of a Pilot Project for sustainable mobility in the city. The project improves public spaces in the Eje de Galeano to guarantee pedestrian flux and accessibility.
- Definition and preparation of a project to improve mobility on the *10 de Octobre* corridor, Havana

Status of implementation (SUMP)

Project start: 2021 Q1

Expected project completion: 2022 Q2

Completed outputs:

- Diagnosis and evaluation: inventory and analysis of the current situation
- Vision and strategic goals
- Action plan
- Monitoring, Reporting and Verification (MRV) Plan
- Final approved Sustainable Urban Mobility Plan (SUMP)

Status of implementation (Pilot Project)

Project start: 2022 Q1

Expected project completion: To be defined

Next expected outputs:

- Diagnostic proposal and perimeter of the Pilot Project of sustainable mobility
- Preliminary design and technical specifications Pilot Project

SUMP key measures and cost estimates

The following table highlights the most significant measures identified in the SUMP.

Total	1,093,466,924 USD[1]

Measure	Cost Estimate
1. Pedestrian mobility	**32,539,332 USD**
Establish regulation on pedestrian infrastructure and plan its application	10,500 USD
Adapt and preserve sidewalks	25,836,089 USD
Widen sidewalks	5,000,533 USD
Generate more walking and shared-use streets	1,692,210 USD
2. Cycling mobility	**7,203,513 USD**
Elaborate a Cycling Director Plan for Havana	10,418 USD
Awareness-raising campaign about cycling	104,178 USD
Develop a network for buying, selling and repairing bicycles	10,418 USD
Create safe cycling infrastructure, including parking spaces	4,136,324 USD
Extend the bike-sharing system	2,942,175 USD
3. Public transport and intermodality	**942,590,406 USD**

1 Originally, the budget was split into two sections. A number of measures' costs were calculated in the local currency (CUP) and the remaining ones in euros. This division was proposed to link the measure with potential sources of finance available (domestic or international). The table shows the total cost for each measure converted into USD.

Measure	Cost Estimate
Improve gender equality in the public transport system	10,417 USD
Implement the fleet renewal plan and guarantee the fleet's sustainability	631,292,963 USD
Plan the public transport network restructuring	266,802 USD
Develop social networks for electric three-wheelers	4,736,641 USD
Implement mass-transit axes and structure public transport's network	118,715,163 USD
The operation, information, technology and fare integration of the public transport system	20,488,098 USD
Physical integration: Develop Passangers Urban Stations	167,080,322 USD
4. Urban logistics	**77,216 USD**
Creation of on-loading and off-loading zones	66,798 USD
Strength the freight transport management policy and relocate the stores	10,418 USD
5. Mobility management and road safety	**4,896,356 USD**[2]
Make a Road Safety Plan with a Zero Vision focus	10,418 USD
Reduce speed limits on the roads with the most traffic violence	10,418 USD
Design safe crossing roads with signalling and traffic lights	781,333 USD
Reorganise road space and generate low-traffic zones	(already contained in other measures costs)
Improve road maintenance and connectivity	4,083,769 USD (per year)
Parking policy	10,418 USD
6. Electric mobility and transport decarbonisation	**4,034,883 USD**
Develop an electric mobility action plan	10,418 USD
Decarbonise the omnibus fleet	4,003,629 USD
Promote electric mobility	10,418 USD
Decarbonise urban logistics and promote intermodality	10,418 USD

The following table summarises the total capital expenses (CAPEX) estimates for different types of measures in the SUMP.

Urban transport investment measures	CAPEX Estimate (USD M)
Public transport and NMT	961,432,420 USD
Street shaping urban roads and traffic management	4,083,769[3] USD
Other measures (Transport electrification)	4,003,689 USD
Total	**969,519,818 USD**

2 This total includes only one year of the Improve road maintenance and connectivity measure to simplify calculations

3 Cost estimate per year

Projected impacts

Indicator	Impact 2030 (SUMP vs BAU)	Baseline - 2021	Projected 2030 BAU	Projected 2030 SUMP scenario
Total annual GHG emissions (Mt CO_2eq)	Not quantified	1,72 Mt CO_2eq[4]	Not quantified	Not quantified
Annual transport related GHG emissions per capita (kg CO_2eq)	Not quantified	805 kg CO_2eq / capita	Not quantified	Not quantified
Modal share Increase of the modal shares of trips by public transport, walking and cycling	**TOTAL: +0.86%**	Formal public transport: 43.6% Walking: 46.2% Cycling: 1.1% **TOTAL: 90.9%**	Formal public transport: 43.8% Walking: 46.2% Cycling: 1.1% **TOTAL: 91.1%**	Formal public transport: 44.5% Walking: 46.2% Cycling: 1.1% **TOTAL: 91.8%**

Perspectives for implementation

The SUMP development enabled the participation of both institutions and citizens

The development of the SUMP was a collaborative effort that involved various stakeholders, including a Technical Committee and the city's residents. The Technical Committee, a consultative and executive body comprising experts from different fields, provided invaluable support in making strategic decisions. To ensure the plan reflected the needs and aspirations of the city's residents, a range of participatory activities were organised, such as work meetings, participatory workshops, discussion tables, interviews, and focus groups. These initiatives gave the citizens a voice, allowing them to actively contribute to developing a more sustainable and inclusive transportation system for their city.

Insights from practice: lessons learned from the SUMP process

Immense financial contributions are needed to ensure SUMP implementation

Havana's SUMP, completed in 2022, aims to improve the city's transport system by expanding public transport services, promoting cycling and walking, and optimising traffic flow. It is expected to address various city challenges, such as traffic congestion, air pollution, and inadequate public transportation services. The successful adoption and implementation of the SUMP are expected to improve the quality of life for Havana's residents and enhance the city's economic competitiveness.

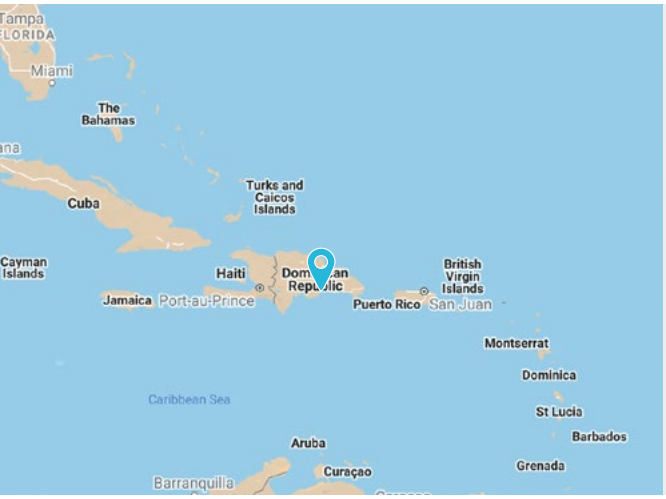
Implementing the SUMP requires a significant investment that exceeds the previous 20 years' level, with a more robust national contribution in foreign and national currency. Achieving this effort involves a structural change in financing in the transport sector and a well-defined national contribution in the SUMP action plan, including infrastructure and road safety.

4 Estimation by the MobiliseYourCity Secretariat based on SUMP deliverables.

Santo Domingo, Dominican Republic

Partner city

Status of the project: **Completed pilot project**



Basic Information

Population: **3.66 Million**

Urban area: **1,300 km²**

Motorisation rate: **155.5 vehicles per 1000 inhabitants**

Transport emissions per capita: **128 g CO_2eq**

GDP per capita: **USD 9,700**

Critical mobility challenges	The SUMP in a nutshell **Selected SUMP Measures** Total plan $ 2.6 billion for urban mobility, from which $1.25 billion already financed	Projected SUMP impact in 2030
Only 10% of the population has access to formal public transport	**$ 1.8 billion** to build a public transport offer with over. From which: • **$ 1 billion** to extend and improve the metro network • **$ 763 million** for BRT, tramway and buses • Improvement of attractivity, inclusivity and communication of public transport	• Annual greenhouse gas emissions reduced by 20% in 2030 • Increase access to formal public transport from 10% to 43% of the population of Gran Santo Domingo • Increased modal share of all public transports combined from 36% to 44% • 110 km of mass rapid transit lines
Predominance of private cars and informal transport services	• $ 656 million for improved roads and streets • Modernisation policies for private and public transport vehicles	
Transport inequality: very poor conditions of transport for users without a private car	• **$ 47 million** for non-motorised transport infrastructure and a green corridor along the river • **€ 15 million** for a bike-sharing system • Social tariff policy	• 150 km of new or improved cycle lanes • 150 km of new or improved sidewalk • Improved affordability of public transport
Wide variety of non-integrated transport services	• Integrated tariff policy	• Leading role of the **new transport authority INTRANT**

Key facts

City, Country	Santo Domingo, Dominican Republic
Population	3.4 million
Land area	1,300 km^2
GDP per capita	USD 9,700
Baseline motorisation rate[1]	155.5 vehicles per 1000 inhabitants
Annual transport emissions per capita[2]	128 g CO_2eq
Local Partner (organisation)	Instituto Nacional de Transporte Terrestre (INTRANT)
Implementing partners	Agence Française de Developpement (AFD)
Donors supporting technical assistance for SUMP	Agence Française de Developpement (AFD), European Union (EU), Inter-American Development Bank
Amount in technical assistance	~ 550,000 USD
SUMP Implementation timeline	• Joined MobiliseYourCity in June 2017 • MobiliseDays in October 2017 • Start of SUMP in March 2018 • SUMP completed and approved in September 2019
SUMP Vision	An integrated approach to improve access to sustainable mobility services and socioeconomic opportunities for all citizens by integrating urban and transport planning, enhancing sustainable transport modes, and strengthening institutional, technical, and financial capacities of local transport authorities.
Key expected results (GHG, modal share and access)	Compared to 2018, in a SUMP scenario by 2030 Santo Domingo can expect to • Increase access to public transportation to 43% of Santo Domingo citizens from 10% • Increase total trips taken by public transport to 44% from 36% • Reduce GHG emissions by 30% compared to a business as usual (no SUMP)
Total SUMP Investment Requirement	USD 2.6 billion **Mass transit (CAPEX + OPEX - annual)** • 2018 (Baseline): 60 • 2023 (SUMP): 64 • 2025 (SUMP): 160 • 2030 (SUMP): 200

1 For comparison with motorisation rates in European capital cities, Berlin has a motorisation rate of 330 car per 1000 inhabitants, and other capital cities in Austria, Belgium, Denmark, France, Hungary, Ireland and the Netherlands have a motorisation rate under 450 cars per 1000 inhabitants. Source: Eurostat Regional Yearbook 2020.

2 For comparison, the annual transport (except air travel) emissions per capita in Germany are 1.61 tC02eq. Source: Die Umweltwirtschaft in Deutschland: Entwicklung, Struktur und internationale Wettbewerbsfähigkeit. www.umweltbundesamt.de

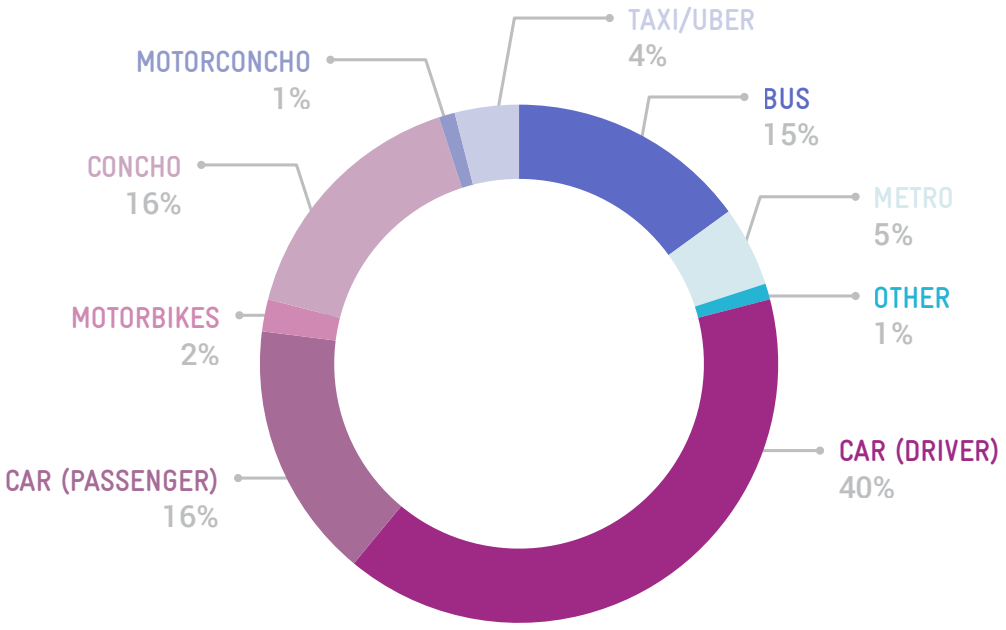
Diagnosis of urban mobility in Santo Domingo

Existing Mobility and transport services

Located in the Caribbean region, Santo Domingo is the administrative, economic, and political capital of the Dominican Republic. With a population estimated at more than 3.5 million inhabitants, representing one-third of the total country population, and with a projection of 4 million in 2030, Santo Domingo is a dynamic fast-growing city.

The current system of transportation in the City of Santo Domingo has been mostly the result of historically unregulated, uneven, and rapid urbanisation. The results are vastly different levels of service, socio-economic activities, and quality of life across the city's municipalities. The starkest differences can be observed between the city centre – the 'National District' – and its periphery, the latter being particularly affected by the lack of public services, including formal public transport.

This development pathway has fostered a transport system that is mainly based on motorised individual transport, with little consideration of public spaces and pedestrians and a nearly complete disregard for cyclists. Currently, motorisation rates range from 40 to 60 per cent depending on the municipality. Additionally, the high urban density in the National District and the very narrow main roads in the peripheral municipalities heavily constrains the ability to expand public spaces and to repurpose current roads for mass rapid transit services.

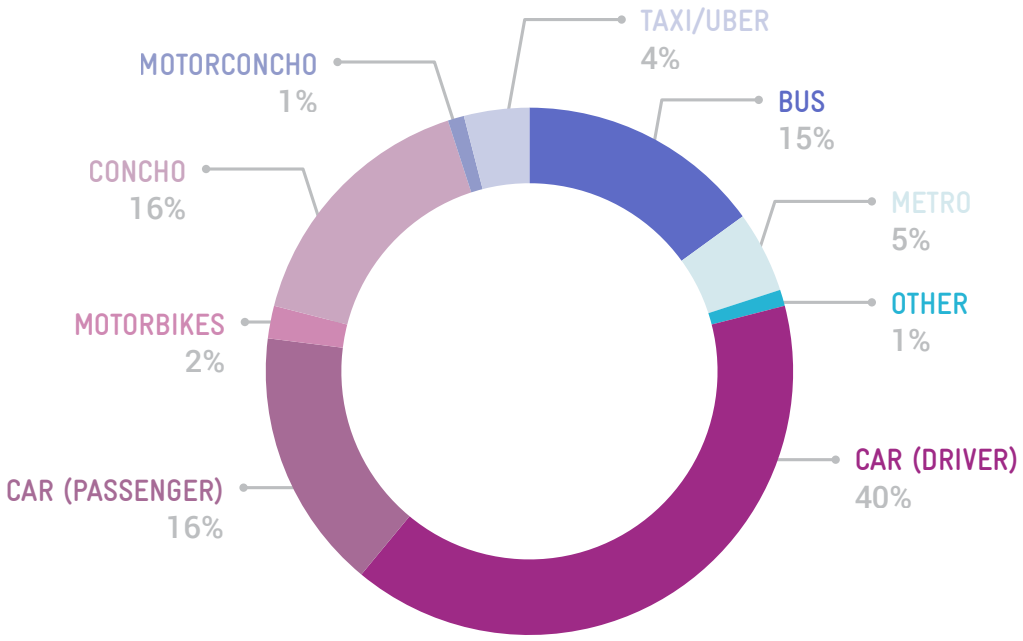


Graph 1: Modal share in Santo Domingo

Public Transport in the city comprises a wide variety of formal and informal services. The formal system comprises 2 metro lines, 1 aerial tramway line and 11 bus lines, the latter being serviced by a relatively small fleet of 160 buses operated by a state-owned bus company. The informal services are constituted by 3,000 mini- and microbuses and 16,000 informal taxis (so-called 'conchos') that operate along 84 and 114 fixed lines, respectively. These numbers reveal the predominance of informal over formal transport: 14% of total trips are made with conchos, 13% with buses and 9% with the metro.

Social, environmental, and economic aspects

The prevalence of informal transport, together with high motorisation rates, means that mobility is highly fragmented and atomized. This not only results in high congestion and long commuting times (>1 hour/day). Informal transport services are also characterized for being uncomfortable and insecure. The inferior quality of service is partly compensated by cheaper fares. However, because fare policy lies at the hands of informal transport associations, they may abuse this power to set fares at unreasonably high levels. Self-regulation has also resulted in low-quality standards in terms of a deteriorating vehicle fleet (75% of the vehicles are more than 15 years old) and under-qualified drivers. These factors contribute to both high levels of traffic accidents, air pollution and GHG emissions. Consequently, informal taxis and private cars account for the highest share of the sector's GHG emissions, accounting for 16% and 56% of total emissions, respectively.



Graph 2: GHG emissions by transport mode

Mobility is heavily influenced by gender. On average, men make 0.5 more trips than women a day. This is explained partly by the fact that 40% of men are employed, whereas only 26% of women have a full-time job and the other 25% stay at home.

Institutional and financial situation

Until the passing of Law 63-17 in 2017 the institutional landscape was equally characterized by a high degree of fragmentation and low regulatory and enforcement capacities of public authorities which allowed for the mostly unregulated development of public transport in Santo Domingo.

Since 2017, INTRANT has been established as the national road transport authority with the purpose of centralising all regulatory and decision-making competencies regarding public transport. Among its central tasks, INTRANT is responsible for regulating and formalising public transport by establishing minimum service and quality standards as a precondition for licences, centralising fare policy and promoting the corporatisation of informal operators in order to facilitate their participation in the integrated public transport system that is currently under development.

Despite the creation of INTRANT, the financial landscape is still fragmented at the national level across various ministries and very limited at the municipal level, which makes the latter dependent on the former. It is expected that INTRANT will help channel, manage, and leverage financial resources and improve coordination among central stakeholders.

The SUMP preparation process and stakeholder involvement

Several participatory formats were selected for stakeholder involvement:

- Steering committee to communicate the progress of the SUMP, discuss and decide on political decisions.
- Bilateral meetings to present and discuss technical and political decisions with municipalities and ministries.
- Focal groups to work on topics selected by INTRANT (public space with neighbourhood committees; school transport with educational institutions and parents).
- Face-to-face interviews and working tables to enhance knowledge of specific sectors (logistics) or geographic areas (municipalities).

Vision and goals

Strategic Vision: An integrated approach to improve access to sustainable mobility services and socioeconomic opportunities for all citizens by integrating urban and transport planning, enhancing sustainable transport modes, and strengthening institutional, technical, and financial capacities of local transport authorities

SUMP Goals and targets:

- Develop a comprehensive and integrated transport network that responds to the different realities of the constituting municipalities and the increasing demand for mobility
- Guarantee equal access to the population as a whole and (re-)establish connectivity in areas affected by natural and infrastructural barriers
- Promote the use of sustainable modes of transport (collective and active) and enhance the public transport network, improve, and expand walking and cycling infrastructure and integrate urban and transport planning
- Align and strengthen institutional, technical, and financial conditions for the implementation of a sustainable mobility system

Test scenarios and selected scenario

Three specific scenarios were defined in order to assess the impact of the SUMP, each one developed with a different level of ambition.

- Baseline scenario: no SUMP implementation takes place, but existing laws and regulations are implemented. These include organising and regulating the public transport network, enhancing the metro and aerial tramway systems, developing a vehicle modernisation program for buses and informal services, among others.
- Central scenario: this scenario builds on the baseline but assumes additional measures are implemented, such as enhancing road infrastructure, integrating transport modes, increasing accessibility, creating an investment fund for public transport, and achieving 100% modernisation of the current fleet.
- Ambitious scenario: this scenario includes additional milestones by factoring in the establishment of a robust financial system with a wide variety of financing sources and instruments (incl. congestion charging and property tax), the inclusion of transport demand management measures, promotion of active and collective transport modes, and the creation of additional incentives to companies and individuals to shift to sustainable transport modes.

The ambitious scenario was selected by INTRANT as the basis for the subsequent definition and selection of measures. The measures selected and the expected impacts of the ambitious scenario are presented in the following sections.

The city of Santo Domingo has opted for the ambitious scenario.

Key SUMP measures

Measures	Cost estimates (million USD)	Proposed Financing Source	Implementation schedule (year)
Physical (Infrastructure, rolling stock, etc.)			
Metro Lines 1 & 2: Increase passenger capacity	480	OPRET[3], donors (AFD)	2019-2024
Metro Line 2: Line extension	564	MOPC[4], donors	2025-2030
Construction of 5 BRT or LRT corridors	603	MOPC, donors	2021-2025
Construction of 4 aerial tramway lines	159	MOPC, donors	2021-2030
Creation of 5 express busway lines	1,51	MOPC, donors	2019-2030
Infrastructural improvement of intermunicipal networks	606	MOPC	Until 2025
Infrastructural improvement of internal municipal networks	50	MOPC	Until 2023
Improvement and expansion of sidewalks and cycling lanes	42	MOPC, municipalities	Until 2023
Integration of public transport modes	0,3	INTRANT	Until 2020
Implement a public bike-sharing system	15	MOPC, municipalities	Until 2030
Develop a 'green' corridor along the river basin	5	Municipalities, MOPC	Until 2025
Provide parking areas in port zones	0,3	AUPORDOM	Until 2023
Technical (studies, plans, designs, etc.)			
Design of secondary (complementary) bus network	0,3	INTRANT	2029-2030
Study on school transport services	0,3	INTRANT	2021-2023
Studies on improvement of transport demand management	1	INTRANT	2021-2023
Improve access to persons with disabilities	0,6	INTRANT, MOPC, municipalities, operators	Until 2023
Improve image and attractiveness of bus system	20	Municipalities, MOPC, operators	Until 2023
Improve communications of public transport services for users	0,6	INTRANT, donors	Until 2023
Integrate city-port interface management in national and local planning	0,3	AUPORDOM[5]	Until 2025
Implement merchandise delivery and pick-up plan in port areas	0,3	AUPORDOM	Until 2023
Studies to support urban and transport planning integration	0,6	INTRANT, municipalities	Until 2025
Policy & regulation			
Integrated tariff policy	0,6	INTRANT, operators, government	Until 2025
Social tariff policy	0,6	INTRANT, operators, government	Until 2025
Transport demand management policy	0,6	INTRANT	Until 2023
Private vehicle fleet modernisation policy	0,3	INTRANT, Ministry of finance	Until 2023
Bus fleet modernisation policy		operators	Until 2023
Parking policy	0,6	INTRANT, municipalities, MOPC	Until 2030
Regulation of HDV transit	0,3	INTRANT	Until 2023
Total cost	**2.556,11**		

3 National transport planning authority (Oficina para el Reordenamiento del Transporte)

4 Ministry of public works and communications

5 National port authority

Expected results and impact

Impact Area	Expected Impact
GHG emission (SDG 11)	Yearly reduction of GHG emissions relative to 2018 (baseline year) • 2023: -4% • 2025: -7% • 2030: - 20%
Accessibility (SDG 11)	Percentage of the total population with access to public transport • 2018 (baseline): 10% • 2023: 25% • 2025: 36% • 2030: 43%
Air pollution (SDG 11)	Not quantified
Modal share	Percentage of total trips being realized with Public Transport • 2018 (baseline): 36% • 2023: 39% • 2025: 41% • 2030: 44%
Road safety (SDG 3)	Not quantified
Mobilised finance (SDG 17)	Leveraged international finance • EU-CIF: 10 M€ (secured, until 2023) Associated international and domestic investments • AFD: 436 M€ (planned, until 2030) • Domestic finance and AFD: 245 M€ (secured loan) • Domestic finance and AFD: 590 M€ (planned loan)
Infrastructure and assets with committed financing (SDG 9)	New roads to be built by 2030 • KM of sidewalks: 150 km • KM of cycle lanes: 150 km • KM of mass rapid transit lines: 109,3 km
Expected institutional impact	The recently created road transport authority, INTRANT, will reduce institutional fragmentation by centralising regulatory and planning functions. This will contribute to improved cooperation between the sector's strategic, tactical, and operational levels. The leading role of INTRANT in the development and implementation of the SUMP will help channel and leverage additional financial resources from private, public and international stakeholders for the implementation phase. Not only is the new institutional arrangement in the sector a necessary step for building capacity and rationalising authority. Moreover, the SUMP process offers itself as a great learning opportunity.

Lessons learned

The importance of a leading transport authority

The creation of a state-level transport authority opens a new perspective for urban mobility governance and management. The recently created road transport authority, INTRANT, will reduce institutional fragmentation by centralising regulatory and planning functions. This will contribute to improved cooperation between the sector's strategic, tactical, and operational levels.

The leading role of INTRANT in the development and implementation of the SUMP will help channel and leverage additional financial resources from private, public, and international stakeholders for the implementation phase. Not only is the new institutional arrangement in the sector a necessary step for building capacity and rationalising authority. Moreover, the SUMP process offers itself as a great learning opportunity.

A radical change in priorities

Santo Domingo's SUMP may serve as a reminder of an indisputable fact: a sustainable, attractive, accessible, and safe transport system can only be realized by an enabling physical infrastructure that prioritises public and active transport. The city's SUMP is an example of transport planning done right. As the saying goes, "if you plan for cars and traffic, you get cars and traffic. If you plan for people and places, you get people and places".

Progress on implementation

Following the formulation of Santo Domingo SUMP, the implementation was started. The European Union supports the SUMP implementation through the Caribbean Investment Facility and technical assistance implemented by the AFD for 10 million euros. The project is known as Assistance for the Implementation of the Sustainable Urban Mobility Plan (AISUMP). It consists of two main components:

1. the reinforcement of service capacity related to the National Urban Mobility Plan in the Dominican Republic focused on non-motorised transport, public transit, smart mobility and institutional strengthening; and
2. the implementation of the SUMP from Gran Santo Domingo with pre- or feasibility studies and pilot projects.

This technical assistance is provided to INTRANT for four years. It aims at supporting the implementation of the SUMP actions, tender processes, overseeing contract execution and at reinforcing technical capacities. These efforts aid the city in transitioning between the SUMP planning process and the implementation phase.

Prioritisation of SUMP projects

While the SUMP provides a general overview of the vision of urban mobility in the city, the AISUMP defines concrete actions in the short term to advance implementation. This mainly involves transitioning from SUMP measures to project preparation. In Santo Domingo's case, early SUMP projects include the transformation of the public transport system, electromobility deployment, active mobility promotion, and traffic management and urban logistics. In total, 18 projects have been identified as high-priority in the first year of the technical assistance. The priorisation was done based on a dialogue among different public authorities.

Integrated public transport system and paratransit sector

Besides the extension of the metro lines, feasibility studies of two new BRT corridors are under preparation. Moreover, some '***conchos***' unions have started the formalisation process by creating bus companies. 400 of these conchos have been replaced by 30 buses in the first intervened corridor in Santo Domingo. The transformation of the paratransit sector in the city includes actions to train drivers, increase operational and organisational capacities of former concho unions, and defining the role of INTRANT to manage institutional relationships with the recently formed bus operators. The technical assistance has contributed to depict alternatives to reach fare integration and subsides. Lastly, a new transport model is under development to support decision-making, assess scenarios and quantify the impacts of transport interventions.

Electromobility

As the Dominican Republic has experienced a growth in electric vehicle use, momentum to engage private companies in the further deployment of electromobility is in place in Gran Santo Domingo. In 2020, city officials visited Bogota to see first-hand its experience in the sector, especially regarding public transport. The first BRT corridor is expected to be operated with electric buses.

Active mobility

Especially in the 'National District' where most of the economic activities and the historical centre are located, there is an intention from the local government to strengthen the use of active modes. 10 km of cycling lanes have been built which inspired the production of nationwide cycling-lanes implementation guidelines. Supported by European funds, additional 40 km are expected to be built as a pilot project in Santo Domingo. Initiatives such as the bike-sharing system, under formulation, leverage the interaction between mobility and economic development.

Traffic management and urban logistics

Traffic officers are trained in good practices regarding traffic management and law enforcement aligned with the new law on urban mobility. A Regional Road Plan is under development aiming at defining a regional logistical network of major road infrastructure projects.

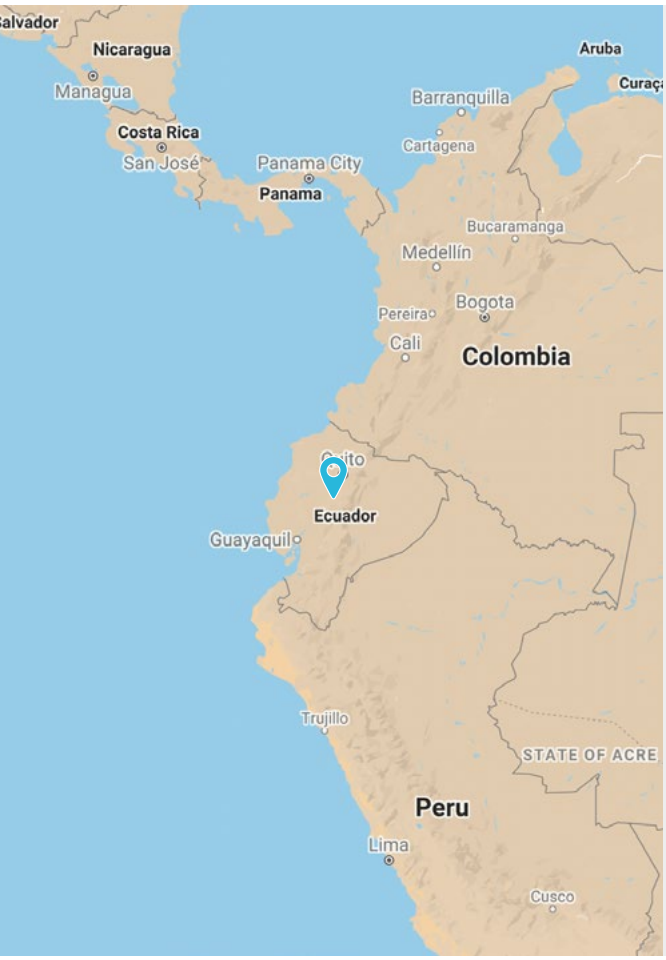
Main SUMP implementation challenges

- The institutional capacity of the recently created INTRANT is limited considering the long list of urban mobility projects proposed in the SUMP. Although highly knowledgeable, the staff is still small for the needs of the city. Moreover, experts on urban mobility trained in the Dominican Republic are rare. Local universities do not thoroughly offer formations on urban transport planning, so qualified young professionals are not trained locally. Since most of the INTRANT staff acquired experience abroad. they face challenges in dealing with context-sensitive issues related to the 18 prioritised projects.
- Financial resource assignation is not guaranteed since budgets are defined at the national level. Urban mobility projects compete for funding against other sectors. The upside is that urban transport is one of the few sectors that have the potential to generate revenue (coming from e.g. fares, on-road parking, fines), and these earnings could be directed to SUMP initiatives.
- Political commitment is needed to maintain the momentum to develop sustainable urban mobility projects in Santo Domingo. Many interventions are not popular as they intend to break the status quo and spatial distribution of streets. For instance, community opposition for cycling lanes implementation on car-road space is usual, as the number of urban cyclists is low. Decision-makers need to be trained in and informed about the sustainable mobility paradigm. Both support of civil society organisations and availability of international funding help to position the topic in the political agenda.
- Multi-level coordination requires a constant flow of information and exchange between national and local authorities. This articulation helps to clearly define responsibilities for the implementation of SUMP projects, as many of them require national approval but local regulation.

Ambato, Ecuador

Partner city

Status of the project: **Completed Sustainable Urban Mobility Plan**



Basic Information

Urban area: **1,009 km²**

Population: **329,856** | Growth rate: **0.78%**

Region capital city

GDP per capita: **USD 12,652**

Formal public transport: **34%**

Informal public transport: **3%**

- Walking: 12%
- Cycling: 1%
- Private cars: 34%
- Private motorbikes or 2-wheelers: 3%
- Taxis: 9%
- Moto taxis: 0%
- Freight vehicles: N/A
- Other: 4%

National GHG emissions per capita: **3.82 (tCO_2eq)**

Exposure to climate change: **MEDIUM**

Context

Ambato is the capital of the Tungurahua province. It is in a mountainous region between 2,500 and 2,750 meters above sea level. The city has a complex topography characterised by ravines, slopes and depressions that make up several regular plains that limit urban development, especially road and transport planning. Ambato is also one of the most significant urban centres in the country. Its regional and national centrality makes the city a commercial, industrial, and connecting node between the Amazon, coastal and highland regions. The benefits of being such an important node have brought problems of air pollution, noise, mobility, and road safety. The rapid growth of Ambato is affecting the development of urban transport, which faces issues such as traffic congestion and accidents.

In this context, there are four fundamental problems in mobility. The first is the rugged topography that makes it difficult to connect and use modes of transport such as bicycles. The second is a centralised urban definition, which requires that most trips have the urban centre as their destination, an area with insufficient infrastructure and public space to handle traffic flows. The third is the outdated Transport and Mobility Master Plan, which does not present proposals related to sustainable mobility. And finally, the increasing private car fleet causes noise, visual and environmental pollution, long travel times, high fuel consumption, and GHG emissions. The growth in private vehicle ownership is faster than the growth of the population, and today the rate of car ownership is 180 cars per thousand inhabitants. In comparison, the national rate is 133 cars per thousand inhabitants.

The existing mass transit system is based upon privately operated buses that grew organically with little planning. The Municipality of Ambato, in 2022, fully assumed the constitutional and legal responsibility to manage mobility within the urban and rural limits. Because of this, the Municipality has continuously prepared itself to manage this sector. Updating the 2013 Transport and Mobility Master Plan through a SUMP process was the first and most significant step in this direction. The SUMP process has enabled the Municipality to access funding from the Ecuadorean Development Bank, which will execute a credit operation of the KfW for sustainable mobility; for international credit operations, the Municipality can access them with a national government warranty. The monitoring capacity of the Municipality will be strengthened during the first semester of 2023 via the GIZ's Intermediate Sustainable Cities II program.

The objective of the technical assistance in Ambato was to update the Transportation and Mobility Master Plan for Ambato Canton with a focus on sustainable mobility. It includes optimising existing transport systems in the regional capital city and aims to improve mobility in urban and rural areas to enhance the citizen's quality of life. The project involved greater participation of the citizens, especially from vulnerable groups. Additionally, the project has enabled the local authority to present proposals to national and international agents able to provide further technical assistance and funding under the new umbrella of sustainable mobility.

Support from the Partnership

Technical assistance: Sustainable Urban Mobility Plan (SUMP)

Funded by: European Commission

Funding amount: EUR 500,000

Implemented by: GIZ through the EUROCLIMA+ Programme

Local counterpart: Decentralised Autonomous Government Municipality of Ambato – Directorate of Transit, Transportation and Mobility

Supported activities:

- Optimisation of the Transport systems
- Update of the Transportation and Mobility Master Plan for Ambato Canton
- Development of a specific portfolio of mitigation programmes and projects in urban mobility, demand management for private transport, improvement of public transport, and promotion of active transport

Finance leverage: USD 52,850,000

Status of the SUMP process

Project start date: 2018 Q2

SUMP adoption date: 2023 Q1

Completed outputs:

- Prospective diagnostic
- Technical vision, objectives and measures proposed
- Participatory vision, objectives and measures development
- Capacity development strategy
- Communication strategy
- Draft ordinance for enforcing SUMP

Next expected outputs:

- MRV follow-up tool

SUMP key measures and cost estimates

The following table highlights the most significant measures identified in the SUMP.

Measure	Cost Estimate
Urban interventions plan for sustainable mobility a. Urban intervention plan in three main urban corridors b. Special urban plan for the previous *Terminal Terrestre* (city centre) c. Special urban plan for the downtown market area	USD 7.77M to 9M
Public space and landscape plan a. Renovation of Cevallos Park and its area of influence b. Public space planning - Peri-urban influence centrality, Wholesale Food Market c. Special urban plan for *Terminal Terrestre Sur* d. Urban landscape and mobility planning along the Ambato River e. Programme for the implementation and improvement of air quality and noise control and monitoring capacity f. Programme of creation and restoration of green areas through tree planting, the rescue of green areas and river rounds g. Environmental and landscape monitoring improvement plan through rescuing and protecting the landscape of the slopes and the river round	USD 12.9M to 15M
Demand management plan a. Legal, technological, administrative, and economic plan for congestion reduction and optimisation of car and motorcycle use b. Feasibility studies for implementing a logistics activity zone (ZAL, for its acronym in Spanish. c. Update of the specific regulations to organise circulation and schedules of freight vehicles according to their capacit. d. Construction of the ZAL e. Application of the new regulations for the circulation of freight vehicles in urban areas	USD 3.9M to 4.5M
Programme for an accessible, clean, low-carbon public transport a. Project of public transport service in the historical centre through a cable car from Pinillo Central Park to Ambato's city centre (2 Km) b. Reorganisation of urban and rural public transport services c. Universal accessibility to public transport for people in situation of disability and vulnerable groups d. Implementation of an integrated transport system	USD 25.9M to 30M
Sustainable-mobility infrastructure plan a. Network of bikeways b. Pedestrian road network c. Pacification of the motorised sub-system in cross-roads	USB 28.5M to 33M
Programme for reducing GHG emissions from transport a. GHG monitoring plan b. E-vehicles promotion plan (cars, motorcycles) c. Urban-logistics e-vehicles promotion plan	USD 6.5M to 7.5M

Measure	Cost Estimate
Programme to reduce inequality, poverty and gender gaps in mobility a. Qualitative and quantitative characterisation with a gender approach b. Cross-cutting incorporation of the gender approach to mobility projects • Inclusion of the gender approach in communication strategies • Promotion of active mobility with a gender perspective c. Risk management with a gender perspective d. Promoting safety and women's protection in public spaces e. Citizen participation aimed at the effective engagement of women's organisations	USD 7.8M to 9M
Programme to improve rural and specific populations' accessibility a. Technical and economic feasibility study for a sustainable suspended public transport system b. Intersectoral articulation between regulations and instruments of urban, mobility, transport and transit planning c. Plan to improve accessibility to the rural areas	USD 13M to 15M
Road/pedestrian safety, perception and citizen culture plan a. Update of the existing strategic road safety plan b. Special attention to road violence increase due to motorcycle use c. Road safety campaigns	USD 13M to 15M
Institutional, technical, financial and legal strengthening a. Observatory for the generation and processing of data on urban mobility and GHG emissions b. Optimisation study of the municipal, institutional structure dedicated to mobility and coordination for its implementation c. Implementation of the Capacity Building Plan d. SUMP Financing Plan	USD 10.4M to 12M

The following table summarises the total capital expenses (CAPEX) estimates for different types of measures in the SUMP.

Urban transport investment measures	CAPEX Estimate (€M)
Public transport and NMT	USD 74,500,000.00
Street shaping urban roads and traffic management	USD 24,450,000.00
Other measures	USD 51,050,000.00
Total	**USD 150,000,000.00**

Finance leverage

Leveraged financing (resulting or enabled by the SUMP preparation process)

Description	Source of financing	Secured?	Amount
Loans and PPPs for public transport and NMT measures	Ecuadorean Development Bank (BdE) and private sector (operators)	Planned	USD 52,150,000
Loans for shaping road and traffic management	Multilateral banks	Planned	USD 17,115,000
Loans and international cooperation for plans, municipal strengthening, studies	Multilateral banks, BdE (KfW) and cooperation agencies	Planned	USD 35,674,500
Cooperation for urban mobility observatory	GIZ	Secured	USD 30,500
Cooperation for MRV system implementation	EUROCLIMA+ GIZ	Secured (both)	USD 7,000 USD 23,000

Projected impacts

Indicator	Impact 2030 (SUMP vs BAU)	Baseline – 2020	Projected 2030 BAU	Projected 2030 SUMP scenario
Total annual GHG emissions (Mt CO_2eq)	No available data	0.611 Mt CO_2eq	0.756 Mt CO_2eq	No available data
Annual transport related GHG emissions per capita (kg CO_2eq)	No available data	3,43 kg CO_2eq / capita	4,25 kg CO_2eq / capita	No available data
Access Increase of the proportion of the population living 500 meters or less of a public transport stop	+3%	65%	65%	68%
Air pollution Decrease in mean urban air pollution of particulate matter (in µg PM2.5) at road-based monitoring stations	No available data	7.48 µg/m³ of PM2.5	No available data	No available data
Modal share Increase of the modal shares of trips by public transport, walking and cycling	Formal public transport: 4% Informal public transport: -1% Walking: 1% Cycling: 1% **TOTAL: 7%**	Formal public transport: 47% Informal public transport: 1% Walking: 13% Cycling: 1% **TOTAL: 62%**	Formal public transport: 48% Informal public transport: 1% Walking: 13% Cycling: 1% **TOTAL: 63%**	Formal public transport: 51% Informal public transport: 0% Walking: 14% Cycling: 2% **TOTAL: 67%**
Road safety Decrease of traffic fatalities in the urban area per 100,000 inhabitants	-2.9 fatalities/100 000 hab	18.9 fatalities/100 000 hab	18.9 fatalities/100 000 hab	16 fatalities/100 000 hab
Affordability of public transport Percentage of disposable household income spent on public transport for the second quintile household income group	No available data	No available data	No available data	No available data

Perspectives for implementation

The SUMP will be submitted to the Municipal Council for approval by the first quarter of 2023

The SUMP will be submitted to the Municipal Council once the Mobility Directorate and the Mayor adopt the draft ordinance presented as part of the SUMP. Furthermore, GIZ's Intermediate Sustainable Cities II program will keep working in Ambato through a laboratory to support the SUMP implementation.

Insights from practice: lessons learned from the SUMP process

SUMP's gender and social inclusion analysis is the game changer in mobility

The gender and social inclusion analysis has revealed the problematic situation women, children, and the elderly had to deal with to move around the city. By showing the situation, mobility agents became aware of the need to implement changes in the mobility system to serve citizens better. The public transport debate moved from funding to effective services.

Expectations must be continuously managed when developing the SUMP

When the SUMP development is underway, the public (directly involved in mobility and citizen stakeholders) demands information. The municipality and SUMP consultants must have a strategy to communicate the process and moderate expectations that rise spontaneously if not managed. It is crucial to maintain regular communication with the media.

Highlights in the past year

Ambato has completed its SUMP development process

In 2022, the SUMP development process was in complete execution. Despite time constraints from previous delays, Ambato has finalised the SUMP and is preparing for the adoption and implementation. Citizen participation was key to clearly identifying the inclusion gaps that need to be addressed by the city's mobility system.

Sustainable modes of transport have been positioned as a feasible solution for citizens

After almost a year of post-pandemic normality, the diagnosed modal distribution has changed towards retaking previous transport behaviours, e.g. increased use of public transport and private cars. However, the sustainable-mobility discussion promoted during SUMP development has taken root in citizens' mindsets. Sustainable, active mobility modes are becoming a steadfast citizen demand. Furthermore, the municipal mobility authorities are now aware of the new perceptions and needs that must be satisfied through sustainable and inclusive measures.

Though monitoring systems are needed, the SUMP has favoured access to finance for implementation

To fully implement the SUMP, the Municipality must integrate an MRV tool and the mobility observatory. The GIZ will support the Municipality in adopting these instruments and the institutional strengthening to execute the SUMP. Finally, the availability of the SUMP has allowed the city to be highly and favourably considered for funding from the Ecuadorean Development Bank and the KfW.

San Juan Comalapa, Guatemala

Partner city

Status of the project: **Completed pilot project / technical assistance**

Basic Information

Urban area: **76 km²**

Population: **48,597** | Growth rate: **2.4 %**

GDP per capita: **USD 1,158**

Modal Share:

- **Formal public transport: 10%**
- **Tuk Tuks: 14%**
- **Walking: 42%**
- **Cycling: 12%**
- **Private cars: 7%**
- **Private motorbikes or 2-wheelers: 9%**
- **Other: 6%**

Context

San Juan Comalapa is an administrative department of Chimaltenango, Guatemala, with 48,597 inhabitants. Most (94%) of the population belongs to the indigenous group of Kaqchikel Maya, with Kaqchikel as the official language. San Juan Comalapa is a rural and low-income area of Guatemala, and the municipality includes the city of San Juan Comalapa and 20 surrounding villages. On average, 639 people per km² inhabit the region. It is a compact municipality with many slopes; therefore, transport modes are frequently difficult to access, and tuk-tuks have emerged as a feasible transport solution for the community.

Traditionally, family roles are highly genderised; therefore, women mainly fulfil household and care activities. Gender role division implies different mobility solutions for women and men, as women take daily trips to complete various caretaking and housekeeping activities. For example, women travel significantly more often by tuk-tuk (25%) than men (6%). In contrast, men use bicycles for 20% of their trips. Moreover, 11% of the population has difficulties accessing urban mobility services.

The contracting agreement between tuk-tuk providers and the local authorities allows transport services in the municipality for a fare of GTQ 3.00 (~USD 0.39). Currently, 200 tuk-tuks are registered (each half of the tuk-tuk fleet operates every other day). Most of the fleet is in poor condition and has already exceeded its life cycle. Public transport works informally through tuk-tuks providing services similar to taxis and no formal stops. Buses only exist in the outskirts of the municipality, and there is no existing transport authority or mobility secretariat in San Juan Comalapa.

The Electric Tricycle Pilot project, which is part of the EUROCLIMA+ programme, sought to introduce electric transport to boost the renewal of old petrol-powered tuk-tuks and increase the accessibility of public transportation.

In Guatemala, there are regulations regarding importing electric vehicles, and several incentives to reduce the cost of their implementation are in place. However, most of these incentives apply in only three regions in Guatemala. Two regulations

in progress, the Law on Incentives for the Import of Non-Conventional Energy Automobiles, presented in 2018, and the Law on Electromobility, introduced in 2019, have not been approved yet.

In the municipal pilot project's first implementation phase, nine electric tricycles and their charging stations were introduced. Two units for public transport, four for waste collection, and three for social transport (transport of people with mobility limitations or disabled).

Support from the Partnership

Technical assistance: Pilot Project development

Funded by: European Union

Funding amount: EUR 250,000

Implemented by: GIZ through the Program EUROCLIMA+ Programme

Local counterpart: Municipality of San Juan Comalapa, Commission for Urbanity, Security and Infrastructure

Supported activities:

- Implement two electric tuk-tuks to increase sustainable public transport options for the municipality
- Increase accessibility by implementing three tuk-tuks for people with mobility difficulties
- Provide rubbish collection in areas that are difficult to access by implementing four electric tricycles
- Empower women through their participation in tuk-tuk owners' meetings
- Provide technical training on maintenance, operation and management of tuk-tuks

Status of implementation

Project start: 2018 Q3

Project completion: 2022 Q3

Completed outputs:

- Base studies: Analysis of the current mobility situation, state-of-the-art and market survey
- Training strategy
- Communication and dissemination strategy
- Definition of technical specifications
- Management, business and operation model
- Implementation Roadmap
- Implementation of the communication strategy and impact stories
- Procurement of units: launch of tender and procurement of nine electric tuk-tuks
- Implementation of the pilot project: nine electric tuk-tuks and the start of the project test phase

Core impact indicators baselines

The pilot project does not include a projection of future impact, and only baseline data are presented in the following table.

Indicator	Baseline - 2016
Total annual transport related GHG emissions (Mt CO_2eq)	9,234.15 Kt CO_2 eq
Annual transport related GHG emissions per capita (kg CO_2eq)	0.01191 kg CO_2eq / capita
Air pollution Mean urban air pollution of particulate matter (in µg PM2.5) at road-based monitoring stations	36-43 µg/m³ of PM2.5
Road safety Annual traffic fatalities in the urban area, per 100,000 inhabitants	19 fatalities / 100,000 habs (data of 2013)

Insights from practice: key pilot project takeaways

The introduction of new technologies in the transport system requires a deep review of the institutional political context

Introducing electric tuk-tuks in San Juan Comalapa's transport system required a detailed review of the market's institutional political context where it intervenes. Local authorities faced operational barriers that were difficult to solve despite their good intentions, such as:

- The widespread rejection of unknown technologies, even in a pilot phase
- The incorrect selection of the implementation strategy based on "giving away" units without solid award criteria, which was discouraged from the beginning by GIZ
- The non-adherence of drivers in a local association reflected the political differences between the various stakeholders that make up the local transport system
- Differences in criteria and objectives between federal and local authorities added complexity to the project

While these barriers could have been identified in early design stages, GIZ adopted various strategies to address them:

- Development of a communication and awareness strategy
- Development of a training strategy aimed at local administration personnel, drivers and mechanics
- Definition of the units' technical specifications to be incorporated with local actors to save mistakes from previous experience
- Development of alternative management and operation models aiming at empowering local authorities and traditional tuk-tuks drivers (creation of a municipal management company, public-private participation models, introduction of promotion models based on the result Based Financing, among others)

Electric mobility is a feasible solution for local transport systems

The project aimed to promote sustainable urban mobility in San Juan Comalapa by introducing electric tuk-tuks in the local transport system. The project's managers considered using this technology to provide social services such as daily transfers of the elderly and children with special needs to rehabilitation therapies and waste collection in difficult access areas.

The project integrated a gender perspective to empower women and ensure their participation

The project intends to address the greenhouse and local emissions in San Juan Comalapa coming from the operation of tuk-tuks powered by fossil fuels while empowering women and strengthening their participation in transport services. The inclusion of the gender component in the project seeks to improve the perception of security and safety among women when using the new electric units. The project also aims at increasing women's influence in the city's decision-making processes and highlighting the need to consider gender balance in any policy, programme or project, the definition of its objectives and activities.

Early interinstitutional coordination and capacity development is crucial for project completion

Interinstitutional coordination needs to be enhanced when implementing this type of project, as many stakeholders are involved and do not necessarily have knowledge of mobility projects. Other dependencies of the municipality and the national government had to be involved in earlier stages of the project to obtain the required endorsements or approvals. Education, waste collection, and other sectors are linked to the project execution, which adds complexity to its management. Capacities in the management and execution of mobility projects enable the full involvement of some local authorities that might not have sufficient staff or experience.

Legal limitations were an opportunity to support national industry

The project only considered the purchase of vehicles manufactured in Guatemala to overcome regulatory limitations related to the importation of the tuk-tuks units, thus supporting the national industry and showcasing the multiple benefits of the project.

Results and perspectives for scaling

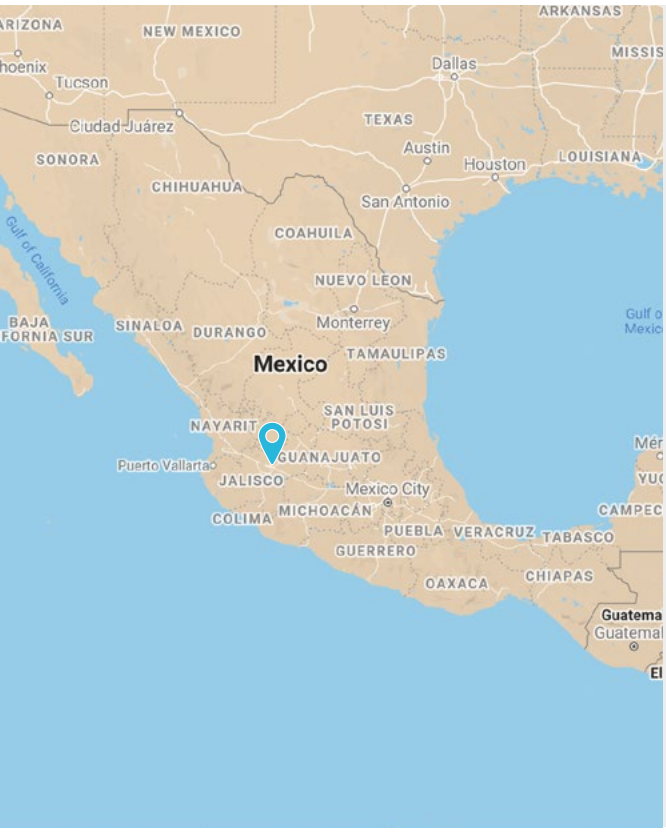
Other cities and manufacturers have expressed interest in replicating the experience

Although the project participants did not solve the definition of adequate operational management models for San Juan Comalapa, it was possible to generate interest from both federal and local authorities in other cities about the benefits of electromobility. Excellent results were also obtained, working hand in hand with local suppliers going through a market development phase, for which this experience provided visibility and concrete results. It was also possible to strengthen local consultants who accompanied this project and became true promoters of sustainable mobility.

Guadalajara, Mexico

Partner city

Status of the project: **Completed technical assistance**



Basic Information

Urban area: **151 km²**

Population: **5,243,392** | Growth rate: **1.2%**

Region capital city

GDP per capita: **USD 7,991**

Modal Share:

- Formal public transport: 44.24%
- Walking: 26.9%
- Cycling: 2.73%
- Private cars: 15.7%
- Private motorbikes or 2-wheelers: 4.07%
- Taxis: 2.76%
- Moto taxis: 0.89%
- Other: 2.73%

National GHG emissions per capita: **5.39 (tCO_2eq)**

Context

The Guadalajara Metropolitan Area (GMA) is the third most populated zone in Mexico and it is located in the centre of Jalisco's State with 5.2 million inhabitants. GMA is comprised of nine municipalities. It is an important centre for industries focused on electronics and cybernetics which attracts many young professionals. The main activities in GMA are the manufacturing industry, trading, personal services and maintenance. The Metropolitan Area hosts 75% of the total industry of Jalisco's State.

Currently, the transport system of the Guadalajara Metropolitan Area is comprised of 233 routes of collective buses, two BRT corridors, three LTR lines, four lines of trolley buses and the public bicycle system. In 2021, the most recent BRT line comprising 41.5 km launched operations to connect all the peripheric areas of the metropolis, provide service to four municipalities, and connect with the rest of the mass transport network.

The Metropolitan Coordination establishes a management scheme among the municipalities comprising the metropolitan area. This scheme includes the Metropolitan Coordination Board, the nine mayors and the state governor, the Metropolitan Institute of Planning, the Metropolitan Citizen Council and the Metropolitan Planning Advisory Council.

The Metropolitan Planning Institute for the Guadalajara's Metropolitan Area (IMEPLAN), the local counterpart, does not have the mandate and responsibility to finance mass public transport infrastructure. It does not have the authority to borrow from international finance sources for infrastructure projects, but it does for other more general types of projects (i.e. technical assistance). Systems and procedures are not in place to monitor, evaluate and report on urban mobility in charge of the counterpart.

IMEPLAN aims to develop and propose metropolitan planning instruments, studies and project proposals, as well as mechanisms to improve the joint efforts of the Metropolitan Coordination Instances. IMEPLAN receives technical assistance to develop a Sustainable Urban Mobility Plan and a pilot project. The objective of this technical assistance is to coordinate and establish a plan for urban mobility for the nine municipalities of the metropolitan area, including various modes of accessible, economic, efficient and safe transport.

The technical assistance contributes to institutional strengthening by capacity development of the local team, facilitating exchanges with cities in Latin America and Europe, and having objective and technical resources for facing the issues on mobility.

Support from the Partnership

Technical assistance: Sustainable Urban Mobility Plan (SUMP) and Pilot Project

Funded by: European Commission

Funding amount: EUR 600,000

Implemented by: GIZ through the EUROCLIMA+ Program

Local counterpart: Metropolitan Planning Institute for the Guadalajara's Metropolitan Area (IMEPLAN)

Supported activities:

- Formulation of an Integral Sustainable Urban Mobility Plan for the metropolitan region integrating the nine municipalities, all modes of transport and aligned with the metropolitan land use plan.
- A pilot project to implement an innovative methodology for data collection and analysis on urban mobility through digital technology. Data gathered is an input for the SUMP formulation and evaluation.
- Capacity building for public institutions to achieve adequate planning processes in urban mobility.

Status of implementation

Project start: 2018 Q2

Project completion: 2022

Completed outputs:

- Status quo analysis (November 2019 – January 2020)
- Urban cargo logistics (January 2020)
- MobiliseDays (February 2019)
- SUMP Workshop (February 2020)
- SUMP Self-Assessment Workshop (August 2020)
- Development of SUMP strategy – co-creating vision and objectives (April – May 2020)
- Establishment and application of monitoring, reporting and verification (MRV) tools (MobiliseYourCity and Ecologistics) (March-August 2021)
- Update of urban mobility data, integrating non-motorised mobility, freight transport, and public transport (2021)
- Metropolitan Strategy for Emergent Mobility
- Integrated SUMP for the nine municipalities of Guadalajara's Metropolitan Area

Next expected outputs:

- Pilot Project: Mobile application for obtaining new information on citizen mobility patterns

SUMP key measures and cost estimates

The following table highlights the most significant measures identified in the SUMP.

Measure	Cost Estimate
Objective 1. Improve urban infrastructure and equipment to achieve sustainable mobility • Update urban development planning and land-use planning instruments in the state's cities • Improve urban equipment on public roads to facilitate the movement and coexistence of citizens • Adapt the use of roads to different modes of transportation • Increase urban center density. • Improve comprehensive accessibility	Cost estimates not provided
Objective 2. Increase the coverage and quality of public transportation services • Redesign routes based on origin-destination (work, education, social, recreational, commercial) purposes • Improve the quality of public transportation services • Increase the coverage of public transportation services	Cost estimates not provided
Objective 3. Increase the use of alternative means of transportation by discouraging the use of cars • Increase infrastructure that prioritises the use of alternative transportation • Coordinate the public transportation network to allow multimodality • Establish permanent education campaigns for citizen training in road safety and mobility	Cost estimates not provided

Core impact indicators baselines

The SUMP does not provide impact projections.

Indicator	Baseline - 2016
Total annual transport-related GHG emissions (Mt CO_2eq)	6.2 Mt CO_2eq
Annual transport related GHG emissions per capita (kg CO_2eq)	2,994 kg CO_2eq / capita
Road safety Annual traffic fatalities in the urban area, per 100,000 inhabitants	3.45 fatalities / 100,000 hab

Highlights

Preparing a SUMP for a metropolitan region creates challenges and complexity – but it also enables providing the citizens with sustainable mobility services that transcend administrative boundaries

Facing metropolitan coordination, the SUMP development required participatory processes and decisions making with many stakeholders, mainly the nine municipalities of the metropolis. Therefore, the SUMP has had to consider nine different realities for mobility planning and an important alignment with other local instruments at different levels: Climate Action Plan, Metropolitan Territorial Plan, Municipal Development Plans.

The sustainability and implementation of the SUMP might depend on the commitment from many authorities in the metropolis. Therefore, the participatory process and involvement level of the set of institutions has been crucial, as well as the alignment with the municipal development plans to enable the implementation beyond the administrative periods and political will.

The Metropolitan Strategy of Emergent Mobility for the metropolitan area was launched and upcoming work aims at its integration with local development plans

The Metropolitan Area of Guadalajara capitalised on the pandemic crisis and the atypical mobility patterns for envisioning a wider vision of the metropolis, developing the Metropolitan Strategy of Emergent Mobility. This policy document provides nine strategic axes on sustainable urban mobility for the nine municipalities and enables an urban mobility common vision for the future. As a further step, and leveraging the administration transition, the respective development plans of each municipality is expected to be aligned with the strategy.

Periplo represents the first step for a more dynamic, flexible and low-cost urban mobility planning, but its development requires resources from public institutions

Periplo is the app prepared in the framework of this technical assistance to be used as a practical participatory tool capable of engaging citizens in consolidating better mobility conditions. It is also a powerful instrument to monitor and evaluate sustainable urban mobility public policies in shorter periods by enabling adjustments and strengthening planning processes through dialogue between the government and inhabitants.

Developing this kind of pilot project requires awareness of the risks and opportunities of implementing a digital solution for urban mobility planning. It implies not only innovation but also technical skills (data, transport, software, etc.), infrastructure (hosting), budget (operation and maintenance), and more importantly, human capital to translate raw data into useful information for decision making. Periplo has been made available in 2022 to be used in the Metropolitan Area of Guadalajara. Its main challenge is to reach the minimum number of users to have significant or representative data. The commitment of the authorities and citizens should be aligned to make it possible the digitalisation of urban mobility planning processes.

Digitalising sustainable urban mobility planning is an innovative solution used for the first time in the Latin American context with the potential to be replicated

Periplo is possibly the first case study on digitalisation for urban mobility planning in Latin America, as a first effort to replace traditional origin-destination surveys or complement them. Digital tools such as Periplo might gather daily data and enable monitoring and evaluation of the measures and actions implemented in the short term. Periplo has many opportunities to be improved but it represents an important step towards digitalisation in urban mobility planning.

Due to the limited availability of new or aggregated data, the factsheet has not been updated in 2023.

Arequipa, Peru

Partner city

Status of the project: **Ongoing Sustainable Urban Mobility Plan**

Basic Information

Urban area: **3,700,00 km²**

Population: **910,000** | Growth rate: **1.09%**

Region capital city

GDP per capita: **USD 10,277**

Modal Share:

- **Formal public transport: 46%**
- **Private cars: 18%**
- **Taxis: 13%**
- **Walking: 17%**
- **Cycling: 1%**
- **Private motorbikes or 2-wheelers: 1%**
- **Other: 4%**

National GHG emissions per capita: **2.82 (tCO_2eq)**

Exposure to climate change: **HIGH**

Context

Urban mobility in Arequipa represents an issue according to transport data in 2016, reporting 52,877 infractions, 5,410 accidents, 128 fatalities and 5,282 non-fatal victims. In 2008, public buses' modal share was 63% and walking 16.6%. By 2017, on the main north-south and south-north axis of the city, which crosses the historic centre, 47% of journeys were made by public transport, 30% by private vehicle and 23% by taxi.

Several factors explain the modal choice, including the following:

- Growth of the vehicle fleet without considering the type of service and demand; as of 2016, there are 261,600 vehicles (25% taxis and 46% private cars).
- Low quality of the public transport service. Users perceive public transport as unsafe due to the 4,000 low capacity, poor maintenance units with an age of over 20 years operating 240 routes.
- Disarticulated urban infrastructure between the activity centres, road discontinuity and the variation of sections in continuous corridors. The superposition of the urban centrality and the historic centre aggravates urban mobility challenges.

Transport and mobility challenges in Arequipa were the key elements to catalyse the elaboration of the SUMP. The fact of not having an integrated and agreed vision on mobility in the city has harmed the system's quality and its coverage, generating isolated actions and large investments in infrastructure without significant returns for Arequipeños' quality of life.

Developing Arequipa's SUMP implied an essential step toward improving mobility in the metropolitan region. This process included fundraising activities to achieve its implementation and cooperation efforts of the municipality with various institutions to develop and implement sustainable urban mobility measures with a comprehensive vision.

In this context, the National Government and the Provincial Municipality of Arequipa have executed technical cooperation agreements to improve mass public transport and sustainable urban mobility in an integral and consensual manner. First, between the Ministry of Transport and Communications (MTC), the Agence Française de Développement (AFD) and CODATU, with the Provincial Municipality of Arequipa (MPA, for its acronym in Spanish) as one of the primary beneficiaries of the project. Another agreement exists between the MTC and the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) to implement the project 'Sustainable Urban Transport in selected cities in the north and south of Peru' (DKTI). The third agreement is between the MPA and the MTC to finance Arequipa's Integral Transport System (SIT) project.

AFD has been working with the MPA since 2016 in urban mobility within the framework of the AFD-MTC-MPA Cooperation Agreement. In recent years, AFD worked with the MPA on direct cooperation and joint work projects, including developing Arequipa's Sustainable Urban Mobility Plan - SUMP (2020-2022). Arequipa did not have a SUMP or a comprehensive policy strategy on urban mobility for the metropolitan area, making it challenging to implement actions with a shared vision.

Arequipa has no mass rapid transit system, but the city has planned a first light rail on the central 15 km long NW-SE corridor. Currently, its public transport system relies on non-integrated bus lines. There is an existing transport master plan or similar document (Route regulatory plan 2016).

The Municipality of Arequipa, the local counterpart, has the mandate and responsibility to finance mass public transport infrastructure. It does not have the authority to borrow from international finance sources. Systems and procedures are partially in place to monitor, evaluate and report on urban transport.

This SUMP project aims to develop a city model that promotes more sustainable travel modes (walking, cycling, and mass public transport). The main expected results are:

- Improve the urban mobility system and incorporate new technologies reducing travel times and road accidents and implement the Integrated Transportation System
- Reduce the effects of transport on climate change and, as well as the consumption of non-renewable energy
- Improve urban social equity, ensuring universal accessibility while promoting alternative use of the road system and promoting healthier modes
- Develop institutional capacities for the different stakeholders involved in urban mobility issues

The technical assistance provided to Arequipa contributes to institutional strengthening by regulating sustainable urban mobility management, promoting projects to be executed by the municipality and financing mechanisms for infrastructure, equipment and monitoring systems.

Support from the Partnership

Technical assistance: Sustainable Urban Mobility Plan (SUMP)

Funded by: European Union

Funding amount: EUR 500,000

Implemented by: AFD through the EUROCLIMA+ Programme

Local counterpart: Municipality of Arequipa, Municipal Planning Institute (IMPLA)

Supported activities:

- Development of the integrated public transport network
- Strategic programmes and projects to optimise the operation of freight transport and urban logistics
- Implementation plan
- Monitoring system

Status of the SUMP process

Project start date: November 2020

SUMP adoption projected date: 2023 Q2

Completed outputs:

- Forum on challenges and opportunities for Sustainable Urban Mobility
- Participation plan
- Communication plan
- Expectations survey
- Diagnostic workshop
- Mobility diagnostic
- Vision, strategic objectives and construction of scenarios defined
- An action plan, budget and financing
- Follow-up, reporting and accompaniment to the implementation

Next expected outputs:

- SUMP adoption
- Publication

SUMP key measures and cost estimates

The following table highlights the most significant measures identified in the SUMP.

Measure	Cost Estimate
1. Promote greater participation in Pedestrian and Bicycle Mobility	USD 170,088,068.32
2. Promote a transformation of public transport towards a massive, integrated and multimodal system	USD 885,787,428.01
3. Promote more rational and efficient use of private transport	USD 427,779,033.66
4. Promote more sustainable management of freight transport and urban logistics	USD 8,703,246.07
5. Promote intelligent traffic management for regulation, monitoring and control	USD 39,248,638.74
6. Promote a reduction in the environmental impacts of mobility and traffic crashes	USD 37,150,133.09
7. Promote an improvement in universal accessibility, inclusion, equity and gender	USD 145,920,411.78
8. Promote institutional strengthening, governance and civic culture	USD 6,188,481.68
9. Promote a financial sustainability scheme for sustainable mobility	USD 1,842,931.94
10. Promote a mobility model that supports sustainable urban development in the metropolitan area	USD 0.00

Core impact indicator baselines

Indicator	Baseline – 2019-2021
Total annual GHG emissions (Mt CO_2eq)	1.93996 Mt CO_2eq
Annual transport related GHG emissions per capita (kg CO_2eq)	1923.6 kg CO_2eq / capita
Access Increase of the proportion of the population living 500 meters or less of a public transport stop	74%
Air pollution Decrease in mean urban air pollution of particulate matter (in µg PM2.5) at road-based monitoring stations	9 µg/m³ of PM2.5
Road safety Decrease of traffic fatalities in the urban area, per 100,000 inhabitants	0.87 fatalities / 100,000 hab
Affordability of public transport Percentage of disposable household income spent on public transport for the second quintile household income group	12%

Perspectives for implementation

The developed SUMP moves forward to secure funding for its implementation

The SUMP is considered by plenary councillors, corresponding to its approval by the Municipal Council through a Municipal Ordinance. The transition towards sustainable urban mobility systems will require both initial financing for capital investments and constant sources of income over time to guarantee the system's sustainability in the long term.

The high degree of infrastructure endowment requirements will require financial contributions, not only from the State but also from other sources. The participation of each financing source over the total will ultimately depend on the technical feasibility, the inclusion of the projects in the Multiannual Investment Programming (meeting their requirements), and the alignment of the SUMP objectives with the Development Plan. Metropolitan, Master Plans and other technical instruments. The final aim is that the SUMP becomes a comprehensive mobility planning tool with a sustainability approach. The primary sources of financing, classified into central and complementary sources, are developed by program, implementation horizon, and possible source of financing.

Insights from practice: lessons learned from the SUMP process

SUMPs provide an opportunity to prioritise limited resources based on an agreed long-term perspective

Addressing urban mobility from a sustainable approach in the context of intense problems in the transport sector and limited resources requires a strategic roadmap with a long-term view. Arequipa's SUMP leaves a proposal for ordering and prioritisation with robust opportunities for change.

Trujillo, Peru

Partner city

Status of the project: **Completed technical assistance**

Basic Information

Urban area: **1,769 km²**

Population: **962,369 (Census 2017)** | Growth rate: **1.65%**

Region capital city

GDP per capita: **USD 6,942**

Modal Share:

- **Public transport: 31.2%**
- **Walking: 18.4%**
- **Cycling: 1.1%**
- **Private cars: 15.5%**
- **Taxis: 25.4%**
- **Other: Collective cabs: 8.4%**

National GHG emissions per capita: **3.05 (tCO_2eq)**

Exposure to climate change: **HIGH**

Context

Trujillo, a coastal city in northern Peru, is the capital of the province of the same name. Its geographic location and connectivity with the major cities on the coast and in the highlands of northern Peru make it an important economic centre. The aforementioned factors and the existence of the CHAVIMOCHIC irrigation project, which was started in the 1960s by the National Development Institute (INADE) and extends throughout much of the coast of the La Libertad Region, have contributed to the growth of sectors such as export agribusiness, mining, fishing, and commerce. These sectors contribute the highest percentage to the regional GDP.

The metropolitan area of Trujillo generates 2,298,000 trips per day, with an average rate of 2.4 trips per person/day. Of these trips, 80% represent motorised transport, of which urban passenger transport services represent 65% (provided through the services of minibuses, combis, collective taxis, and cabs). Trujillo does not have an integrated transport system, but in the next few years, the first road corridor for buses is expected to be implemented. This corridor will link the northern and southern parts of the city with a Bus Rapid Transit (BRT) system. This measure represents one of the priorities for the city in their Sustainable Urban Mobility Plan (SUMP), as well as non-motorised transport measures (i.e. implementation of 25km of temporary bicycle lines). This SUMP is a key in the efforts of local government to transform their mobility by implementing sustainable and safe transport and mobility solutions. To develop this SUMP, local government represented by the Provincial Municipality received technical assistance from the German cooperation for development, implemented by GIZ.

The Ministry of Transport and Communications (MTC), through the National Program for Sustainable Urban Mobility (Promovilidad) seeks to develop integrated transport systems in cities other than the Peruvian capital. To achieve this, Promovilidad offers technical assistance to local governments. Systems and procedures are partially in place to monitor, evaluate and report on urban transport.

Trujillo Provincial Municipality (MPT for its Spanish initials), the local counterpart, possesses entities that are specialised in urban transport and urban mobility within its institutional structure, such as Transportes Metropolitanos de Trujillo (TMT), the planning organism of urban transport in the metropolitan area of the city, and the Transport, Transit and Road Safety General Office (GTTSV for its Spanish initials), the cargo and passenger transport regulatory and supervisory area. In addition, the Municipality created in 2018 the Sustainable Urban Mobility Committee (COMUS for its Spanish acronym), a participatory coordination space chaired by the mayor and formed by representatives of institutions and relevant local stakeholders.

Due to its administrative competencies, the MPT manages the implementation of investment projects and all measures that contribute to improve public transport services, ensuring sustainable urban mobility for the population. Although they do not have significant funding, they are implementing a network of temporary bicycle lanes through an agreement with MTC for 500,000 EUR. In addition, the MPT authorises and supervises the current transport service with its own resources. Through cooperation agreements between MTC and international institutions, it has been possible to finance important studies, such as the one carried out for the proposal of the north-south road corridor, financed by funds from the German Cooperation through KfW.

Optimising traffic flow, as well as implementing an integrated and efficient public transportation system, are key elements in mitigating greenhouse gas (GHG) emissions. It also reduces transport costs and improves the quality of life in urban areas. Based on this context, the Peruvian government has developed the NAMA TRANSPerú, which consists of a series of measures to transform the urban transport sector. One of the areas prioritised as part of this matrix highlights the need to support local governments to improve the transport sector.

The goal of Trujillo's SUMP 2020 - 2030 is to improve urban mobility conditions in the city, prioritising the use of public transport and non-motorised modes, while improving the quality of life of their inhabitants. Therefore, Trujillo's SUMP is perfectly aligned with MTC's urban transport sector strategy, represented by the National Urban Transport Policy and the National Program for Sustainable Urban Mobility. Likewise, this local planning instrument promotes modes of travel with less environmental impact, an integrated, multimodal, low-carbon, and efficient public transportation system, accessibility, and social equity. These are the new challenges that the MPT is taking on and has already implemented in the city.

Technical assistance contributes to institutional development by:

- Strengthening the skills of the MPT's technical teams for mobility and urban transport measures management. This has allowed the new institutional capacities installation, which will contribute to improving the management processes of public transport services.
- Redesigning the institutional structure, establishing areas, functions, and responsibilities for promoting and managing the city's urban mobility with a focus on sustainability and gender equality.
- Establishing coordination models between national and local public agencies within the transport sector, and local coordination spaces between relevant stakeholders in the city, such as the aforementioned COMUS.

Support from the Partnership

Technical assistance: Sustainable Urban Mobility Plan (SUMP)

Funded by: German Federal Ministry for Economic Cooperation and Development (BMZ)

Funding amount: EUR 1,215,000[1]

Implemented by: GIZ through the Sustainable Urban Mobility in Secondary Cities in Peru (DKTI)

Local counterpart: Ministry of Transport and Communications (MTC), through the National Program for Sustainable Urban Mobility (Promovilidad), and selected local governments

1 The total funding amount of the technical assistance is EUR 7,300,000. However, the DKTI programme supports six cities in Peru. This number assumes an even allocation of funds among Trujillo, Arequipa, Piura, Cusco, Huamanga and Chiclayo.

Supported activities:

- Establishment and strengthening of the National Program for Sustainable Urban Mobility (locally known as Promovilidad) through support for MTC
- Establishment of coordination mechanisms at city level (e.g., stakeholder dialogue) and with local governments and ministries
- Strengthening urban planning and implementation capacity of local governments
- Promotion of exchanges on innovative technologies, methods, and financing mechanisms

Status of implementation

Project start: 2017

Project completion: 2022 Q2

Completed outputs:

- Coordination between actors at the national and subnational levels in the planning and implementation of investment measures and projects has improved
- Improved coordination mechanisms within cities as well as between local governments and ministries
- Increased capacity of cities for implementation of measures: municipalities apply technical and institutional capacities in the planning and implementation of sustainable urban mobility measures
- Innovative technology, methods, and financial mechanisms: Transport managers and planners are aware of proven innovative technologies, methods, and financing concepts for sustainable mobility

SUMP key measures and cost estimates

The following table highlights the most significant measures identified in the SUMP.

Measure	Cost Estimate[2]
Sub-programme for universal accessibility and elimination of architectural barriers at intersections in Trujillo's historical city centre	EUR 509,499.14
Programme for the maintenance, improvement, and enlargement of the walking surface of Trujillo's metropolitan area	EUR 1,267,787.80
Sub-programme for the implementation of a core network of bicycle paths	EUR 2,157,703.36
Final phase structuring of the North-South Core Corridor project in the framework of the Integrated Public Transport System	EUR 7,037,296.13
Implementation and operation of the Integrated Public Transport System with a final route regulation plan	EUR 86,178,645.76
Network of Integrated Public Transport System bus stops on feeder corridors	EUR 14,109,206.86
Integral sub-programme for the optimisation and extension of the traffic light network in the metropolitan area	EUR 6,270,758.60

2 Trujillo's SUMP was originally budgeted in PEN. For this factsheet the costs were converted into EUR using InforEuro currency exchange rate. At the time of the conversion, 1 EUR = 4.516 PEN. This applies to all EUR amounts in the document.

Finance leverage

Financing resulting from the SUMP	Source	Amount
Implementation of sustainable non-motorised transport systems (pop-up cycle lanes)	Ministry of Transport and Communications (MTC)	EUR 404,532.27
Investment project: construction of north-south corridor and complementary roads	KFW	EUR 60,000,000

Associated financing supporting measures in the SUMP	Source	Amount
Pilot project «Promotion of the recovery of public space and the use of non-motorised transport - Muévete Trujillo, Trujillo, Peru»	TUMI	EUR 73,660.88

Projected impacts

Indicator	Impact 2030 (SUMP vs BAU)	Baseline - 2017	Projected 2030 BAU	Projected 2030 SUMP scenario
Total annual transport related GHG emissions (Mt CO_2eq)	-423,36 t CO_2eq	376,677 t CO_2eq	767, 487 Tn de CO_2 t CO_2eq	355,132 t CO_2eq
Annual transport related GHG emissions per capita (kg CO_2eq)[3]	-387 kg CO_2eq / capita -54%	354 kg CO_2eq / capita	721 kg CO_2eq / capita	334 kg CO_2eq / capita
Air pollution Decrease in mean urban air pollution of particulate matter (in µg PM10) at road-based monitoring stations	Impact not quantified	59.67 µg/m³ of PM10	Impact not quantified	Impact not quantified
Modal share Increase of the modal shares of trips by public transport, walking and cycling, in SUMP scenario compared to BAU scenario	**Public transport:** +17.4% **Walking:** +11 % **Cycling:** +3.2 % **Private cars:** -3.7 % **Taxis:** -14.3% **Collective cabs:** -9.6% % TOTAL: +22%	**Public transport:** 31.2% **Walking:** 18.4% **Cycling:** 1.1% **Private cars:** 15.5% **Taxis:** 25.4% **Collective cabs:** 8.4% TOTAL: 58%	**Public transport:** 27.6% **Walking:** 14% **Cycling:** 0.8 % **Private cars:** 18.7 % **Taxis:** 29.3%ther: **Collective cabs:** 9.6 % % TOTAL: 52%	**Public transport:** 45% **Walking:** 25 % **Cycling:** 4 % **Private cars:** 11 % **Taxis:** 15 % **Collective cabs:** 00 % % TOTAL: 74%
Road safety Decrease of traffic fatalities in the urban area, per 100,000 inhabitants	-4.4 fatalities/100 000 hab	7.3 fatalities/100 000 hab	9.9 fatalities/100 000 hab	5 fatalities/100 000 hab

3 Calculation made by MobiliseYourCity Secretariat based on SUMP deliverables

Highlights

Implementation of the recently adopted SUMP has started through interinstitutional coordination bodies

Trujillo's SUMP focuses on the metropolitan area of the city and has a time frame until 2030 for its implementation. After it was approved by the City Council in April 2021, Trujillo became the first Peruvian city to develop and institutionalise a SUMP.

Transportes Metropolitanos de Trujillo (TMT) is currently responsible for the COMUS' Technical Management Unit, in which 3 other municipality areas participate. This Unit is responsible for organising and overseeing the progressive implementation of the SUMP. Therefore, it oversees seeking funding through national government entities such as the Ministry of Economy and Finance (MEF), the Ministry of Transport and Communications (MTC), the Ministry of Housing, Construction and Sanitation (MVCS), the Ministry of Environment (MINAM); and at the local level through the Regional Government of La Libertad as well as public, private and cooperation organisations. The implementation process started by establishing a roadmap, mapping critical actions and measures, and clarifying responsibilities to monitor progress within the technical team to ensure orderly and prioritised progress in the SUMP.

There is still a long road ahead in terms of implementation, but both Trujillo's Municipality and TMT are committed to face the challenges to come in the road to transform their mobility, such as those related to raising the required amounts (both from public and private funds) to fully achieve the SUMP's goal.

Communication products helped to make the SUMP more approachable for citizens and raise awareness on sustainable mobility

During the first quarter of the year, communication strategies were implemented to improve the understanding of the plan among the largest number of civil society stakeholders. Given the context of the pandemic, digital media and social networks were used to make the SUMP more understandable; digital documents were produced with key messages and short videos explaining the importance of having a clear vision of the city with a focus on sustainable mobility and urban transport, the need for this type of planning instrument and its benefits on the creation of a city on a human scale and with environmental commitment.

These communication actions were followed by a series of awareness-raising workshops to clear up doubts about the SUMP and clarify its content and proposals. Local representatives and several citizens participated in each workshop held by local authorities. The last workshop of the series gathered representatives from central government institutions, such as the Ministry of Transport and Communications (MTC), the Ministry of Housing, Construction and Sanitation (MVCS), as well as regional and local authorities.

Urban mobility planning with a participatory approach allows ownership and engagement

As the SUMP planning cycle contains different actions and steps to be undertaken during the SUMP formulation, there is a need to conceive a strategy for participation and communication, so the interests of the diverse stakeholders are considered in the early stages of the project. Participation and effective communication enable the adequate convergence of objectives regarding urban mobility when formulating the SUMP. The trust built and the constant dialogue between public authorities and citizens contribute to consolidating further phases, such as implementation.

Specifically, based on Trujillo's experience, a guideline for strategic communication and citizenship participation during the design and implementation of SUMPs in Peru was formulated. This guideline proposes orienting principles to facilitate the SUMP planning and implementation processes beyond mere diffusion and dissemination campaigns or regular one-direction presentations. The viability and success of the SUMP depend on how much its evolution is related to citizenship demands and perspectives.

Córdoba, Argentina

Partner city

Status of the project: **Ongoing Sustainable Urban Mobility Plan**

Basic Information

Urban area: **576 km²**

Population: **1,600,000** | Growth rate: **+0.4%**

Region capital city

GDP per capita: **USD 12,000**

Modal Share:

- **Formal public transport: 32.2%**
- **Walking: 27.2%**
- **Cycling: 2.6%**
- **Private cars: 26.1%**
- **Private motorbikes or 2-wheelers: 5.8%**
- **Taxis: 5%**
- **Other: 0.3%**

National GHG emissions per capita: **8.35 (tCO_2eq)**

Exposure to climate change: **HIGH**

Context

The City of Córdoba is the capital of the Province of Córdoba and is in the centre of the territory. The singular topography, characterised by terraces, makes it particularly challenging to implement and develop a good mobility system and infrastructure.

Córdoba has an urban area of 576 km² and an estimated population of 1,600,000 inhabitants, which makes it the second-largest city in the country after Buenos Aires. 83% of the population of the Metropolitan Area of Córdoba lives in the city of Córdoba. The economy of the Province of Córdoba is based on services and technological activities (64% of the gross geographic product - GGP), the automotive industry (26.5% of GGP) and the primary sector (9.5% of GGP).

The city is organised by radio centric system which generates challenges for urban and mobility planning. Its population density is low (63 inhabitants/km²). However, there are sectors with a high density that do not receive basic transport services. This imbalance has existed for the last 50 years.

In the metropolitan area of Córdoba, there are 2,556,906 motorised and non-motorised trips made each day. 85.4% of these trips originate or/and end in the capital city, which reveals the importance of the city within the metropolitan area. Trips are made by 74.7% of the population, which shows a relatively high mobility rate (2.47 trips per working day) when considering the group of people who make at least one trip per day. If the entire population is taken into account, this average drops to 1.84 trips per person per working day. Motorised modes are predominant (69.9%). In the last years, a series of actions have been encouraging the growth of individual mobility to the detriment of mass transport.

A mass transit system is in place with bus and trolleybus operated by three private firms and a public one. 70 lines compose the system, with 8 central corridors, 2 circle lines, 3 trolleybus lines, 6 district lines and 1 airport line.

There is an existing transport master plan, which was approved in 2014 and financed by CAF (Development Bank of Latin America). Its main objectives included the promotion of mass transit, the development of non-motorised transport, the promotion of the rational use of private motorised transport, the generation of new travel patterns that allow for more efficient use of the network infrastructure, greater road safety and the preservation of the environment. This master plan needs to be updated and consolidated to be validated by institutional actors as well as the community.

The *Municipalidad de Córdoba*, the local counterpart, has the mandate and responsibility to finance mass public transport infrastructure. It has the authority to borrow from international finance sources. Systems and procedures are partially in place to monitor, evaluate and report on urban matters. The technical assistance contributes to institutional strengthening by facilitating spaces for exchange between the different areas of the municipality and discussions to have a common vision of mobility in the city.

Support from the Partnership

Technical assistance: Sustainable Urban Mobility Plan (SUMP) and Pilot project

Funded by: European Union

Funding amount: EUR 600,000

Implemented by: AFD through the EUROCLIMA+ Program

Local counterpart: Municipalidad de Córdoba

Supported activities (SUMP):

- SUMP for Córdoba
- Study of the city's central area to propose structuring actions for the transformation into a low-emissions area
- Updated origin / destination survey and prediction model of current and future mobility scenarios, including short, medium, and long-term strategies
- Technical document on mitigation and emissions reduction of SUMP implementation

Status of implementation (SUMP)

Project start: 2021 Q2

Expected project completion: 2023 Q1

Completed outputs:

- Preliminary report
- Diagnosis and evaluation

Next expected outputs:

- Definition of a vision, strategic objectives and scenario building
- Action plan, budget and funding
- Monitoring, reporting and accompanying implementation

Due to the limited availability of new or aggregated data, the factsheet has only marginally been updated in 2023.

La Paz, Bolivia

Partner city

Status of the project: Ongoing pilot project

Basic Information

Urban area: 3,152 km^2

Population: 951,800 (2019) | Growth rate: 0.7%

Country capital city

GDP per capita: USD 3,143.0 (2020)

Modal Share:

- Public transport (formal and informal): 79,18%
- Walking: 11,92%
- Cycling: 0,04%
- Private vehicles (cars, motorbikes): 6,75%
- Other (freight vehicles, taxis): 2,11%

National GHG emissions per capita: 1,77 (tCO_2eq) (2020)

Exposure to climate change: HIGH

Context

La Paz is the economic and administrative capital of Bolivia, and with an elevation of roughly 3,650m is the highest capital city in the world. Its metropolitan area includes the even higher city of El Alto with an average elevation of 4,000m. Both cities are connected via one of the biggest cable car networks in the world but are not integrated from an administrative standpoint. The metropolitan area of La Paz-El Alto has a population of about 2 million inhabitants, of which approximately 950 000 live in La Paz.

The Municipality of La Paz (the counterpart for this project) has the mandate and responsibility to finance mass public transport infrastructure. International finance sources can lend money to the counterpart by agreeing on a sovereign loan with the national government, who then retrocedes it to the municipal government. Systems and procedures are partially in place to monitor, evaluate and report on urban mobility.

In 2014, the city inaugurated the country's first real public transport system: a structural network of buses named Puma Katari that travel along the main arteries observing fixed stops. This is a remarkable innovation compared to the pre-existing "micro" buses stopping on demand and operating at a low commercial speed. The cable car network, called Mi Teleferico, also functioning since 2014, is composed of 11 lines that transport about 250,000 to 300,000 passengers daily (2019). Four new lines will be operating by 2025 according to the network's expansion plan.

Compared to other modes, cycling is nearly invisible (0.04%) in the modal split, with less than a thousand trips made daily by bicycle. The city of La Paz is topographically challenging for cyclists, with steep slopes and an altitude variation of 600m from the lowest to the highest point of the city. The development strategy of the cycling infrastructure focuses on the implementation of micro-networks connected through the collective transport systems – Cable Car and Puma Katari. These micro-networks will be located in neighbourhoods whose slope allows connections in order to cover trips for shopping, work or entertainment.

The objective of the pilot project is to design and construct a pilot micro-network in the Southern Macro District of the municipality of La Paz proposing an intermodal connection, promoting the use of bicycles in urban mobility.

Support from the Partnership

Technical assistance: Pilot Project development

Funded by: European Union through the EUROCLIMA+ programme

Funding amount: EUR 500,000

Implemented by: AFD through EUROCLIMA+

Local counterpart: Autonomous Government of the Municipality of La Paz (GAMLP)

Supported activities:

- Initiation: report on the design and budget for the cycle path proposed by GAMLP
- Preparation: preparation of bid tender documents for the works, support in the design of the communication campaign for the launch of the bicycle infrastructure
- Training: 20-hour course and study tour on cycling infrastructure for GAMLP staff
- Diagnostic: report on the site supervision strategy for cycling infrastructure projects, business model for a public bicycle system
- Implementation: construction of Phase I of the cycling path, technical support during implementation

Status of implementation

Project start: 2023 Q1

Project completion: 2024 Q1

Completed outputs:

- Bid tender documents for technical assistance contract

Next expected outputs:

- Support the design of the communication campaign to launch the project, in addition to covering the costs of dissemination
- Analyse the design and budget of the cycling-infrastructure proposed by the SMM-GAMLP technical team and make recommendations for improvements and additions to optimise its operation and cost based on best international practices
- Advise the technical team of SMM-GAMLP in the integrated planning of the Cycle-infrastructure Network for the Southern Macro District of the municipality of La Paz, Phase I (Calacoto and San Miguel areas) and during its construction

Highlights in the past year

Capacity building and infrastructure implementation interact to encourage cycling

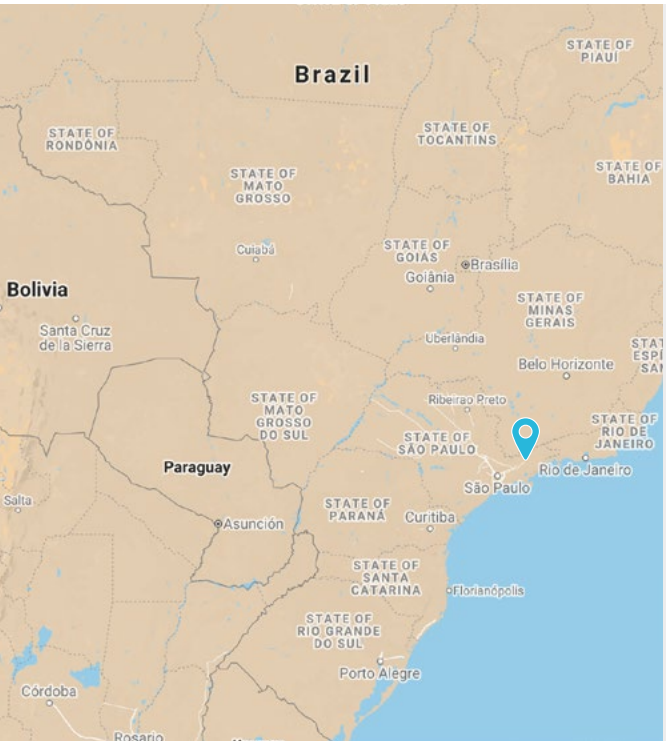
This pilot project aims to test the development model of micro-networks of cycling infrastructure in certain neighbourhoods proposed by the Municipality. It will train technical teams, produce ground-knowledge for future projects, and provide the necessary tools for the completion of the integrated cycling strategy in La Paz.

To December 2022, the project closed the bidding stage, and the international consulting team overseeing the bike path network implementation network was selected. This consulting team will have a permanent local team. The next steps are expected to start the development of the consulting contract and elaborate the terms of reference for the construction of the cycle infrastructure in this city.

Baixada Santista, Brazil

Partner city

Status of the project: **Ongoing Sustainable Urban Mobility Plan**



Basic Information

Antofagasta urban area: **2,422 km²**

Population: **1,892,314** | Growth rate: **+1.24%**

Region capital city

GDP per capita: **USD 16,771**

Modal Share:

- **Public transport: 24%**
- **Walking: 34%**
- **Cycling: 7%**
- **Private cars/motorbikes: 35%**

National GHG emissions per capita: **5.12 (tCO_2eq)**

Exposure to climate change: **MEDIUM**

Context

The Metropolitan Region of Baixada Santista (RMBS), established in 1996, was formed by the grouping nine municipalities: Bertioga, Cubatão, Guarujá, Itanhaém, Mongaguá, Peruíbe, Praia Grande, Santos and São Vicente. Despite corresponding to less than 1% of the surface of the State of São Paulo, the region accounts for approximately 4% of the population of the state of São Paolo. It also represents the 4% of the state GDP and is recognised as one of the most important metropolitan regions of Brazil due to its important harbor and strong industrial and tourist sectors.

Across RMBS 185,247 people travel daily, 13.38% of them to the Metropolitan Region of São Paulo (RMSP) and 77.95% within RMBS. The current road, sea and rail accesses to the port complex significantly limit the potential for cargo movement expansion, which is projected in an expansion Master Plan. A specificity of the region is the seasonality of tourism activities which highly impacts the transport system.

Today there are approximately 230,000 vehicles registered at RMBS and the private vehicle fleet is expanding at a faster rate than the population growth. The metropolitan roads serve the metropolitan bus transportation, operated by São Paulo's Metropolitan Company of Urban Transport (EMTU), but are often poorly integrated with the Light Rail Transit System (VLT) and the intermunicipal buses. Approximately 11% of regional travel is made by bicycle, but with low integration with other modes. Most of the metropolitan routes that belong to the municipalities are not equipped with bicycle lanes. The RMBS currently has about 220 km of bike lanes and cycle paths in place.

There is no transport master plan or similar document for the metropolitan region, although some of the municipalities have their own transport master plans. Baixada Santista Metropolitan Agency (AGEM) does not have the mandate and responsibility to finance mass public transport infrastructure. Instead, the Government of the State of São Paulo acts directly in the region, especially on the issue of mobility, through the Secretariat of Metropolitan Transport (STM), the

Secretariat of Logistics and Transport (SLT), and the Metropolitan Company of Urban Transport (EMTU). The state government has the authority to borrow from international finance sources. Some systems and procedures are partially in place to monitor, evaluate and report on urban matters.

Baixada Santista is receiving technical assistance to develop a regional urban mobility and logistics plan for the region aiming at guiding actions and investments for the short, medium, and long-term. The new plan should allow to expand and integrate different modes of passenger transport. Its goal is improving traffic flows and decreasing travel times. The modal share of public transport and bicycles should both rise.

The technical assistance will also contribute to strengthening institutions by providing general guidelines and proposals for integrated transport solutions, containing a complete diagnosis of current mobility conditions and a prognosis of the evolution of these conditions. It will allow to propose actions that streamline the mobility system and present alternatives that maximise the potential for sustainability of each mode of transport, to achieve adequate standards for the movement of people and loads in the region. Finally, it will help establish a Monitoring and Evaluation System (SIMA) with a set of sustainable mobility and logistics indicators providing constant information for the Thematic Chamber of Mobility to monitor the outcome of the proposed actions, thus contributing to the integrated management cycle of the region.

Support from the Partnership

Technical assistance: Sustainable Urban Mobility Plan (SUMP)

Funded by: European Commission

Funding amount: EUR 500,000

Implemented by: AFD through the EUROCLIMA+ Program

Local counterpart: Baixada Santista Metropolitan Agency (AGEM)

Supported activities:

- Preparation of a Regional Urban Mobility and Logistics Plan for Baixada Santista, which guides actions and investments for the short (2022), medium (2026) and long-term (to 2030)
- Mobility diagnosis (Data collection, inventory and evaluation)
- Definition of vision, objectives and strategies of SUMP
- Action and Financing Plan for SUMP implementation
- Participatory approaches and processes
- Monitoring and formal reception of PRMSL-BS and accompaniment to implementation

Status of the SUMP process

Project start date: 2021 Q2

SUMP adoption date: 2023 Q2

Completed outputs:

- Start project
- Phase 0: Preliminary inform
- Phase 1: Diagnosis
- Phase 2: Definition of vision, objectives and strategies

Next expected outputs:

Formulating the SUMP with these products:

- Phase 3: Action and financing plan
- Phase 4: Participatory approaches and processes
- Phase 5: Monitoring and formal reception of PRMSL-BS

Projected impacts

Indicator	Baseline - 2019
Total annual GHG emissions (Mt CO_2eq)	38.87 Mt CO_2eq
Annual transport related GHG emissions per capita (kg CO_2eq)	34. 367 kg CO_2eq / capita
Air pollution Decrease in mean urban air pollution of particulate matter (in µg PM2.5) at road-based monitoring stations	34. 367 kg CO_2eq / capita

Perspectives for implementation

Political buy-in for approval needs to start from the beginning, involving all key stakeholders

As this is a regional plan, the approval needs to involve all 9 municipalities part of the metropolitan region. The SUMP development process has included the participation of all cities from the outset through the Mobility and Logistics Technical Chamber, with periodic meetings, in which the consultant has presented updates from the project and key documents were shared. Financing of prioritised actions will potentially come from the National Government and a new framework on public transportation.

Chile

Partner country

Status of the project: Ongoing National Urban Mobility Policy or Programme

Basic Information

Population: 18,050,000 (2018) | Growth rate: 1.4%

Percentage of urban population: 87.8%

GDP per capita: USD 16,522

Percentage of the population living below the national poverty line: 10.9%

Annual average infrastructure expenditures as a percentage of GDP: 2.2%

Nationally Determined Contribution (NDC):

- 100% e-taxis by 2050
- 100% urban public transport e-buses by 2040
- 58% private e-vehicles by 2050
- 58% commercial e-vehicles by 2050

National GHG emissions per capita: 5.1 (tCO_2eq)

Proportion of transport related GHG emissions: 24.1% (2016)

Exposure to climate change: HIGH

Context

The Republic of Chile is a country in South America. It occupies a long, narrow strip of land between the Andes to the east and the Pacific Ocean to the west. Chile covers an area of 756,096 km² and has a population of 18 million as of 2018. The capital and largest city is Santiago.

Chile has an economy characterised by the exploitation and export of raw materials. In 2012, exports - copper, fruit, fishery products, paper and cellulose pulp, chemicals, and wine - reached USD 83.66 billion, while imports - oil and derived products, chemicals, electrical and telecommunications articles, industrial machinery vehicles and natural gas - reached USD 72,200 million. The public debt was 10.1% of the GDP, of which the external debt amounted to USD 102.1 billion by late 2012.

By 2030, CO_2e emissions from the transport sector will likely increase 36% compared to 2007, reaching the value of 46.4 megatons CO_2e. This trajectory is currently strongly correlated with GDP growth, and the business-as-usual projections for 2050 go from 44.5 megatons CO_2e for low GDP growth projections to 84.4 megatons CO_2e for high GDP growth projections.

The Ministry of Transport and Telecommunications (MTT) is responsible for developing transport in Chile. It develops transport plans for the country's main cities every ten years, in addition to managing public transport contracts and subventions, among other responsibilities.

Due to a highly centralised system, Chilean cities have few competencies for planning sustainable urban mobility. However, as of 2021, due to a new decentralisation law, municipalities receive new powers in this area. Since October 2019, Chile has been subject to a profound social and political crisis, which has led to a referendum for a constitution renewal.

Despite Chile's efforts to electrify public transport, the country shows high levels of development inequality between the capital and other cities. Indeed, public transportation is still informal in several towns and does not meet the same qualitative and quantitative standards as in the capital city.

The implementation of a National Urban Mobility Policy (NUMP) aims to support cities in the development of sustainable urban mobility, either through the establishment of multisectoral political guidelines (Strategy) or the facilitation of a financing programme, in addition to supporting commitments of the NDC and the country's Long-Term Strategy (LTS).

Technical assistance for the development of the NUMP has strengthened the institutional framework in the country mainly through the facilitation of dialogue and agreements from a multisectoral (discussion between the transport sector, urban planning, environment, and energy) and multilevel (dialogue between the regional and local levels) perspective.

Support from the Partnership

Technical assistance: National Urban Mobility Policy or Programme (NUMP)

Type of NUMP: Mixed Programme and Policy NUMP

Funded by: European Commission

Funding amount: EUR 1,000,000

Implemented by: GIZ through the EUROCLIMA+ Programme

Local counterpart: Ministry of Transportation and Telecommunications

Main purpose of the NUMP:

- Offer cities and regions a general enabling framework for Sustainable Urban Mobility Plans
- Provide technical guidance on a wide range of technical issues relevant to the transport sector in the context of reducing GHG emissions
- Offer cities a general enabling framework for SUMPs
- Regulation of a wide range of technical issues
- Technical advice on a wide range of technical issues

Supported activities:

- Design a National Programme for Sustainable Mobility
- Elaboration of the National Strategy for Sustainable Urban Mobility (writing, revising, and promoting the participation of other institutions in the process)
- Various NUMP Chile roundtable meetings and strategical planning of the NUMP activities
- Virtual peer-to-peer workshops (with Brazil, Ecuador, and Uruguay) and internal workshops with several MTT departments
- Development of technical studies relevant in the context of the Chilean Long-Term Strategy for fighting climate change (Emissions Inventory, Emissions Projection, Status Quo Analysis, among others)

Status of implementation

Project start date: 2018 Q4

NUMP expected completion date: 2023

Completed outputs:

- NUMP Workshops in Quito, Ecuador and Bogota, Colombia (March 2019 and February 2020)
- Status quo analysis and series of multisectoral workshops for building a shared understanding of the urban mobility situation, including mobility challenges and current actions implemented by seven sectoral ministries
- Internal round of 3 workshops (Nov-Dec 2020) with the participation of representatives of most departments (regional and national) from the Ministry of Transport and Telecommunication (MTT) to define the objectives and action lines of the National Strategy on Sustainable Urban Mobility (134 participants in total)
- National Strategy for Sustainable Mobility (2021)
- Study in emissions Inventory from the transport sector (2020)
- Study on emissions projections from the transport sector (2021)

Next expected outputs:

- Investment Programme to support the implementation of sustainable mobility measures from subnational governments
- MRV process at a national level

NUMP key measures and cost estimates

The following table highlights the most significant measures identified in the NUMP.

Measure	Cost Estimate
1. Integrating mobility into the territory • Instruments of urban planning oriented to public transit and active mobility • Urban design and management oriented to public transit and active mobility • Intersectionality with a territorial approach • Sustainable urban logistics	Not quantified[1]
2. Reducing the negative effects of urban mobility on the environment by strengthening climate mitigation actions and local-scale negative externalities • Climate-oriented social assessment of projects • Disincentives to polluting vehicles usage • Disincentives to polluting vehicles purchase • Polluting vehicles control • Fleet decarbonisation • Promotion of technological shift for private vehicles	Not quantified

1 The National Sustainable Mobility Strategy provides a repertoire of 30 types of measures. Regional governments wishing to develop a sustainable urban mobility plan should select from the most suitable measures for their context. Hence, there is not cost estimate for the 30 types of measures. Their costs depend on the specific application that each regional government will do (for example, how many kilometres of bikeways or pedestrian paths).

Measure	Cost Estimate
3. Promoting more efficient use of urban and road space by enabling better travel demand management and enhancing access by prioritising sustainable modes of transport • Reduction of the need to travel • Road space redistribution • Improvement of public transit's levels of service • Incentives for public transit operation and ridership • Intermodality promotion and facilitation • Disincentives to inefficient car ownership and use	Not quantified
4. Active and safe mobility • Walking and cycling infrastructure • Road safety initiatives that prioritise pedestrians and cyclists • Promotion of intermodality between cycling and public transit • Incentives for active mobility	Not quantified
5. Promoting inclusion, universal accessibility, and gender equality in mobility systems • Universally accessible infrastructure and public spaces • Universally accessible public transit • Safe public transit	Not quantified
6. Integrating citizens' vision into decision-making, considering users' and communities' experiences • Appropriate and transparent participatory processes leading to agreements • Decentralised governance for sustainable mobility • Arrangements to allow citizens to raise their voices about problems and communication about processes	Not quantified
7. Progressing towards a more significant integration and transparency of mobility data, enhancing information access for users, and strengthening the technological bases for planners, operators, and decision-makers • Improvement of mobility data collection, processing, and analysis arrangements • Digital transformation for an integrated transit management • Strengthening of information services for citizens • Development of integrated transport services	Not quantified

Projected impacts

In its current status, the NUMP Chile includes a catalogue of measures but no action plan or NUMP scenario with quantified impact.

Indicator	Impact 2030 (NUMP vs BAU)	Baseline - 2020	Projected 2030 BAU	Projected 2030 NUMP scenario
Total annual GHG emissions (Mt CO_2eq)	Not yet quantified	20.01 Mt CO_2eq	22.25 Mt CO_2eq	Not yet quantified
Annual transport related GHG emissions per capita (kg CO_2eq)	Not yet quantified	853 kg CO_2eq / capita	1174 kg CO_2eq / capita	Not yet quantified

Perspectives for implementation

The national government is socialising the NUMP for cities to take action

The most important output of the NUMP Chile project was the National sustainable mobility strategy. This Strategy presents a repertoire of 30 types of sustainable mobility measures. Thus, this Strategy offers cities and regions a general enabling framework for developing sustainable urban mobility plans. Regional governments wishing to create a sustainable urban mobility plan should select from these 30 measures the most suitable to their context.

The transport planning agency (SECTRA) of the Chilean Transport Ministry is currently conducting workshops with professional teams from different regional governments to show how the National Sustainable Mobility Strategy works and can help them to develop SUMPs for their cities. Until now, one regional government has prepared a SUMP (Antofagasta) and is tendering a consultancy project to support the development of a SUMP in another city within the region (Calama).

Insights from practice: lessons learned from the NUMP process

Integrated multi-sector and multilevel coordination, communication and participation have been critical elements in the preparation of Chile's NUMP

Regarding multisectoral and multilevel governance, Chile is a highly centralised country with a low public culture of territorial linkage and involvement in decision- and policy-making. This situation has impacted the development of the NUMP due to the difficulties in incorporating the particularities of the different territories into their development plans, as well as in linking transport with other sectors and ministries, making it challenging to formulate comprehensive measures to reduce emissions.

Moreover, the empowerment of the transport sector around the climate crisis is still challenging. Although the NUMP has facilitated this approach, there is still a significant gap for the transport sector to communicate in a transparent and timely manner the impact it has on the climate and opportunities for change.

In Chile, integrated urban planning still fails to incorporate both the climate crisis and other development issues, such as gender perspectives and inequality. These areas are not yet fully assumed by the different sectors directly influencing urban spaces and their dynamics.

Local governments have more profound knowledge of urban mobility needs

Regional governments have better knowledge and understanding for selecting sustainable mobility measures more suitable for their contexts. Hence, the National Sustainable Mobility Strategy offers cities and regions a general enabling framework for developing SUMPs that local governments will complement by adding context-specific insights and adapting the proposed available measures to effective SUMP road-maps.

Highlights in the past year

A financing programme will complement the National Urban Mobility Strategy

The GIZ is currently supporting the development of a public financing programme to fund two national sustainable mobility strategy measures. These measures are "No. 6: Disincentive to the use of pollutant vehicles" and "No. 12: Road space redistribution". The aim of this programme is to create a financing alternative for regional and local governments interested in controlling the adverse effects of transport, acting simultaneously on both demand (such as Measure 6 on discouraging the use of polluting vehicles) and road supply (such as Measure 12 on redistribution of road space).

Ecuador

Partner country

Status of the project: **Ongoing technical assistance**

Basic Information

Population: **17,084,358** | Growth rate: **1.8%**

Percentage of urban population: **64%**

GDP per capita: **USD 6,346**

Percentage of the population living below the national poverty lines: **21.5%**

Annual average infrastructure expenditures as percentage of GDP: **1.63%**

Nationally Determined Contribution (NDC): **general e-mobility transport related NDC**

National GHG emissions per capita: **2.43 (tCO_2eq)**

Proportion of transport related GHG emissions: **21%**

Exposure to climate change: **MEDIUM**

Context

Ecuador is located on the west coast of South America with apopulation of 17 million people of which 64% live in urban areas, especially Quito, Guayaquil and Cuenca. The Andes range divides the country in three main geographical regions: the Coast, the Sierra, and the Amazon. Between 2009 and 2015 the Multidimensional Poverty Index fell 10.2%, meaning that 1.9 million Ecuadorians overcame poverty in that period. The Gini Coefficient index, which measures income inequality, is 0.447%. Apart from the oil industry, other important economic activities include manufacturing, retail, construction, agriculture, and services.

The lack of planning instruments has caused a scattered urban expansion in the country. The rapid urban settlement process led to the creation of vulnerable urban zones. As of 2018, transport sector GHG emission share was 48.5% of the total energy-related emissions in Ecuador. Road transport accounts for 94.4% of the total transport demand. The most widely used services in the country are buses, trolleybuses, and taxis. The three main Ecuadorian cities have implemented low-carbon mass transit projects: Quito has a 22-km metro line, Guayaquil implemented a 4-km cable car, and Cuenca operates a 11-km tramway. Some other Autonomous Decentralised Governments have undertaken other actions on sustainable mobility including electromobility and active modes.

The Ministry of Transport and Public Works (MTOP for its acronym in Spanish) is the governing entity of the National Multimodal Transport System comprising road, air, sea, and non-motorised transport. Its vision is to formulate, implement and evaluate policies, regulations, plans, programs and projects that guarantee a safe and competitive transport network, minimising environmental impact and contributing to the social and economic development of the country. In turn, the Autonomous Decentralised Governments are responsible for planning, regulating, and controlling land transport, transit, road safety, commercial and collective transport services, among others.

The objective of this project is to define a national strategy for low carbon mobility applicable to all the Decentralised Autonomous Governments of the country allowing a considerable reduction of greenhouse gases, and maintaining levels of equity and accessibility.

Ecuador's National Urban Mobility Policy (NUMP) will consider the improvement of buses and trucks; knowledge of routes, frequencies, and unit locations; promotion of non-motorised transport; economic incentives to reduce greenhouse gases; and planning for land use and urban mobility.

Support from the Partnership

Technical assistance: National Urban Mobility Policy or Program (NUMP)

Type of NUMP: Mixed NUMP (Sectoral strategies and support or investment programme)

Funded by: European Union

Funding amount: EUR 500,000

Implemented by: AFD through the EUROCLIMA+ Program

Local counterpart: Ministry of Transportation and Public Works (MTOP)

Main purpose of the NUMP:

- Offer cities a general enabling framework for SUMP formulation
- Regulation on a specific set of technical issues
- Regulation on wide range of technical issues
- Technical guidance on a specific set of technical issues
- Technical guidance on an on wide range of technical issues
- Define a national strategy for low-carbon mobility that is applicable to all Decentralised Autonomous Governments in the country and that allows for a considerable reduction in greenhouse gases, while maintaining levels of equity and accessibility

Supported activities:

- Preparation of a Low-Carbon Urban Mobility Plan including policies and strategies for the reduction of greenhouse gases
- Preparation of technical guidelines for decentralised autonomous governments for the implementation of the strategy at the local level

Status of implementation

Project start: Q1 2021

Expected project completion: Q4 2022

Completed outputs:

The following deliverables have been provided by the consultant

- Diagnostic support document
- Scenario construction and evaluation criteria
- Methodology of the participatory strategy of the phase

Next expected outputs:

- Vision, strategy and objectives
- NUMP Action Plan
- Measurement, reporting and verification plan for the National Urban Mobility Policy
- Final content of 3 cross-cutting guidelines
- A sustainable urban transport financing strategy
- Legislative reform proposal document

Core impact indicators baselines

Indicator	Baseline - 2020
Total annual transport related GHG emissions (Mt CO_2eq)	15.07 Mt CO_2eq
Annual transport related GHG emissions per capita (kg CO_2eq)	243 kg CO_2eq / capita
Air pollution Mean urban air pollution of particulate matter (in µg PM2.5) at road-based monitoring stations	18 µg/m³ of PM2.5
Road safety Annual traffic fatalities in the urban area, per 100,000 inhabitants	33 fatalities / 100,000 hab
Affordability of public transport Percentage of disposable household income spent on public transport for the second quintile household income group	14.6%

Highlights

Adapting the data collection campaign into virtual sessions increased participation

The methodology for data collection and event organisation was adapted under the COVID-19 health crisis. The adaptation of the events to virtually allowed a greater number of attendees to the NUMP workshops, surpassing the goal set at the beginning of the project.

A large workshop was held with the objective of "Generating a joint reflection and validating the NUMP vision" with the key stakeholders, which responds to the Ecuadorian challenges on sustainable urban mobility. This event allowed the virtual attendance of more than 300 people from different parts of the country.

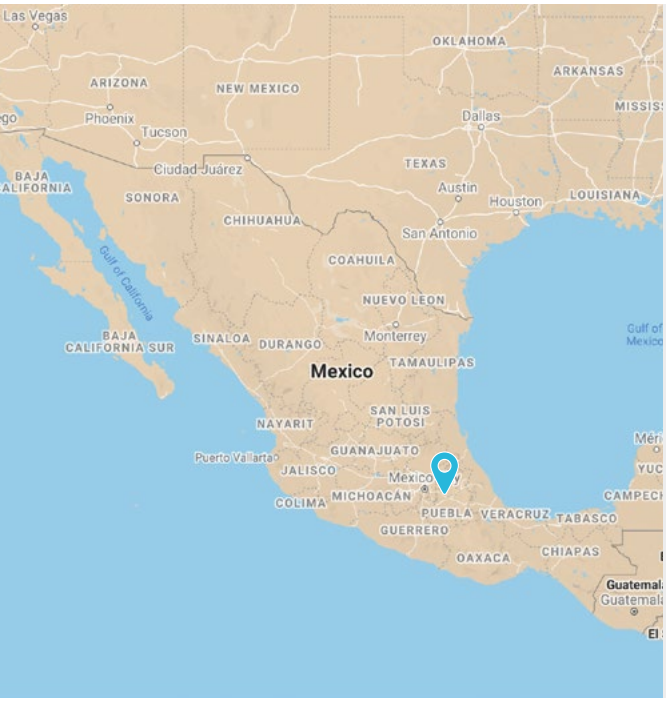
The first phase of the NUMP cycle was completed

The development of the NUMP began in the first quarter of 2021. In 2021, the consultancy firm has completed Phase 1 (Initiation) of the project, with the delivery and approval of the "Initial Report", and the "Diagnostic Support Document", Phase 2 (Strategy) and Phase 3 (Tactical) of the project.

Puebla, Mexico

Partner city

Status of the project: **Ongoing pilot project / technical assistance**



Basic Information

Urban area: **563,4 km²**

Population: **3,250,000** | Growth rate: **1.59%**

Region capital city

GDP per capita: **USD 12,184**

Modal Share:

- **Formal public transport: 0.7%**
- **Private cars: 75.5%**
- **Private motorbikes or 2-wheelers: 5.2%**
- **Taxis: 1.1%**
- **Freight vehicles: 18.2%**

National GHG emissions per capita: **5.39 (tCO_2eq)**

Context

Located in the Valley of Puebla also known as the Valley of Cuetlaxcoapan, Puebla has a current population of 3,250,000 people, making it the fourth largest city in Mexico and the fourth largest metropolitan area in Mexico. The territory of Puebla consists of 563,4 km², with an urbanised area corresponding to 43.1%. In the last four decades, the urban area of the municipality of Puebla has grown by more than 500%, while the urban population barely doubled in the same period. Since 1960, the city of Puebla has become a national reference for important public investments and the attraction of external capital and foreign direct investment. As a consequence, a mono-centric and compact urbanisation process was transformed into an extensive and low-density city, initiating developments further and further away from the city centre near its municipal boundaries.

In 2015, Puebla registered a vehicle fleet of 578,784 motorised vehicles in circulation, of which 75.5% were cars, 1.1% public or private passenger transport, 18.2% freight transport and 5.2% motorbikes. In this sense, for 2015 the motorisation rate of the municipality was 277 vehicles per 1,000 inhabitants. According to statistics, the number of private cars in the municipality of Puebla grew five times more than the municipal population in a period of twenty years (1995-2015), this situation represents a disproportionate increase in private motorised transport that reproduces unsustainable patterns of mobility and urban development.

The city's BRT public transport does not guarantee an intermodal scheme, as there is no integrated system facilitating the transfer from one mode of transport to another.

The local counterpart has the mandate and responsibility to finance public transport infrastructure. It does not have authority to borrow from international finance sources. Systems are partially in place to monitor, evaluate and report on urban mobility.

A large percentage of cyclists come from neighborhoods located in the south of the city, where the Margaritas terminal from Line 2 is located. The pilot project goal is to connect this population with the BRT system, through the installation of safe and accessible bicycle parking spaces at the terminal. It seeks to facilitate conditions for BRT users to use bicycles as a complementary alternative in their travel chain, as well as to encourage active modes of transport over motorised private vehicles. This pilot project is part of the national sustainable urban mobility strategy and the sustainable mobility program of the municipality of Puebla, approved in 2017.

Support from the Partnership

Technical assistance: Pilot Project development

Funded by: European Commission

Funding amount: EUR 500,000

Implemented by: AFD through the EUROCLIMA+ Program

Local counterpart: Secretary of Mobility Puebla

Supported activities:

Implementation of the pilot project of the BRT's Margaritas terminal: implementing bicycle parking infrastructure and equipment, new bike lanes, and a potential fee system. The project has three components:

- Technical, financial, environmental, and social studies
- Construction monitoring
- Communication and visibility of the project

Status of implementation

Project start: 2021 Q1

Expected project completion: 2023 Q3

Completed outputs:

- Participatory process plan
- Report on the results of participatory processes
- Communication and awareness-raising plan
- Diagnostic document
- Comparison of solutions
- Preliminary proposal of solutions
- Implementation plan
- Monitoring, reporting and verification (MRV) plan of the project's impacts

Next expected outputs:

- Construction of the Project
- Foundation system
- Steel structure
- Floor system
- Roof system
- Structural system of the façade
- Electrical installations
- Hydraulic-Sanitary-Pluvial System

Insights from practice: key pilot project takeaways

The Municipality of Puebla, especially the southern area, has been marked by urban sprawl caused by prioritising the use of motor vehicles, the consequences of this urban expansion had caused problems of congestion, inequality and high polluting emissions, to counteract this consequences is necessary to implement sustainable urban mobility systems that allow people to access the activities, services and destinations of the City in conditions of equity, security, sustainability and efficiency; which is why, in line with the Municipal Development Plan, the Sustainable Intramodality Project was developed, with which it is expected to reverse the current system focused on the use of motorised vehicles and start building cities that improve the quality of life of its inhabitants, prioritising and promoting sustainable intermodal mobility.

One of the lessons learned by the process of the Intramodality project was the important role that regulations and normativity plays at establishing the guidelines for the develop of Sustainable Mobility System in the Municipality of Puebla. Nowadays, this legal framework, is few and vague, which sometimes results as a challenge faced by Mobility Systems for application and generation of new and better transportation ways, however, for this reason it is expected to work and review these rules and regulations that allow generating and protecting the plans, programs and works that exist and promote Sustainable Mobility.

Results and perspectives for scaling

The execution of the Massive Bicycle Parking Project will be carried out in two stages. The first one consists in the installation of 200 anchorage ports (bicycle parking) located in a 2-story building, the structure will be planned for future expansion at two higher levels, the foregoing has allowed the progress and feasibility of the Project, according to the allocated and available resources, but does not limit its operation and, above all, its potential development. In this way, it becomes a feasible and replicable project to take as a model inside and outside our state and country.

Highlights in the past year

Active modes can provide a better connectivity with mass transit systems through replicable models

Due to the high demand for cyclists n margarita area terminal, it is important that users have intermodal systems that allow them to travel comfortably and safely throughout Puebla. Therefore, the pilot project is expected to encourage the use of bicycles, increase the use of BRT and reduce GHG emissions.

The pilot project can be replicated in other Latin American cities that have a BRT system, as it is a project that allows the connectivity of public transport with other modes of transport, in this case, bicycles, a mode of transport that is growing in the region and that reduces GHG emissions.

To December 2022, the project is on hold and awaiting the disbursement to open the tender for the bicycle parking lot construction to promote the use of bicycles and intermodal travel, thus contributing to the reduction of GHG from the transport sector of Puebla.

Paraguay

Partner country

Status of the project: **Ongoing National Urban Mobility Policy**

Basic Information

Population: **6,960,000** | Growth rate: **3.7% (projection 2022)**

Percentage of urban population: **62.9%**

GDP per capita: **USD $ 4 949 (2020)**

Percentage of the population living below the national poverty lines: **23.5%**

Annual average infrastructure expenditures as percentage of GDP: **2.25%**

Nationally Determined Contribution (NDC): **no mobility/ transport related NDC**

National GHG emissions per capita: **1,21 (tCO_2eq)(2018)**

Exposure to climate change: **HIGH**

Context

Paraguay is a landlocked country in South America bordered by Brazil to the east, Argentina to the south and west, and Bolivia to the north. Paraguay has 6.96 million inhabitants; Asunción is the capital and with about 522,000 inhabitants also the largest city in the country. The official languages are Guarani and Spanish. Paraguay has an economy characterised by a large informal sector. Since the beginning of the year 2000, Paraguay has experienced a substantial reduction in poverty and shared prosperity. Paraguay is the fifth largest soybean producer in the world. Since 2014, the Paraguayan economy has grown at an average annual rate of 4% due to strong production and high world prices, at a time when other countries in the region have contracted. The country faces important challenges for the sustainability and expansion of its social achievements. Most of the population in rural areas continues to depend on family farming, which places them at a higher risk of poverty. In the country, there has been a process of migration from rural areas to the country's urban centers in search of greater opportunities for education and employment.

As a state without access to the sea, Paraguay has an important dependency on its transport and logistics infrastructure, which connect it to regional markets and international seaports. River transport is concentrated on the Paraguay River, which is where 60% of the country's foreign trade transits. Paraguay's railway system consisted mainly of a 376 km standard gauge main line that, as of 2006, all rail traffic has been suspended, except for weekly tourist steam trains and short cross-border freight trains with Argentina. Public passenger transport is therefore mainly served by the bus network. The urban transport network is extensive with a relatively good coverage of the population. Cargo transportation is basically covered by trucks, trailers and other diesel fuel consuming modes.

As for the number of the vehicle fleet, data from the National Directorate of the Vehicle Registry shows that the number of vehicles has doubled in less than 5 years to 1,922,682 in 2017. This great growth of the vehicle fleet is related to the increase in GDP per capita, urbanisation and population growth. However, Paraguay's vehicle fleet is one of the smallest

in Latin America, with a motorisation rate of around 2.8 vehicles per 10 inhabitants. Another characteristic aspect of the Paraguayan automotive sector is the used and old vehicles that are part of the automotive fleet. The transportation sector is by far the largest consumer of petroleum products in Paraguay. sectoral consumption doubled between 2007 and 2017. In relation to the fuel used, about 71% is diesel. Both gasoline and diesel fuel are required to mix; the first with ethanol and the second with biofuels. Gasoline prices are among the highest in Latin America.

Paraguay is the largest generator of hydroelectric power per capita in the world. Only 20% of electricity generation is destined for internal consumption. Electricity rates are among the lowest in the region. Almost 100% of oil products are imported and associated with high costs. For these reasons, Paraguay has a very high potential for electric mobility. Public transport has a strategic potential to be the spearhead of electric mobility through electric buses. In this context, this project aims to prioritise electric mobility in multimodal urban public transport on the Paraguayan political agenda. The main product of the project will be the consolidation of a Master Plan for Urban, Electric and Multimodal Public Transport that incorporates all actions related to electromobility in the transport sector, including public passengers and cargo transport. The development of the plan will be strengthened by training activities, the involvement of non-state actors, regional exchange, and the identification and management of appropriate financial resources for its implementation.

Support from the Partnership

Technical assistance: National Urban Mobility Policy or Program (NUMP)

Type of NUMP: Policy NUMP

Funded by: European Commission

Funding amount: EUR 300,000

Implemented by: GIZ through the EUROCLIMA+ Program

Local counterpart: Ministerio de Obras Públicas y Comunicaciones – Viceministerio de Transporte (MOPC VMT); Ministerio del Ambiente y Desarrollo Sostenible (MADES)

Main purpose of the NUMP:

- Promotion of electric mobility in multimodal urban public transport in Paraguay, to allow reduction of GHG and the achievement of Nationally Determined Contributions (NDCs)
- Prioritisation of electric mobility in multimodal urban public transport in the Paraguayan political agenda.

Supported activities:

- Develop a Master Plan for Urban, Electric and Multimodal Public Transport and a Monitoring, Reporting and Verification (MRV) scheme
- Strengthen public sector capacities for the implementation of electric transport systems and establish regional cooperation
- Involve non-state actors in the implementation of electric transport systems promoted by the Master Plan
- Identify strategic electric mobility pilot projects and potential funding sources

Status of implementation

Project start date: 2021 Q3

NUMP expected completion date: 2023

Completed outputs:

- Development and validation of the EUROCLIMA+ project concept
- Pre-study in preparation for the NUMP
- Recruitment of consultancy for the elaboration of the NUMP

Next expected outputs:

- Master Plan for Urban, Electric and Multimodal Public Transport and Logistics
- Monitoring, Reporting and Verification Scheme (MRV)
- Capacity development and training courses with local counterparts
- Information and awareness campaign on sustainable urban mobility and electrification of transport, including implementation of a website platform
- Roadmap for the implementation of strategic pilot projects

NUMP key measures, leveraged financing and projected impact

Deliverables or specific information are not available at this stage of the process.

Due to the limited availability of new or aggregated data, the factsheet has only marginally been updated in 2023.

Uruguay

Partner country

Status of the project: **Ongoing National Urban Mobility Policy**

Basic Information

Population: **3,387,605** | Growth rate: **0,35%**

Percentage of urban population: **96.1%**

GDP per capita: **USD 17,277**

Percentage of population living below the national poverty line: **8.1%**

Annual average infrastructure expenditures as percentage of GDP: **5,9%**

Nationally Determined Contribution (NDC): **Unquantified transport-related NDC**

National GHG emissions per capita: **1.90 (tCO_2eq)**

Proportion of transport-related GHG emissions: **41%**

Exposure to climate change: **HIGH**

Context

Uruguay has a very high urbanisation index, with 95% of its population living in cities and a sustained migration trend from the countryside to urban centres. Urban population growth occurs through the expansion of urban areas towards lower densities. About half of the population lives in the metropolitan area of Montevideo, Uruguay's capital. The rest of the cities are considerably smaller, with few counting more than 100,000 inhabitants.

Uruguay has achieved very high access rates to public services such as water and electricity. However, in many cases, urban growth did not occur in a planned manner. This situation has caused a surge of settlements with little transport infrastructure and collective transport. Hence, transport systems often present different degrees of inefficiency, provoking lower quality and higher costs. Many users have turned towards alternatives such as motorcycles or private vehicles, even in low-income social sectors. Hand in hand with the most prolonged period of economic growth in the country, which has now lasted 15 years, a significant increase in the private vehicle fleet took place. Public transport demand has decreased, and congestion and air and noise pollution in many cities, especially in Montevideo's metropolitan area, have worsened.

On the other hand, as most Uruguayan cities are small, public transport is often not a viable economic option due to scale issues. In such cases, the population must resort to their vehicles to get around since public transport systems do not exist. This situation constitutes a barrier to the mobility of those who cannot afford a motorcycle or car.

The public transport sector is highly regulated, with Departmental Governments (GGDD) responsible for granting public transport services and establishing the requirements for corridors and units (e.g. buses and taxis). Electric mobility has been promoted jointly through the Working Group on Energy Efficiency in Transport, led by the Ministry of Industry, Energy and Mining (MIEM) with the participation of the Ministry of Transport and Public Construction (MTOP), the

Ministry of Economy and Finance (MEF), the Ministry of Housing and Territorial Planning (MVOT) and the Ministry of Environment (MA), the national public electricity company (UTE), and the Departmental Government of Montevideo (IM).

There also exist private and social groups working on urban mobility, some from business spheres and others from civil society, such as groups of bicycle users. From the private sector, public passenger transport companies and taxi drivers actively dialogue with departmental governments and ministries in charge of urban mobility. In recent years, business groups have been a fundamental part of implementing the first actions to promote electric mobility in Uruguay. Several stakeholders have participated in the communication of promotion instruments, training, knowledge of new regulations and standards, and spaces for dialogue on advantages and possible barriers to electric mobility implementation.

Transport activities generate more than half of total energy-related GHG emissions in Uruguay. Urban electric mobility has the potential to maximise the benefits of the country's low-carbon electricity matrix. A structural transformation of the transport sector might reduce its carbon footprint and contribute to further co-benefits, such as reducing air and noise pollution. Considering that the GGDD are the leading authority for urban transport, enjoying full autonomy from the national level, policy processes have strong participation through the vertical and horizontal governance structure.

Following the structure proposed by MobiliseYourCity for National Urban Mobility Policies (NUMP), this technical assistance intends to build a holistic perspective of the overall NUMP formulation. The NUMP objective in Uruguay seeks to increase access to opportunities located at urban centres through sustainable transport alternatives. From the "ready to implement" approach, the technical assistance supported policy design, implementation instruments (guides), financing mechanisms for specific measures, and a capacity-building roadmap. It has also considered strategic planning, exchanging concept designs, and facilitating workshops and meetings. Detailed knowledge has been provided on Transport Oriented City-Planning, e-mobility solutions, and financing mechanism design.

Support from the Partnership

Technical assistance: National Urban Mobility Policy or Program (NUMP)

Type of NUMP: Policy NUMP

Funded by: European Commission

Funding amount: EUR 1,000,000

Implemented by: GIZ through the EUROCLIMA+ Program

Local counterpart: Ministry of Industry, Energy and Mining (MIEM); National Energy Directorate; Climate Change Division of the Ministry of Housing, Territorial Planning and Environment

Main purpose of the NUMP:

The project aims to strengthen capacities in planning sustainable urban mobility and to lay the foundations for a national program to promote electric urban mobility that includes the development of technical, regulatory, and financial mechanisms.

Supported activities:

- Incorporation of e-mobility into territorial planning instruments
- Development of standards and regulations for new technologies
- Development of financial tools to promote and accelerate public and private investment for vehicle fleet electrification
- Capacity building and institutional strengthening for public and private actors to facilitate vehicular electrification

Status of implementation

Project start: 2018 Q2

Expected project completion: 2023 Q1

Completed outputs:

- National sustainable urban mobility planning guide
- National e-mobility guide
- Draft of the National Sustainable Mobility Policy
- A participatory process with national and subnational stakeholders
- 5 Cities have been supported to move towards sustainable mobility
- E-mobility solutions guide (to be done in March 2022) done
- Capacity building diagnosis and recommendations for a cross-cutting educational system. A capacity development program on how to design Mobility Plans at the city level was agreed upon with the University of Buenos Aires (UBA), and 12 practitioners from 6 cities attended on December 22 and January 23. It consisted of 8 weeks self-learning program to be monitored by the UBA online.
- Roadmap for the dissemination of policy and its implementation instruments. The GTP (Project Working Group, for its acronym in Spanish) decided to strengthen institutional capacity by creating a Multisectoral Sustainable Mobility Commission (CIMS). This commission will be piloted with support from Country-Dialogue (a new methodological cooperation format financed by the EUROCLIMA+ Programme).

Next expected outputs:

- National Policy document, with an expected launch official launch in March 2023
- Cost estimation of the policy implementation. It will be estimated after the implementation of pilots in six cities with support from the Country-Dialogue of EUROCLIMA+s new phase

Perspectives for implementation

The GTP is responsible for advocating for successful NUMP implementation in Uruguay

The GTP has the technical responsibility to develop the NUMP so it can be adopted at the political level. Its way of working is a replica of the Working Group on Energy Efficiency in Transport, an essential promoter of electric mobility in Uruguay that the Ministry of Industry, Energy and Mining (MIEM) chaired. The GTP has representatives from the environmental, transport, economy, territorial planning ministries, the national public company for electric mobility (UTE) and the Departmental Municipality of Montevideo (IM).

Inspired by these years of joint work building the NUMP, they proposed the creation of the Inter-institutional Commission for Sustainable Mobility (CIMS). This commission will lead the implementation of the NUMP and fill the gap between the national and city levels.

Insights from practice: lessons learned from the NUMP process

Although costly and time-consuming, participation enhances NUMP development

While the need to consider the perspectives of each stakeholder group slowed down the policy development process, the inclusion of diverse vantage points improved the setting of objectives and allocating of responsibilities.

In this context, communication is critical. We would advise implementing a dialogue process that engages stakeholders to the greatest extent possible. The input provided by stakeholders should be integrated with an iterative process. In this way, one can harness the cooperation of stakeholders who are committed to the spirit of the policy – this, to be sure, is one of the most valuable outcomes of the policy process.

Vertical coordination is crucial to effectively meet local institutions' needs for sustainable urban mobility

Vertical coordination is crucial for involving stakeholders and ensuring the real-world viability and implementation of the policy. It is essential to carry out this process in several steps to recognise challenges and identify solutions. For example, if the national government promotes sustainable mobility but does not necessarily provide resources to meet stated goals, municipal representatives must tailor their ambitions accordingly.

NUMP implementation foresees additional support documents and an adequate governance framework

The institutional complexity of Uruguay has required an additional effort in coordination. The NUMP implementation transcends the policy document and entails the creation of a National Commission for Sustainable Mobility (CIMS as its acronym in Spanish), the Sustainable Mobility Planning Guide, the E-mobility Guide and a Financing Mechanism, and other actions. A national law will frame Uruguay's NUMP, and the CIMS will lead the process of enacting the law. After its adoption, the CIMS is expected to lead and coordinate the process for cities to formulate their Sustainable Urban Mobility Plans. Among other responsibilities, the CIMS will regulate access to funds and coordinate local capacity-building.

Available tools for sustainable urban mobility planning need to be adapted to the local context

Introducing the "ready-to-implement" aspect of the policy required work time alongside the counterpart to agree on a format tailored to the national regulatory framework. This "ready-to-implement" methodology came late, and its inclusion into the ongoing process created some friction. However, the counterpart keeping a holistic perspective was crucial to refining the aspects covered. The early engagement of cities was essential to know their specific challenges and needs for future implementation. This consultation process strengthened momentum and commitment from the whole ecosystem of stakeholders. The methodology used is vital for success, as it provides enough flexibility to cover all crucial aspects of sustainable urban mobility planning at the national level while giving room for specific country needs and identity.

2022 was a year for consolidation of a vivid and complex process to reach the NUMP adoption

The adopted strategy for promoting municipal engagement with the national vision was to provide cities with a solid knowledge base for change. Two guidebooks for municipal authorities accompany the National Urban Mobility Policy. Specifically, the mobility planning guide supports strategy development at the city level and includes measures and recommendations to consider when planning a sustainable multimodal mobility system. Cities also received a e-mobility guide that offers solutions and highlights aspects to consider when building an e-mobility system at the city level.

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