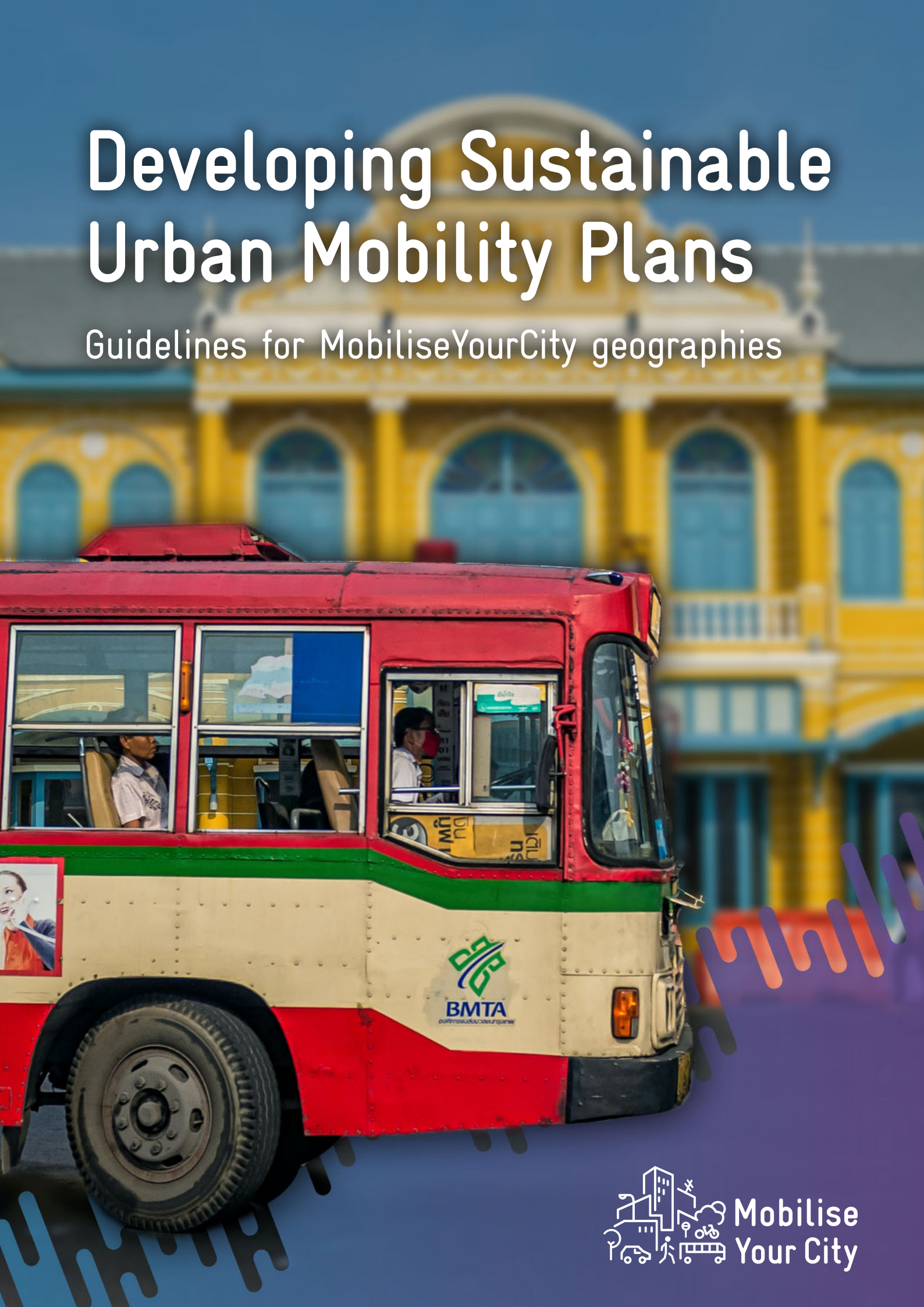
Developing Sustainable Urban Mobility Plans

Guidelines for MobiliseYourCity geographies



Mobilise Your City

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European Bank for Reconstruction and Development

KFW

Wuppertal Institut

Knowledge and Network Partners

ECF EUROPEAN CYCLISTS' FEDERATION

Global Partnership on Informal 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

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SUSTAINABLE mobility FOR ALL

Marrakech Partnership

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List of Abbreviations and Acronyms

ADB	Asian Development Bank
AFD	Agence Française de Développement (French Agency for Development)
ASI	Avoid-Shift-Improve
ASIF	Activity (trips in km per mode), Structure (model share), Intensity (energy intensity by mode in MJ/km), Fuel (carbon intensity of the fuel in kg CO2/MJ)
BAU	Business-As-Usual
BRT	Bus Rapid Transit
CAPEX	Capital Expenditures
CBA	Cost Benefit Analysis
CH_4	Methane
CO_2	Carbon dioxide
CO_{2e}	Carbon dioxide equivalent
EASI	Enable Avoid Shift Improve concept
EU	European Union
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH
GPS	Global Positioning System
ICCT	International Council for Clean Transportation
IEA	International Energy Agency
IPCC	Intergovernmental Panel on Climate Change
IT	Information Technologies
LRT	Light Rail Transit
MaaS	Mobility-as-a-Service

MOU	Memory of Understanding
MRT	Mass Rapid Transit
MRV	Monitoring, Reporting and Verification
NMT	Non-Motorised Transport
NOx	Nitrogen Oxides
N_2O	Nitrous Oxide
NUMP	National Urban Mobility Policy and Investment Programme
OD	Origin-Destination
OPEX	Operational Expenses
OSM	Open Street Map
PKM	Passenger Kilometres Travelled
PM	Particulate Matter
PPP	Public Private Partnership
PT	Public Transport
PTA	Public Transport Authority
SDG	Sustainable Development Goal
SLoCaT	Partnership on Sustainable Low Carbon Transport
SUMP	Sustainable Urban Mobility Plan
SWOT	Strengths, Weaknesses, Opportunities, Threats
TOD	Transit-Oriented Development
TOR	Terms of Reference
TKM	Total Kilometres Travel
TUMI	Transformative Urban Mobility Initiative
UNFCCC	United Nations Framework Convention on Climate Change
UX	User Experience
VKT	Vehicles Kilometres Travelled

Introduction: mobility planning for MobiliseYourCity geographies

A Sustainable Urban Mobility Plan (SUMP) is a concept originally developed for European cities by the European Commission's Directorate General for Mobility and Transport (DG MOVE). SUMPs provide local governments and development organisations with an action-oriented, adaptable, and effective tool to shape sustainable urban mobility systems and realise the sector's contribution to the Sustainable Development Goals (SDGs).

MobiliseYourCity has been a leading force in disseminating SUMPs in the Global South since its inception in 2016. As of 2022, 69 cities and 15 countries across Africa, Asia and Latin America are collaborating closely with the MobiliseYourCity Partnership to develop scalable solutions for improving mobility in complex environments. At the time of this publication, 32 SUMPs are being developed or implemented with assistance from AFD, GIZ, Codatu, ADB, Cerema and the Wuppertal Institute.

By mobilising the technical expertise and financial strength of its donors and implementing partners, the Partnership is working with local governments to develop SUMPs, bringing tangible improvements and closing the financial gap required to make sustainable urban mobility a reality.

BOX 1 What is a Sustainable Urban Mobility Plan (SUMP)?

The European Guidelines for Developing and Implementing a Sustainable Urban Mobility Plan define SUMPs as follows:

"Sustainable Urban Mobility Planning is a strategic and integrated approach for dealing effectively with the complexities of urban transport. Its core goal is to improve accessibility and quality of life by achieving a shift towards sustainable mobility. SUMP advocates fact-based decision-making guided by a long-term vision for sustainable mobility. As key components, this requires a thorough assessment of the current situation and future trends, a widely supported common vision with strategic objectives, and an integrated set of regulatory, promotional, financial, technical and infrastructure measures to deliver the objectives – whose implementation should be accompanied by systematic monitoring and evaluation" (Rupprecht Consult 2019; 10).

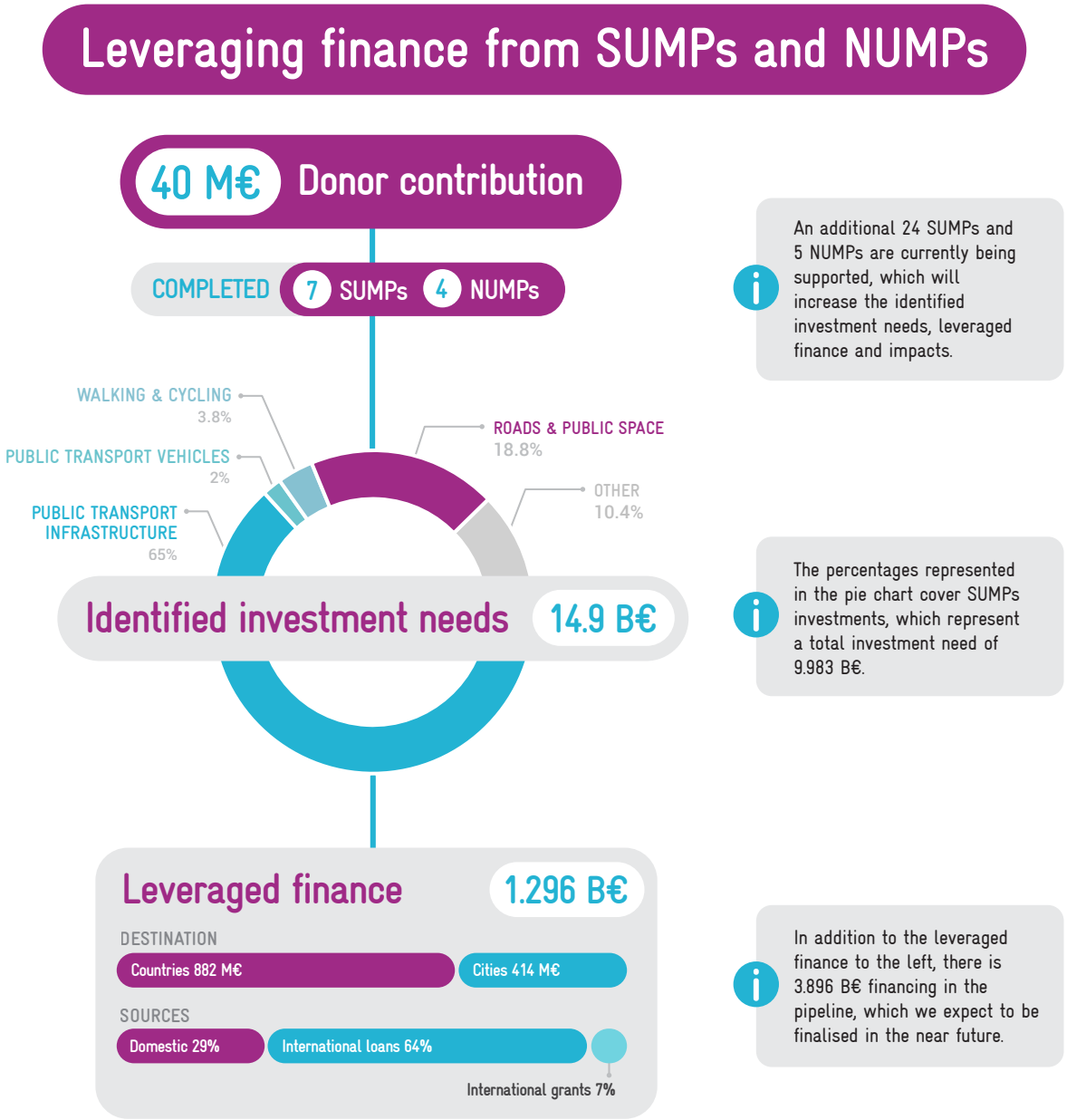


Figure 1. Key figures on the MobiliseYourCity initiative[1]

Source: MobiliseYourCity

1 For more information about the MobiliseYourCity actions and impact, check out the 2022 MobiliseYourCity Global Monitor

Common challenges across diverse geographies

By supporting our members to develop SUMPs, we have gained unique insights about the diverse contexts and local challenges faced in the Global South regarding urban mobility, ranging from our largest member, Ahmedabad (7.8 million inhabitants), to our smallest, Kurunegala (122 thousand inhabitants). Their particular conditions offer specific opportunities but also challenges that differ from those of European cities, thus substantiating the need for tailored guidelines for the development of SUMPs in Africa, Asia and Latin America:

- **A lack of technical capacities** commonly constrains local governments from planning, enacting, regulating, enforcing, and monitoring policies related to urban mobility. In addition, decision-makers and practitioners may not be fully aware of the benefits of integrated and sustainable mobility planning, relying instead on old paradigms that tend to prioritise private vehicles over people. This limited approach to mobility planning fosters motorisation at the expense of quality of life, accessibility, and equity. A robust capacity-building approach and awareness raising about the benefits of sustainable mobility are thus a constituting part of MobiliseYourCity SUMPs that accompanies the entire elaboration process.

- In many cases, the **existing governance and institutional frameworks** compound the lack of local capacities by depriving municipalities of the required mandates to perform essential regulatory, managerial, and administrative functions, which may be inefficiently centralised or even non-existent. These limitations often lead to the uncontrolled proliferation of paratransit services and private motorisation, the prioritisation of road infrastructure, subsequent neglect of walking and cycling and other equally critical mobility-related issues.

- Compared to cities in Europe and North America, most cities in the Global South still **have low levels of private motorisation**. In other words, most people walk, cycle, and use public transportation to reach their destinations. Although these conditions may change as economies grow and the purchasing power of citizens increases, they still offer great potential for leapfrogging by breaking free from the inefficient, costly and environmentally harmful car-centric paradigm. While cities in the Global North struggle to reverse unsustainable trends of increased car usage in scarce urban space, developing cities can design and implement new and innovative urban mobility systems that are sustainable, attractive and accessible to all citizens.

- **Paratransit, or informal transportation, is the main, if not the only, mode of public transport** in the vast majority of cities in Asia, Africa, and Latin America, meeting more than half of the total transport demand of urban citizens. Recognising paratransit as a critical contributor to sustainable mobility and addressing the negative externalities of these services, such as low-quality service, precarious working conditions, and environmental pollution, must be a central objective of any sustainable urban mobility planning process.

- Good, reliable, and up-to-date data is a prerequisite for evidence-based decision-making and a robust and accurate understanding of every city's current urban mobility situation. However, cities in the Global South face **low-data environments** that severely constrain the planning process. To close this gap, SUMPs must prioritise and conduct a thorough and resource-intensive urban mobility diagnosis as a first step. Digital technologies can help with this task, for example, while mapping paratransit services or providing information on origin-destination through mobile-phone-generated data. Innovation in this space has great potential to leapfrog the cumbersome and expensive but essential data-collection process.

- **Resources to finance sustainable urban mobility are scarce**, and traditional financial instruments are inadequate to close the investment gap in fundamental areas such as the modernisation of the paratransit sector and the scaling-up of walking and cycling infrastructure. SUMPs are proving to be an effective tool to leverage local, national, and international finance as they create a political commitment, quantify impacts, provide an enabling environment, and design financial mechanisms that guarantee the bankability of measures.

MobiliseYourCity's SUMP Guidelines are an attempt to adapt the time-tested European SUMP Guidelines to fit the multiple contexts of the Global South, thereby empowering mobility practitioners and decision-makers, both within and outside the Partnership, in their current and future endeavours to develop Sustainable Urban Mobility Plans.

Defining Sustainable Urban Mobility Plans (SUMPs)

A Sustainable Urban Mobility Plan is both a product and a process.

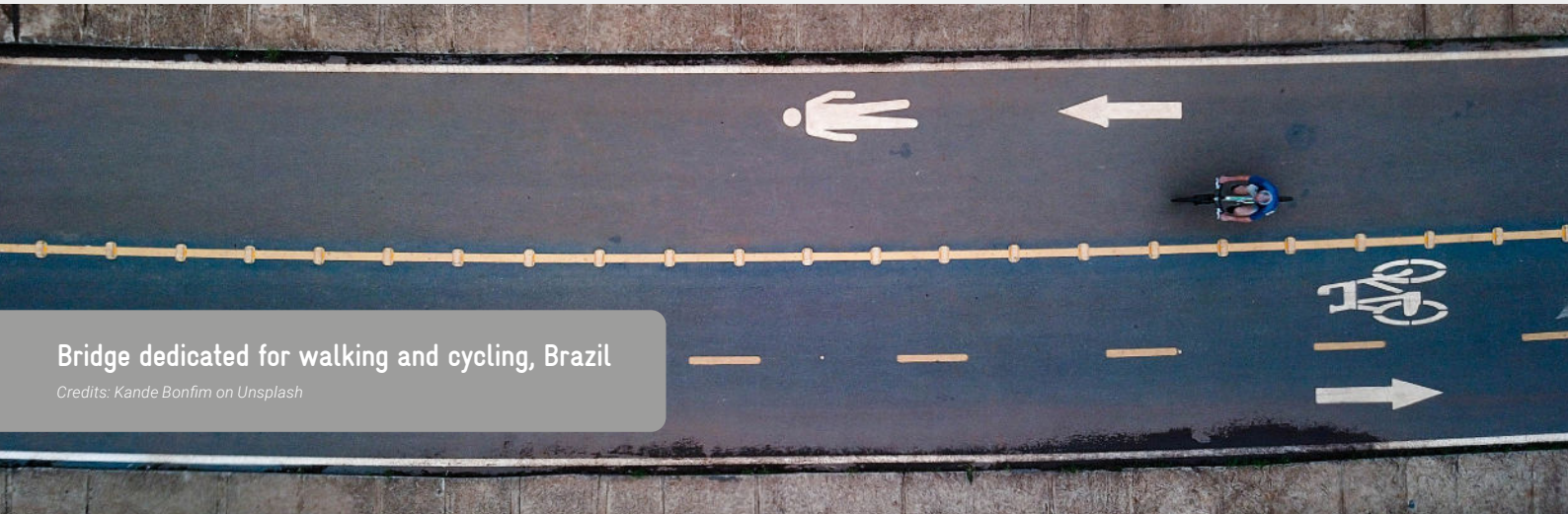
As a product, it is a planning document encapsulating the most relevant information from the SUMP's elaboration. It is the tangible output that would be adopted by political decision-makers (ideally through a legislative act), guiding the responsible institutions in its implementation in the long, medium, and short-term. The structure and content of such a document reflect the elaboration process itself.

BOX 2 MobiliseYourCity's SUMP Annotated Table of Contents

The MobiliseYourCity SUMP Guidelines provide recommendations for the elaboration of SUMPs. In other words, it exclusively focuses on the planning process. In contrast, MobiliseYourCity's Annotated Table of Contents for Sustainable Urban Mobility Plans gives information on how a SUMP (or other related strategic mobility planning document) is best structured and what information it should contain to achieve compliance with international SUMP standards. Adopting the SUMP document by the corresponding authorities is usually the final step preceding the implementation phase.

MobiliseYourCity's SUMP Annotated Table of Contents outlines the structure and content of the SUMP document (see also Table 14):

- **Executive Summary** - background, objective, methodology, key results, recommendations
- **Process, management structure and stakeholder involvement** - context, process overview
- **Status quo analysis** - institutional, financial and planning frameworks, mobility and transport, demographics and urban development, accessibility, safety, freight, social dimension of mobility, environment
- **Vision and objectives** - target and indicators, planned and proposed measures, comparison of SUMP and Business-as-usual-scenarios
- **Selected SUMP scenario and actions** - description of selected scenario and measures, cost estimates, implementation planning, funding and financing, capacity development strategy
- **Monitoring and reporting** - core indicators, governance arrangement
- **Appendix** - timetable of SUMP development, data collection methodology, participatory approach, description of scenarios, detailed description of measures, traffic model report



Bridge dedicated for walking and cycling, Brazil

Credits: Kande Bonfim on Unsplash

As a process, a SUMP is a planning approach that follows a specific methodology and adheres to the following principles specified in the European SUMP Guidelines:

SUMP principles, established by the European SUMP Guidelines	Implications for SUMP development in the Global South
1. **Plan for sustainable mobility in the 'functional urban area'** rather than the administrative boundaries. The Guidelines clarify the functional urban area in the first steps of the SUMP preparation, based on mobility patterns that reflect the distribution of economic activities and services over the territory or, more generally, land use.	Administrative jurisdictions in the Global South may not reflect current urban development patterns due to rapid population growth and urbanisation. In some cases, national governments assume or centralise administrative, regulatory, and policymaking competencies as existing local authorities lack the necessary capacities to fulfil their mandates. The existing governance arrangements often lead to an inability to cope with urban sprawl and meet the mobility needs of the population in a sustainable, safe, and accessible manner. As SUMPs focus on the functional urban area, they can provide valuable insights into ongoing or future decentralisation processes and inform the establishment or improvement of local and metropolitan transport and mobility institutions.
2. **Cooperate across institutional boundaries,** linking mobility and urban planning, road and public transport, infrastructure, and environmental and social institutions from every level of government. Involving relevant public stakeholders with a direct and indirect influence on urban mobility guarantees alignment of the SUMP with existing policies, regulations and institutional arrangements. Organisational cooperation secures the political ownership required for successful SUMP implementation and adherence to the plan over time, especially across electoral cycles.	The national government's involvement is essential as cities in the Global South commonly lack the fiscal capacity to implement a SUMP. They may not be mandated to access loans from international sources directly and may depend on the national level to enact specific policies or regulations identified in a SUMP. National governments are vital stakeholders in the elaboration as well as in the implementation of a SUMP. National governments may also assume a leading and proactive role within their countries by adopting enabling environments for SUMP adoption, for example, through National Urban Mobility Policies and Investment Programmes (NUMPs) (see also the sub-section of this chapter: *"How do Sustainable Urban Mobility Plans work in practice"*).
3. **Involve citizens and stakeholders,** thereby ensuring that the mobility needs and interests of the population and businesses are considered, as far as possible, in the SUMP design.	Paratransit operators are key stakeholders to engage throughout the SUMP process. They are numerous and usually well organised (and thus have significant political power), but as the primary public transport providers, they are directly affected by any public transport reform or introduction of mass-transit systems. Making sure that workers in the sector have a say in the planning process is a prerequisite for a just transition to sustainable urban mobility. Participatory cultures differ vastly across countries. A significant challenge in the SUMP process is to ensure that all population groups are involved in the participatory process. The staff responsible for developing a SUMP must thus be innovative in its methods and seek to engage representatives and local leaders that can cover the broadest possible range of interests and perspectives.[2]

2 For more information and guidance on stakeholder participation during SUMPs, see MobiliseYourCity's Topic Guide 'Participatory processes in urban mobility planning'.

SUMP principles, established by the European SUMP Guidelines	Implications for SUMP development in the Global South
4. **Assess the current and future performance** of the transport system in the functional urban area by conducting a comprehensive urban mobility diagnosis, building and comparing SUMP scenarios against a baseline, and identifying indicators for monitoring.	Mitigation and adaptation to climate change are a priority in the SUMPs developed with support from MobiliseYourCity. Hence, the assessment of a baseline and comparison with different scenarios entails quantifying the impact of the SUMP in terms of greenhouse gas (GHG) emissions reductions. This criterium contributes to each country's international commitments and is a prerequisite to access climate finance, a vital resource to be leveraged for SUMP implementation. Two additional criteria informing such an assessment are the capacities of the incumbent authorities and the overall financial performance of the transport system. Both are essential in comparing the feasibility of the different scenarios and identification of capacity-building measures, as well as the design of a financial mechanism in the later stages of the SUMP planning process. The selection of the most suitable SUMP scenario essentially builds upon the criteria mentioned above (mitigation impact and the feasibility of the proposed measures).
5. **Define a long-term vision and clear implementation path** that is financially viable. Political ownership is necessary for long-term adherence to the SUMP. On the other hand, adequate, prompt, dedicated resources contribute to results achievement for the implementation phase.	A SUMP process strengthens the decision-making process around urban mobility in the Global South. In contexts where national and local institutions lack the capacity and legitimacy to develop sustainable mobility, the SUMP establishes a long-term vision concerted with different stakeholders, transcending government terms and political discrepancies. Data-driven decisions are at the core of a SUMP action plan, shielding the attempt to discard it in times of political shift or instability.
6. **Develop all transport modes integrally** while prioritising public transport and active mobility. The measures identified in the SUMP (infrastructure, technical, regulatory, awareness raising and financial) must reflect this integration to improve the quality, security, accessibility and efficiency of the overall system.	Paratransit and walking are the main modes of transport in cities in the Global South. However, relying on these modes is not a free choice but a necessity for most citizens. SUMPs must identify a wide range of integrative measures to increase the attractiveness, quality, safety, and accessibility of these two modes, as well as cycling, to fight rapid motorisation rates and improve the overall quality of life of urban spaces. With increasing investments in mass transit systems, especially Bus Rapid Transit (BRT), SUMPs are a valuable tool to ensure the integration between these new projects with other modes. For instance, the BRT project can integrate infrastructure investments in walking and cycling and include paratransit reform measures to guarantee complementarity and a just transition of affected operators.
7. **Arrange for monitoring and evaluation** to assess the progress of the SUMP implementation and expected impact over time. Suitable indicators, data collection, and evaluation methods must be identified to monitor and communicate such progress and make adaptations to ongoing measures as necessary.	Monitoring and evaluation are usually new responsibilities that need to be assumed by local authorities. The introduction of such systems must include the identification of required capacities to be built and establishing organisational arrangements. Specifically, this may entail hiring and training new staff and creating a responsible for performing these tasks.
8. **Assure the quality of the SUMP** by having mechanisms in place. Ensuring the quality of the data and risk management during implementation requires specific attention.	MobiliseYourCity's implementing organisations support cities to develop SUMPs by providing technical assistance and mobilising international experts. Detailed methodological support and tools made available by the Partnership, such as this document[3], guarantee the quality of SUMPs. Any city interested in developing a SUMP can seek support from international development organisations or national governments and join regional and national (if existent) communities of practice to share experiences and learn from the lessons of other cities.

Table 1. Implications for MobiliseYourCity geographies of the European SUMP Guidelines

3 MobiliseYourCity's tools and methodologies are available at www.mobiliseyourcity.net.

In addition to these principles and their implications on SUMP elaboration in cities in the Global South, MobiliseYourCity pays particular attention to the following elements:

- **Set objectives in favour of climate change mitigation and adaptation**: SUMPs introduce the climate impact as a criterion to define the mobility strategy in contexts where awareness of climate change is often limited or perceived as less relevant than other challenges. Thus, it encourages a shift in the political agenda and public opinion towards strengthened climate action.
- **Adopt a contextualised and locally sensitive approach**: to be effective; a mobility policy should be grounded in local practices, considering mobility determinants and triggers for change. Besides, SUMPs not only aim at climate change but also contemplate mobility as a factor for improving living conditions and supporting the local economy.
- **Make the most of innovation and digital technologies' potential**: developing high-value recommendations in contexts often marked by limited resources and available data is a demanding exercise that requires pragmatism and creativity. MobiliseYourCity strengthens the capacities of its members in that regard, as it fosters the development of free or open-source digital tools and best practices to implement SUMP activities with maximum efficiency.

BOX 3 The Avoid-Shift-Improve (ASI) approach

The ASI approach helps mobility practitioners and decision-makers identify SUMP measures that contribute to climate change mitigation while at the same time promoting accessibility, efficiency, safety, equity, and overall sustainability in the transport sector.

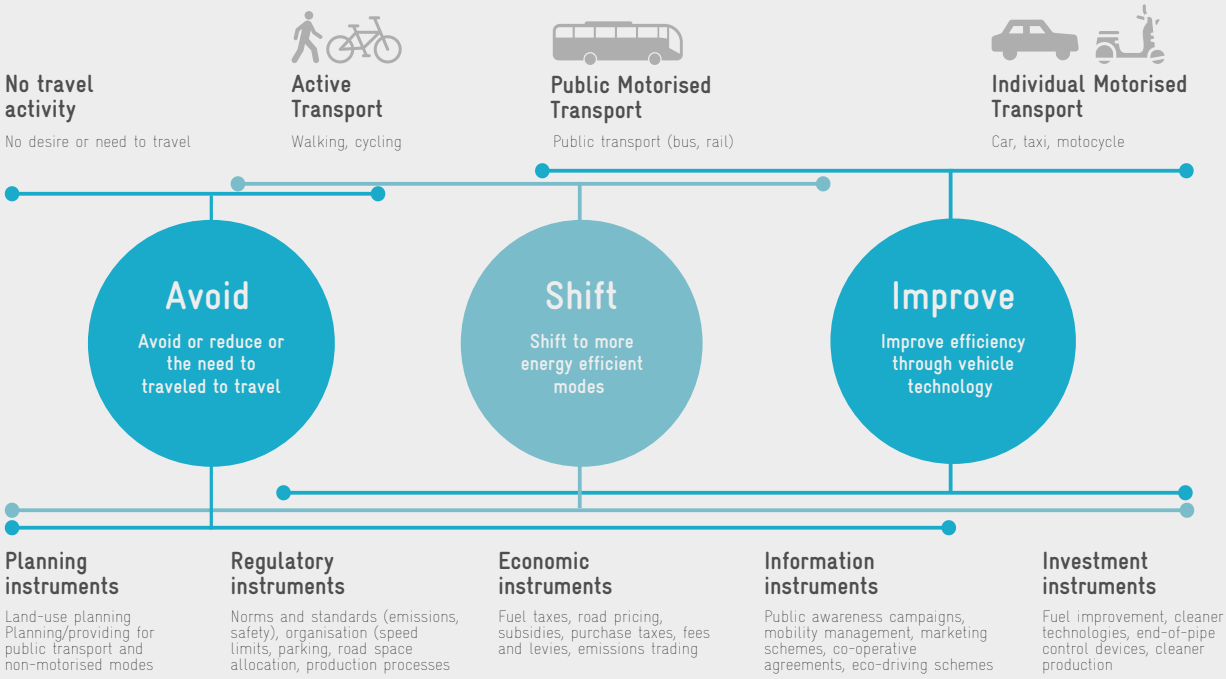


Figure 2. The ASI concept: Avoid, Shift, Improve

Source: TUMI, Sustainable Urban Transport: Avoid-Shift-Improve (A-S-I)

SUMP's contribution to Sustainable Development Goals and the international climate agenda

By developing and implementing SUMPs that encompass effective measures to decarbonise urban transport, cities can contribute to their country's Nationally Determined Contributions (NDCs) set forth under the international climate agenda and many urban-related goals specified in the New Urban Agenda as well as the Sustainable Development Goals (SDGs).

3 GOOD HEALTH AND WELL-BEING

Targets

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

3.8 - Achieve universal health coverage, including financial risk protection, access to quality essential health-care services and access to safe, effective, quality and affordable essential medicines and vaccines for all

3.9 - By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination

SUMP Contribution

Reduce number of road fatalities by improving road network, reducing the use of cars, and better road management

Provide access to heath facilities to all by improving mobility, especially for minority groups and low-income households

Improve air quality of cities by reducing the modal share of private transport modes and promote clean mobility (electric vehicles, NMT…)

9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

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

SUMP Contribution

Develop the transport infrastructure of the city, especially for public transport, adapted to the local context

Encourage the collection of data, then shared on open-source data platforms and used to develop apps to enhance mobility in the city (routing apps with GTFS availability…)

Organise the transport sector, potentially creating job opportunities

11 SUSTAINABLE CITIES AND COMMUNITIES

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

SUMP Contribution

Plan the most adapted evolutions for the public transport network of the city, by constructing a shared vision with all the stakeholders and with the population

Encourage the use of non-motorised transport (incl. with related infrastructure development)

Pay special attention to vulnerable groups and minorities

Improve air quality of cities by reducing the modal share of private transport modes and promote clean mobility

13 CLIMATE ACTION

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

SUMP Contribution

Promote measures that will reduce GHG emissions, for example, by reducing the modal share of private transport modes, promoting non motorised modes, and recommending transition to cleaner energy for public and private vehicles fleets

Coordinate with national policies

17 PARTNERSHIPS FOR THE GOALS

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

SUMP Contribution

Help to identify funding sources for implementation of the plan

Mobilise international partners, IFI's, transport operators, etc, to be part of the project

Make the city part of the MobiliseYourCity partnership for sustainable development, that mobilises and shares knowledge, expertise, technology and financial resources

Participate in MobiliseYourCity's knowledge platform on sustainable mobility

Figure 3. SUMPs contribution to the SDGs

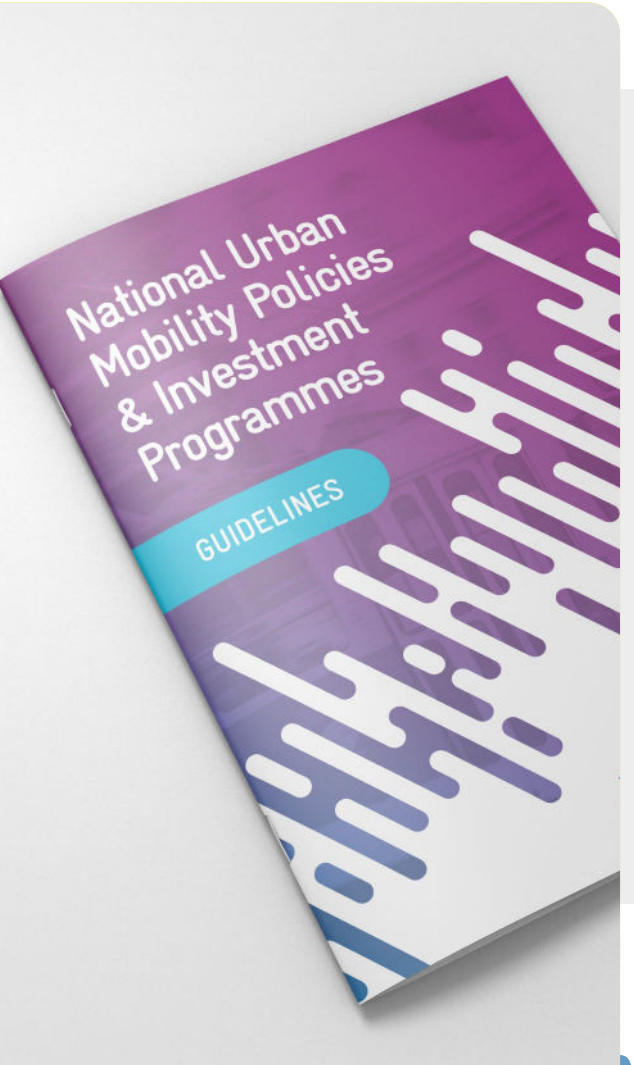
How can the national and regional levels support Sustainable Urban Mobility Plans

Urban mobility closely interlinks with other policy sectors, such as the environment, road safety, health, spatial planning, and energy. Local, regional, and national authorities elaborate such policies and plans.

Understanding the relationship between different governance levels and designing a framework that allows efficient coordination and adequate support from the national to the city level is crucial to improve the investment environment and to bring urban mobility systems on a sustainable low-carbon track. The MobiliseYourCity Partnership has focused on an integrated approach since its inception, supporting the design of enabling national frameworks (NUMPs) and integrated urban mobility planning at the city level (SUMPs). The closeness of the acronyms NUMPs and SUMPs stresses the relevance of sound and consistent planning frameworks at the national and city level.

While urban mobility planning is primarily a local competence, cities cannot achieve the ambitious goals of sustainable urban mobility alone. They need enabling frameworks from the national government, as they often fall short of needed technical capacities and financial resources.

At the same time, national and regional levels of government also have much to gain from effective Sustainable Urban Mobility Planning, as the local-level improvements also contribute to achieving regional and national goals.



BOX 4 National Urban Mobility Policies or Investment Programmes (NUMPs)

A National Urban Mobility Policy or Investment Programme is a strategic, action-oriented framework for urban mobility developed by national governments, and 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. It builds on existing policies and regulations and aims at harmonising relevant laws, norms, sector strategies, investments, and support programs towards an integrated approach to benefit cities and their inhabitants. It takes due consideration of participation and evaluation principles.

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 THE NUMP GUIDELINES

National governments may provide input data, especially regarding socio-economic context, vehicular fleet structure, and environmental performance. They may also have greater technical capacities on emerging topics such as air quality, climate change, and gender, with possibly national policies or qualified specialists that can support local initiatives. Overall, the engagement of both national and local levels throughout the SUMP elaboration is beneficial, for it assures that visions are well aligned, and sustainable mobility principles are shared.

The figure below illustrates how the local and national levels can interact.

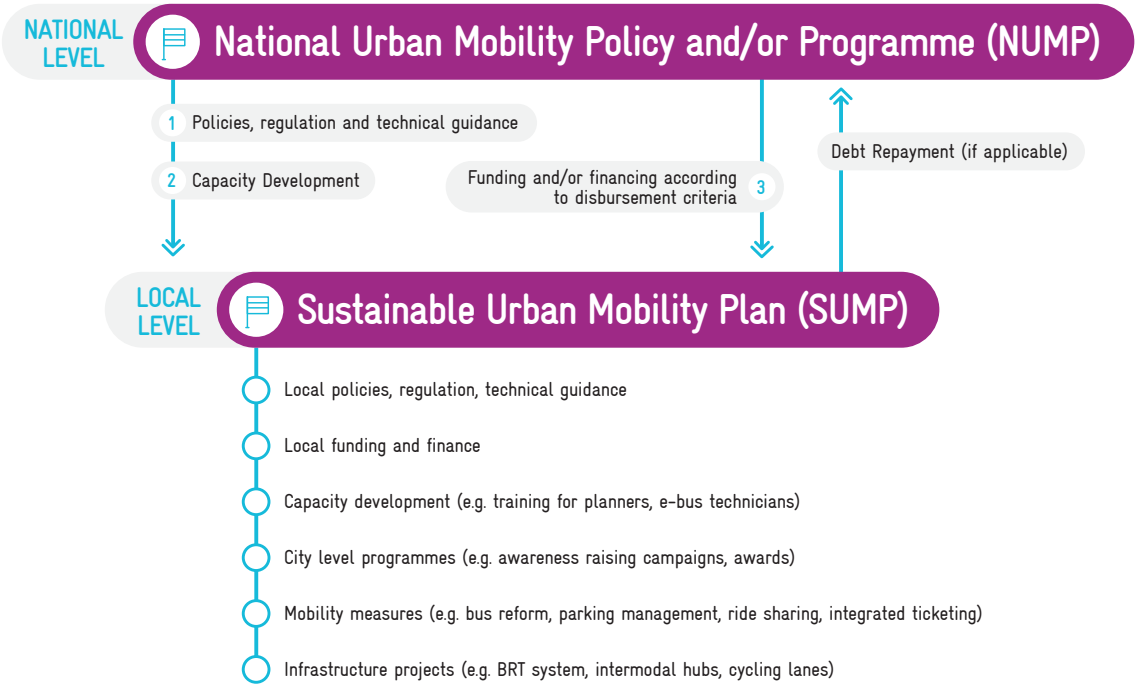


Figure 4. Articulation between national and local transport authorities

Source: MobiliseYourCity NUMP Guidelines

The process of developing a SUMP

The main objective of the SUMP Guidelines is to provide a methodology for developing a SUMP: the SUMP cycle. Drawing from strategic planning, the European SUMP Guidelines first developed and outlined this methodology to adapt it to the urban transport sector. Since then, it has provided the groundwork for elaborating every SUMP in the Globe. In this publication, we adapt the SUMP cycle to fit the specific contexts of the Global South.

The SUMP cycle consists of four phases with thirteen main steps further broken down into activities. In practice, it may be adapted to the particular conditions of every city as long as the principles of Sustainable Urban Mobility Planning are followed.

Figure 5. The SUMP Cycle – 4 Phases and 13 Steps

Source: own elaboration based on Rupprecht Consult, Guidelines for developing and implementing a sustainable urban mobility plan

PHASE 1

Preparation and analysis

In the first phase, the groundwork for the planning process is done by responding to the following questions.

Step 0: Perform a readiness assessment

What are our resources? How do we get ready?

Description: Assess local capacities, available data, resources, and context and measure the gap to complete the SUMP cycle.

Step 1: Set up working structures

Who should get involved?

Description: Get the required external support and set up appropriate working and participation structures.

Step 2: Determine the planning framework

What is our planning context?

Description: Identify factors that might impact the planning process and determine general parameters of the SUMP (functional urban area, time horizons, ambitions).

Step 3: Analyse the mobility situation

What are our main problems and opportunities?

Description: Analyse the mobility situation from the perspective of all transport modes and relevant sustainability aspects over the entire functional urban area.

PHASE 2

Strategy development

The goal of the second phase is to define the strategic direction of the SUMP in cooperation with citizens and stakeholders.

Step 4: Build and jointly assess scenarios

What are our options for the future?

Description: Analyse the likely changes in external factors important for urban mobility (e.g., demography, information technology, climate) and develop scenarios that explore alternative strategic directions to the Business-As-Usual projected situation.

Step 5: Develop vision and objectives with stakeholders

What kind of city do we want?

Description: Use visioning exercises with stakeholders and citizens to co-create a shared understanding of desirable futures and related objectives that reflect major concerns while covering relevant sustainable mobility levers.

Step 6: Set indicators and targets

How do we qualify our criteria for success?

Description: Define ambitious, feasible, consistent, and supported targets, jointly with a set of strategic indicators that allow for monitoring progress in all objectives without requiring unrealistic amounts of new data collection.

PHASE 3

Measure planning

In the third phase, the planning process proceeds from the strategic to the operational level and focuses on measures to achieve agreed objectives and targets.

Step 7: Select measure packages with stakeholders

What do we do concretely?

Description: Create a long list of measures, assess their effectiveness and feasibility, consult with citizens and stakeholders, and select those that best fulfil objectives and targets. Plan the monitoring and evaluation for each measure.

Step 8: Agree on actions and responsibilities

What does it take? Who shall be in charge?

Description: Describe actions in detail, including their estimated costs, interdependencies, and risks. Identify internal and external financing instruments and funding sources for all actions. On that basis, agree on clear responsibilities, implementation priorities and timelines for each action.

Step 9: Prepare for adoption and financing

Are we ready to move forward with implementation?

Description: Finalise the SUMP document, check its quality, and ensure political endorsement and public support.

PHASE 4

Implementation and monitoring

The fourth phase focuses on implementing the measures and actions defined in the SUMP, accompanied by systematic monitoring, evaluation, and communication.

Step 10: Manage implementation

How can we manage the implementation of a comprehensive plan over the long-term?

Descriptions: The responsible departments and organisations should plan the technical details of their actions, undertake implementation, and procure goods and services if needed, paying particular attention to the coordination of the process.

Step 11: Monitor, adapt and communicate

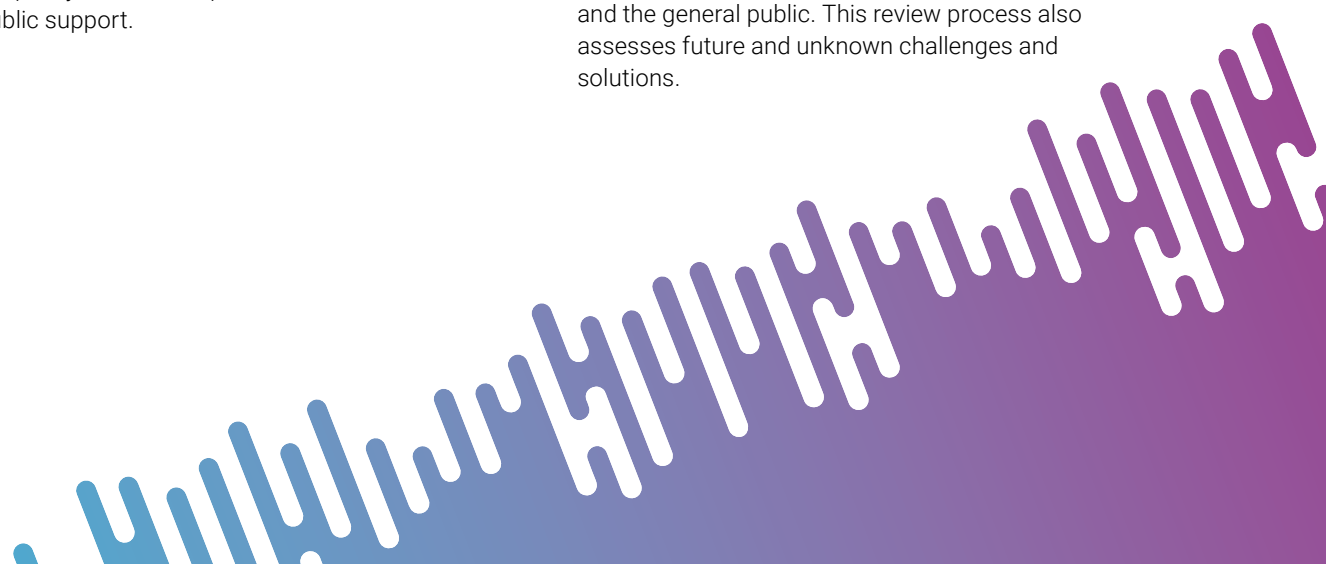
How are we doing with the SUMP implementation?

Description: Systematic monitoring determines whether things are progressing as anticipated, allowing corrective action if needed. Understanding public opinion based on an active two-way dialogue is crucial for a successful implementation.

Step 12: Review and learn lessons

What have we learned from the SUMP evaluation?

Description: The last step of the SUMP cycle is evaluating successes and failures and communicating these results with stakeholders and the general public. This review process also assesses future and unknown challenges and solutions.



How do Sustainable Urban Mobility Plans work in practice

The operational side of planning

Managing a SUMP is a capacity-centred process. Some lessons learned can be highlighted and shared based on previous experiences:

- Although sometimes underestimated, a **readiness assessment**, which assesses a city's existing capacities and resources, is essential to understand the measure of the effort needed to launch a SUMP process. *"Step 0: Perform a readiness assessment"* provides detailed guidance in this regard.
- **Ownership from local stakeholders** is another key point that confers particular importance to the institutional set-up and capacities assessment (see also chapters *"Plan stakeholders and citizen engagement"* and *"Analyse problems and opportunities"*). In particular, organising stakeholder dialogue allows for a good understanding of the overall process, studies, and regular feedback.
- The elaboration of SUMPs demands **addressing numerous topics in a limited time**. It is essential to pay particular attention to the management of the SUMP process for the local counterparts to assimilate and react to technical propositions. This demand requires the involvement of local decision-makers at every phase and the accessible communication of milestones by the team responsible for developing the SUMP.
- **Capacity building is a continuous process** meant to be strengthened during the SUMP elaboration (phases 1 to 3) and maintained during the implementation phase. Indeed, the governance scheme and the degree of awareness and technical capacities of local stakeholders inform the timeline for implementing the action plan and prerequisites for training or capacity-building.

SUMPs as an integrated process

A SUMP can be seen as one gear in a larger planning machine. It is often difficult to determine which gear drives and which is driven by the others, as this depends mainly on the time horizon and legal landscape. An overall urban development strategy may set the general goals for mobility, an essential input into a SUMP that drives the development of a detailed sectoral strategy. For instance, the interlink between a city master plan and a dedicated SUMP varies in hierarchy, complexity, comprehensiveness and detail. In practice, the timing may vary, but policy coordination is needed to ensure consistency and coordinate the timing, spatial scope and implementation of related planning processes and policies. Beyond saving resources through synergies and avoiding inefficiencies or even conflicts between policies, such coordination also reduces the disturbance created by infrastructure construction and the uncoordinated introduction of new systems.

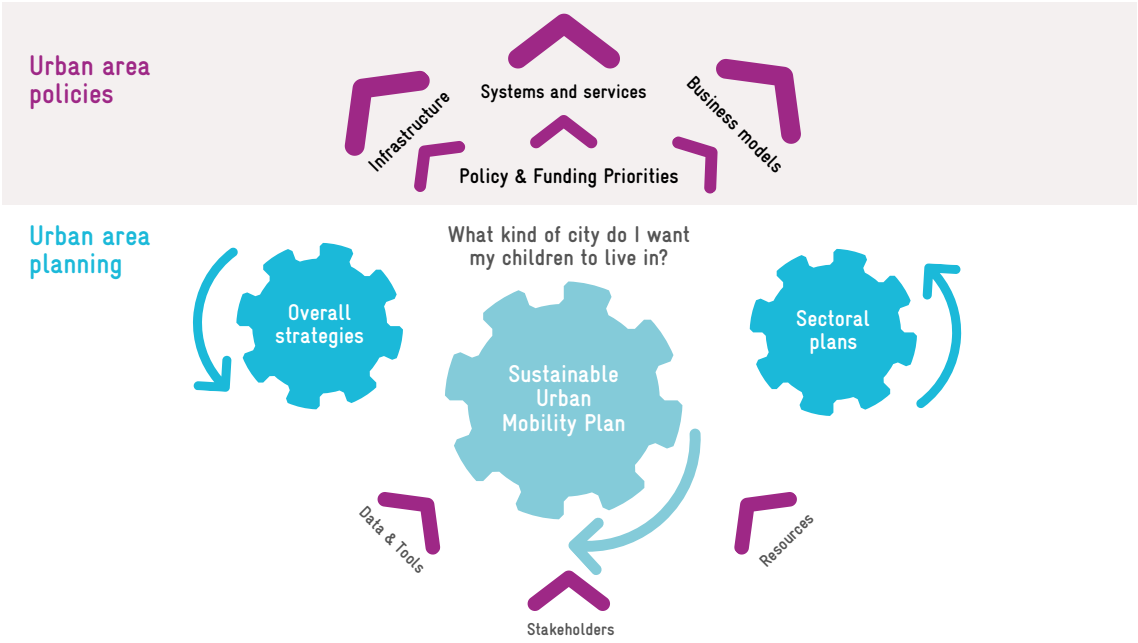


Figure 6. SUMP as an integrated process

Source: Rupprecht Consult, Guidelines for developing and implementing a sustainable urban mobility plan

Adapting the SUMP to the local context

The challenge of preparing and implementing a SUMP is to adapt the SUMP to a given local context without compromising the main principles behind sustainable urban mobility planning:

- The planning process can be adapted to the type of city under consideration, depending on whether it is a small urban or a metropolitan area, its relationship with the suburbs and its geographic location (coastal or inland, for example). Secondary cities are likely to face circumstances that may transcend the capacities and mandate of local authorities (e.g., the functional area may be larger than the current administrative divisions, and sectoral competencies may be fragmented throughout institutions and levels). In such cases, the SUMP shall identify an approach to engage all relevant stakeholders, thus preparing the groundwork for potential institutional reforms.

- Policy focus varies according to the mobility situation, dominant issues and challenges, and local political or public priorities. Therefore, the effort spent on each topic should be flexible and measures tailored to needs. Though SUMPs should strive for comprehensiveness, exhaustivity can be traded off for particular improvements or priority focuses.

- Local conditions – topography, climatic situation, socio-economic context, and user preferences – should be considered when designing mobility measures. Concepts developed in other cities may be relevant but should be adapted to fit the local context, typically through a participatory process.

Planning in times of rapid change

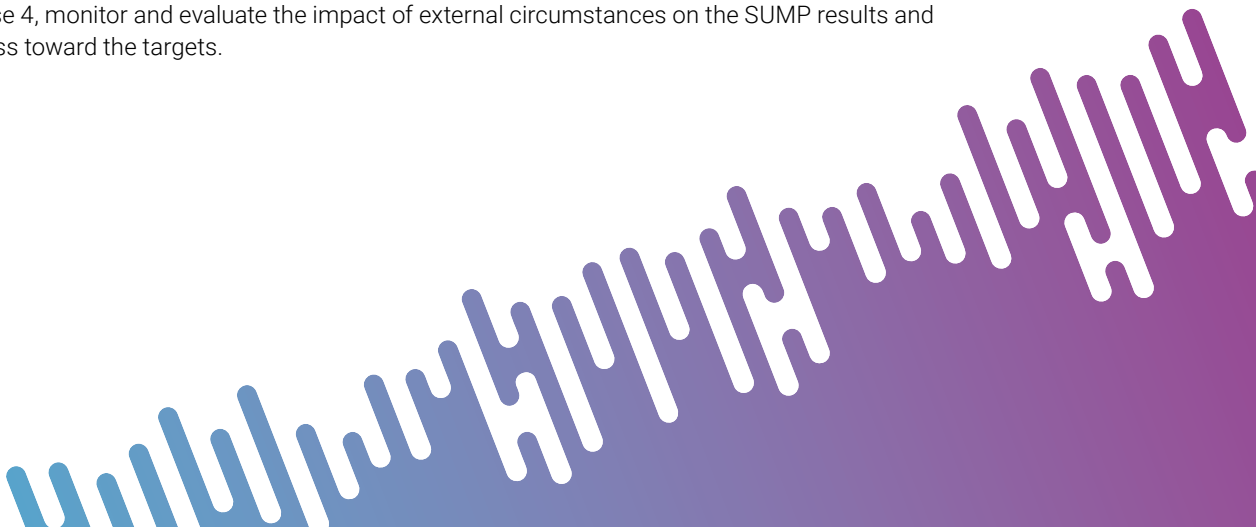
Uncertain development trajectories characterise developing cities with a broad scope of possible futures. They are often uniquely vulnerable to climate change and other human and non-human-made threats. From a planning perspective, this condition represents a particular challenge that may require a risk management approach, depending on the magnitude and imminence of related risks:

- In phase 1, assess areas of uncertainty and related risks for consideration during scenario development. They may affect the forecast demand (demographic risks related to demographic dynamics, the relation between rural and urban areas, migration), funding capacities (economic risks associated with the fragile economic state, inflation, diplomatic situation), and political endorsement.

- In phase 2, consider sensitivity tests to assess the potential impacts of demographic or economic hazards and enable risk mitigation. It may stress different confidence levels for short-, mid-, and long-term targets.

- In phase 3, formulate risk management measures to improve the robustness of the SUMP against adverse circumstances. Identify indicators that allow for efficient risk monitoring and assess the capacities needed (possibly hiring a risk manager) according to the assessment of the risks.

- In phase 4, monitor and evaluate the impact of external circumstances on the SUMP results and progress toward the targets.



Guide to the reader: How to use this document

These guidelines intend to support urban transport and mobility practitioners and relevant stakeholders in developing and implementing a Sustainable Urban Mobility Plan. It describes the process of planning and implementing a SUMP in four stages, with 13 steps. Each phase concludes with an output linked to a decision or/and an outcome required for the next phase, marking the end of the previous phase.

Phases and Steps	Outputs	Indicative duration
Phase I: Preparation and analysis		**Four months**
Step 0: Perform a readiness assessment **Step 1: Set up working structures** **Step 2: Determine the planning framework** **Step 3: Analyse the mobility situation**	• Self-assessment • Mobilise days and establishment of working structures • Agreement on a work plan • Status Quo Analysis report • Stakeholder engagement and communication plan	
Phase II: Strategy development		**Four months**
Step 4: Build and jointly assess scenarios **Step 5: Develop vision and objectives with stakeholders** **Step 6: Set indicators and targets**	• Impact assessment and multicriteria analysis of different scenarios (report and model) • Agreement on sustainable urban mobility vision (participatory process) • Definition of priority areas, objectives, indicators and goals	
Phase III: Measure planning		**Four months**
Step 7: Develop actions according to objectives and ambitions **Step 8: Agree on actions and responsibilities** **Step 9: Prepare for adoption and financing**	• A detailed description of each bundle of measures, including technical specification, regulatory, governance, engineering, financing, capacity development and managerial aspects • Action plan with clear responsibilities • Agreed SUMP implementation management structure (responsibilities at different levels and for all measures, list of coordinators, etc.) • Detailed financial design, including financial mechanism and flow chart	
Phase IV: Implementation and monitoring		**15 years or more**
Step 10: Manage implementation **Step 11: Monitor, adapt and communicate** **Step 12: Review and learn lessons**	• Agreement on monitoring and reporting framework and monitoring plan	

Table 2. SUMP development – Overview of steps, guiding questions and outputs

While some might want to read through the entire document, the guidelines are designed so that it is possible to consult a few specific elements throughout the process. The main idea is to serve as a useful and practical guide. **Each of the 4 Phases of the SUMP Cycle is structured in the same way** to strengthen the practical value of the guidelines:

- **An overview table**: Each phase starts by giving an overview of the process, expected outcomes, methods and tools.
- **A concise description of each step**: Each step, along with the associated activities, is presented in detail, including information about:
  - The underlying process and tasks to be completed
  - Expected outputs
  - Relevant methods and tools to support the activities to be performed
  - Practical examples and best practices that illustrate the requirements highlighted for each activity

Additional information and guidance for the different phases and steps are available on the MobiliseYourCity Partnership's website (www.mobiliseyourcity.net) and the SUMP Toolkit (www.changing-transport.org/toolkits).

1 Phase 1: Preparation and analysis

Step 0: Perform a readiness assessment

Step 0 – Perform a readiness assessment

Synopsis of activities

Evaluate local capacities	Management skills and manpower	Technical skills and manpower	Ability to strengthen local staff	Characterise the need for external support, jointly with requirements
Evaluate local resources	Qualified staff	Policies, studies and data	Facilities and tools	
Evaluate the context	Political situation	Climatic situation	Sanitary situacion	

Tools	Methods	Outputs
• MobiliseYourCity SUMP Model Terms of Reference • IPCC WGI Interactive Atlas - tool for spatial and temporal analyses of observed and projected climate change	• Stakeholder Mapping	• Capacity assessment (human resources, skills and proficiency per stakeholders) • Resources assessment (available data and tools) • Tentative or preliminary risk analysis regarding the local context

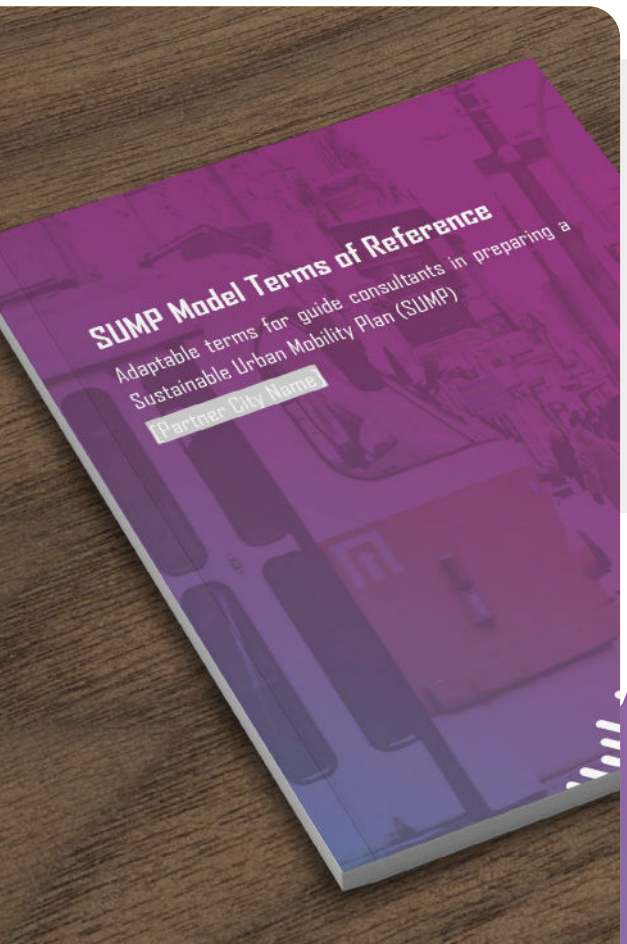
Before beginning the SUMP preparation, the readiness assessment should help the city in identifying its assets, and additional efforts required to implement the approach recommended by MobiliseYourCity in accordance with the present guidelines and the local context. The following activities will direct the city to assimilate the guiding principles for conducting a SUMP and possibly identify a need for external support. If so, requirements will be formulated to adapt the Terms of References for the related service. In the Terms of Reference, the organisation responsible for SUMP development will identify the tasks and deliverables to be performed by the external supporting organisation along the SUMP cycle. It is therefore essential to identify which activities can be performed by the local authorities, and which tasks shall be delegated throughout the entire SUMP elaboration process.

This initial step is key to ensure a smooth implementation of Phase 1; skipping readiness assessment will likely generate important delays when reaching Step 3, Analyse the mobility situation.

Evaluate local capacities

Assess local capacities and gaps to be filled in the perspective of the SUMP implementation and follow-up.

This self-assessment shall consider not only the employees of the leading organisations but also relevant stakeholders from the public, private and academic sector. Therefore, stakeholder mapping shall be drafted and is to be completed before planning stakeholders' engagement (see *"Plan stakeholders and citizen engagement"*). The figure below presents how to identify relevant stakeholders.



BOX 5 SUMP Terms of Reference

"MobiliseYourCity SUMP Model Terms of Reference" provides a detailed template and guidelines for drafting terms of reference for selecting the consultant responsible for the SUMP design if external support is needed. The document offers a standard plan to fulfil and adapt to the local context.

DOWNLOAD THE SUMP TERMS OF REFERENCE

Identification of relevant stakeholders

The table below helps you to involve stakeholders that have all the necessary skills and knowledge for Sustainable Urban Mobiity Planning. It allows you to check your ideas of whom to involve and to identify new organisations or people that bring in missing skills or knowledge. The concept states that SUMPs are only successful in cases where partners involved have four functional abilities:

1. Capacity to gain political support
2. Competence over transport networks and services
3. Technical excellence in SUMP development
4. Capacity to gain public support or to understand the urgencies and needs of the public

Figure 11:
The Kingdom Model applied to SUMP. Functionalities and corresponding relevance, stakeholders and assets (based on Cre I., Mourey, T., Ryder, A., Heckley, S., Balant, M., 2016. CH4LLENGE Institutional Cooperation Manual. Working jointly with institutional partners in the context of Sustainable Urban Mobility Plans, p.24, www.eltis.org/resources/tools/sump-institutional-cooperation-kit).

Functionality	Relevance	Which stakeholders?	Key assets
Political Support	Who can assure political support and resources, within the transport sector and beyond?	• Mayor of cities that are planning a SUMP and city councilors (both majority and opposition) • Mayors and representatives of neighboring cities • Heads of metropolitan areas, province, counties, regions • Representatives of district town halls • Political parties • Politicians from different local authorities within the SUMP partnership	Vision, leadership, power, resources
Transport network competence	Who manages the respective transport network?	• Public transport companies (municipal buses, trams and metros as well as regional buses and trains) • Owners of transport infrastructure (roads, parking, interchange stations, etc.) • National railway companies • Port authorities (when applicable) • Airport authorities (when applicable) • Providers of new mobility services (e.g., bike sharing, car sharing)	Technical feasibility
Technical expertise	Who has the data and relevant skills to deliver a technically sound plan?	Technical expertise from different organisations: • City departments or public administration (transport and spatial planning, economic development, environment, health, tourism, etc.) • Universities and other research • Qualified companies • Specialised agencies • Qualified non-governmental organisations and associations	Technically sound planning
Public Support	Who understands public and stakeholder opinions?	Government bodies providing access to citizens, other stakeholders and the media. Within city services this can be: • Communication department • Police force • Department for economic development, job coaches • City's ombudsman/mediator • Educational department • Moderators of advisory councils in different policy areas (transport and spatial planning, economic development, municipal youth council, etc.)	Values, sense of urgency

Table 3. Stakeholders mapping

Source: Rupprecht Consult, Guidelines for developing and implementing a sustainable urban mobility plan

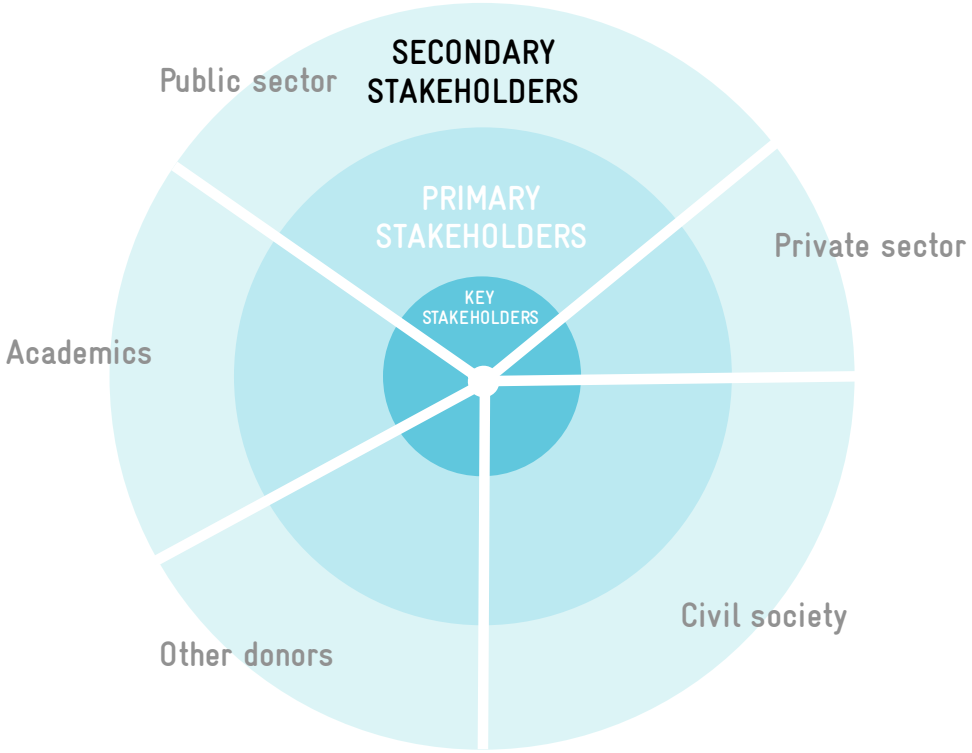


Figure 7. Example of stakeholder mapping format[4]

As detailed hereafter, stakeholders' capacities in terms of management and technical skills are assessed. This self-assessment shall be conducted in a realistically, as it is meant to outline requirements for the capacity building process to be led throughout the SUMP elaboration and implementation. Indeed, one opportunity for the SUMP elaboration, especially when conducted in collaboration with external support, is to get familiar with sustainable mobility concepts, issues, and levers.

4 See also https://www.mobiliseyourcity.net/topic-guide-participatory-processes-urban-mobility-planning

Management skills for project coordination
• Project management (team building, process development, moderation and documentation) • Financial management (budget planning) • Staff management (incl. managing multidisciplinary teams made up of internal and external staff)
Technical skills of the team members
• Urban planning and transport planning, including regulatory framework • Expertise in important sectoral policies (economic, social, environmental) • Moderation, mediation • Data collection methods and empirical analysis (surveys interviews and modelling) • Knowledge of mobility measures and impact assessment • Writing and design skills for public relations • Economic analysis, funding, and investment expertise • Legal procurement expertise

Table 4. Skills requirements for SUMP

Source: Rupprecht Consult, Guidelines for developing and implementing a sustainable urban mobility plan

Once local capacities have been assessed, it is also important to evaluate the ability to strengthen them, being through additional resources or training. From that perspective, it is worth considering that a several resources are freely available on the MobiliseYourCity knowledge platform to help cities initiate Step 1, Set up working structures.

Acknowledging existing and potential capacities among local resources allows for identifying the gap to be filled for carrying out the SUMP and helps determine to what extent an external support is required (see *"Consider external support"*). Furthermore, it will support the elaboration of a capacity building plan.

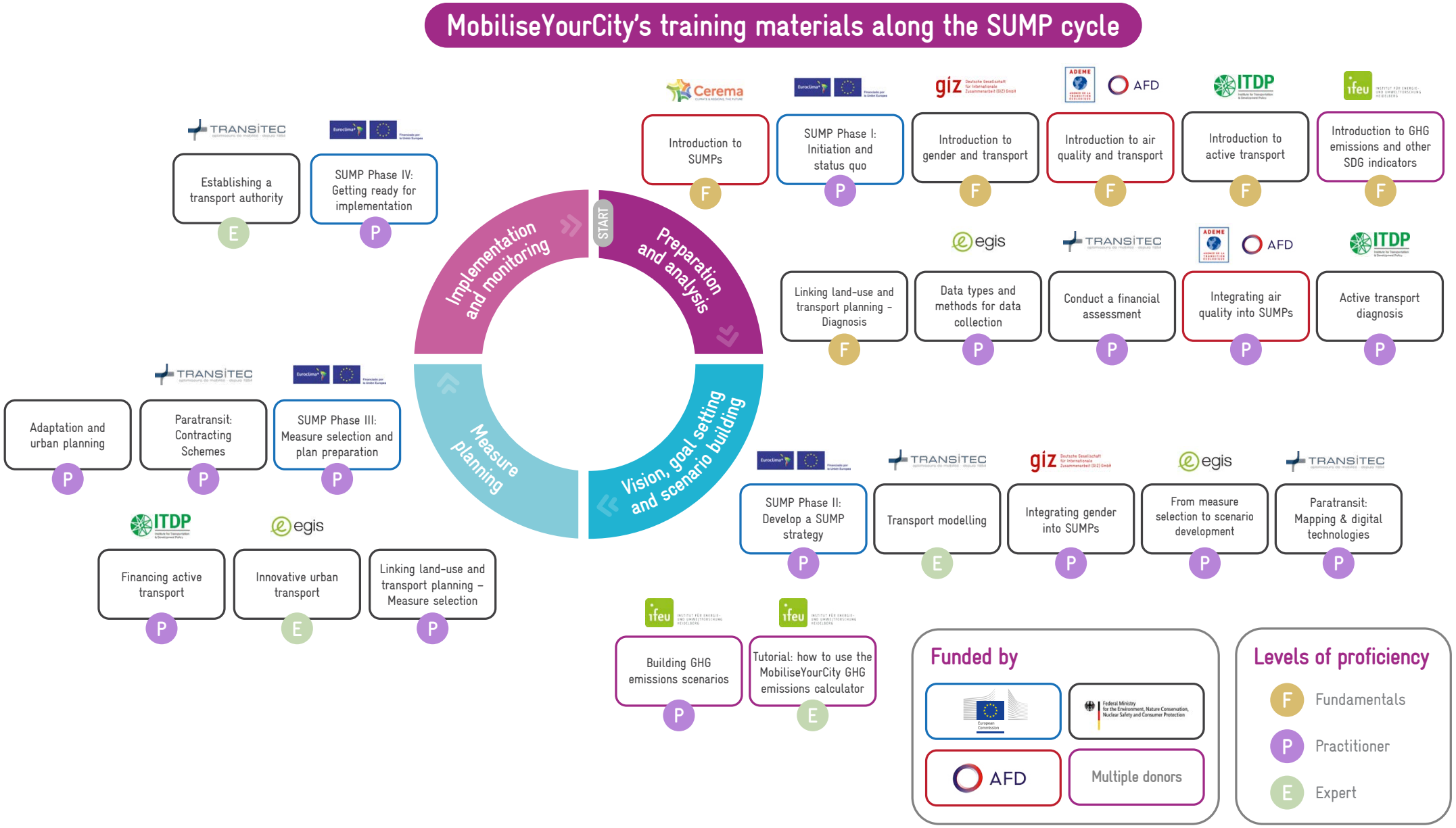


Figure 8. Training material provided by MobiliseYourCity[5]

Source: MobiliseYourCity

5 Other resources are available online. In particular, Transformative Urban Mobility Initiative (TUMI) provides relevant courses - https://www.transformative-mobility.org/publications/transforming-urban-mobility-online-course

Evaluate local resources

Resources here encompass the following:

- **Existing policies and regulation** – Regulatory and legal framework allow the responsible authorities to identify the current public stakeholders involved in planning, policy - and decision-making and their corresponding competencies. It will also allow in understanding the legal and institutional landscape within which the SUMP will operate. For example, knowledge about existing supporting frameworks at the national or regional levels could prove valuable when mobilising additional resources for SUMP development and implementation. Such an evaluation will also permit local authorities to address the topics and regulations that are outdated or need improvement, and identify sub-sectors that are currently not included and that may thus be integrated into the content of the SUMP.

Reports/plans	Organisation/sector	Activities/conclusions
Development Plan of Centre Region 2014-2020	ADR Centre	It has been considered and detailed the provisions regarding Transport and Communication Infrastructure Development, including the technical urban planning one at the level of Centre Region
SDTR - Territorial Development Strategy for Romania/Polycentric Romania 2035	Ministry for Regional Development and Public Administration	The conclusions and recommendations of the Expertise Report domain 4 Transport have been considered
Development Strategy Brasov County - Horizons 2013 - 2020 - 2030, approved by the County Council Brasov, decision no. 325 from 02.11.2010	City of Brasov / Transport infrastructure (streets parking, pedestrian areas and bicycles).	Revision of the projects planned for Brasov and for the rest of the country, and the projects identified have been considered in the SUMP
Sustainable Development Strategy for the Metropolitan Zone Brasov (2013)	Metropolitan Agency Brasov 2011	Strategies and key objectives have been considered
PUG - General Urban Plan Brasov - Municipality of Brasov Ministry	City of Brasov, June 2011	Specific information at general level and recommended urban transport projects have been considered
Sustainable Development Strategy of city of Brasov	City of Brasov	Information on proposed projects has been considered
General Transport Master Plan Romania, 2014 http://www.ampost.ro/pagini/master-plan-general-de-transport	Ministry of Transport Romania	Information on the base year and forecasting time horizons on socio-economic data, transport needs and traffic flows at the locality level. Information on the national strategy and implementation programme of the national projects has been considered.

Table 5. Presentation of national/local policies and regulatory framework

Source: SUMP of Brasov

- **Input data** – preparing a SUMP requires a large amount of data. The table below offers an overview of what is needed to complete most SUMP activities, according to the approach developed by MobiliseYourCity. It is meant to guide the readiness assessment regarding input data, considering that transport demand and supply information can be collected. On the other hand, socio-economic and financial data can be provided by local administrations or institutions, as they rely on long-term records. The city should gather the information available and qualify its relevance, as for time horizon, perimeter, reliability, consistency, etc.

Field	Data	Sources	Indicators
Key data & indicators			
Socio-economic	• Population and jobs in the urban area • Social level/index per district or appropriate zoning system • Projects of urban development and equipment	• Distribution over the urban area or appropriate zoning system	• Density, coverage, activity poles and major traffic generators • Deprived population & areas
Mobility	• Number of daily trips • The average time and distance of daily trips • Average budget spent on mobility • Volume and structure of daily trips	• Data available per household, for different segmentation of the population (geographical, income, gender)	• Travel rate • Mobility patterns • Affordability of public transport, including paratransit
Demand	• Ridership and peak flow per mode/ line • Counts of vehicles per type on the road network • Origin – Destination matrix per mode (based on a zoning system)	• Data from counts or ticketing system • Data from Origin – destination survey and/or household survey	• Modal share (number of trips, km per mode) • Average occupation per mode • Main flows in the urban area
Transport supply	• Type of PT services, incl. paratransit • Number of PT operators, licenses, fleet • Routes and levels of service, incl. fare, frequency, travel time • Road network description[6], incl. walking and cycling • Traffic safety: inventory of black spots, number of fatalities • Ongoing and planned infrastructure or transport projects	• Up-to-date information from operators – maps, timetables, GTFS, etc. • GPS tracks of paratransit routes, jointly with average speed or travelling time • Work with related authorities (road safety)	• PT network coverage • Vehicle/km per mode • Level of congestion • Km/density of infrastructure per mode, incl. sidewalks and cycle lanes
Urban logistics	• Location of main hubs – ports, airports, markets, logistics centres • Goods flow per category • Trucks regulations and routing	• Interviews with related authorities	• Tons/km • Percentage of trucks on the roads
Financial	• Financial sources incl. subsidies, taxes, land value capture • Financial capacities of local authorities, transport authorities, operators • Investment into the transport sector over the past 10 years, the share of local contribution • CAPEX & OPEX per type of service • PT fares and generated revenues	• City budget and financial records • Interviews with related authorities and operators	• Financial capacities available to support the SUMP implementation

6 Should include at least information about the profile and/or capacity (e.g. single lane, double lane, etc.)

Field	Data	Sources	Indicators
Supplementary data			
Mobility	• Mobility purpose • Mode perception • Trips distribution over the day • Walkability	• Household surveys or specific surveys	• Share of trips by purposes • Reasons for mode choice
Transport supply	• Mobility services: bike or car sharing, ride-hailing, MaaS • Car parks		• Occupation of car parks • City coverage of mobility services
Social	• Income statistics • Gender statistics - gender-related inequalities for access to public transport, services, and opportunities in the urban area	• Specific to the study perimeter	• Coverage of public transport in comparison to low-income population location • Public transport fares as a percentage of minimum daily wage
Environment	• Fleet statistics, including private modes • Local emission factor per type of vehicle, per pollutant • Local consuming factors • Noise measurements • Air quality measurements	• Specific to the study perimeter	• The fleet structure according to vehicle age, motorisation, consumption • GHG emissions per mode • Air pollutant emissions per mode (PM2.5, PM10, NOx, SO2)

Table 6. Input data list (indicative)

Depending on resulting gaps or opportunities, liaise with the local public or open-source community – University, Open Street Map - to get support and enlarge the potential of SUMP activities and products. Also, investigate alternative, private sources of data and assess partnership opportunities from the early stages.

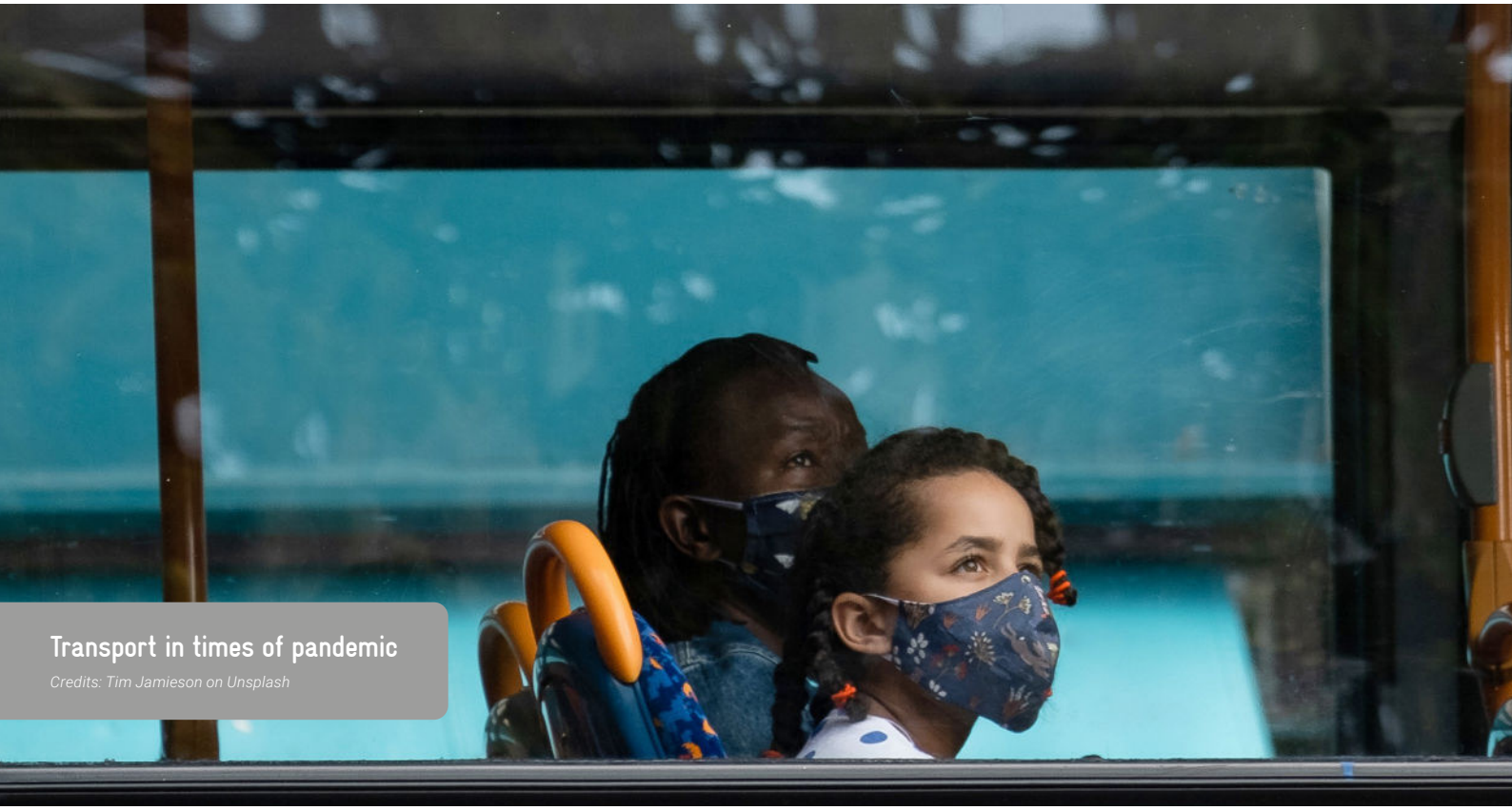
- **Communication and participation facilities** – a SUMP relies on participatory activities (such as focus groups, workshops, public meetings, public exhibitions) and large communication. It is important that these activities are fully supported by the city, to assert the political endorsement of the initiative but also to facilitate its implementation. In particular, meeting rooms and communication means (press or web channels, photographs, for example) can broaden the impact on the partners and the general public. The existence of a Public Relations Department within the local administration is a strong asset in that regard.

Evaluate the context

The implementation of a SUMP project may be affected by various circumstances:

- **Political instability** – a SUMP means to engage political actions over the long-term. Therefore, the success of the initiative is conditioned by political stability, but also a relative continuity of the personnel assigned to the SUMP elaboration, implementation,and evaluation, as part of a local authority. Indeed, a high turnover is likely to downgrade the ability of an administration to carry out the project along the whole cycle. Thus, a particular attention shall be paid to the electoral cycle, when considering launching a SUMP, and foreseen impacts on the technical staff, both at local and national levels. Related risks should be pinpointed and addressed when planning stakeholders and citizen engagement, ensuring participation across the political landscape (see *"Plan stakeholders and citizen engagement"*).

- **Pandemic** – COVID-19 has revealed the vulnerability of human activities and mobility to pandemics, with dramatic impacts on the mobility demand, disturbing the transport sector. As a first outcome, sanitary restrictions made field surveys irrelevant, mobility patterns were temporarily altered – and paratransit supply was distorted along with demand. Depending on the context, these effects have been observed for a more or less extended period, possibly changing local habits. The current mobility conditions, how they have been altered and their permanence over the mid-long term should therefore be qualified. It will later inform the SUMP work plan regarding the data collection process and the demand analysis (see *"Agree on timeline and work plan"* and *"Collect information and data"*)[7].



Transport in times of pandemic

Credits: Tim Jamieson on Unsplash

7 In that regard, see also the MobiliseYourCity dedicated publication (in Spanish).

- **Economic crisis** –spending power[8] of households and price volatility are determinant parameters of the mobility demand, as any other consumed good or service. Generally, a crisis is likely to limit the capacity to plan for the long-term. Therefore, such situations require considering the long-term with caution; by conducting sensitivity tests and formulating adaptative measures. More specifically, various financing scenarios may be considered to cope with reduction of the public funds and assure the resilience of the SUMP.

- **Climatic emergency** – the exposure of a city to climate change puts its activities and infrastructure at risk. This aspect should be considered as it will call for specific measures, including demand management, or infrastructure design. The nature and criticality of climate hazards are to be identified, reported and handled as part of the SUMP.

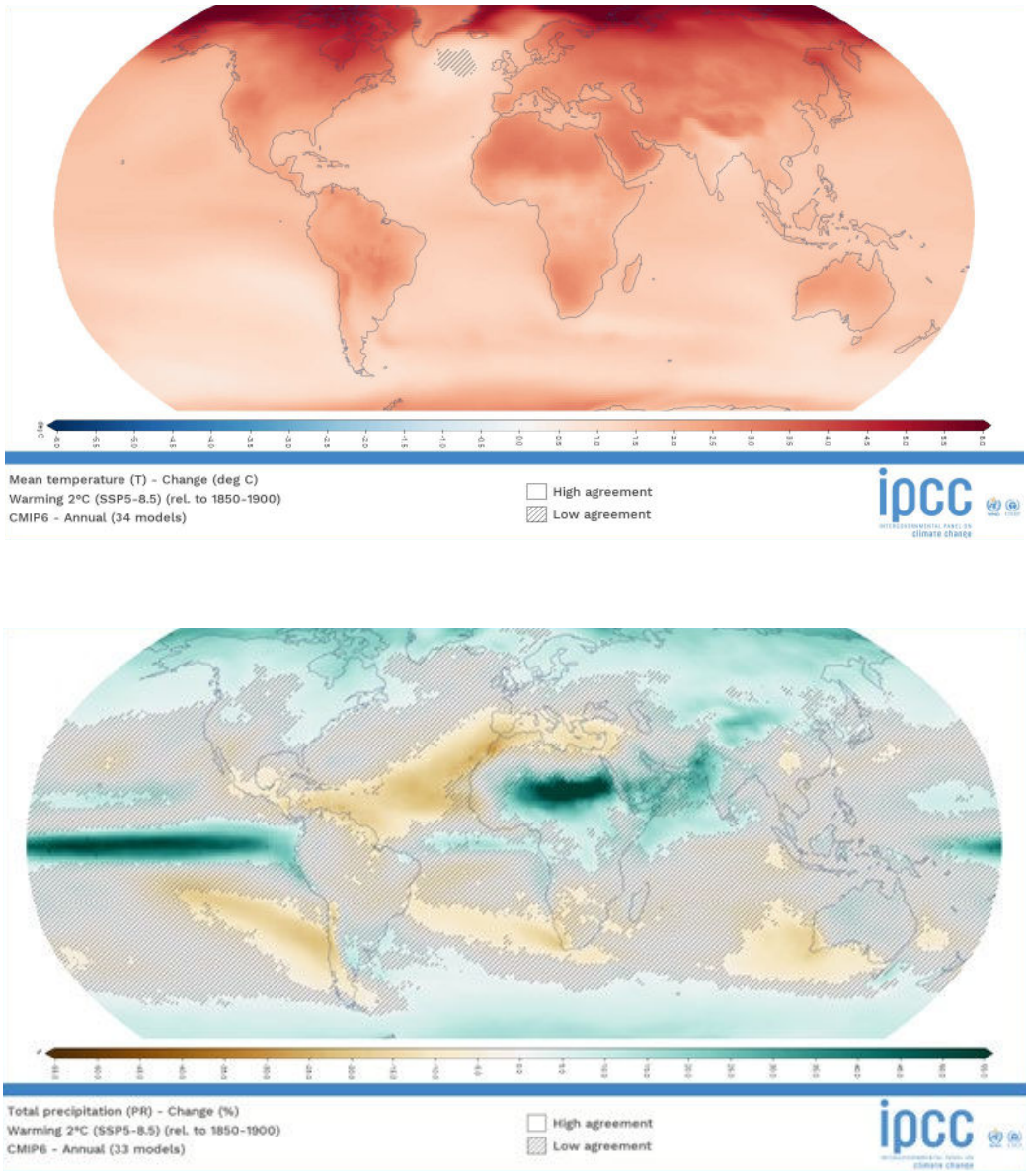
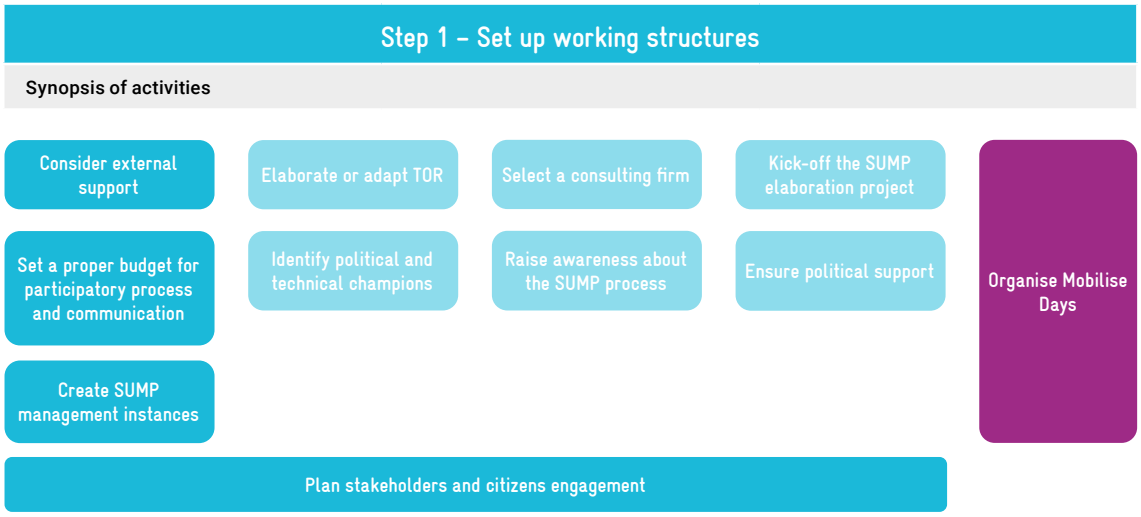


Figure 9. Augmentation of temperature (left) and precipitations (right)

Source: IPCC interactive Atlas

8 Income available for spending

Step 1: Set up working structures



Tools	Methods	Outputs
• MobiliseYourCity SUMP Model Terms of Reference • CIVITAS Policy Note - The use of social media to involve citizens in urban mobility projects and city planning	• Establish a coordination and steering structure • Stakeholder Mapping • Participatory processes in urban mobility planning	• Overall approach and methodology • Operational working structures • Global awareness about the project and/or sustainable mobility concept • Overall budget

Consider external support

While the SUMP is meant to be owned by the city, external support may be considered, typically from a consulting firm, depending on the readiness of the city (e.g., conclusions of *"Step 0, Perform readiness assessment"*). If appropriate, this support may be brought by several consultancies and freelancers. In the present document, all external resources will be referred to as "the consultant" for convenience.

The distribution of roles and responsibilities between the local administration in charge and the consultant can be adapted to their respective capacities, although the following pattern is commonly considered.

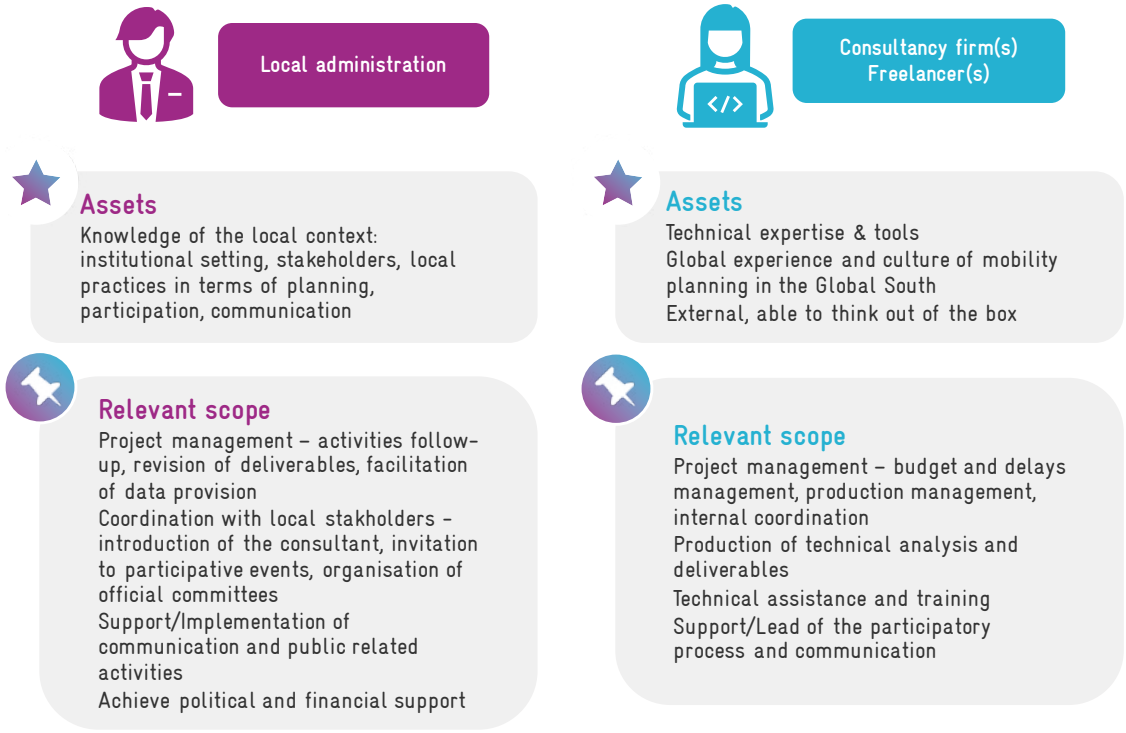


Figure 10. Respective assets of local administration and consultants for SUMP elaboration

A central resource in the definition of the respective scope of work is the MobiliseYourCity SUMP Model Terms of Reference (TOR). This TOR template provides a basis, to be completed with elements about the local context, particular conditions that could affect the realisation of the service and specific requirements resulting from Step 1, Set up working structures and 2, Determine planning framework. On the other hand, some flexibility regarding TOR shall be allowed, during both the procurement and the SUMP development, to cope with unpredictable situations or to adapt the methods to the context, taking advantage of the consultant experience and proposed orientations once familiar with the local context.

In particular, **the Model Terms of Reference proposed by MobiliseYourCity shall be adapted regarding the following:**

- **Local capacities to supervise the consultant mission** referring to the time that can be dedicated to coordination, follow-up, revise the production, and the capabilities to challenge the consultant. The number and format of deliverables, as well as the modalities for project management can be adjusted accordingly.

- **Data collection** provide a detailed description of existing data and current mobility conditions for the consultant to propose a suitable survey program. As previously mentioned, a preliminary assessment shall be carried out by the city regarding information sources and opportunities for collaboration with data owners. Indeed, delays and budgets required for data acquisition from private actors are often incompatible with a SUMP consultancy. Besides, local authorities are more likely to carry political weight while engaging with private companies.

- **Capacity building,** in the same line, the outcomes of the self-assessment and resulting needs for capacity building can be detailed in the TOR for the consultant to better draft his proposal. This is also a way to ensure that this component is properly budgeted and implemented.

Set a proper budget for participatory process and communication

Participatory process and communication around the SUMP recommended in these guidelines require a special focus, as they may differ from conventional local communication practices used during transport planning and represent innovative approaches[9]. The opportunity and related efforts can be therefore underestimated, although they are powerful means of enhancing ownership and legitimacy of the SUMP, and the adequation of technical recommendations to the local context.

If the city decides to seek external support, the TOR shall specify local practices, actual needs and resources available, considering the capacities of the administration in charge. Related budgets to be dedicated by consultants shall be detailed in their proposals, expectations for the type of activities to be organised, the scale of implementation and the means the city can allocate are detailed. In exchange, the consultant is expected to present a detailed budget highlighting the share contemplated for communication and participatory process. Additionally, the associated activities necessitate logistical planning. Typically, in some geographic regions, stakeholders are encouraged to participate in workshops or focus groups through small compensation, refreshments, and/or snack.

Dedicated budgets, respectively for participatory process and communication, can therefore be explicitly requested in the TOR as a first intention. They may be adapted once the consultant is familiar with the local context.

As an example, creating a SUMP website is a relatively low-cost option, that has been chosen by several cities (Zhytomyr, Santo Domingo, Antofagasta, Ambato). At the same time, developing content, updating it and making it appealing is time-consuming, which may induce staff costs.

9 See also MobiliseYourCity's Topic Guide 'Participatory processes in urban mobility planning'

Create SUMP management instances

Three management instances are generally considered, which may be adapted to the existing organisation and capacities.

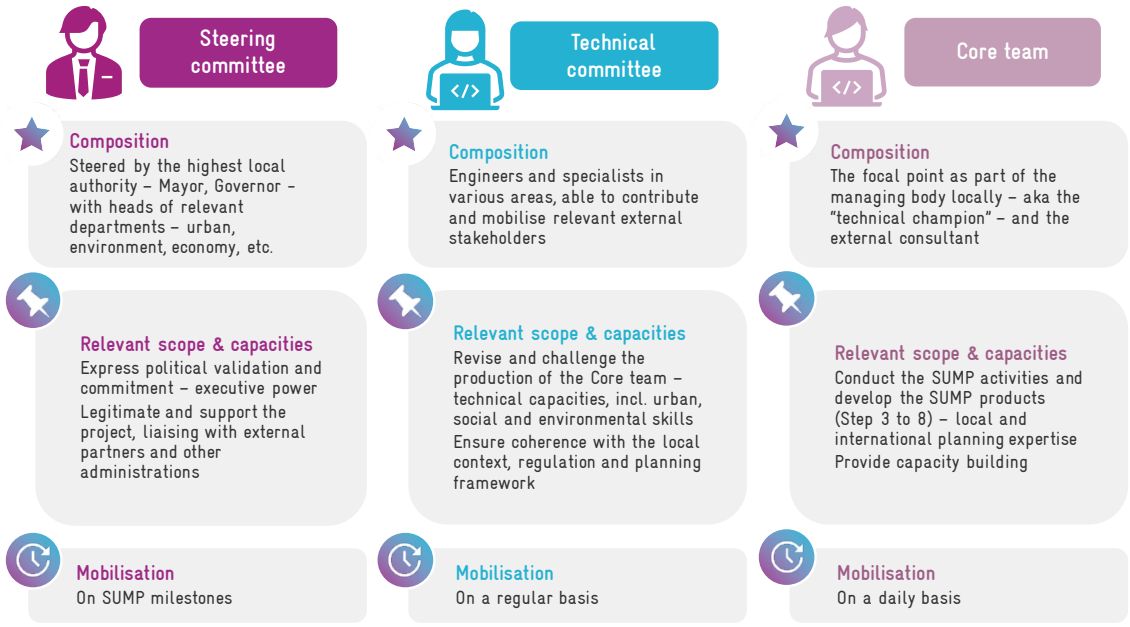


Figure 11. SUMP management instances

To enrich technical discussions, it is crucial to **build a team for the Technical Committee that includes a variety of profiles** and can represent multiple visions and opinions. Consequently, **it is encouraged to connect with other departments** – typically urban development, environment, social affairs, economic development, finance, etc. for possible collaborations. In particular, **a sociology specialist should be involved** to ensure that sensitive topics like social inclusion and gender are adequately integrated and monitored throughout the SUMP elaboration.

The core team is responsible for conducting all steps throughout the SUMP cycle, involving the steering and technical committees at all relevant stages of the process, and preparing all SUMP-related products, such as periodical and the final SUMP report. It is important to note that a significant dedication is needed to fully support the SUMP activities and meet the project timeline. Moreover, **the participation of a "technical champion" into the follow-up and liaison with local partners is a key success factor.** A champion is a person well identified by the mobility stakeholders, with good credibility and the ability to continuously reach out and disseminate information about the SUMP, raise awareness, boost participation, etc. Similarly, the involvement of a "political champion" is likely to facilitate buy-in from institutions.

While having a champion on the core team is key during the elaboration process, they should not fully embody the SUMP because doing so could weaken it and even cause it to fail if the project champion departs the administration or the city.

Overall, the SUMP management instances should enable clear and efficient decision-making processes that allow to perform day-to-day follow-up (core team), review the main deliverables within two weeks (technical committee) and validate each phase within a month (steering committee), for instance.

Working structures shall be established formally, possibly during the Mobilise Days, at the kick-off of the project, and/or through a Memorandum of Understanding (MOU) to formalise cooperation agreement.

Mobilise Days in Medan, Indonesia

Source: SUMP of Mebidangro, MobiliseDays

BOX 6 Mobilise Days

A central pillar of the MobiliseYourCity approach is to ensure the participation of citizens and stakeholders. Organising Mobilise Days is a way to officially launch the SUMP project, especially the related participatory process. The aim is to introduce sustainable mobility to the general public and engage simultaneously political and technical partners as a preliminary stage of the participatory process to be anchored all along the SUMP elaboration.

In particular, this event is meant to fulfil various objectives:

- **Officially establish working structures:** a formal event is needed to strengthen the commitment of institutional partners and initiate the necessary technical collaboration between institutional authorities.
- **Communicate to a large public** about the ambitions and final goals that underlie a SUMP (climate change mitigation, air quality, social inclusion, etc.) and affirm political support: The Mobilise Days is a good opportunity to communicate for it is likely to benefit from an extensive press coverage.
- **Favour participation if adequate:** while such an event seems more appropriate for communication purposes, participation can be encouraged through thematic stands or possibly open focus groups. Overall, participation enhances the public legitimacy of sectoral policies and the interest of the general public.
- **Liaise with financial partners:** raising awareness about the SUMP project is not only important with local citizens and stakeholders but also with potential financial partners.

The format is free and should be adapted according to local priorities and common practices regarding participation and communication. Activities can encompass high-level seminars to anchor the political process, awareness workshops for institutional actors, public debates on urban mobility, city planning and climate issues, Car-free Day or a Mobility week, photography contest, street interviews, etc.

While some of the relevant stakeholders are present in the SUMP management instances – generally public institutions' representatives or staff – others are partners that will be consulted along the process (see next chapter). The Technical Committee shall **aim at favouring ownership and sensibility to the sustainable mobility concepts among local stakeholders** according to their influence, thus targeting decision-makers in the first place. Indeed, ownership is one means to pave the way to SUMP implementation in a sustainable manner, a broad participatory process is another one.

Analysis of actor constellations

After stakeholders have been identified the constellations between these actors should be analysed. This analysis should be based on a list of different criteria or attributes which are relevant for the respective case, e.g. interest, power, influence on each other, coalitions, etc. This way you can find out what the objectives of each stakeholder are, what their hidden agendas are, and whether they regard themselves as winners' or losers' if a given project is implemented.

The objective of a systematic analysis of actor constellations is to get a clear picture of conflicts of interests or potential coalitions and to be able to better determine clusters of stakeholders who may exhibit different levels of interest, capacities, and knowledge in the respective issue.

This can, for example, be done by developing an 'Influence Interest Matrix', which groups stakeholders by their level of influence/importance.

Influence-Interest Matrix (based on UN-Habitat, 2001. Tools to Support Urban Decision Making, Nairobi, p.24)

	Low Influence	High Influence
Low Stake	Least priority stakeholder group	Useful for decision and opinion formulation, brokering
High Stake	Important stakeholder group perhaps in need of empowerment	Most critical stakeholder group

During the stakeholder identification process, consider identifying the role of existing 'local champions'. These are key personalities in the local network that are well recognised because of their personal skills, contacts, and their significant role for mobilising resources, creating alliances, etc. In the context of the SUMP, consider an early strategic assessment of their role - such persons can have an extraordinary influence on the process, and you might want them to stand by your side.

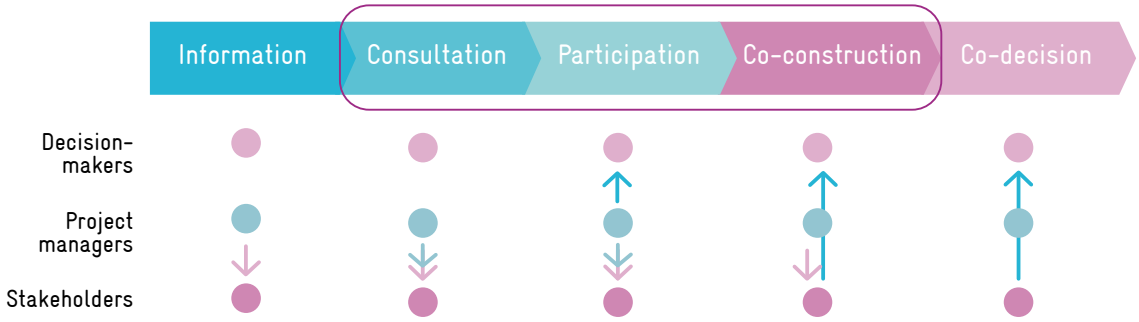
Figure 12. Analysis of actor constellations

Source: Rupprecht Consult, Guidelines for developing and implementing a sustainable urban mobility plan

Plan stakeholders and citizen engagement

Participation is a process rather than a methodology, to be adapted to the local context, practices and ambition of local authorities. Indeed, cities should assume the leadership of this process to build legitimacy and favour the SUMPs permanence through time.

Participation can thus pursue 3 different goals: communicate or advertise, collect information and collaborate. For each participatory activity, the goal is set according to the public's level of knowledge or involvement in the SUMP along with the ongoing step of the project. It is assumed that stakeholders get empowered throughout the SUMP elaboration and can then further participate, moving to co-construction.



The arrows on the illustration above represent the information flow.

Figure 13. Different engagement levels in participatory processes and interactions among stakeholders

Source: MobiliseYourCity, Topic guide – Participatory processes in urban mobility planning

The participatory process aims to address respectively the citizens and stakeholders, including public institutions, technical staff, operators, academics or representatives of the private sector. Depending on the level of awareness of each group, the participation process may be conducted separately, considering that participants shall present a fair and even level of knowledge about the topics to be discussed. For this reason, mixing the general public and the project stakeholders may result counterproductive.

Key success factors have been identified out of various SUMPs around the globe, carried out under the MobiliseYourCity initiative:

- **Organise consultations with stakeholders continuously along the SUMP elaboration and implementation.** The participatory process shall be introduced from the beginning and continuously maintained during the 4 phases of the project.

- Early stakeholder and citizen engagement should be planned early on, identifying adequate resources and precise milestones. As mentioned in previous chapters, responsibilities may be distributed between the city and an external consultant according to budget and capacities. In some cases, having a neutral facilitator to lead the process has been perceived as an advantage, whereas in others, the participation process was led by the local authorities themselves, sometimes counting with capacity-building activities to allow the city officials to effectively play this role. The social context and credibility of each party to act as facilitators are two other parameters to be considered when deciding upon the right approach.

- **Reach out to all kind of publics, not only connected and well-organised ones.** An outreach strategy should be elaborated to ensure that citizens are fairly represented overall, including those with different mobility needs. In the case of minorities, their participation may require particular efforts, such as dedicated focus groups or discussions (quantitative surveys are not suited for these groups). Generally, the diversification of channels (social networks, press conferences, radio, posters, flyers, etc.) is likely to favour access to a broader audience; however, each channel presents limits that should be clarified. Typically, open surveys or consultations on internet are an easy way to quickly collect opinion at low cost. However, the audience will then be limited to specific groups, especially those that are more digitally aware. In addition, spontaneous expression is often non-representative, for activists and opponents – to a given project - will speak out first.

Figure 14. The participatory process in the SUMP of the Santo Domingo

Source: SUMP of the Gran Santo Domingo

- When inviting stakeholders and citizens to participate in activities, always communicate a clear process and agenda so that they know what is expected from them and how much effort and capacity is required.

- **Ensure that the results of the participatory process are integrated in the decisions and content of the SUMP.** These contributions should be included in a dedicated deliverable; the SUMP final document and the project communication (beyond the SUMP adoption).

- **A public event should formalise the commitment to the SUMP by decision-makers,** citizens and key stakeholders. In that respect, the MobiliseYourCity methodology proposes to conduct Mobilise Days.

An overview of recommended participatory tools and methods for SUMP development is proposed below.

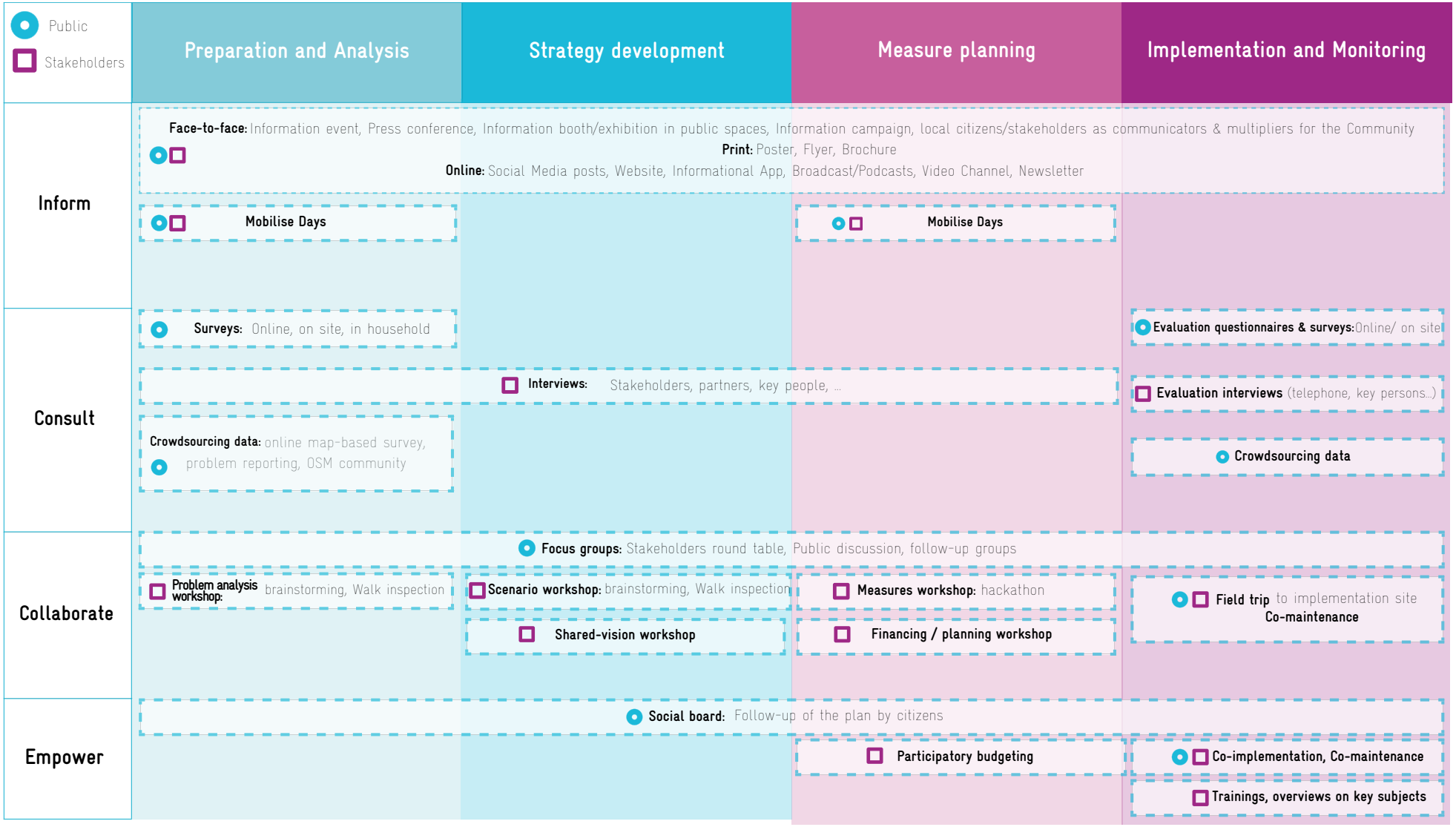


Figure 15. Tools and methods for the SUMP participatory process

Source: own elaboration based on Rupprecht Consult, Guidelines for developing and implementing a sustainable urban mobility plan

BOX 7 Engage the civil society during the pandemic, the example of Antofagasta, Chile

While there was no previous citizen engagement experience in Antofagasta, the participatory process was identified as a special concern due to Chile's social and political context at that time. The participatory approach was also seen as a way to guarantee the SUMP implementation, even in the case of a political change in the city, since it makes leaders publicly accountable for the SUMP elaboration process. Thus, a particular emphasis was placed on the process, despite the sanitary crisis and related difficulties to reach out the public.

Two consultative groups were formed and maintained throughout the SUMP cycle: a technical board, composed of representatives from public institutions and private organisations (housing ministry, energy sector, environment etc.), and a social board, composed of representatives from civil society (neighborhood associations, elderly, people with disabilities etc.), NGOs and universities. The latter was comprised of 40 participants, although it remained opened to allow for more representatives to join. 12 meetings of the Social Board were organised, each with a specific objective following the SUMP methodology. After each session, a conclusion was presented as meeting minutes to the technical board, which integrated them directly into their plans; the conclusions directly influenced technical decisions. Minutes were generated after each meeting and presented to the technical board who integrated them in the plan. In addition, dedicated reports were issued in each phase and published on the web that summarised the activities and results of the participatory process.

To ensure a broad participation, online activities were carried out through a web page where news, study results, and surveys were continuously posted (although this channel cannot ensure the representativity of respondents). More specifically, an innovative concept of "itinerary public meetings" of the Social Board was proposed, in order to mobilise representatives from poor neighborhoods but could not be implemented because of the pandemic. Citizen's consultations were led by an external and, therefore, neutral consultant to favour trust and productivity of participation.

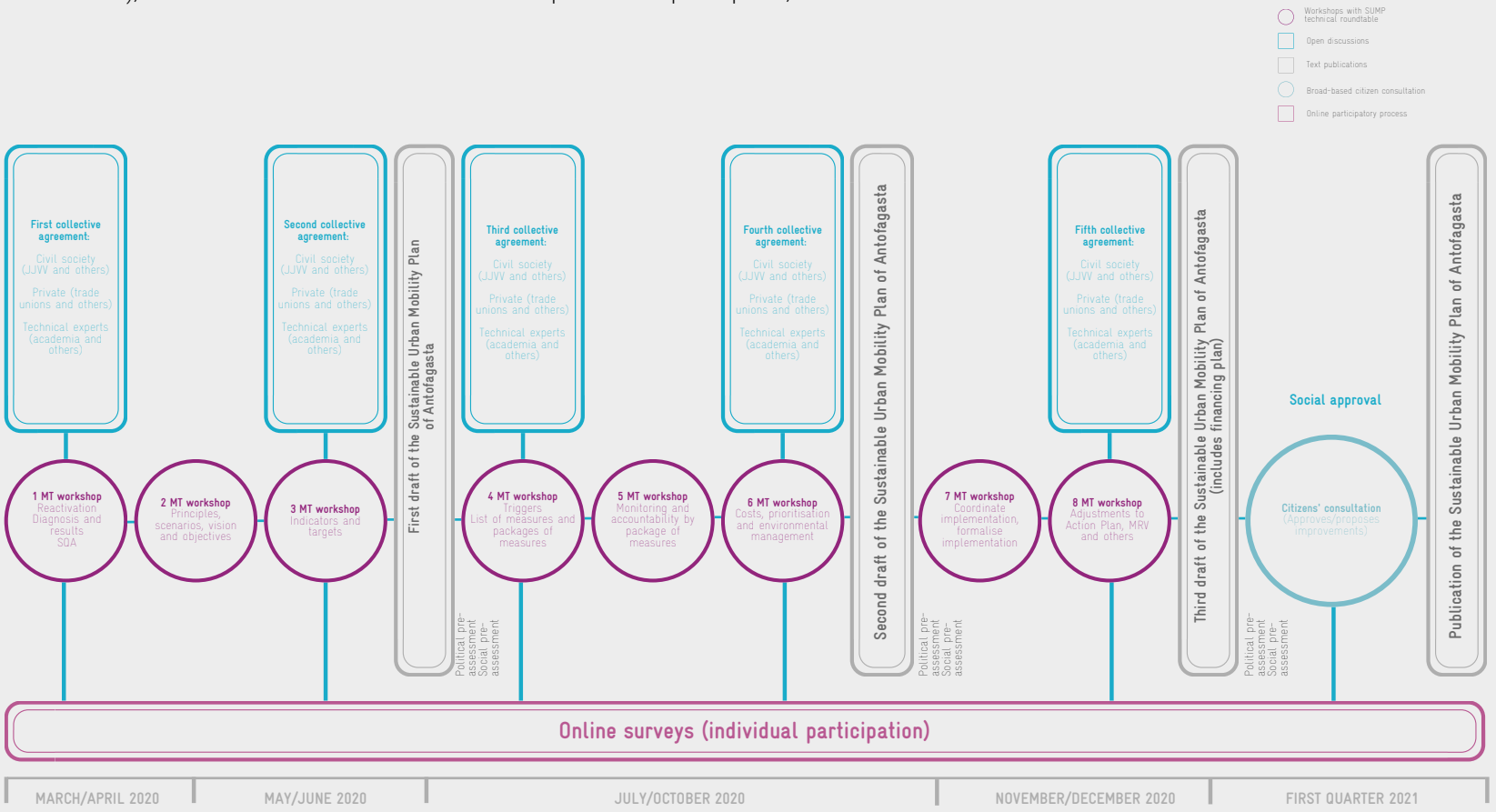
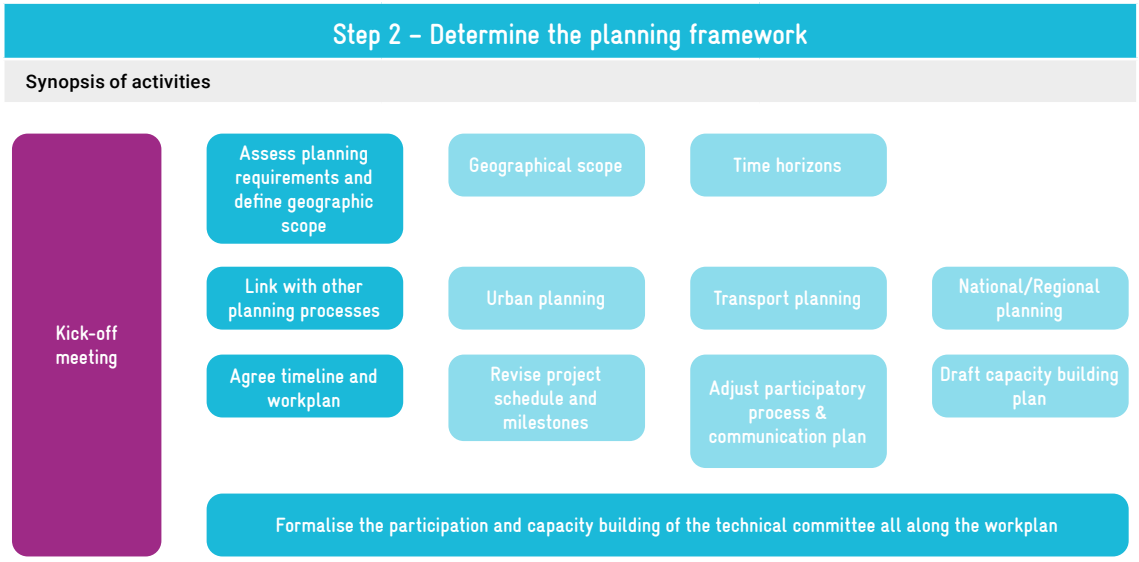


Figure 16. Participation phases in the SUMP of Antofagasta

Source: SUMP of Antofagasta

Step 2: Determine the planning framework



Tools	Methods	Outputs
• MobiliseYourCity webinar: SUMPs and gender	• Addressing Gender Equity and Vulnerable Groups in SUMPs, Eltis, 2020	• Refined methodology • Refined strategy regarding participatory process and communication • Draft plan for capacity building

Assess planning requirements and define geographic scope

Time horizons and geographic perimeters should be considered in Step 2, Determine planning framework, and possibly confirmed at the very beginning of Step 3, Analyse the mobility situation.

Regarding time horizons, different notions are to be distinguished:

- **The planning period**, refers to the assigned period for Phase 4 – Implementation and monitoring of the SUMP. 15 to 20 years are commonly considered as a suitable timeframe, for infrastructure developments and paradigm change. Indeed, decision-makers and financial partners need to have a long enough perspective that divides into short-term, mid-term, and long-term goals. However, some cities prefer to define their timeframe through important milestones and do not use exact time frames.

- **The programming period** may correspond to the 2 or 3 first years, which are meant to be more detailed into the action plan to facilitate programming right after the SUMP adoption.

- **The horizons considered for demand modelling** refers to a farther future than the planning period, depending on the maturity of the city and the transport modes considered. In a context with mature urban organisation, steady development and the opportunity for Mass Rapid Transit (MRT) services and infrastructure to be developed, a 30-years horizon is better suited to meet the requirements in type and size of MRT projects.

Regarding the geographic perimeters, two different dimensions must be considered:

- **The functional urban area** (i.e., travel-to-work area). It can be defined as the footprint of current mobility patterns. In most cases, it encompasses suburbs laying in the area of influence of the main city, thus spreading beyond the administrative boundaries of the municipality. The functional area shall be considered in Step 3, Analyse the mobility solutions and in Step 4, Build and jointly assess scenarios, as the right scale for current and forecasted demand assessment.

- **The operational perimeter** covers the territory for SUMP implementation. It depends on the area for which the leading body is responsible, although another authority may be created as a result of the SUMP to better fit with the functional urban area. Indeed, a plan that covers the entire urban agglomeration will be much more effective than one that only covers part of it. The operational perimeter shall be considered from Step 5, Develop vision and objectives with stakeholders to Step 12, Review and learn lessons.

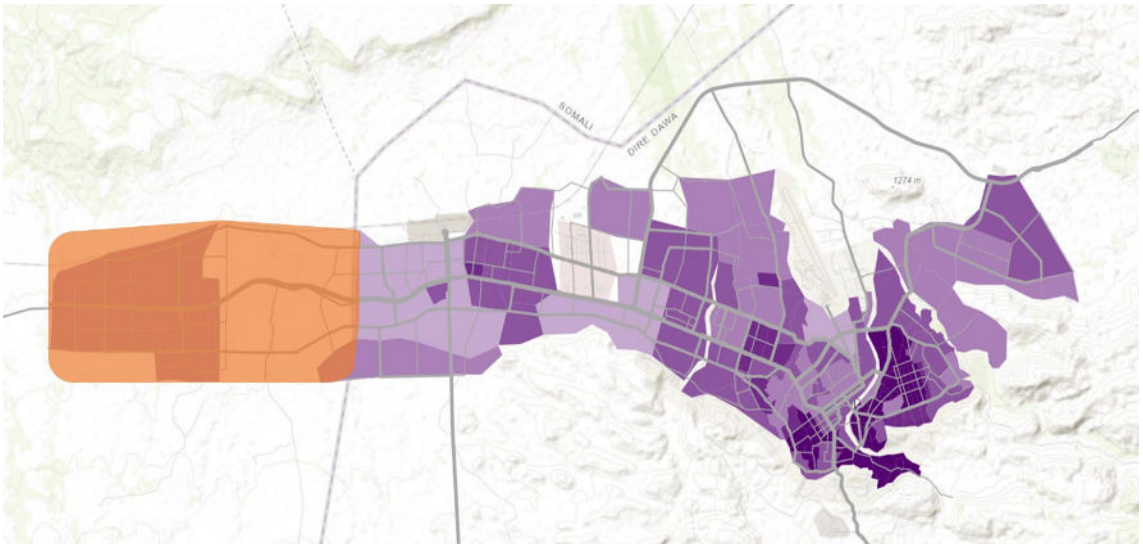


Figure 17. Operational (purple) and enlarged (purple and orange) - SUMP of Dire Dawa

Link with other planning processes

"Always start from what already exists and improve it before developing new things"

Identify, document and assess:

- Legal regulations and guidance on how to develop a SUMP, including potential requirements for the geographic scope or the responsibilities of different types of planning authorities (if any).
- Relevant regional and national funding criteria.
- Higher level plans, strategies and objectives that might influence your SUMP (Urban Masterplan, Road Safety Strategic Plan, etc). For example, the plans of a National Road Authority for new or enlarged roads could work against the objectives of a SUMP by encouraging more car driving into the city.
- Previous SUMP, if existing, will feed the analysis of the mobility situation (Step 3, Analyse the mobility situation) regarding planning capacities, as lessons may be learned from the implementation phase.

It is important to explicitly refer to previous or ongoing planning processes and transport projects, though conceptual, and integrate them as inputs, even if some may turn out irrelevant throughout Step 5. Develop a vision and objectives with stakeholders, and in Step 6, Set indicators and targets. Indeed, it must be ensured that the SUMP does not compete with other initiatives nor be disconnected from the planning and legal landscape to reinforce the legitimacy of the SUMP elaboration process and facilitate its adoption and implementation.

Define how Sustainable Urban Mobility Planning and other policies at the local and regional levels can be integrated. Especially review whether the goals of the plans support or conflict with sustainable urban mobility objectives. On many occasions, urban development is planned with no consideration of the impacts over mobility, therefore leading to excessive urban sprawl. **Strive to fully embed Sustainable Urban Mobility Planning into the development and implementation schedule of other existing policies and strategies.**

Establish mobility and transport planning[10] as a shared policy domain. Ensure regular communication and exchange between relevant authorities (and within authorities, e.g. through regular meetings between transport and land-use planners). Consider including a land-use planner in your core team or steering group and give them a clear role in the planning process to facilitate ownership.

Strive for harmonisation of the timing of the SUMP with different technical and political decision-making processes (e.g., overall strategies, sectoral plans, elections).

10 "Transport" usually refers to services and infrastructures for motorised modes. Mobility has a wider meaning. It generally encompasses both motorised and non-motorised transport modes, as well as public policies (fare policy, intermodal policy, universal access and social inclusion, gender-based policy).

Phases and Steps	Urban concerns	Environment concerns	Social concerns
Phase I: Preparation and analysis			
Step 0: Perform a readiness assessment **Step 1: Set up working structures** **Step 2: Determine the planning framework** **Step 3: Analyse the mobility situation**	• Collection of socio-economic data, administrative boundaries land use • Analysis of urban structure, trips generators and major urban projects, developments	• Collection of statistics about the fleet, motorisation, and fuel consumption • Experience with an alternative source of energy • Estimation of the GHG emissions of the transport sector	• Collection of statistics about incomes • Identification of deprived areas • Analysis of accessibility and mobility conditions in deprived areas • Affordability of the transport system
Phase II: Strategy development			
Step 4: Build and jointly assess scenarios **Step 5: Develop a vision and objectives with stakeholders** **Step 6: Set indicators and targets**	• Consistency between mobility scenarios and urban scenarios • Consideration of urban criteria within the evaluation: urban sprawl, density, continuity	• Consideration of environmental criteria within the evaluation: reduction of GHG emissions, newly urbanised area, average trip distance	• Consideration of social criteria: affordability, spatial coverage of the transport system, even mobility condition over the territory
Phase III: Measure planning			
Step 7: Develop actions according to objectives and ambitions **Step 8: Agree on actions and responsibilities** **Step 9: Prepare for adoption and financing**	• Articulation of urban and mobility planning processes and policies • Policies and design standards for road infrastructure, including walking and cycling • Trans Oriented Development measures • Evaluation and Monitoring method and indicators	• Fleet management and renewal • Introduction of alternative energy sources • Promotion of walking and cycling • Budget for CO_2 emission mitigation measures • Monitoring method and indicators	• Evolution of fare policy and integration of social fare • Integration of measures favouring social inclusion • Budget for social measures • Monitoring method and indicators
Phase IV: Implementation and monitoring			
Step 10: Manage implementation **Step 11: Monitor, adapt and communicate** **Step 12: Review and learn lessons**	• Data exchanges to support the SUMP evaluation • Collective review of the SUMP evaluation results • Continuous commitment to the SUMP objectives		

Table 7. Interfaces with urban, environmental and social areas along the SUMP cycle

Daily commute in Patan, Nepal

Credits: Lucian Alexe on Unsplash

BOX 8 How to mainstream gender throughout the SUMP elaboration process

(Box continues on next page)

While starting (Step 1, Set up working structures): check that women are fairly represented among working structures. Similarly, when planning stakeholders' engagement, make sure that women groups and speakers are part of the process. Consider gender in self-assessment, depending on general awareness of gender issues, and integrate dedicated training into the capacity-building plan. Capacity building is a way to enhance political endorsement at later stages. Regarding the external consultant, if a certified specialist is not mandatory, the proposal shall reflect a sensitivity to the topic and detail gender-specific methods.

As for citizens' engagement, ensure that participants in focus groups or workshops illustrates the diversity of viewpoints although they are not strictly representative as would be a quantitative survey. Thus, gender balance should be prioritised during citizen participation activities. To this end, activities should be scheduled at times and locations that favour the participation of various profiles of citizens, including women (per default, propose different times of the day, including weekends). An alternative to encourage women's participation is to provide them with the option of joining with their children, and possibly providing care spaces.

While conducting the diagnosis (Step 3, Analyse mobility situation): ensure that the survey program allows for gender-based analysis, especially in a household stated preferences and opinion surveys. The analyses shall later highlight:

- Socio-economic disparities: difference in household structure, revenues, car ownership, occupation, status within the household.

- Mobility disparities, regardless to occupation: trip structure, purpose, mode, time distribution, average duration and budget, women perception and safety issues, access to the labour market in the transport sector, etc. Common gender related challenges to be investigated are poor accessibility conditions (as women tend to take more trips in off-peak periods), violence against women, more limited access to transport sector job opportunities and transport governance.

When working on the action plan (Step 6, Set indicators and targets), once local gender-related challenges are identified, propose mitigation measures, adjusting the participation from stakeholders and citizens according to the criticality of the issues raised.

Dedicated workshops of focus groups may be considered that include women associations, traffic police or national bodies responsible for social affairs.

When consolidating the action plan (Step 7, Select measure packages with stakeholders), take a step back to review the SUMP performance regarding gender issues:

- Dedicated budget
- Target benefits
- Transport supply improvements/developments likely to impact women, and especially deprived women (actions applying to walking and cycling, safety, social fare, or others particularly addressing the poorest areas)
- Additional women's points of interest to be served,
- The exhaustiveness of monitoring indicators compared to identified challenges are keys topics.

Depending on local ambitions and political will regarding gender issues, a dedicated project management unit may be established as a result of the SUMP to manage implementation (*"Step 10, Manage implementation"*), with a dedicated team or project manager, and a sub-set of actions detailed in a Gender Action Plan. Another option is to include gender specialists in the mobility sector or having an intersectoral board to address gender issues.

WHAT IS GENDER?

Gender refers to characteristics of woman, men, girls and boys **that are socially constructed**.

Gender is a power relationship. The dominant patriarchal vision emphasises gender difference. The masculine and feminine are in a relationship, but **it is not a symmetrical, balanced relationship**.

Gender identity is a personal, internal perception of oneself and so the gender category someone identifies with may not match the sex they were assigned at birth.

WHAT GENDER IS NOT!

Gender is NOT biological: Sex is our biology — what chromosomes, hormones, genes, sex organs, and secondary sex characteristics we have — while gender is how we think of our identity in the context of how norms function in our culture.

Gender is NOT Binary: Some people have a gender identity that isn't simply 'man' or 'woman'.

Figure 18. Gender definition

Agree on timeline and work plan

The elaboration of a SUMP is expected to take approximately a year; therefore, one year should be set as a target to keep the participatory dynamic active and deliver a plan that relies on up-to-date information.

Two activities usually stand on the critical path: the implementation of surveys and the development of a demand forecast model. For this reason, **objectives and needs for a demand forecast model shall be anticipated according to the local context and priorities** and related requirements for the data collection process (see also box hereafter regarding demand modelling).

Objectives of Phase 2, Strategy development and Phase 3, Measure planning

- Assess the social impact and inclusive character of mobility policy
- Develop a robust and detailed financial plan
- Have a clear understanding of modal share and a fair assessment of mode incidence on behaviours, possibly introducing new transport models
- Evaluate MRT projects accurately - as for demand, cost impacts, etc.
- Consider a new fare policy as part of the SUMP

Incidence on workplan to be anticipated in Step 2, Determine planning framework

- Design the survey program in order to assess main resources and expenses of households
- Provide objective information accounting for direct and indirect beneficiaries of the transport system (e.g. origin and destination of trip, socio-economic profile of passengers, etc.)
- Ensure that the modal segmentation is adequate and well understood by respondents, collect qualitative information regarding mode attractiveness
- Design the zoning and survey sampling according to the foreseen rank/station layout
- Assess willingness to pay, according to the level of resources

Figure 19. Examples of objectives for Phase 2, Strategy development and Phase 3, Measure planning and incidence on the work plan to be anticipated in Step 2, Determine planning framework

To meet the project planning, it is also recommended to:

- Limit the duration of the diagnosis, as there is a common tendency to stay focused on this first deliverable.
- Schedule on-site activities of consultants every 2 months or more, to ensure fair working periods.
- Communicate a provisional timeline so that involved actors can schedule in time for their contributions.
- Take into consideration potentially challenging periods (e.g., elections or budget planning periods). Moving ahead quickly in the months before an election may be difficult and may influence the timing of the planning process.

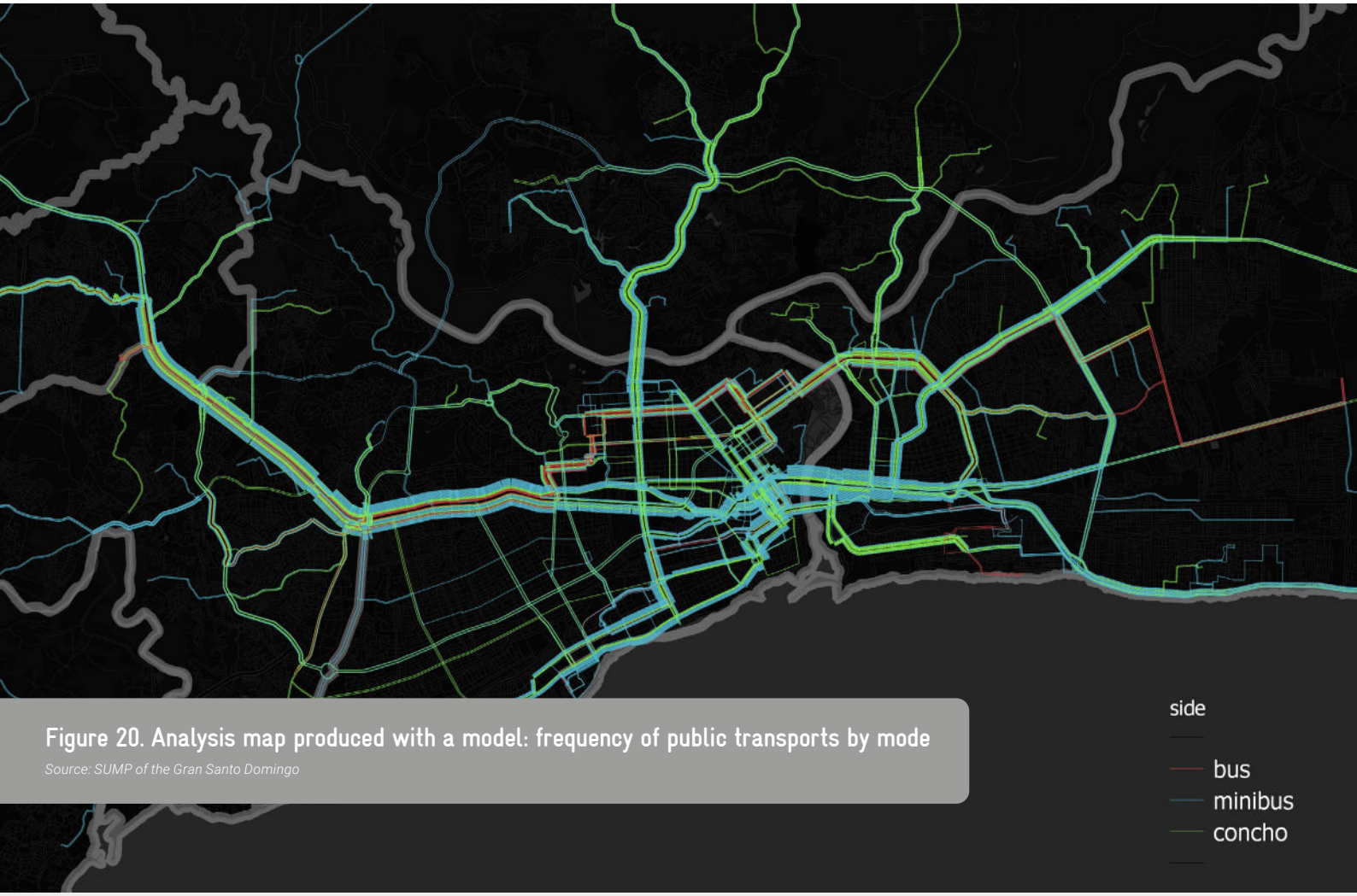


Figure 20. Analysis map produced with a model: frequency of public transports by mode

Source: SUMP of the Gran Santo Domingo

BOX 9 Demand modelling

While demand forecasting is part of the SUMP cycle's Step 4, Build and jointly assess scenarios, the fundamental approach to assessing future demand must be developed in collaboration with local authorities and tailored to the local context, capacities, and SUMP objectives. Indeed, different solutions can be proposed accordingly, from rough estimations to a four-step model. The modelling solution should be conceived jointly with the data collection program, considering that:

- A given modelling method implies data collection requirements.
- The overall approach shall be driven by the available data, with comprehensive and accurate data being of prior importance. The effort to be put in demand modelling should therefore be adjusted to the effort and ability required to achieve a reasonable data package.
- The model can perform some analysis of the current situation.

Overall, it is important to note that a full-fledged model featuring an assignment module takes about two months after survey implementation, making the Demand Forecast model development critical for planning. Besides technical advantages - higher precision in the characterisation/sizing of infrastructures projects, costing, easiness of computing indicators – having a demand model developed is an opportunity to raise awareness and propose basic training to the city planners about demand modelling.

Formalise the participation and capacity building of the technical committee all along the work plan

As previously mentioned, a SUMP integrates a capacity building program, typically implemented by an external consultant. It covers:

- **The involvement of local technical staff in all the SUMP activities**, when carried out by a consultant, to learn from international methods and practices but also to ensure that these methods and practices suit the local context, especially when it comes to demand surveys. The surveys implemented as part of the SUMP will stand as a reference for a future update, meaning that the local authority should be able to design and implement surveys under the same framework. The table below highlights activities the local authorities may participate to.

Activities	Possible role for technical staff from local authorities
Household surveys[11] **(Step 3: Analyse the mobility situation)**	• Attend progress meetings with the contractor in charge of the field surveys • Attend surveyor's training and pilot • Collect zoning, method, training material • Learn how to use the survey database, as well as limits for data processing/analysis
Participatory process (through all phases of the process)	• Contribute to the engagement strategy • Attend focus groups and workshops • Participate in the production of the meeting minutes
Communication (through all phases of the process)	• Contribute to the communication strategy • Attend all major events (e.g. Mobilise Days or equivalent) • Participate in the production of press notes, posts etc.
Evaluation and monitoring framework (Step 8: Agree actions and responsibilities, Step 11: Monitor, adapt and communicate)	• Participate in the identification of indicators • Review evaluation framework to ensure adequation to local means • Produce first indicators for the current situation

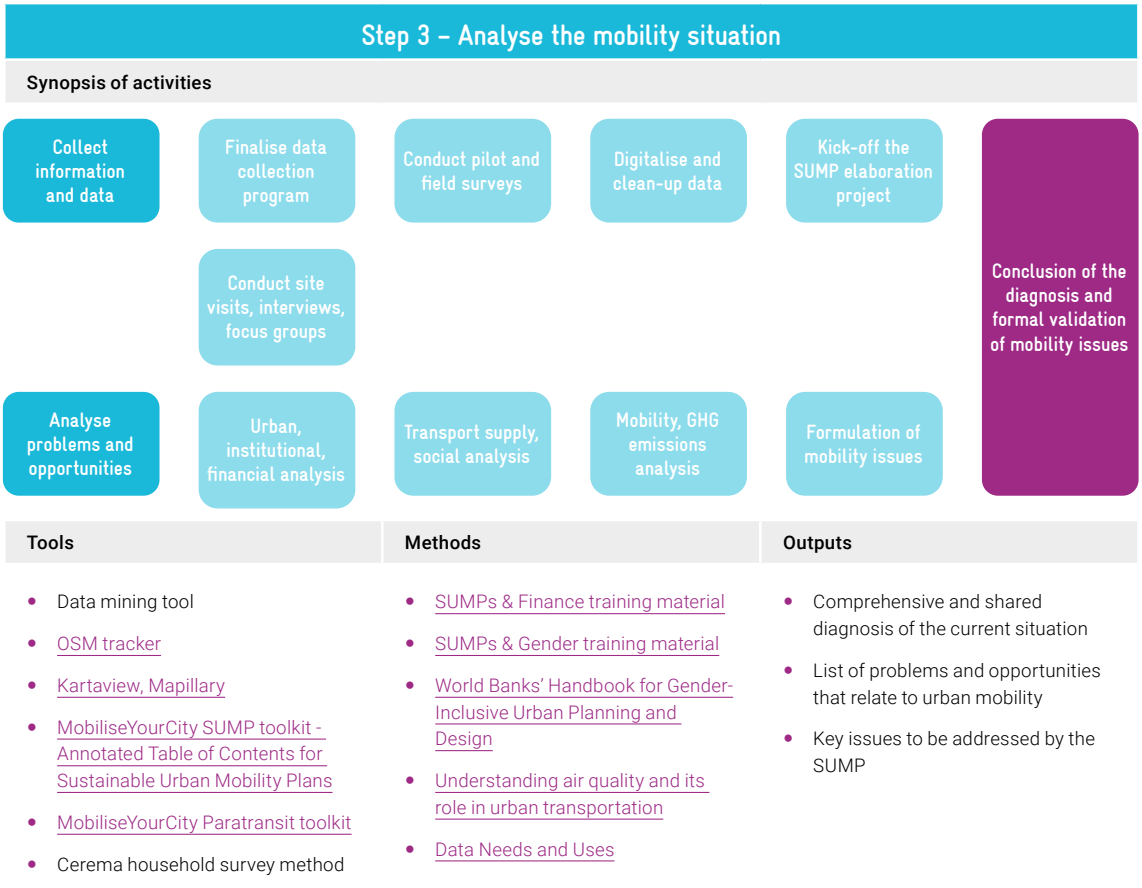
Table 8. Involvement of local technical staff in the SUMP activities

- **The organisation of training sessions according to the capacity building plan**. It should be carefully prepared according to the readiness assessment and the scope of work defined for a potential external consultant. Participants and their knowledge on each topic to be addressed should ideally be specified and shared with the consultant to adapt the training content.

As a general comment, the city staff should make the most of the consultant's visits, attending all relevant activities and working in a close relationship, therefore it is recommended to embed the consultant team in the city premises.

11 The household survey consists in surveying all the members of one household, except youngest children, and collecting characteristics of all the trips taken the day before – that also need to be a base day. Additional information regarding the household's socio-economic background and each member's profile are also recorded. See chapter *"Collect information and data"* for more detailed information.

Step 3: Analyse the mobility situation



- Data mining tool
- OSM tracker
- Kartaview, Mapillary
- MobiliseYourCity SUMP toolkit - Annotated Table of Contents for Sustainable Urban Mobility Plans
- MobiliseYourCity Paratransit toolkit
- Cerema household survey method

- SUMPs & Finance training material
- SUMPs & Gender training material
- World Banks' Handbook for Gender-Inclusive Urban Planning and Design
- Understanding air quality and its role in urban transportation
- Data Needs and Uses

- Comprehensive and shared diagnosis of the current situation
- List of problems and opportunities that relate to urban mobility
- Key issues to be addressed by the SUMP

This is a major milestone that provides the basis for rational and transparent strategy development. Before conducting an analysis of the problems and opportunities in the field of urban mobility and including citizens in the analysis, information and data sources need to be identified and cooperation with data owners should be set up. The aim is to have target-oriented and focused data collection and analysis, which includes all transport modes and important mobility-related aims and trends for the entire functional urban area.

Collect information and data

Acknowledge the resources assessment carried out in Step 0, (*"Evaluate local capacities"*) to get a good overview of the available data, including quality and availability. Identify data gaps and additional information needed for your mobility analysis.

The data collection approach depends on the resources available, the size of the city and the level of reliability required. Two types of data can be distinguished:

- **Quantitative data** from surveys and counting, automatic measurements, GPS data, vehicle tracking, mobile phone, etc. These are essential to characterise objective matters, such as transport demand or financial capacities.
- **Qualitative data** from interviews, focus groups, field observation, etc. These are relevant to explore subjective matters, such as user perceptions and experiences.

More specifically, it is recommended to:

- **Conduct a financial assessment as part of the urban mobility diagnosis:** to elaborate a financially sound SUMP, the data collection shall enable the core team to set a clear and comprehensive overview of financing and funding mechanisms of the transport sector from the start: dedicated amount, sources, share of local taxation, etc. Contacts with national bodies or IFIs shall be planned in advance as there might be delays in reaching them.

Financing

Who finances a project means who, at the outset, raises the cash to build it.

Sources: This could be the public sector or private sector, who raise debt, equity and/or grants to finance the building of public sector assets.

Funding

Who found a project is a question of who ultimately pays for it over the long-term; is it the user/customer, the local, national or the other taxpayer?

Sources: user fees and ancillary revenues /advertising, land value capture), reductions in fuel subsidies, or grant programmes from government/IFIs, etc.

Figure 21. Financing and funding: definition and related sources

- Address gender-based, minority-based and resource-based analysis as early as possible by collecting adequate demographic data as part of the household survey: gender, sexual orientation, ethnicity, age, occupation, etc. Minorities are, by definition, difficult to reach, and the resource level is a sensitive data that can be delicate to collect, depending on the local context and cultural background. When defining the data collection objectives, these aspects shall be assessed according to the main issues or challenges to be addressed, and considering the limits implied by the contemplated data collection methods.
- **Balance qualitative and quantitative data collection.** While quantitative data is essential, especially to feed prospective analysis, qualitative information is the only way to go beyond closed questions and address minorities. Also, qualitative information could help to find connections and causalities among the data, adding human perception.

The data collection process aims at providing an updated picture of mobility and, more generally, the inputs needed to implement the MobiliseYourCity methodology, including:

- Gender-disaggregated mobility analysis (mobility patterns, preferences, and issues according to gender)
- Environmental analysis (GHG emissions generated by the transport sector, which can be estimated with MobiliseYourCity's Emissions Calculator)

- Prospective analysis and related method (demand forecast model and type of model: strategic model or 4 steps model)
- A baseline of MobiliseYourCity's Core indicators (see chapter *"Step 6: Set indicators and targets"*)

The table introduced in chapter *"Evaluate local resources"* proposes a minimal data collection plan, considering common time and budget constraints (2 to 3 months, 10-15% of the consultant budget). It is worth noting that:

- **Household survey is the core element of the data collection,** regardless to the necessity to develop a demand forecast model. Indeed, it is the cornerstone of any mobility planning initiative, for it is representative of inhabitants' mobility over the urban area (see also the box hereafter).
- The data collection is not aimed at providing all missing data as some cannot be produced from scratch as part of the SUMP cycle, like land registers, land use plans or detailed financial sheets. In a context of poor or hardly reachable information, the lack of data can be considered a finding regarding planning capacities, resources and structural weakness of mobility organisation, not to be addressed through the data collection.
- The human resources needed depend on the type of surveys to be implemented: household surveys and state-preference surveys require qualified personnel, whereas counting and Origin-Destination surveys can be carried out with less qualified surveyors.
- Ensure gender equity among surveyor teams, in order to avoid gender bias (in some countries, women may feel more confident talking about their daily trips and habits to other women). Remember that detailing the exhaustion of one's activities can seem intrusive, and the information is considered as sensitive. In that same line, assign surveyors according to their own neighbourhood to facilitate their acceptance and welcoming by the population.
- To guarantee the actual quality of the collected data, the consultant shall spend at least 2 weeks on the field to oversee the training of surveyors and the beginning of field activities (including the household survey pilot).

As for surveys implementation, it is recommended to:

- Reach out for local skills, possibly through academic or technical communities (OpenStreetMap being an example of a technical community).
- Formulate a risk management plan or detail the survey plan according to potential risks and eventualities (typically, design options suitable for different sanitary situations, see also the box below).
- Get involved in the surveyors' training, pilot management and feedback.
- Optimise data collection, thanks to digital tools for enabling passive data collection (see the box hereafter).
- Formalise feedback on the implementation conditions, incidence on collected data and resulting limits to be minded in the later stages of the project.

Field activities

Credits: SYSTRA (left), INTRANT (right)

BOX 10 Household survey

The household survey consists in surveying all the members of one household, except the youngest children, and collecting characteristics of all the trips taken the day before – that also needs to be a business day. Additional information regarding household's socio-economic background and each member's profile are also recorded.

A household survey provides a structural picture of the mobility of inhabitants, thus reflecting disparity among population groups. It details mobility patterns, costs, travel times and reveals preferences for modal choice. It also enables to build an Origin-Destination matrix representative of the daily trips over the urban area. The latter may be used as the core input of a demand forecast model.

The sample design is commonly derived from the method established by CEREMA, which ensures the representativeness of the urban population. It relies on:

- **A zoning area,** counting with a minimum of 20 zones. When not established by a statistical or demographic office, zones are defined to be consistent and homogeneous, from an urban and social perspective, regardless of their actual surface. Areas at different developmental stages should be addressed separately.
- **A minimum sample** of about 1% of the number of households, with at least 70 households and 160 persons to be surveyed per zone.

While representing a rich source of information, a household survey is quite complex to carry out and the following aspects shall be carefully considered:

- **Access to households** is not easy, as people may be reluctant to let a stranger enter their house. Wealthy districts are often more sensitive, especially high-rise residential buildings that may be guarded by private personnel. Therefore, it is crucial to benefit from the support of local authorities to conduct a large communication campaign and reach out to local partners (district-level representatives, for example) to encourage people to open their doors.
- **Having all the members present at once** is another issue. A trade-off should be found between targeting suitable hours, according to local habits, and an efficient, compact survey planning. Surveys may be completed on the phone but only if a minority of the members happen to be missing, as this option is uncertain. Overall, it shall be minded that the most active – and therefore mobile – part of the population is also the harder to reach.
- **A household survey questionnaire is long and somewhat complex**. For that reason, a training program shall be conducted by an external consultant to ensure that the surveryors have a good understanding of what information is being collected, as well as a certain ability to deliver the questions and have a critical view on responses. The latter should enable surveyors to perform quality check and assure the coherence of the information.
- **A pilot survey** should be implemented to test and adapt the questionnaire as needed, possibly by reducing questions, adapting the vocabulary, and verifying that the surveyors are ready to go on the field.

BOX 11 Design a data collection plan in times of sanitary crisis

Due to restrictions set in many countries to limit the spread of COVID-19, urban mobility has been widely affected, with sometimes long-lasting effects, depending on the economic situation, emergency measures and related impact on human activities. In particular, the attractiveness of public transport was negatively affected, and operations were limited in some cases to favour social distancing, leading to a drop in ridership. Such situations have rendered mobility surveys useless to carry out a SUMP, in addition to practical difficulties to be faced on the field, as mobility patterns are non-representative. Some mitigation actions have been proposed, as part of the latest SUMPs:

- **Consider a T0 mission:** the so-called "T0 mission" is a preliminary mission, administratively separated from the overall surveying process, that allows the consultant to acknowledge the situation and conditions for survey implementation when intervening in cities strongly hit by the pandemic.

- **Use of big data**, including mobile data bought from telecommunication operators or users' data from Google maps, Waze or other transit applications. In some cases, mobile data have enabled the pre-pandemic mobility database to be adjusted and expanded. Although this practice has been implemented and has allowed SUMPs to move forward despite sanitary conditions, it shall be minded that it also presents limitations. Related bias shall be carefully assessed, depending on the share of mobile holders and the number of telecommunication operators. Similarly, the usability of these data is not certain and may require significant processing. Last but not least, a previously established agreement with telecommunication operators is generally needed for contractual discussions that are unlikely to fit within the SUMP budget and timeline, as this data is usually very expensive.

Lessons learned regarding data collection and transport modelling during COVID times have been recently shared in a dedicated MobiliseYourCity publication (in Spanish).

DOWNLOAD MODEL AND PLAN URBAN MOBILITY IN TIMES OF CRISIS (SPANISH)

Learn about local capacities to manage data and account for existing processes, in the perspective of forthcoming steps (evaluation and monitoring). In addition to the data gaps, the mobility diagnosis is the occasion to assess stakeholders' resources and capacities in data processing according to the value chain proposed below. This assessment would be the first step to developing a data management structure, possibly through establishing a mobility observatory, a common feature in all SUMPs. Indeed, the elaboration, monitoring and evaluation of a mobility policy require the production and analysis of large amounts of data that is usually distributed among various mobility stakeholders. To build a centralised information system that is efficient and resilient against turnover or changes in the institutional set-up, some IT resources and processes are also involved, jointly with management skills.

1
Manage
Plan for data collection and build capacities in data processing according to needs

2
Design
Develop data collection or data processing tools, database

3
Generate
Produce, structure and store data in exploitable format

4
Analyse
Elaborate relevant indicators and maps, draw conclusions

5
Share
Set partnership, value results using appropriate channels and format

Figure 22. Value chain of data processing

BOX 12 Make the most of digital tools to cope with the lack of data, the example of Abbottabad, Mingora and Peshawar (Pakistan)

Cities from the Global South often suffer from the absence of data, which thus affects their analysis and planning capacities. Furthermore, collecting paratransit supply information is a delicate task and a prerequisite for conducting a quantified analysis and understanding mobility patterns. As part of the Pakistani SUMPs (Abbottabad, Mingora and Peshawar), supported by MobiliseYourCity, these issues were addressed thanks to a refined survey program, supported by a combination of digital tools.

The chosen approach consisted of identifying and mapping transport hubs, inventorying the origin, destination, and level of service of the routes serving these hubs and collecting the actual itinerary thanks to a GPS tracking app. In Pakistan, this process was facilitated using a smartphone app based on OSM racker, that counts boarding and alighting, making on-board surveys more efficient.

Regarding the road network, an open alternative to Google Street view was used – Mapillary and Kartaview. It enabled the build-up of an illustrated GIS database and enriched OSM locally. This GIS database can later be shared among stakeholders, who are not always familiar with the whole urban area, and support planners in their day-to-day activities.

Buying satellite views in high definition may also be relevant to draw a map of the road network, as the quality of Google Satellite information is not the same over the globe (approximative cost is about 25 USD per km²).

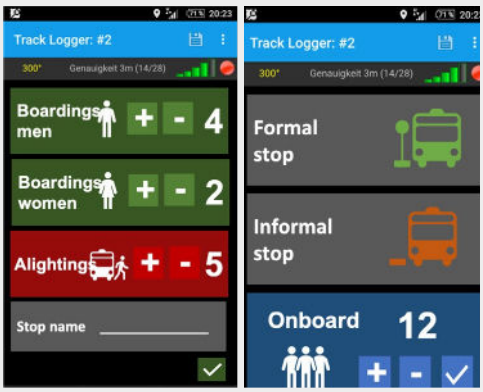


Figure 23. Screenshot of OSM Tracker

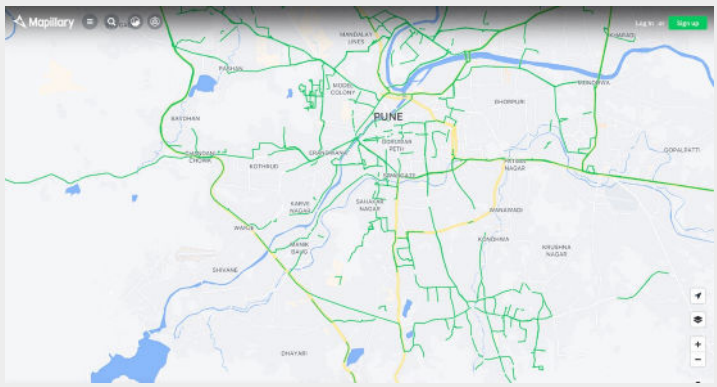


Figure 24. Screenshot of Mapillary

Analyse problems and opportunities

A good mobility analysis is crucial to define appropriate policies and provides the necessary baseline against which progress can be measured. The analysis should be as comprehensive as possible, highlighting mobility issues that will later help identify challenges to be addressed by the SUMP. The table below provides a basic structure to support the diagnosis, detailing key questions per topic and expected outputs.

Field	Key questions	Basic outputs
Urban and socio-demographic	• How has the city developed in the last decades? • What are the administrative and functional urban perimeters? • How is the city organised, which neighborhoods can be distinguished and what are their characteristics? • What/Where are the main trips generators, urban facilities? • What are the demographic trends? • What is the socio-economic profile of the population?	• Administrative and functional perimeters • Natural features and barriers • Land-use map • Trip generators map • Population density and growth • Socio-economic context: average monthly income per household, vehicle ownership, motorisation, population structure (according to gender, age, work status, occupation, education level)
Mobility	• What are the mobility patterns? As for mobility rate, spatial structure, time distribution, modal preferences, etc. • What are the mobility determinants and triggers for change?	• Mobility charts[12]: mobility rate, modal share, average daily mobility budget and time, flows map, trips distribution throughout the day, intermodal patterns
Transport supply	• What are the characteristics of the urban road network? Quality of the maintenance, city coverage? • What are the different kinds of urban public transport services, describing their organisation, nature, level of service, quality of service, fare, business model? • What are the characteristics of the pedestrian and cycling networks? Quality of the maintenance, city coverage? • Which conditions are experienced by road, public transports, pedestrian and cyclists? • What are the mobility services in the city (bike sharing, apps for routing, apps for ride-hailing…)	• Roads map per type, capacity • Traffic hard spots map • Road fatalities over time • PT network map • PT levels of service • PT multimodal hubs map • Paratransit business model and organisation • Parking map/typology • Walking and cycling facilities/mobility conditions (km of sidewalks, cycle lanes…)

12 Analysis should be detailed according to geographic areas, age and gender when relevant. They can be detailed according to other variables (for example revenues or occupation, condition of disability), depending on the reliability and representativeness of the data. Regarding mobility patterns and conditions of minorities or vulnerable publics, it is often more relevant to value qualitative information collected through focus groups, interviews, etc.

Field	Key questions	Basic outputs
Adequacy of transport supply and demand	• How does the transport supply fit the demand? • How is the transport supply distributed over the urban area? • How fair are accessibility and affordability conditions?	• Mean occupation of public transport vehicles • Map of population coverage by public transport • Map of public transport accessibility, travel time to closest (sub-)urban centre • Mobility expenses compared to the household income, in average or per category of population
Urban logistic	• Where are the main freight generators located? • What are the resulting flows of goods (volume, structure)? • How is the demand assigned (modal choice determinants and preferences)? • Which regulation applies, when existing? • What are the land opportunities for developing a warehouse and logistic hub?	• Maps of generators and consuming poles, including markets • Maps of freight corridors and hubs • Maps of areas under specific regulation regarding goods transport and deliveries • Maps of truck parking areas • Typology of goods and related modal options and preferences, level of services
Governance	• Who are the mobility stakeholders? What are their resources and capacities? • How are distributed responsibilities, as for mobility planning and related areas (urban, infrastructure, etc.)? • What is the regulatory framework? • How effective/efficient is the current institutional framework? • How integrated are urban and mobility processes?	• Mapping of stakeholders • Stakeholders' organigram, including public and private bodies • Stakeholders' responsibilities / involvement in the SUMP implementation and financing • Policies, legislations, regulations, concessions • National laws and policies to be taken into consideration
Finance	• What is the recurrent budget for mobility and how is it structured? • How is the recurrent budget financed? What is the share of local resources? • How much has been invested in transport over the past decade? • How much has been invested in the different transport modes and in sustainability aspects? • Who are the main financial actors and decision-making processes? What are other potential funding sources? • Public funding: is local public funding available? Do local actors can access national funds if available? What are the revenues generated by public transport fares? Is public transport profitable? • Private sector: What role does the private sector play today? Could this role be strengthened? Are there public private partnership mechanisms in place?	• Mobility annual budget breakdown per funding source • Mobility annual budget over the last decade • Mobility annual budget structure (share of CAPEX/OPEX) • Funding sources (public and private)

Field	Key questions	Basic outputs
Strategic planning framework and foreseen developments	• What was previously considered, as for mobility/urban planning? • What are the strategic objectives regarding urban development in the future? • What are the ongoing/foreseen urban and mobility projects?	• Foreseen urban area/structure • Map of main urban and transport projects
Environmental and social impacts of the mobility system	• Does the transport system guarantee equal access, affordability and availability? • How is the mobility system accessible/ attractive for women? • How is the mobility system accessible/ attractive for youth/elderly? • How is the mobility system accessible/ attractive for low-income population? • How is the mobility system accessible/ attractive for disabled? • Do transport-related measures facilitate employment and support the development of an inclusive labour market? • What are the environmental performances of the private/public fleet? Based on the fleet composition, regulation, maintenance, fuel quality, etc. • What are the CO_2 emissions of the transport sector? • What is the impact of the transport sector on air quality? • What is the impact of the transport sector on noise?	• Specific mobility patterns by gender/age/ minority groups • Share of mobility budget over households' monthly income • Share of women among the transport sector labor force • Coverage of the public transport in comparison to low-income population • Structure of the vehicular fleet according to motorisation, age • CO_2eq emissions per year, total and per inhabitant • Air pollutant (PM2.5, PM10, NOx, SO2) concentration • Air pollutant (PM2.5, PM10, NOx, SO2) emissions per year, total and per inhabitant • Observations regarding noise-related disturbances, if relevant

Table 9. Guidance for analysing the mobility situation[13]

13 For paratransit, refer to MobiliseYourCity's Paratransit Toolkit which includes practical guidance on how to conduct a diagnosis

While the analysis of mobility demand and supply is obviously central, it should not overshadow the following aspects, that will later represent significant inputs:

- Integrate ongoing urban dynamics and developments. As mobility patterns result from the urban organisation and constraints, it is important to understand the levers of urban development, related stakeholders, processes and how they are connected to mobility planning. Indeed, this may inspire actions of a higher impact than transport supply development, as it would directly affect trips' structure and travelled distance (demand management). For example, in Antofagasta, Chile, the diversification of the economy was set as a SUMP objective, with the underlying intention to reduce the dependence on the mining sector.

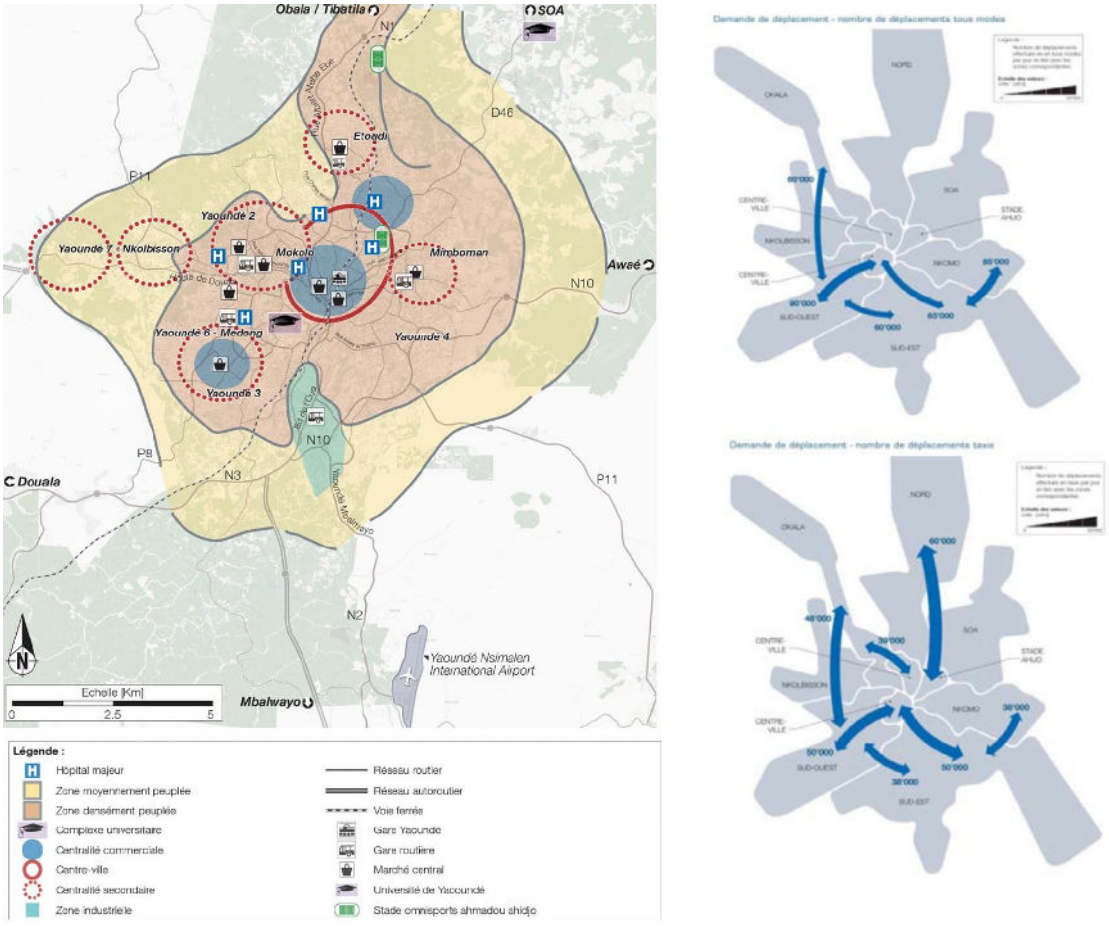
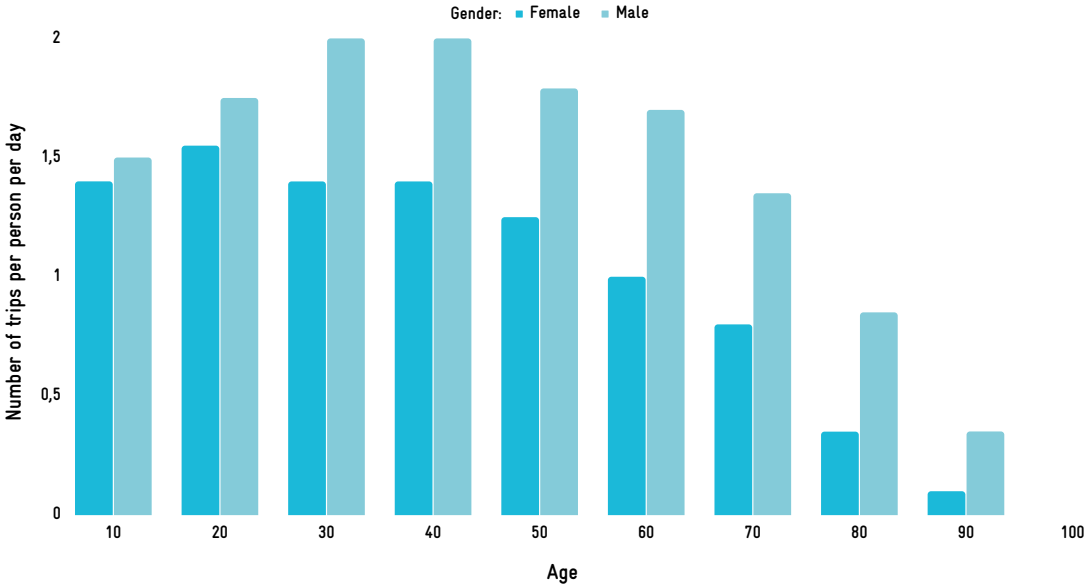


Figure 25. Maps for urban analysis

Source: SUMP of Yaoundé

- Assess social exclusion aspects in the framework of transport policies. This means considering the needs of the entire population, including vulnerable groups such as children, people with reduced mobility, the elderly, low-income households, minority groups, etc. Equity in access and opportunities for all citizens should also be looked at (see also *"Collect information and data"* for related requirements on the data collection program);



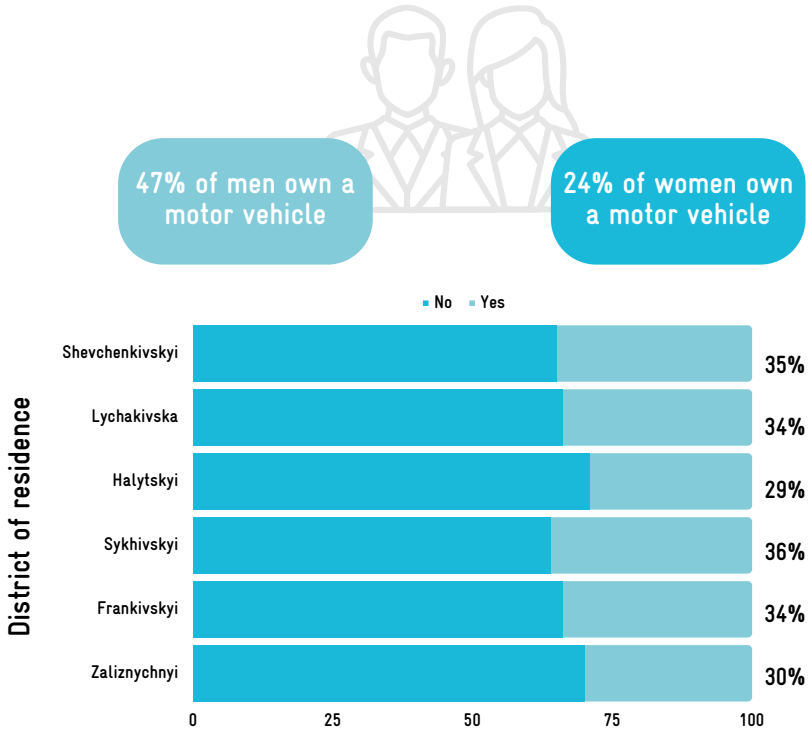


Figure 26. Gender based analysis

Source: SUMP of the Gran Santo Domingo (left), SUMP of Lviv (right)

- Deepen the analysis of institutional framework focusing on practices and outcomes rather than official organisation. Institutional set-up is the key to the success of the later stages; therefore, it is essential to reflect in the diagnosis of the limits inherited from the current distribution of responsibilities among public authorities. More generally, this part of the diagnosis shall aim to:
  - » Identify the current legal landscape to understand which public actors are involved in policy- and decision-making.
  - » Understand the legal and institutional landscape within which the SUMP will operate. If there is already a national framework that enables SUMP development, see how to leverage this support (financial, technical, etc.). If not, ensure the SUMP has a solid legal basis to guarantee its adoption and implementation.
  - » Identify gaps to complement existing regulations. Typically, if there is no existing parking policy, it may be pinpointed as a potential measure of the SUMP.
- Assess financial aspects so they can later support the elaboration of the financing plan. In particular, the evolution of mobility investments and related contribution per financing sources over the last decade will help estimate trends and deduce financing capacities along the implementation period.

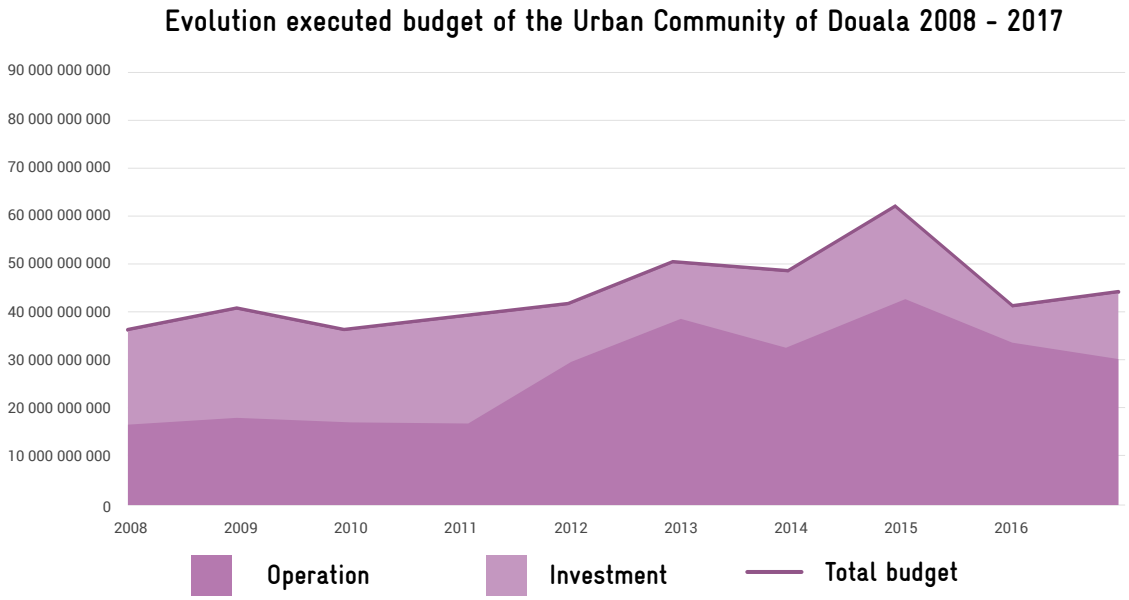


Figure 27. Evolution of the transport budget on the past decade

CAPEX & OPEX in the SUMP of Douala

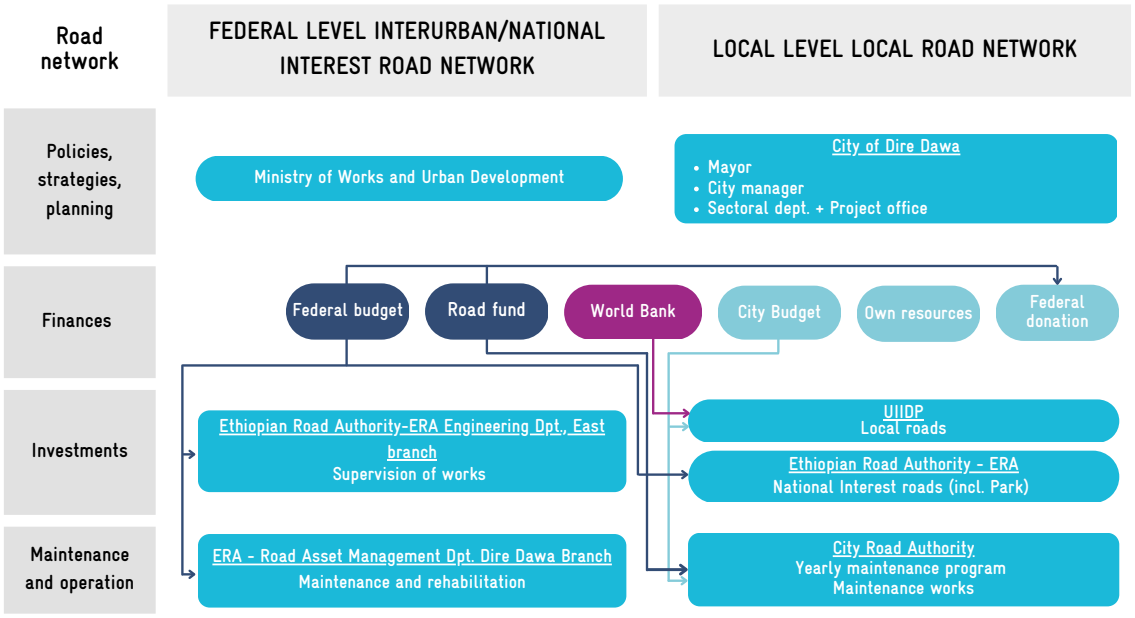


Figure 28. Distribution of responsibilities and financing sources in the SUMP of Dire Dawa

- While estimating carbon emissions of the mobility sector, acknowledge that considered assumptions will later support the estimation of the SUMP's GHG emission mitigation, one of the SUMP's most prominent targets. Thus, make sure to share and consolidate with relevant stakeholders the methodological framework and induced limits, making explicit and transparent the considered assumptions. Similar work or references may exist, including at the national level, which may raise some concerns about the coherence and compatibility of different approaches. They shall be clarified, relying on the MobiliseYourCity method and considering that national and local initiatives have different purposes, corresponding to distinct methods and input data.

Left: Kampala central division, right: India

Credits: Hassan Omar Wamwayi on Unsplash (left), Claudette Bleijenberg on Unsplash (right)

BOX 13 Paratransit, a central topic in the Global South

(Box continues on next page)

In many cities of the South, paratransit represents an important part of daily mobility - or even the only existing transport supply. It brings together services of varying degrees of informality and institutionalisation, from services operating in a deregulated market to recognised services operating in parallel with a regulated transport, although the relationship with public authority is limited or inexistent. While operators may be subject to driving or operating licenses, the service itself – routes, headways - remains under their control, according to a more or less fragmented operational landscape. The latter can be challenging when conducting the mobility diagnosis, as there may be no official nor formalised information about the paratransit supply and the business model.

The diagnosis of the paratransit sector should cover four areas: transport supply, service use, economic model structures, and organisational arrangements. Expected outcomes are detailed hereafter (See also MobiliseYourCity's Paratransit toolkit)

Figure 29. Elements for paratransit diagnosis

Regarding data collection, the main sources for the diagnosis can be summarised as follows:

- **Interviews** with drivers, vehicle owners or organisations depending on the type of organisation, regulatory authority and users. Interviews are a major source of information and allow to create trust with stakeholders, which is essential to discuss sensitive topics (the economic model in particular).
- **Demand surveys**, including possibly counts, OD, stated preferences and opinion. This type of survey should preferably be carried out at points where services are concentrated and at bus stations, whenever possible. Keeping in mind that the household survey will also provide data on paratransit demand, although less representative at a corridor level. Stated preferences and opinions may be aggregated to the household survey, to facilitate field activities on the street.
- **GPS tracking record** to map the transport supply. It also allows to assess the level of service, e.g., running time, speed, etc.[14] Besides, field observations are an indispensable activity, especially over assembly points. It often enables confirmation or finetuning the surveys implementation protocol.
- **Fuel price indexes** over the past years.
- **Regulation, agreements, and licenses/permits database.**

Overall, the types of modes considered along the SUMP elaboration should be clearly identified and agreed upon with local stakeholders, as the notion of public transport may be blurred and misleading. In phase 2 (Vision, goal setting and scenario building) and 3 (Measure Planning), the modal segmentation will be referred to when designing a structured transport network and defining a monitoring and evaluation framework. In particular, the estimation of GHG emission relies on a modal segmentation that should be consistent with the typology of vehicles and related emission factors.

14 Further information and references can be found online, getting inspiration from similar initiative conducted at metropolitan scale to map the public transport network, in Abidjan (http://doc.digitaltransport.io/abidjantransport/) or Nairobi (http://digitalmatatus.com/about.html).

BOX 14 Social inclusion, a sustainable and technical challenge

While social inclusion is one of the three sustainable development pillars, and a major political concern in many cities from the global south, mapping the level of resources at local level is not easy. Especially, revenues can be tricky to survey due to biased responses (reluctance, objective difficulties to provide quantitative estimate of the household resources, informality) or the sampling method. Thus, the survey program may be limited and national statistics, when existing, may not be detailed enough (e.g., available by district or macro zone) nor up-to-date.

A possible alternative to value the social impact of the SUMP is to develop a vulnerability map, with the support of local stakeholders, reflecting social priorities across the urban area. It can serve as a basis for the mobility situation, the scenario's evaluation, and the setting of social indicators, as part of the SUMP monitoring process.

Conclusion of the diagnosis and formal validation of mobility issues

This last activity is a fundamental milestone of Sustainable Urban Mobility Planning, aiming to achieve a common understanding, together with important stakeholders, of the main mobility challenges and opportunities. To that end, the diagnosis conclusion shall clearly highlight the issues raised along the analysis of the mobility situation, being through a SWOT analysis (strengths, weaknesses, opportunities, threats) or in a more descriptive way.

Figure 4: Summary of Key Feedback on what works well in Pristina

What works well in Pristina?	
Public Transport	**Car Transport and Parking**
Introduction of new modern vehicles/fleet People are starting to use new vehicles more Low ticket prices/fares Good coverage of taxi services across the city Some bus routes are now observed to be improving	Introduction of traffic calming and bollards to manage traffic and parking Traffic Monitoring Centre
Active Modes and Public Spaces	**Quality of Life**
Good use of natural assets (Germia Park) Green spaces exist across the city (and are expanding) Provision of lighting across crosswalks The level of street signing is considered quite good Good conditions for pedestrians in the city centre Source: Mott MacDonald	Quality of Life Improved public street lighting in some neighborhoods Air quality monitoring takes place Good cultural facilities exist within the city

Figure 3: Summary of Feedback on Transport Problems & Issues in Pristina

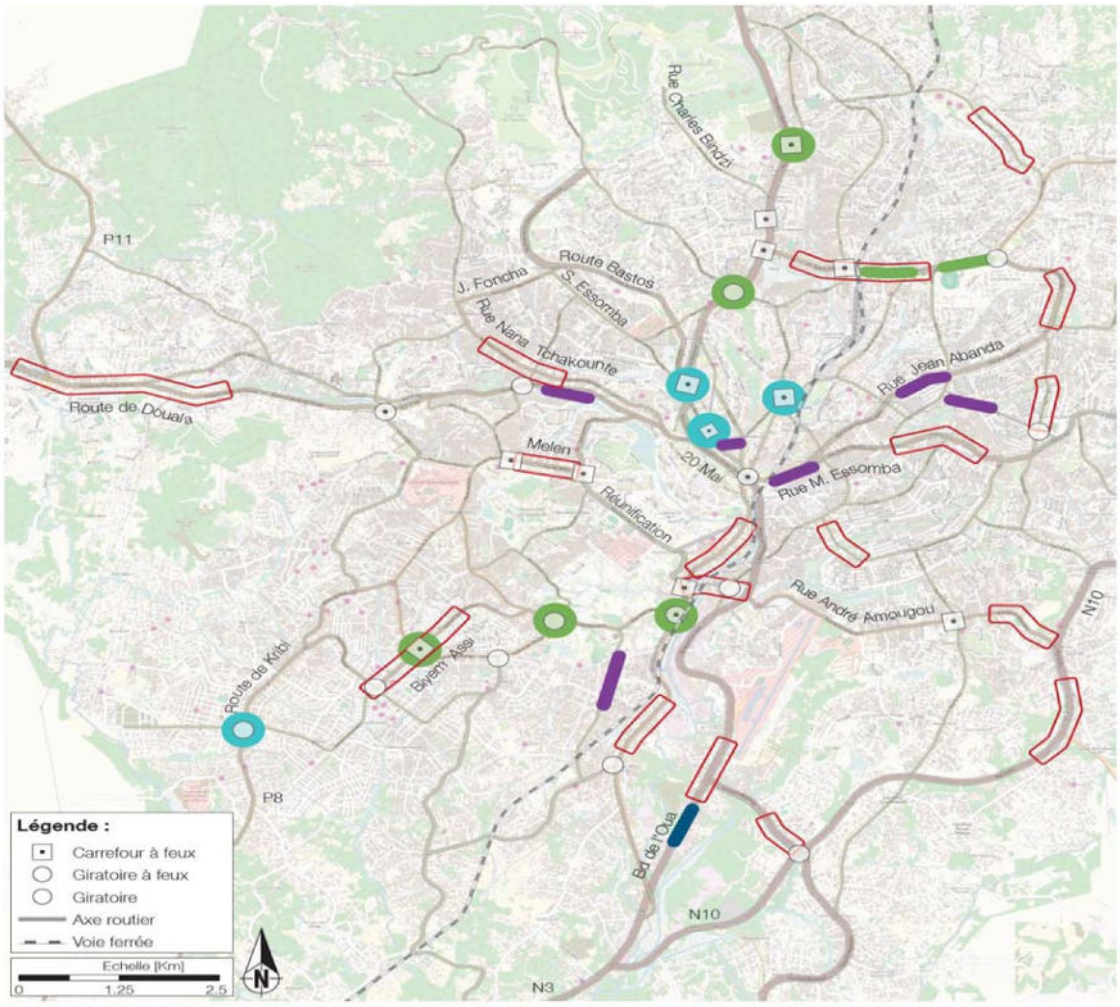
What does not work well in Pristina?	
Public Transport	**Car Transport and Parking**
Illegal taxi Missing information and information system Poor access for disabled persons No ticket integration Unreliability Missing public transport preferences	Congestion Problems with parking including disabled person's vehicles parking No regulation for heavy vehicles to enter city centre Low activity of the police
Active Modes and Public Spaces	**Quality of Life**
Vehicles parked on pavements and places for pedestrians Lack of cycling infrastructure Almost no components for disabled persons in the public space Unsuitable usage of public space of streets Unsatisfactory level of safety of pedestrians and cyclists Poor number of parks and green areas, relaxing areas Source: Mott MacDonald	Air and noise pollution Safety Cultural life and sport

Figure 30. Diagnosis conclusion

Source: SUMP of Pristina

It should then be shared and consolidated jointly with local stakeholders to ensure mutual understanding and ownership of that first deliverable, that will serve as a basis for building development scenarios and setting strategic objectives. Later on, the main findings should be summarised and broadly communicated, to the public (web and/or press publication, for example).

It is possible to involve key stakeholders and local politicians again to foster acceptance of the SUMP, make the process accountable and provide a sound basis for the upcoming strategy development.



Synthèse des problématiques rencontrées péjorant la capacité viaire du réseau
Mauvaise gestion des intersections
Concentration de taxis sur la voirie : taxis et bus se stationnant sur les voies de circulations
Mauvais état de la chaussée : une capacité divisée par 3 à 5
Mauvaise organisation de la gare routière : des mouvements des bus et piétons directement sur la chaussée
Points noirs de congestion

Figure 31. Cartographic synthesis of main issues regarding the road network

Source: SUMP of Yaoundé

2 Phase 2: Strategy development

Step 4: Build and jointly assess scenarios

Step 4 – Build and jointly assess scenarios

Synopsis of activities

- Develop scenarios of potential futures
- Highlight trends and determinants
- Formulate and compare scenarios
- Rework and assess scenarios
- Formulate a shared mobility vision
- Discuss scenarios with stakeholders
- Adjust the approach and scen. concepts
- Review evaluation and select scenario

Tools	Methods	Outputs
• Demand forecast model • MobiliseYourCity GHG Emissions Calculator • SUMPs-Up Manuals for SUMP measure selection • MobiliseYourCity Paratransit Toolkit	• Multicriteria analysis • EU guidelines for Sustainable Urban Mobility	• Factual basis for the subsequent development of a vision, objectives, and targets • Broad ownership and acceptance of the process to select a common vision and objectives

Scenarios help better understand the likely effects of external factors that affect urban mobility (such as changes in climate, information technology, finance, and security) in combination with alternative approaches to react to them. By illustrating different possible future situations, they allow planners to assess the consequences of current trends, potential societal and local changes, as well as alternative strategic policy priorities independently of each other.

Examining the effects of these different scenarios strengthens the factual basis for strategic decisions, also informed by the urban mobility diagnosis. Thus, Step 4, Build and jointly assess scenarios, is meant to inspire the development of the vision and objectives formulated in Step 5, Develop vision and objectives with stakeholders. Depending on the city readiness, the strategic vision may emerge earlier, in which case the vision and the scenarios iteratively feed each other. In such cases, Steps 4 and 5 would work in parallel.

Develop scenarios of potential futures

A scenario is a description of a specific set of developments in the future which are relevant to urban mobility, including the likely effects of external factors (such as demographic and economic circumstances), as well as those of strategic policy priorities (such as a strong active mobility or electromobility focus).

Building scenarios may be difficult if starting from scratch with no previous experience in mobility planning or similar exercise. In such cases, different approaches can be adopted to define projections:

- Collectively identify evaluation criteria as a way to prefigure the scope of desirable futures.
- Address the main challenges identified in the diagnosis.
- Brainstorm about determining factors, disruptive events, or main points of uncertainty, based on the diagnosis, that would allow to discriminate scenarios.
- **Get inspired by other cities** to appreciate different strategies considered while facing the same mobility issues.

Figure 32. Priorities versus cost of measures. City for cars or for people?

Source: SUMP of Antofagasta

The scenarios developed may allow to address several elements that will affect their feasibility and thus the likelihood of their realisation:

- **Uncertainty** (typically regarding the effective implementation of a major urban project, the availability of resources, etc. in which case the scenario presents the best mobility system according to circumstances),
- **Ambition and capabilities** (different scenarios may reflect different degrees of intervention and investments. These are coupled to assumptions about the ability of the city to mobilise the resources required to implement them), or
- **Divergence in opinions** regarding the vision and priorities (as for the share of road versus PT investments for instance).

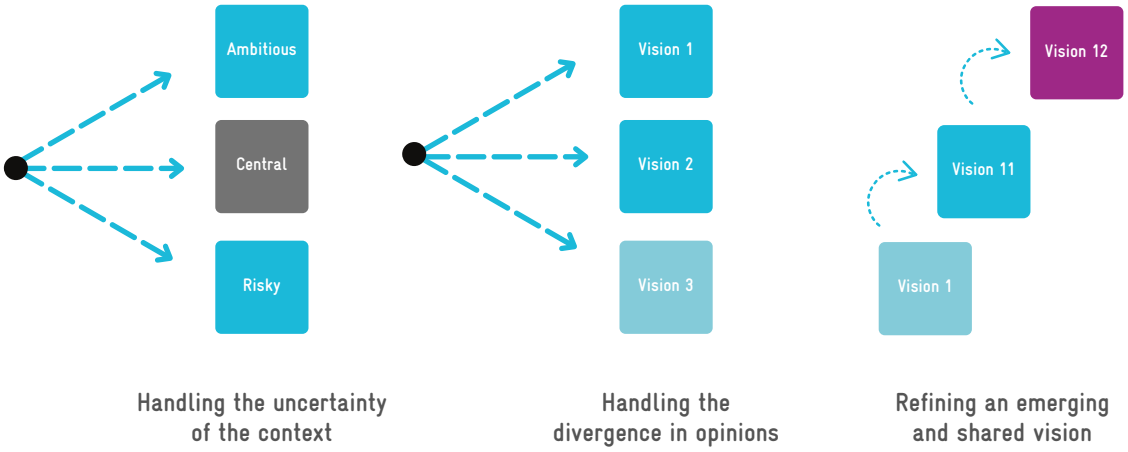


Figure 33. Different approaches for development scenarios

In any case, a Business-As-Usual (BAU) scenario shall be included to support the evaluation of scenarios. Similarly, a "trunk" scenario will likely emerge that aggregates the most obvious and consensual features. It may represent a scenario or figure a common component to all scenarios.

Ensure that considered scenarios bring positive environmental and social impacts, when compared to the BAU scenario. It is important that these aspects are perceived as major goals by the stakeholders, as part of a sustainable mobility strategy, and not ornamental features. In particular, one main ambition of SUMPs is to generate GHG emissions cut over the long-term.

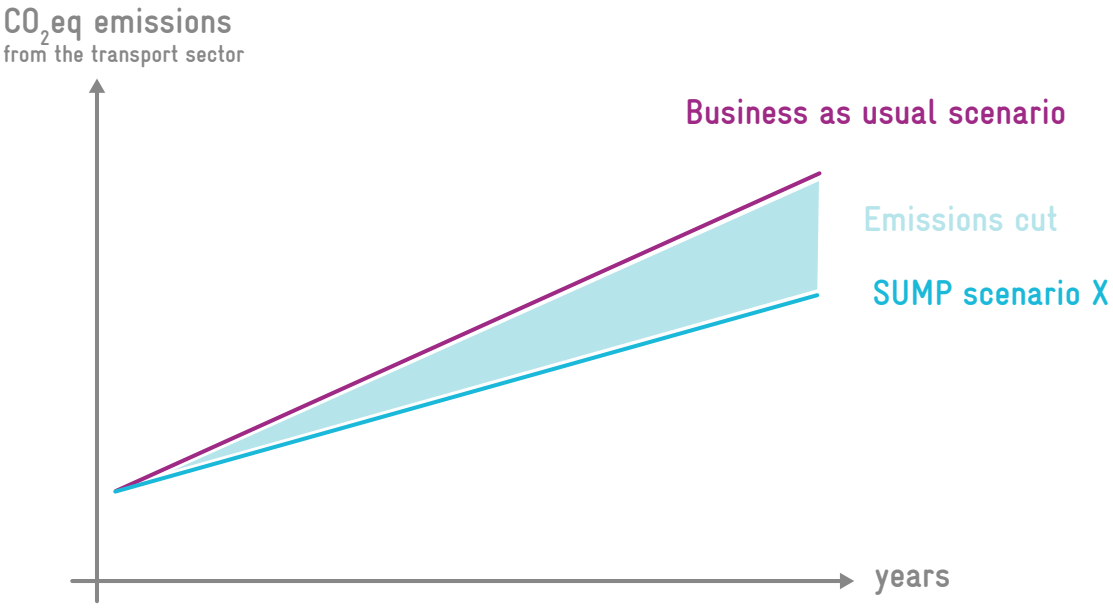


Figure 34. Expected impact of development scenario regarding GHG emissions

Special attention should be paid to the BAU scenario since it will become the reference against which the scenarios are compared regarding performance and efficiency. The BAU scenario is not supposed to be the scenario of the current state of the transport system – this would lead to overestimate the benefit of the project. A scenario in which no SUMP is undertaken will certainly have other projects implemented. Therefore, transportation and urban development assumptions for the BAU scenario should be formulated with caution. Assumptions could be compared to national growth indicators and ratios if available or funding capacities to clear the real potential development trend from strong-willed ambitions that could finally turn too optimistic.

Discuss scenarios with stakeholders

Discussing the different scenarios and their impacts with stakeholders is the first step towards a widely accepted mobility vision.

At the first meeting, provide basic information to stakeholders to ensure a common level of knowledge. It should include information on any existing visions, mobility analysis results and the description of scenarios. Basic questions to be addressed are:

- Which needs for change does the BAU scenario reveal?
- Which of the alternative policy priorities are desirable and why?
- What level of ambition is needed to achieve sustainable mobility in the future?

Discussing evaluation criteria can also enable to sort out stakeholders' priorities and main concerns.

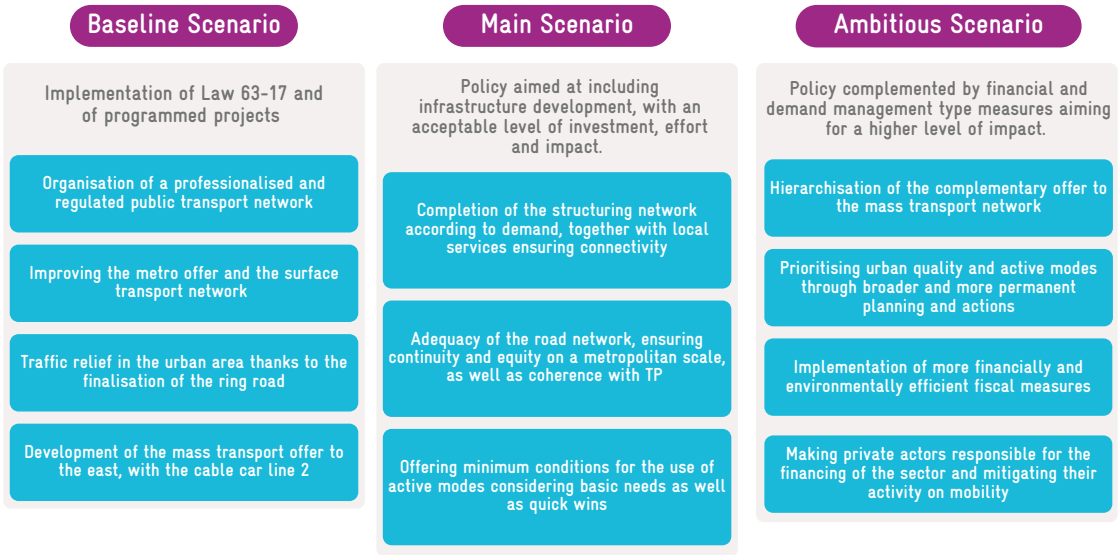


Figure 35. Three scenarios studied in the SUMP of Santo Domingo

Source: SUMP of the Gran Santo Domingo

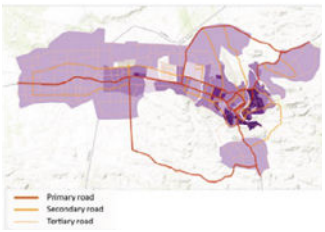
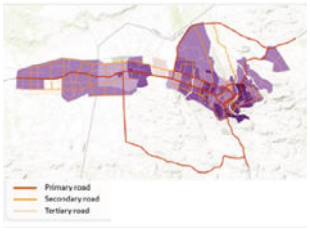
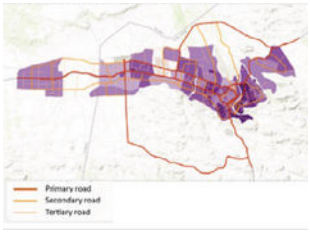
Scattered City	Two Cities	Polycentric City
The scattered city scenario needs to develop the road network over a widespread area with limited density. Its development is extensive according to a rather low hierarchized frame. Primary and secondary road categories are more limited than tertiary roads which account for a significant share of the overall network. The overall network structure is extended and widespread.	The two cities scenario is strongly structured along a well-developed and meshed secondary network. Each city old and new is developing this category and links it to the primary network. This development allow to alleviate traffic from the primary roads in the busiest areas. The links between the two cities are taken by a primary and a secondary road that cover all needs.	The polycentric city has an overall balanced network. It relies on a slightly larger primary network than other scenarios, providing an alternative to the main axis that currently concentrate all flows. A second east west road between Melka Jebdu and Kezira allows to better manage the traffic in existing Dire Dawa, providing better access to main trip generators (university, city hall, new railway station). The secondary network matches with the urban shape and urban polarities distribution.
		

Figure 36. Three scenarios studied in the SUMP of Dire Dawa

Source: SUMP of Dire Dawa

Once consolidated, the scenarios shall be evaluated according to refined objective criteria:

- Adequation with demand and coverage of the public transport supply: public transport modal share, the modal shift from private car, demand over capacity delivered, the share of inhabitants/jobs served, variation of indicators per area or district.
- Adequation to the urban environment: the need for urban renewal and resettlement, impact on the urban shape.
- Environmental impacts: reduction of GHG emissions.
- Social impacts: time savings, cost savings, improvement of accessibility conditions.
- Financial impact: the total investment, coverage ratio, need for public subsidies, and additional funding capacities.

Key indicators	Scenario **Minimum achievements**	1st scenario **Balance**	2nd scenario **Maximum achievements**
Traffic			
• Modal shares - Public transport/taxis/private motorised transport/motorcycle taxis/active modes (%)	2,5/ 39/9/14/35	4,8/37/9/14/34	6/37/9/14/33
• Average speed (km/h)	15	18	16
• Distance travelled (veh/km)	3'970	3'926	3/781
Public transport			
• Number of trips by public transport (pers/day)	144'000	284'000	367'000
• Population moved by public transport (%)	35	35	42
Accessibility to neighbourhoods			
• Development of additional roadways	-	85	25
Socio-economic analysis			
• Additional investments (M€)	-	400	360
• IRR (over 30 years)	-	14%	30%
Quality of life/environment			
• GHG emission rate (KteqCO2/year) – 2035	779	773	751

Table 10. Multicriteria analysis of scenarios

Source: SUMP of Yaoundé

BOX 15 Transport demand model

A transport demand model relies on existing knowledge of the transport supply, the transport demand and how the two interact (e.g., users' preference according to mode, price and travelling time). Based on the relation between transport supply and demand, the model can assess transport demand under hypothetical conditions. It thus enables to assess the adequation of a transport supply scenario in a given socio-economic context and therefore design a public transport network that suits the mobility need of a city, integrating foreseen urban developments. More specifically, a transport demand model allows transport planners to find the best compromise between the satisfaction of the transport demand and investments to be realised both on infrastructure and services.

Throughout the process, debates may be hindered by disagreements or misunderstandings. The table below provides some hints to cope with some common situations.

Issue	Possible way out
Conflictive opinions among stakeholders	Get back to technical facts or results, issues identified in the previous phase or priorities yet established, contemplate specific training or benchmarking, and involve a specialist or a counterpart experienced on the referred topic.
Low resources, difficulties to believe in a future involving costly investments	Propose financially realistic scenarios aligned with financial capacities, adopt value-based management, ranking objectives or formulating low-tech alternatives, consider alternative/ complementary funding sources such as property value capture, participation of the private sector, etc.
No vision emerging from the stakeholders	User persona or UX design methods to provide more concrete material and facilitate the discussion: typically develop narratives that consider specific characters such as a student, a woman, a person living in the suburb, etc.

Table 11. How to handle the stakeholders dialogue as part of the phase 2

Experience shows that citizen participation is not desirable during scenario development, for it is quite technical and abstract. Therefore, it is mainly recommended to work with key stakeholders. Citizens' participation may be contemplated – as it has been in Antofagasta, Chile, for example – but only if resulting contributions are valued and considered in the later stages. In particular, features from the BAU scenario can offer a concrete base for discussion.

Discussing the scenarios goes hand in hand with developing a common vision and objectives. Scenarios and visions are strongly related, and the sequence of developing them can vary between cities or even run in parallel. After about two rounds of discussion, to possibly adjust the scenario and then review the updated evaluation, the Steering Committee shall be able to select a scenario. It may be one proposed scenario or a combination of different scenarios.

Step 5: Develop vision and objectives with stakeholders

What kind of city do we want to live in? How will it differ from other cities? These are the central questions that need to be answered by a visioning exercise.

Co-create a common vision

A vision is a qualitative description of the city's desired future and mobility that guides the development of objectives, strategic indicators and targets and the selection of suitable measures throughout the SUMP process. It is build-upon the preferred scenario and is usually based on the long-term horizon.

In particular, the vision shall inform about:

- The story of the city development, giving narrative and consistency to the "pathway to the future". A story is something people can easily adopt and believe in. As it will be later published, it is important to highlight aspects of the vision that echo public concerns. From that perspective, **make sure to connect local issues and population concerns with sustainable goals when developing the vision.**

- The level of ambition for the SUMP, with some emblematic measures and global objectives yet formalised, that reflect outstanding and/or symbolic aspects of the policy envisioned. Typically, the creation of a pedestrian area, major infrastructure developments or measures that specifically target minorities or vulnerable groups can be outlined.

BOX 16 Integrating the demands of civil society and the SUMP objectives, the example of Yaoundé, Cameroon

Air quality week in Yaoundé, Cameroon

Source: Municipality of Yaoundé

In Yaoundé, a mobility plan was first issued in 2011 to smoothen the traffic with no perspective regarding GHG emissions or air quality. The civil society was mainly concerned about the traffic conditions and the possibility of increasing the transport infrastructure capacity. Indeed, sustainable mobility concepts had not been introduced before the elaboration of the SUMP in 2018. Consequently, the SUMP's objectives were perceived as somewhat disconnected from reality or even counterproductive when discussing reserving an exclusive bus lane for a Bus-Rapid-Transit system.

To trigger a change of mindset and favour the buy-in from the population, an air quality week was organised, during which air quality measures per district collected over one year were displayed in public places, with doctors explaining related health problems. The event contributed to public acceptance and larger political support afterwards.

Agree on objectives addressing key problems and all modes

The objectives specify the final aims of the SUMP and often refer to the intended social, environmental, or economic improvements. Objectives are also likely to reflect mobility issues resulting from the current situation analysis and should be delivered in a way that makes the SUMP's overall structure more meaningful.

Figure 37. Examples of SUMP objectives

Set objectives that are aligned with both sustainable mobility values and local concerns.

As for the vision, the objectives should be easily appropriated by the public and decision-makers, and therefore be suitable for public communication. Aligning one's objectives to those of external funding bodies is also a way to make the measures included in the Sustainable Urban Mobility Plan attractive for funding. For example, national environmental agencies may be willing to fund measures if a strong focus is placed on energy savings or the reduction of greenhouse gas emissions.

Figure 38. Challenges and SUMP main objectives

Source: SUMP of Lviv

Step 6: Set indicators and targets

Step 6 – Develop vision and objectives with stakeholders

Synopsis of activities

Tools	Methods	Outputs
• Demand forecast model • MobiliseYourCity GHG Emissions Calculator	• MobiliseYourCity Core Indicators and Monitoring Framework	• Set of strategic indicators that allow for the monitoring of progress made towards the achievement of each of the objectives

Two types of indicators can be distinguished:

- **SUMP indicators** are meant to assess the SUMP objectives. They should include - but not be limited to - the MobiliseYourCity core indicators, as well as communication indicators. These indicators should be easy to understand and interesting for a wider public (e.g., the number of people seriously injured or killed in traffic; number of locations exceeding air pollution limits; or jobs created). SUMP indicators are generally focused on impacts (also called outcome indicators) that directly measure the achievement of sustainability objectives. They are also likely to be computed based on a household survey, to be realised every ten years or so.

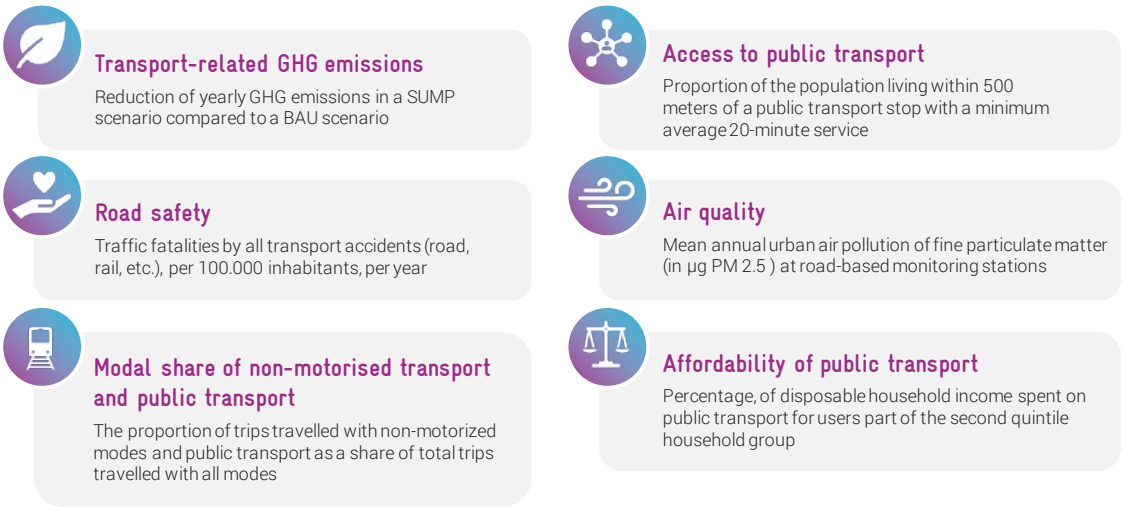


Figure 39. MobiliseYourCity core indicators

- **Measures' indicators** are defined for each action or measure later on (see chapter *"Plan measure monitoring and evaluation"*). They can fall into three categories: output, outcome, and impact, as detailed below. In particular, they should cover rough cost estimate for mass transit investments in the long-term.

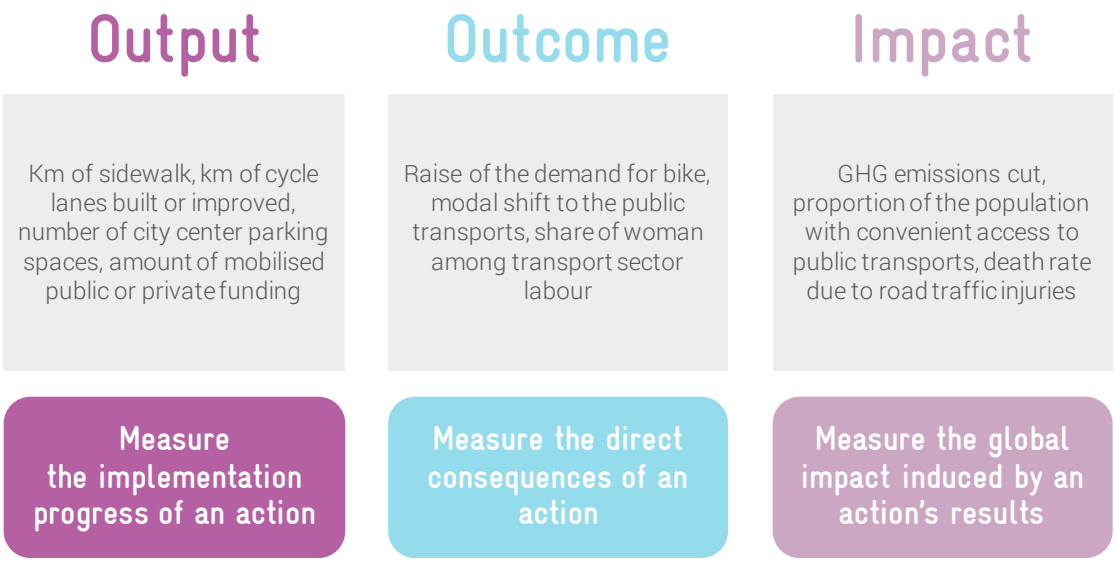


Figure 40. Output, outcome and impact indicators

In general, it is preferable to use standard indicators that are already well defined and have existing knowledge on measuring and analysing them.

"Target" here refers to the actual value set for each SUMP indicator. It can result from demand modelling or a raw estimate, depending on the goal set for the demand forecast model. Indeed, the demand model may well assess the demand response to a transport supply scenario, in a given socio-economic and urban context. However, its predictive power may be limited when it comes to more structural or political measures. These limits shall be assumed, and related targets are therefore set upon expert judgement.

After the vision, objectives and targets are defined, the vision shall be published in a format that is easy to understand and use visualisations to communicate it.

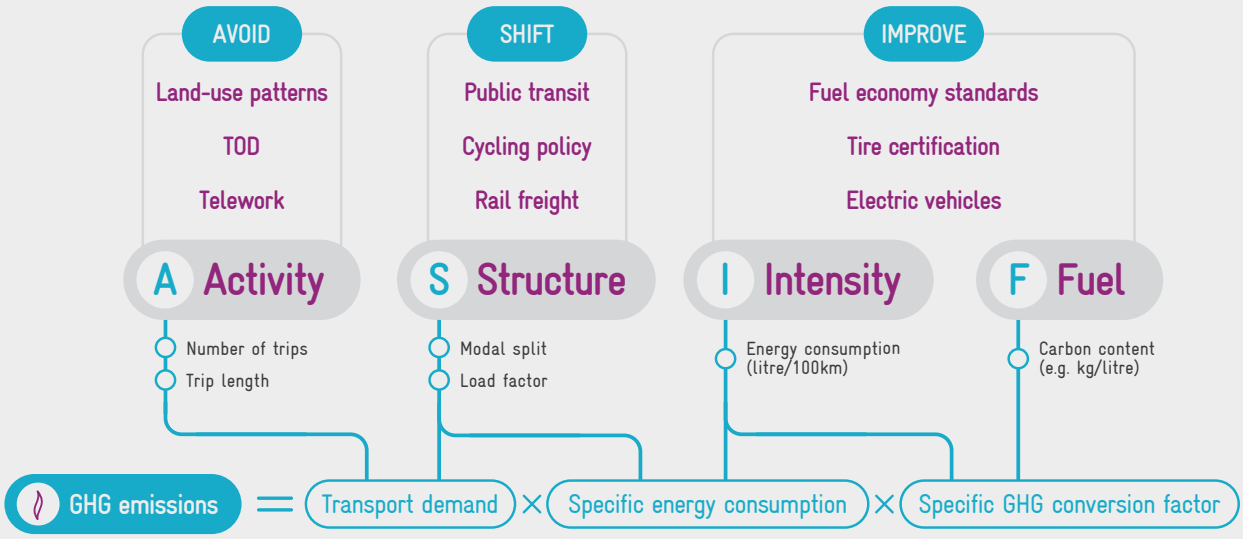


Figure 41. GHG emissions calculation method (ASIF)

Source: MobiliseYourCity

BOX 17 Estimating GHG emissions reductions

The MobiliseYourCity approach to monitoring and reporting proposes to estimate transport related GHG emissions (CO_2, CH_4 and N_2O) and other impacts at the city level rather than per measure. The SUMPs form packages of measures that interact with each other and consequently have a bigger impact on emissions than the sum of single measures. Therefore, SUMP practitioners must account for transport GHG emissions for their territory, i.e., direct emissions from mobile sources (tank-to-wheel) – cars, motorbikes, trucks, and buses.

These calculations can be based on the household surveys that reflect the "transport activity" of inhabitants (inhabitants-centered approach), as well as its "structure" (see figure above). However, this may seem restrictive in contexts where important flows are attracted from remote areas. The latter point should be assessed in Step 2, Determine planning framework or Step 3, Analyse mobility situation. Complementary data sources may be identified to compensate for this bias, thus adopting an origin-destination or territory-centered approach[15].

As for "Intensity" and "Fuel" (e.g., energy consumption and carbon content), the values for the parameters should be adapted to city-specific circumstances to calculate local transport GHG emission inventories, as far as possible. National default factors or even IPCC default values can be used if local statistics do not enable a more accurate estimation. Transport modes considered should be adapted to the available data and modelling demand. Ideally, all transport modes are distinctly integrated.

Estimations can be carried out using MobiliseYourCity's Monitoring and Reporting Approach GHG Emissions.

Monitoring air pollutant emissions – PM10, NOX, SO2 - is not mandatory for MobiliseYourCity reporting. However, cities interested in monitoring transport-related air quality can use the data on transport-related GHG emissions as a first step toward calculating local air pollutants. Air pollution assessments essentially follow the same methodology but require more disaggregated data on vehicle fleets than the bottom-up calculation of GHG emissions.

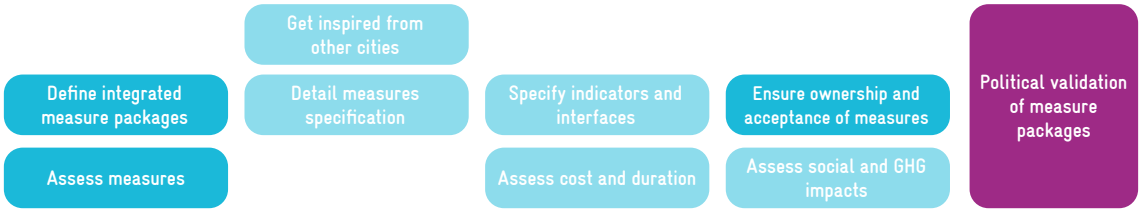
15 Energy sales provide another proxy that is generally preferred for national inventory.

3 Phase 3: Measure planning

Step 7: Select measure packages with stakeholders

Step 7 – Select measure packages with stakeholders

Synopsis of activities



Tools	Methods	Outputs
• MobiliseYourCity Paratransit toolkit • MobiliseYourCity SUMPs & Finance training material • MobiliseYourCity SUMPs & Gender training material • SUMPs-Up Manual on the integration of measures and measure packages, 2018	• Benchmarking • Good practice in stakeholder engagement • SUMPs-Up Manuals for SUMP measure selection • Topic guide for planning for more resilient and robust urban mobility, (2021, Eltis)	• Package of measures tested and appraised against objectives, with an eye to effectiveness (in terms of contribution to objectives), acceptability and value for money • Costing per type of action, mode, time horizon and project owner

With the third phase, the planning process moves from the strategic to the operational level. In particular, the development of effective measure packages is at the core of Sustainable Urban Mobility Planning. They should build on discussions with key stakeholders and consider experiences from other places with similar contexts.

Define integrated measure packages

A measure is a broad action implemented to achieve one or more policy objectives in a SUMP or to overcome one or more identified problems. Examples range from land use, infrastructure, regulation, management, and service measures to behavioural information provision and pricing measures.

A measure package combines different measures to contribute more effectively to the objectives and to increase their acceptability. A way to proceed is to think about what can be proposed for each SUMP objectives according to the different types of measures that can be contemplated (see classification below). Other frameworks can be used as a control to see if a city identifies all relevant areas to address a certain challenge.

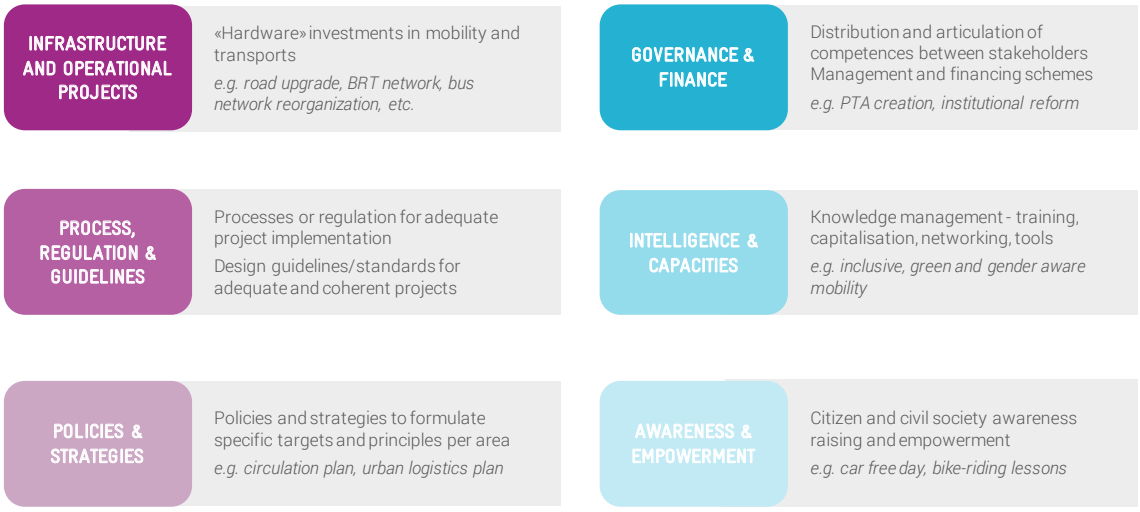


Figure 42. Types of sustainable mobility measures

To proceed with the elaboration of these measure packages, one should:

- Consider measures that have been previously planned or considered and challenge them against the vision, objectives and targets set for the city.
- Identify a wide variety of measure options that would contribute to this same vision, objectives, and targets.
- Learn from experienced cities and practitioners to consider all relevant options and, get inspired from other cities worldwide. To this end, one can use benchmarking or invite practitioners from other places to the city for advice.

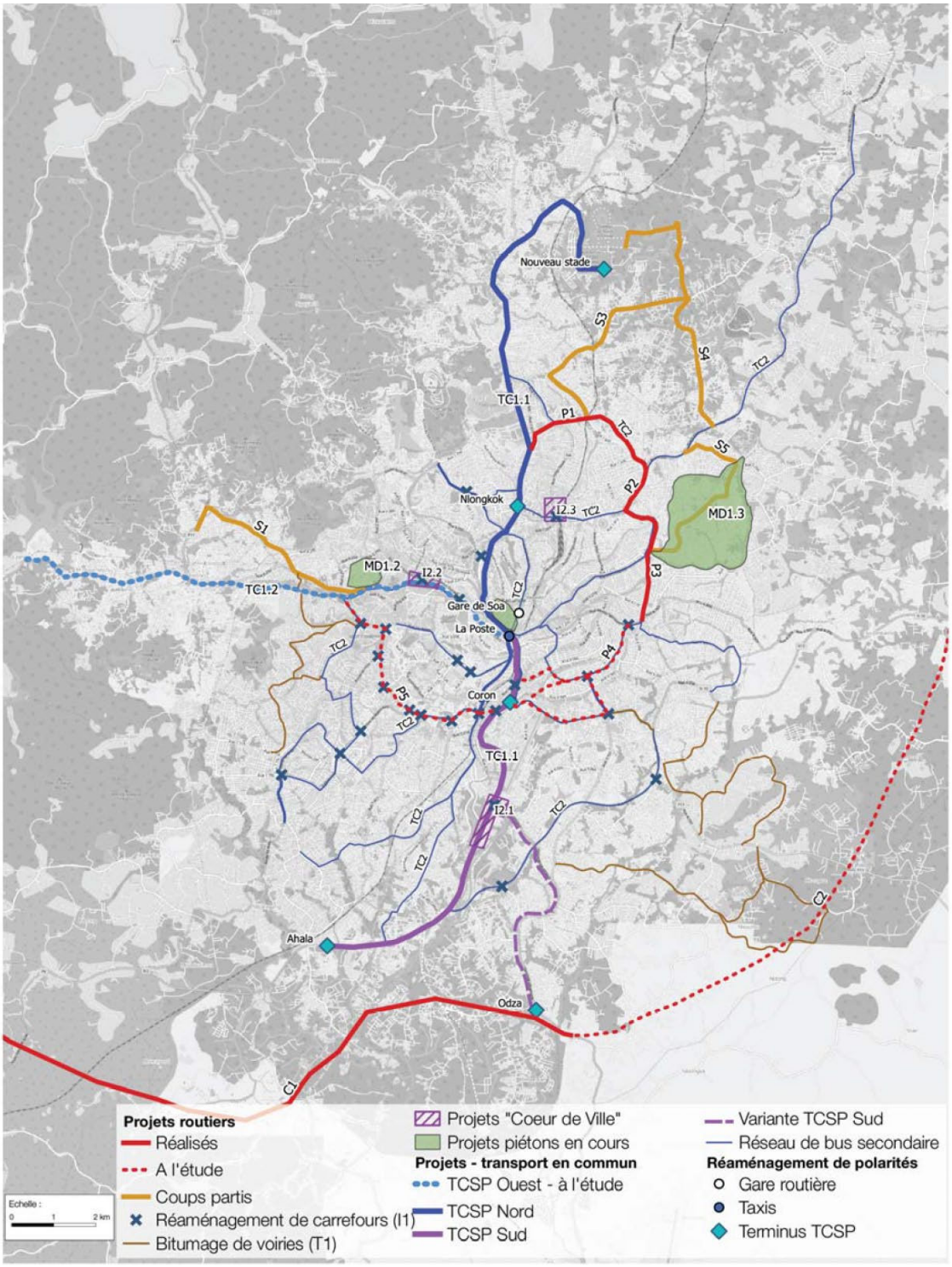


Figure 43. Action plan for infrastructure development

Source: SUMP of Yaoundé

BOX 18 About benchmarking, or how to address the "it is not gonna work there" argument

Benchmarking aims at generating awareness and increasing acceptance of new ideas, not as a solution but as an inspiration, shedding light on other ways to handle a situation and thus favouring out-of-the-box thinking. Although it is a very common exercise, easily solicited, results often happen to be deceptive or too far from the reality encountered locally.

Here are some tips for conducting a successful benchmarking:

- **Precisely define the focus and objectives.** Benchmarking on sustainable mobility measures without specifying goals or criteria will bring disappointing results. However, benchmarking the solutions implemented to address a specific issue, or the options for implementing a particular solution can help to appreciate the range of possible areas, jointly with pros & cons.
- **Use it in a timely manner.** Benchmarking should not be developed too early, but after the diagnosis, so it can be related to specific findings. Thus, benchmarking can support Phase 2 (Vision, goal setting and scenario building) and 3 (Measure planning), enriching the pool of levers or measures to be considered.
- **Value concrete results or feedback experience.** Experiences shall be described in operational terms, for the benchmarking to be worthwhile: how complex is it to design and implement, what are the potential risks, how can they be mitigated, etc. Outcomes and/or impacts that have been achieved should also be highlighted: modal shift, cost savings, GHG emissions cutting, etc.
- **National examples should be considered first.** More generally, carefully chosen, south-to-south experiences should be preferred, although the relevant scope for study cases should be agreed upon with final users.

Although foreign examples cannot be simply replicated, it is all about being able to adopt new ideas, learning from and adapting them to the local context. New concepts often bring sceptical reactions that can be managed with pilot or small-scale experimentations.

Measures shall then be described to specify objectives, related actions or activities, governance, costs, funding and financing mechanisms, priority or level of impact, timing, public engagement requirements, anticipated impacts, potential risks, conditions for implementation and monitoring, etc.

The overall consistency of the proposed measures can be assessed against certain priorities, as reflected by the EASI conceptual framework. Indeed, some basic measures may stand out as pre-requisites to be considered top priorities, although they can seem difficult to implement or not so visible to the public at first sight: institutional reforms, capacity strengthening, adaptation of the regulatory or fiscal framework, etc. They are still determinants over the long-term and should bring more structural and significant impacts.

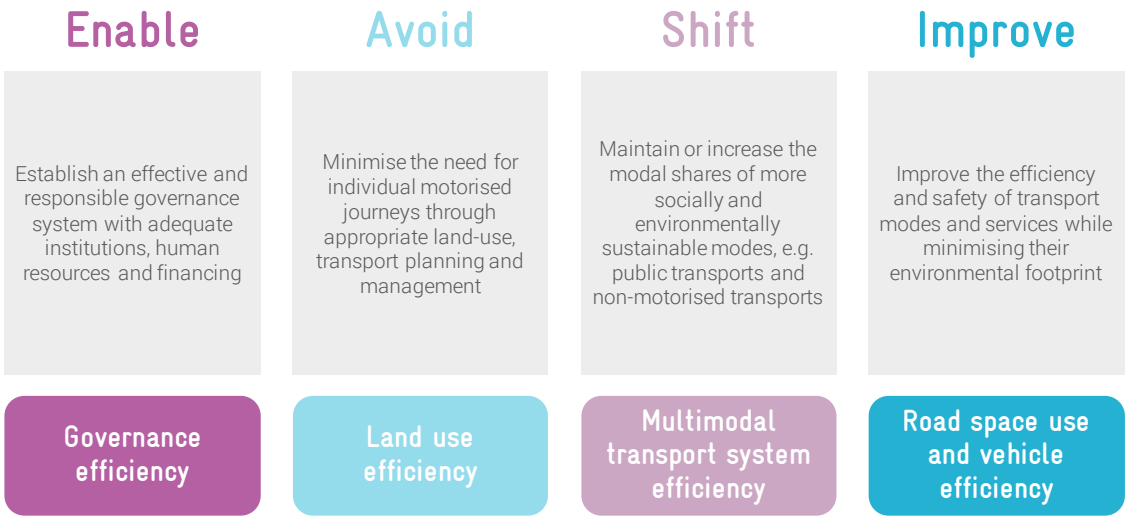


Figure 44. EASI conceptual framework

Assess measures

To achieve a set of effective measures that realistically fit with the available resources and local conditions, a transparent assessment should be conducted that is guided by effectiveness in terms of contribution to objectives, acceptability and value for money. Especially in tight budgets for urban transport and mobility, it is crucial to get the most impact possible for the resources spent.

Different approaches can be simultaneously considered:

- **Effectiveness** for example, through forecasting modal share or changes in ridership, estimation of GHG emissions reduction, expert rating, and benchmarking.
- **Acceptability** through consultations with stakeholders and the public. Co-identify measures with key stakeholders, involving them closely in option generation and appraisal. Ask the public for measure ideas or options, typically suitable places for micro interventions, adequate lay-out for public spaces, etc.
- **Value for money** can be assessed by relating effectiveness criteria to CAPEX and OPEX Cost-Benefit Analysis (CBA) is a common tool for assessing cost-effectiveness of development projects.
- **CAPEX (raw estimate)** although value for money is preferable for the selection of measures. CAPEX is needed to ensure that the list of contemplated measures is in line with overall financial capacities.

The list of measures may be adjusted according to the assessment results. As a golden rule, measures are meant to be operational, feasible, sustainable, or likely to be funded. Thus, **the action plan shall be tailored to funding capacities.** The chapter *"Develop a financial plan"* details the different steps to develop a financial plan.

Political validation of measure packages

Discuss the selected measure packages with stakeholders and involve them in the selection process, especially in prioritisation and preparation of implementation setup. Indeed, it should be clear to key stakeholders how they will be involved in each measure package (role, responsibilities, funding, timeline) and acknowledge how they can integrate positive impacts (through indicators) in their local marketing promotion actions. This validation should be conducted primarily through the SUMP steering committee.

Step 8: Agree on actions and responsibilities

Step 8 – Agree on actions and responsibilities

Synopsis of activities

- Consolidate and finalise the actions
- Refine cost estimates
- Plan measure monitoring and evaluation
- Agree priorities, responsibilities and timeline
- Validation of the action plan and formal agreement
- Develop a financial plan
- Link actions to funding sources
- Consolidate phasing according to the financial effort

Tools

- MobiliseYourCity SUMPs & Finance training material
- Financing Sustainable Urban Transport – International Review
- SUMP Institutional Cooperation Kit

Outputs

- Finalised action plan
- Financial plan, featuring an analysis of forecast expenses, revenues, funding sources potential and preliminary assessment of external financing to be acquired
- Monitoring arrangements (including responsibilities and budget) to assess the status of measure implementation and target achievement, enabling timely and effective responses
- Formal agreement on responsibilities and timeline among decision makers and key stakeholders

Consolidate and finalise the actions

Assess the shortlisted actions against their costs and revenues in the short, medium, and long-term, including operation, enforcement, and maintenance, and identify any funding shortfalls (total cost of ownership). Practically prepare detailed cost estimates for all relevant categories: CAPEX, OPEX, consultancy, administrative personnel, etc. Provisions can be considered for institutional development/ capacity building, stakeholder engagement and communications, equipment, and materials, among others.

Focusing on required human resources to implement, supervise and monitor all the measures can help ensure that the incremental administrative cost induced by the SUMP implementation is well reflected in staffing and personnel decisions and budgeting.

2.3 RECLAMATION OF THE ISABELA AND OZAMA RIVERS
Action 2.3.1 : DEVELOPMENT OR PROMOTION OF A GREEN NETWORK

Action 2.3.1

Context

- Informal settlements in the river basin, an area that is highly polluted and vulnerable to flood risk.
- Planned implementation of a longitudinal park Paseo del rio, as part of the Domingo Savio project, which involves the creation of a recreational promenade on the banks of the Ozama River, between the Juan Bosch Bridge and the Francisco del Rosario Sánchez Bridge.

Objectives

- Valorise the natural heritage and the fringes of the Municipalities surrounded by the river.
- Provide high quality public spaces to encourage paradigm shift and more sustainable behaviours.
- Clean up and integrate the neighbourhoods bordering the river.

Principle of action

- Define a greenway scheme to organise qualitative urban promenades along the river, in order to generalise the Paseo del Rio initiative. This intervention is part of the Domingo Savio project.
- As part of this scheme, study the re-adaptation of the Malecon, possibly as a final step after temporary reconfiguration, in specific seasons, thanks to reversible planning or tactical urbanism of non-motorised modes.

Modalities

- As a preliminary step, carry out a study to confirm the feasibility of the cycling network considering the obstacles and the feasibility of moving them (cost-benefit analysis), typically the bases of high voltage power lines placed on pavements.
- Prioritise the axes thus identified as a site for events and targeted pedestrianisation.

Amount of investment
5 MUSD

Final deadline
- 2021
- 2023
- **2025**
- 2030

Perimeter
- **DN**
- SDO
- LA
- **SDN**
- **SDE**

Type of action
- **Infrastructure**

Responsible actor
- **Municipalities**

Partners
- **INTRANT**

Funding
- **Municipalities**
- **MOPC**

Level of impact
Environmental
Social
Urban

Measure E1 – Road maintenance

Key characteristics:

- Have a precise monitoring of the needs via a feedback from the different boroughs and a specific and recurrent campaign organised by the Yaoundé Urban Community (at least once per year)
- Have a plan identifying the various problematic sectors
- Prioritise the work: priority on the main roads and those with the highest traffic
- Coordination between the various actors (local and national)

Key objectives to be achieved:

Improve traffic conditions:

☐ Prioritise the road network
☒ Manage the road network
☒ Improve traffic flow by providing homogeneous traffic conditions without holes in the road

Develop different transport offers

☐ Supervise the actors offering a travel service
☒ Make transport services reliable by ensuring a "smooth" flow of traffic on the different road sections
☐ Ensure a certain equity in accessibility to mobility both spatially and economically, especially for new districts

Improve quality of life in the city

☐ Support urban development
☒ Make travel safer, particularly for active modes and vulnerable people
☒ Improve air quality by reducing the emission of fine particles and greenhouse gases, as well as dust from the road

Horizon of study and/or realization:

- Ongoing

- Costs: 12.5 million euros per year, including about 0.8 million for the campaign and the monitoring unit or 8 billion CFA per year

- Implementation methods and stakeholders: monitoring by the Yaoundé Urban Community transport and traffic department (one person dedicated to the task), partly on the basis of requests from the district municipalities, of an annual campaign and possibly of the ministry of transport and the inhabitants, as well as coordination of the work on the various roads with the various stakeholders (ministries and network concessionaires). A coordination unit is therefore needed at the Yaoundé Urban Community.

- Implementation risks or constraints: the available budget must be used for the project

Proposal P2: Improve connectivity between the University Hospital of Guadalajara and the City of Guadalajara	
Objective	
Increase walking	
Strategy	
Promote external connections to the centre of Guadalajara on foot	
Description	
P 2.1: Incorporation of road safety improvement elements at the pedestrian crossings located east of the Glorieta de Cuatro caminos and at the connection with the Ferial Plaza area, as well as the reduction of one traffic lane on the section connecting Donantes de Sangre with San Agustín. **Phase 1** **P 2.2:** Integral reform of the Cuatro Caminos roundabout. Carrying out of the study and project (Phase 2). Construction of the reform (Phase 3). Incorporation of road safety improvement elements at the pedestrian crossings located east of the Glorieta de Cuatro caminos and at the connection with the Ferial Plaza area, as well as the reduction of one traffic lane on the section connecting Donantes de Sangre with San Agustín.	
Cost/benefit analysis	
Guadalajara Hospital attracts more than 4,000 trips daily from residents, the majority of which are made by private vehicle. Due to the reduced distance to the city centre, the proposal substantially improves the accessibility conditions on foot, both current and potential. On the other hand, the social benefit of improved road safety along this route should be noted. Environmentally, the benefits will be achieved if a modal shift in access to the hospital is achieved, a fact to which this proposal contributes favourably, as safe routes are always more widely used. Another environmental benefit will come from the penalty imposed on private vehicles at this point on the road, which will undoubtedly lead to a reduction in their use. Finally, the economic cost is low and, taking into account the improvement in pedestrian safety on this interurban route, the benefit is very high.	
Reference figure	**Actors involved**
7.1.	Guadalajara City Council, Ministry of Development
Cost	**Phase**
68.631 €	1, 2 and 3
Possible sources of funding	
Guadalajara City Council, Ministry of Development	
Progress indicator	

Figure 45. Action sheets from various SUMPs

Source, from left to right: Santo Domingo, Yaoundé, Guadalajara

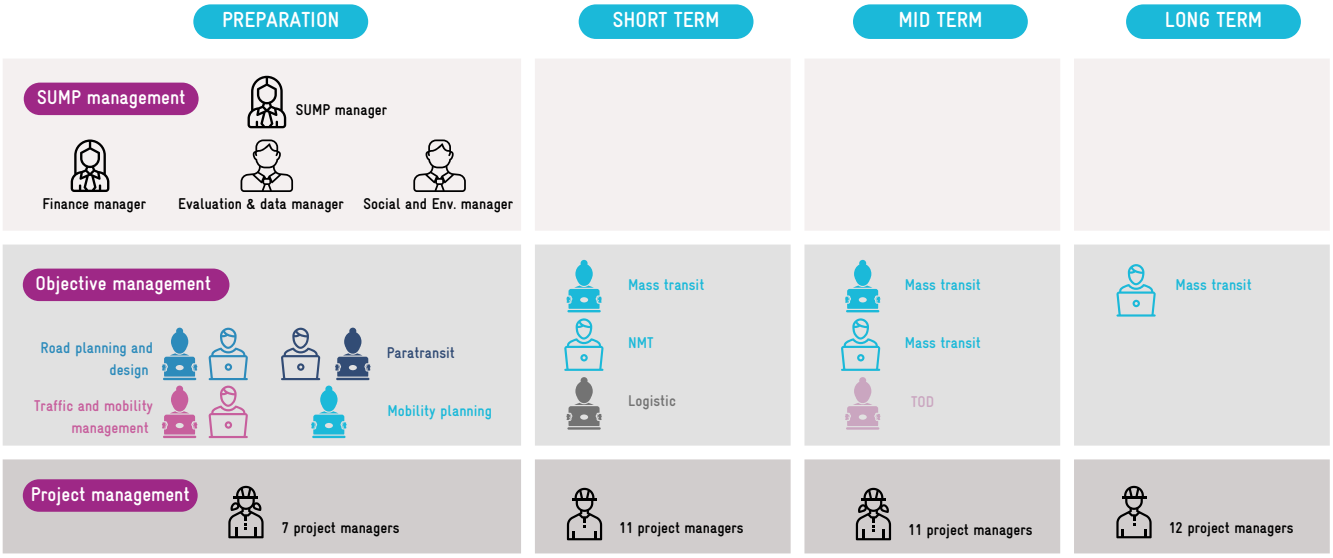


Figure 46. Guidance for developing a SUMP taskforce

Source: SUMP of Dire Dawa

Develop a financial plan

A thorough financing plan is needed to ensure that the previously identified measures and actions are economically sound and financially viable. It starts with identifying all available funding and financing streams and assessing the ability of the organisations involved in the SUMP to access and mobilise them.

Guiding questions to be addressed are:

- Which balance is to be pursued between financing and funding sources (e.g. public authorities, direct beneficiaries or users of urban transport services and infrastructure, indirect beneficiaries)?
- Which level of service is targeted?
- How are the resources allocated to the different modes and services, and is that distribution aligned with the strategic orientations of the SUMP? Is it fair considering the modes to be promoted and generated externalities of each mode and service?

It is worth noting that there is no rule regarding the contribution of each potential source, although a global trend can be observed where the share of direct and indirect beneficiaries is increasing in relation to public funds (the so-called 'user-pays' logic). The identification of potential sources should be evaluated against their potential mobilisation according to the implementation plan of the SUMP.

The financial plan should cover at the minimum operational expenditures. This requirement, in conjunction with value for money and other objectives and targets (e.g. coverage of the public transport network, time savings, etc.), should be taken into account when assessing the following:

- The transport modes considered
- The level of competition between foreseen services
- The fare policy assumed
- Alternative sources of revenues

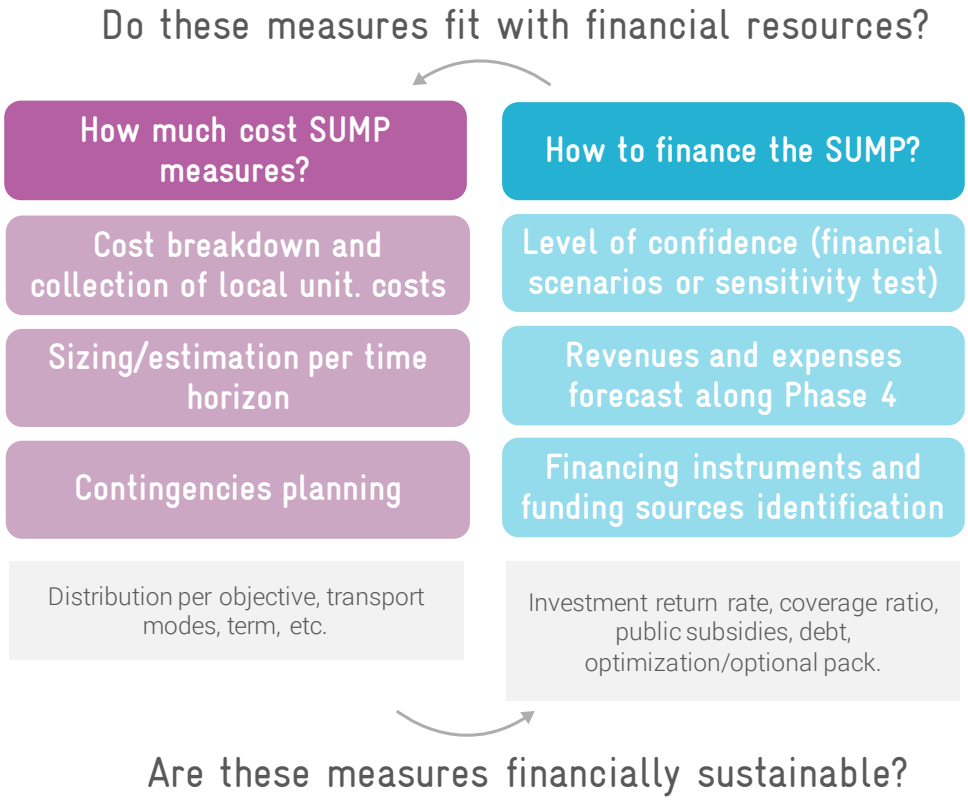


Figure 47. Process to estimate cost of measures and develop financial plan

Next to available sources (local budgets and taxes, national subsidies, international grants or donations) and existing revenue streams (from ticket sales, parking fees, and other areas), new sources of funding can be considered, such as bonds, land-value capture, development charges, and the private sector. The following figures provide guidance for enlarging the scope of potential financing and funding sources for large investments or feasibility and market studies.

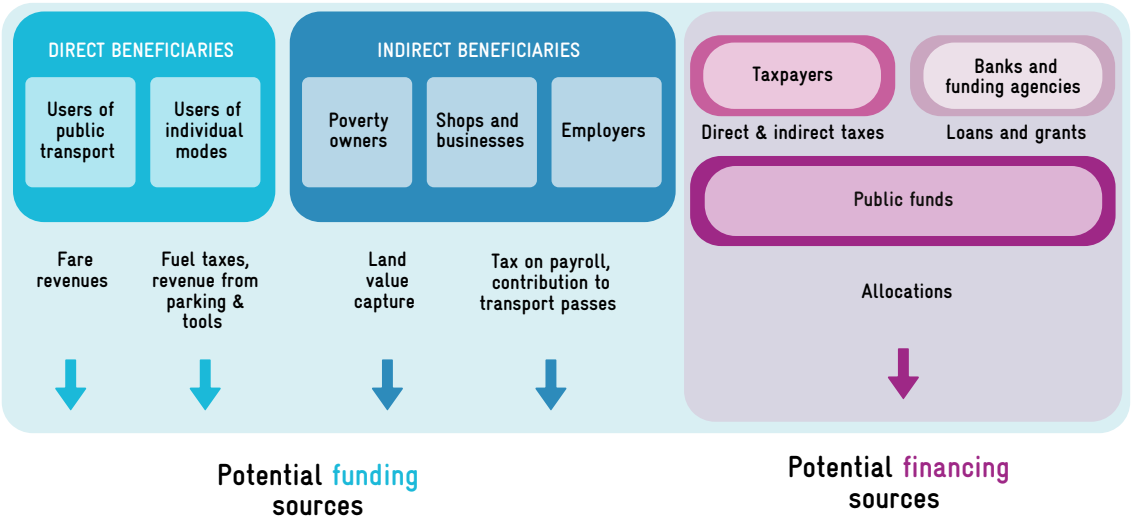


Figure 48. Funding and financing sources

Source: AFD; CODATU, Who pays what in urban transport?

Local sources	National sources
• **Financial actors:** Who are the main financial actors in the sector today? What is the role of commercial banks and development banks? • **Investments:** How are urban mobility related investments financed today? How are investment decisions taken? Do investors have adequate access to finance? • **Public funding:** Is local public funding available? Do local actors have the required capacities to access national funds and international loans if available? • **Public transport fare revenues:** what is the coverage ratio, e.g. the share of operating charges covered farebox revenue? How likely are revenues to evolve, according to the existing fare policy? Are there levers to increase fare revenues while ensuring affordability for all citizens and groups? • **Private sector:** What role does the private sector play today? Could its role be strengthened? Are there public-private partnership mechanisms in place?	• **Business environment and investment climate:** How developed and robust are financial markets? What is the tax regime? How much regulatory and political stability is there? How well are contracts with public and private sector actors enforced? How easy is it to start, operate and close a business, including licensing and regulation? • **National public funding:** How much of the national public budget does the sector receive today? How is funding allocated? What public funding and financing mechanisms are in place (e.g. fiscal and/or subsidy mechanisms) to transfer funding from the national to the sub-national levels? • **International/donor funding:** Who are the main donors in the sector? Which additional donors may be interested in supporting the sector?

Table 12. Checklist for completing a financing plan

Seek national and international support to increase your funding capacities. National government and domestic funds can both support the implementation of the SUMP.

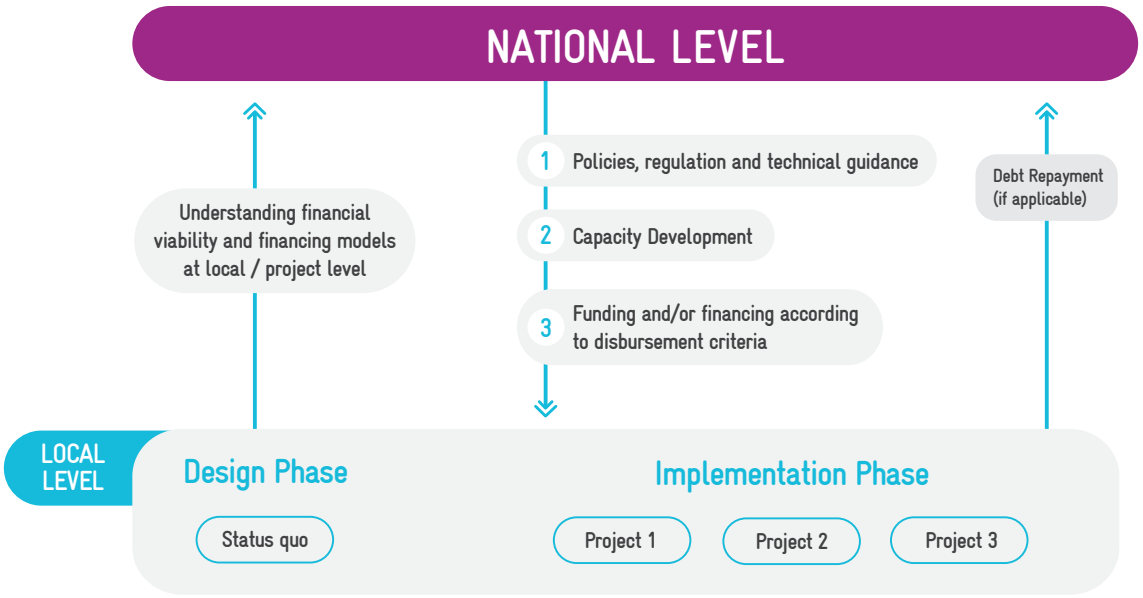


Figure 49. Typical elements of national government support

MobiliseYourCity, National Urban Mobility Plan Guidelines

The SUMP is an important and effective instrument to leverage funding from international sources, including loans and grants. It can also be useful when asking for support from the central government.

The financing plan should be reviewed according to the following criteria:

- Programming period, to ensure that the intensity of investment is manageable. From that perspective, measures to generate revenues may be integrated in the first years of implementation to anticipate future investments. These measures may include[16]:
  - Parking fees
  - Taxes on fuel or private vehicle, urban toll
  - Taxes on payroll, contribution to transport pass
  - Land value capture
  - Public properties development and renting
  - Advertisement space, especially from public transport infrastructure and vehicles
- Objectives ensure that the action plan is balanced and aligned with the level of ambition assigned to each objective.
- Key topics of sustainable mobility to verify that significant amounts are allocated to walking, to other active modes such as cycling, to gender-related measures, to road safety, etc.

16 Many of the proposed measures require strong coordination and support from the national government. Indeed, fiscal framework is often managed at national level.

Consider affordability as an objective while evaluating the financial viability of the SUMP. Introducing integrated fares and/or social fares is likely to impact not only governance and technical instruments, but also the level of required subsidy from the public sector. Offering affordable fares should then be evaluated as part of the financial plan, to possibly allow for measures retrofit (e.g. suit the measures to fit the budget).

Plan measure monitoring and evaluation

Define a set of indicators that allow monitoring and evaluation of all main measures with reasonable effort.

Formulate SMART indicators that can support decision-making and adjustments to the SUMP during implementation:

- S for Specific- meaning clearly defined
- M for Measurable –by a suitable proxy measure
- A for Achievable meaning Controllable – do not change with extraneous influences
- R for relevant, meaning at the same time: **Cost effective** – The benefits of collecting the data are sufficiently high to justify the cost of collection relative to alternative solutions, **and Easy to understand** – The indicator should be examined to ensure that it is presenting simple information. High degrees of information aggregation can reduce an indicator's comprehensibility and increase the risk of double-counting hidden elements of that indicator.
- T for Time bound, the indicator should be responsive – likely to respond in the short-term to policy changes

BOX 19 How the SUMP impacts the ability to leverage funds, the examples of Dominican and Cameroonian SUMPs

A SUMP integrates the ambition of the city, technical arguments, funding sources, GHG emissions reductions and expected level of impact that supports the sustainable development of a city's mobility system. Moreover, it provides a long-term vision, that is likely to remain as a reference, even if alternative projects emerge. All these are valuable features for International Financial Institutions (IFIs) that are increasingly integrating sustainability criteria in their investment decisions. After the SUMPs of Yaoundé and Douala were approved, both cities were approached by financial partners from the private sector and IFIs previously involved with the national government, with proposals for funding conditioned by a contribution from the State. In Santo Domingo, the SUMP facilitated the mobilisation of significant resources from three new funding partners for its implementation.

In practice, this task shall lead to:

- The build-up of data index, developing a clear definition for each indicator, reporting format, how the data is measured, how the indicator is calculated and how often it should be updated.
- The establishment of baseline values, i.e., a starting value and a target value of desired change, as forecasted under the adopted vision.

Make monitoring and evaluation arrangements an integral part of the action plan.

Element	Ref. No.	Indicator Name	Contribution Towards SUMP Objectives				
			Network Efficiency	Accessibility	Safety	Environment	Quality of life
Transport System	1	Road Traffic Kilometres	✓			✓	
	2	Road Traffic Flows into the CDB/City Centre and Level of Transit Traffic	✓		✓	✓	
	3	Proportion of journeys to work by public transport		✓			
	4	Increase in Total Number of Public Transport Trips		✓			
Travel Times	5	Average journey time per kilometre in the morning peak	✓			✓	
	6	Public transport services running on time and public transport services suffering from congestion	✓			✓	✓
Road Safety	7	Road Traffic Casualties (Fatalities and Injuries) and Fatalities per capita (100,000 population)			✓		✓
	8	Road Traffic Accidents involving Pedestrians and Cyclists			✓		✓
	9	Speed Monitoring Relative to Legal Limit			✓		✓

Table 13. Monitoring indicators (extract)

Source: SUMP of Pristina

Ensure technical capacities and availability of resources to compute indicators on a regular basis. Assess related survey needs and costs and agree on suitable monitoring arrangements (including responsibilities and budget) accordingly.

Agree on priorities, responsibilities, and timeline

Once the action plan has matured, consolidate operational aspects jointly with stakeholders. It should include priorities, timing, responsibilities, budgets and funding sources, risks, and contingencies.

As for timing:

- Identify priorities and links between actions and verify that the timing proposed for measures is the best order of implementation. By doing so, check that actions are scheduled according to capacities, in terms of organisation, human resources and technical qualifications. Thus, actions related to governance and capacity building should be carefully considered as they are pre-requisites for many other actions. Same goes for paratransit structuring, which should be conducted prior to the development of publicly organised urban services. As for the workforce, a maximum number of actions or projects per project manager shall be considered.

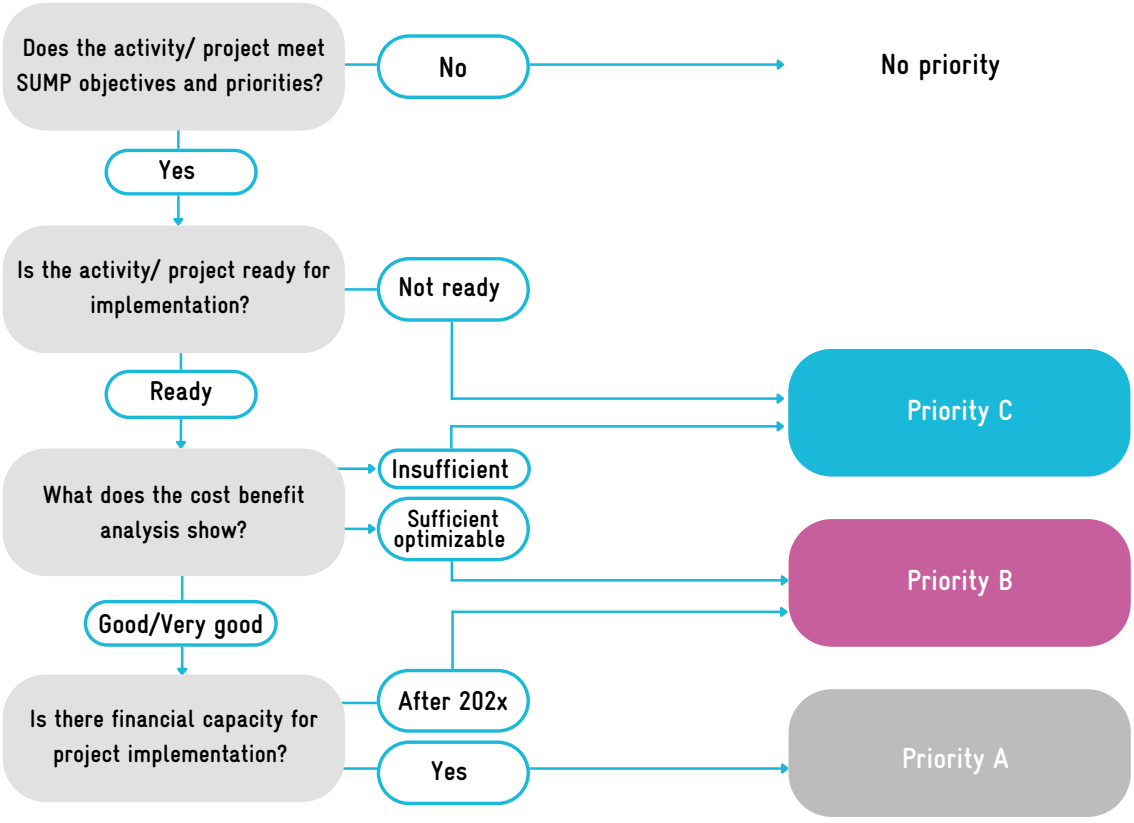


Figure 50. Priority assessment chart

Source: SUMP of Lviv

- Ensure that investment volumes per planning period – short, mid, and long-term – are manageable, according to forecasted financing capacities.
- Focus on the next two-three years in the detailed planning, roughly plan for the whole implementation period (15-20 years) and be aware of pre-conditions for measures launched in the long-term.
- Consider reviewing and updating the SUMP every 10 years or so. After 10 years, initial assumptions or conditions are usually outdated. Strategic measures and policies should therefore be reviewed on a regular basis, which can yet be integrated into the general planning.

Ten years is also the timeframe generally considered to update the household survey, which is the backbone of the SUMP design, evaluation, and adaptation. However, alternative protocols that allow for tighter monitoring can be contemplated (see the box below).

As for responsibilities:

- Formalise the responsibilities of all actors and the resource contributions with the respective partners, considering their abilities, strengths, and competencies.
- Discuss the proposed actions and their priorities with the stakeholders who could play a role in financing, designing and implementing them. Achieve a formal agreement on responsibilities and timelines among decision-makers and key stakeholders.

BOX 20 Managing the cost and complexity of a household survey, the example of Santo Domingo, Dominican Republic

As previously outlined, most SUMP indicators rely on the results of the household survey. However, this type of survey is generally contemplated for a decade, due to its complexity and implementation cost.

Within the framework of the Dominican mobility observatory, it has been proposed to add an intermediate evaluation milestone, based on a “light” household survey, to update some indicators, for vehicle/kilometre by mode and type of vehicle (GHG emissions, air quality indicators, average time and budget dedicated to mobility daily). Due to the characteristics of the same variable, a limited sample can be considered while the general method remains the same (zoning, choice of households, survey of movements the previous day, etc.). Costs and delays are therefore significantly reduced.

Step 9: Prepare for adoption and financing

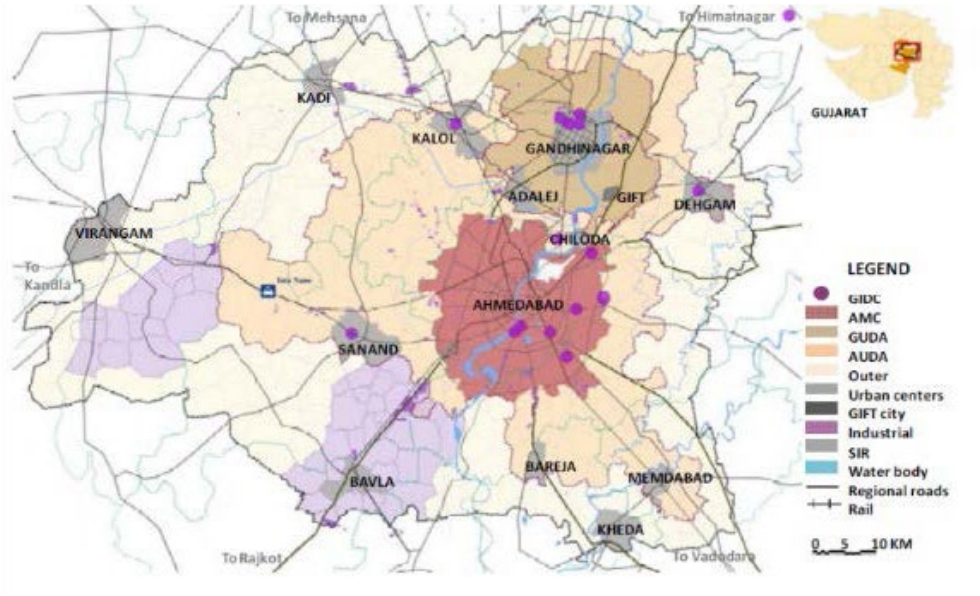
Step 9 – Prepare for adoption and financing		
Synopsis of activities		
Assure the quality of the SUMP document	Ensure wide political and public support	Formal adoption of the SUMP
Tools	**Methods**	**Outputs**
• MobiliseYourCity Annotated Outline for Sustainable Urban Mobility Plans	• SUMP Institutional Cooperation Kit • Good practice in stakeholder engagement	• Sustainable Urban Mobility Plan

Assure the quality of the SUMP document

The final document to be shared, published, and formally adopted is a synthesis of the entire process, from Phase 1 to Phase 3, highlighting methodological key points and main findings. The model provided by MobiliseYourCity (e.g., Annotated Outline for Sustainable Urban Mobility Plans part of the MobiliseYourCity SUMP toolkit) can guide the finalisation of the SUMP document. While working on this document, pay attention to:

- Check if views and results of the involvement process with stakeholders and citizens are integrated and properly outlined in the whole document.
- The final document aims to be accessible for decision-makers, and more generally the public with limited knowledge of technical matters, therefore the language should be reviewed accordingly. Including external reviewers may help to proofread and quality check the document.

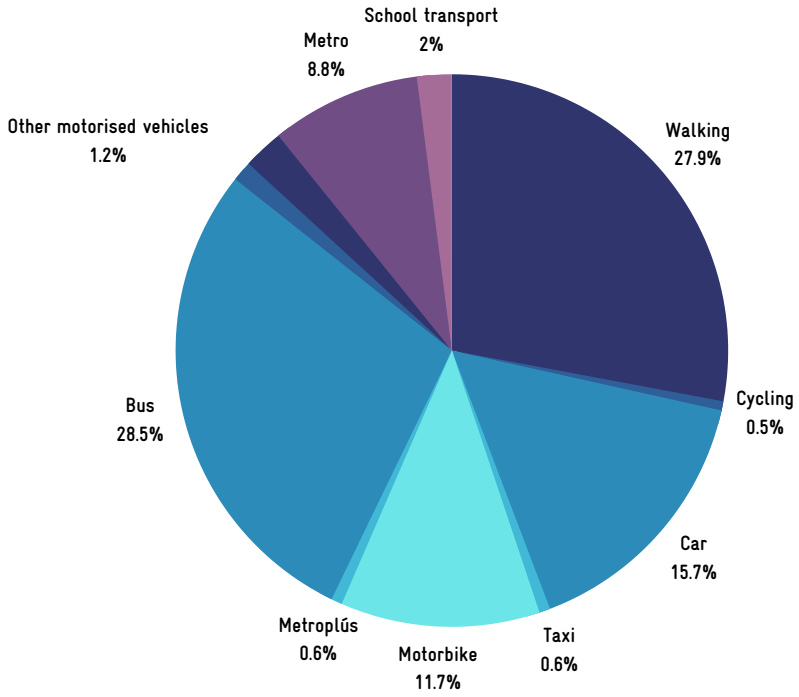
Among key features, the final SUMP documents should present the following basic elements.

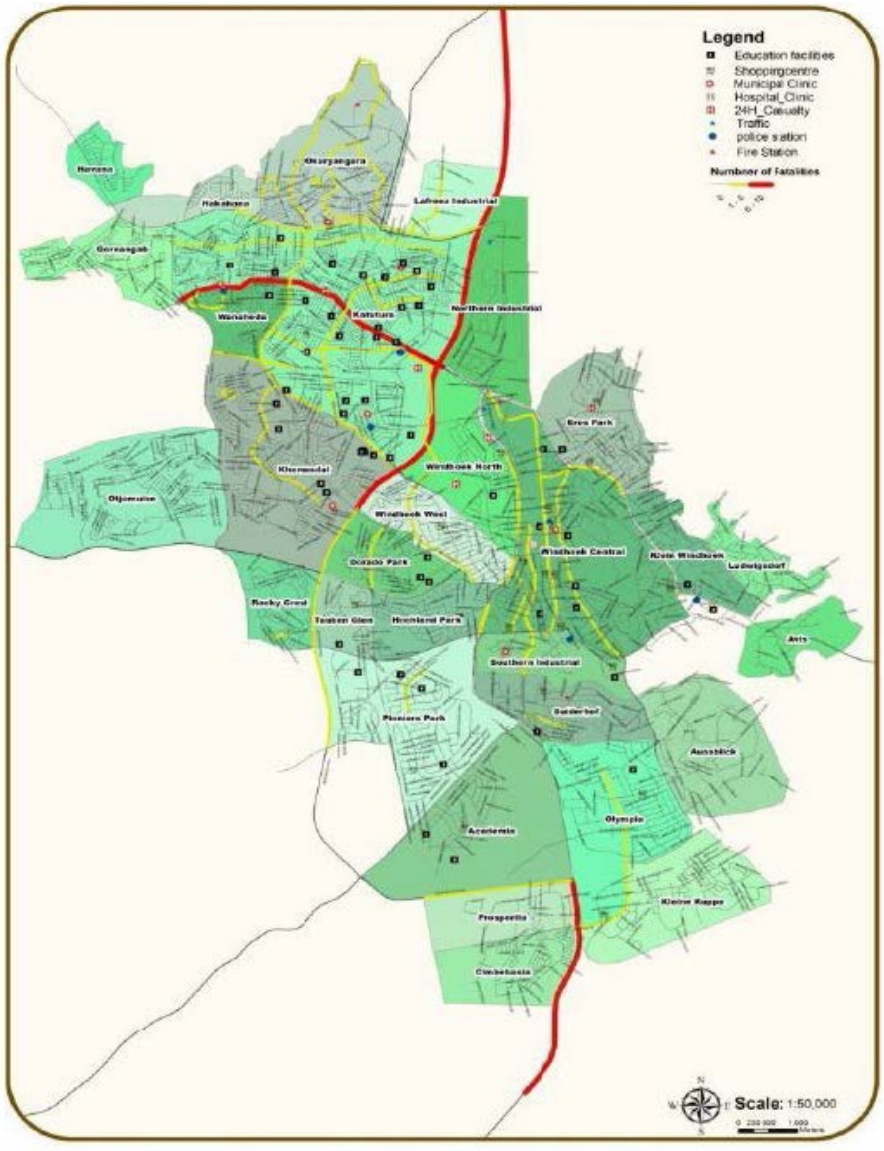
<table>
<tr><th>Items</th><th>Examples</th></tr>
<tr><td>Map of the functional area</td><td>


Source: Integrated Mobility Plan for Greater Ahmedabad Region 2031
</td></tr>
<tr><td>Stakeholders and their involvement in the SUMP process</td><td>
<table>
<tr><th rowspan="2">Involvement in SUMP process</th><th colspan="4">Type of stakeholders</th></tr>
<tr><th>Political support</th><th>Transport network competence</th><th>Technical expertise</th><th>Public support</th></tr>
<tr><td>Strong involvement</td><td>City mayor</td><td>Public transport company</td><td></td><td></td></tr>
<tr><td>Medium involvement</td><td></td><td></td><td>University</td><td></td></tr>
<tr><td>Low involvement</td><td></td><td></td><td></td><td>Police</td></tr>
</table>

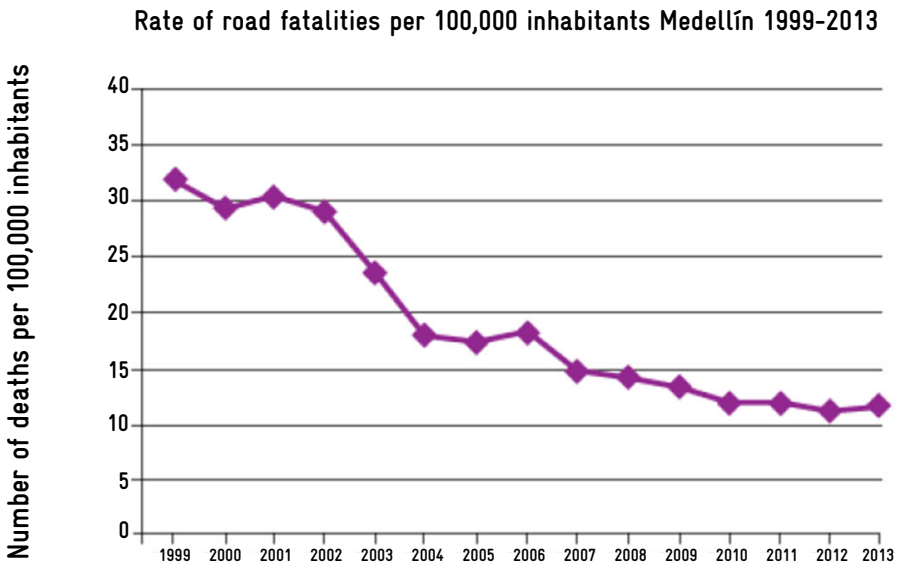
Source: Annotated Outline for Sustainable Urban Mobility Plans
</td></tr>
</table>

<table>
<tr><th>Items</th><th>Examples</th></tr>
<tr><td>Presentation of institutional and regulatory aspects</td><td>
<table>
<tr><th>Ministry</th><th>Responsibility</th></tr>
<tr><td>State Ministry of Transportation</td><td>Develop and propagate transport policies and fund infrastructure improvements towards an integrated multi-modal transport system</td></tr>
<tr><td>State Ministry of Physical Planning & Urban Development</td><td>Develop building control rules and planning regulations</td></tr>
<tr><td>State Ministry of Work & Infrastructure</td><td>Design, construct, and maintain the state road network</td></tr>
<tr><td>Federal Road Safety Corps (Lagos Sector Command)</td><td>Enforce traffic rules, educate street users, and advise relevant state agencies where improvements are required to improve safety</td></tr>
<tr><td>Lagos Metropolitan Area Transport Authority (LAMATA)</td><td>Plan, design, construct, maintain, and oversee the public transport system and declared (strategic) road network</td></tr>
<tr><td>Lagos State Physical Planning Permit Authority</td><td>Issuance of building construction permits</td></tr>
<tr><td>Lagos State Building Control Agency</td><td>Enforcement of building control regulations</td></tr>
<tr><td>Lagos State Urban Renewal Agency</td><td>Planning and design of urban renewal areas</td></tr>
<tr><td>Lagos State Traffic Management Authority (LASTMA)</td><td>Regulate, control, and manage traffic operations</td></tr>
</table>
Source: Lagos (Nigeria) Non-Motorised Transport Policy
</td></tr>
<tr><td>Presentation of projects in the past five years and of the planned projects</td><td>
Presentation of projects in the past five years
<table>
<tr><th>Project/activity</th><th>Implementation period</th><th>Responsibility</th><th>Funding source</th><th>Cost</th></tr>
<tr><td>Extension of the bicycle network</td><td>2014-2017</td><td>City of ...</td><td>Municipal budget and national funding</td><td>100.000$</td></tr>
<tr><td>...</td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
</table>
Presentation of planned projects (2-5 years)
<table>
<tr><th>Project/activity</th><th>Implementation period</th><th>Responsibility</th><th>Funding source</th><th>Cost</th></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>...</td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
</table>
Source: Annotated Outline for Sustainable Urban Mobility Plans
</td></tr>
</table>

Items	Examples
Map of transport infrastructure	 *Source: Sustainable Urban Mobility Plan Brasov Growth Pole*
Presentation of Modal split	 *Source: Plan de Movilidad Segura de Medellin 2014-2020*

Items	Examples
Spatial analysis of road safety regarding accidents and fatalities Accurate analysis and presentation of black spots / fatalities with focus on spatial distribution	

Source: Windhoek SUMP

Items	Examples
Fatalities over time At city level and possibly street level if data are available	 *Source: Plan de Movilidad Segura de Medellin 2014-2020*
Analysis of the status (baseline analysis) of the transport system	

Functions/transport mode	Modal share	Quality of infrastructure	Safety and liveability	Environment and health	Equitable accessibility	Status of measure implementation	Main recommendations
Walking	12%	Poor	Many accidents on road crossings near schools	Less and less pupils walking to school	Some areas lack walkable access to parks and sports facilities	Low activity. New "walk to school" campaign	Traffic safety measures are needed
Cycling	7%						
Public transport (bus, tram, metro, train etc.)	...	Good	Some bus stops need repair	New bus fleet has been installed, decreased impact on air quality	Reduced fare for unemployed but infrequent buses to poor outskirts	High activity, public transport strategy planned	
Vehicle sharing (car, bicycle, e-scooter, etc.)							
Private motorised transport (car, motorcycle etc.)							
Multimodality (train, station, interchanges)	n/a						
Freight	n/a						
ANALYSIS			Traffic safety needs to be prioritised				

Source: Annotated Outline for Sustainable Urban Mobility Plans

Items	Examples

MobiliseYourCity SUMP Core Indicators

MobiliseYourCity's SUMP Core Indicators	Baseline
Access to public transport (in %) Proportion of the population living within 500 meters or less of a public transport stop with a minimum 20 minutes service at peak hour, or have access to a shared mobility system with comparable service for money	%
Air pollution Mean urban air pollution of particulate matter (in mg PM2.5) at road-based monitoring stations	mg PM2.5
Road safety Fatalities by all transport accidents in the urban area on a yearly basis. As defined by the WHO, a death counts as related to a traffic accident if it occurs within 30 days after the accident.	Pers. (in thousands)
Modal split Share of public and non-motorised transport of total urban transport (in pkm-not trip)	%
GHG emissions from transport (tonnes CO2 (eq.)/cap.per year) Well-to-wheel GHG emissions by all urban area passenger and freight transport modes	MtCO2e per year

Additional Indicators	Baseline
Commercial speed Average speed of a mode of transport between the two terminals, including all operational stops	km/h
Mobilised public and private funding	
Others (city specific)	

Source: Annotated Outline for Sustainable Urban Mobility Plans

SUMP strategic indicators and targets

Indicators	Baseline	Business as Usual 2030 (2040/2050)	Target 2030 (2040/2050)
Access to public transport Proportion of the population living within 500 meters or less of public transport stop with a minimum of 20 minutes services at peak hour, or have access to a shared mobility system with comparable service for money	%	%	%
Air pollution Mean urban air pollution of particulate matter (in mg PM2.5) at road-based monitoring stations	mg PM2.5	mg PM2.5	mg PM2.5
Road safety Fatalities by all transport accidents in the urban area on a yearly basis. As defined by the WHO, a death counts as related to a traffic accident if it occurs within 30 days after the accidents	Pers. (in thousands)	Pers. (in thousands)	Pers. (in thousands)
Modal split Share of public and non-motorised transport of total urban transport (in pkm –not trip)	%	%	%
GHG emissions from transport (tonnes CO2 (eq.)/cap. Per year) Well-to-wheel GHG emissions by all urban area passenger and freight transport modes	MtCO2e per year	MtCO2e per year	MtCO2e per year

Source: Annotated Outline for Sustainable Urban Mobility Plans

Items	Examples

Description of selected measures and measure packages in an action table

Measure	Description of measure	Connection to SUMP targets	Actions within a measure	Implementation period	Resources needed	Costs	Funding source	Stakeholders involved
Segregated cycle facilities	Marked lanes and tracks along major urban streets	Very high (improve accessibility, increase road safety, promote active travel, reduce air and noise pollution)	Analysis of bicycle lanes needed	Year 1: Jan-May	2 traffic and city planners	30.000 $ + 20% of full-time from traffic planner	Municipal budget	Bicycle associations
			Develop a bicycle network plan	Year 1: May-Dec	4 traffic and city planners	40.000$	Municipal budget	Bicycle associations, neighbouring municipalities
			Plan and construct bicycle lanes	Year 2-5	Planners, developers	500$/m	Municipal budget + national funding	Construction companies
Develop mobility management plan								
...								

Source: Annotated Outline for Sustainable Urban Mobility Plans

Estimation of costs per measure

Measure	Actions within a measure	Implementation period	Costs
Segregated Cycle Facilities	Analysis of bicycle lanes	Year 1: Jan- May	30.000$ + 20% of full-time from traffic planner
	Develop a bicycle network plan	Year 1: May-Dec	40.000$
	Plan and construct bicycle lanes	Year 2-5	500$/m
Rapid Bus Transit			

Source: Annotated Outline for Sustainable Urban Mobility Plans

Items	Examples
Measure description	

1.3 Action B: Improving accessibility to the Andrés García Soler School

1. Measure	1.3. Ensuring and improving accessibility conditions

2. Objective and justification

In the western part of the city, where the topography of the surrounding mountains gives the city its natural edge, there are several important facilities, some of which are particularly sensitive, such as schools, which generally do not have adequate accessibility conditions.
The objective of this action would be to improve the accessibility conditions in particular of the Andrés García Soler school, located next to the proposed basic pedestrian network and which currently has its direct access to a rather dangerous traffic roundabout, without a pedestrian area suitable for the entry and exit of children.

3. Description of the action

It is proposed to create pavements that comply with the "Basic pedestrian network" and to create a single raised cobbled platform with pedestrian priority all around the access, with traffic calming devices such as speed limit and pedestrian priority signage, or as speed reduction buffer strips.

Example of improved access to the Andrés García Soler school as seen from the basic pedestrian network

4. Economic, social and environmental viability

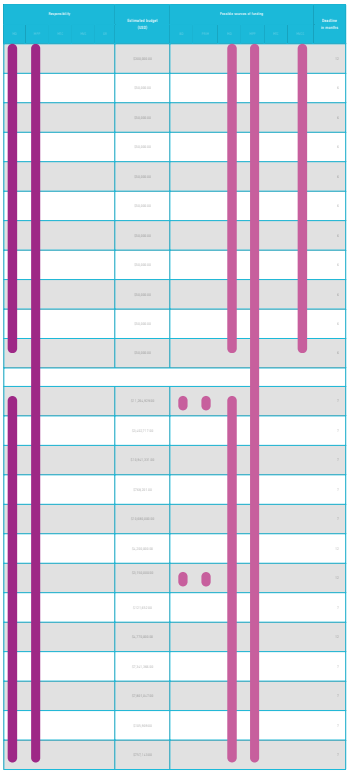
The investment required for this action is modest for the benefits it brings, both in terms of comfort and safety for the teaching community, children, teachers and parents. It can be considered as a pilot action that can be transferred to other schools.

5. Budget	10. Deadlines (degree of implementation)							
25.000 €	2017	2018	2019	2020	2021	2022	2023	2024
	-	100%	-	-	-	-	-	-

Source: PMUS Lorca. Plan de Movilidad Urbana Sostenible, 2017

Items	Examples
Presentation of costs and financing for every measure	

Action	Timeline	Priority	Scope
Survey and digitalisation of the cadastre of the districts of Piura, Castilla, Veintiséis de Octubre and Catacaos, using GIS technologies.	Short term	High	AM Piura
Update of the Urban Development Plan of the Piura district following sustainable mobility guidelines.	Short term	High	Piura
Update of the Urban Development Plan of the Veintiséis de Octubre district following sustainable mobility guidelines.	Short term	High	Veintiséis de octubre
Update of the Urban Development Plan of the Castilla district following sustainable mobility guidelines.	Short term	High	Castilla
Update of the Urban Development Plan of the Catacaos district following sustainable mobility guidelines.	Short term	High	Catacaos
Develop the Urban Development Plan of La Arena district under a sustainable mobility approach.	Short term	High	La Arena
Develop the Urban Development Plan of El Tallán district under a sustainable mobility approach.	Short term	High	El Tallán
Develop the Urban Development Plan of La Unión district under a sustainable mobility approach.	Short term	High	La Unión
Develop the Urban Development Plan of the Tambogrande district under the approach of sustainable mobility.	Short term	High	Tambogrande
Develop the Urban Development Plan of Las Lomas district under the approach of sustainable mobility.	Short term	High	Las Lomas
Elaboration of the study for the definition of competences and attributions of the future Integral Planning Agency of the Province.	Medium term	High	Piura Province
Establishment of a body with appropriate competencies and powers to deal with integrated planning issues.	Medium term	High	Piura Province
Intervention on an area of 63 hectares with 5.44 km in the centre of Piura.	Short term	High	Piura
Intervention of 5.4 km of pedestrian walkways in the central area of Castilla.	Medium term	High	Castilla
Pedestrianisation of San Lorenzo, San Francisco, Jirón 2, Gálvez Velarde and Vereda Alta streets.	Medium term	High	Piura Province
Intervention of 1.82 km of roads in the Plaza de Armas of Catacaos.	Medium term	Medium	Catacaos
Pedestrian intervention on 1 km of Cayetano Heredia Avenue.	Medium term	Medium	Catacaos
Transformation of Grau Avenue in Cura Mori to a complete street.	Long term	Low	Cura Mori
Conversion of the La Unión–El Tallán road in El Tallán into a complete street.	Long term	Low	El Tallán
Pedestrian intervention on an area of 5.28 hectares with 3.41 km of pedestrian network in the main square of La Arena.	Long term	Low	La Arena
Transformation of Comercio Avenue in La Arena to a complete street.	Long term	Low	La Arena
Pedestrian intervention on an area of 7.2 hectares with 4.16 km of pedestrian network around the main square of La Unión.	Long term	Low	La Unión
Pedestrian intervention on an area of 9.16 hectares with 4.46 km of pedestrian network around the main square of Las Lomas.	Long term	Low	Las Lomas
Pedestrian intervention in an area of 5.23 hectares with 4 km of pedestrian network around the main square of Tambogrande.	Long term	Low	Tambogrande
Adaptation of the pedestrian infrastructure in front of the central market to promote multimodality with cycling and mass public transport.	Long term	Low	Tambogrande



Source: Plan de movilidad Piura, 139, catalogue of actions, costs and financing

Capacity Development Strategy

OBJ.ID	OBJECTIVE short	ACTION ID	ACTION NAME	MAIN TOPICS
5	NMT	5. E.1.	Pedestrian-centered approach	• Walking demand and uses • Components of the walking system • Planning & design methods for inclusive NMT facilities • Data collection & indicators for NMT
7	Integrated transport	7.E.1	Sustainable mobility project management	• Project development steps (opportunity, concept and feasibility, design) • Procurement preparation and management • Demand modelling • Transport network design • Urban integration and alignment • Costing & scheduling • Operation & maintenance
7	Integrated transport	7.E.2	Inclusive, green and gender aware mobility	• Energy transportation • Environmental impact assessment • Social impact assessment • Gender related challenges and levers • Social inclusion and social fares in public transports • Marketing approach • Data collection & indicators for environment, social inclusion and gender

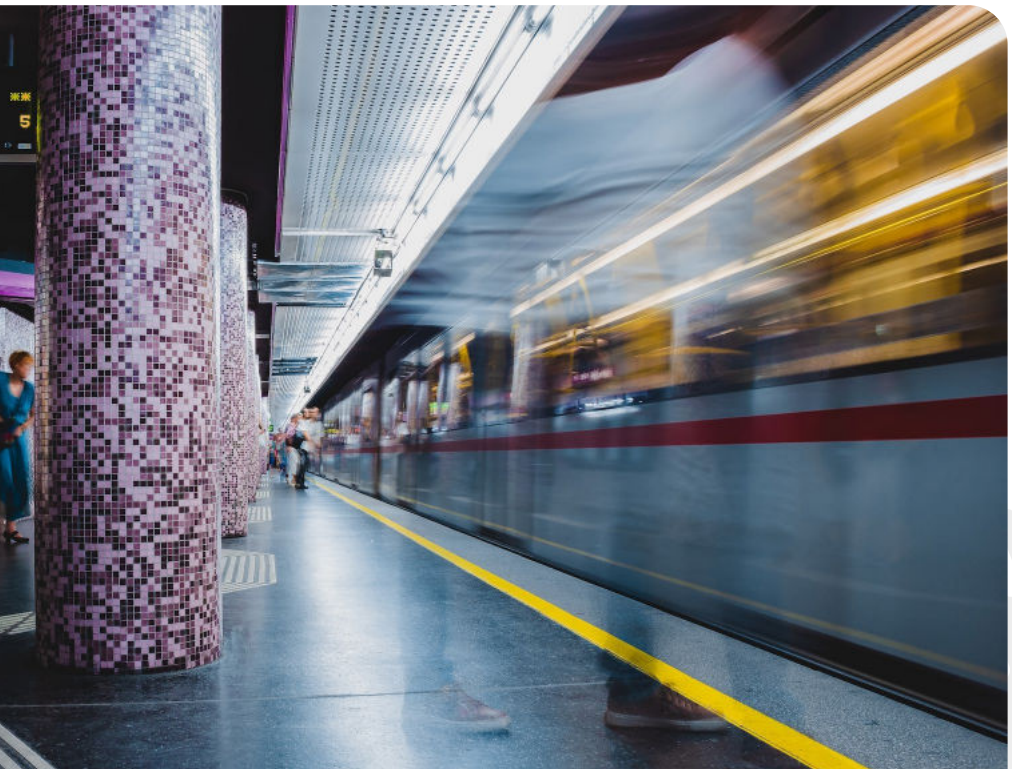
Source: SUMP of Dire Dawa, capacity building planned as part of the SUMP

Items	Examples
Monitoring	

MobiliseYourCity's SUMP core indicators	Baseline	Target 2030	Application area	Data collection/ monitoring method	Frequency	Responsibility
Access to public transport	%	%	City			
Air pollution	mg PM2.5	mg PM2.5	City centre	Air quality measuring station (PM2.5 and NOX	Data collected on daily basis, monthly report	Environmental department
Road safety (number of traffic fatalities)	Pers. (in thousands)	Pers. (in thousands)				
Modal spilt (in pkm- not trip)	%	%				
GHG emissions from transport	MtCO2 e per year	MtCO2 e per year				
Additional indicators						
Commercial speed	km/h	km/h				
Mobilised public and private funding						
Others (city specific)						
add as needed						

Source: Annotated Outline for Sustainable Urban Mobility Plans

Table 14. Basic elements of the final document



Ensure wide political and public support

It is worth reminding what levers can be used to encourage the sustainability and ownership of the SUMP over time:

- A large participatory process and communication campaign, higher public involvement and awareness about the SUMP, can stand as a strong reference for consideration in any later planning initiative.
- An intensive dissemination of the SUMP principles among the local and national stakeholders. In that regard, any ally should be considered, including academics, connected departments, etc.
- Legal instruments or procedures, enabling for example an anticipated validation of 5-years programs under certain financing conditions.

The final step of the elaboration is an opportunity to widen the political and public support of the SUMP.

Regarding decision-makers:

- Actively inform and get feedback from local and national decision makers, including key ones such as mayors and larger municipal or metropolitan departments heads.
- At the local level, the SUMP needs to be legitimised by the elected political representatives of the bodies responsible for the city development. It is a key step in fostering acceptance, making it accountable and providing an agreed-upon framework for measure implementation. At the same time, stress that the SUMP is grounded on a technical basis, to clarify that it is a planning document that does not belong to any party.
- At the regional or national level, a legal basis should be founded for the SUMP to be prescriptive. For example, in Medan a decree was enacted by the regional government that granted the SUMP legal status.

Regarding the public: communicate the main elements of the SUMP towards the public and all partners to inform before approval. If possible, use quantifiable evidence of expected benefits and attractive visual elements. Be always clear about what a local authority can realistically do and what it cannot (expectation management).

4 Phase 4: Implementation and monitoring

Step 10: Manage implementation

Step 10 – Manage implementation

Synopsis of activities

Outputs

- Procedures for implementation, management, and coordination of the SUMP execution, including an organigram of the management unit
- Action factsheets and procurement needs
- Tender specifications and related process
- Dashboard detailing implementation status of actions

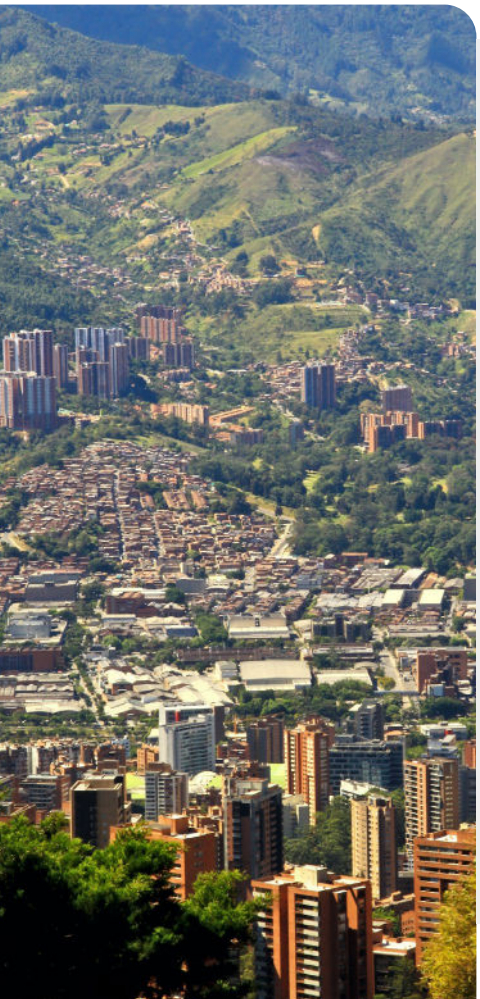
Coordinate and plan implementation

As a first step, set up a dedicated and qualified team responsible for the SUMP implementation: leading or monitoring projects, evaluating them once implemented and encouraging the ownership of the SUMP among partners all along implementation.

While the SUMP technical committee will likely to provide the most relevant personnel, it may not be large enough to support the workload over the implementation period. To properly size and plan for institutional capacity strengthening, evaluate the capacities of the planning team. Planning workload according to the action plan schedule is the first step to assessing the gap and resulting need for additional resources. Each action should have one main person managing or supervising its implementation. Technical assistance might be relevant to support the team in its different activities over the short/midterm. The capacity building plan may also be adjusted to strengthen the task force.

Prepare factsheets describing the first operational steps for each action – typically, the main requirements for the procurement phase. The SUMP being a strategic document, it provides a sound framework for actions, but it does not specify in detail how each action will be implemented and what needs to be procured. Therefore detail needs to be included with studies/consultancies according to internal resources. Hand over factsheets to the departments and institutions involved in the implementation and establish a project management framework that suits the nature of the measures and the responsibilities of related stakeholders. Agree on the timeline and format for providing and receiving status updates.

The monitoring plan is also to be refined into operational terms, assigning a pilot and partners, as well as reporting processes. Especially, the financing plan shall be continuously consolidated and updated, as measures/measure packages will be matched with concrete financing and funding sources or programs.



BOX 21 Get an integrated vision from the beginning to the end of a planning process; the example of Medellín, Colombia

The City of Medellín has established an interesting framework for developing inclusive NMT projects - and more recently, guidelines for delivering gender-friendly NMT facilities with three components handled by dedicated mobility, urban, and social specialists throughout the project's lifecycle. The latter is responsible for considering users' perceptions and needs from the project's inception to its implementation. Advanced approaches inherited from marketing have been adopted to that end, using eye tracker jointly with heart pulsation and sweat recorder that enables the analysis of physiological response to the urban environment. Thus, social and urban considerations are structurally integrated into the project, from conceptual stages to implementation and monitoring.

To support this framework, the mobility department has structured according to three distinct poles: an urban pole formed by architects, a mobility pole with civil or transport engineers and a social pole that gathers sociologists, anthropologists, welfare workers, historian, and psychologists. Although having all these specialists speak the same language remains a challenge, Medellín is overcoming technical barriers through capacity building and cross-sectoral workshops from the early stages of a project.

Initiative	Action item	Implementing Agency	Quantity	Unit	Cost/unit (m KES)	Total cost (m KES)
NMT	Lakefront greenway project	CGK	3.7	km	50.00	185.0
NMT	NMT Bicycle parking	CGK, KURA, KeNHA	50.0	Locations	0.50	25.0
NMT	Construction of public toilets	CGK	10.0	no	2.00	20.0
NMT	Annual maintenance for NMT facilities @10% of capital cost	CGK, KURA, KeNHA	1.0	Lump sum	540.05	540.1
Bikeshare	Bike-share implementation	CGK	8.0	Years	30.00	240.0
Lighting	Street lights	CGK, KURA, KeNHA	100.0	Km	4.00	400.0
Lighting	Annual maintenance for street lights @10% of capital cost	CGK, KURA, KeNHA	1.0	Lump sum	40.00	40.0
Public transport	Public transport studies	CGK	1.0	No of studies	20.00	20.0
Public transport	Industry transition negotiations & bus operating company establishment	CGK	12.0	No of months	1.50	18.0

Table 15. List of pilots and cost for implementation (extract)

Source: SUMP of Kisumu

Prepare procurement

Depending on the level of definition of the action sheets, additional work may be required to procure goods and services. A procurement plan shall be established detailing the contracts that stem from the SUMP measures. This plan should define the contract type (technical assistance, consulting, purchases), preparatory studies (feasibility, design), perimeter, content, schedule, target price, etc.

Procurement is usually one of the earlier parts of action implementation but is relevant during the entire implementation stage, depending on the timing of the different actions. Based on the factsheets previously established, refine the scope of work and specific aspects to be detailed in the TOR to be published. Determine the procurement method and timeframe for each good or service, define how it should be carried out, and what kind of contract is needed. In that regard, pay attention to:

- Ensuring effective and timely procurement of all goods and services needed to implement actions.
- Ensuring transparency and competitiveness of the tendering process to challenge providers and get attractive proposals.
- Considering joint procurements with other authorities that may result in lower prices due to economies of scale.
- Minimising negative social and environmental impacts of purchasing decisions, for instance, including indicators in the selection process favoring socially and environmentally responsible companies.

Ensure adequate linkage with stakeholders

Continuously encourage political buy-in through regular meetings, reviews, and consultation. As a baseline, No maintain the consultative groups formed throughout the SUMP elaboration and awareness raising activities towards decision-makers. Content should then be adapted to the ongoing measures, to inform and possibly allow participation if relevant.

Institutional reforms are likely to require higher efforts from the leading authority to support the evolution of the institutional set-up. Objectives shall be well understood by all parties and benefits demonstrated along implementation. Collective reviews may be done to this end, thus assuring a close coordination with stakeholders. Ideally, losses are anticipated and compensated somehow.

Liaise with donors, counting with the support of national bodies – Ministry of Foreign Affairs or economic development, for example. The organisation of a donors coordination conference is a way to create the opportunity for getting IFIs involved locally.

Presentation meeting of the Santo Domingo SUMP

Source: SUMP of Santo Domingo

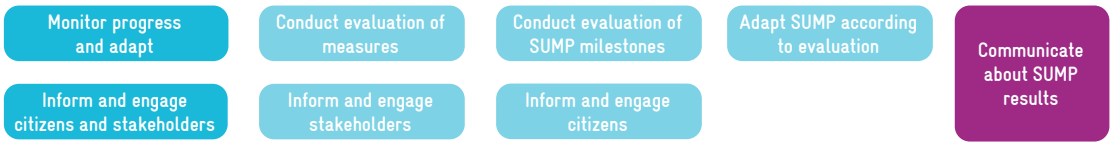
BOX 22 SUMP & continuity of public action, the example of the Gran Santo Domingo, Dominican Republic

A SUMP is a policy instrument for setting a long-term vision/ strategy, as cities evolve with time and efforts dedicated to urban or transport development can only be assessed over decades. Besides, the scale of investments required by infrastructure development cannot be reached on a short timescale, which is another reason for considering an implementation period that exceeds 10 years. However, political change remains a threat in that regard, as political leaders commonly disown the commitment of their predecessor and opponents. Still the SUMP can prevent this pitfall, as it has been observed in Dominican Republic. The SUMP of the Gran Santo Domingo was adopted one year before national election, that led to the change of the party in power. Nevertheless, the first infrastructure projects have been recognised by the new Government and are being carried out. Numerous actions fields have been taken on by the national transport authority (INTRANT) despite the pandemic and the economic impacts of the sanitary crisis: creation of a mobility observatory, development of bike facilities, fare integration, freight diversion, etc.

Step 11: Monitor, adapt and communicate

Step 11 – Monitor, adapt and communicate

Synopsis of activities



Methods	Outputs
• MobiliseYourCity Core Indicators and Monitoring Framework • MobiliseYourCity Guidelines for Measuring and Reporting GHG Emissions • MobiliseYourCity GHG Emissions Calculator	• SUMP evaluation report, including progress towards measure targets and strategic SUMP targets (evaluated at regular intervals) • Informed, discussed and agreed upon adjustments to the action plan

Robust monitoring and evaluation processes help systematically learn from one's experiences and make adjustments to improve planning activities. Regular monitoring ensures that necessary progress is being made and evaluation after implementation helps provide evidence of the effectiveness of the SUMP and its measures. These processes are essential for long-term success, as it allows decision makers to justify where money was spent and to avoid mistakes in future.

Monitor progress and adapt

Conduct evaluation according to plan and disseminate evaluation results, both at technical (feedback and readjustment of actions or modalities of implementation as needed) and public level, for the sake of transparency and awareness. In that regard, two levels of monitoring should be distinguished, involving different evaluation and communication activities:

- **SUMP level** focuses on outcomes, at least at the end of each programmatic step (short, mid and long-term) to keep track of global impacts and strategic targets achievements, and update the SUMP accordingly.
- **Action level** focuses on yearly implementation progress and results to maintain the partners in a dynamic of continuous improvement.

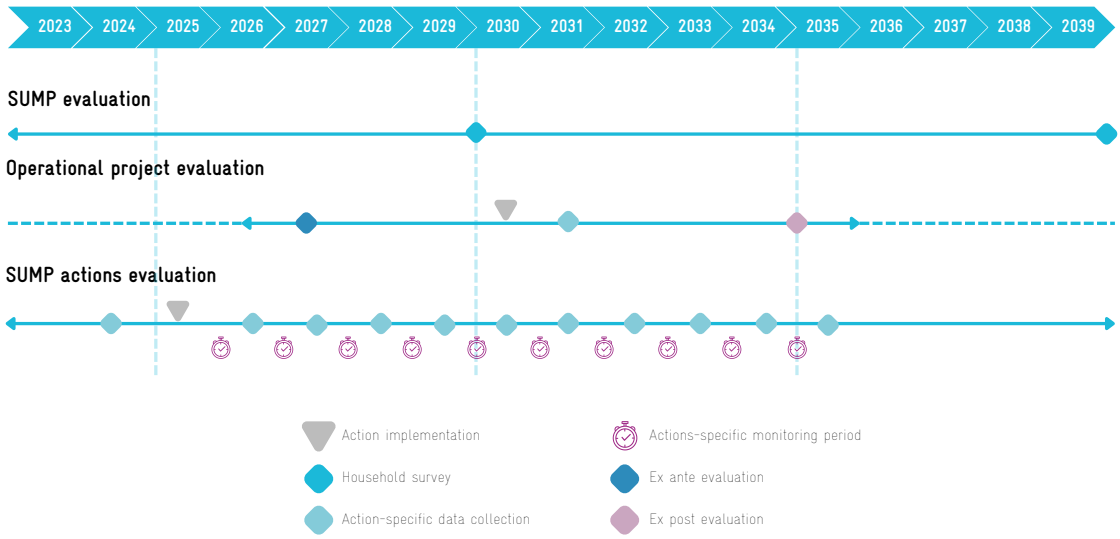


Figure 51. Monitoring processes

Source: SUMP of Dire Dawa

Evaluation involves assessing indicators on defined milestones to support decision-making regarding the SUMP actions and overall strategy. Different timescales can be considered depending on the measure type, as illustrated in the diagram hereafter. Input data collection shall be planned accordingly, to prepare procurement and anticipate data delivery. Due to the collaborative nature of monitoring and evaluation processes, communication is important to raise awareness among stakeholders and ensure a good understanding of the nature and format of the information required.

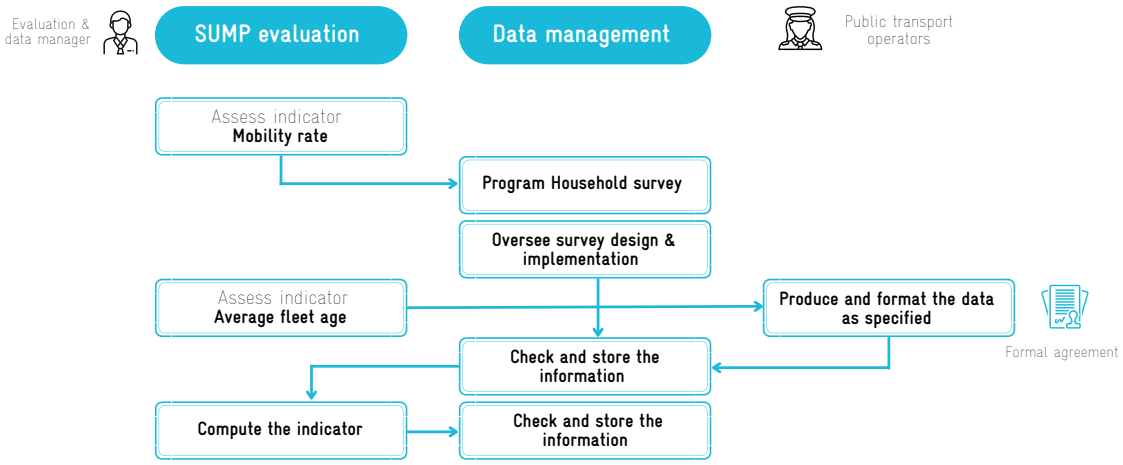


Figure 52. Synopsis of the evaluation process

Source: SUMP of Dire Dawa

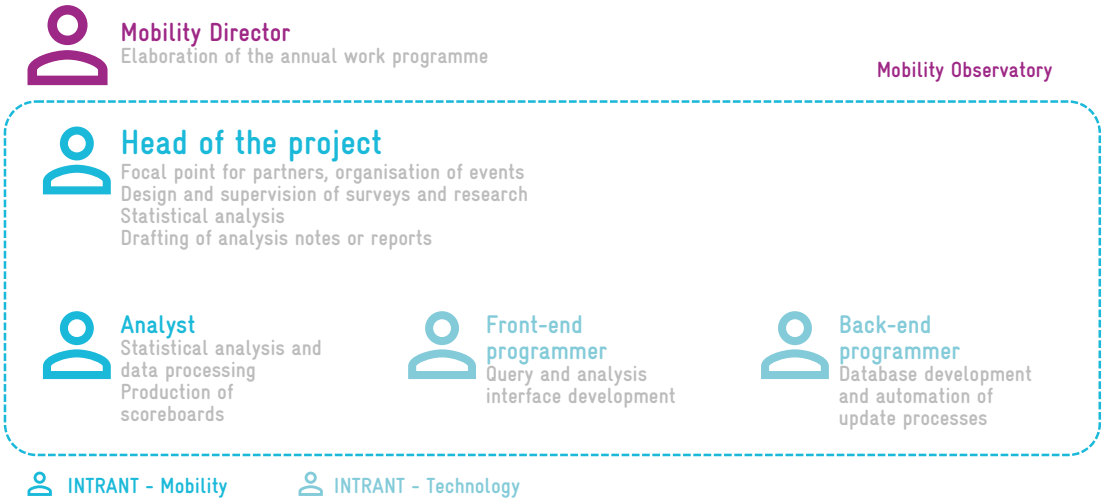


Figure 53. Human resources for the Mobility observatory of Santo Domingo

Source: AFD

Keep abreast of new developments such as changes in national regulations, funding, or local politics. The SUMP should be adapted to cope with structural change or major events. To do so, successively consider reassessing, reworking and rescheduling measures. Clearly state the changes to SUMP measures that result from the monitoring process and get formal approval for the most important changes at the political level.

BOX 23 The mobility observatory of the Dominican Republic: from planning to monitoring

After the SUMP of the Gran Santo Domingo was adopted in 2019, the national transport authority (INTRANT) undertook a study to structure a national mobility observatory, following the SUMP recommendations. The observatory is meant to be a central asset in evaluating the first and future SUMPs in the country.

The project breaks down into three steps: a diagnosis of existing resources, processes and capacities among local actors, the design of the observatory including its operational dimension (data model, human resources, budget, etc.) and technical assistance along the first three months of operation. The process benefitted from an extensive consultation of local stakeholders and various actors involved in the SUMP who discussed how to collaborate effectively in a round table meeting. It also resulted in an intensive communication about the SUMP objectives, measures and how it would affect the existing way of doing things. Thus, a mobility observatory opens a neutral space for dialogue that also offers an alternative channel to disseminate the content of the SUMP.

Inform and engage citizens and stakeholders

During this step, the wider public is usually directly affected by action implementation for the first time and therefore expresses high interest in it. Accordingly, the local community needs regular engagement and information.

Continuously advocate for the SUMP principles to encourage ownership from top decision-makers to implementers. This aspect is particularly critical in contexts where the SUMP implementation requires the articulation of different administrations, typically local and metropolitan planning, and executive responsibilities being possibly spared between the two.

Actively involve key stakeholders and citizens to identify accomplishments and improvable steps of the process from their perspective. Indeed, people standing outside the process can provide a quite different view and might have observed important aspects that one cannot see.

Communicate on a regular basis achievements and lessons learned, according to opportunities (important to have quantified/significant results to be valued).

Stakeholder consultation workshop (Guediawaye Department)

Source: Municipality of Dakar

Road safety workshop

Source: Municipality of Dakar

Technical comittee meeting

Source: Municipality of Dakar

Sharing of public space workshop

Source: Municipality of Dakar

BOX 24 Why communication remains as important during implementation? The example of Dakar

The city of Dakar has some experience in mobility planning, as an Urban Transport Plan was established for the 2008-2025 period, that is currently under revision under MobiliseYourCity. However, the diagnosis carried out as part of the revision process highlighted that the initial plan had not been fully implemented nor strictly respected, partly due to stakeholders' lack of awareness and ownership. As a result, communication has been prioritised while establishing the new SUMP.

Thus, a communication plan to define an overall strategy for public activities and media participation has been drawn up in addition to stakeholder consultation and public meetings. Its objective is to inform stakeholders about Dakar's urban mobility issues and co-construct a SUMP adapted to the Dakar context. The actors targeted are local governments, businesses, civil society, the press, and the general public. Thus, a page dedicated to the SUMP and hosted on the CETUD (Conseil Exécutif des Transports Urbains de Dakar, public transport authority) website is under construction and a special SUMP newsletter is published regularly on the CETUD digital platforms. The SUMP will have a clear visual identity and a slogan broken down into a hashtag to use on social networks.

Moreover, stakeholder consultation workshops were also organised in the region's four departments to collect the populations' opinions on the metropolis's current situation in terms of mobility and their recommendations for the next 15 years. Thematic meetings (sharing of public space, road safety, digital, energy, gender, etc.) with transport operators, economic and institutional actors, and users were also conducted to produce technical materials and elements relating to the themes at the stage of diagnosis and formulation of objectives. At the end of the project, public meetings are planned to present the SUMP to the population.

The example of Dakar thus reflects the importance of ensuring the SUMP's legitimacy, which conditions the plan's effective implementation. Similar experiences have been reported in other cities like Yaoundé.

Step 12: Review and learn lessons

Step 12 – Manage implementation

Synopsis of activities

SUMP milestones evaluation | Analyse successes and failures | Share results and lessons learned | Consider new challenges and solutions

Tools	Methods	Outputs
• CIVITAS guide for evaluating urban mobility measures		• Analysis of the successes and failures of the Sustainable Urban Mobility Plan process • Lessons for the preparation of the next SUMP generation • New challenges ahead for urban transport and mobility

The SUMP process is a cycle because it presents continuous development. The end of the process is also the beginning, because a city continues to change and develop. Even as one completes the cycle, it is important to look at what went well and what did not, to share and exchange experiences with citizens and to consider the new issues and challenges to be faced and possible solutions.

Evaluate the successes and failures of the SUMP by analysing the strengths and weaknesses of all phases, the steps followed and their final outcomes. List objectives and strategic targets that could not be achieved but remain on the agenda. Capitalise enough to feed the next SUMP and communicate the lessons learned to the SUMP management instances.

Ex-post evaluation of the impacts of the tramway systems of Casablanca and Rabat-Salé 2020

BOX 25 Improving projects through ex post evaluation, the example of Rabat and Casablanca tramway

Mass transit interventions are defined and designed according to specific objectives that intend to generate positive impacts towards improved mobility, possibly adding to economic development, increased urban productivity and improved public health. At the same time, they often concentrate a large share of the total investments featured in a SUMP. The ex-post evaluation proposes a comprehensive assessment of the projects' real impacts and drawing lessons for future experiences, determining their success factors and weaknesses/shortcomings.

Such evaluation was conducted in Morocco, almost ten years after the first tramway line was introduced in Rabat and Casablanca. It has demonstrated concrete benefits on jobs accessibility and women's inclusion. Moreover, this study has shown that the tramway's image significantly improved the perception of public transportation in general, especially for populations with limited resources, who are usually subjected to poor transport services.

The ex-post evaluation encompasses the following steps:

- Identify the type of impacts expected from the transport project based on the project documentation, stakeholder's opinion and literature review.
- Formulate causal links that can be assumed between the project output and the expected impact, as well as an evaluative method to verify these links and assess the actual impacts (including interviews, focus groups, and field observations).
- Validate/invalidate the causal links through the evaluation process, draw conclusions and make recommendations based on evaluation findings.

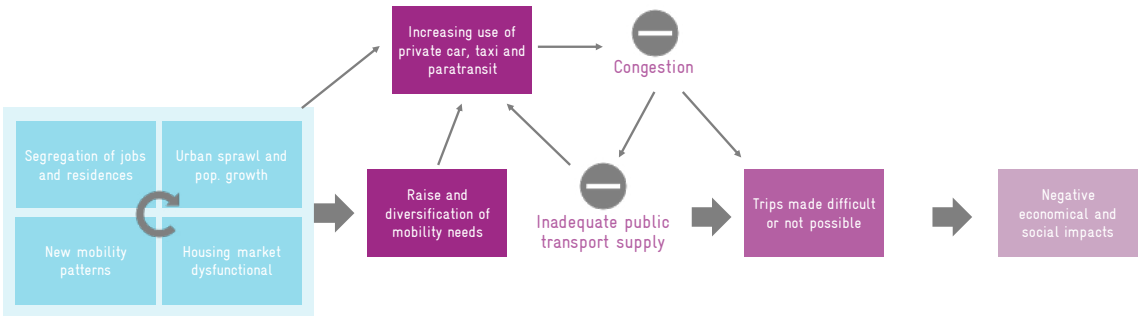


Figure 54. Example of causal link analysis

Source: AFD, Ex-post evaluation of Casablanca and Rabat light rails

Final milestone

Congratulations on successfully reaching the last milestone of the cycle.

This point in the SUMP marks the completion of measure implementation and its evaluation, the end of the whole cycle, and at the same time, the start of a new SUMP process. This milestone presents a point of reflection where one can look back on the planned and implemented measures, the knowledge and skills acquired, and the challenges and obstacles faced.

On this basis, one can look ahead and assess the expectations for the next planning cycle and decide which improvements and ideas to pursue in future. Share the evaluation results and, if already decided, communicate decisions to continue the process and prepare the next Sustainable Urban Mobility Plan. This can take place in the form of a public event, where citizens, stakeholders, and the (local) media are invited.

The cycle's completion and successes deserve a celebration with the local community. Here, one could be creative and present the experiences of the planning process in an interactive and diverse format (e.g., a walking city tour, presentation of before and after, an 'after movie' etc.). Exhibit to the public what has been accomplished together, what they should be proud of, and highlight what the future may hold if one continues with the SUMP approach.

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