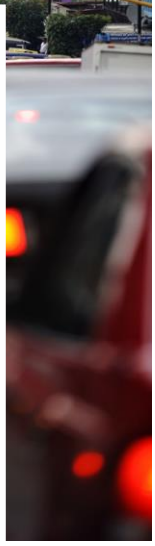


Mobilise Your City

MobiliseYourCity SUMP Table of content

Supported by

Implemented by

Part of

For more information:

MobiliseYourCity Secretariat, Brussels
www.MobiliseYourCity.net
email: Contact@MobiliseYourCity.net

Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
Division Energy, Water, Transport (G310)
Dag-Hammarskjöld-Weg 1-5, 65760 Eschborn / Germany

Title: "MobiliseYourCity – SUMP Table of content"
Printed and distributed:
Authors: Rupprecht Consult Forschung & Beratung GbmH
Contributors:

Copyright:

Disclaimer:

February 2019

Context of the Publication

This publication has been developed within the MobiliseYourCity Partnership in collaboration with the project "Advancing climate strategies in rapidly motorising countries", funded by the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety.

MobiliseYourCity is a partnership for integrated urban development planning in emerging and developing countries under the UN Marrakesh Partnership for Global Climate Action. MobiliseYourCity supports and engages local and national partner governments in improving urban mobility planning & finance by providing a methodological framework and technical assistance, through capacity building, and by enabling access to funding at both local and national levels. Particular attention has been paid to the methodological and advisory frameworks related to National Urban Mobility Policies and/or Programs (NUMPs) and Sustainable Urban Mobility Plans (SUMPs) that serve as the basis for the promotion of investments and development of attractive mobility services.

MobiliseYourCity is a multi-donor action, jointly co-financed by the European Commission's Directorate-General for International Cooperation and Development (DG DEVCO), the French Ministry of Ecological Transition and Solidarity (MTES), the French Facility for Global Environment (FFEM), and the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB). The initiative is implemented by its founding partners ADEME, AFD, CEREMA, CODATU, and GIZ. Besides contribution to the international climate process, MobiliseYourCity contributes to the UN's Agenda 2030, specifically Sustainable Development Goal (SDG) 11: Make cities inclusive, safe, resilient and sustainable.

The objectives

- Enable transformational changes towards more inclusive, livable, and efficient cities.
- Foster more comprehensive, integrated and participatory urban mobility planning (local & national levels).
- Target reduction of transport-related GHG emissions in participating cities (>50% until 2050).
- Link planning with agreement on investments and optional use of financial assistance.
- Make use of innovative planning techniques and digitalization, and promote state-of-the-art mobility and transport technologies.

4

Contents

1. Process and management structure

This chapter presents 2 main aspects:

1) It puts the SUMP into context
2) It summarises how the SUMP development process went and who was involved

1.1. Context of developing the SUMP

- Background and general purpose of developing the SUMP
- Short summary of legal and regulatory framework and related planning document (including NUMPs and relations to other plans and summaries)
- Integration and importance in the general territorial policy of the city / metropolitan area

1.2. Process overview

- Time horizon (and its justification)
- Territorial scope = SUMP study area (and its justification)
- Team and development process

The SUMP horizon usually is 5 years for short-term measures and 15 years for long-term measures. These horizons may be adjusted to match local conditions, in particular if an urban development plan exists or is in the making.

The SUMP study area: Ideally, the study area is the 'functional city', which is defined by the major commuter flows to the urban centre. It is normally the area including the city and its suburbs to be coherent with the mobility demand. For practical reasons, the geographic scope may need to be adjusted to match administrative boundaries, but should at least include the city centre. The definition and justification of the area taken into consideration for the SUMP should appear in this introduction.

1.3. Stakeholder mapping

Description of the key stakeholders that have taken part in the SUMP development process. Key stakeholders might include:

- MYC working group of partner country / city
- Leading municipal or inter-municipal/metropolitan department in charge of urban mobility/transport (as main counterpart)
- Other municipal departments with a stake in urban mobility planning, such as Departments of Finance, Environment, Public Works, Construction or Land-use Planning, Health, Education, etc.
- Public Transport Operator / Public Transport Authority
- Informal transport representatives
- Police

Further relevant interview/engagement partners can include:

- Academia
- Research institutes and think tanks
- Consulting companies
- Selected private sector stakeholders and associations
- Civil society and non-governmental organisations (NGOs)
- Chamber of Commerce
- Retailers / retail associations
- Small business representatives
- Unions (transport workers, others)
- Representatives from the metropolitan region
- Representatives from neighbouring cities or regions
- Financial institutions
- Foundations
- Potential donors
- Lobby groups or associations linked to specific transport modes
- Lobby groups or associations linked to specific themes (road safety, ITS; smart cities, etc.)
- Disabled people (association)
- Schools
- Media
- If not already mentioned above, third parties, which have delivered preceding strategic planning in the partner city/country or other MYC processes.

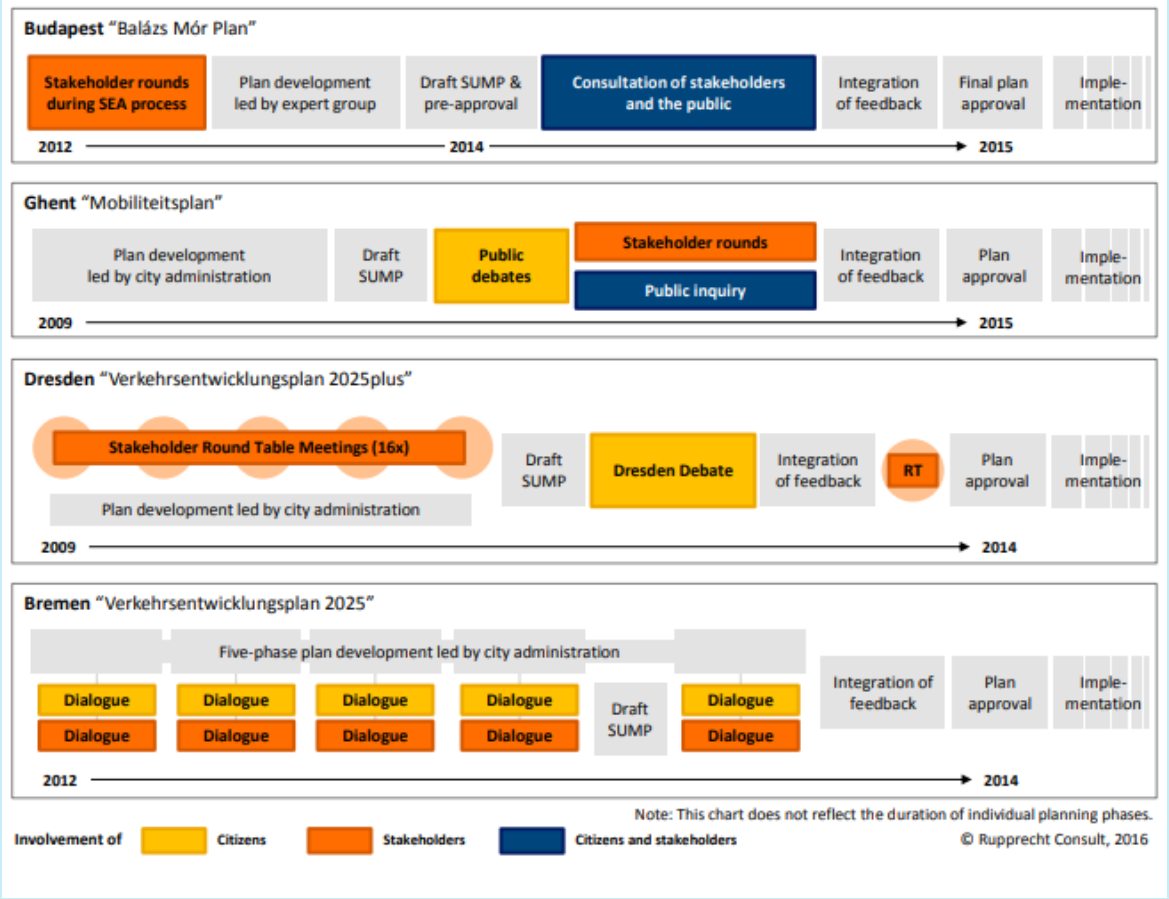


Figure 1: Practices in integrating participation into the SUMP development process

Source: Rupprecht Consult, 2016

The stakeholders can be mapped out and weighted according to their influence and interests. This can be done through the "Influence-Interest Matrix" model.

Influence-Interest Matrix

	Low Influence	High Influence
Low stake	least Priority Stakeholder Group	useful for decision and opinion formulation, brokering
High stake	important stakeholder group perhaps in needs of empowerment	most critical stakeholder group

Table 2: Influence-Interest Matrix

Source: Tools to Support Participatory Urban Decision Making, UN-Habitat

Involvement in	**Type of actors**

Table 1: Fillable table for stakeholder mapping

SUMP process	Political	Administration	Private	NGO	Etc.
Strong involvement					
…					
Little involvement					

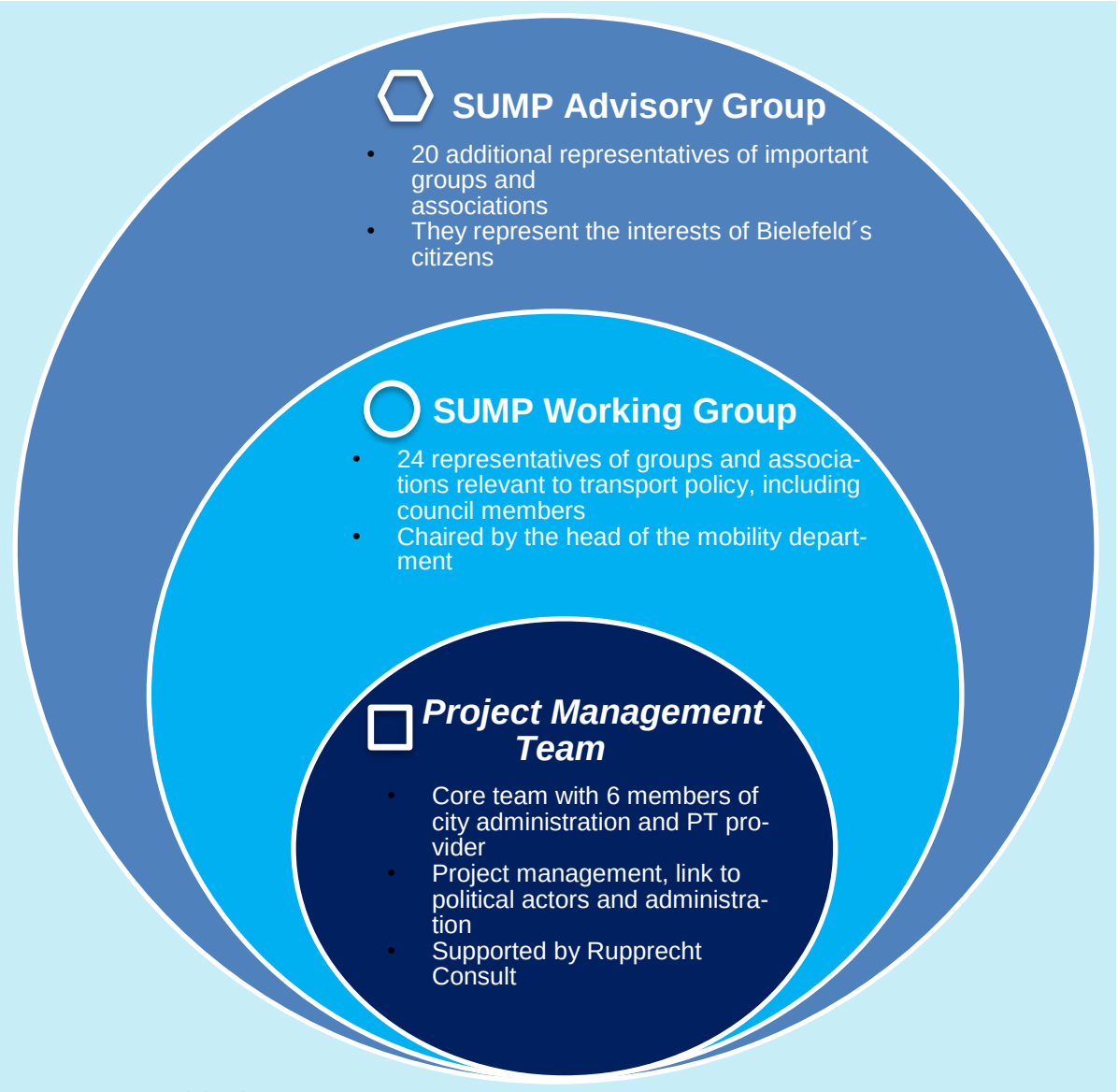


Figure 2: Team and development process

2. Status Quo Analysis

This chapter presents a diagnostic of the existing status and challenges regarding urban mobility that serves as a basis for all following chapters. The aim is to present a status of the urban mobility situation in the city considering all modes and other relevant aspects. The chapter should focus on the most important results of the analysis. As a minimum, the analysis should describe the following aspects:

- Urban structure and development
- Institutional and regulatory framework
- Financial framework
- Transport infrastructure and transport services supply
- Mobility demand and traffic
- Active Mobility / non-motorized transport -
- Traffic safety and road safety
- Gender and mobility
- Urban freight
- Digital solutions for mobility
- Air pollution and GHG emissions data and analysis

The most import analysis results in all of these areas should be presented with visual elements such as maps, charts, graphs and diagrams.

2.1. Urban structure and development

- **Urban structure and development:** Presentation of key data on population (including household size, car ownership, type of housing, employment, etc.), jobs, major traffic generators (hospitals, universities, etc.), and projects (equipment, facilities, infrastructure for health, education, etc.). The data is presented for the reference year and includes a forecast for the planning horizons (5 and 15 years).

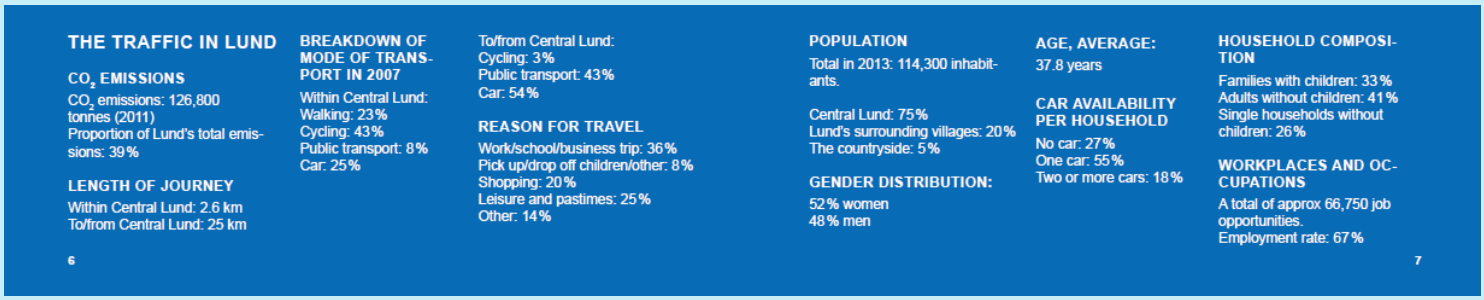


Figure 3: Example of a simple way of presenting key data on urban structure and transport

Figure source: Strategy for a sustainable transport system (LundaMaTs), City of Lund, Sweden, 2014

2.2. Institutional and regulatory framework

This subchapter shows the results from the analysis carried out as a task in the module. Levels of impact caused by policies and legislation should be mapped out and compared in order to strengthen the approach. Different levels (local, national and horizontal) of the institutional framework is to be identified.

- **Institutional and regulatory aspects:** Description of the policy and regulatory framework. This includes at least an inventory of relevant legislation, rules, schemes, licenses, concessions, relevant to public transport and road traffic in the area, including national urban mobility; assessment of the roles of public and private entities in the public transport system (institutional arrangements), relations between transport authorities and operators as well as between different levels of government authorities.
- **National policies and regulatory framework**: National laws and policies need to be taken into consideration for the insitutional and regulatory framework to be included in the SUMP. In some countries such as Brazil, the development of an SUMP is required by law for cities with a population larger than 20 000. Examples of national policies include National Urban Mobility Plans (NUMPs) as well as Intended National Determined Contributions (INDTs).

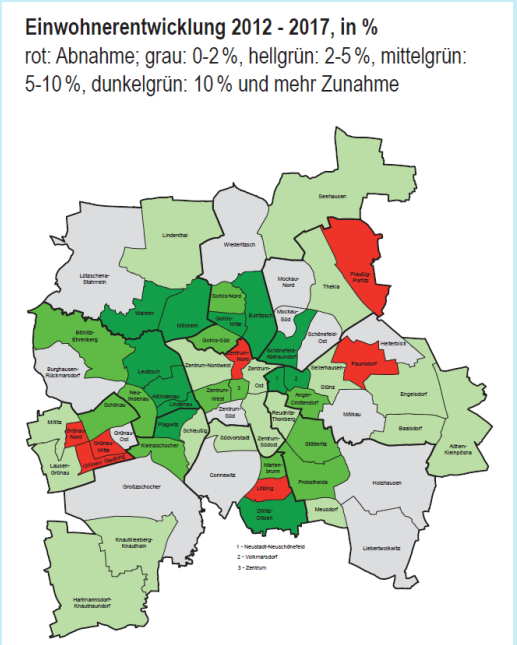


Figure 4: Example of map of population trends for different areas of the city

Figure source: SUMP of the City of Leipzig, Germany, 2015

- **Local policies and regulatory framework**: Apart from the SUMP, there usually are other urban policies to be taken into consideration connected to for example transport, urban development, climate mitigation and air quality. Local legislation may also have an impact on the SUMP.

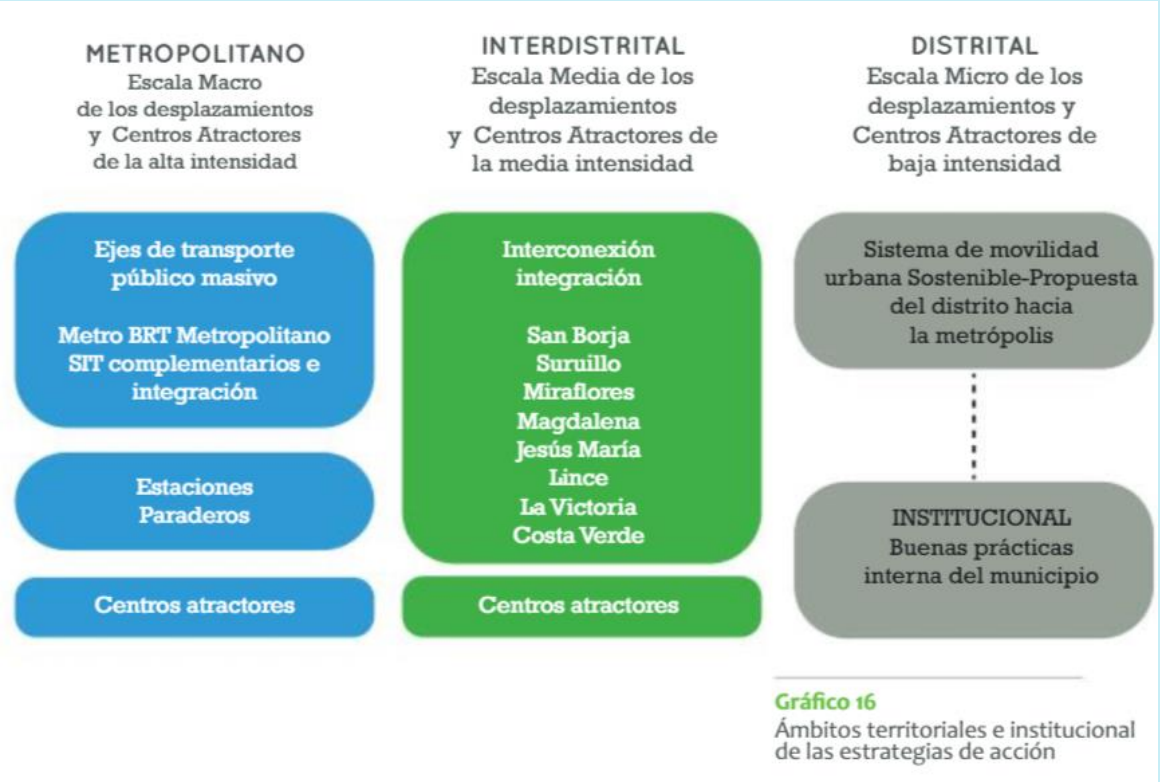


Figure 5: Land allocation

Source: Figure source: Plan de Movilidad Urbana Sostenible del Distrito de San Isidro, Lima

2.3. Financial framework

- **Budgetary and financial aspects**: Description of the financial capability of local authorities as well as transport authorities and operators engaging in sustainable urban mobility activities. Short presentation of past (past 10 years) and projected/planned (next 3-5 years) management and operating budgets.

Projects in the past (last 10 years)

Project / Activity	Timeframe	Carried out by	Financed by	Budget

Planned projects

Project / Activity	Timeframe	Carried out by	Financed by	Budget

2.4. Transport infrastructure and transport services supply

- **Inventory of transport infrastructure and transport services supply:** Inventory and analysis of existing infrastructures and level of services (incl. maps and benchmarking with relevant cities), but also a diagnosis of trends and challenges for the various dimensions of transport supply in the study area, including:
  - Road network: existing road network in relation with all mobility needs (pedestrians, non-motorised transport (NMT), public transport, and other vehicles) with focus on the roads carrying public transport; summary of related plans and projects.
  - Road congestion and traffic management: level of road congestion at peak periods and appraisal of traffic planning at city level and traffic management at a lower scale.
  - Public transport system (bus, rail, water, formal/informal transport), including routes extension and localisation, depots, garages, rolling stock quantity and quality, taking into account current plans and projects; volume of public transport supply and duration of travel at peak period.
  - Financial aspects: fares, subsidies, fuel policy.
  - Parking: inventory of parking in the city centre and analysis of parking management and pricing schemes.
- **Indicator on existing sustainable infrastructure:** Data on the following core sustainable urban mobility infrastructure indicators:
  - Existing KM of sidewalks
  - Existing KM of cycle lanes
  - Existing KM of bus lanes or other mass transit
  - Existing number of car parking lots (parcels for individual cars) in the city centre covered by parking management (e.g. parking fees)
- **Mobility services:** An inventory and assessment of already established (or in procurement) new mobility services in the city (e.g. bike or car sharing, ride-hailing, app-based mobility navigation, app-based parking management etc.)

2.5. Mobility demand and traffic

Differentiate analysis by following sub-sections:

- **Mobility demand and traffic:** A review of transport demand per mode on the main corridors and for the main origin-destinations based on all existing data on mobility, including existing traffic volumes per mode, at peak hours and for the full day and per sub areas and for each main axis.
- **Modal split:** Presentation of the modal split (in trips and p.km) breakdowned through a relevant set of transport modes and provision as an indicator (for the purpose of aggregated impact monitoring within the MobiliseYourCity Partnership) of the "share of public transport and non-motorised modes" (in trips)
- **Access to public transport:** Prevailing access situation of the city´s population to public transport (i.e. the number of people living within 500 meters or less of a public transport stop with minimum 20 minutes service at peak hour).

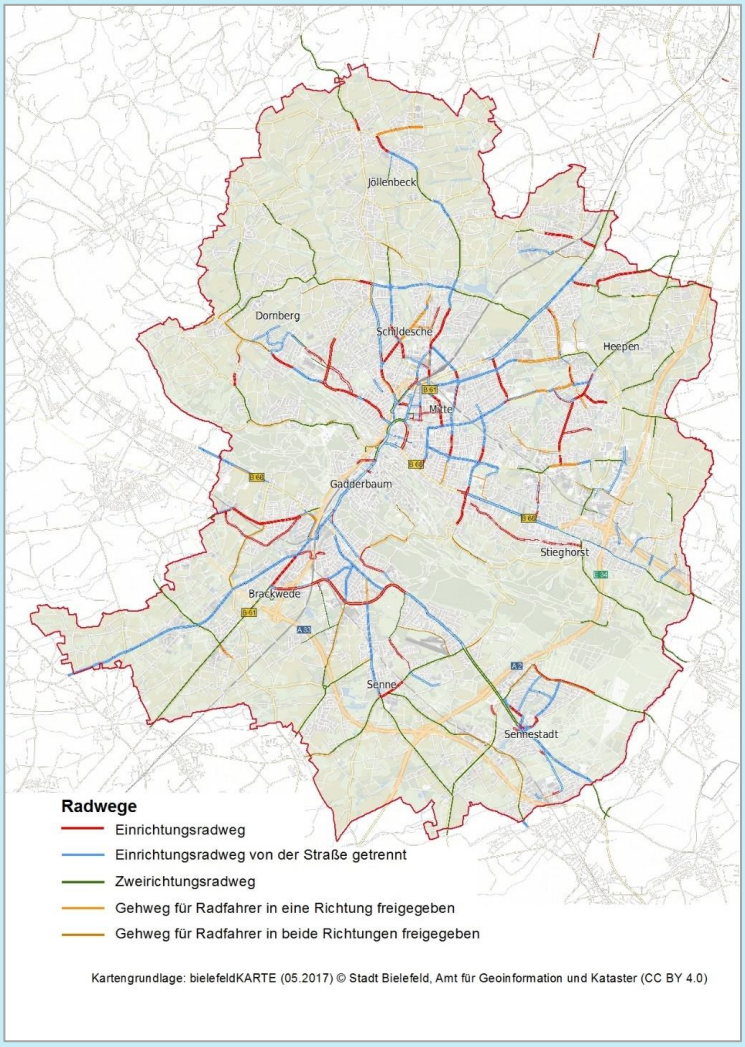


Figure 6: Example map of main cycling infrastructure, differentiated by type of cycle lane

Figure source: Mobility strategy of the City of Bielefeld, Germany, 2018

- **Liveability:** Analysis of the transport- and urban mobility-related liveability criteria for the city, including frequency of public transport, affordability of public transport, transport safety, security, air pollution, and noise pollution.

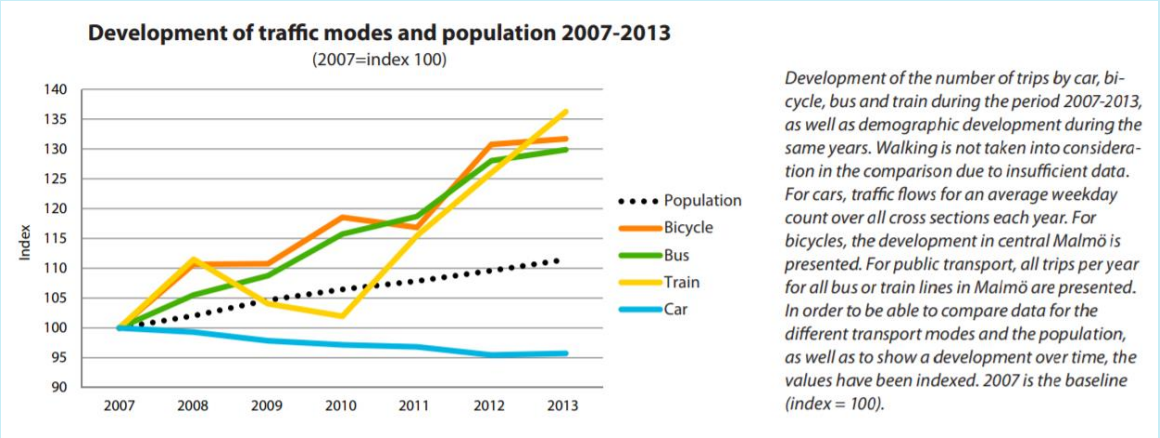


Figure 7: Example figure comparing population growth and number of trips by car, bicycle, bus and train over time

Figure source: SUMP of the City of Malmö, Sweden, 2016

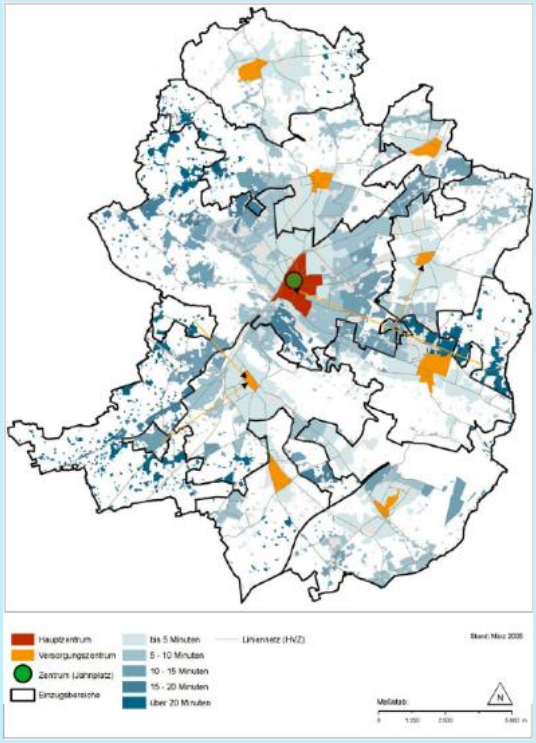


Figure 9: Example map of public transport accessibility, travel time to closest (sub-)urban centre

Figure source: Mobility strategy of the City of Bielefeld, Germany, 2018

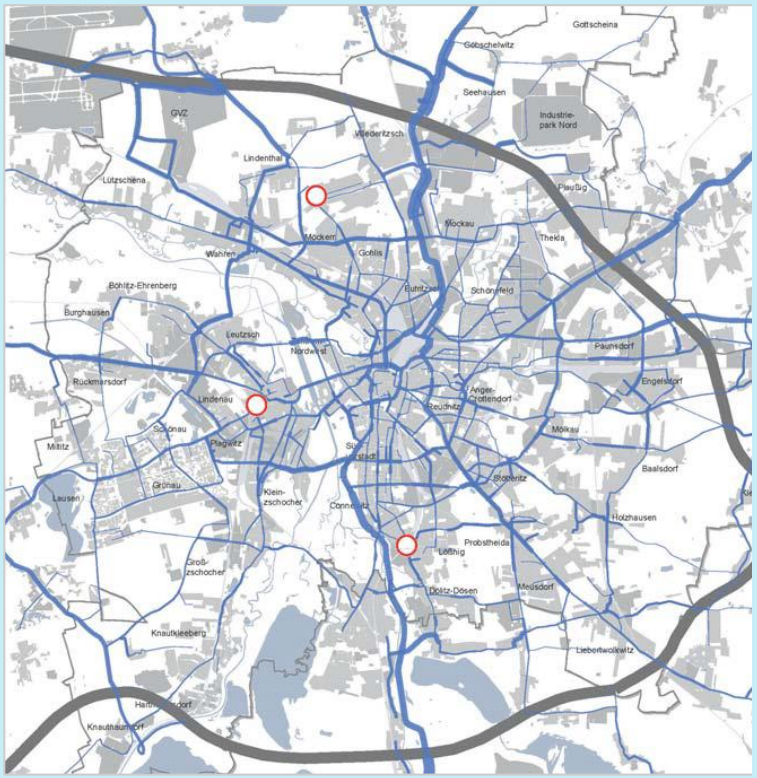


Figure 8: Example map of average truck traffic (trucks over 3.5t, t/24h, average on weekdays)

Figure source: SUMP of the City of Leipzig, Germany, 2015

Anzahl der Verkehrsunfälle im Straßenverkehr der Stadt Bremen						
	2007	2008	2009	2010	2011	2012
Verkehrsunfälle gesamt	15.321	15.399	15.707	16.085	16.229	16.809
ohne Personenschäden	12.625	9.891	10.074	10.887	10.486	10.896
mit Personenschäden	2.696	2.551	2.583	2.363	2.624	2.688
dabei Verunglückte	3.094	2.957	3.050	2.835	3.119	3.225
Getötete	11	10	11	9	14	15
Schwerverletzte	301	339	326	275	318	351
Leichtverletzte	2.782	2.551	2.713	2.551	2.787	2.859

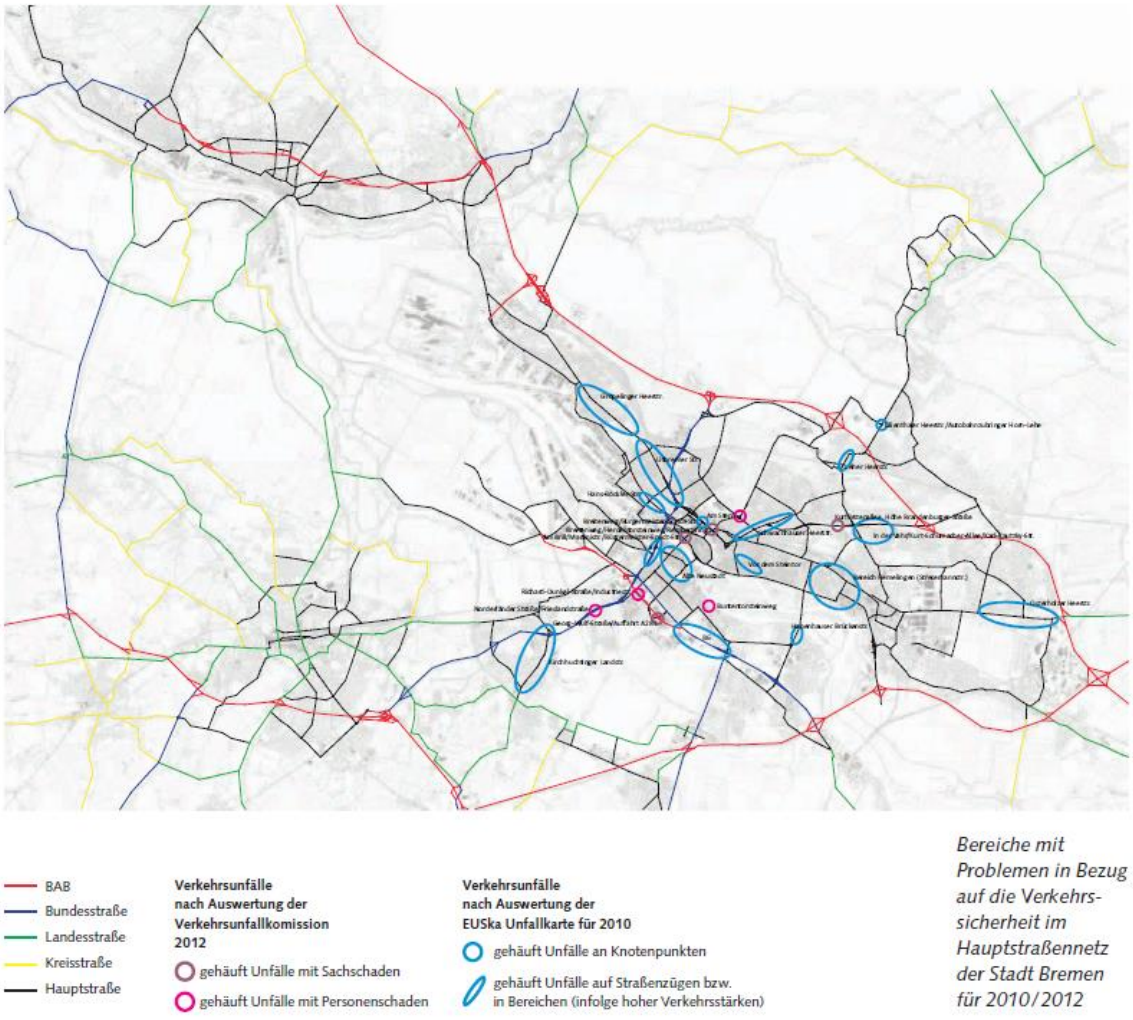


Figure 10: Example of visualising a traffic safety analysis with a table (deaths and injuries over time) and a map that marks problem areas in the road network

Figure source: SUMP of the City of Bremen, Germany, 2014

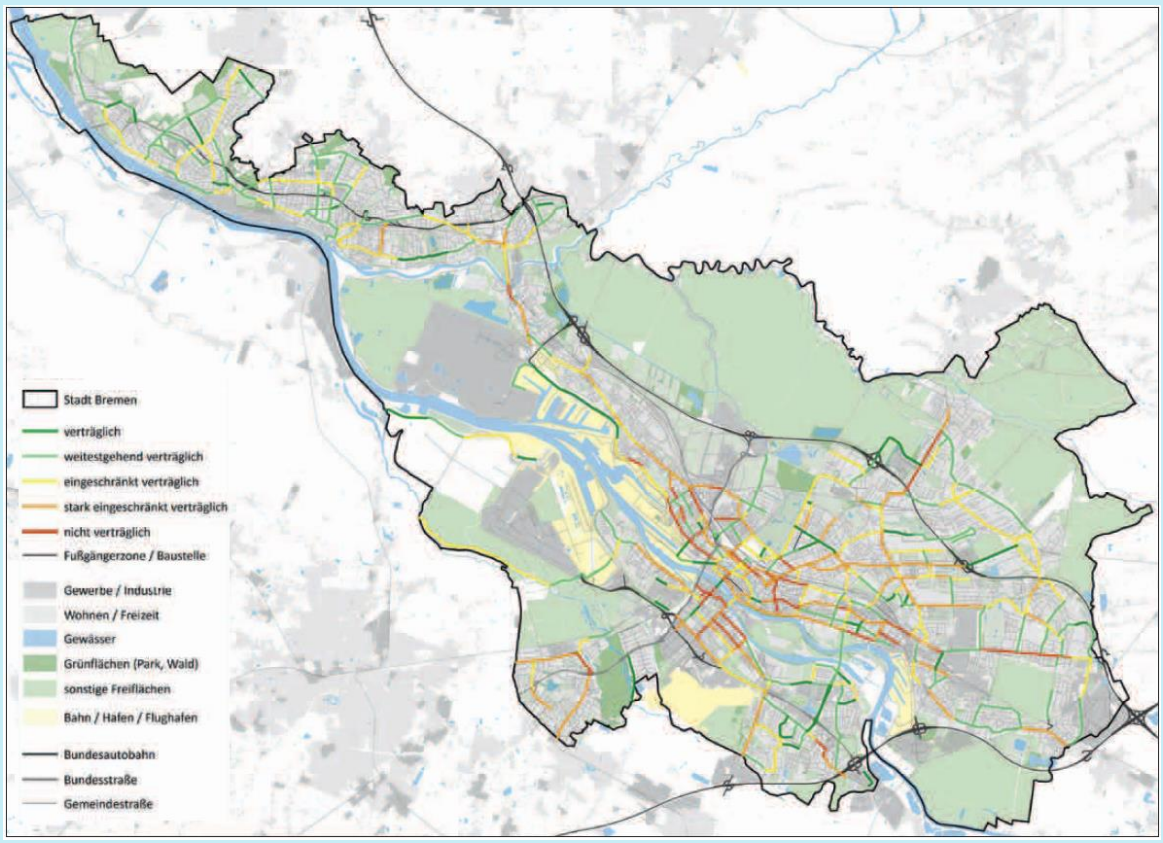


Figure 11: Example of map that visualises a liveability analysis of road space in the entire city

Figure source: SUMP of the City of Bremen, Germany, 2014

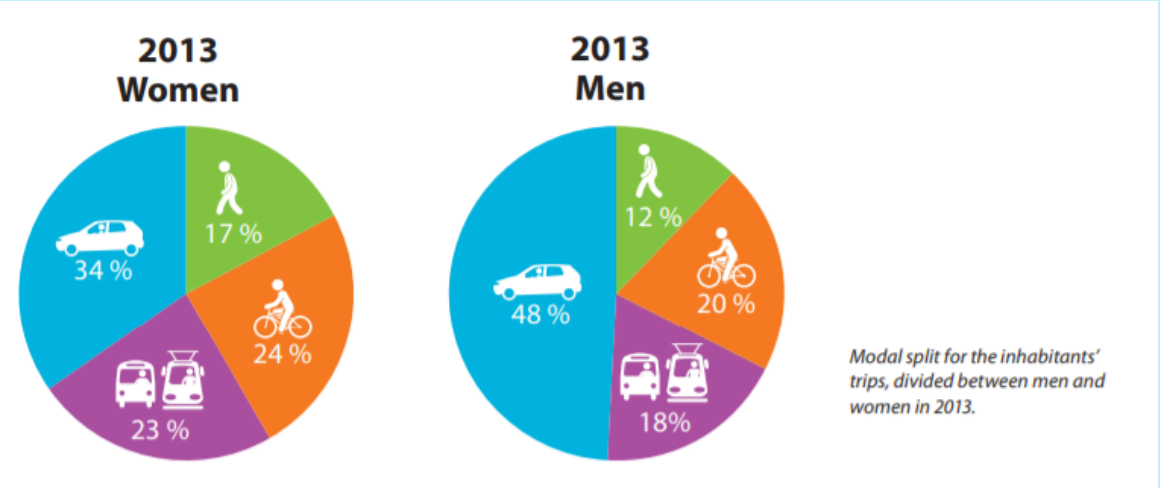


Figure 12: Example of a modal split differentiated by gender

Figure source: SUMP of the City of Malmö, Sweden, 2016

2.6. Active Mobility / non-motorized transport -

- **Pedestrians and Cycling:** Including an inventory of main routes/passages for pedestrians/NMT (location, quality of infrastructure) in relation with pedestrian/NMT flows.
- **Results of walkability study and NMT surveys,** including analysis of historic and current use as well as potential/ easiness of walking and cycling;

Figure 13: A strategic approach when selecting measures where a combination of physical and non-physical

Source: Hydén et al (1998).The figure is based on findings from the EU-project WALCYNG.

2.7. Traffic safety and road safety

- **Traffic safety:** Diagnosis of traffic safety (causes, severity and localisation). This includes at least i) inventory of black spots, and ii) development of the number of traffic fatalities (road, rail, etc.) over the past 10 years (i.e. as defined by the WHO, a death counts as related to a traffic accident if it occurs within 30 days after the accident) in the urban area per 100.000 inhabitants.

2.8. Gender and mobility

- A gendered perspective status of urban mobility, including in particular women's travel patterns and how they differ from men's, gender-related inequalities in terms of access to a) public transport and b) services and opportunities offered in the urban area (health care, education, jobs, etc.).

2.9. Urban freight

An analysis of freight transport supply and demand within the city, and a diagnosis of the main trends, constraints and challenges. Differentiate analysis by following sub-sections:

- Ports / Airports (where applicable)
- Truck regulation & routing
- Delivery patterns (including abusive occupation of urban roads)
- Markets
- Multimodal logistics & distribution centres

2.10. Digital solutions for mobility

Assess the usage and underpinning policies and regulations of mayor digital-based transport technologies. Differentiate by following categories:

- Planning and data management

(e.g. app-based mass data capture, effective data management systems, transport medelling & forecasting etc.)

- (Big) data management

Capacity to collect, process, analyse and update data on the urban geography / context and the mobility within the city, whether by the Public Transport Authorities or by other stakeholders.

- Mobility management

(e.g. app-based parking management, traffic control, app-based mobility navigation services, PT information systems, Mobility as a Service schemes based on digital solutions, etc…

2.11. Air pollution and GHG emissions data and analysis

- **Air pollution**: Mean urban air pollution of particulate matter (in mg PM2.5 and optionally PM 10, data collection over a time period of minimum 3 months) at road-based monitoring stations, including inventory of existing road-based monitoring stations, if any.
- Emissions of PM 2.5 (and optionally PM 10) due to land transport in the city (incl. passenger an d freight transport)

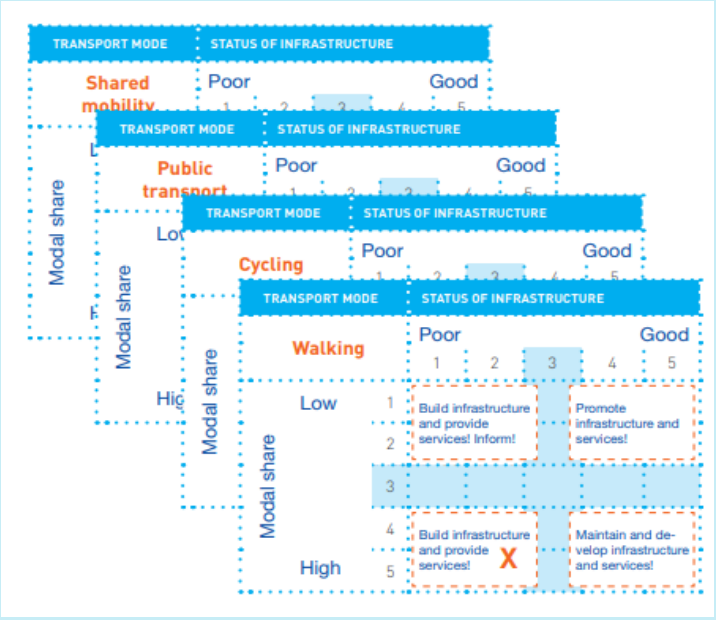


Figure 14: Example of types of measures to be included for a systematic approach.

Source: Start for beginner cities: Manual on the integration of measures and measure packages in a SUMP

- **GHG emissions:**
  - GHG emissions by urban transport sources.
  - Expected impact of current systems and on-going city projects on traffic and GHG emissions.

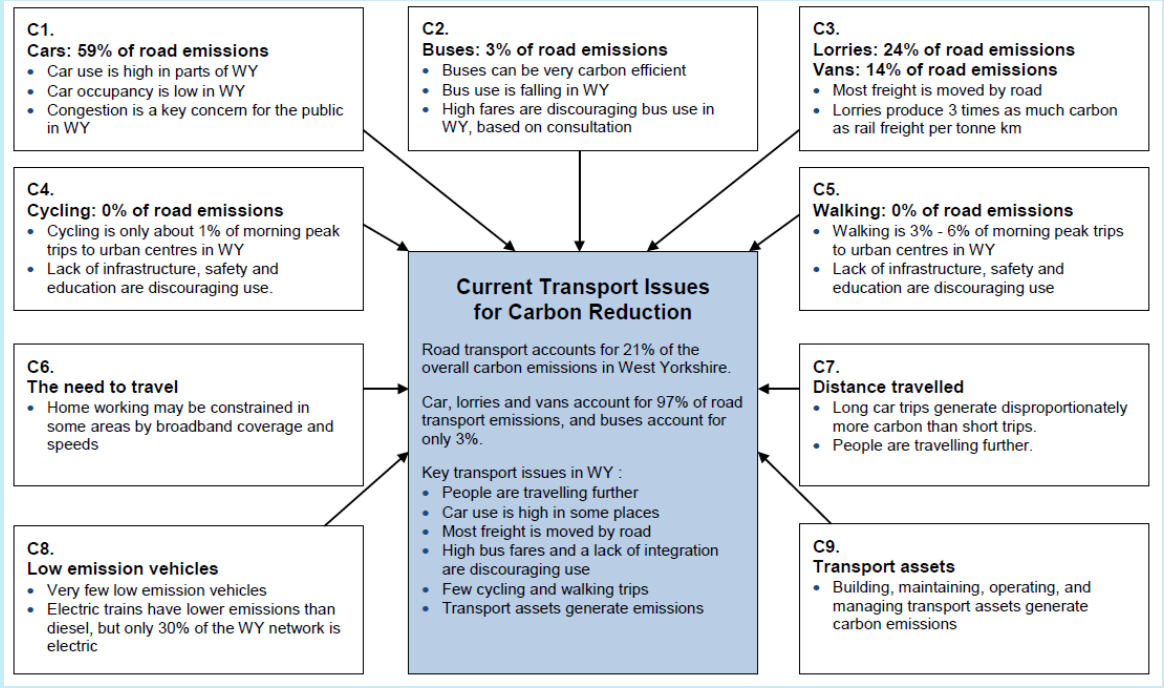
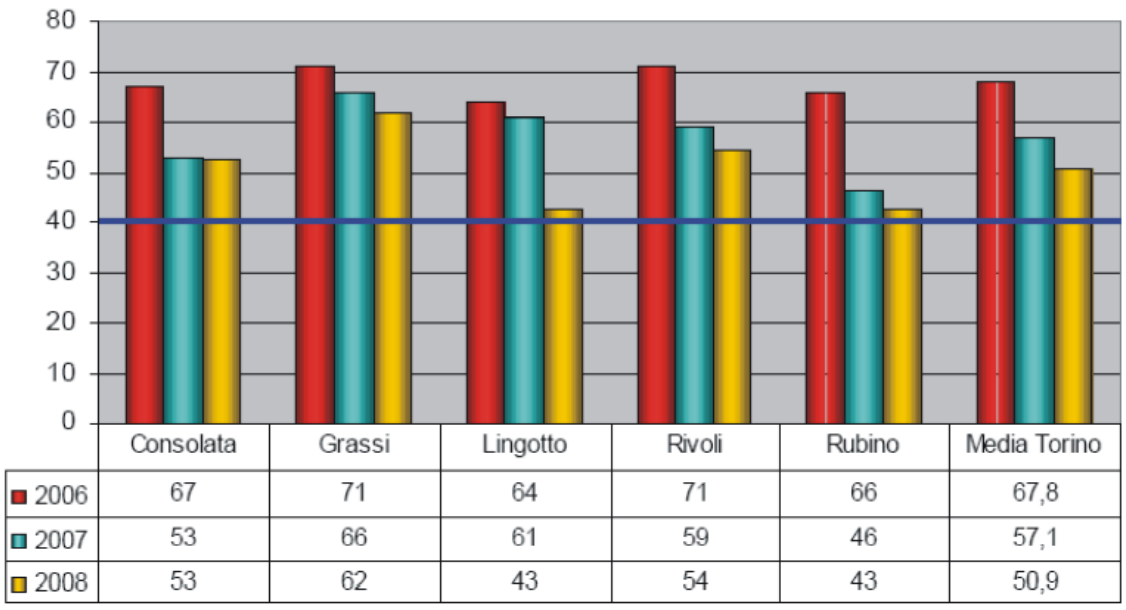


Figure 15: Example of summarising current transport issues for carbon reduction

Figure source: West Yorkshire Local Transport Plan, United Kingdom, 2011



	Consolata	Grassi	Lingotto	Rivoli	Rubino	Media Torino
2006	67	71	64	71	66	67,8
2007	53	66	61	59	46	57,1
2008	53	62	43	54	43	50,9

Figure 16: Example of air pollution diagrams by monito ring station (PM10, ug/m3)

Figure source: SUMP of the City of Turin, Italy, 2010

2.12. Baseline

Based on the detailed analysis results described in the previous subchapters, a summary of the most important challenges and opportunities should be presented here. It can for example be described in the structure of a SWOT analysis (strengths, weaknesses, opportunities, threats) or in a more descriptive way.

The analysis should take due consideration of future societal and technology trends that affect mobility.

Figure 17: Example of presenting the most important challenges for walking according to an online citizen participation

Figure source: SUMP of the City of Bremen, Germany, 2014

Strengths	***Weaknesses***
○ Availability of large scale plans ○ Availability of human resources ○ Interdisciplinary approach (education) ○ Maturity of viable projects (Metro) ○ Fuel prices and development trends	• Strong position of road building and cars • Lack of knowledge management in larger scales • Incomplete reporting of management interventions • Institutional framework of project developments (long periods)
Opportunities	***Threats***
☐ Favorable social climate for sustainable mobility ☐ Create a metropolitan mobility body ☐ Increased private sector participation (in collaboration with the public sector) ☐ Favorable legal and institutional framework for the implementation	■ Development (economic and social) ■ Uncertain political developments ■ Unemployment

Figure 18: Example of a SWOT analysis with key challenges and opportunities

Figure source: SUMP of the City of Thessaloniki, Greece, 2014

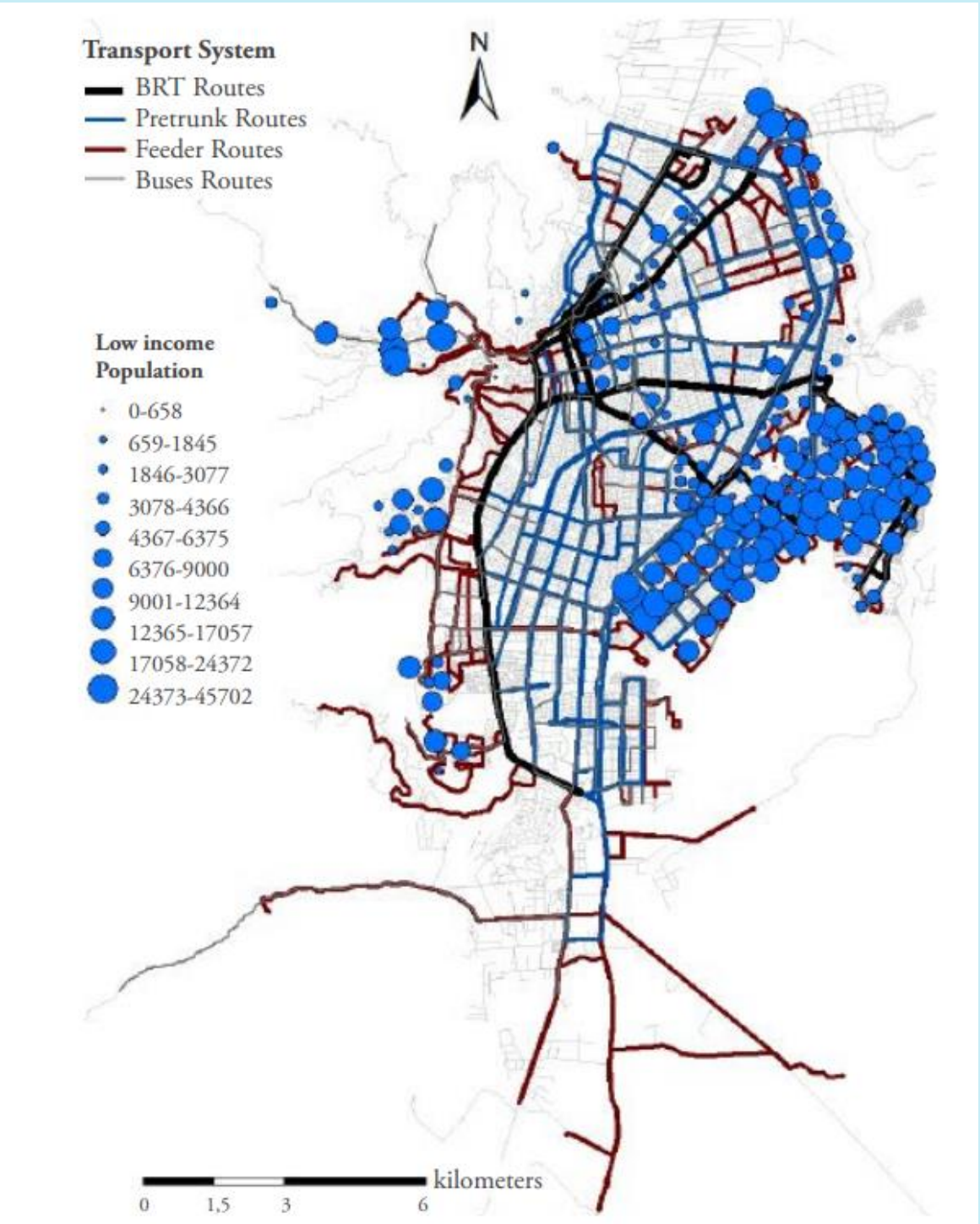


Figure 19: Coverage of the public transport and BRT system in comparison to low-income population

Source: OVE, using data from Metrocali (2015, 2016).

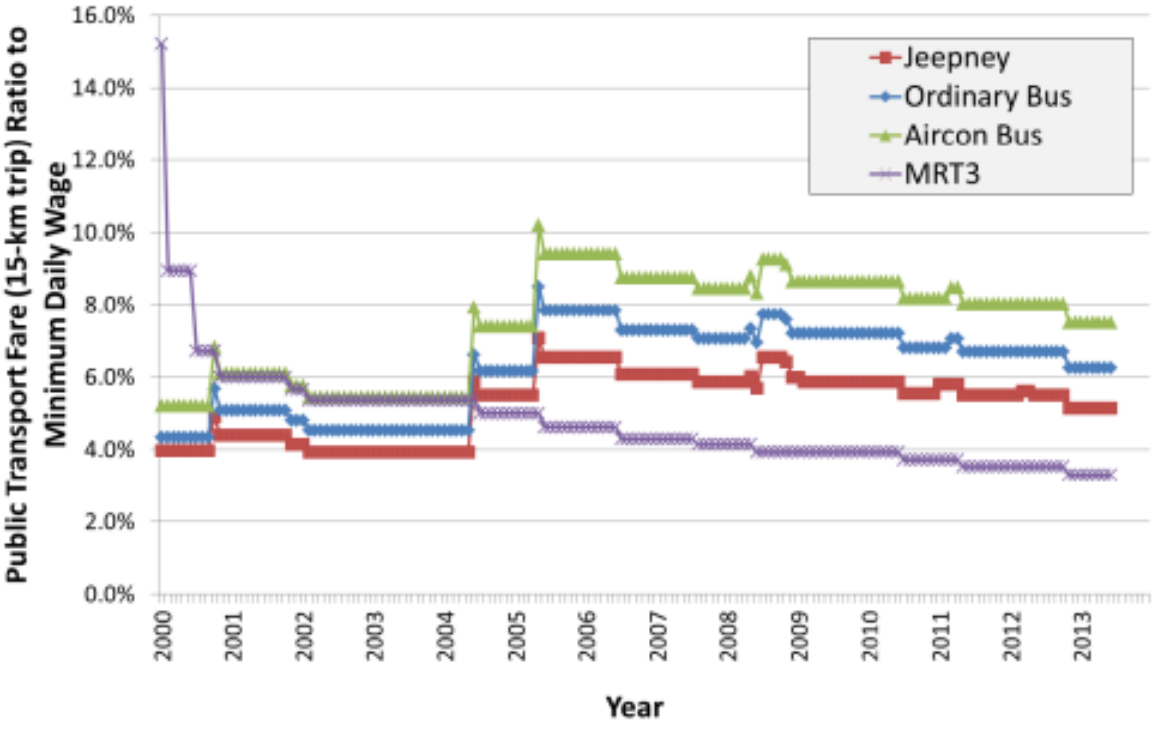


Figure 20: An example of how Public transport fares can be presented as a percentage of minimum daily wage

Source: Enhancing the sustainability and inclusiveness of the Metro Manila's urban transportation systems: Proposed fare and policy, reforms Mijares et al. (2014)

3. Vision, Goals

This chapter is to be based on the results of MobiliseYourCity Terms of Reference Module 3: Vision, Goal Setting & Measure Planning.

On the basis of the assessments of the urban mobility status and challenges, this chapter should describe:

- A strategic vision for urban mobility and a strategic framework for the direction of the SUMP;
- Formalised goals of the SUMP;
- Measurable targets and indicators;
- Short- and long-term scenarios, including the selected scenario;
- (Integrated packages) of measures.

3.1. Strategic vision

This subchapter explains the general vision of urban mobility in the city, that is contextualised through the goal setting. The vision often includes reduced levels of automobility, improvement of the modal split, increased accessibility and quality of life (with eventually geographic rebalance in favor of lagging / poorly served areas), increased road safety and reduction of emission (local pollutants and GHG).

The vision might include institutional and organisational rearrangement, in particular improved regulation of public transport operators / paratransit operators, enhanced capacity of the public transport authority, etc…

The vision should of course be city-specific and fully depend of the context and the aims as expressed by the political / elected authorities of the SMP areas and all the stakeholders involved in the participatory process of the SUMP.

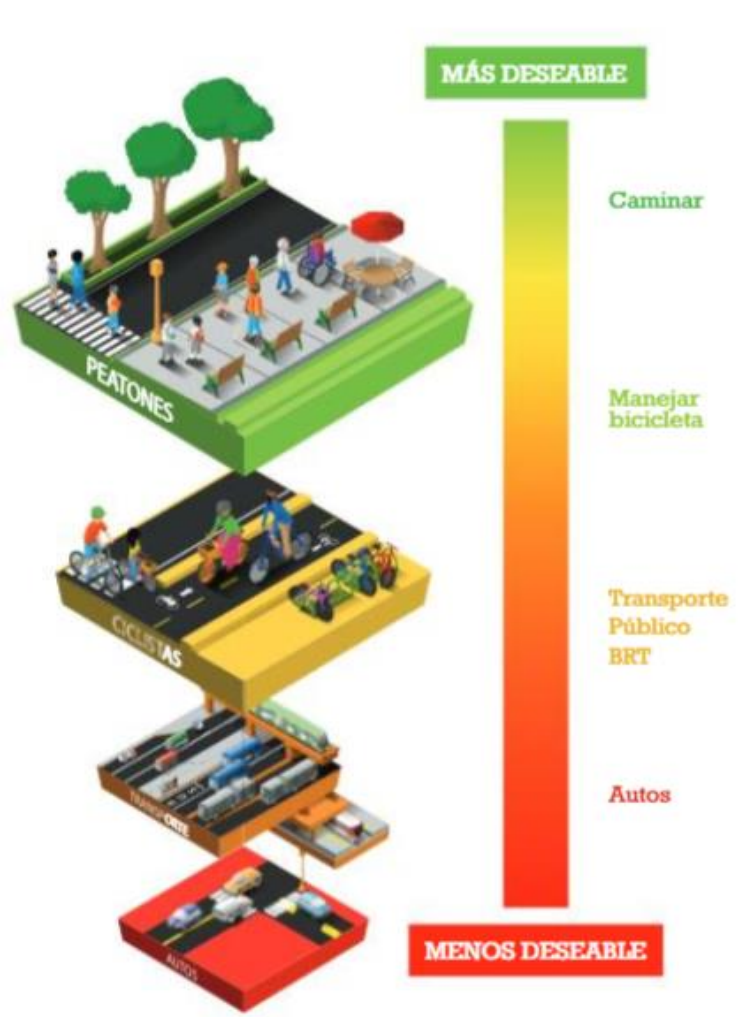


Figure 21: Vision of preferable transportation modes

Figure source: Plan de Movilidad Urbana Sostenible del Distrito de San Isidro, Lima

3.2. SUMP Goals, targets and indicators

- **Goal setting and prioritisation**: The formalised and prioritized urban mobility goals should be described here. These goals need to be aligned with CITY's vision for urban mobility and also take into consideration at least the following aspects (city-specific):
  - Targets could be to limit the private car modal choice and to reach a certain target for the public transport and non-motorised transport modal split.
  - Priorities could be on reinforcing economic growth, limiting the investment and operational cost of programmes, or focusing on improvements in the central area of the city.

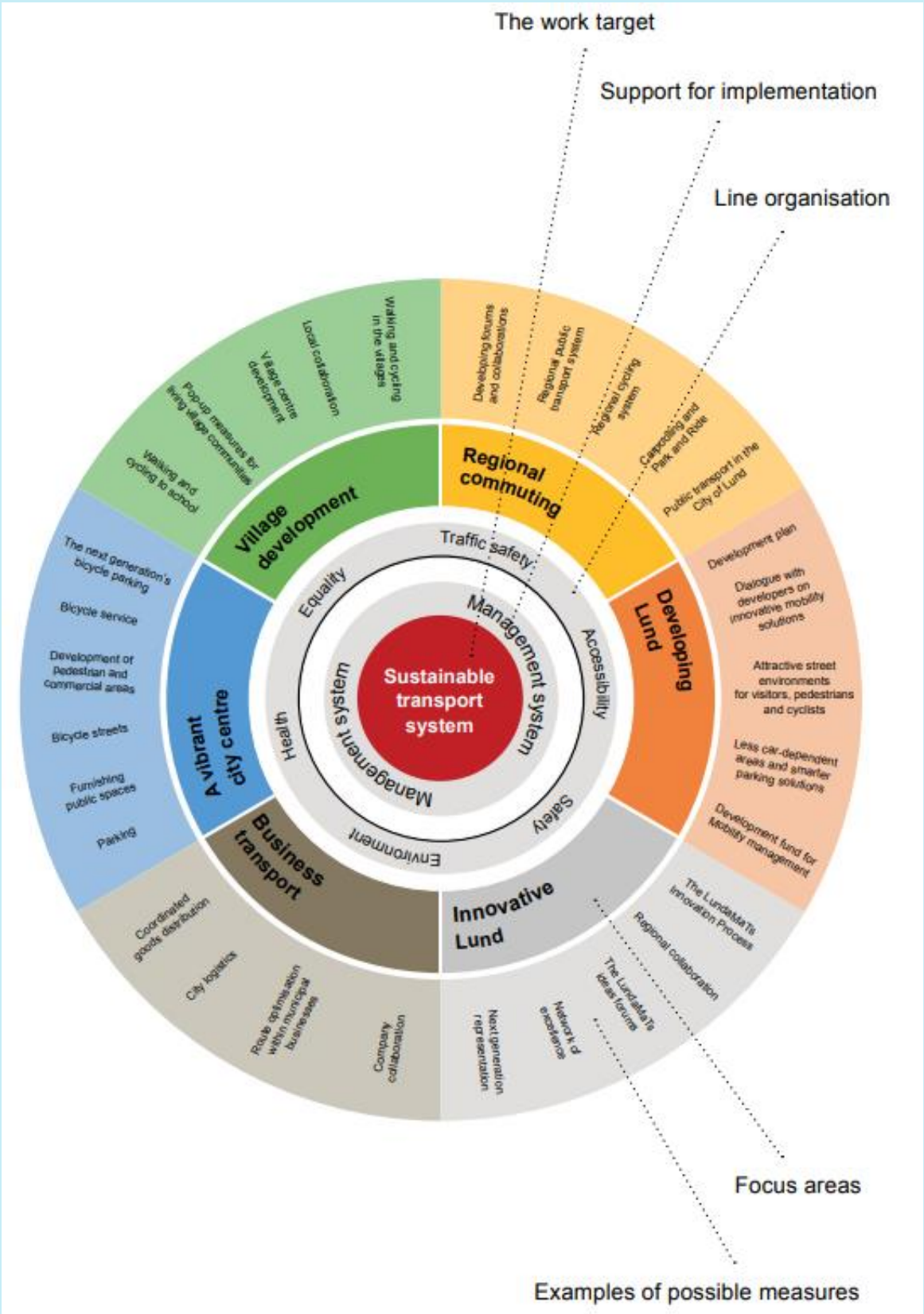


Figure 22: Example of a visualization of SUMP goal setting

Figure source: LUNDAMATS III Strategy for a sustainable transport system in Lund Municipality

- **Targets and indicators:** IN link with the ngoal settings, SMART targets for mobility-related indicators must be presented here, along with the identified SUMP specific implementation indicators. The SUMP should consider at least the 5 core indicators mentioned below. Additional indicators should cover both data on infrastructure or services offered (e.g. km of new bike lanes), as well as data on their usage that allows to evaluate the success of single measures (e.g. bicycle flow counts or occupancy rate of parking spaces).

SUMP Core Indicators

Indicators	Base line 2019	Target 2030
Access to public transport 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	XX %	XX %
Air pollution Mean urban air pollution of particulate matter (in mg PM2.5) at road based monitoring stations		
Safety Number of traffic fatalities (road, rail, etc.) As defined by the WHO, a death counts as related to a traffic accident if it occurs within 30 days after the accident)	XX Pers. (in thousands)	XX Pers. (in thousands)
Modal split Share of public and non-motorised transport of total urban transport (in pkm -not trip)	XX %	XX %
GHG emissions from transport	X $MtCO_2e$ per year	XX $MtCO_2e$ per year

Additional indicators

Indicators	Base line 2019	Target 2030
Commercial speed Average speed of a mode of transport between the two terminals, including all operational stops	XX km/h	XX km/h
Mobilised public and private funding		
Others (city specific)		

3.3. Short- and long-term scenarios

1. Scenarios description :

The considered scenarios should include the **business as usual (BAU) scenario** and at least **one (but preferentially several) alternative low carbon scenario** with their defined actions to be taken in the short-term (~ 5years) and the long-term (~10/15 years). For harmonised reporting, a very long term target should be set as year 2050. Expenditures needed for each scenario have to be assessed and available funds for the scenarios described (for investment as well as for operational subsidies, if any). Besides a profound analysis of costs, a assessment of the GHG emissions of all scenarios must be included. The description of the scenarios will vary depending on the study focus.

In the main report, the description of each scenario should take form of **an illustrated executive summary** (2 page of text maximum + maps / figures / photos) describing the general rationale of the scenario, its particularities, the main related assumptions, the related public policies / measures, the demand and mobility forecasts (modal split, etc;), the main impacts on the surrounding environment.

Junction before being rebuilt

Junction with continuous cycle lane

Figure 23: Example of presenting SUMP measure implementation

Source: Municipality of Örebrö, 2013, p. 14

In appendix, the presentation of each scenario shall consider the following components:

- **General assumptions** (*common to all scenarios*): GDP growth, socio-demographic data…
- Projection of the **urban structure and development** (long-term and very-long-term) *(might be common to various scenarios)*
- Assumptions and recommendations on the **institutional, regulatory and organisational framework** for urban mobility needed to cope with the scenario rationale, eventually in link with those for urban development *(might be common to various scenarios)*
- Assumptions and recommendations on the **financial framework** for urban mobility needed to cope with the scenario rationale *(might be common to various scenarios)*
- A description of **transport infrastructure and transport services supply,** including:
  - public transport,
  - paratransit / intermediate public transport,
  - Urban road network…
  - New mobility services
- A description of **urban mobility policies** (transport demand management, transit oriented development);
- A description of the infrastructure, services and facilities for **Non-Motorized Transit** *(might be common to various scenarios)*
- A description of **urban mobility policies** (transport demand management, transit oriented development);

- **Data, figures and analysis on mobility demand and traffic** (eventually based on the traffic modelling – see below)
  - Shall include at least a projection of the modal split (in number of trips, passenger.km and veh.km;
  - Should/might also include an analysis of the mobility patterns and an analysis of the mobility demand structure in the scenarios (Origin-Destination, trip length, trip purposes, etc…)
  - Should/might also include ridership forecast on the public transport main corridors / the whole public transport network, and traffic on the urban road network
  - Shall include an analysis of the efficiency of the road / PT networks (passenger/km; veh/km; commercial speeds, etc.)
- A description of the **urban freight system** *(might be common to various scenarios)*
- A description of the **policy and framework for digital mobility** *(might be common to various scenarios)*
- An estimation of the **CAPEX and OPEX**
- A description of the **main impacts on the surrounding environment**: impact on land-use and urban development, environmental and social impact, induced economic development, etc.;

Some specific dimensions of the scenarios (for instance, but not necessarily: NMT, gender, new mobility services, urban freight, institutional and financial arrangements…) might be common to various or all scenarios and described separately, in a **note presenting policy, institutional, regulations measures, and financial recommendations**. In this case, the scenario will vary mainly on the transport supply and services, transport demand and physical investment.

2. Traffic forecast modelling:

The use of a specific traffic forecast model is optional for the case that the partner city wishes to include the development of a transport model within the context of its SUMP development. In certain very simple cases where data are scarce, a mere expert analysis of available data collected during the previous module, could be sufficient.

In the main report a specific section (1-2 page) should present the method used for the projection of traffic flows and transport demand, the main assumptions and results.

When a Traffic model is used, a **specific traffic forecast report** should be included as an appendix describing:

- Description and characteristics the traffic model itself (model structure, model inputs and outputs, calibration process and results, used software, algorithm / formulas utilized for calculation),
- The main assumptions
- The results of the traffic model for the various scenarios, in compliance with the Terms of reference

3. Multi-criteria comparison of scenarios:

- In both the short and long terms, the various scenarios are compared to the BAU scenario, in terms of traffic volume, modal split, GHG emissions, trip time, infrastructure costs, etc. The comparative analysis of the measures proposed under various scenarios should allow choosing the most effective and, on this basis, formulating an optimal scenario for meeting the SUMP objectives and the vision desired for the future mobility in the city.

- The comparison of the scenarios should include the following feasibility aspects:
  - Technical feasibility: technical choice, availability of the technology, risk (land acquisition, social acceptability, archaeology, environmental impacts), operability;
  - Economic feasibility: cost, financial profitability, socio-economic profitability, travel time savings
  - Concrete (estimated) impact on the MobiliseYourCity core indicators (see above; GHG emissions reduction[1], Traffic safety, access to public transport air pollution, modal split)
  - Concrete (estimated) investment results on the MobiliseYourCity core indicators (KM of sidewalks, cycle lanes, bus lanes, etc…)
  - Institutional feasibility: regulatory and institutional frameworks with clear definition of roles and actors (including level of participation of stakeholders);
  - Impact on the surrounding environment: impact on land-use and urban development, environmental and social impact, induced economic development, etc.
  - Improvement of social inclusion and promotion of equality of opportunity between citizens, accessibility to poor or vulnerable area / populations.

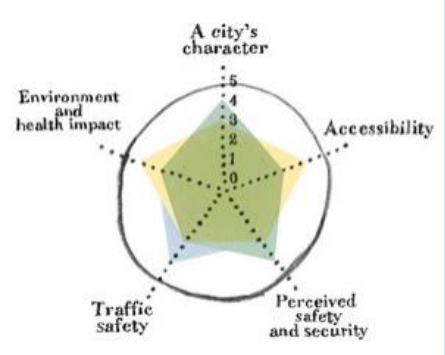


Figure 24: Example showing different scenarios and their impacts

Figure source: Transport for an attractive city, TRAST

3.4. Long-list of potential measures

This section specifies the actions to be taken and integrated packages of measures to be implemented in the short and long terms for each of the above mentioned scenarios. The measures / actions shall have been confirmed through a measure identification and selection workshop with the SUMP core team.

In the main report, only a synthesis should be presented, as a **structured long-list of potential actions / (integrated packages of) measures.**

[1] Estimated emission reductions (compared to BAU) must be reported for every 10th year, in accumulated form for every 10-year period, as well as the average annual reduction over a 10-year reporting period (to harmonise reporting

This list might include (and be structures with regards to) :

1. A descriptive title of the action / measure
2. An indication of the scenarios that include the action / measure
3. A thematic categorization of the measures, for instance considering the following categories:
    - Transport infrastructure and transport services supply (urban road infrastructure, public-transport infrastructure, partransit services, transport hubs, etc…)
    - Transport regulation (taxis, private transport, road trafic, public transport, paratransit, etc.)
    - Walking & cycling infrastructure
    - New mobility services
    - Specific urban mobility policies (transport demand management, transit oriented development);
    - Gender-related measures
    - Urban freight
    - Digitalization
    - Institutional and regulatory framework
    - Funding, financing and budgeting scheme for urban mobility
4. An indicator of the effectiveness of measure
5. The time-plan and prioritization for the measures: short term / medium term / long term
6. In some cases (for the city centre and, possibly, some important secondary centres or development corridors), the measures may also be presented by geographic areas.

In an appendix, all the actions measures from the long list shall be presented one by one (or by integrated packages) as follows:

- **Definition and description of actions and (integrated packages of) measures**: A presentation of defined actions and integrated packages of measures implemented in the short and long term scenario. Each action, measure as well as integrated package of measures paying particular attention to technical design, cost, timing, public engagement requirements, anticipated impacts, and potential risks should be described. These actions and measure packages are the building blocks for the definitions of the scenarios.
- **Identification and assessment of the effectiveness of measures** for targets to be reached, in particular in relation to their impact on GHG reduction and other MobiliseYourCity core indicators (modal split, accessibility, road safety, commercial speed, etc…).

Comment: examples of potential SUMP measures
The short-term actions and (integrated packages of) measures can include (city-specific):

- *Creation of new roadways to complete the network, rehabilitation of road network in a post conflict situation (defined at conceptual level);*
- *Traffic management measures for the improvement of traffic flow, road safety, priority to public transport, pedestrians, parking policy, etc.;*

- *Improvement of efficiency of the public transport network, such as network restructuring, business reform, bus lanes and other bus priority measures, improved passengers' information;*
- *Improvement of efficiency of the paratransit operators (OR private collective transport network), if any, such as network restructuring, vehicle scrapping or improvement, improved maintenance, improved passenger information, vehicle priority measures;*
- *Road safety measures via traffic engineering and design, awareness raising measures, safe routes to school initiatives, don't-drink-and-drive initiatives, etc.;*
- *Gender-focused measures, for example to improve women's access to public transport as well as to urban opportunities and services;*
- *Social equity-focused measures, for example to improve access of underserved communities to public transport as well as to urban opportunities and services;*
- *Regulatory measures for public transport and paratransit (if any);*
- *Institutional or organisational measures, such as the creation of a public transport authority;*
- *Capacity development measures (staff increases, skill trainings, etc.);*
- *Urban mobility financing mechanisms;*
- *Short term urban mobility policies (car scrapping incentive etc.).*
- *Etc.*

In the long term it can include (city-specific):

- *An outline of the major roads and Mass Rapid Transit lines (metro, LRT, BRT, cable car, commuter rail) to serve the city development in line with the urban development plan;*
- *Recommendations on institutional reforms, and financial sustainability of the sector;*
- *Priority lines of Mass Rapid Transit;*
- *Long term urban mobility policies (transport demand management, transit-oriented development);*
- *Urban mobility financing mechanisms;*
- *MRV organization.*
- *Etc.*

4. Retained scenario, measures and action plan

4.1. Presentation of the retained scenario and its outcomes

A short description of the retained scenario, as a possible combination of various scenarios OR the choice of one formerly described scenario.
The presentation shall emphasize on the process of integration of stakeholders comments and improvement and the main conclusions of the workshops and public meetings for scenario comparison and selection, explaining why it lad (or not) to reconfigure the scenarios presented in the previous chapter.
Outcome indicators and targets of the retained scenarios. The reviewed outcome indicators and the long-term targets for the retained scenario of the SUMP are presented here, as agreed upon in the previous chapter and, if necessary, with adjustments.
Based on the implementation plan, this section might also define intermediary targets for the indicators, for example after five and ten years or more frequently as may be necessary. These indicators and targets should cover all aspects of mobility and accessibility in the city (and include ass a minimum the MYC core indicators for the SUMP) ; special attention will be given to the emissions of GHG.

4.2. Specification of the retained measures

Table-based summary of the mobility and accessibility improvement measures. The retained measures should be described with as much specificity as possible in this section and may include results from some limited additional field investigations (specified and appropriately budgeted by bidders). The measures have to be clearly defined, comprehensive, and well-coordinated. This description provides the cost estimates and the scope of the feasibility studies that will later on be necessary for implementation. Enhanced focus should be on the main hubs or nodes in the city's transport system where coordination may be particularly important. The environmental and social impact of the measures and, in particular, the need for land acquisition should also be well defined.

The description of the implementation measures can be grouped by transport modes and by themes (public transport, non-motorized transport, traffic, road safety, emissions of GHG, resilience to climate events, etc.) to support the identification of (financially) feasible integrated packages of measures. Their presentation should be structured properly, as for the long-list of potential measures (see section 3.4).

Assessment of priorities. Although the SUMP should comprehend a set of complementary and mutually supportive measures, larger and most costly ones as well as to self-standing packages of smaller measures should be prioritized whenever possible (OR: The SUMP should be a comprehensive set of complementary and mutually supportive measures. It may include larger and most costly infrastructure measures as well as packages of smaller and less costly (soft) measures, such transport demand management, educational, promotional or awareness raising measures.) Not more than three levels of priority should be considered. This assessment can be based on a rough estimate of benefit-cost ratios if the traffic model makes it possible to do it. It can also be based on expert judgement, lessons of experience and international best practices, and should take into account the views of stakeholders as expressed during the scenario comparison workshops (module 4) and public meetings. The need for improving social inclusion and promoting equality of opportunity between citizens might also be contemplated for determining priorities. In addition, other factors such as the ease of implementation, the amount of risks and the degree of preparedness should be described.

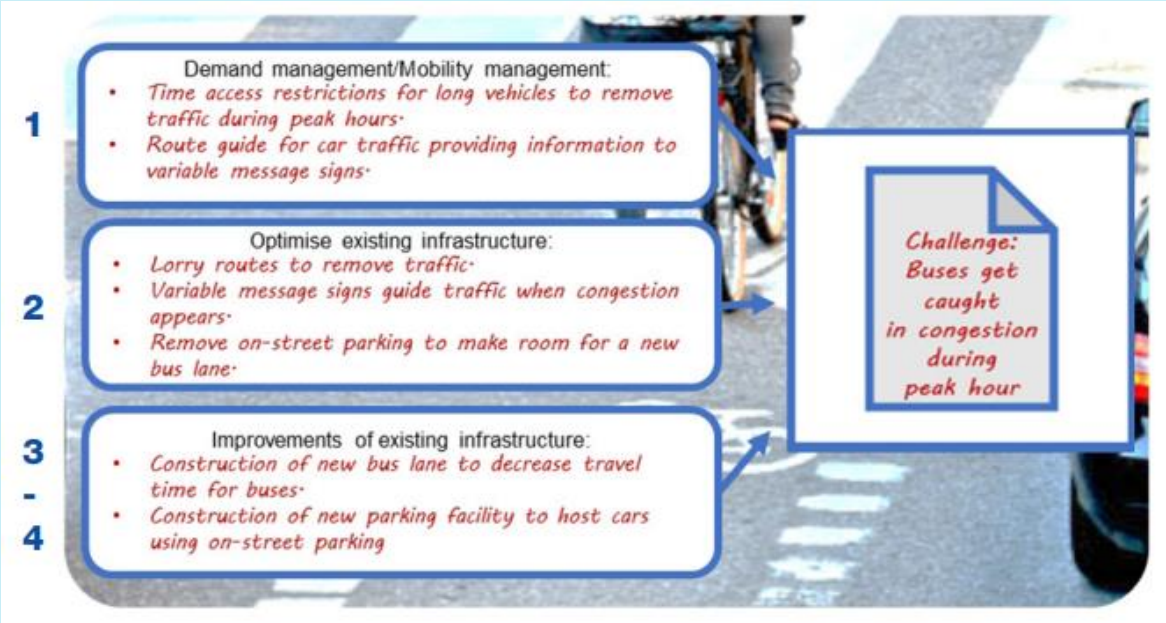


Figure 25: Example of a package of measures to address a local challenge.

Source: STEP-UP FOR INTERMEDIATE CITIES Manual on the integration of measures and measure packages in a SUMP

Figure 26: Example of a structure to get an overview of the coverage of different types of SUMP measures and the balance of internal and external measures.

Target: *No casualties in traffic accidents*

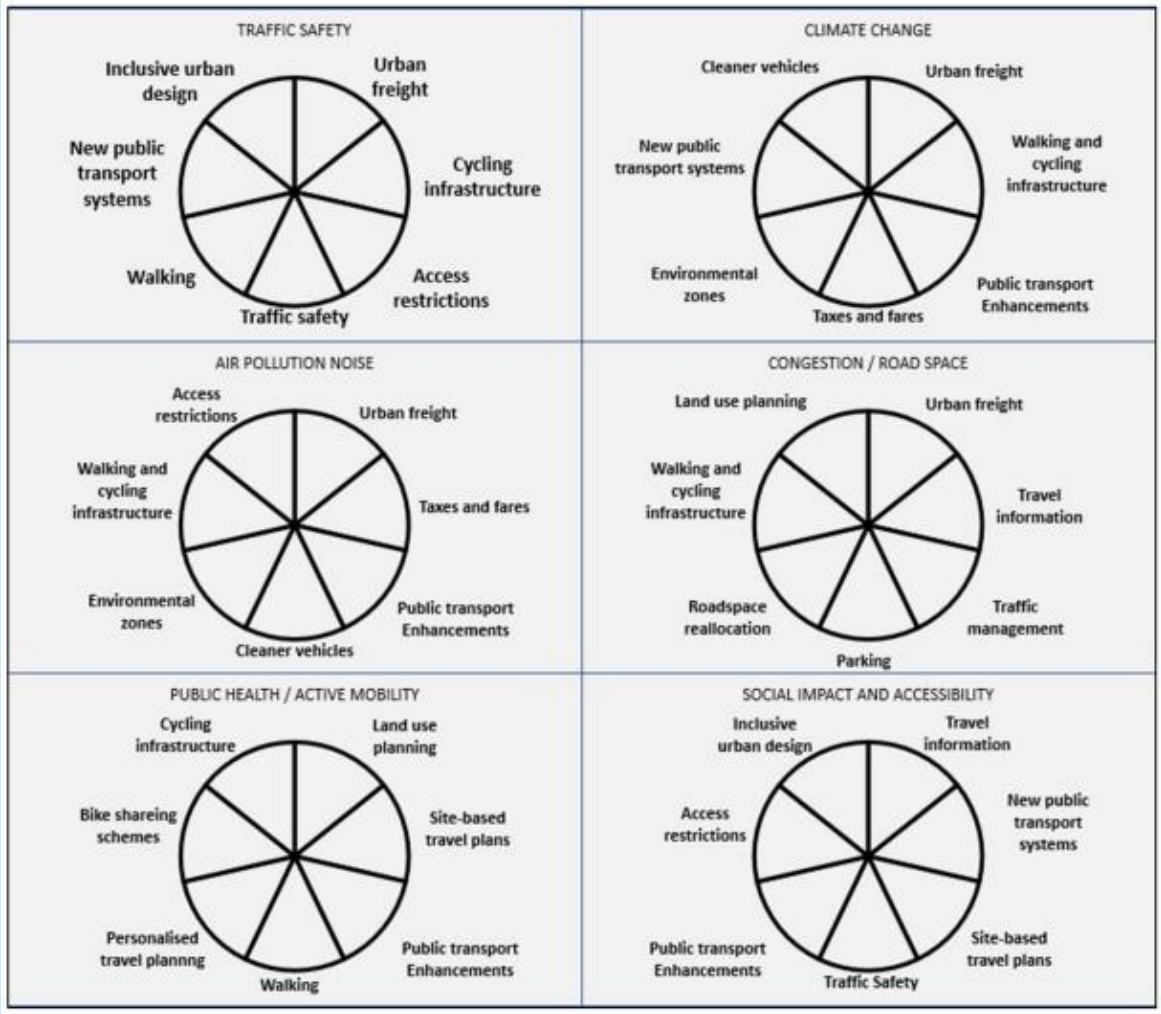
Target: *Increased quality public transport*

Target: *Increased modal share bicycle*

Measure types	Internal measures (inward the organisation)	External measures (outward to the citizens)
Strategic policy-related measures	What has the city's administration realised? • *Bicycle plan (measures, guidance, objectives)* • ... • ...	What has the city implemented? • *Bicycle plan (information)* • ... • ...
Communicative measures and mobility management	What has the city's administration realised? • *Travel policy for the city* • ...	What has the city implemented? • *Information campaign* • ...
Physical / infrastructural measures including maintenance	What has the city's administration realised? • *Allocate budget and responsibility for maintenance* • ...	What has the city implemented? • *New infrastructure for cycle traffic* • ...
Regulation, service provision and legislation including land-use planning	What has the city's administration realised? • *Reallocation of collected parking fees* • ...	What has the city implemented? • *Low emission zone in city centre* • ...

Source: STEP-UP FOR INTERMEDIATE CITIES Manual on the integration of measures and measure packages in a SUMP

Figure 27: Examples of measure areas displayed in pie charts



Source: STEP-UP FOR INTERMEDIATE CITIES Manual on the integration of measures and measure packages in a SUMP

Figure 28 Example of planned new infrastructure

Source: Budapest Transport Development Strategy 2014-2030

4.3. Cost estimates

- **Cost estimates**. This section shall present a cost-estimate of the retained scenarios and its measures / actions, based on the estimate used in the comparison of scenarios, but probably with additional level of detail. For example, costs that were estimated on a cost/km basis for a major new infrastructure or a modernization project can be presented through a better analysis of the cost of key project components in similar projects (for a BRT project, for example, the platform, the passenger stations and transfer facilities, the improvements of intersections and traffic regulation, etc.). Whenever necessary, operational costs would also be refined. If feasibility studies have already been carried out for some projects, the cost estimates in those studies will be updated.

  The cost of a realistic and fundable short-term (5 year) priority action plan shall be clearly identified.

  This may need to be adjusted if concept designs have been prepared for some major and likely costly projects that have not previously been studied (mass transit lines, motorways, or main transport system nodes) or those for which the cost may vary considerably depending on technical alternatives. The preparation of concept designs is likely to be more necessary in larger / more mature cities because of the greater complexity of their projects and their urban structure.

4.4. Implementation schedule and action plan

This section shall present the implementation process and action plan of the scenario retained for the SUMP.

- **Implementation schedule and action plan.** Given the availability of funds (in volume and over time), the priority among measures, their costs, and the duration and constraints of their implementation is here presented in a schedule for optimal implementation of the SUMP over the 15 years of its expected duration. It is essential for the schedule to be realistic and systematically take into account all the sequential stages of implementation, particularly the time required for feasibility studies, environmental and social assessments, review and approval of all stakeholders, mobilization of resources, establishment of specific institutional and legal arrangements if required (as in the case of public private partnerships), preparation of detailed engineering whenever necessary, selection of suppliers and contractors, etc. All activities necessary for successfully carrying out these stages are clearly identified and presented in a time-based action plan. Although this plan should cover the entire SUMP period, it should be particularly detailed and carefully thought out for all actions necessary during the first five years.

  The implementation schedule and action plan also ascertains what entities will take responsibility for implementing the various measures in the SUMP (including the preparatory studies) and what strengthening they may need in order to be able to do so.

  The implementation schedule and action plan shall clearly identify a realistic and fundable short-term (5 year) priority action plan.

The implementation schedule and action plan are based on a previous analysis (by the consultant) of the need for studies to be carried out downstream in order to prepare for implementation of the SUMP. These will essentially be feasibility and engineering studies for the improvement measures, but they could cover a very wide range of subjects such as infrastructure improvement and development, traffic regulation, tariff and ticketing studies, restructuring of public transport operations and integration of fares, institutional development, introduction of new technologies, etc. The time necessary to deliver these studies is to be carefully be estimated.

- **Capacity development plan (optional - if mentioned in the Consultant ToR).** This section present a capacity development plan to secure the implementation of the SMP, if considered necessary ()

LINEA D'INDIRIZZO 3.a.:	MIGLIORARE LA QUALITÀ DELL'ARIA
Azione 3.a.2. Adeguare i veicoli circolanti a motore non ecologici	
Misura operativa 3.a.2.1. Adeguare i mezzi del TPL non ecologici con l'installazione dei filtri anti particolato	
LINEA DI SOSTENIBILITÀ: AMBIENTALE	
Descrizione e obiettivo	***Prodotti proposti***
Riduzione delle emissioni di inquinanti dei mezzi pubblici attraverso l'installazione di filtri anti-particolato sul parco preesistente. È prevista l'installazione dei filtri su 396 veicoli di GTT. I filtri anti particolato consentono di ridurre di oltre il 95% le emissioni di particolato e del 50% di biossido d'azoto (NO2). Il sistema filtrante è costituito da 4 elementi principali: un filtro anti particolato in carburo di silicio costituito da una struttura a nido d'ape che trattiene il particolato, composto prevalentemente da particelle di carbone di varie dimensioni (il cosiddetto PM10); una marmitta dove viene alloggiato il filtro anti particolato; un additivo (ferrocene) che aggiunto al carburante consente la completa combustione al raggiungimento di una temperatura di circa 250/280°C e una centralina che sovrintende al corretto funzionamento del sistema.	N° di veicoli dotati di filtro anti-particolato Riduzione, nell'area Torinese, di 19 ton di polveri sottili/anno.
Ente/i attuatore/i	***Tempi di attuazione***
GTT Ministero ambiente Regione Piemonte	Entro marzo 2010 si procederà all'installazione sui veicoli Euro2; in fasi successive si estenderà l'intervento ai veicoli Euro 3 ed eventualmente a quelli di classe Euro 1, se nel frattempo non sono stati sostituiti.
Modalità di attuazione	***Risorse economiche necessarie***
Accordo di programma per la qualità dell'aria della Regione Piemonte.	Il progetto si inserisce nell'ambito del Programma Regionale per la qualità dell'aria.

Source: *PUMS – PIANO URBANO DELLA MOBILITA SOSTENIBILE*, **www.comune.torino.it/geoportale/pums/cms**, *Azione – Misure operative sched*

Table 3: Example of measure description – Turin, Italy

Source: PUMS – PIANO URBANO DELLA MOBILITA SOSTENIBILE, www.comune.torino.it/geoportale/pums/cms, Azione – Misure operative sched

5. Budgeting & Finance

This chapter is to be based on the results of MobiliseYourCity Terms of Reference Module 4: Budgeting and finance.

It should present:

- A budgetary framework:
  - detailed costing, in line with previous section (specification of measures, action plan)
- Assessment of options to finance measures
  - By fees and levies from mobility operations
  - By cross-finance from other public revenue streams
  - Through third party finance (i.e. local banks, development finance); summarize results of initial dialogues conducted with relevant financial institutions, to establish a base in the SUMP for later follow-up)
- Financing concept
  - Summary of intended comprehensive financing concept
  - Institutional implementation responsibilities,
  - Constraints, risks, and needs for further studies.

5.1. Future Budgeting

- **Assessment of available financing**. A refined analysis of available financing carried out when the various scenarios were prepared. It should include an inventory all potential **funding sources** (fare revenues, non-fare revenues, land value capture, tolls, fees and charges, specific taxes, etc…) and **financing schemes** (local government's existing and new fiscal resources, fees and charges, central government grants, private or public investors, loans that might come from local or international institutions taken into account local government credit worthiness, etc.) and competing budgetary needs (by other sectors and/or other cities) in order to present the amounts that would realistically be available for the urban mobility sector both for investment and operational expenditures. It is possible to be concluded with only two options, prudent or optimistic.
- This section may need to be adjusted to take into account the particular context of the country and the city for which the SUMP is being prepared. This is especially relevant for level 1 cities, where the central government is likely to have more control over the city's finances and donor financing might be both more important and more uncertain. In that case, three funding options may be formulated. The availability of financing may also depend on whether or not some main city transport infrastructure are likely to be financed by the central government as part of a national inter-urban transport project. This should be noted.

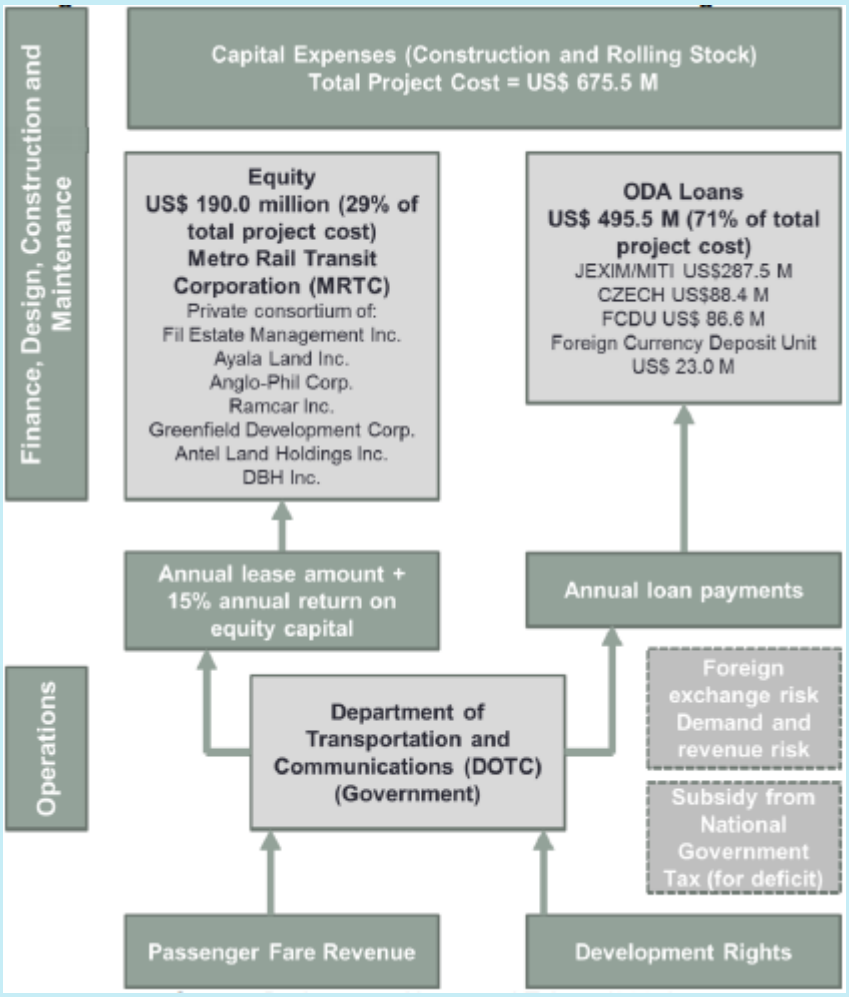


Figure 29: Example of a budgetary framework (Metro Manila MRT3's Build-Lease-Transfer Agreement)

Source: Enhancing the sustainability and inclusiveness of the Metro Manila's urban transportation systems: Proposed fare and policy, reforms Mijares et al. (2014)

5.2. Utilization of external finance

- Description of ability of local level to access external financing
- Summary of exchange on SUMP measures with national Ministry of Finance
- Summary of exchange with selected development banks to support SUMP implementation

5.3. Implementation plan

Funding plan for the short-term (5 years) priority action plan.

MEASURE	DESCRIPTION OF MEASURE	RESPONS-IBILITY	ACTIVITIES WITHIN A MEASURE	IMPLE-MENTATION PERIOD	RESOURCES NEEDED	COST	STAKE-HOLDERS INVOLVED
Segregated Cycle Facilities	Marked lanes and tracks along major urban streets.	Road owner	Analysis of bicycle lanes needed.	Year 1: Jan-May	2 traffic and city planners	30 000 € + 20 % of fulltime from traffic planner	Bicycle associations
			Develop a bicycle network plan.	Year 1: May-Dec	4 traffic and city planners	40 000 €	Bicycle associations, neighbour cities
			Plan and construct bicycle lanes.	Year 2-5	Planners, developers	500 €/m	Construction companies
Develop mobility management plan	Plan about what, when and how to work with mobility management.	City admin-istration	Develop mobility management plan	Year 1: Apr-Oct	Expert on behaviour change, traffic planner	30 000 €	-
Improve pedestrian crossings on prioritised routes							
...							
...							

Table 4: Example of measures to describe measures and measure packages in an Implementation Plan

Source: Standards for developing a SUMP Action Plan

6. Monitoring & Reporting plan

This chapter is to be based on the results of MobiliseYourCity Terms of Reference Module 5: Monitoring & reporting and Module 4: Budgeting and finance.

The Monitoring and Reporting Plan outlines the monitoring and reporting requirements and procedures in one document. It describes the processes how to monitor the set of general SUMP indicators described in chapter 3, as well as implementation indicator(s) for specific SUMP measures. The plan should summarise:

- Monitoring boundaries,
- indicators to be monitored,
- Monitoring frequency by indicator
- methodological requirements for data collection, processing and assessment,
- responsibilities and necessary budget,
- time plan for monitoring the different indicators and collecting different data,

6.1. Preparation of monitoring plan

The preparation of the monitoring plan often falls under module 4: Budget and finance, but the monitoring plan is presented in chapter 5. The methodology for the collected data and computed values of indicators as well as the institutional responsibilities for doing it and the associated costs are included. The format and typical content of monitoring and evaluation is based on reports issued at regular intervals. This will include a comprehensive annual “State of urban mobility” report. All these outputs will be presented in a simple, user friendly, monitoring and evaluation manual, which might be the basis of terms of reference in case the monitoring and evaluation is contracted out to a third party.

The template for local SUMP M&E plans proposes the following structure:

1. **Introduction**
   - Definition of key concepts and justification for monitoring and evaluation activities.
2. **City Description**
   - General background of the current transport situation and main problem areas.
3. **SUMP Objectives and Strategies**
   - Main objectives and elements of the SUMP to clarify aims that are pursued.
4. **Evaluation and Monitoring Procedures**
   - General organisational and procedural framework for evaluation and monitoring activities, including the organisations responsible, time schedules, and stakeholder involvement.
5. **Evaluation and Monitoring Indicators and Targets**
   - Long list of outcome, intermediate, output and input indicators for cities to choose from to monitor success against objectives as well as progress of implementation. Core vs additional indicators are suggested as well as advice provided for suitability of indicators for different situations and for a measurement plan (sources, method, timing / regularity).
6. **Data Reporting, Analysis and Evaluation Methods**
   - Key methods are described for cities to choose from, including references for further information.
7. **Resources Required for Evaluation and Monitoring**
   - Outline of different types of resources that need to be considered, including financial, staff resources external consulting costs, existing data bases, transport models or other tools.

Figure 30 Structure and content of a local SUMP M&E Plan

Source: Monitoring and evaluation: Assessing the impact of measures and evaluating mobility planning processes

6.2. Monitoring boundaries

This part includes a definition of the monitoring boundaries according to the study area of the SUMP, the boundaries applied in the scenario development and the data availability. The monitoring boundary should correspond to the boundaries applied in the baseline scenario, but will depend on the final decision of the scope of the SUMP (ideally same as in the scenarios) and attainable data.

MobiliseYourCity follows a territorial approach for assessing GHG emission reductions (see MYC Monitoring and Reporting Approach for GHG emissions, Annex 4). The definition of the boundary includes the “geographic” or “administrative” boundary of the territory. Furthermore, “boundaries” describe

- the transport modes monitored (depending on the measures included in the SUMP, e.g. if freight transport is not covered, it may be decided that freight transport activity may not be covered if data is difficult to attain),
- the emissions considered (i.e. direct CO2, CH4, NOx of fuel combustion as well as upstream emissions of fuel production),

- the time frame/time interval.

FULFILMENT **OF GOALS**

Goal		Goal 2013	Goal 2030	Outcome 2008 (base year 2004)	Signal
1	Increase proportion of inhabitants in the local authority who live in 'CP circles' within built-up areas. (CP circles – priority areas for expansion and utilisation according to the Comprehensive Plan).	increase	increase	increased	
2	District programme with development needs, proposed measures and focus will be produced for all built-up areas/districts.	all	-	follow-up in progress	
3	The physical traffic environment will be designed to increase the average speed of city bus traffic from 18 km/h to 22 km/h by 2013, and 23 km/h by 2030.	22 km/h	23 km/h	18 km/h	
4	Increase the number of pedestrian and cycle paths by 10% by the year 2013, and 30% by the year 2030.	+10%	+30%	+ 5%	
5	The proportion of safety-adapted pedestrian and bicycle crossings should be 30% by 2013 and 100% by 2030.	+30%	+100%	+ 46%	
6	Increase pedestrian traffic per inhabitant.	increase	increase	reduced	
7	Bicycle traffic per inhabitant will increase by 5% by the year 2013 and by 10% by the year 2030.	+5%	+10%	± 0	
8	Continually increase travel by public transport per inhabitant.	increase	increase	+15%	
9	Reduce motor vehicle traffic per inhabitant on the state and municipal road network	reduce	reduce	increased	
10	Reduce motor vehicle traffic per inhabitant on the municipal road network by 2% by the year 2013 and 5% by the year 2030.	-2%	-5%	+ 3%	
11	After new constructions, the travel time index for bicycles/cars will be less than 1.5 for journeys to district centres and built-up areas (relates to both housing and workplaces).	75% of future buildings	75% of future buildings	follow-up in progress	
12	After new constructions, the travel time index for public transport/cars will be less than 2.0 for journeys to district centres and built-up areas (relates to both housing and workplaces).	75% of future buildings	75% of future buildings	follow-up in progress	
13	Increase physical accessibility for disabled people, children and older people.	increase	increase	increased	
14	Reduce proportion of people who feel that the traffic environment is unsafe.	reduce	reduce	increased	
15	Reduce the number of serious injuries and deaths on roads by 25% by the year 2013 and 50% by 2030 (relates to both the municipal and state road network and the basic data comprises road accidents reported to police).	-25%	-50%	± 0	
16	Reduce emissions of carbon dioxide per inhabitant from traffic in the municipality by 10% by the year 2013 and 40% by 2030.	-10%	-40%	+12% (data from 2007)	
17	By 2013, all properties located along the municipal road network that are exposed to noise levels exceeding 61 dBA will have been offered grants towards noise reduction measures. By 2030, all properties exposed to noise levels exceeding 54 dBA will have been offered a grant. Noise levels relate to the Community Noise Equivalent Level, CNEL.	100 % with equiv. noise level exceeding 61 dBA	100 % with equiv. noise level exceeding 54 dBA	Offer according to plan. Since 2004 the number of residents affected by noise levels has decreased by 33%	
18	Increase the proportion of inhabitants in the City of Lund who state that they have been influenced by LundaMaTs.	increase	increase	+ 33%	

Figure 31: Traffic light assessment example

Source: SUMP for the City of Lund, 2009, p. 14-15 (redesigned)

6.3. Indicators to be monitored

Definition of indicators (including calculation formula, etc..), see for reference the MobiliseYourCity *Core Indicators* Publication (2019).

6.4. Methodological requirements for data collection, processing and assessment

Baseline calculation

Includes a methodology for calculating the current emissions of the transport system within the boundary of the SUMP (ideally, GHG emissions should be reported annually, too), following the standard MYC Monitoring and Reporting Approach for GHG emissions (Annex 4). Real world emissions monitored throughout SUMP implementation need to be compared against a baseline scenario in order to calculate the emission reductions (or against an emission target if available in the SUMP, e.g. reach 1990 levels by 2030). The baseline scenario – i.e. the expected emissions level without SUMP implementation needs to be presented in way that is as dynamic and sensitive to real as possible. E.g. real GDP development or real fuel prices should be considered for e.g. assuming the number of cars and mileage in the baseline case. This means that the baseline scenario for monitoring will build upon the baseline scenario developed in the 'Vision & Goal Phase' of the SUMP but may have to be recalculated with real world parameters for e.g. GDP growth etc. if they diverge from the original assumptions.

6.5. Monitoring and reporting budget

This section present and justifies the additional budget requirements for monitoring and reporting and whom the budget will be allocated to needs to be presented here and should include a suitable institutional setup/division of responsibilities among government departments who hold, collect and/or process data.

6.6. Monitoring timeplan

Examples of Implementation and Sustainable Mobility Indicators

Table 5: Indicators to track implementation of single measures

Topic	Infrastructure or services offered	Use of the new infrastructure or service
Public transport	■ PT improvements: length of bus lanes, number of bus priority intersections ■ PT offer (quantity): vehicles x km ■ PT offer (quality): average commercial speed	■ PT usage: number of annual trips, number of boardings/alightings at main stops
Mobility management and new services	■ Car-sharing offer ■ Car-pooling offers ■ Initiative for the development of company mobility plans	■ Number of car-sharing subscribers, number of uses/day per car ■ Number of subscribers to carpool portals ■ Number of company mobility plan

Topic	Infrastructure or services offered	Use of the new infrastructure or service
Transportation of goods	■ Number of delivery areas	■ Number of parking fines

Source: Certu (2012)

Sustainable Mobility Indicators	
Transport modal share	■ Mode split between different transport modes
Integration of transport and urban planning	■ Number of micro-SUMP initiatives/sector plans ■ Number of housing developments, jobs and amenities near existing PT networks

Source: adapted from Certu (2012)

Another set of 19 sustainable mobility indicators has been developed by the World Business Council on Sustainable Development and has already been tested in four cities in emerging economies:

For more information on these indicators and how to assess them please see:
http://wbcsdpublications.org/project/smp2-0-sustainable-mobility-indicators-2nd-edition/

6.7. Consolidation into MYC partnership aggregated monitoring

This section describes the process for the consolidation of the core SUMP indicators into aggregated indicators at the scale of the MobiliseYourCity partnership.

7. Annexes

7.1. List of contributors to SUMP development

7.2. Timetable of SUMP development

- If the titles of the topics below are not relevant, please feel free to reformulate.
- If not started yet: please write “dates to be defined”
- If not applicable: please write “N/A”

Topic 1	Initiation (“MobiliseDays”)	x.201x – x.20xx
Topic 2	Inventory & Diagnosis	x.201x – x.20xx
Topic 3	Goal Setting & Strategic Phase	x.201x – x.20xx
Topic 4	Monitoring & Reporting - MRV	x.201x – x.20xx
Topic 5	Transport technologies	x.201x – x.20xx
Topic 6	Capacity Development	x.201x – x.20xx
Topic 7	Institutional framework	x.201x – x.20xx
Topic 8	Budgeting & Finance	x.201x – x.20xx

7.3. Data collection methods

- **Qualitative analysis via individual interview of main stakeholder**: In case some interviews were already carried out in previous stages of the SUMP development process (see coordination and management module or NUMP level modules), assimilate the information for the global diagnosis. The consultant is expected to assess interview and information gaps and carry out (missing) interviews accordingly.
- **Qualitative analysis and focus groups interviews**: The consultant will organize focus group interviews to better understand key challenges related to urban mobility in the city as perceived by stakeholders and users and their vision for a sustainable future of the mobility in the city. This will concern in particular:
- **A qualitative analysis** (focus group interviews with representative groups of the city’s population) on mobility practices and needs in the city: frequency of trips, trips motives, specificities men versus women, transport budget, public transport service quality, etc.
- **Thematic groups**, such as transport operators (private or public, formal or informal), businesses and commerce, public transport users, etc. In addition, or as a substitute, a qualitative survey of private transport operators (formal and informal) could be conducted.
- **Geographically based groups**, representative of each district or important area.

- On the basis of this data collection and analysis, the consultant will prepare **a diagnostic of the current situation**, showing strength and weaknesses and prepare simple contrasted visions about further development of the city.

- **Additional surveys** (if requested by partner city and budget is secured): To complement the assessment of transport demand, the consultant will conduct necessary surveys, possibly including:
  - Household survey or update of existing surveys;
  - Personal vehicle on-road surveys (origin-destination, modal choice, level, willingness to pay, value of time, etc.);
  - Road traffic counts along major corridors and at major intersections;
  - Non-motorised transport survey (including analysis of historic and current use as well as potential of walking and cycling);
  - Public transport passenger survey at major public transport stations (origin-destination, modes, trip motives);
  - Public transport passenger counts at peak hours in major stations and interchanges;
  - Public transport capacity assessment on major public transport routes including informal transport;
  - Goods/freight transport survey;
  - Air pollution and GHG emissions survey (for emission factors or for global GHG inventory);
  - Noise survey.

- The consultant is expected to **use innovative methods of IT-based data collection and analysis** in view of achieving better quality and efficiency of transport system planning. These innovative methods include Global Positioning System (GPS)-based data collection, smart phone zoning data proposed by cellular operators, web surveys, as well as spontaneous and voluntary data sharing by citizens.
- The consultant's data collection will therefore go well beyond classical approaches of data collection, such as household surveys and travel diaries. It is expected that the consultant integrates existing travel data made available by the local municipality (transport routes, fares, stops, time tables, etc.) and updates the information, if necessary via data re-collection. The consultant should, in particular, gather and analyse data on informal urban transport and capture short-distance trips that may have been underrepresented in conventional travel data surveys.
- In the bid to MobiliseYourCity, the consultant should elaborate how the new quality data could be used by the local municipality to provide real-time transport/travel information, for example via mobile applications or dedicated websites.
- The innovative data collection methods expected by MobiliseYourCity are a specialised service which may need to be subcontracted. In case the service cannot be provided by the consultancy, it is expected that the consultancy organises a call for proposals open during project months 3 and 4 with an ensuing evaluation and selection of a service provider no later than in project month 5.

7.4. Participation summary

Date / Period	**Organization / Representative**	**Format**	**Topic / conclusions / agreements**
e.g. June 2019 – February 2020	e.g. Dakar cycling association, Company XYZ, local bank XYZ etc.	e.g. Workshop,, joint planning, consultation	

7.5. Detailed description of scenarios

The presentation of each scenario shall consider the following components:

- **General assumptions** (*common to all scenarios*): GDP growth, socio-demographic data…
- Projection of the **urban structure and development** (long-term and very-long-term) *(might be common to various scenarios)*
- Assumptions and recommendations on the **institutional, regulatory and organisational framework** for urban mobility needed to cope with the scenario rationale, eventually in link with those for urban development *(might be common to various scenarios)*
- Assumptions and recommendations on the **financial framework** for urban mobility needed to cope with the scenario rationale *(might be common to various scenarios)*
- A description of **transport infrastructure and transport services supply,** including:
  - public transport,
  - paratransit / intermediate public transport,
  - Urban road network…
  - New mobility services
- A description of **urban mobility policies** (transport demand management, transit oriented development);
- A description of the infrastructure, services and facilities for **Non-Motorized Transit** *(might be common to various scenarios)*
- A description of **urban mobility policies** (transport demand management, transit oriented development);
- **Data, figures and analysis on mobility demand and traffic** (eventually based on the traffic modelling – see below)
  - Shall include at least a projection of the modal split (in number of trips, passenger.km and veh.km;
  - Should/might also include an analysis of the mobility patterns and an analysis of the mobility demand structure in the scenarios (Origin-Destination, trip length, trip purposes, etc…)
  - Should/might also include ridership forecast on the public transport main corridors / the whole public transport network, and traffic on the urban road network

- Shall include an analysis of the efficiency of the road / PT networks (passenger/km; veh/km; commercial speeds, etc.)
- A description of the **urban freight system** *(might be common to various scenarios)*
- A description of the **policy and framework for digital mobility** *(might be common to various scenarios)*
- An estimation of the **CAPEX and OPEX**
- A description of the **main impacts on the surrounding environment**: impact on land-use and urban development, environmental and social impact, induced economic development, etc.;

7.6. Long list of potential measures

All the actions measures from the long list shall be presented one by one (or by integrated packages) as follows:

- **Definition and description of actions and (integrated packages of) measures**: A presentation of defined actions and integrated packages of measures implemented in the short and long term scenario. Each action, measure as well as integrated package of measures paying particular attention to technical design, cost, timing, public engagement requirements, anticipated impacts, and potential risks should be described. These actions and measure packages are the building blocks for the definitions of the scenarios.
- **Identification and assessment of the effectiveness of measures** for targets to be reached, in particular in relation to their impact on GHG reduction and other MobiliseYourCity core indicators (modal split, accessibility, road safety, commercial speed, etc…).

7.7. Traffic model report

When a Traffic model is used, this report should include :

- The description and characteristics the traffic / demand model itself (model structure, model inputs and outputs, calibration process and results, used software, algorithm / formulas utilized for calculation),
- The main assumptions
- The results of the traffic model for the various scenarios, in compliance with the Terms of reference

7.8. Data reporting template for monitoring and evaluation

Reporting template that covers data requirements for the mandatory MYC indicators, as well as the city specific implementation indicators. Data to be collected (non-exhaustive list) include:

- Fleet composition
- Mileage by vehicle type (e.g. calculated traffic counts and road length)
- Fuel consumption data (e.g. of bus fleets)
- Traffic speed
- Fatalities (e.g. data reported by the police)

- etc.

The template shall be provided in Excel format and include precise information on what data has to be collected in which data format, as well as information on the time intervals for data collection (in a separate information sheet). In the end, the template shall serve the city to input the collected data and maintain it.