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CAPACITY BUILDING FOR SUSTAINABLE URBAN MOBILITY PLANS

THE LINK BETWEEN STRATEGIC PLANS, PROGRAMMING, PIPELINE AND PROJECT PREPARATION

23-24 September 2024

TRT DTV CONSULTANTS Goudappel MOBILITY MOVES US stratec TIS TREDIT S.A. Consulting - Systems Engineering

CONTENTS

- Key definitions and terminology
- Coherent project selection
- Interlinkages across decision levels, departments, geographies and themes
- Managing risks and complexity for a smooth SUMP process

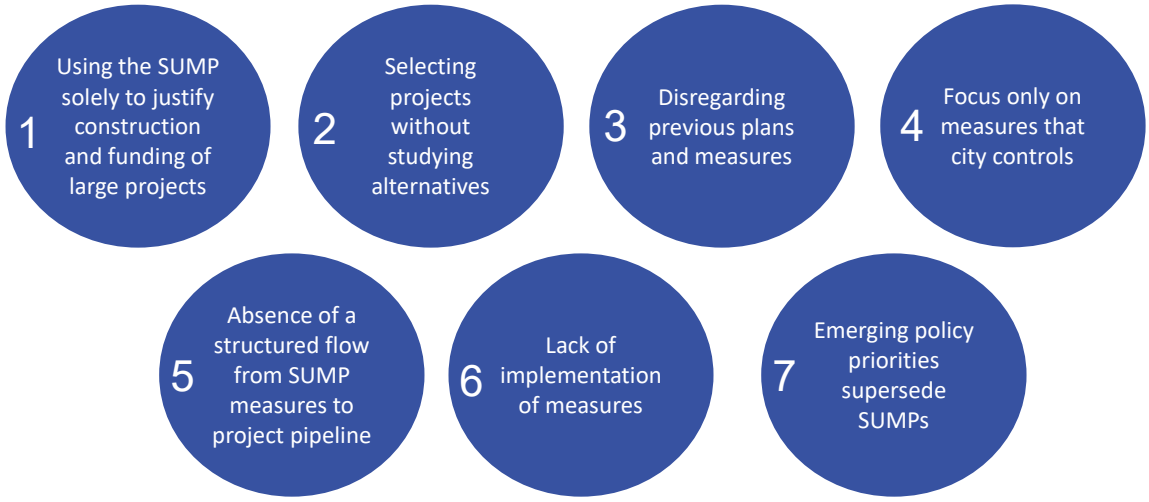
Warm-up

- Based on your professional experience
  - is the distinction between strategic planning, programming, pipeline and project preparation clear?
  - Looking to the SUMP cycle can you identify the corresponding stages where these concepts apply?
  - If you have to classify, where do you consider most challenges appear (strategic planning, programming, any other)?

Source: GUIDELINES FOR DEVELOPING AND IMPLEMENTING A SUSTAINABLE URBAN MOBILITY PLAN (2nd Edition), 2019

Why definitions matter?

- Often the distinction between strategy, plan, measure, project, programming, project pipeline is not known, leading to misunderstandings and common mistakes



SUMPs are not new a tool in transport and mobility planning; they have been advocated and implemented for several years.

However, over all these years and spread across Europe and despite the availability of common guidance and methods, **several SUMPs do not result as planned**.

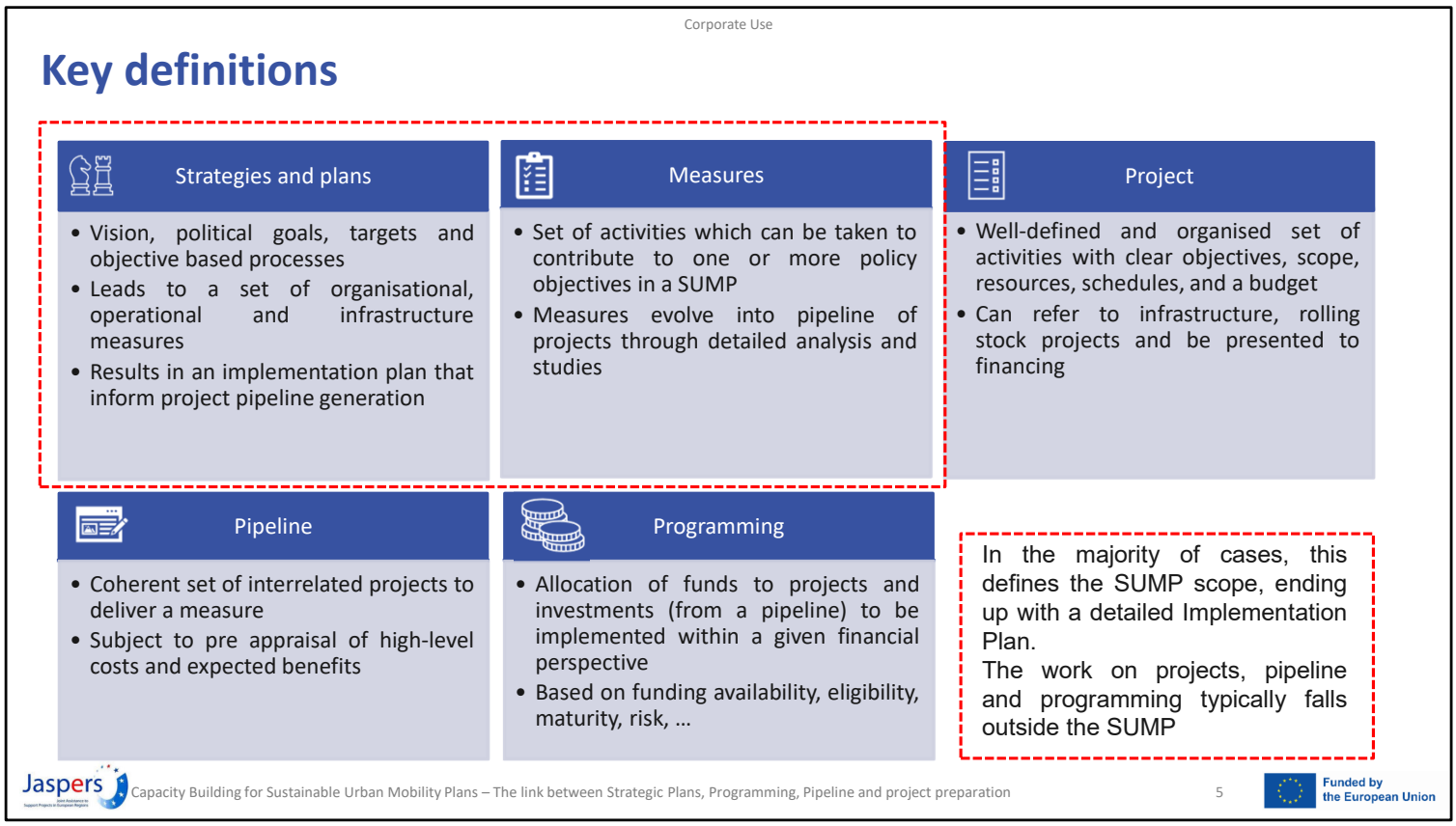
That is why, somehow the purpose around this module progresses also around clarifying a set of definitions with which we aim to **contribute to avoid further misunderstandings and mistakes.**

Short explanation of the identified common mistakes:

1. This common mistake is often known as starting the SUMP from the roof
2. Alternatives should be sought and benchmarked particularly at measure level (e.g. study different modal options before selecting the one that suits best the designated SUMP high level objectives, not always this is done, and a decision is already taken before being studied
3. Not considering pre-committed/planned / systemic measures is also an often mistake, as transport practitioners might overlook other actions, plans, strategies at different scales. For instance, not considering a long term planned regional metro line linking two adjacent cities when developing own SUMP
4. Transport practitioners need to take account that the responsibility for some measures fall within the remit of other organisations and those are also to be integrated in SUMPs with respective owners identified. For instance, if the city is served by long-distance transport operators, the SUMP must acknowledge the ownership of measures carried out by the public transport operator and liaison with

them the appropriate coordination mechanisms for addressing and implementing such measures. This is also valid in the context of the TEN-T urban nodes, whose territorial scope widens much beyond the city who often conducts the SUMP. The SUMP should not be limited to the measures controlled by the city

5. The flow from SUMP to measures and from these to the financial programming that underpins the project pipeline is frequently absent
6. Very often, SUMP measures are not implemented and remain on the shelf, especially because points #1-5 are not observed
7. Especially when new political parties are elected, very often new projects not previously foreseen or studied, and unrelated to the SUMP, emerge and are implemented



This is why we want to start by establishing definitions and boundaries.

When dealing with SUMPs typically we are dealing with the first two of these boxes – strategies and plans and measures ending up with a proper implementation plan whereas projects, pipeline and programming are stages occurring based on SUMP but treated outside its scope.

Strategies refer to the vision, political goals and targets setting. When defining strategy, it is fundamental to **refer and integrate legislative and other strategic and planning documents** that help to define the vision and high-level objectives. At the same time, it is important to consider and integrate its committed or planned projects (e.g. national plan with TEN-T network projects, a regional plan with committed (even if not yet programmed) such as a regional railway connection or a planned logistic area/terminal).

When defining the plan, **it is fundamental to apply solid analysis**, always **confirming how they contribute to the defined objectives and targets**. Transport models can be a useful tool to compare solutions. Analysis should lead to a set of measures that can be of different nature such as organisational, operational, infrastructure based.

When defining **measures**, and even before they are fully embedded in the plan, **it is very important to get a preliminary understanding of their technical/economic/ environmental feasibility of measures - this requires some preliminary high level analysis important in order to avoid disruptions at a later stage (such as due to unavailability of funds, significant delay, and in some cases the broader strategy falling apart if the measure in question is a core part of a strategy).**

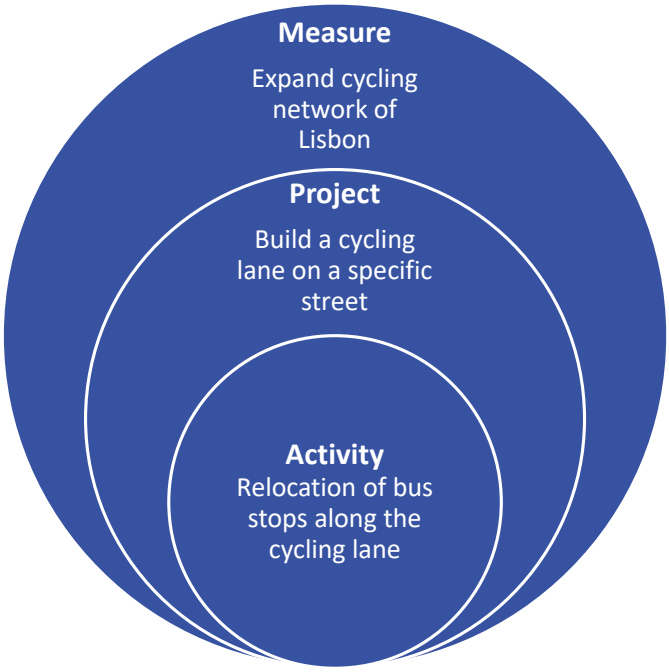
Measures then progress into targeted **projects** that are subject to detailed studies and include a well defined set of activities, scope, resources, etc.

A set of coherent and interrelated projects can be grouped to deliver a measure and in such case we are dealing with a **pipeline** of projects (for instance several projects dealing towards the concretization of a BRT connection)

Programming deals with the allocation of funds to projects and investments

Key definitions

- **Measure:** Set of activities which can be taken to contribute to one or more policy objectives in a SUMP.
- **Project:** A well-defined and organised set of activities with clear operational objectives, a scope, a set of dedicated resources (including a project team), a schedule, and a budget.
- **Activity:** A specific task within a project, with a clear objective, method of execution, calendar and entity in charge.



Source: own elaboration

Let's consolidate this better with some examples

A measure brings together projects that can contribute to one or more policy objectives, for instance expand the cycling network of your city. For the measure different solutions should be assessed and compared, notably in what concerns its high-level costs and benefits, its acceptance as well as the main associated risks.

A project corresponds to well defined and organised activities with targeted operational objectives for which dedicated resources, schedules and budgets are allocated. For instance build a cycling lane on a specific street. A project can be autonomised and object of specific investment line

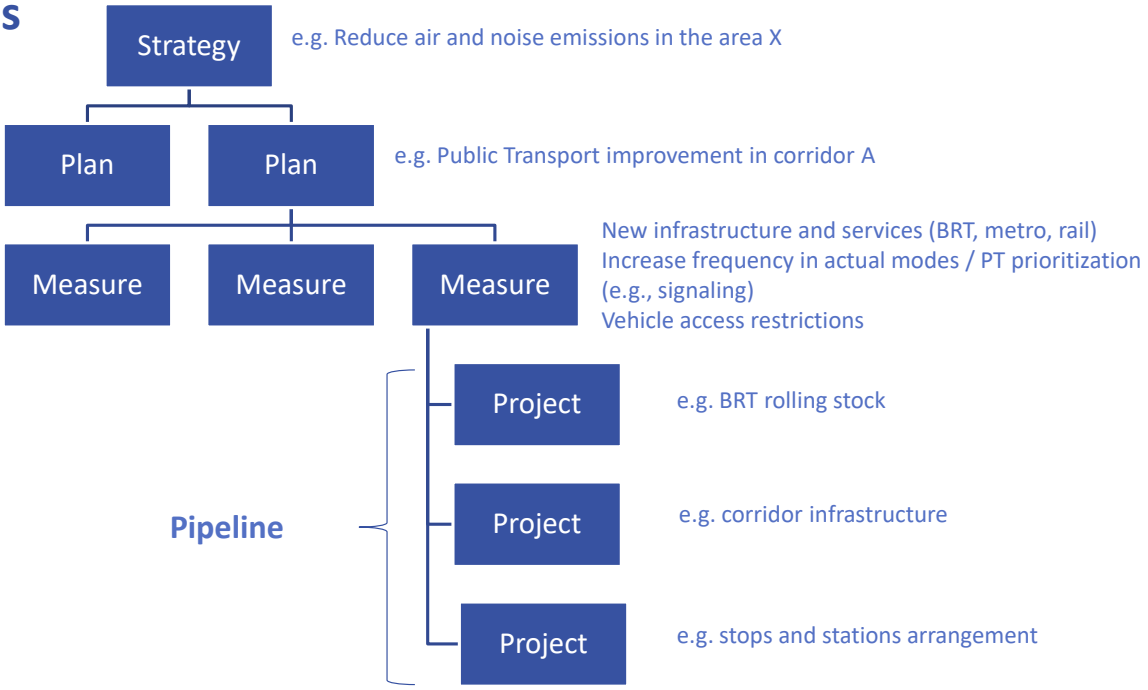
An activity correspond to a dedicated task within a project, for which an execution method is defined, has a calendar to be accomplished and a responsible entity

A SUMP typically addresses measures and identify pipeline of projects (in the implementation plan), in some cases it goes up to the project and activities level but usually those are dealt outside of SUMP in detailed plans.

Explaining and arranging terminology. How do terms relate to each other.

https://www.mobility-academy.eu/mod/scorm/view.php?id=2004

Key definitions



Source: own elaboration

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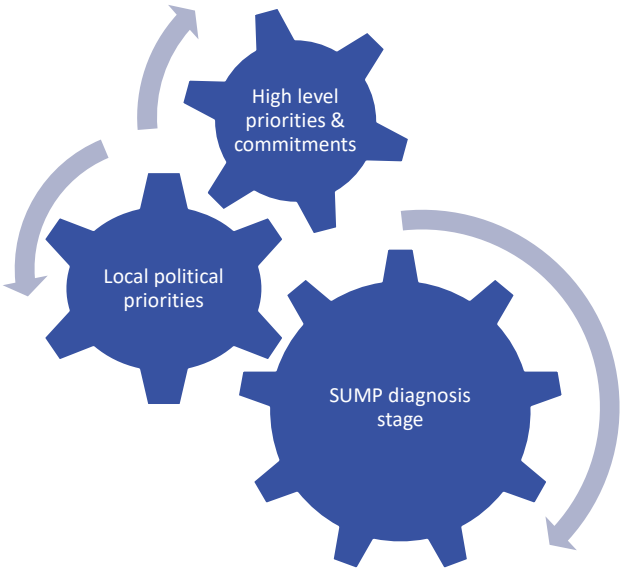
All in all, a strategy can include several plans, a plan can include several measures, a measure can be decomposed in several projects and projects include actions that can be under the responsibility of several players (inside or outside the city)

When several projects are related to a same measure we refer to a pipeline of projects

In SUMPs we are dealing with Measures that comprise a pipeline of projects (but not the detail on the projects) and they should be object of pre appraisal of costs. Implementation / action plan should include a pipeline of projects and its overall programming but not be limited to the availability of funds. The details of projects at specific planning level (and subsequent actions) are usually not included in SUMPs.

SUMP | Planning stage



- Take into account and appraise alongside other options for measures
  - Committed measures (mature projects with allocated timing and funding), e.g., rail bypass between A and B
  - Planned measures (projects planned but not committed yet), e.g., new metro line
  - Local political priorities (including pressure from local actors)
  - Higher level commitments or mandatory requirements (EU, national or regional levels), e.g. TEN-T multimodal Pax Hub by 2030
- Include the results from the SUMP diagnosis
  - Gaps and priorities
  - New measures

Source: own elaboration

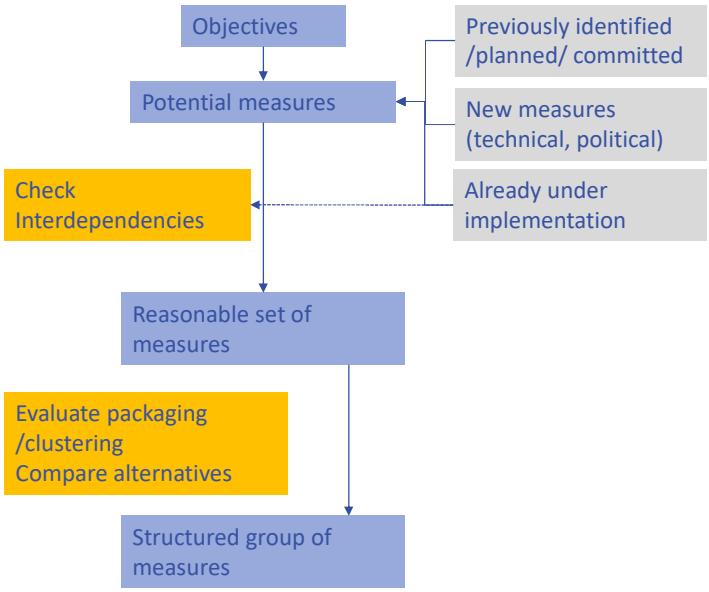
It is essential for a good SUMP that any existing project *wish list* should be properly considered and duly appraised in the analysis.

The approach to be taken will be different depending on whether the different interventions are already committed (underway, with funding secured) or planned for the longer-term. This refers particularly to not being able to ignore ongoing projects and initiatives

A well-developed SUMP, with proper consideration of main policies and strategic objectives at EU and national level should be able to generate projects suitable for funding, and the broader plan should be developed independent of the funding source.

The diagnosis stage during SUMP is rather important also to confirm gaps and assess adequacy of priorities as well as to identify new measures to answer objectives.

SUMP | Define and package measures



Source: Adapted from EIB

- Check interdependencies and coherence
  - With other related priorities (e.g. EV, e-charging)
  - With other social /economic/ environmental measures
  - Give attention to climate change/adaptation /transition pathway
- Scenario building
  - Include pre committed and ongoing measures in BaU
  - Evaluate socio economic trends
- Compare alternatives
  - Look at existing /future demand to assess what level of improvement could be appropriate
- Packaging / clustering
  - Synergetic and reinforcing measures (core /supporting / enabling conditions)
  - Influencing planning, timing, acceptability, ..

Let's dig a bit on this

Produce a list a systematic overview of measures based on the different transport but also other sectoral plans

Assess whether they are already planned or implemented, committed, programmed, etc.

Take attention to other related priorities, for instance the growth of electric vehicles or the planned deployment of charging stations or H2 stations, where they are already installed, where there are already plans for its installation, which powers, etc.

Give special attention to climate change / resilience / transition pathway and whether measures are already identified and /or if there are specific area restrictions that influence planning

Be sure to include a mixture of investment, operational and organisational measures as well as for a wider range of short, medium and long term measures in the long list

Tip: use pie-charts to check whether you are not forgetting relevant topics

At this stage all measures are valid and included in a long list

But from here you need to elaborate on a reasonable set of measures and further to a structured group of measures.

From the long list to the reasonable set of measures it is important to consider interdependencies with measures already under implementation and pre committed ones and those should be considered as part of the BaU. Elaborate some scenarios including socio economic trends (population, urbanization, migration, technology,

climate, consumer bahaviour, etc.), discuss and agree with stakeholders

Tip : scenario building workshops with stakeholders to progress from long to reasonable set of measures

See modules 5, 6 and 9

Compare alternatives

Review and filter measures comparing to how they met the objectives / criteria defined

Look to the existing and future demand to assess what level of improvement could be appropriate (e.g. above a certain threshold a railway line is not feasible)

Check for interdependencies, Group measures in packages or clusters to reinforce synergies, or if a measure depends on another one

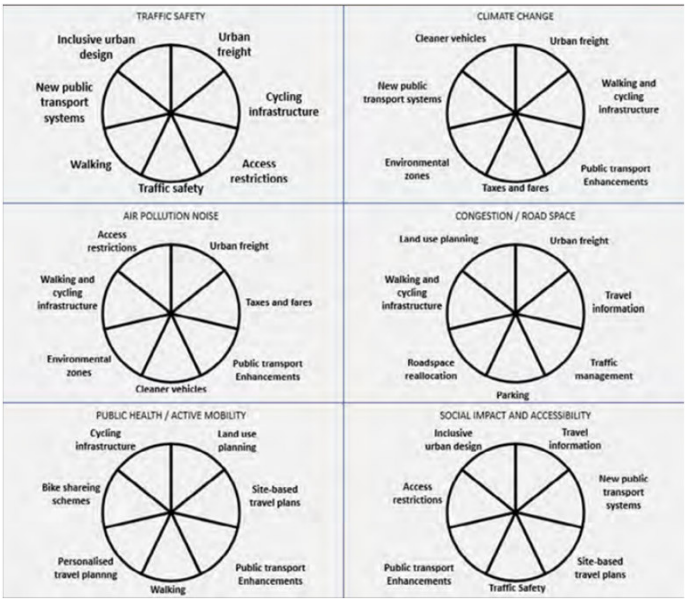
Take into account acceptability issues such as if a measure is deployed in advance, it facilitates the acceptance of a subsequent one

Take into consideration influencing timings, etc.

At this stage you should have reached a structured set of measures which will then undergo further analysis and pre appraisal

Note: BaU (Business as Usual); EV (electrical vehicles)

Example for identifying measures across different areas

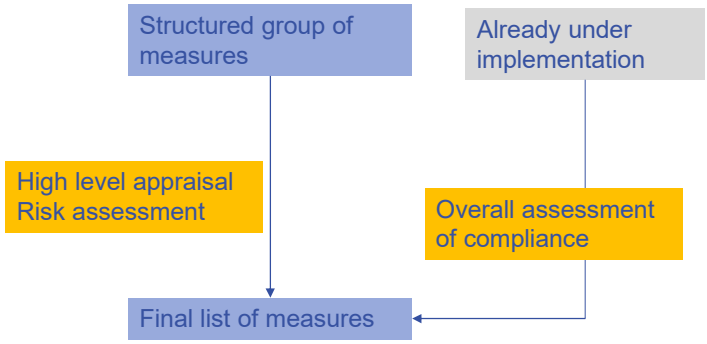


Source: Sundberg, R., 2018. SUMPs-Up Manual on the integration of measures and measure packages - Step up, p. 9

Some examples of packages of measures

- Investment in cycle lane
- Speed reductions in the area
- Corporate and school mobility plans
- Last mile deliveries in the area in cargo bikes
- New main intermodal station
- Cycling access routes and lockers
- Multimodal travel information services
- Integration with local transport

SUMP | Pre appraisal of measures



Source: Adapted from EIB

- High level technical, environmental and economic pre-appraisal and risk analysis of the larger measures so that major projects don't fall at a more detailed stage
  - Review alternatives (e.g. metro vs BRT)
  - Overall magnitude of costs (CAPEX, OPEX)
  - Overall magnitude of socio-economic benefits (congestion, noise, emissions, accidents) and impacts (e.g. health, quality of life, social inclusion)
  - Evaluate major risks
    - Anticipate risks: technical, financial, political, operational, environmental, acceptance, etc.
    - Evaluate its probability & impact
    - Anticipate mitigation actions
- Assess again overall coherence and compliance with objectives

As referred in the beginning, it is rather important **even at the strategic level to get a preliminary understanding of the technical/economic/ environmental feasibility of measures**, thus the **importance of SUMPs to perform a pre appraisal of measures before including them in the implementation plan avoiding disruptions at later stages**

Whereas a transport model is available that is the preferred way to proceed, however not always the model is available and not always the scale of the measures justify the development of a model

What is important is to take into account a set of aspects notably **trying to obtain and estimate**

- **Overall realistic magnitude of costs** - CAPEX and OPEX per year (including operation, maintenance and renewals, that is considering the life cycle of the investment) – i.e. estimates for all relevant categories of civil works/construction; surveys, investigation, design, and mapping; institutional development/capacity development; stakeholder engagement and communications; equipment, vehicles, and materials; consulting services; operation and maintenance; land acquisition; incremental administrative costs; initial working capital, taxes and duties. **Remember that inadequate cost estimates are often considered a significant risk in infrastructure investment appraisals – involve different departments and measure owners in the identification and estimation of costs**
- Potential **sources of revenue to understand whether the measure (s) will be financially sustainable**: i.e. potential financing instruments and funding sources, revenues, taxes, PPPs, subsidies, etc.
- Overall **magnitude of socio-economic benefits that could be anticipated with the**

measures (how far it contributes to reduce congestion, reduce noise and emissions, accidents,

- Overall **impacts in terms of modal split, quality of life, social inclusion**

Even if you can't quantify everything, it is important to perform some overall realistic assessment of the costs effectiveness of the measure supported in qualitative evaluations, multicriteria tools, expert ratings in workshops, etc.

But also **don't forget to try to anticipate some major risks and remember that risks can be of different nature**: political, technical, economic, etc. We'll come back to risks later on in this session. Here it is important to refer that even at this stage, it is important to anticipate risks, to assess its probability of occurrence and its impact or severeness as well as to plan early in advance potential mitigation measures

Just to open a bit the window

When planning for instance a new metro line, it is important to anticipate and evaluate the capabilities of the system from different perspectives including market constraints, workload capacities, materials scarcity and how this could impact on delivery, side by side with the technical and legal aspects.

Note: BRT (bus-rapid transit)

Interactive check-point

During the design of the SUMP, it was identified the need to improve the public transport connections between a new area in the outskirts of the city (where also the new football stadium is located) with the main railway hub. A metro or a BRT connection are under analysis.

Option 1 (Metro)

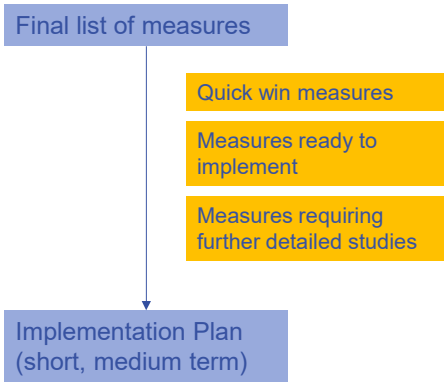
- CAPEX : 500 M€
- OPEX : 200M€
- B/C ratio: 1,2
- GHG savings: 2 T
- Risks:
  - Construction works delays (high probability)
  - Delivery of new vehicles (low probability)
  - Cohesion funds might be lost if technology changes (High probability)

Option 2 (BRT)

- CAPEX: 250 M€
- OPEX: 190 M€
- B/C ratio: 1,8
- GHG savings: 2,2T
- Risks:
  - H2 compression station foresses a technology still under homologation (high probability of delays)
  - Delivery of vehicles (low probability)
  - New concession to be launched

- Do you include such high-level appraisal in your SUMP?
- Do you consider this set of variables as sufficiently robust to support a decision?
- Can you anticipate some other risks?

SUMP | Implementation Plan



Source: Adapted from EIB

- Practical framework for the implementation of measures
  - Realistic timing (short, medium, long term)
  - Resources (human, financial, …) and its availability
  - Criteria for prioritisation (if needed)
  - Responsibilities and time (including outside your own organisation)
  - Conditions for monitoring of progress
  - Projects definition
  - Pipeline of projects
- Define plans for further development of measures and/or projects
  - Further detailed studies /projects
  - Responsibilities (who)
  - Timing (when)
- Programming (see next slide)

Arriving to the final list of measures and the last step towards the design and definition of a feasible and realistic implementation plan. With an implementation plan it is foreseeable a practical document / framework of measures with a realistic timeplan that inform a project pipeline generation. This means that now it is time to

- Describe your measures in activities (i.e. agree on actions, time horizon)
- Establish criteria for priorities / best order for implementation
- Start by quick win measures, i.e., typically those that are easy to implement and allow to gain political commitment and/or visibility
- Define criteria for monitoring of progress
- Attribute responsibilities and timeline (remember that in some cases they can fall outsider your own organisation)
- Reassess financial viability (that can influence the order of implementation of measures)
- Define plans for further development of measures and projects (i.e. detailed studies, including responsibilities and timeline)
- Define pipeline of projects (if applicable)

Corporate Use

From pipeline to programming

Programming deals with allocation of funds to projects and investments to be implemented within a given financial perspective.

Usually, programming falls out of SUMP

- Important to define and clearly express the **selection criteria**:
  - Urgency, Relevance, Maturity, Impacts and cascade effects, etc.
  - Sequence of implementation (also considering the availability of funding & financing)
- But avoid blocking a measure due to the immediate lack of funding or financing, think on blending, slicing or merging of projects.

Measure (s)	CAPEX + OPEX	Potential funding lines	Maturity	Priority
….	….	….	….	….

Programming as seen in the beginning shall be seen in this context from the perspective of allocation of funds to projects and investments (from a pipeline) to be implemented within a given financial perspective. Usually, it falls out of SUMP and its considerations (eg. Funding availability, eligibility, maturity etc.) should not dictate the development SUMP, although at the end somehow the overall the general envelope for investment might dictate the level of ambition for the SUMP within a given time horizon. This relates more to implementation, but can be undertaken robustly when it benefits from the preliminary analysis taken at strategy/plan level (e.g. SUMP).

When dealing with the SUMP and when designing measures, it is important not to be bounded by the short-term availability of funding or lack of it. Do not be bound in defining list of measures or projects only by what funds are available at the moment and don't respond only to one particular source of funding. Funding strategy for projects can thus be dealt with mainly by project promoters; thus do not define project list solely on basis on (short term) funds allocated and available.

Nevertheless, when analysing funding and financing, a clear identification and agreement on the set of selection criteria is fundamental.

Aspect such as urgency (i.e., how quickly it must deliver results (for impacts, i.e. elections) or start (for funding reasons)), relevance (i.e. how far it addresses the priorities and provides value added), maturity (i.e, is it ready to implement or does it still require additional legal or environmental procedures), which are the expected impacts and how far this project enables cascade effects deblocking other projects.

All these criteria, together with availability of funding or financing, facilitate the establishment of the sequence of implementation

Nevertheless, you should avoid blocking a measure due to lack of funding. In such cases it is worth thinking on possible ways to slice actions to facilitate its implementation with less initial efforts or on the other hand to merge and combine different actions to gain scale for financing

Note: this is not the same as packaging measures, this is already in terms of strategies for addressing funding and financing – i.e. slice a measure related for instance with cycling in different actions that could apply to different funding / financing lines – e.g. campaigns in one line, street with municipal budget, byke parks in another line, etc.)

Interactive check-point

- Based on the presentation, is it clear how SUMP flows from strategies into a pipeline of projects?
  - Yes
  - No

- Which steps you found (or you anticipate in case you don't have a SUMP yet) more complex?
  - Planning
  - Define and package measures
  - Pre appraisal of measures
  - Implementation plan
  - Define pipeline of projects

Dealing with Multi-level and Multi-department Process

Source: Goudappel

- There are multiple levels within administration
- Plans typically are managed by a leading department
- Measures can involve multiple departments
- Projects can involve multiple organisations, including those outside the city administration

How to address challenges?

- Strong project/program management
- Responsibilities and resources
- Regular follow-up (meetings)
- Communication

In this second part we'll be focusing more on a different set of questions. SUMPs, due to its integrated approach, requires the involvement of different administrative levels and entities as seen before.

Equally they require multidepartment engagement within the same organisation (typically the city or an agglomeration of cities) i.e., traffic, urban planning, environment, education, etc.

While plans are typically managed by a leading department, programs involve multiple departments, therefore a strong project/program management should be envisaged from the onset. This requires to have clear established processes, procedures with clear allocation of responsibilities and resources, notably staff

Regular follow up meetings with agendas and reporting procedures are important as well as good communication between teams. Risk management should be part of each of these meetings

Dealing with multiple organisations in SUMPs

- Several measures and projects depend on external entities (PT operator, rail infrastructure, port authority, logistic provider, …). They shall be included in the SUMP with a clear allocation of responsibilities and timings to those entities ("owned" by those entities)

- Example on the right show the case of the tram in Vitoria-Gasteiz that is "owned" by the Basque government but is still a key part of the PT system as developed in the SUMP

Source: https://civitas.eu/sites/default/files/vitoria-gasteiz-_the_commitment_of_a_city_towards_active_and_sustainable_mobility.pdf

Such managerial procedures and communication are valid internally and externally.

However in SUMP as we have seen it is important to involve and commit external stakeholders notably when there are measures and projects that are outside the city "hands" (ex. PT operator, rail infrastructure manager)

This should occur along all stages

Important to identify stakeholders, their planned and/or committed projects, engage them from the onset to get their points of view (Planning)

Several measures and projects depend on external entities (PT operator, rail infrastructure, port authority, logistic provider, …) >> engage them along the entire SUMP and particularly when defining and packaging measures

Important to engage "owners" in the pre appraisal of measures, not only as data sources, but also in assessing risks and defining criteria for prioritization

Measures / projects from external entities contributing to strategic objectives, shall be included in the SUMP with a clear allocation of responsibilities and timings to those entities, i.e. those measures are owned by those entities

Risk Management

- Reality can be different than intended measures/actions
  - often caused by external factors
- Risk management requires:
  - early identification of those factors,
  - trying to avoid their occurrence
  - and/or mitigating their impact.
- Risk assessment should occur since planning, but this **tool is fundamental when conducting the pre appraisal of measures**
- Risk registries should be regularly updated

@:Managing risk

We have been talking several times about risks and risk management, let's take some time to elaborate on this method

As known, and at every stage, it is possible that the intended measures/actions are not possible to undertake or be shown to have results that are different from what was intended. Risk management is fundamental when undertaking the pre appraisal of measures in view of anticipating such occurrences

Risk management is about early identification of those factors, trying to avoid their occurrence and/or mitigating their impact.

This may require a revision of the earlier decisions towards a new approach that avoids taking the path of harmful, unavoidable, or uncontrollable factors.

Managing risks means a cycle that includes its identification and understanding, the identification and implementation of measures to control it, to communicate the risks, to continuously monitor and update the risk registries.

In each progress meeting, review and update the risk registry should always be performed, there are risks that might be already closed, others which probability or impact might have changed or new risks have emerged since the last meeting. This should be a live document all along the SUMP !

Source: CIVITAS SUMPS-UP e-Course for mobility practitioners: Course 1 Preparing for SUMP and analysis of the mobility situation

Main types of risks

Technical / Technological

- Heavy infrastructure works required
- Implies to demolish a historical building
- Anticipate use of technology that is not yet in the market or is not yet mature

Environmental

- Crosses a sensible environmental area, requiring EIA
- Noise levels will increase

Financial

- Lack of funding
- CAPEX and OPEX higher than foreseen
- Funding is allocated to other priority

Political

- Unexpected change of government
- Public reaction led to the cancellation of the planned measure due to the proximity of the election period
- Lack of agreement with neighbour city

Resource based

- Reduction of staff

REMEMBER

- Create a risk registry (excel file)
- Each risk classified with a probability (1 to 3) and impact (1 to 3)
- Severity of risk = probability vs impact
- Anticipate mitigation measures
- Regularly (re) visit the risks grid
- Discuss risks with relevant players

Conclusion

- Include preexisting measures (committed / planned / systemic) in SUMP
- Selection of measures fully aligned with SUMP objectives and targets
- Clustering / packaging measures (synergies, enablers, core / supporting)
- Foresee a high level technical, environmental and economic pre-appraisal and risk analysis of the larger measures so that major projects don't fall at a more detailed stage
- Agree on key criteria for prioritised projects (maturity, risks, political, public acceptability, available funding, …)
- Engage stakeholders in all stages and key players at pre-appraisal and risks
- Include in SUMP the measures /projects from other entities when they are contributing to strategic objectives
- Make risk management a regular practice

All in all and to recap what we have discussed in this module:

- Our main goal was to turn clear the links between Strategic Plans, Programming, Pipeline and project preparation, we expect that such terms are now clear
- When preparing the SUMP remember to include preexisting measures at the different scales being those committed (underway, with funding secured) or planned for the longer-term. This refers particularly to not being able to ignore projects, the different wish lists should be considered
- Always check measures against the SUMP objectives and targets
- It's important even at strategy level to get a preliminary understanding of the technical/economic/ environmental feasibility of measures before they are embedded in any plan - this requires some preliminary level analysis in order to avoid disruption at a later stage
- Engage stakeholders in all stages and key players at pre-appraisal and risks
- Agree on key criteria for prioritized projects (maturity, risks, political, public acceptability, available funding, …)
- When dealing with the SUMP and when designing measures, it is important not to be bounded by the short-term availability of funding or lack of it. Do not be bound in defining list of measures or projects only by what funds are available at the moment and don't respond only to one particular source of funding.
- Include in the SUMP the measures /projects from other entities when they are contributing to strategic objectives, turn them owners of the measures and engage them along all process

- Turn risk management your best friend before, during and after SUMP - managing risks means a continuous cycle of improvement. In each progress meeting, review and update the risk registry. This should be a live document all along the SUMP !

Q & A

- Do you have any questions on a specific topic?
- Ask participants for the key messages taken from the session

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