European Platform
on Sustainable Urban
Mobility Plans

The Poly-SUMP Methodology

How to develop a Sustainable Urban Mobility Plan for a polycentric region

Guidelines

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Poly-SUMP Deliverable 4.2

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Introduction

The Poly-SUMP Methodology aims to help you develop a Sustainable Urban Mobility Plan in your polycentric region. It provides a systematic approach of how to describe the region, and a workshop technique to encourage the cooperation of different stakeholders.

A Sustainable Urban Mobility Plan (SUMP) has the goal of improving accessibility of urban areas and providing high-quality and sustainable mobility and transport to, through and within the urban area. It regards the needs of the 'functioning city' and its surroundings rather than a municipal administrative region. The Poly-SUMP Methodology is based on a collaborative working process, including several municipalities and stakeholders, to effectively address the transport challenges of the region.

Part 1 of these guidelines outline the Poly-SUMP Methodology: what it is; how the methodology can benefit you and your region; and how it can be applied. It describes how the Poly-SUMP Methodology can assist you when working with regional SUMPs, as well as other positive spin-off effects. Part 2 offers a step-by-step guide that will assist you in determining whether this approach is suited to you and your region, and how to effectively implement it. Part 3 of the guidelines explain how the Poly-SUMP Methodology can be adjusted to fit the particular circumstances in your region.

Who should read this document?

This document is intended for stakeholders in regions with several municipalities or cities that are closely dependent on each other, and seek to initiate or develop their co-operation regarding regional transport. The Poly-SUMP Methodology is developed to support these polycentric regions, with their inter-dependencies and dispersed responsibilities, to develop a common sustainable mobility plan.

The guidelines will also benefit stakeholders interested in co-operation between different administrative areas, both inside and outside of polycentric regions, aiming to increase their co-operation and common understanding – although not necessarily with the goal of developing a regional SUMP.

Lastly, the guidelines can benefit any individual or organisation, who wants to learn more about the Poly-SUMP Methodology to increase co-operation between administrative areas.

Supplementary items

The Poly-SUMP web tool
This facilitates the creation of the regional profile. It contains support on how to use it and information on how to interpret and put the results to use. More extensive information regarding interpretation and use can be found in this guideline. The tool can be found here:
www.poly-sump.eu/tool

Practical Guide on running a Future Search Workshop
This contains detailed instructions on how to prepare, facilitate and document the Future Search Workshop. The document can be found here:
www.poly-sump.eu/tools

We hope you enjoy reading the guidelines and wish you good luck with applying the Poly-SUMP Methodology in your region.

Part 1: The Poly-SUMP Methodology in a nutshell

The Poly-SUMP Methodology is used to develop a Sustainable Urban Mobility Plan (SUMP) for a region with a polycentric profile crossing administrative areas. The Poly-SUMP Methodology uses a collaborative working process to bring together key stakeholders of the polycentric region to initiate dialogue across institutional and geographic boundaries, regarding the region's common mobility challenges and issues.

Planning urban mobility is a complex undertaking for any city, even more so when urban functions, people and mobility are scattered across different towns of polycentric regions.

Planning mobility in polycentric regions requires the coordination of policies and services of many stakeholders – transport and urban planners, local and regional policy makers, urban and interurban public transport providers – within and across different centres and administrative boundaries. Without such polycentric planning, citizens are almost obliged to adopt a 'do it yourself' solution of individual car use for mobility purposes. This is increasingly problematic for large portions of the population living in polycentric regions, and it will become increasingly so in the future with the constraints envisaged for conventional car use for urban mobility in 2030 and beyond.

These guidelines adapt the SUMP methodology, originally conceived at city administrative level, for a polycentric region including a network of towns and villages. Poly-SUMP is indeed a new acronym for a new planning approach creating Sustainable Urban Mobility Plans (SUMPs) for a polycentric region.

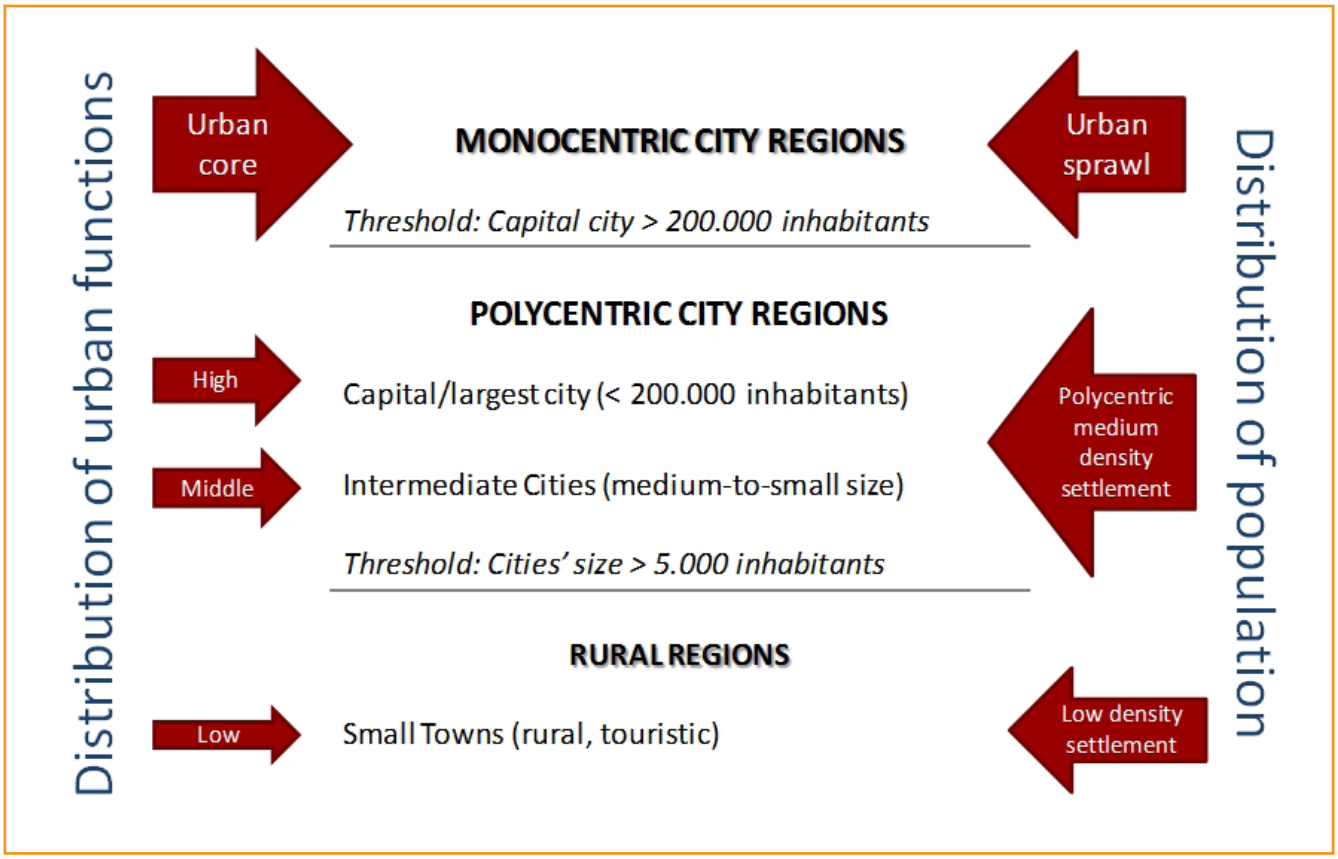
1.1 What is a polycentric region?

'Polycentric city regions' are defined as networks of medium-to-small cities and peri-urban villages in a relatively compact area – an area that could be travelled with a commuting time not exceeding one hour each way – and not dominated by a central large metropolitan city.

It is assumed that a polycentric city region features a capital (the largest) city with a relatively low population (fewer than 200,000 inhabitants in a larger region or fewer than 100,000 inhabitants in a smaller region) and a number of intermediate poles, smaller than the capital city, but greater than 5,000 inhabitants[1]. The population of these regions is mostly concentrated in medium-to-small urban poles, and higher and middle urban hierarchy functions are scattered across the different centers.

1 5.000 inhabitants is proposed here as a pragmatic rule to distinguish urban poles from rural towns. However, a lower threshold (e.g. 2.000 inhabitants) could be appropriate for smaller regions.

Figure 1: Polycentric vs Monocentric and rural regions



These polycentric regions are more densely populated than rural regions. However as the population and urban functions are not concentrated in the capital city, it may result in difficulty in achieving the critical mass of power, scale economies and visibility typical of large metropolitan regions. Results of this can mean the accessibility and competitiveness of the region may be negatively affected in the global market. Figure 1 shows the pragmatic criteria used to identify such regions.

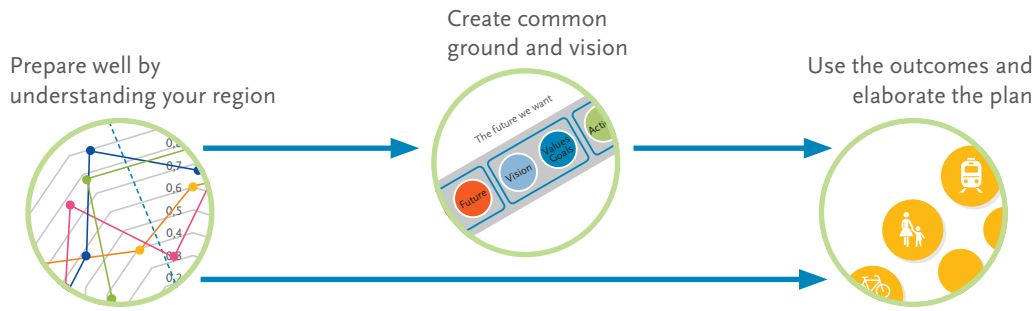
1.2 The Poly-SUMP Methodology

The Poly-SUMP Methodology is based on the conventional SUMP process, but adds elements to further understand polycentric urban regions and enable a more participatory process, including several municipalities and other stakeholders.

The Poly-SUMP Methodology consists of three elements – *prepare well by understanding your region; create common ground and vision; and use the outcomes and elaborate the plan*. Results from both the first and the second elements feed into the SUMP, see Figure 2.

The conventional SUMP process consists of four stages[2] as detailed in the SUMP Guidelines[3]. The Poly-SUMP Methodology adds elements to the first three stages of the SUMP process in order to widen the scope to a polycentric region, see Figure 3. These may be utilised as add-ons to the SUMP.

Figure 2: The Poly-SUMP Methodology



Prepare well by understanding your region

The aim is to identify and understand the conditions in the polycentric region. These are often more complex compared to a city region, as functions and responsibilities are often scattered between different administrative boundaries. The polycentric profile developed in part two also allows identification of similar regions in Europe.

Create common ground and vision

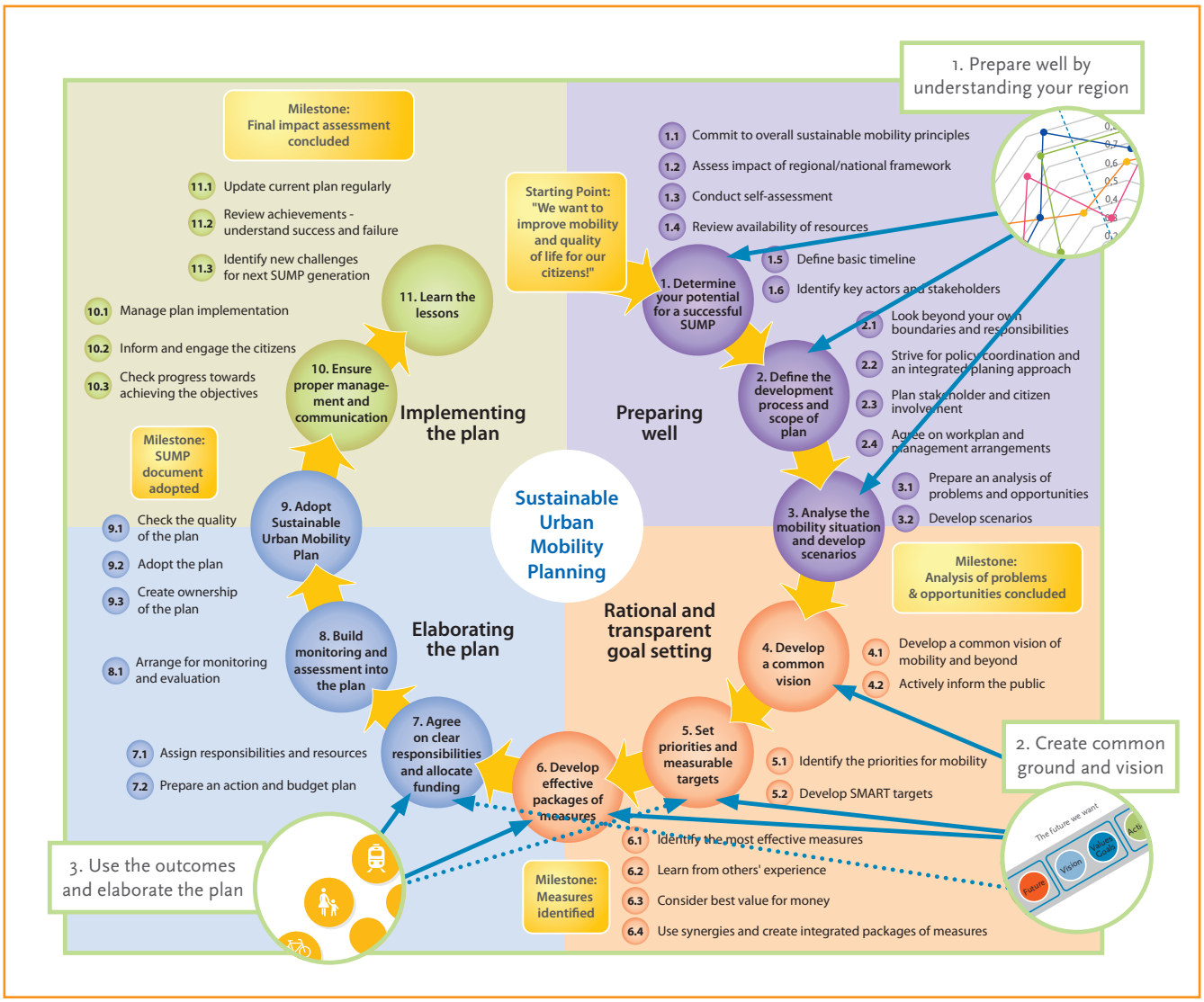
Here, the process of rational and transparent goal setting in these complex regions is facilitated by means of the Future Search Workshop. In the workshop, a common ground and vision for the future is developed and actions and measures to realise this vision are formulated by representatives of, ideally, all relevant mobility stakeholders. By implementing this technique, a process that can take months is reduced to three days.

2 Stage 4: Implementing the Plan is not within the scope of the Poly-SUMP project
3 Read more in: GUIDELINES - Developing and implementing a Sustainable Urban Mobility Plan, www.eltis.org/mobility-plans

Use the outcomes and elaborate the plan

Using the input from elements one and two, this third element elaborates a plan to support the development of a SUMP for the polycentric region. Further evaluation and elaboration of the actions and vision prepared in the Future Search Workshop, together with the knowledge of the region makes it possible to create a tailored SUMP for the polycentric region. This includes a shared vision, action plan and a number of coordinated measures to make mobility more sustainable across the whole region.

Figure 3: Poly-SUMP approach over conventional SUMP process



Source: Guidelines – Developing and Implementing a Sustainable Urban Mobility Plan

1.3 Benefits of using the Poly-SUMP Methodology

The core benefit of the Poly-SUMP Methodology is its capability to generate multi-level and multi-stakeholder dialogue on mobility challenges in the polycentric region. It is then possible to adopt different perspectives, standpoints and interests into account during planning and implementation processes. In doing so, new and innovative forms of communication, co-operation and diverse competencies are fostered. As it contributes to more efficient and sustainable change processes, a number of general benefits are expected from this co-operation:

- The solid understanding of the preconditions in the region provides a foundation for a collaborative planning process, as well as broader regional collaboration.
- The regional profile can be used when benchmarking against other regions, either focusing on particular indicators or on the profile as a whole.
- The results achieved in co-operation with others are often more comprehensive, viable and sustainable than individual solutions and are therefore more likely to be accepted by participating stakeholders and their associates.
- The stakeholder dialogue increases the capacity to find solutions for complex undertakings, while interplay of different capabilities and joint design processes boost learning ability.
- The quality and credibility of opinion-forming processes expands when distinct viewpoints are integrated and interests are balanced. Being familiar with different arguments prevents people from adopting rigid positions.
- It is easier to implement jointly agreed strategies if they have been developed through an equitable and transparent dialogue, reducing the initial need to convince stakeholders of the adopted decisions; stakeholders are more likely to immediately identify with collaborative results.
- The stakeholder dialogue increases stakeholders' willingness to commit efforts to the process, as joint responsibility creates shared success.
- The stakeholder dialogue helps to reduce social rigidity and conflicts. Active participation in the dialogue promotes joint exploration of options for the future. This broadens the prospects of participants and opens up new options for action for everyone concerned.

1.4 Following the Guidelines

The remaining chapters of this document provide guidelines for the Poly-SUMP Methodology based on the experiences and lessons learned from work carried out within the Poly-SUMP project.

The following information outlines the different parts of the Poly-SUMP Methodology and how they relate to the conventional SUMP process, as laid out in the SUMP Guidelines:

www.eltis.org/sites/eltis/files/guidelines-developing-and-implementing-a-sump_final_web_jan2014b.pdf

The guidelines consist of three parts:

Part 1: Poly-SUMP in a nutshell
Part 2: The Poly-SUMP Methodology
Part 3: Adapting the Poly-SUMP Methodology

Part 2: The Poly-SUMP methodology examines the process laid out in the SUMP Guidelines, addressing the first three stages. In the Poly-SUMP Methodology each stage is performed by working through one or two steps as follows:

Prepare well by understanding your region

- Step 1: Assess the urban mobility planning context and practices
- Step 2: Profile polycentricity and mobility patterns

Create common ground and vision

- Step 3: The Future Search Workshop

Use the outcomes and elaborate the plan

- Step 4: Follow up the workshop and refine the actions
- Step 5: Prepare the SUMP and use the outcomes

Part 2: The Poly-SUMP Methodology

This part offers a step-by-step guide of how to implement the Poly-SUMP Methodology. This will assist you in effectively implementing the methodology from identifying and understanding the conditions in the polycentric region, to running a Future Search Workshop and to finally elaborate a plan for the preparation of a SUMP for the region.

The Poly-SUMP Methodology consists of three stages:

Prepare well by understanding your region

- Step 1: Assess the urban mobility planning context and practices
- Step 2: Profile polycentricity and mobility patterns

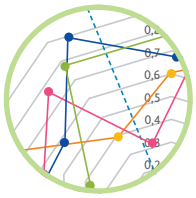
Create common ground and vision

- Step 3: The Future Search Workshop

Use the outcomes and elaborate the plan

- Step 4: Follow up the workshop and refine the actions
- Step 5: Prepare the SUMP and use the outcomes

2.1. Prepare well by understanding your region



Step 1: Assess the urban mobility planning context and practices

Rationale: The first part of the SUMP Methodology – assess the urban mobility planning context and practices – is focused around the preconditions for creating a SUMP in a polycentric region.

Aim:

- Define your region and the administrative boundaries within the region
- Analyse current plans and policies in the region
- Identify which stakeholders are involved in the process

Tasks: The mobility planning context and practices in the region are assessed by completing the following tasks:

1.1. Define the region
1.2. Identify current framework conditions
1.3. Collect policy content
1.4. Understand the current processes

1.5. Identify stakeholders and competences
1.6. Analyse drivers, barriers and possibilities

Task 1.1 Define the region

The first task is to define your region. It is important that all parties involved in the process acknowledge the boundaries and form of the polycentric network of cities in the region. This can be done by defining the administrative boundaries which encircle the region. More rigorous ways of defining the functional boundaries and the cities in the region, based on built-up area indicators and the identification of commuting zones, may be used.

Until recently, there was no harmonised definition of a 'city' for European and other national members of the Organisation for Economic Co-operation and Development (OECD). This lack of clarification undermined the comparability, and therefore the credibility, of cross-country analysis of cities. As a resolution, the OECD and the European Commission developed a new definition of 'city' and its commuting zone in 2011[4]. It is advisable to review the definition and database from OECD, and the European Commission statistics database, Eurostat, to assist in the definition of the polycentric area boundaries.

Task 1.2 Identify current framework conditions

The second task is to identify the framework conditions to gain a clear perspective of how these will influence the mobility planning process and design of measures in the region. In order to do this you will need to identify, document and assess the following:

- Local and regional responsibilities including establishing responsibility (planning, funding, operating and regulating) for roads, railways, inland waterways, public transport and housing development.
- Legal regulations and guidance for a SUMP (if any).
- Regional (polycentric)/national funding criteria that relate to a SUMP or aspects of a SUMP.
- Higher level plans, strategies and objectives that might influence a SUMP.
- Formal and informal responsibilities for SUMPs in the region.
- Initiatives to co-ordinate policies in the region, including past or present initiatives used to co-ordinate or integrate local and regional transport and land use planning.

Ideally, this research should be a combination of desktop investigation and qualitative research in the form of interviews with key players in the region. The advantage of this approach is that the interviewer is well prepared and can collect the additional data and information which goes beyond the publicly available data/information.

Task 1.3 Collect policy content

This task aims to collect transport, spatial, environmental, safety and economic policy documents and plans at provincial, regional and local level, as it is vital to have a solid understanding of existing visions of planning processes.

Analyse whether the goals and objectives of the current plans in the region support or conflict with a sustainable mobility approach. Consider that a SUMP seeks to contribute to development of a transport system which[5]:

- Is accessible and meets the basic mobility needs of all users.
- Balances and responds to the diverse demands for mobility and transport services by citizens, businesses and industry.
- Guides a balanced development and better integration of the different transport modes.
- Meets the requirements of sustainability, balancing the need for economic viability, social equity, health and environmental quality.
- Optimises efficiency and cost effectiveness.
- Makes better use of urban space and of existing transport infrastructure and services.

4 This new OECD-EC definition identified 828 cities with an urban centre of at least 50.000 inhabitants in the ESPON area (EU, Switzerland, Iceland and Norway). Each city is part of its own commuting zone or a polycentric commuting zone covering multiple cities. The cities and commuting zones together account for 60% of the EU population (see http://ec.europa.eu/regional_policy/sources/docgener/focus/2012_01_city.pdf).

5 As described in the Annex I - A Concept For Sustainable Urban Mobility Plans to the Urban Mobility Package (http://ec.europa.eu/transport/themes/urban/doc/ump/com%282013%29913-annex_en.pdf)

- Enhances the attractiveness of the urban environment, quality of life, and public health.
- Improves traffic safety and security.
- Reduces air and noise pollution, greenhouse gas emissions, and energy consumption.
- Contributes to a better overall performance of the trans-European transport network and the Europe's transport system as a whole.

Task 1.4 Understand the current processes

The fourth task is to identify how the current processes to develop plans are structured. Analyse whether these support or are in conflict with the Poly-SUMP Methodology. Criteria for the assessment of the SUMP process aspects are:

Image: Mirjam Logonder / wwwcivitas.eu

- An interactive approach involving citizens and stakeholders from the outset and throughout the process in decision making, implementation and evaluation.
- An integrated approach of practices and policies between different sectors (transport, land-use, environment, social inclusion, health, safety, gender equality), authority levels (municipality, region, nation, EU), and neighbouring authorities (interregional or cross-border).
- A focus on achieving measurable targets derived from short-term objectives, aligned with a vision for transport and embedded in an overall sustainable development strategy.
- Cost awareness, balancing economic development, social equity and environmental quality.
- Process according to the policy cycle, comprising of the following tasks:
  - status analysis and baseline scenario
  - definition of a vision
  - formation of objectives and targets
  - selection of policies and measures
  - assignment of responsibilities and resources
  - implementation
  - communication
  - arrangements for evaluation

Task 1.5 Identify stakeholders and competences

The next task aims to identify which stakeholders should be involved in the process such as transport planners, land use planners, marketing experts, teachers and architects. Identifying stakeholders in the region and understanding their current and potential role and position in the SUMP process will assist in mapping stakeholders' involvement in a polycentric planning process.

The importance of selecting appropriate stakeholders is illustrated in the Future Search Workshop (task 3.1). Examples of potential stakeholders can be seen in the list below.

Table 1: Typical stakeholder groups involved in transport projects

Government / Authorities	Businesses / Operators	Communities / Local Neighbourhoods	Others
Local authorities	Transport operators/ providers	National environmental NGOs	Research institutions
Neighbouring cities	Transport consultants	Motorist associations	Universities
Local transport authority	Car sharing companies	Trade unions	Training institutions
Traffic police	Bicycle rental operators	Media	Experts from other cities
Other local transport bodies	Other mobility providers	Local authority Forums	Foundations
Other local authority bodies	National business associations	Local community organisations	
Politicians	Major employers	Local interest groups	
Other decision-makers	Private financiers	Cycle/walking groups	
Partnering organisatons	International/national business	Public transport user groups	
Project managers	Regional/local business	Transport users	
Professional staff	Local business associations	Citizens	
Emergency services	Small businesses	Visitors	
Health & safety executives	Retailers	Citizens in neighbouring cities	
European Union	Utility services (e.g. electric, telecoms)	Disabled people	
Ministry of transport	Engineers/contractors	Landowners	
Other national ministries		Transport staff	
Regional government		Parents/children	
		Older people	

Source: www.osmose-os.org/documents/316/GUIDEMAPSHandbook_web[1].pdf

After completing the initial research, it is recommended that you interview several local stakeholders with the aim:

- to verify and consolidate the mapping of formal roles and connections between the authorities in charge of planning and implementing measures for sustainable urban transport in the region;
- to assess the available competences;
- to assess the real state of performance and connectivity between the formal stakeholders, and any other (including informal) methods of achieving sustainable urban transport in the region.

Task 1.6 Analyse drivers, barriers and opportunities

The previous steps provide a clear picture on the preconditions for developing a polycentric SUMP process bringing together several cities and stakeholders in the region. This task aims to analyse and summarise drivers, barriers and opportunities for this process. Consider if the drivers, barriers and opportunities are contextual (institutional, legal, financial) or process related (management, communication between different departments and policy sectors). Ask questions such as: is the bus company privately owned with a weakened control of planning authorities?

Example from a region

Drivers: Stakeholders have mentioned planning, culture, communication and participation as the most important drivers that enable the implementation of sustainable mobility plans. This specifically includes co-operation between municipalities within the region. In addition, citizen awareness with regard to the importance of sustainable mobility is also considered important. Keep in mind that citizen awareness may also increase acceptance of unpopular measures.

The region already has a platform for exchanging ideas and developing projects. It brings people and resources together in a creative atmosphere to implement projects and to obtain financial support. In the region, there are several scheduled mobility meetings between municipalities, between governments, and across borders, making this region a strong candidate for an integrated SUMP for a polycentric region.

Engagement from stakeholders identified health risks among the region's residents, namely high levels of overweight and obesity, and used this as a driver to promote healthier lifestyles through more active transportation. As national funds to promote exercise can be accessed, a decision was made to focus on increasing bicycle use, in turn reducing dependence on cars.

Barriers: Stakeholders assessed the current situation of a declining population in the region as the main barrier to implementing new transport projects. However, the declining population will assist in fulfilling energy goals and it is estimated that all emission goals for the region will be reached in the year 2015. The dominance of private car use and corresponding infrastructure supply in the region also needs to be considered.

Due to the low population, there is no traffic congestion or parking problems, so there is no reason to change modes of transport due to these constraints. Stakeholders also established the difficult terrain as a potential barrier to increased cycling. Taking these stakeholders along with changing mobility habits into account, the difficulty of a modal shift towards more sustainable mobility is potentially increased.

The region is also facing economic difficulty, and as increasing sustainable mobility will mean immediate expenditure, transport matters may not be seen as a high priority.

Additional barriers include:

- A lack of co-operation between governmental layers for policymaking (there is a great distance between the province and seat of government in the capital); resulting in different laws due to a lack of cross-province co-operation;
- No regional leading figure on some topics, such as e-mobility and dedicated transport;
- Lack of co-operation between different departments in the same government and/or between different authorities;
- Tender procedures, sometimes restrict operators' opportunities to become strategic partners;
- Contract agreements between the authority and the operator, unclear for a private operator what the margin for negotiation is;
- Limited knowledge of alternative fuels within a municipality, taking the negotiation with an expert to a non-level-playing-field;
- Reluctance of engaging with external project managers;
- Some goals are not SMART, which might be of political interest;
- A lack of co-operation between authorities of cross-border issues, including different laws, different visions and public transport ticketing systems;
- The lack of availability of source data from public transport ticketing systems and parking usage may make it difficult to develop chain mobility.

Opportunities:

1. The average travel distance for recreation and work (between 11 and 14 km) means that there is a market for electrical bikes. This can shift the modal split from car use to bike use. The region might then take an active role in promoting e-bikes – possibly together with the help of other stakeholders in the region. E-bikes also have the potential to reduce obesity, while encouraging the elderly to be more active, adding to the prevention of, obesity and disease.
2. Until now the policy in the region does not include specialised transport for persons with disabilities. Currently, specific responsibilities of welfare – including transport – have been decentralised from the Ministry responsible for transport to the municipalities whom have less money. The law on specialist education schools needs to change. This requires creativity and an active management role in the region to bring stakeholders together and create a common vision. A new integrated vision on planning health care locations, school locations, and transport on a regional scale is necessary.
3. Currently the new public transport vision is under market consultation. The region might use this opportunity to incorporate zero emission elements in public transport through a total cost of ownership (TCO) model as part of sustainable funding.

Step 2: Profile polycentricity and mobility patterns

Rationale: Assessing and understanding the regional structure and mobility patterns in a polycentric area helps draw a picture of the region – a task which may not have been previously undertaken – with the specific purpose of illustrating polycentric aspects. Mapping regional polycentric profiles helps facilitate an overall understanding of the preconditions in the regions and allows comparisons across them to be made, highlighting similarities in regional structures and mobility patterns.

Using both spatial data and mobility data, a web tool creates a spider diagram to illustrate, at a glance, the polycentric features of a region, see Figure 5.

Aim:

- Assess the regional structure and mobility patterns;
- Produce a regional profile illustrating the preconditions in the region;
- Understand the regional structure and mobility patterns.

T**asks**: The mobility planning context and practices in the region is assessed by completing the following tasks:

2.1. Collect data
2.2. Create the regional profile
2.3. Understand the indicators
2.4. Interpret the regional profile

Task 2.1 Collect data

Data should be collected to help grasp the polycentric urban structure of the region, its mobility patterns and transport infrastructure, and services supply. Some data is collected for the region as a whole, some for each municipality and pole in the region. An urban pole being a city/town/village in the region with more than 5,000 inhabitants.[6]

The following data should be collected over a given period in order to create the polycentricity profile of the region:

1. **Population** in each municipality and in each pole
2. **Number and type of workplaces** in each pole (i.e. jobs supplied in the pole)
3. **Workers** employed in each pole
4. **Trip distance within the poles**, average trip distance within the poles (e.g. from a travel survey), or average radius of the poles (km)
5. **Trip distance between the poles**, average trip distance between the poles (e.g. from a travel survey), or average distance between the poles (km)
6. **Share of public transport** trips on a working day (%)
7. **Share of non-motorised** trips on a working day (%)
8. **Number of trips** within and between the poles.

This can be computed based on an Origin-Destination (OD) matrix (if available).

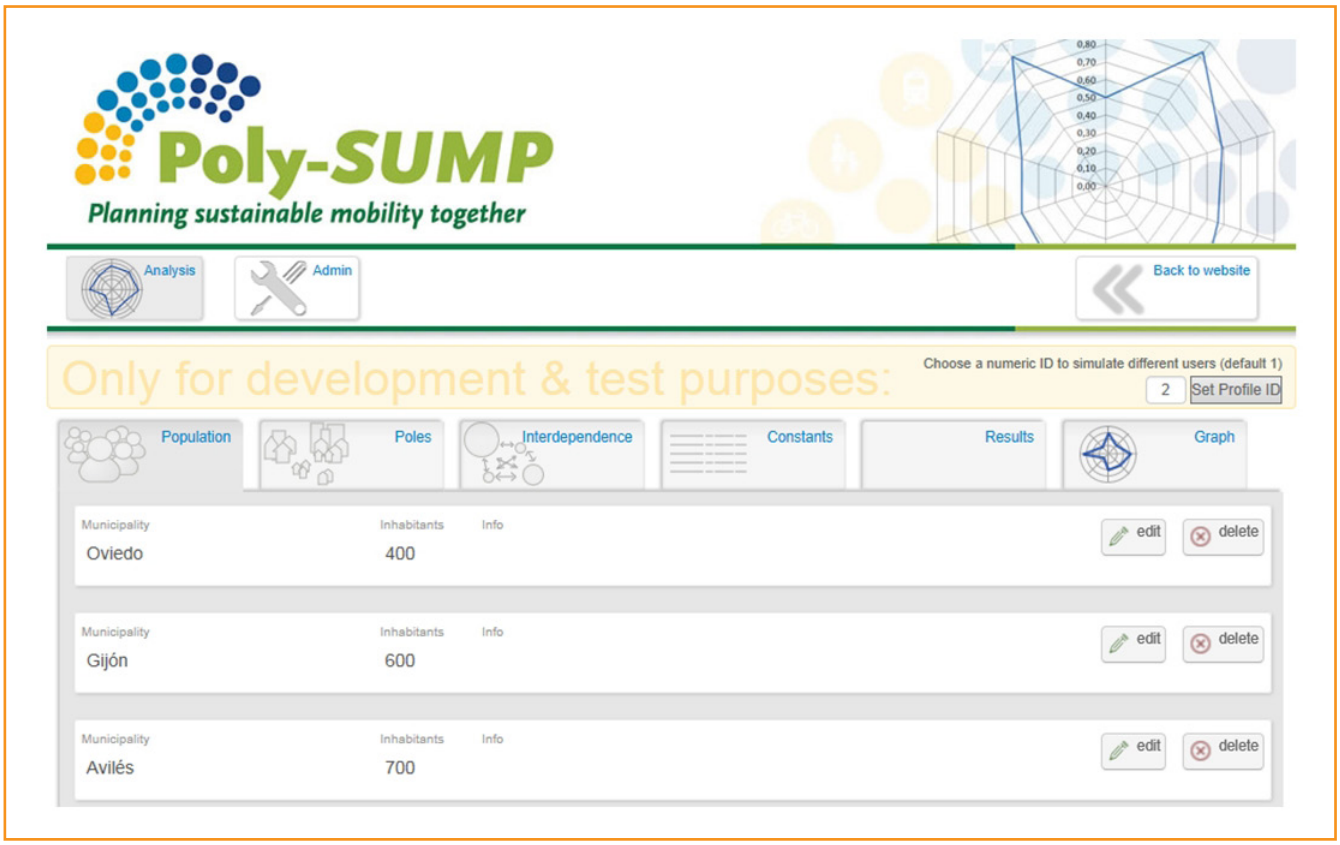
Task 2.2 Create the regional profile

By using the data collected in task 2.1 a regional profile can be created via the web tool found at: **www.poly-sump.eu/tool**

Work your way through the tool providing information about populations of different municipalities, data from each pole, trips between the poles and constants regarding population density, travel distances and modal split - see Figure 4.

6 This according to the pragmatic size threshold proposed to distinguish urban from rural towns (see section 1 above). However, it is important to note that two different procedures may be followed to compute the size of each pole: 1) considering only the population living in the central city for each pole area; 2) totalling the population living in the whole pole area.

Figure 4: The web tool for creating the regional profile



The tool will calculate ten indicators describing the regional structure and transport, displaying it in a spiderweb graph. Indicators measure:

1. Population per pole. The average population per pole. Only poles with more than 5 000 inhabitants are included.
2. Share of population living in the intermediate poles over the total population
3. Distribution of inhabitants
4. Distribution of work places
5. Distribution of employed residents related to distribution of work places
6. Trip distance within the poles. Average distance of trips within the poles, preferable from travel surveys. If this is not available, use the average radius of poles.
7. Trip distance between the poles. Average distance of trips between the poles, preferable from travel surveys. If this is not available, use the average distance between the poles.
8. Share of public transport trips (working day)
9. Share of non-motorised trips (working day)
10. Interdependence index in transport demand (working day)

Task 2.3 Understand the indicators

The regional profile provides extensive information regarding the region's strucutre, mobility and transport in a compact format. The first five indicators provide information regarding the region's structure, while the following five provide information on regional transport - see Figure 5.

Generally, the larger the area in the spider web the closer the region is to the ideal polycentric configuration.

Density of Population in built-up areas indicates the implications for several stakeholders including the possibility of providing effective public transport and

preconditions for different transportation modes in towns or villages. After providing the data required, the web tool will calculate a numeric value between 0 and 1. A value of 1 indicates very high density (1=2000 inhabitants/km^2), a value close to 0 indicates very low density.

Share of population living in the intermediate poles over the total population indicates the relative concentration of the population in the intermediate poles, as opposed to the population living in the capital city, rural towns and other areas of the region. A value (calculated by the web tool) close to 1 indicates a large share of inhabitants living in the intermediate poles, a value close to 0 indicates that a large share of inhabitants living in the capital city and/or in rural areas.

Distribution of inhabitants among the poles indicates how evenly the population is distributed among the poles, and whether the poles have similar numbers of inhabitants or not. A value (calculated by the web tool) close to 1 indicates that the population is evenly spread among the poles, a value close to 0 indicates large differences between the population sizes of the different poles.

Distribution of workplaces among the poles indicates how evenly workplaces are dispersed, including if the poles have similar numbers of workplaces or not. A value (calculated by the web tool) close to 1 indicates that the workplaces are evenly spread among the poles, a value close to 0 indicates large differences between the numbers of workplaces in the different poles.

Distribution of employed inhabitants related to distribution of workplaces indicates how much this ratio varies between different poles. Although the workplaces present usually may not entirely match the workers living in the pole (who may partly commute to other poles), a balanced ratio in the pole might favour short-distance trips to work. An indicator value of 1 (calculated by the web tool) indicates that workers living in the different poles are the same or similar in number to workplaces (although they do not necessarily match those workplaces), a value close to 0 indicates large differences between workers and workplaces in the poles, which indicates higher commuting flows.

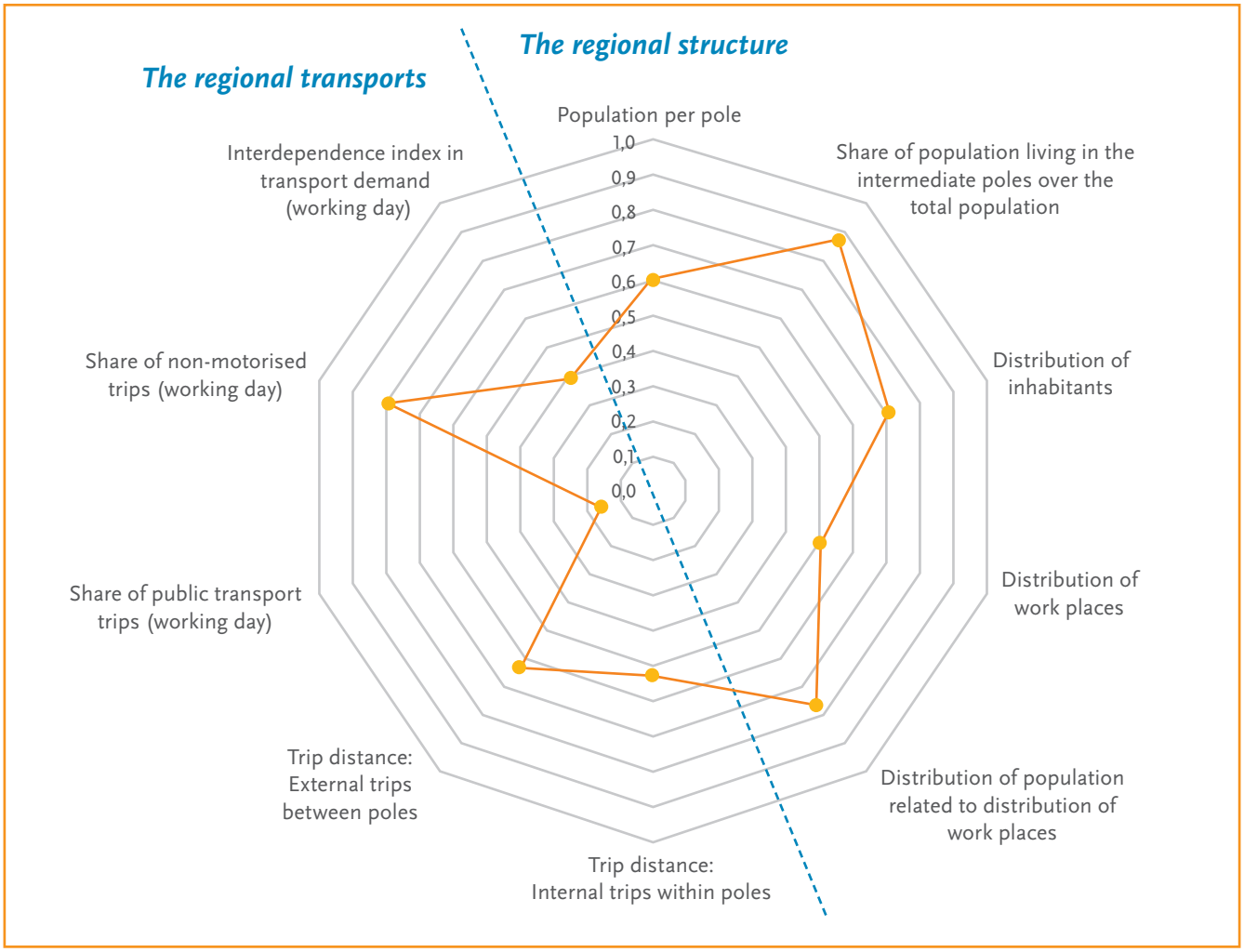
Average travelling distance to workplace indicates the average distance of trips from home to the workplace. A value (calculated by the web tool) close to 1 indicates a short distance (e.g. 2 km), a value close to 0 indicates a long distance (e.g. 30 km). In polycentric regions work commuting trips – between neighbouring towns and poles, not necessarily from towns and poles to the dominant central city – are expected to be shorter. If information from travel surveys is unavailable, an alternative indicator may be used to measure a different concept of distance, including averaging the road distance between the poles.

Average travelling distance to place of recreation indicates the average distance of trips to places of recreational. A value (calculated by the web tool) close to 1 indicates a short distance (e.g. 2 km), a value close to 0 indicates a long distance (e.g. 30 km). In polycentric regions, opportunities for leisure are generally more spread out in the different cities rather than being concentrated in a dominant central city. These locales are typically more accessible by shorter trips, and therefore contribute to improved quality of life in the region. If the information from travel surveys needed to compute this indicator is unavailable, an alternative indicator can be used to measure a different concept of distance, including averaging the road distance within each pole.

Share of public transport trips (working day) indicates the possibility of providing public transport services, as well as determining the acceptance of the current supply. In the context of the urban structure this indicator shows to which extent polycentric structures are able to foster the use of public transport. A value (calculated by the web tool) close to 1 indicates a high share of public transport trips (50%), a value close to 0 indicates a low share (0%).

Share of non-motorised trips (working day) indicates the non-motorised transport (walking and cycling) in the modal split. It is also an indicator of the possibility of using active travel modes, as well as determining the acceptance of the currently available infrastructure and services. In the context of the urban structure this indicator shows to which extent polycentric structures facilitate the mix of land uses and short-distance travel

Figure 5: The web tool for creating the regional profile



to nearby offices, shops, and schools etc. distributed in the poles. A value (calculated by the web tool) close to 1 indicates a high share of non-motorised transport (50%), a value close to 0 indicates a low share (0%).

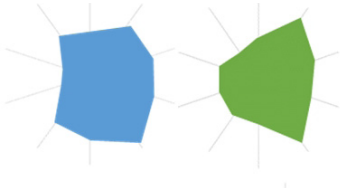
Interdependence index in transport demand (working day) indicates how many trips are carried out between the different poles in the region in relation to the number of trips that are done within the poles. A value (calculated by the web tool) close to 1 indicates that the number of trips between the poles are as many as the total number of trips done within the poles, a value close to 0 indicates that the number of trips between the poles are much fewer than the total number of trips within the poles.

Task 2.4 Interpret the regional profile

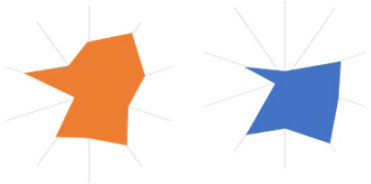
A high value indicates a strong interdependency among the poles in the region, which might indicate favourable preconditions for establishing or improving public transport between the poles. A low value indicates a high degree of trips with both origin and destination within the same pole. This implies good preconditions for non-motorised trips, but scarce demand for public transport between the poles.

Depending on the shape of the spider diagram, it is possible to draw a general conclusion of commonalities between similar shapes. See examples below.

A highly polycentric regional structure is indicated by a large, mostly equally distributed regional profile. Examples of regional profiles for regions with a highly polycentric structure are shown below.



A polycentric region with low travel interdependency produces regional profiles with a large area in the regional structure (right side) and smaller area in the regional transport side (left side). Often combined with a tip to the lower left, indicating a high share of non-motorised trips. Examples of regional profiles with low travel interdependency are shown below.



A polycentric region with a strong capital often appears as a star-shaped profile. Examples of regional profiles for polycentric regions with a strong capital are shown below.

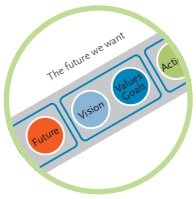
Information Relevant To The Next Steps

The work carried out in steps 1 and 2 is vital for the success of the Poly-SUMP Methodology. The understanding and knowledge derived from this work will feed in to:

- The Future Search Workshop
  - Framing the workshop
  - Creating the ideal group of participants
  - Understanding opinions among stakeholders

- Drafting the SUMP for a polycentric region
  - Description of the region and its framework
  - How the SUMP can be tailored to fit the regional context
  - Drivers, barriers and possibilities in the region

2.2 Create common ground and vision



Step 3: The Future Search Workshop

Rationale: The third step of the Poly-SUMP Methodology is focused on kick-starting your work with a Future Search Workshop. By gathering all involved stakeholders during a three day workshop, you create common ground and vision for further work with your SUMP for a polycentric region.

Aim:

- Carry out a Future Search Workshop
- Create common ground
- Establish what action is needed within the region

Tasks:

3.1 Prepare the Future Search Workshop
3.2 Carry out the Future Search Workshop
3.3 Summarise the workshop
3.4 Evaluate the workshop

What is a Future Search Workshop?

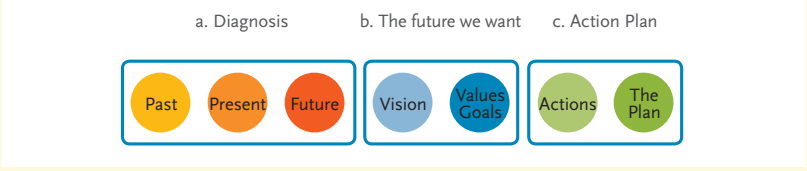
Bring the 'whole system in one room' for better decision making

The Future Search Workshop is a recognised method adapted for the Poly-SUMP project to effectively and commonly develop material for a polycentric SUMP. The method enables a condensed process where you create common ground for further work. Instead of an extended process, consisting of sporadic meetings and workshops, all relevant stakeholders are gathered for three days. During these three days, all parties work for 17 hours (from lunch day 1 to lunch day 3), to create common ground and vision to produce concrete actions. A Future Search Workshop should have a large range of stakeholder groups: decision makers, planners, and researchers. Namely everybody that would be affected by the creation of a Poly-SUMP should be represented.

During the seven parts of the workshop you work with the past, the present, future trends and action planning. Through dialogue common ground is created, where everybody's opinion is represented. Immediately afterwards, the work with action planning and the making of an action plan starts. In the end of the workshop an action plan is created, with actions prioritised by relevance to work towards the future you want to realise. For every action there is a plan of how to move further and the indication and commitment of those who take care and responsibility for the follow-up, creating local action-based groups.

The workshop process

The Future Search Workshop is typically addressed around three stages. See image:



- Critical diagnostic: during this step, participants analyse the current situation of the topic of the conference (e.g. mobility). They reflect on past evolutions of their environment, seeking out commonalities and differences. They then do the same with the present situation. Lastly, participants explore the structural trends that are going to influence their field of action in the future.
- Imagination and common ground: during this step participants have the opportunity to develop visions of a "utopian" future - the future they desire without any obligation to be realistic. They share this vision with the other participants, develop a scenario and explain how this utopian environment could be created. All participants then agree on common ground and shared principles of actions to reach this desired future, while compiling a list of the values, goals and milestones found in the scenarios.
- Building an Action Plan: during this third step, participants focus on the formulation of concrete projects and actions based on the visions previously developed. They work with the help of a structured guideline including the name of the action, stakeholders involved, goals, finances, needs and risks.

Conditions for success

The Future Search Workshop rests on four main conditions for success:

- Bring the '*whole system in one room*'. This means that all stakeholders affected by the outcome should be invited and be motivated enough to participate so the working group represents a significant cross-section of stakeholders.
- Follow the '*funnel principle*'. Start by exploring the larger context before seeking to fix any part. Stimulate conversation and encourage everyone to talk about the same principle. Think globally, act locally.
- Be sure to put the common ground and the future in the focus of the work while treating problems and conflicts as information, not action items.
- Encourage self-management and responsibility for action by participants before, during, and after the Future Search Workshop.

After the Workshop

The result of the three days is a document of actions to be implemented and task forces to assume responsibility. The idea is that the different task forces are autonomous and must organise themselves after the conclusion of the workshop. It is

highly recommended that a follow-up meeting be arranged, in which participants shall report on what they have already done, future plans and where they need assistance[7].

The pros of the Future Search Workshop method

Experience demonstrates a number of pros of using the Future Search method compared to the conventional way of making a SUMP:

Better regional understanding of local needs encourages stakeholders to discuss and work together, connecting different poles to each other, connecting planners and users. This creates a better understanding of each other's needs and goals – but also of limitations and shortcomings. When this approach is compared to traditional consultation where stakeholders are the passive audience, responding to ideas rather than contributing to create them, the benefits of the Future Search Workshop are clear.

Fostering creativity both in envisioning the future we want and how to get there means restrictions are thrown aside and creativity can flow – in each 'crazy' idea there is a hint of truth. New ideas and solutions that may not have been found can take form in the creative workshop with the aid of a wide range of stakeholders.

Everybody starts at the same level when entering the Future Search Workshop, as no prior knowledge of the region's mobility situation is necessary. However, there is extensive knowledge brought to the table, as everybody is an expert in their own field.

Efficiency is key in this approach compared to the conventional way of delivering visions and action plans. A huge amount of knowledge sharing, understanding, and consulting is carried out within three days. However, up to six-months is dedicated to preparation to select and involve the right mix of stakeholders, and prepare materials and facilitation beforehand. Up to six months is also dedicated to the follow up and follow-up periods to assess the impacts, barriers and drivers for the concrete implementation of all or part of the action plan.

Backcasting and goal orientation assists in drawing the future the region wants and how to get there. The approach promotes management by objectives, taking an active lead in the development of the region rather than a 'predict and provide' approach.

Bottom-up approach captures ideas and needs from the users of the transport system, processes them and passes them on to planners, policy makers and other relevant parties.

Neutral moderators increase transparency and can make it easier to deal with sensitivities and discrepancies that may arise.

An inspiring kick-off and motivating start to the work helps to fully develop a polycentric SUMP. Both through the outcomes (the action plan), and as a result of the networking and the common platform created.

Funding knowledge and increased understanding of the importance of sustainable mobility among financing bodies can prove to be another result of the workshop. This may make it easier to find funding.

7 Further readings on the Future Search Workshop method
www.futuresearch.net/index.cfm (Network of Future Search Conference Organizers).
www.futuresearch.net/method/applications/sectors-11047.cfm (Example of a process on transportation in Utah).
Weisbord, Marvin et al. (1992): Discovering Common Ground, Berrett-Koehler. (the basis book on FS conference).

Task 3.1 Prepare the Future Search Workshop

To host a successful workshop preparation is vital. The participants trust you to make their attendance worthwhile. To ensure your workshop is well prepared and organised, this is what you need to do:

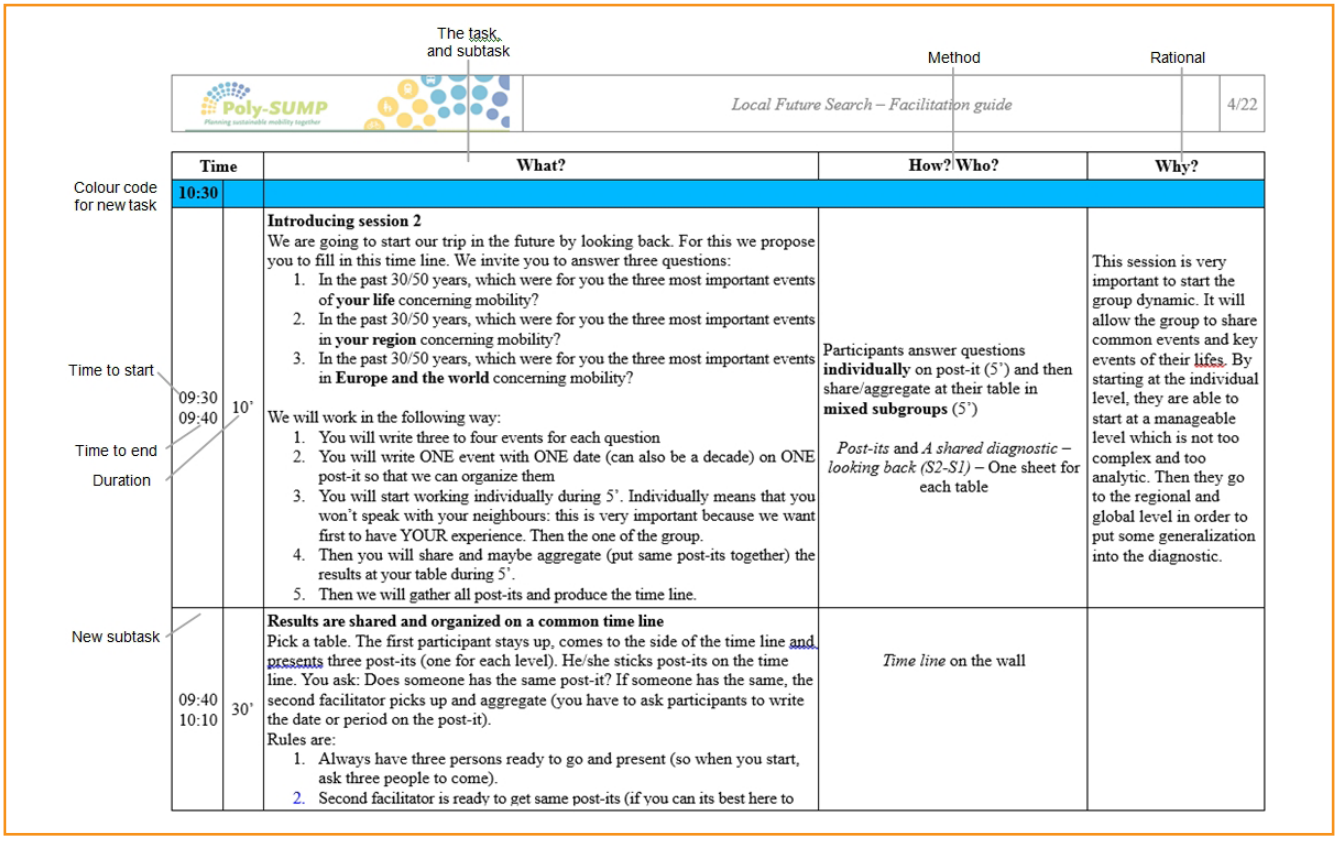
1. Specify the title of the Future Search Workshop
2. Fix a date and venue for the Future Search Workshop
3. Create an ideal group with the help of the stakeholder grid
4. Prepare convincing arguments
5. Compose a letter/mail of invitation
6. Prepare and apply your invitation strategy
7. Manage the responses
8. Organise logistics
9. Prepare facilitation

In the supporting document, Practical Guide on running Future Search Workshop, you will find detailed assistance on how to prepare for the Future Search Workshop to make it a success. Special care should be made to create an optimal group of participants and to encourage their attendance.

Task 3.2 Carry out the Future Search Workshop

The three days of the Future Search Workshop are focused on progressing through the steps of the workshop, beginning with a critical diagnosis – analysing the past and the present situation of the region. The second part of the workshop aims to create a vision for a perfect utopian situation and how to achieve this goal. During the final step, the workshop should result in an action plan with nominated participants responsible for each action, and plan to make that action become reality. The moderators will guide the participants through the sessions.

Figure 6: Example of a facilitation guide



Time		What?	How? Who?	Why?
10:30				
09:30 09:40	10'	**Introducing session 2** We are going to start our trip in the future by looking back. For this we propose you to fill in this time line. We invite you to answer three questions: 1. In the past 30/50 years, which were for you the three most important events of **your life** concerning mobility? 2. In the past 30/50 years, which were for you the three most important events in **your region** concerning mobility? 3. In the past 30/50 years, which were for you the three most important events in **Europe and the world** concerning mobility? We will work in the following way: 1. You will write three to four events for each question 2. You will write ONE event with ONE date (can also be a decade) on ONE post-it so that we can organize them 3. You will start working individually during 5'. Individually means that you won't speak with your neighbours: this is very important because we want first to have YOUR experience. Then the one of the group. 4. Then you will share and maybe aggregate (put same post-its together) the results at your table during 5'. 5. Then we will gather all post-its and produce the time line.	Participants answer questions **individually** on post-it (5') and then share/aggregate at their table in **mixed subgroups** (5') *Post-its* and *A shared diagnostic – looking back (S2-S1)* – One sheet for each table	This session is very important to start the group dynamic. It will allow the group to share common events and key events of their lifes. By starting at the individual level, they are able to start at a manageable level which is not too complex and too analytic. Then they go to the regional and global level in order to put some generalization into the diagnostic.
09:40 10:10	30'	**Results are shared and organized on a common time line** Pick a table. The first participant stays up, comes to the side of the time line and presents three post-its (one for each level). He/she sticks post-its on the time line. You ask: Does someone has the same post-it? If someone has the same, the second facilitator picks up and aggregate (you have to ask participants to write the date or period on the post-it). Rules are: 1. Always have three persons ready to go and present (so when you start, ask three people to come). 2. Second facilitator is ready to get same post-its (if you can its best here to	*Time line* on the wall	

To moderate an event of this calibre, moderators must dedicate time and effort. Although it is not necessary to go through a Future Search Workshop training before hosting the event, there is a need to study the method well before starting the workshop. Facilitating a Future Search Workshop will be much easier and more likely result in a more positive group dynamic if the moderators are confident hosting events similar to this and are well prepared.

Facilitation guide

The moderators should use a facilitation guide to keep track of all elements of the workshop. The layout of this document shall vary based on individual preferences, but should give you an overview of the detailed progression of the workshop. The document should include:

- **Time frame:** Detailed and realistic outline of time distribution for the workshop;
- **Tasks:** Detailed description of the tasks and subtasks, including introduction;
- **Methods:** Detailed description of what is going to happen, who is going to do what and what materials are needed;
- **Rational:** The purpose and relevance of the tasks.

Figure 6 shows an example of a facilitation guide. A complete facilitation guide template can be found in the *Practical Guide on running Future Search Workshop*.

Moderating skills

The moderators will guide and help the group during the workshop. In order to assist in this process there are a wide range of **tips and tools** that can be accessed.

These tips and tools are there to support the moderators in their roles. They are organised in different sections that cover the basic skills you will have to use in order to make the workshop a success, namely:

1. Moderation basics
2. Group dynamics
3. Timing
4. Information management
5. Deliberation
6. Aggregation
7. Evaluation

These are elaborated in the *Practical Guide on running Future Search Workshop*.

Task 3.3 Summarise the workshop

Delivering a desirable report after the workshop to forward to participants is vital. It may also be useful when outlining the SUMP for a polycentric region to stakeholders who were not present at the workshop. The following aspects could be included for a successful, useful report:

- Take photos of all results, mind maps, votes and sessions and of the working process during the three days.
- Take notes in the template provided in the *Practical Guide on running Future Search Workshop*.
- Gather the working sheets of participants after each session in order to collate all information.
- In the *Practical Guide on running Future Search Workshop* you will find a template for a result report. It may be adjusted to fit individual needs.

Task 3.4 Evaluate the workshop

With the aim to assess the effectiveness of the Future Search Workshop organisation and implementation as experienced by participants, a workshop evaluation should be performed through questionnaires. The main aspects to include in such an evaluation should take in consideration the following:

- A clear definition of the purpose;
- Whether all the necessary participants were involved;
- How well the facilitators assisted participants in focusing on the correct issues;
- The materials provided in advance and their usefulness;
- How the participants were oriented and their expectations;
- The workshop's purpose and principles (ground rules) and their clarity;
- The flow of workshop activities;
- The decision-making process' clarity and appropriateness;
- The process' flexibility and adaptability to group needs;
- The conclusion, and the clarity and preparedness for appropriate workshop follow-up.

The questionnaire may be distributed to all participants in paper form or as an online survey. If time at the end of the workshop is dedicated to completing the survey, and the participants are asked to return completed questionnaires before they leave the workshop, response rates may be higher. If you choose to do an online survey at a later date, this should be coordinated with the refinement of the actions (see step 4).

Analysis of the questionnaires can clearly identify possible weaknesses and aspects that can be improved, as well as techniques and approaches that were especially successful. Process evaluation is therefore a useful instrument to figure out how to enhance the workshop in the future. It can also provide valuable input if unexpected or inconsistent results arise.

Information Relevant To The Next Steps

The work carried out in step 3 is vital for the success of the Poly-SUMP Methodology. The understanding and knowledge derived from this work will feed in to:

- Drafting the SUMP for a polycentric region
  - Common ground, visions and goals
  - Action plan – how to reach the goals
  - Stakeholder participation in follow-up activities

- Other ways of using the outcomes
  - Network among stakeholders
  - Change mind-sets
  - Momentum of possibilities

2.3 Use the outcomes and elaborate the plan

Now that you have a solid understanding of the region and have created common ground and vision during the Future Search Workshop, the following chapter will support the utilisation of the outcomes. The following information will assist in elaborating the plan for a SUMP for a polycentric region or if using the outcomes in other ways.

Step 4: Follow up the workshop and refine the actions

Rationale: The fourth step of the Poly-SUMP Methodology focuses on the evaluation of the outcomes of the Future Search Workshop and further refinement of the actions developed during the process.

The outcomes of the Future Search Workshop are those immediately delivered at the end of the workshop, including the action plans and responsibilities of the participants.

Aim:

- Prioritise the actions proposed in the Future Search Workshop
- Assess if, and how, the mind-set of the Future Search Workshop participants has been influenced
- Refine actions

Tasks:

4.1 Prioritise actions and assess change in mind-set
4.2 Refine actions

Task 4.1 Prioritise actions and assess change in mind-set

After the workshop, additional feedback is usually required from participants by asking them to answer to an online survey about the immediate outcomes of the local workshop.

The actions are assessed by asking the respondents to complete the online survey and rank the first three actions in order of:

i) Relevance of improving sustainable urban mobility planning in the polycentric region
ii) Feasibility of their proposed implementation.

This ranking assists in identifying priorities for follow-up activities, which should focus on the most important priorities. A template of an online survey – used for the evaluation of Local Future Search Workshops' outcomes in the six pilot regions – is provided in the Poly-SUMP Deliverable D5.2.

Parallel to the action plans, the outcomes of the workshops are also evaluated in the online survey by asking the participants to judge the potential impacts of the method the participants based on:

- Changing their mind-set towards polycentric mobility issues, problems and solutions in the region.
- Changing the way in which SUMPs or equivalent planning processes will be performed in the cities of the region.
- The extent to which inter-institutional (between different agencies and levels of government in the region) and inter-municipal (between different cities of the polycentric regions) cooperation can be improved by applying the Future Search Workshop approach more systematically
- The extent to which participation of stakeholders and civil society, external to public administration, can be improved by applying the Future Search Workshop approach.

Task 4.2 Refine actions

By analysing the results from the evaluation of actions and change in mind-set (task 4.1) you will obtain a deeper understanding of the role different actions can play and the future room for change.

This analysis, together with the vision and goals for the region and the understanding you have of the region (as discussed in 'Prepare well by understanding your region'), will help you refine and compliment the actions derived from the Future Search Workshop. The result will be well grounded, relevant and feasible actions which will fit the structure of the region and the stakeholders working in it.

Step 5: Prepare the SUMP and use the outcomes

Rationale: The fifth step of the Poly-SUMP Methodology focuses on utilising the outcomes of the process so far. One way to proceed is with the work of drafting a SUMP, including allocating responsibilities. This could either be complemented with or substituted with other ways of using the results.

Aim:

- Drafting a SUMP
- Identifying gaps in the SUMP that need to be dealt with in further discussions
- Using the outcomes as input in other related areas
- Utilising the newly established network to facilitate work in related areas
- Stimulating stakeholders to work with actions or other outcomes

Tasks:

5.1 Use the outcomes
5.2 Stimulate stakeholders to work with actions

Task 5.1 Use the outcomes

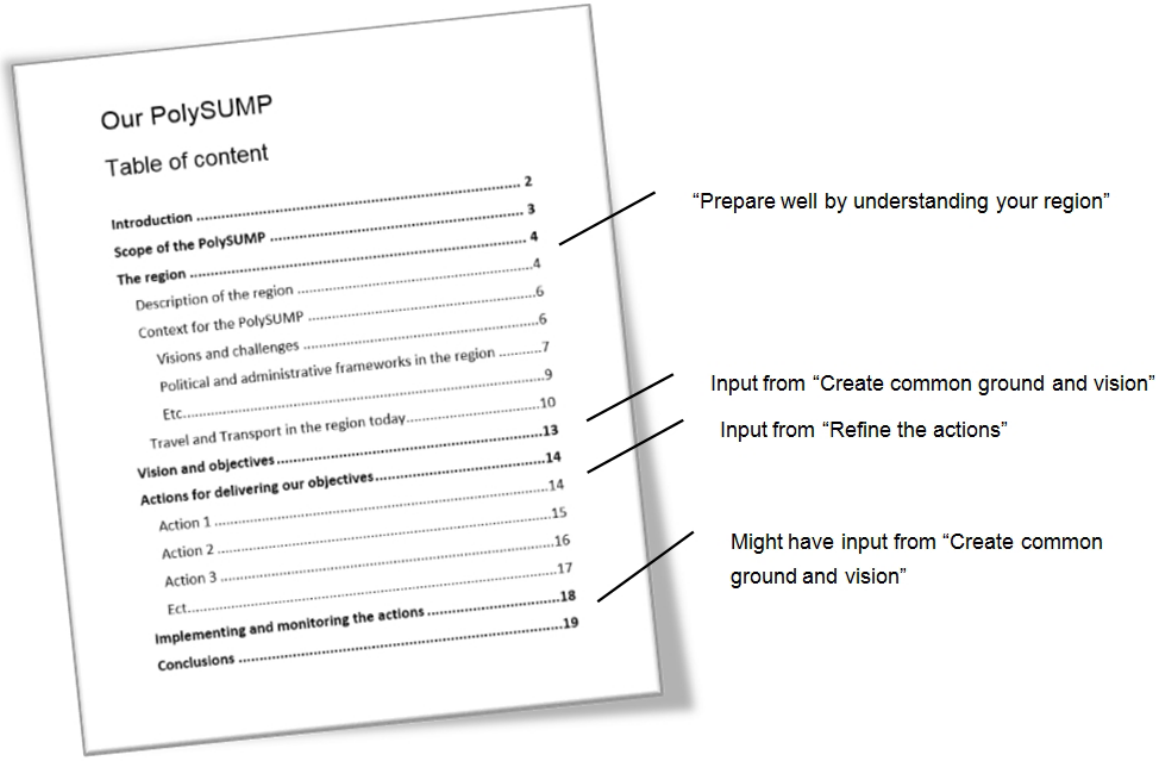
When following the Poly-SUMP Methodology a large part of the work to develop the regional Sustainable Urban Mobility Plan (SUMP) has already been addressed and answered. The work carried out in steps 1 and 2 describe the region well and outlines the context in which the plan is developed, such as current visions, and the political and administrative frameworks of the partners in the region.

The result from step 3 – the Future Search Workshop – and the refined actions from the process (step 4) provides important input for the common vision and objectives in the region, as well as actions to get closer to the vision. You might also have input on who wants to take the lead of implementing and monitoring certain activities from the final activities of the Future Search Workshop.

To complete the SUMP for the polycentric region, it is essential the dialogue in the region continues in order to dedicate responsibilities, decide budgets and promote political acceptance. This dialogue has already commenced in the Future Search Workshop, and the vision, objectives and activities are the result of a common process, providing a solid foundation for further discussions.

Another way of using the outcome of the Future Search Workshop is to incorporate it in already existing work, plans or programmes. This may be preferable if the region already has a SUMP (or similar), or if the partners in the region decide to cooperate in a more informal manner.

One of the valuable outcomes of the Poly-SUMP Methodology is the networking and cooperation between different stakeholders within the region. Common interests are found and new ideas and cooperation are started as a spin-off effect of the Future Search Workshop. This network is a valuable platform for further cooperation and joining forces when dealing with other regions, and working on a national scale.



Regions that have used the Poly-SUMP Methodology report that they have:

- used the outcomes as new framework for existing regional policies;
- used the refined actions in existing plans;
- used the process and outcomes to highlight important aspects of existing plans;
- used the regional profile to benchmark their region against other regions using this method;
- used the network to form new working and/or lobbying groups;
- used the momentum of the Poly-SUMP process to initiate new processes;
- used the momentum of the Poly-SUMP process to put pressure on mobility issues in the region.

Task 5.2 Stimulate stakeholders to work with actions

To stimulate stakeholders to work with the actions derived, it is advised to perform an assessment of priorities, opportunities, barriers and drivers for the implementation of the Poly-SUMP action plan. This should be completed within 6 months after the Future Search Workshop is held. This assessment is done for:

- the action plan as a whole
- priority actions in the plan, as identified as a result of the Future Search Workshop, or with refinements carried out in step 4

It is important to evaluate the opportunities for implementation with two categories of people – namely the stakeholders involved directly in the decision making process and in the implementation of the action plan and focused measures, plus the stakeholders that are affected by the action plan and focused actions but do not hold decision making or implementation responsibilities.

The stakeholders to be engaged in the assessment of the opportunities for the implementation of the action plan are identified by compiling 'participation profiles', in which the participants of the Future Search Workshop are grouped by their respective action responsibilities. A core aspect of the evaluation is to then understand in more detail – by interviewing the key stakeholders – the barriers, drivers and activities that affect the implementation process, and the stakeholders' contributions.

- **Process barriers** are events or overlapping conditions that hamper the process to obtain whole action plan strategic objectives, or the specific objectives associated with the focused actions.
- **Process drivers** are events or overlapping conditions that stimulates the process to obtain the whole action plan strategic objectives, or the specific objectives associated with the focused actions.
- **Process activities** are taken by one or more stakeholders to handle the barriers and to make use of the drivers with the aim to enable the achievement of the whole action plan strategic objectives, or of the specific objectives associated with the focused actions.

The results are compiled and sent out to the stakeholders matching the 'participation profile'. When compiling the results, a short analysis can be made based on classification. The barriers, drivers and activities can be classified according to a number of areas described in Table 2, adapted from the CIVITAS POINTER Guideline.

Table 2: Barriers and drivers in different areas and activities how to deal with them

Nr.	Area	Barriers (negative factors)	Drivers (positive factors)	Activity (what it is done to push back barriers and to push forward drivers)
1	Political/ strategic	Opposition of key actors, lack of sustainable development vision and agenda, short-term objectives for local elections, conflicts between key stakeholders	Increasing commitment towards common sustainability goals, due to the increasing impact of climate change and other sustainability problems	Co-development of a sustainable mobility agenda and projects
2	Institutional	Impeding administrative structures, procedures and routines, impeding laws, rules, regulations and their application, hierarchical structure of organizations and programs	More flexible and less hierarchical structure of organization and programs, thanks to the increasing use of ICT and social network technologies that facilitate cooperation and horizontal links	Proposals to change impending rules, structures, legislation.
3	Cultural	Impending cultural circumstances and life style patterns	Processes of cultural change heading to more sustainable lifestyle	Activities that help to change local cultural circumstances and life style patters towards sustainability (make concrete examples)
4	Problem related	Complexity of the problems to be solved, lack of shared sense of urgency among key stakeholders to sustainable mobility	Increasing priority given to finding common solutions to complex problems, perceived as not manageable by isolated actors	Strategic impact assessment activities to support complex decision making
5	Involvement, communication	Insufficient involvement or awareness of key policy stakeholders, insufficient consultation, involvement or awareness of citizens and users	Increasing importance given to participation and constructive and open involvement of key stakeholders, users and citizens in the policy decision process, also thanks to the support of social network technologies	Consultation of target groups by workshops, conference, focus group, expert meetings, face-to-face interviews or questionnaires, online surveys etc; public awareness campaigns about the problems to be solved; involvement of key stakeholders in the implementation of the action
6	Positional	Relative isolation of the action, lack of exchange with other actions or cities	Increasing interest towards "wholeness", i.e. embedding single actions into strategic and shared visions, exchange of good practices and lessons learned from other actions and cities	Include the action in running sustainability programs at local level and in networks for the exchange of practices and experiences at the national and international level

7	Planning	Insufficient technical planning and analysis to determine requirements of action implementation, insufficient economic planning and market analysis, lack of user needs analysis and limited understanding of user requirements.	Increasing interest towards integrated and holistic planning approaches, including user needs analysis, economic evaluation of the action impacts and strategic impact assessment approaches	Additional assessment and planning activities required for the correct design of the action as a component of the whole planning endeavour
8	Organizational	Failed or insufficient partnership arrangements, lack of leadership, lack of individual motivation or know how of key actors	Constructive partnership arrangements, strong and clear leadership, highly motivated key actors.	Capacity building activities to raise the competences of key actors involved in the implementation of the focused actions; team building activities to increase motivation
9	Financial	Too much dependency on public funds and subsidies, unwillingness of the private business and/or households sectors to contribute financially	Increasing interest from the private sector to invest in social businesses, availability of public funds to support social innovation ventures	Raising funds for the action, also through new ways (e.g. crowdfunding) to attract private contributions
10	Technological	Additional technological requirements, not satisfied by the existing technologies	New technology available, potentially enabling the action	Activities to gather the new technical resources needed for the implementation of the focused actions
11	Spatial	No permission of construction, scarce land availability	Space for physical infrastructure is available (e.g. for land regeneration projects), experimentation zones (e.g. for limited access) are settled	Change of land use regulation, creating experimental and/or investment zones or city areas/ corridors

Part 3: Adapting the Poly-SUMP Methodology

3.1 What can be adjusted?

The Poly-SUMP Methodology is flexible in many ways, and can be adjusted to fit the region that is involved in the process. However, for some elements it is recommended to follow the Poly-SUMP Methodology without adjusting it. See below the recommendations for adjustment for each part of the Poly-SUMP Methodology.

Prepare well by understanding your region

Step 1: adjust the focus according to the type of output from the process

Be clear on the expectations of the project – the end product could be a SUMP for the region, but the outcomes may also be used in other ways. You could follow the Poly-SUMP Methodology without writing a regional SUMP. If you know the end product will not be a regional SUMP, you may adjust the focus in step 1 accordingly. However, think carefully before excluding the tasks in step 1 completely.

Profiling polycentricity and mobility patterns

Step 2: do not make changes in the regional profile

It is not recommended to make any changes to the regional profile. The profile is constructed to effectively illustrate the different spatial and mobility characteristics of the region. If it is not possible to locate data for one or more indicators, do not remove the indicator from the diagram. Do not change the scales of the chart's axis, so it is possible to compare and benchmark different regions with each other.

Create common vision and ground

Step 3: A successful Future Search Workshop in your region

There are several ways to adjust the Future Search Workshop to fit the needs and conditions in your region. However, there are also some items that are ideally not changed. Major do's and don'ts are listed below:

The **number of participants at the workshop is flexible**, however, you will reach a more thorough and legitimate result if as many stakeholders as possible are involved A minimum of 40 participants is recommended.

The length of the workshop may be changed, for example two days instead of three, but should preferably be 17 hours spread across three days. However, be aware that if the workshop is squeezed into two days, these days will be very intense both for the moderators and the participants. Take into account, you would also lose a second evening for informal socialising.

Do not change the structure of the workshop, as it is a recognised method where all elements serve a specific purpose.

Citizens should not be invited to the Future Search Workshop unless they are an organised group representing a stakeholder perspective, for example users of the transport system. Input from citizens is vital, but is collected in other ways.

Use the outcome and elaborate the plan

Steps 4 and 5: the follow-up activities should fit your purpose and region.

In the guidelines there are several tasks and tips on how to follow-up the outcomes. It is important to continue and follow-up on the work done in steps 1-3, but the exact design should be targeted towards your purpose and the needs of the region.

Step 5: use all outcomes

The utilisation of the outcomes from the Poly-SUMP process may vary. You may use them to create a SUMP for your polycentric region. However, there are several other uses for the outcomes such as a platform for mobility discussions, and as inputs in already existing plans. Even when objectives are clear, it is recommended to explore all other possible uses for the outcomes by tapping into the momentum and the network created by the process.

3.2 Checklists

Below are there checklists to assist you and your region in understanding if:

1. the Poly-SUMP Methodology is suitable
2. you have the resources to carry out the work
3. you are ready to begin the process

Table 3: Is this for us?

Aim	What to do?	Is this for us? Yes/No	If no:
Understand the Poly-SUMP Methodology	Read the guidelines	Have you understood the principles?	Discuss with a college, involve a participant of the Poly-SUMP-project
Understand if the region is polycentric	Check the regional circumstances	Are we a polycentric region?	You may find the Poly-SUMP Methodology works for your situation, but be aware that it was created to support polycentric regions
Understand whether the outputs will answer our questions	Be explicit on what outcomes you want the Poly-SUMP Methodology to help you with.	Consult the guidelines – will the Poly-SUMP Methodology help you answer your questions?	You should consider the use of a different methodology.
Understand if the Poly-SUMP Methodology fits your prospective stakeholder groups	Decide which kind of stakeholders you would like to participate in the process	Do you want to involve citizens in this process?	This methodology fits with the aim of not including citizens in this process.
Understand if this is the right time to start the process	Make an honest appraisal of the region's willingness to engage in something new	Are we (as a region) open to new ideas to be explored and implemented?	The timing may not be right.

Table 4: Can we do this?

Aim	What to do?	Can we do this? Yes/No	If no:
Understand what **data** is needed to create the regional profile and its availability	Determine whether you can obtain the following data: Municipal level: • Inhabitants Pole level: • Inhabitants • Workplaces • Employees Trip distance: • Within the poles • Between the poles OD-matrix for travels between the poles Share of (in region) • Public transport • Non-motorised	Do you have the data requested to create the regional profile?	If some data is missing, take special care when interpreting the regional profile. If you lack data for more than three indicators, the regional profile might not be useful for you.
Ensure that the **practical requirements** for the Future Search Workshop can be met	Explore possible venues and moderators	Are there suitable venues and moderators available?	These are necessities for the Future Search Workshop. If there are no satisfying options, another method may be more suited. Or only follow steps 1 and 2.
Ensure that **vital stakeholders** for the Future Search Workshop are present in the region	Define which stakeholders are vital to your process. Consult the guidelines.	For the vital stakeholder group: Are there skilled stakeholders in the region?	Can this be compensated by bringing in stakeholders from outside the region? If vital stakeholders are missing it may jeopardise the legitimacy and possibly the quality of the outcomes.
Understand if it is possible to **motivate stakeholders** to attend a Future Search Workshop	Explore the possibility to motivate stakeholders using your experience and dialogue with other project owners	Is it possible to motivate stakeholders to attend the Future Search Workshop?	If not, you should consider the use of a different method.
Understand the **political support** for this process and for continuing work	Explore the political support for the Poly-SUMP process, as well as the support to continue the work with the outcomes.	Do you have political support for the Poly-SUMP process and for continued work with the outcomes?	If you do not have political support, this might be your first priority. Note: the Poly-SUMP process can boost political support, however you may need a basic level of support to motivate stakeholders to attend the Future Search Workshop.
Secure **financial resources** for the Poly-SUMP process	Estimate the budget needed for the Poly-SUMP process. Investigate financing options.	Are there enough financial resources available?	If not, you should not start the process. You may need to work on promoting the Poly-SUMP Methodology and obtaining political support.
If you are not the project owner, ensure the **involvement of the project owners**	Explore the involvement of the project owners.	Are the project owners involved in the Poly-SUMP process?	If not, this may make your task much harder as it is not certain you will get the data and other information needed. Furthermore, the project owners might not utilise the outcomes.

Table 5: Are we prepared?

Aim	Are we prepared? Yes/No	If no:
Aims of the project	Do you have a clear picture of your aims of the Poly-SUMP process? Is it shared among the project owners?	Define your aims and discuss them to try and form consensus.
Understand your region	Do we have the data ready?	Ensure you will have the data in a timely fashion.
Create common ground and vision	Are you comfortable with the Future Search Workshop?	You may need to review the method to become more acquainted with it. Otherwise it may be difficult to persuade others about the method.
	Do you have a strategy to convince stakeholders to attend the Future Search Workshop?	Follow the guidelines and the *Practical Guide on running Future Search Workshop* to get assistance on how to set up you strategy.
	Are the practical arrangements for the Future Search Workshop in order? Is the venue, food, materials etc. arranged?	Arrange for the outstanding issues to be resolved.
	Is the moderation of the Future Search Workshop well prepared? Is the facilitation guide in order?	Follow the guidelines and *Practical Guide on running Future Search Workshop* to be well prepared and create the facilitation guide.
	Do you have a strategy for following up the outcomes?	Set up a strategy. It is vital for a successful workshop to be able to explain to the participants how their work will be used. Follow the guidelines to find inspiration.
Use the outcome and elaborate the plan	Do you have a clear picture of how the outcomes of the Poly-SUMP process should be used? Is it shared among the project owners?	Specify how to use the outcomes of the Poly-SUMP process. Discuss them in order to try and form a consensus.
	Do you understand all the proposed actions from the workshop?	Approach the relevant group of participants and ask for further clarification.
	Does the follow-up strategy from the workshop need to be modified?	Modify accordingly, deliver the promises made to the participants of the workshop.

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