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Project acronym: **DEMo4PPL**
Project full title: **Digital Education Modules 4 Participatory Planning**

OPT-T4: PARTICIPATORY PLANNING FOR SUSTAINABLE MOBILITY

1. Short description

Sustainable mobility incorporates different aspects related to the environmental, social and economic pillars of sustainable development into the evolution of transport systems. The diversity of these aspects and the complexity of their inter-relations requires a holistic transport planning approach with the need to deeply understand the local context and to design citizen-oriented solutions. Public participation is key to fulfill those needs and accelerate the shift towards sustainable mobility. In this framework, the SUMP Guidelines, which define the strategic planning guidelines for sustainable mobility in European urban areas, describe specific participatory planning methods and tools to actively involve and engage stakeholders and citizens throughout the planning process.

The current Module discusses the role and significance of public participation for sustainable urban mobility, the main benefits and challenges from participatory transport planning and the ways that the involvement and engagement of society is integrated into Sustainable Urban Mobility Plans (SUMP). The Module aims to: i. Familiarize students/learners with the social aspect of sustainable transport; ii. Introduce students/learners to the types and roles of stakeholder and citizen groups and the contributions and challenges of public participation in respect to planning for and promoting sustainable mobility; iii. Present to students/learners the principles and approaches for PPL in transport planning; iv. Explain to students/learners the integration of PPL into the SUMP process; v. Enable students/learners to identify and effectively use appropriate digital PPL tools in transport planning.

2. Keywords

Sustainable Mobility; Planning; Public Participation; Inclusiveness; Public Acceptance; SUMP

3. Content

3.1. Social aspects of transport and mobility

Networks and services for the transportation of people and goods are essential to ensure physical connectivity between areas and to allow for the access of locations where activities are taking place. In this way, transport systems are drivers of socio-economic development. In Europe, the intention of the European Union to contribute to the development of the trans-European transport network for enabling citizens, economic operators, regional and local communities to "derive full benefit from the setting-up of an area without internal frontiers" is defined in the Treaty on European Union, also known as the Treaty of Rome, since 1957 (European Union, 2016). In general, the role of the EU transport system in the "four freedoms" of the Single Market, i.e. free movement of goods, capital, labour and services, remains central.

Due to its essential role for socio-economic development, the transport sector comprises a major economic sector. In the EU, transport and storage services (including postal and courier activities but not companies with own account transport operations) represent about 5% of the total Gross Value Added (GVA) at current prices for 2021. In the same year, transport and storage services employed about 10 million people in the EU, accounting for more than 5% of the total workforce. Less than a quarter of these employees are women. Over half of the employees work in land transport (road, rail and pipelines) (European Commission-Directorate General for Mobility and Transport, 2023).

Furthermore, households and companies rely on their ability to access effective and affordable transport services. The expenditure of European households on transport-related items in 2021 accounted for over 12% of their total expenditures, with more than 85% referring to the purchase of vehicles and equipment and the rest to transport services (European Commission-Directorate General for Mobility and Transport, 2023) . According to the World Bank, there are 1 billion people globally who live more than 2km away from an all-weather road and these poor accessibility conditions are inextricably linked to poverty (https://www.worldbank.org/en/topic/transport/overview, last accessed 13/11/2024).

Apart from the above socio-economic aspects, the environmental footprint of transport significantly influences socio-economic sustainability and resilience. Transport operations produce almost a quarter of the world's energy-related carbon emissions (International Transport Forum, 2023), as well as pollutant emissions, such as particulate matter and nitrogen oxides. GHG emissions are related to the climate crisis and pollutant emissions threaten the health and well-being of citizens. Another relevant impact is the exposure to environmental noise produced mainly by road and air traffic (https://www.who.int/teams/environment-climate-change-and-health/healthy-urban-environments/transport/health-risks last access 20/11/2024).

The transport sector continues to rely on oil products for over 90% of its final energy consumption, with a small improvement over the last 50 years (https://www.iea.org/energy-system/transport last access 20/11/2024). In Europe, transport activities account for approximately 30% of final energy consumption. Road transport is the main energy consumer (almost 74% of all energy consumed in transport), while air and water transport account respectively for 11% and 13% of

transport's energy consumption and rail transport for less than 2% (https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Final_energy_consumption_in_transport_-_detailed_statistics last access 20/11/2024).

From the perspective of spatial impacts, transport systems have a twofold impact. On the one hand, physical transport infrastructures comprise costly constructions which occupy a large share of the available land surface. At the same time, these constructions affect or even define spatial development in their vicinity. For example, residential areas or schools are considered "incompatible" with airports, mainly due to noise and safety precautions (https://www.faa.gov/sites/faa.gov/files/land_use_airports.pdf last access 20/11/2024). On the other hand, the spatial distribution of transport networks defines the accessibility between areas, affecting location decisions for households, companies, services and other actors. New spatial relations between actors emerge through this process, leading to new transport infrastructure requirements to cover for new or changing mobility needs (Wegener & Furst, 1999). Regional and urban development is strongly influenced by these interactions. An indicative case refers to the private car dominance after World War 2, which, combined with the urbanization trends, enhanced urban sprawl and land-use zoning.

Nowadays, more than 56% of the global population live in cities, expected to exceed 68% by 2050. The share of European urban population already reaches 70% (UN Habitat, 2022). More than 80% of the global GDP is generated in cities (https://www.worldbank.org/en/topic/urbandevelopment/overview last access 13/11/2024). On the other hand, over 70% of global CO2 emissions are produced in cities (Bianchi Alves, Bou Mjahed, & Moody, 2023). Urban mobility accounts almost for a quarter of CO2 emissions from transport (European Committee of the Regions: Commission for Territorial Cohesion Policy and EU Budget, 2022). In addition, the issues of pollutant emissions and noise exposure in cities are extremely important. Transport-related congestion is a main cause of these impacts, accompanied with delays and economic losses. Another main issue refers to road safety in cities, with active transport users being the most vulnerable population group. In the EU, urban mobility is responsible for 7 million premature deaths and more than 600,000 road traffic fatalities annually (UNECE, 2020).

The social challenges of transport are not equally distributed between social groups. As highlighted in the UN Agenda 2030 (United Nations, 2015), communities are facing diverse and growing challenges. Many of these challenges are closely related to society's mobility needs:

- The ageing of population affects the ability to use active transport modes and, in some cases, digital mobility services.
- The social inclusiveness of the transport system is affected by increasing income inequalities and gender inequity.
- Remote and rural areas are characterised by lower levels of accessibility and availability of transport service, while urban population is still faced with the socio-economic losses and external impacts of congestion.

- The population of different social groups may be more exposed to climate, health, economic and other crises, with direct effects on the urgency and/or the quality for mobility service provision.

3.2. Planning for sustainable mobility and the role public participation

Sustainable transport refers to the provision of services and infrastructure for the mobility of people and the movement of goods with the aim of promoting socio-economic development for the benefit of current and future generations in a safe, affordable, effective, efficient, accessible and resilient way, while minimizing carbon and other emissions and environmental impacts (United Nations, 2016). Sustainable mobility, as the overall goal of the sustainable transport system, has specific features with reference to the three pillars of sustainable development, i.e. the environmental, social and economic pillars (Figure 1). Low emission mobility, with focus on GHG, pollutant emissions and noise, with sustainable use of the available resources, such as the available land, are the main features related to the environmental pillar. Regarding the social pillar, sustainable mobility means accessible, safe and affordable mobility for all. The economic pillar is linked to efficient transport systems and rewarding employment opportunities. Other important features are healthy transportation and living, related to both the social and the environmental pillars, renewable and sustainable energy, related to both the environmental and the economic pillars, and resilience against any type of unforeseen shocks and crises, related to both the social and the economic pillars (Gavanas, 2025).

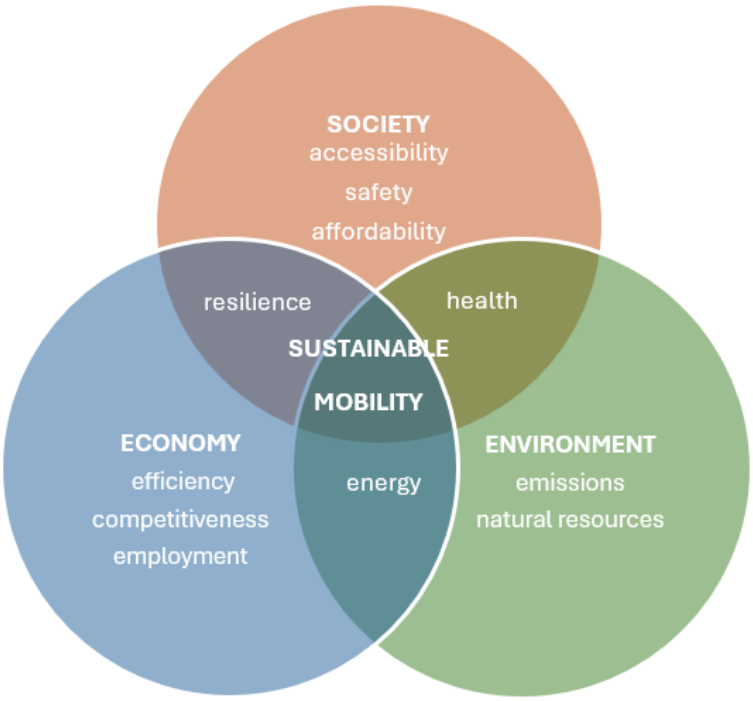


Figure 1: Features of sustainable mobility (source: Gavanas, 2025)

Transport planning refers to the planning of transport networks, infrastructures and service. In the case of urban mobility, transport planning covers the transport networks, infrastructures and services in the wider urban area and its interconnections with the

interurban transport networks. For more than three decades, planning for urban mobility has been strongly linked to socio-economic and environmental sustainability of cities and their surroundings. Urban mobility is also strongly affected by technological innovations and digital solutions, such as New Mobility Services (NMS) and Intelligent Transport Systems (ITS). There are many approaches regarding the strategic priorities and planning directions of sustainable urban mobility. A comprehensive approach in the form of a tree diagram, where the first level refers to the goal of sustainable urban mobility, the second level refers to the strategic priorities, the third level to the planning directions and the final level to the current planning criteria (Figure 2).

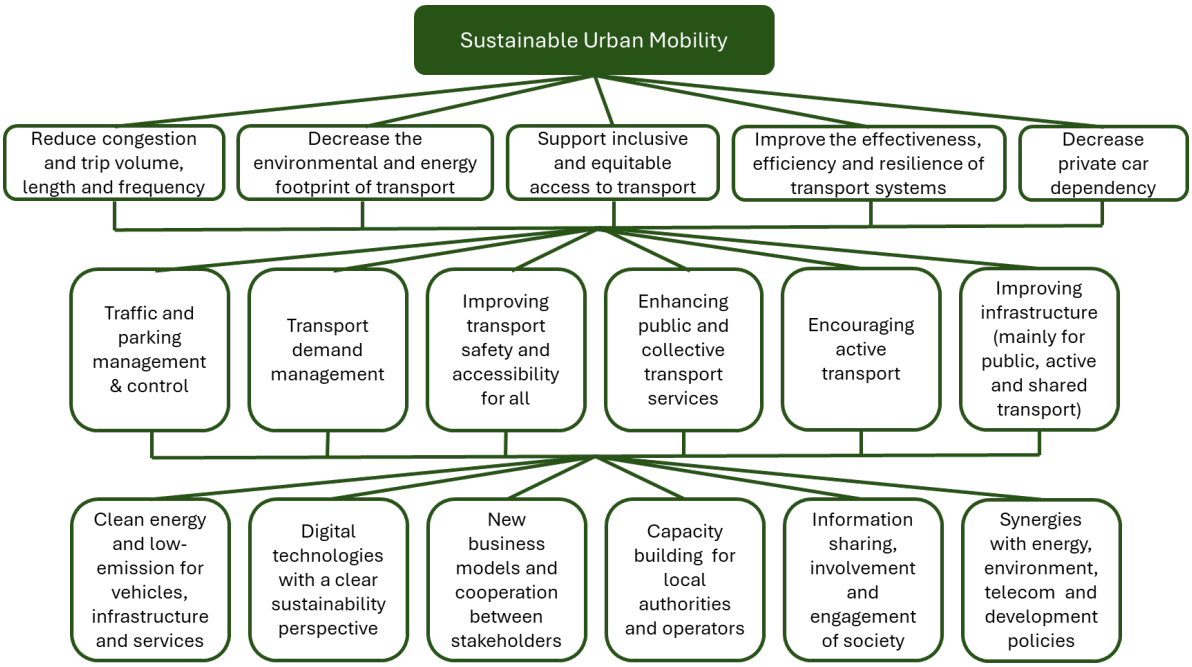


Figure 2: Strategic priorities and planning directions for sustainable urban mobility (Source: Own elaboration)

As presented in Figure 15.2, public participation is one of the main criteria in planning for sustainable mobility. The sharing of information with society, including the transparency of the whole planning process, the involvement of different social groups and their engagement throughout the planning phases, i.e. setting the vision and objectives, assessing scenarios, developing solutions, monitoring the implementation and evaluating the impacts, should be regarded as an integral part of planning. The main benefits from public participation comprise the following:

- Enhanced coverage of the diverse needs of different social groups through citizen-oriented approaches.
- Combination of local knowledge and user experience with scientific evidence and policy priorities.
- Incorporation of parameters and views, which are difficult to identify and analyse through top-down planning.

- Achievement of a higher degree of convergence, adoption and support of planning solutions.
- Potential for out-of-the-box thinking, innovation and customized solutions.

3.3. Key actors in planning for sustainable urban mobility

Participatory planning for sustainable urban mobility should include all key actors of the transport system, representing the users, operators, managers and administrators, as well as of other affecting or affected sectors, such as energy, technology, health, environment etc. A simplified categorisation of these actors includes three categories, i.e. experts (e.g. planners, analysts etc.), stakeholders (e.g. local authorities, transport operators, mobility service providers, environmental associations), local community (e.g. citizens, social groups and businesses). Experts are characterised by high competence but low interest, stakeholders have moderate competence and high interest, while local community have low competence and high interest (Table 1) (Le Pira, Ignaccolo, Inturri, Pluchino, & Rapisarda, 2016).

Table 1: Key actors in planning for sustainable mobility according to their competence and interest (source: (Le Pira, Ignaccolo, Inturri, Pluchino, & Rapisarda, 2016))

Category	Competence	Interest
Expert	High	Low
Stakeholder	Moderate	High
Local community	Low	High

The features for the development and establishment of an **inclusive** and meaningful engagement of the key actors are presented in Figure 15.3. Since each study area may accommodate different groups of key actors with different needs and interests, which evolve through time, a deep understanding of community demographics is essential. Community relationships and interactions, in relation to their needs and aspirations, are important to ensure an inclusive planning process. Towards this purpose, a wide representation of the community is needed, ensuring that the social groups who are underserved by the transport system are included and engaged. As already mentioned, there are various social groups who may be underserved by the transport system, depending on the context:

- Temporary or permanent mobility impairments
- Physical and mental health issues
- Income inequality
- Remote areas
- (Digitally) illiteracy
- Age-related issues (elderly, underaged)
- Gender-related issues
- Cultural and language issues, etc.

The appropriate combination of participatory planning tools should be implemented to maximize the contribution of all involved key actors. Finally, it is important to closely monitor, document and publicly share the impact of the community's contribution to the planning product.

Figure 3: Features of public involvement (source: U.S. Department of Transportation, 2018)

Apart from inclusiveness, another critical aspect regarding the engagement of the key actors in the transport planning process is **acceptability** . According to (Banister, 2008), there are 7 principles which define public acceptance of sustainable mobility:

- **Information** provision, education and awareness raising to explain the significance of sustainable mobility for socio-economic development and health.
- Inclusive **communication** to the public to clearly present the affected groups, aims, interventions, expectations and actual outcomes.
- **Push and pull** measures to provide sufficient and attractive mobility alternatives to the replacement of current, less sustainable options.
- Wide **dissemination** to help the public understand which are the wider benefits (and how they outweigh possible costs) for each individual and for society.
- Implementation **in stages** based on positive outcomes and measurable improvements to enhance the commitment of society to change.
- **Consistency and complementarity** across policy sectors and stakeholder groups to ensure effectiveness and impact.
- **Flexibility and adaptability** to different cases and conditions through time.

3.4. Challenges and principles for participatory transport planning

According to the above, transportation is interlinked with the conditions of socio-economic development and environmental sustainability. Planning for sustainable mobility should strive for the improvement of the effectiveness and efficiency of transport systems and the environmental, social and economic sustainability, in terms of enhancing positive effects, creating future opportunities, mitigating negative impacts and accounting for threats and risks. The wide range and evolving nature of the interactions between transport and development comprises a main argument in favour of public participation as an integral part of the transport planning process. However, internal and external challenges are identified in order to ensure an effective participatory planning process for sustainable mobility (Table 2).

Table 2: Internal and external challenges to public participation in transport planning (source: Adapted from (Giering, 2011))

Challenges	
Internal (to the planning process)	*External (to the planning process)*
• Lack of resources (budget allocated to participatory actions; time constraints; number and skills of staff)	• Distrust and/or indifference of participants regarding the process and outcomes

• Conflicting interests between groups (e.g. elected officials, stakeholders, local groups) • Lack of public awareness and/or timely provision of information • Lack of sufficient and effective means and tools for public participation • Lack of prioritization and support by local authorities	• Difficulty in setting a common access location and time for meetings (due to remoteness, daily obligations) • Cultural, language and other social barriers

In order to address these challenges and to achieve the benefits of public participation for transport planning, a systematic approach based on participatory planning principles is needed (Bickerstaff, Tolley, & Walker, 2002). Following these principles supports the transition to contemporary strategic transport planning, as opposed to conventional top-down transport planning (Table 15.3).

Table 3: Participatory planning principles and their significance for the transition from conventional to strategic transport planning (source: Own elaboration from (Rupprecht Consult (ed.), 2019))

Features of transport planning	**Shifting from:** *Conventional and top-down planning*	**Towards:** *Strategic and holistic planning*	**Supported by participatory principles**
Problem	Isolated and directly observed	Related to both internal and external impacts	Ensure public awareness and sharing information for better understanding of issues at stake.
Spatial coverage	Specific parts of networks or corridors	Entire entities, such as corridors or networks	Include all directly and indirectly affected groups across population groups, areas and capacities.
Time coverage	Short-term and direct results	Specific time-horizons and evolution	Plan for continuous involvement and engagement of the public from planning to implementation and evaluation.
Objectives	Directly related to solving a mobility problem	Related to cross-sectoral targets	Ensure transparency in processes and results, especially linked to how contributions from the public are used.
Alternatives	Single solution or small number	Alternative scenarios	Implement the appropriate mix of face-to-face and digital tools to ensure wider comprehension, interaction and contribution.
Final product	Single solution	Assessment-based optimal solutions	Invest in consensus building and conscious decision of people to adopt solutions.

3.5. Participatory planning in SUMP

The Sustainable Urban Mobility Plan (SUMP) is the main framework for strategic transport planning in Functional Urban Areas (FUAs) in the European Union. The framework is outlined in Figure 4.

Figure 4: The SUMP circular approach (source: (Rupprecht Consult (ed.), 2019))

A stronger relation between SUMPs with other urban planning frameworks, as well as with the Sustainable Development Goals (SDGs) is sought by the New EU Urban Mobility Framework, i.e. the main EU strategic document for urban mobility in the programming period 2021-2027. Public participation in planning for sustainable mobility, such as through Living Labs, is also highlighted in the strategic document in the context of urban experimentation.

Public participation and participatory planning are an integral part of the SUMP guidelines (Rupprecht Consult (ed.), 2019). Indicatively, one of the 8 principles of SUMP explicitly refers to the involvement of citizens and stakeholders:

"*A Sustainable Urban Mobility Plan focuses on meeting the mobility needs of people in the functional urban area, both residents and visitors, as well as institutions and companies based there. It follows a transparent and participatory approach,* ***actively involving citizens and other stakeholders*** *throughout the plan's development and implementation.* ***Participatory planning*** *is a prerequisite for people to take ownership of the Sustainable Urban Mobility Plan and the policies it promotes. Early and active involvement makes* ***public acceptance and support*** *more likely, thereby* ***minimising political risks*** *and* ***facilitating implementation*** *."*

In specific, the activities of the different phases of the SUMP process which build on the integration of participatory planning and public engagement are presented in Table 4. These activities involve both the commitment of a steering committee of key stakeholders and the involvement of the general public.

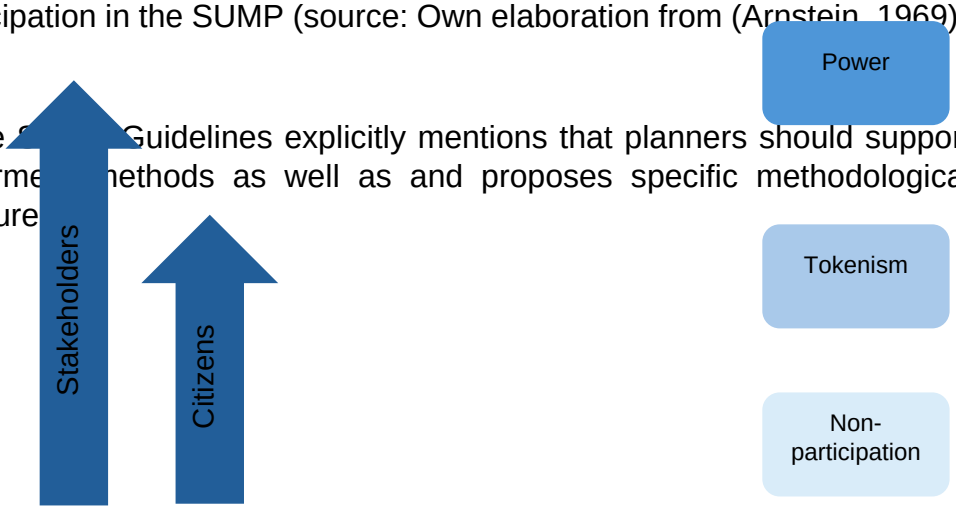
Table 4: Integration of participatory planning into the SUMP process (source: Own elaboration from (Rupprecht Consult (ed.), 2019))

Step	Activity	Participatory planning actions
Phase 1: Preparation and analysis		
1. Set up working structures	1.3. Ensure political and institutional ownership	• Identification and mapping of stakeholders (incl. government bodies representing public interests). • Understanding interests, synergies and relations.
	1.4. Plan stakeholder and citizen involvement	• Establishment of key stakeholder "steering group". • Establishment of involvement activities as part of the planning process. • Development of a communication and engagement strategy and means.
2. Determine planning framework	2.3. Agree timeline and work plan	• Development of a timeline and workplan tailored to the local context for ensuring meaningful participation. • Establishment of clear roles, transparency and visibility.
3. Analyse mobility situation	3.1. Identify information sources and cooperate with data owners	• Addressing the need to collect data and understand different travel choices and behaviours.
	3.2. Analyse problems and opportunities (all modes)	• Co-operation with key stakeholders and citizens to idenfify, prioritise and analyse problems and opportunities. • Assessment of social exclusion aspects in the framework of transport policies.
Phase 2: Strategy Development		
4. Build and jointly assess scenarios	4.2. Discuss scenarios with citizens and stakeholders	• Presentation and discussion of scenarios through clearly described, inclusive and engaging participatory methods.
5. Develop vision and objectives with stakeholders	5.1. Co-create common vision with citizens and stakeholders	• Conduction of "steering group" meetings to prepare, inform and co-draft the vision. • Information sharing, discussion and feedback (e.g. through public) from citizens to finalise the vision. • Wide communication of the vision.
	5.2. Agree objectives addressing key problems and all modes	• Identification, assessment and prioritization of objectives with stakeholders.
6. Set indicators and targets	6.1. Identify indicators for all objectives	• Collect information by key stakeholders about potential strategic indicators which they may monitor.
	6.2. Agree measurable targets	• Involvement of key stakeholders in target setting through working group meetings.
Phase 3: Measure planning		
7. Select measure packages with stakeholders	7.1. Create and assess long list of measures with stakeholders	• Involvement of key stakeholders in drawing up the long list of measures. • Possible involvement of key stakeholders in assessing the measures.
	7.2. Define integrated measure packages	• Discussion of selected measure packages with key stakeholders. • Wide communication of measure packages in a transparent way. • Active involvement and feedback from citizens for validation and final selection.

8. Agree actions and responsibilities	8.3. Agree priorities, responsibilities and timeline	• Formal agreement on responsibilities and timeline among decision makers and key stakeholders.
	8.4. Ensure wide political and public support	• Communication of the main elements of the SUMP. • Feedback from the "steering group" and citizens (through public debate).
9. Prepare for adoption and financing	9.2. Finalise and assure quality of 'Sustainable Urban Mobility Plan' document	• Ensuring integration of the views and results from the participation process of stakeholders and citizens. • Final amendments in cooperation with key stakeholders to increase political and public support.
Phase 4: Implementation and monitoring		
10. Manage implementation	10.2. Procure goods and services	• Transparency in the procurement process to increase public and political support.
11. Monitor, adapt and communicate	11.2. Inform and engage citizens and stakeholders	• Discussions and responses to the concerns of citizens and stakeholders directly affected by a planned measure before the implementation. • Publicly sharing information of progress and accomplishments. • Stakeholder and public engagement in the implementation, wherever possible.
12. Review and learn lessons	12.1. Analyse successes and failures	• Active involvement of key stakeholders and citizens to identify accomplishments, impacts and failures. • Communication of "lessons learned" with the "steering group". • Critical review of the effectiveness of stakeholder and public participation to improve in future plans.

According to the Table, public participation in the SUMP is based on participatory planning approaches and covers all phases of the planning process, from preparation of the plan to the evaluation of implementation impacts. Key stakeholders, such as elected officers, transport operators and managers, etc., are represented by the "steering group" which is actively engaged in decision making throughout the SUMP. Citizens are also involved in all phases of the plan, but play a less decisive role. In the context of Arnstein's Ladder of Citizen Participation (Arnstein, 1969), citizens are dynamically and thoroughly informed about all decisions and outcomes, including the way their contributions are integrated, while they actively participate in consultations in various steps. Their engagement in the implementation of the measures is sought "wherever possible", with the SUMP Guidelines presenting as an example "having children paint footprints on the ground marking safe routes to school". Public support and consensus, as well as understanding of the inter-actions and synergies among local stakeholders, are also aimed, which can be characterised as objectives towards placation (Figure 5).

Figure 5: Arnstein's Ladder of Citizen Participation in relation to the level of stakeholder and citizen participation in the SUMP (source: Own elaboration from (Arnstein, 1969))



Nonetheless, the SUMP Guidelines explicitly mentions that planners should support citizen empowerment methods as well as and proposes specific methodological approaches (Figure

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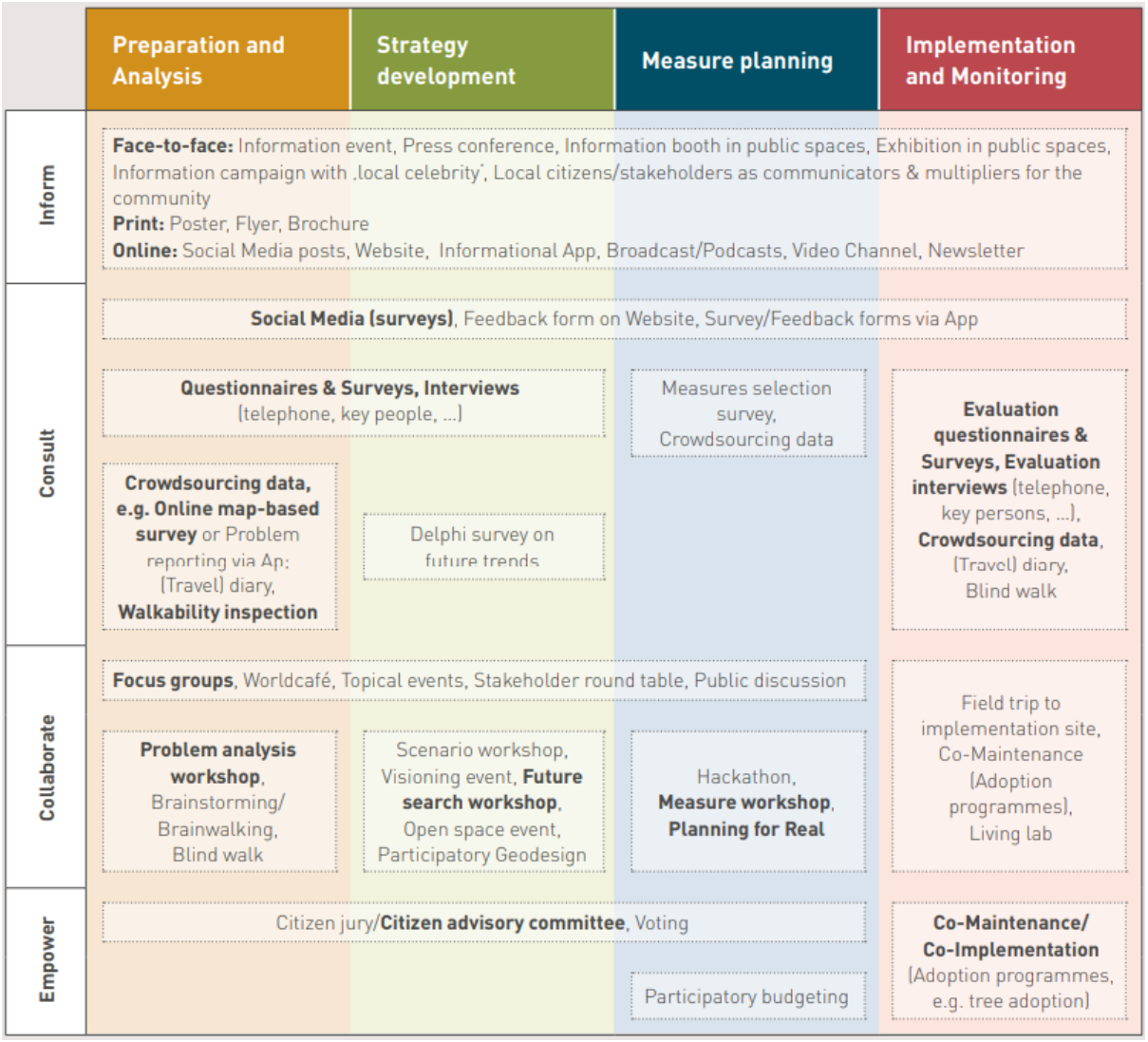

Figure 6: Recommended involvement tools and methods for SUMP development (source: (Rupprecht Consult (ed.), 2019))

Combining the recommendations of Figure 6 with the DEMo4PPL Digital Toolkit, the following digital tools can be identified as more relevant to the SUMP process:

- Provision of information on the transport network through on-line mapping databases, e.g. Openstreetmap.
- Consultation to enhance engagement and understand needs, goals and trends through participatory governance tools, e.g. Your Priorities, and interactive tools, e.g. adhocracy+; Citizen OS; DecSpace.
- Co-assess and co-design of mobility solutions through cooperative mapping of transport interventions, e.g. ArcGIS online, and other collaboration tools to collect views and assess measures, e.g. Miro; Mural; Trello; Moodle; Slido; Kahoot!; Mentimeter.

Other digital means, such as Social Media (to share information and exchange views) and online questionnaire surveys (to collect data, information and opinions) are also important.

The appropriate mix of physical and digital participatory planning tools should be designed and established in respect to the objectives of each step of the transport planning process. The main criteria of the participatory planning approach for sustainable mobility should be:

- **Citizen-oriented** , realistically reflecting both acceptability and inclusiveness of all groups directly and indirectly affected by transport interventions.
- **Comprehensive** , accounting for all interactions linked to the environmental, social and economic dimensions of sustainable mobility.
- **Resilient** , with transparency and flexibility to address anticipated and unforeseen challenges regarding the transport system.
- **Innovative** in a meaningful way to bring capacity building, long-term engagement and empowerment of the local community to contribute towards sustainable mobility.

4. Classroom discussion topics / case studies

Topics that can be discussed in the classroom include:

- Description of the elements of competence and interest of key actors in planning for sustainable mobility (Table 1).
- Analysis of the level of stakeholder and citizen participation in the SUMP, according to Arnstein's Ladder of Citizen Participation (Figure 5), based on specific activities in the SUMP guidelines (Table 3).
- Discussion on the recommended involvement tools and methods for SUMP development regarding their relevance to Arnstein's Ladder of Citizen Participation and their contribution to the SUMP phases (Figure 6).

Case studies included in SUMP Guidelines and in DEMo4PPL Good Practice (e.g. SUMP Mirano - https://www.demo4ppl.eu/wp-content/uploads/2024/07/DEMo4PPL_Good-practice_Italy_O.09_SUMP-Mirano.pdf) can be analysed .

5. Assignments

The assignment for this module is proposed for students with a strong background in (post-graduate and LLL levels). The process is presented in a stepwise manner below:

Step 1. Short description of Mentimeter (https://www.mentimeter.com/work) for the creation of online, dynamic polls.

Step 2. Presentation of a topic regarding SUMP and a list of issues related to the topic (e.g. challenges for empowering citizens in planning and implementation).

Step 3. Discussion of issues to make changes, introduce new elements, achieve common understanding and finalize.

Step 4. Application of Mentimeter for the evaluation and prioritization of issues.

Step 5. Presentation of results and short discussion on the inter-relation between prioritised issues.

Step 6. Organisation of students into groups (e.g. in case of digital: breakout rooms in MS Teams; in case of physical: discussion tables in class). Each group will address each one of the major issues (up to 3) and will co-design a set of activities (up to 3) to be integrated into the SUMP to address the specific issue.

Step 7. Presentation of the set of activities by a representative of each group and how it addresses the issue.

Step 8. Class debate on the inter-relation between activities of different groups (complementarities, overlaps, effectiveness and applicability) to achieve consensus and finalize a common set of activities. If no consensus is achieved, highlight the incompatibilities and reasoning and propose ways forward.

6. Summary of Learning

Q1: What are the main contemporary challenges related to the mobility needs of society?

A: The main contemporary challenges are:

- The ageing of population affects the ability to use active transport modes and, in some cases, digital mobility services.
- The social inclusiveness of the transport system is affected by increasing income inequalities and gender inequity.
- Remote and rural areas are characterised by lower levels of accessibility and availability of transport service, while urban population is still faced with the socio-economic losses and external impacts of congestion.
- The population of different social groups may be more exposed to climate, health, economic and other crises, with direct effects on the urgency and/or the quality for mobility service provision.

Q2: In which stages of the transport planning process should the planner incorporate public participation?

A: The planner should incorporate public participation as an integral part in all stages of the transport planning process, i.e. setting the vision and objectives, assessing scenarios, developing solutions, monitoring the implementation and evaluating the impacts.

Q3: Who are the key actors that should be involved in participatory transport planning and which are the two main aspects for their successful involvement?

A: The key actors are the experts (e.g. planners, analysts etc.), the stakeholders (e.g. local authorities, transport operators, mobility service providers, environmental associations), and local community (e.g. citizens, social groups and businesses). The main aspects are inclusiveness and acceptability throughout the planning process and the planning product.

Q4: Which are the main internal and external challenges in the process of participatory transport planning?

A: The main internal challenges are:

- Lack of resources (budget allocated to participatory actions; time constraints; number and skills of staff)
- Conflicting interests between groups (e.g. elected officials, stakeholders, local groups)
- Lack of public awareness and/or timely provision of information
- Lack of sufficient and effective means and tools for public participation
- Lack of prioritization and support by local authorities
  The main external challenges are:

- Distrust and/or indifference of participants regarding the process and outcomes
- Difficulty in setting a common access location and time for meetings (due to remoteness, daily obligations)
- Cultural, language and other social barriers

Q5: What are the objectives from the early and active involvement of stakeholders and citizens in the SUMP process?

A: The objectives from the early and active involvement of stakeholders and citizens in the SUMP process are the enhancement of public acceptance and support, the minimization of political risks and the facilitation of implementation.

Quiz

Q1: Which of the below are features directly related to the “social pillar” of sustainable urban mobility?

a) Competitiveness and efficiency of transport companies
b) Accessible and safe transport systems
c) Affordable mobility services

d) Healthy travel choices and mobility conditions

A: b, c, d

Q2: True or false: Nowadays, the accessibility conditions of all rural and remote areas in Europe fully cover their mobility needs due to the availability of sustainable and smart mobility solutions.

A: False

Q3: True or false: All cities and settlements are facing the same challenges regarding the promotion of sustainable mobility and, thus, a common set of solutions can be implemented everywhere.

A: False

Q4: Which of the below are benefits from active public participation in planning for sustainable mobility?

a) Ability to understand and cover the needs of different social groups
b) Manipulation of the public to accept decisions of local transport authorities
c) Better knowledge of local mobility conditions and needs
d) Higher adoption and support of planning solutions

A: a, c, d

Q5: Use arrows to match the key actors to the corresponding levels of competence and interest:

Key actors		Level of competence		Level of interest
1. Experts		a. Moderate		i. High
2. Stakeholders		b. Low		ii. Low
3. Local community		c. High		iii. High

A: 1⇒c⇒ii; 2⇒a⇒ i and/or iii; 3⇒ b ⇒ i andor iii

Q6: True or false: Depending on the context, there are different groups of citizens who may be underserved by the urban transport system, such as those of lower income and those who do not have access or knowledge in the use of digital technologies.

A: True

Q7: Fill in the gap: One of the principles to achieve public acceptance of sustainable mobility is the provision of "*push and* _____" measures to increase the sufficiency and attractiveness of planning solutions.

A: Pull

Q8: Which of the below are internal challenges to the transport planning process regarding the successful and meaningful public participation?

a) Distrust and indifference of participants in the planning process and outcomes
b) Cultural barriers among participants, which may obstruct communication and exchange of opinions
c) Access of remote population to the meeting points where discussions, debates and consultations take place
d) Limited time allocated to public participation within the overall time framework of the planning process

A: d

Q9: True or false: One of the main differences between conventional, top-down and strategic, holistic transport planning is the fact that strategic transport planning aims for direct and short-term results, so the early engagement of society is very important.
A: False

Q10: True or false: The SUMP Guidelines outline different ways and tools of public participation, but the principles of SUMP do not explain why the involvement and engagement of society in the planning process is considered important.
A: False

Q11: Use arrows to match the participatory planning activities to the corresponding phases of the SUMP:

Participatory planning activities		Phases of SUMP
1. Transparency in the procurement process to increase public and political support		a. Phase 1: Preparation and analysis
2. Wide communication of the vision		b. Phase 2: Strategy Development
3. Establishment of key stakeholder “steering group”		c. Phase 3: Measure planning
4. Active involvement and feedback from citizens for validation and final selection of measures		d. Phase 4: Implementation and monitoring

A: 1⇒d; 2⇒ b; 3⇒ a; 4 ⇒ c

Q12: True or false: According to the SUMP Guidelines, the “steering group” should be actively engaged in decision making throughout the SUMP and should comprise all key stakeholders, such as elected officers, transport operators and managers.
A: True

Q13: True or false: According to the SUMP Guidelines, citizens should be actively engaged and be given control of the implementation of all planning measures.
A: False

Q14: Use arrows to match the digital tools for planning participation to the actions in the SUMP

Participatory planning activities		Digital tools
1. Co-design planning interventions in an area		a. On-line mapping databases
2. Presenting information about current situation in the transport network		b. On-line questionnaire survey
3. Public consultation to exchange suggestions, views and opinions		c. Co-operative mapping
4. Collection of user information regarding mobility choices and needs		d. Participatory governance

A: 1⇒c; 2⇒ a; 3⇒ d; 4 ⇒ b

Q15: Which one of the criteria below is NOT a criterion for the adoption of a participatory planning approach in sustainable urban mobility?

a. Public acceptability and inclusiveness of all directly and indirectly affected groups
b. Directness and simplicity of information, revealing only basic information to the public
c. Transparency and flexibility for change to address possible challenges
d. Long-term engagement and empowerment of the local community

A: b

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8. Glossary

Arnstein's Ladder of Citizen Participation: The participation ladder is a conceptual model, developed by Sherry Arnstein in 1969, that describes the varying levels of stakeholder engagement in decision-making processes.

Digital tool: a website or application that enables stakeholders to engage in a project, accessed via a digital interface or otherwise relying on digital technology to function.

Intelligent Transport System (ITS): A technological application that aims to provide advanced services relating to different transport modes, infrastructures and management.

New Mobility Services (NMS): Intraurban passenger mobility services and vehicles enabled by digital technology.

Stakeholder: An organisation, such as a local authority, a transport operator, or an environmental association, with a vested interest in the planning activities and outcome. For this Module, stakeholders represent a different entity from the local community and citizens.

Sustainable mobility: The overall goal of the sustainable transport system.

Sustainable transport: Provision of services and infrastructure for the mobility of people and the movement of goods with the aim of promoting socio-economic development for the current and future generations in a safe, affordable, effective, efficient, accessible and resilient way, while minimizing carbon and other emissions and environmental impacts.

Sustainable Urban Mobility Plan (SUMP): The official strategic planning framework of the EU designed to satisfy the mobility needs of people and businesses in cities and their surroundings for a better quality of life.

Transport system: The system of infrastructures, vehicles and services which produce the supply and address the demand for travel within a spatial entity.