



INTERREG Alpine Space Project

**“Sustainable Mobility Behaviours in the Alpine Region –
SaMBA”**

**HANDBOOK FOR IMPLEMENTING BEHAVIOUR
CHANGE POLICIES**

September 2021

Short Description
The handbook will support PAs in carrying out concrete activities and facing main issues related to the development of such policies, thus maximizing their effect on the modal shift towards sustainable mobility.

Document Details	
Project	SaMBA
Action	WP T3
Deliverable	Output O.T3.1
Due date	31/07/2021
Delivery date	07/09/2021
Dissemination	-
Origin	PP2 – LINKS
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Introduction

SaMBA Project

SaMBA (“Sustainable Mobility Behaviours in the Alpine Region”) is a project co-financed by the European Union via the Interreg Alpine Space Programme and implemented by a partnership of thirteen Alpine Space bodies, led by Regione Piemonte (Italy) with the support of thirty-six observers, became forty-two at the end of the project.

The project started in April 2018 and ended in October of 2021, with nine pilot projects being implemented in nine different cities and five different countries (Italy, Austria, Germany, Slovenia, and France).

The project objective was to elaborate and test reward and pricing policies, to trigger behaviour change in mobility patterns. A tool has been developed that allows planning authorities to estimate the impact of such mobility-related behavioural change policies. Furthermore, in bringing together partners from five countries, the projects supported the harmonization of policies throughout the region. This handbook is the final Output of the pilot cases working package of the project and, therefore, aims to help policymakers and public administrators to replicate mobility measures adopted in SaMBA, or brand-new mobility measures, by providing guidance that is prompted by the most relevant tools and conclusions drawn from SaMBA.

How to use this Handbook

This handbook was envisioned to help policymakers and public administrations to design “soft” policies that can increase the usage and acceptance of sustainable modes of transportation. The document intends to be short and incisive, briefly explaining the methodological steps and, above all, referring to several other suited documents and tools, developed during the SaMBA Project or by other relevant entities.

The Handbook is divided into four main sections, plus the introductory one, each corresponding to a methodological step to be applied when creating a new mobility measure: Preliminary Analysis, Design, Implementation and awareness-raising, and Monitoring & Evaluation. Each of those sections is divided into subsections aimed to present the information in structured and easy-to-follow steps.

The Preliminary Analysis shows a series of tools and processes that can help you get started in understanding your context, problem, define possible objectives, and identify benchmarks. The Design chapter aims to present possible methodologies for citizen involvement and tools developed by partners of SaMBA to design reward and pricing policies. The Communication chapter focuses on how to draw and develop effective communication plans. The Implementation chapter presents how the design of a policy proposal can be put into effect. The

Monitor & Evaluation chapter suggests how to adopt a monitoring and evaluation system of the measures adopted, with a view to a continuous learning process and improvement.

The following table shows each section and subsection of this handbook and which documents are referenced in it and what is the outcome for each of them.

Section		Sub-section	
1	Preliminary analysis	1.1	<i>Local context review</i>
		1.2	<i>Understand the behavior you want to change</i>
		1.3	<i>Stakeholders analysis</i>
		1.4	<i>Best practices analysis</i>
2	Design	2.1	<i>Stakeholders engagement</i>
		2.2	<i>Co-creation</i>
		2.3	<i>Reward & pricing policies formulation</i>
3	Implementation & Awareness raising	3.1	<i>Communication strategy adoption</i>
		3.2	<i>Project plan and Budget plan adoption</i>
4	Monitoring & Evaluation	4.1	<i>Periodic monitoring</i>
		4.2	<i>Evaluation of relevant KPIs</i>
		4.3	<i>Evaluation of the implementation process</i>

1. Preliminary Analysis

1.1. Local context review

The first step towards designing an effective mobility behaviour policy is to have a clear and precise understanding of what your territorial context is.

Therefore, the context analysis comprises:

- the **analysis of the transport and mobility planning framework** at the local and regional level, to frame the pilot area in terms of set policies and objectives;
- the **territorial analysis**, in terms of its specific characteristic (e.g. urban, peri-urban, rural) and **socio-economic, transport and mobility and environmental features**;

It is incredibly important to spend the right amount of time and effort in this first section since it will be the foundation of your policy.

For the **analysis of the transport and mobility planning framework**, a review of existing plans and programs such as e.g. regional mobility and transport plans, sustainable urban mobility plans (SUMP), local transport plan, but also, for example, limited traffic zones, pedestrian areas, should be performed through:

- interviews to transport planning experts and decision-makers;
- document analysis.

For what concerns the **territorial analysis**, the *socio-economic* category is aimed at basic information about your region/city/town, such as the number of inhabitants, density, the age distribution of residents, among others. Those data should be available at your disposal within the administrative staff of your region/city/town. If not, there are some European databases from where that information can be retrieved (e.g. Eurostat). The *transport and mobility* category include indicators related to mobility patterns of the region/city/town: modal split, offer of public transport (e.g. number of lines, bus, stops) and average waiting time, existing mobility sharing services, among others. Those can probably be retrieved with the transportation department or related agencies. The *environmental* category is composed of indicators that are directly connected with the quality of air (e.g. PM₁₀ emission), but it can also be the number of days without precipitation and noise pollution, which are useful for defining environmental comfort.

The following table shows the detailed list of indicators that could be used in this stage. To fill out that table you can use your information related to previous studies or official information websites, either from your public administration or international agencies, such as Eurostat. The indicators proposed have been defined under the H2020 MUV Project, to evaluate the impacts

of adopted mobility measures and a detailed description can be found in the MUV deliverable “Scenarios and MUV Key Performance Indicators”.

It is not mandatory to fill out all those indicators and information, however, a complete analysis will help on the next steps laid out in this Handbook, especially for what concerns the monitoring of the new policy effects.

	Indicator	Description
Socio-economic	Population	Population of the area
	Area of region/city/town	Size (in km ²) of your area
	Population density	Ratio of population/area
	Age structure	Percentage of citizens within each age group
	Average available income	Average income per citizen available for transportation
	Driving age population	Number of citizens with age for independent use of car
	Number of employees/students/etc.	Number of citizens within group of policy aims (if any)
	Main attraction pole	main tourist sites, shopping centres, schools, hospitals
Transportation	Share of mode transport	Percentage of users that use Bike, Bus, Car, Public Transport
	Cost of transportation (e.g. fares)	How much it costs each transportation mode
	Traffic and congestion	Is there any problem with congestion? At what times?
	Railway stations	Number of railway stations in the policy area
	Bus stops	Number of bus stops in the policy area
	Safety and security	Perceived level of safety and security of roads
	Average waiting time	Average waiting time bus/tram/train in the policy area
	Length of bicycle lanes	How long is the whole cycling network?
	Road accidents	Accidents per 1000 inhabitants, accidents with cyclists
	Car sharing services	Number of cars, bicycles and others available in the area
	Car ownership	Car ownership per 1000 inhabitants
Environmental	Precipitation	Number of days with precipitation
	Carbon dioxide concentration	Annual concentration of CO ₂ in the area (in ppm)
	Level of noise pollution	Level of noise (in dB) in the area
	Concentration of NO ₂	Annual concentration of NO ₂ in the area [µg/m ³]
	Concentration of PM ₁₀	Annual concentration of PM ₁₀ in the area [µg/m ³]
	Concentration of PM _{2.5}	Annual concentration of PM _{2.5} in the area [µg/m ³]
Institutional	Concentration of CO	Annual concentration of CO in the area [µg/m ³]
	Existence of a SUMP	Is there a SUMP (Sustainable Mobility Plan) for the area?
	Subsidies for action	Are there any subsidies for sustainable mobility policies in the area?
	Mobility policies	Is there any traffic limited zone, pedestrian zone, etc.?
	Planned mobility initiatives	Is there any plan for mobility/transport infrastructures in the area?

Furthermore, the SaMBA Tool can support the preliminary analysis. Before giving recommendations to the user, the tool requires a characterization of the target area based on

parameters referring to demography, topography, settlement and infrastructure, similar to the indicators above. The tool also helps to visualize such parameters in space with the help of maps.

References

- “SaMBA Report on pilot cases” -> [link to access](#)
- “Scenarios and MUV Key Performance Indicators” -> [link to access](#)
- “SaMBA Tool for finding policies & estimating impacts in terms of mobility behaviour change” -> [link to access](#)

1.2. Understand the behavior that should be changed

A policy creation starts by defining the **objective to be achieved**. Deciding on the right content and scope of the goal can be crucial for the implementation of the policy.

At this stage, the policy promoter should **isolate the “main problem”** he wants to solve that is linked to a given behaviour and thus also deduce the **main target users** (commuters, tourists, schoolers, etc.).

To draw effective objectives and goals the so-called **SMART** approach is generally used in project management. SMART stands for Specific, Measurable, Attainable, Relevant, and Time-bound. For a project, as well as for a policy, to be effective, all objectives should adhere to that methodology, to have a better result. The acronym SMART can be further explained, as every goal or objective should be:

- **Specific:** the goal should target a specific area of improvement or answer a specific need.
- **Measurable:** the goal must be quantifiable, or at least allow for measurable progress.
- **Attainable:** the goal should be realistic, based on available resources and existing constraints.
- **Relevant:** the goal should align with other planning objectives to be considered worthwhile.
- **Time-bound:** the goal must have a deadline or defined end.

The **SEROI + tool** also helps with the definition of objectives for public policies. The approach proposed by SEROI+ is a well-known methodology for project management, which basis itself on asking the following questions:

- **What** problem, need, or opportunity do you want to solve or meet?
- **Who** has that problem or need?
- **Why** should your public administration solve it?
- **Where** does this problem take place?
- **When** does this problem need to be solved?

Those two methodologies, working together, can help you guide your objective definition. Have in mind that, the SMART framework is very useful for indicator-based objectives (e.g. reduction of car usage) while the 5W methodology adopted by the SEROI+ can be used in all scenarios regarding mobility behaviour change, as a starting point to understanding your objectives and goals with your policy.

By the end of this section, you should have a clear objective that answers those questions and follow both proposed methodologies. This will help you through the next stages of this handbook.

Once the behavior considered problematic has been identified, it is essential to study it in-depth to understand how to "modify" it, through specific **mobility surveys** aimed at detailing the characteristics of the movements, identifying, for example, Origins-Destinations, habits in using mobility and transport services (e.g. parking, public transport, non-auto modes and facilities, car), daily displacement profiles, needs, attitudes and willingness to change.

The MBC Platform, created within the SaMBA Project, has specific functionality that allows you to download questionnaire templates dedicated to home-school and home-work mobility that can be the basis for the creation of a more local-oriented questionnaire. In addition, the platform allows to launch pre-set surveys integrated into the platform itself, also allowing you to read the results on the platform itself. Those surveys can work as a first grasp of what are the current needs of users, what is the share of use of transport modes, their opinion on public transport and more sustainable modes of transportation and, indeed, to understand the users' choice of transport.

References

- SMART Framework -> [link to access](#)
- SEROI+ tool -> [link to access](#)
- Survey Methods for Transport Planning -> [link to access](#)
- MBC Platform - "Monitor the MBC"-> [link to access](#)

1.3. Stakeholder analysis

There are many Stakeholders Analysis (SA) techniques, whose approach changes according to the issue or process to which this kind of analysis will contribute, such as: understanding the general stakeholder landscape, starting a conversation among stakeholders about a difficult issue, create ideas for strategic interventions, building a coalition around proposal development, implement a policy and so on.

The SA is a methodology meant at identifying stakeholders and understanding their potential role and position when developing and/or implementing a policy, program, or process. This analysis can help to recognize possible conflicts and coalitions between stakeholders, and how these, in turn, may affect the policy, program, or process in terms of geographical coverage, integration, resource availability, and overall legitimacy.

All SaMBA pilots adopted a SA which was useful to reveal key players to be involved in the design and implementation of the policy. A step-by-step approach for a comprehensive stakeholder analysis can be found in the SaMBA deliverable "D.T3.1.1 – Guidelines for communication, increased acceptance, user and stakeholder engagement" and include the following initial steps:

1) Review existing information; 2) Develop a list of all relevant stakeholders; 3) Map the stakeholders.

For transportation policies, some stakeholders are often involved and need to be taken into consideration their contribution, interest, and reasons that your policy creation process should involve them. The following table shows those main stakeholders, why they should be involved, and their interest in the project.

STAKEHOLDER GROUP	REASONS TO INVOLVE	INTERESTS / BENEFITS
Policy makers	<ul style="list-style-type: none"> - Provision of access to data required - Contribution of expertise - Ensure the usefulness and relevance of the policy - Evaluation and approval of the policy - Adaptation into relevant policies and integration to regional, national and EU funds - Foster dissemination of results - Promote wider adoption and replication of the policy - Liaison to other entities and involvement of citizens 	<ul style="list-style-type: none"> - Reach sustainable mobility goals
Businesses and service providers	<ul style="list-style-type: none"> - Provision of technical expertise to the policy - Evaluation and validation of policy outputs - Implementation and replication of policy outputs - Promote adoption among customers - Foster dissemination of results among customers 	<ul style="list-style-type: none"> - Increased local publicity - Catching new customers
Citizens and communities	<ul style="list-style-type: none"> - Awareness-raising - Exercising pressure on governments and companies - Ensure policies acceptance and adoption - Evaluation and approval of policy outputs - Ensure usefulness and relevance of policy outputs - Foster dissemination and adoption of policy results - Networking with organizations and link to individuals 	<ul style="list-style-type: none"> - Protection from climate change impacts - Increased local publicity - Interest in using the new data produced

Others	<ul style="list-style-type: none"> - Provision of access to relevant research results - Foster research - Sharing scientific expertise and provision of advice - Evaluation and approval of policy outputs - Networking 	<ul style="list-style-type: none"> - Publications - New research opportunities - Networking
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After understanding who are the stakeholders that can influence and be influenced by your project, the SEROI+ tool offers solutions to understand their motivations, orientation, relevance, and influence. The tool allows plotting all stakeholders in a matrix to classify them and later prepared the proper communication and engagement plan. Finally, you should have a stakeholder register, with all stakeholders, their interests, and expectations about the policy.

References

- “Guidelines for communication, increased acceptance, user and stakeholder engagement” -> [link to access](#)
- SEROI+ tool -> [link to access](#)

1.4. Best Practices analysis

The investigation of best practices is a powerful tool to identify possible solutions, stakeholders, and mistakes to avoid during the design and implementation of policies. The SaMBA project developed documents and tools to map those best practices in the field of behaviour change and “nudge” policies such as the D.T2.2.1 “Behaviour change policies state of the art report” where mobility behavior change measures have been evaluated according to attributes such for example objective, territorial context, target users, technologies used, business models implemented and results achieved.

The “Behaviour change policies state of the art report” was also an important foundation for the development of the SaMBA Tool that introduces measures to promote mobility behavior change based on incentives and rewards since it uses best practice examples and their impacts as inputs. With the help of the tool, a list of measures and their according best practice examples that might be appropriate for a certain target area is provided.

ID	PROJECT NAME
Promoters	Bodies carrying out and/or funding the initiative/project.
Duration	MM-DD-YYYY – MM-DD-YYYY / MM-DD-YYYY – ongoing.
Project area	Territory affected by the initiative: administrative level and short description.

Alpine Space Territorial type	Select from: A. Alpine metropolises; B. Alpine cities; C. Stable or growing rural areas; D. Declining and shrinking rural areas; E. Tourism areas.
Problems to solve	Specific problems encountered in the project area that required a solution (e.g. parking and/or road congestion, high levels of pollutants, seasonal mass tourism trips, etc.).
Project objectives	Specific objective/s of the initiative/project (e.g. change students mobility behaviour, reduce private cars in the rush hours, etc.).
Short description	Concept of the initiative/project.
Target users	The group of stakeholders identified as the target of the initiative / project (e.g. citizens, tourists, elderly, etc...).
Stakeholders involved	Entities involved in the implementation of the initiative/project such as local authorities, trade associations, sponsors, city associations, transport operators, schools, etc.
Technologies used	Such as ICT tools, smart phone apps, tracking devices, etc.
Business model	Description, sponsors involved, methods of financial reward and motivation used, economic sustainability measures used.
Communication activities	Communication channels used in relation to the target users (social networks, media campaigns, etc.).
Results	Quantitative data results such as number of users, CO ₂ saved, etc.
Still ongoing or interrupted	State if the initiative/project is still ongoing or not and explain the reasons, if applicable, of the interruption.
Lessons Learned	Lessons that the case study offers for a replication that is effective and sustainable.
Website address	Sources and reference.
Contact reference	Used in case further investigations might be required.

Also, the SaMBA “Report on Nudge” comprises in-depth research of policies and measures using nudges to achieve mobility behaviour change, in a state-of-art report that reviewed documents, studies, and findings from other European projects. And, finally, it summarizes why interventions based on the nudge approach can encourage increased use of local public transport.

The SaMBA project also developed an online platform (MBC Platform) that aims to work as a living lab to impact mobility behaviour change. In that platform, there is an area dedicated to best practices, which presents policies and measures in-depth, with relevant information such as target user, context, objective, activities, and lessons learnt.

Best practices must be put into context, as the deliverable “D.T4.1.1 – Report on Process Evaluation” discusses on transferability and scalability of policies to different contexts and scenarios.

MBC Practices

Mobility Behaviour Change measures, actions and policy. Have a look at some bright examples already deployed.

Show all MBC Practices



Carpooling at Grenoble, a SaMBA Pilot

The idea of conceiving a line for carpooling came from the concept of public transport: why not...

POLICY

Rewarding



Bohinj and Tržič, a SaMBA Pilot

To reduce the number of cars in the city center and reduce the amount of parking to create a shift to...

POLICY

Pricing



Kendlerpark and Friedrich-Inhauser-Straße, a SaMBA Pilot

Make new citizens aware of diverse mobility offers with one-on-one mobility advice and awareness...

POLICY



SaMBA

By making public authorities, the general public and tourists coming to the Alpine area understand the...

POLICY

Pricing

Rewarding

References

- SaMBA “Behaviour change policies state of the art report” -> [link to access](#)
- “SaMBA Tool for finding policies & estimating impacts in terms of mobility behaviour change” -> [link to access](#)
- SaMBA “Report on Nudge” -> [link to access](#)
- MBC Platform – “MBC Practices” -> [link to access](#)
- SaMBA “Report on Process Evaluation” -> [link to access](#)

2. Design

2.1. Stakeholder Engagement

For an effective design and, later, implementation of mobility measures, it is important to analyse which methods to use to involve the stakeholders previously mapped out. To achieve an effective engagement, the SaMBA deliverable “Guidelines for communication, increased acceptance, user and stakeholder engagement” offers some insights on how to build a Stakeholder Engagement Plan.

Taking advantage of the SA previously performed, the engagement plan should cover engagement strategies, key design issues, associated tasks, responsibilities, resources, and timelines of people who will be involved in running the engagement process – both from inside and outside the organization who is promoting the new policy.

The final purpose of this activity is to ensure that the engagement process is well designed to meet its objectives and well managed to run smoothly.

Another relevant tool for stakeholder engagement mentioned previously in this Handbook is the SEROI+ tool. SEROI+ suggests the best methods for engagement, according to the position of stakeholders in the matrixes mentioned in chapter 2.3. The first one of relevance vs influence (grid 1) and the second one of motivation vs orientation (grid 2). From grid 1 (Figure 1), you can divide your stakeholders into four categories, regarding their level of interest: Keep Informed, Monitor, Keep Satisfied, and Manage Closely. Also, four classifications can be drawn from grid 2 (Figure 2), into which rewards will be more effective: Material Rewards, Recognition, Enjoyment, Altruism.

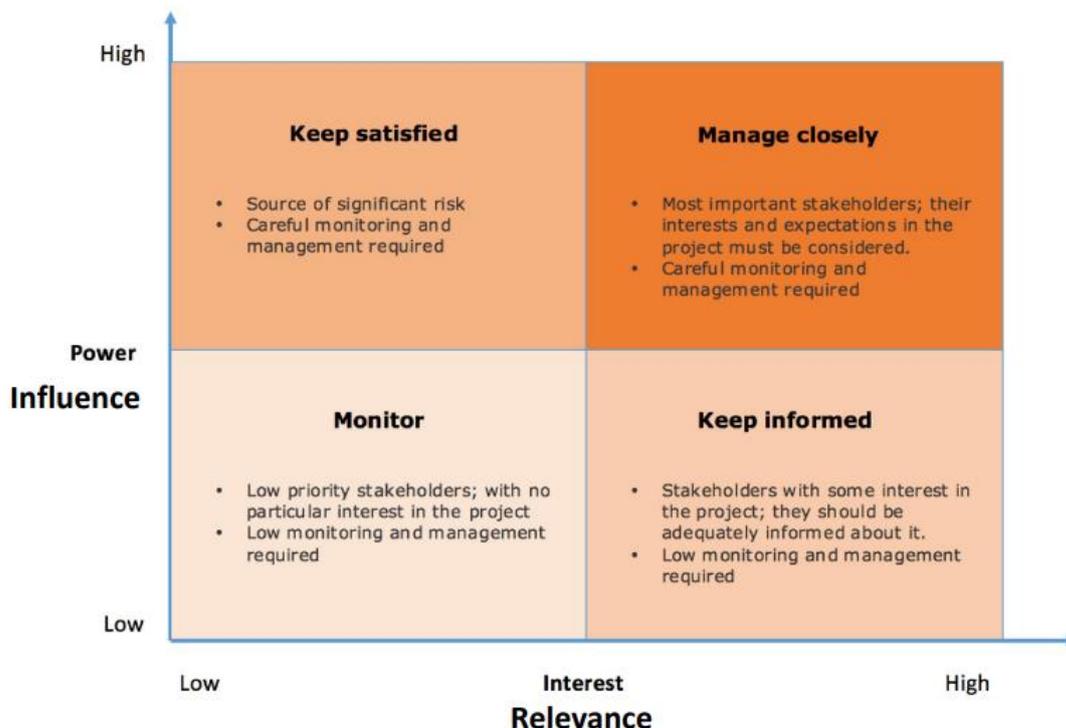


Figure 1. Influence vs Relevance matrix for stakeholders.

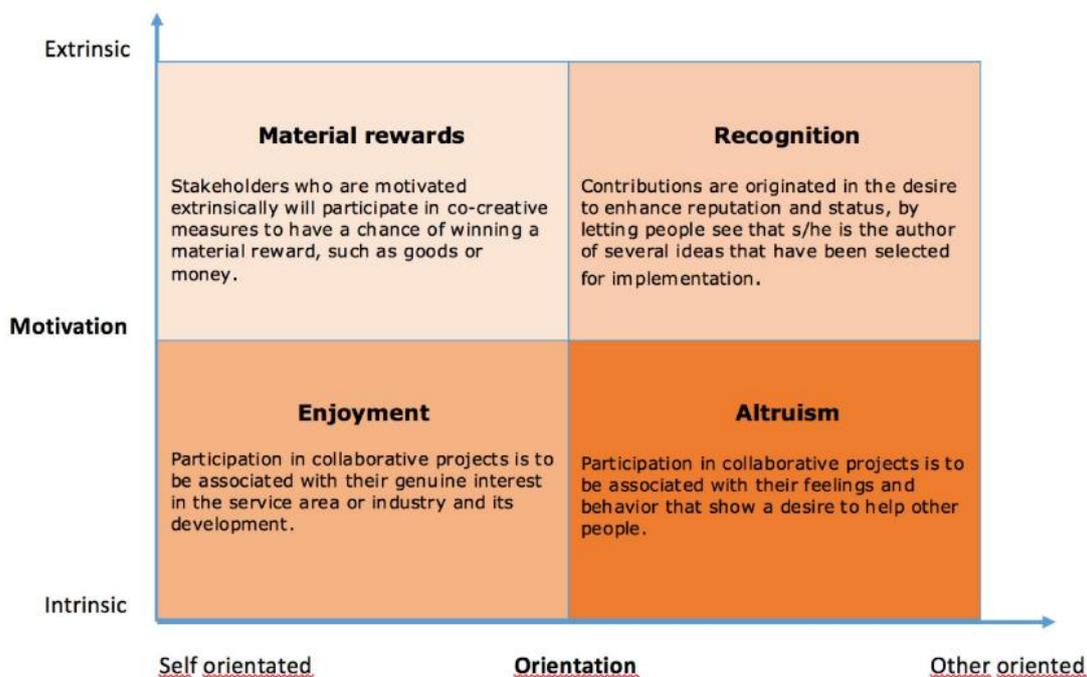


Figure 2. Motivation vs Orientation matrix for stakeholders.

The first grid will help you to prepare a proper engagement plan for stakeholders and the second one to plan for proper rewards. To maximize the benefits of stakeholder engagement, it is useful to consider the timing of the most appropriate contributions that each stakeholder might make towards the policy. The desired contributions or roles that stakeholders are expected to play can be assigned to various stages of the project, keeping in mind that roles may vary as the project progresses. For example, stakeholders assisting in the early development of the policy will be involved at inception, whereas those involved with disseminating or using results will mainly be involved at a later stage. In a simplified view, a public policy lifecycle develops through four stages:

- **recognition:** problems are identified and examined to profiling them and find possible solutions;
- **formulation:** development of an effective and acceptable policy, adopt new or amend existing policy;
- **implementation:** deliberate and sequential set of activities directed toward putting a policy into effect;
- **control:** evaluation for the success of a policy.

References

- “*Guidelines for communication, increased acceptance, user and stakeholder engagement*” -> [link to access](#)
- SEROI+ tool -> [link to access](#)

2.2. Co-Creation

The key to co-creation lies in engaging, working with, and empowering people to generate ideas and to collaboratively create concepts. Co-creation is based on the belief that the users’ presence is essential in the creative process, as the users provide insight into what is valuable to them. At its core, this means that co-creation is any process that brings together users and designers to work towards a shared goal. In practice, this often takes the form of a collaborative workshop in which business stakeholders, researchers, designers, and end-users explore a problem and generate solutions together, considering their different approaches, needs, and points of view. The end goal of co-creation is the same as that of research and concept design: to identify a solution that provides users with better experiences, and organizations with improved and innovative services.

The primary benefit to co-creation is how it increases empathy among stakeholders and designers. In traditional research techniques, stakeholders observe users from a distance, co-

creation, on the other hand, forces businesses and designers to confront the realities of customer emotions – be that happiness, joy, anger, or frustration – and the motivations behind their behaviour. This collaborative approach promotes constructive reflection and dialogue where all parties involved are equal and working together towards a shared goal.

As a secondary benefit, co-creation processes are often more efficient than traditional design research. A well-designed co-creation workshop forces all parties to discuss the problem and solutions together and essentially combines the research period with the discovery and requirements-creation phases of a project. In addition, because designers are involved directly in uncovering requirements, they are more able to understand the reasons behind the requirements, which leads to better decision-making during later design phases.

There are few methodologies available for co-creation methodologies and some of them were selected and used during the SaMBA project within the pilots’ activities. The SaMBA D.T3.2.1 “Co-creation of reward/ pricing schemes: methodology” proposes a few of them such as group brainstorming, open circle, world-café, five whys, unmet needs, personas, storyboarding, hero stories, semi-structured interview, etc. Each of those methods for co-creation has specific steps and is more appropriate for different objectives and a different audience of stakeholders.

Activity	Description
Group brainstorming	This well-known technique that comes in many forms is useful for less-structured out-of-box solutions/ideas. Might be used in combination, right after the initial topic overview or instructions, to gain some traction of the problem domain, and before the main activity to “warm-up” the participants.
Open circle	Having smaller number of attendees sit in a circle facing each other sets the tone for an interactive session, where everyone can feel free to participate and engage with each other. Adding a talking stick to the circle also helps to send the message that although there is no one leader and lead roles will be shared, when someone does have the lead or has asked to talk, the group is expected to give full attention to that individual. The key is carefully observing, listening and recording a group of people having a focused discussion on a topic thus gaining insights.
World-café	Similar to open circle, small groups (around four or five people) converse together around tables about a common topic. After the first conversation, someone stays at the table as a ‘host’, while the others move to a new table. The host summarises what has taken place at that table and those who are new share their previous conversations. In this way, the threads of the various conversations are woven together.
Five Whys	Problem framing technique that helps uncover a potential root cause to any surface problem entails: root causes analysis, structured approach for repeatedly asking ‘why’ in order to provide deeper insight into problem and iteration.
Unmet needs	Use new gained understanding of users’ unmet needs to derive conclusions about the possible scheme solution and consult it with the workshop attendees. Check reference documents to understand which questions should be asked.
Personas	User-centric technique, that would be a great addition to co-creation workshop in order to gain deeper insight in end-users’ motivations and positions. This is not inherently a technique that produces service solutions or schemas in a direct manner, rather than a tool that enables you to make derivative conclusions about

	reward/pricing schemes, based on your perception and particular interests of end-users. Personas are a great way to produce fundamental dispositions for user behaviour scenarios.
Storyboarding	Simple, yet effective use of speculation on how the users engage with the potential scenarios. Uses Post-it stickers to map out the story of the service. Can be used in combination with Hero stories or extreme character storytelling. Other variations of this techniques are available.
Hero Stories	Sometimes referred to as extreme character storytelling. New ideas through speculative storytelling with envisioning new solutions and exploring extreme, not common tasks or scenarios. Instead of focusing on the needs of typical and conventional user explore design solutions for extreme users with encouraging divergent thinking through defamiliarization which enables accession to larger spectrum of human emotions and practices.
Semi-structured interview	There is a possibility to engage stakeholders in their location in their desired time frame and use semi-structured interviews for mining of solutions through individual discussions. Prepare several questions on how they view the problem, how they address the problem so far, what are their concerns, where do they seem that problems might emerge and similar - answers to that are open-ended, but try to the time frame into the account. Make detailed notes or even record the meeting. After the interview try to organise information and draw conclusions based on interviews of multiple stakeholders. Be observant of common topics and themes that arise.

The MBC Platform (<https://www.mobilitybehaviorchange.eu/>) offers to Public Administrations the opportunity to find solutions for their local mobility problems by creating specific on-line challenges and asking for solutions to the “MBC community”. Solutions can come from start-ups, enterprises, and institutions, which can freely submit their ideas through the platform.

References

- “Co-creation of reward/ pricing schemes: methodology” -> [link to access](#)
- SEROI+ tool -> [link to access](#)
- MBC Platform – “Co-create the MBC” -> [link to access](#)

2.3. Reward & pricing policy formulation

The previous steps in this Handbook should work as preliminary steps for the design of the policies.

At this point, you should have identified your stakeholders, target groups, objectives, and the best practices related to your context. This chapter shows what was presented in the SaMBA deliverable “Reward/Pricing Co-creation Methodologies” to show which dimensions to consider and how to apply those. The document elucidates the following dimensions:

- **Positive vs Negative incentives:** Should the mobility behaviour be incentivised by reward or lower pricing or discouraged by increased pricing or lack of material rewards? Consider a combination of both.
- **Spatial features:** What are the spatial properties of affected space? Is it a corridor in the form of a tunnel or a bridge (medium: toll), or an area (medium: congestion charge), or a wider, full transport network (medium: tickets or travel charges by distance travelled)? Are there any distinct geography features that need more attention - sea, lake, mountain regions?
- **Frequency of transport habits:** What does the transport mean for the user's convenience and mobility habits? Are you addressing daily commuters, shoppers, tourists, or people who need transport during work time?
- **Individual or group:** Should efforts to mobility behaviour change be competitive, perhaps presented as a list of top most active users, or should cooperation that enables rewards for every group member to be exhibited? Would the change be achievable faster via an individual or a group approach?
- **Combination with intrinsic motives:** Perhaps some of the most important factors regarding mobility behaviour change come from the intrinsic motives of an individual. As we, at SaMBA, primarily focus on reward/pricing schemes, these intrinsic motives (in form of fitness and well-being, individual lifestyle, status and recognition, time-saving, ...) should be considered in combination with incentives and pricing.

There are other three main factors that should be decided for the design of an effective reward/pricing policy: Medium, Incentives, and Efforts. The document "Reward/Pricing Co-creation Methodologies" discusses them in-depth to assist in the process of defining those. This Handbook will briefly present them for a better understanding of the overall process of policy definition, you should, for a better experience, search for the referred documents.

The first step to build a reward/pricing scheme is to conceive a "medium" for those transactions. It should also be a means to measurable input of target groups or individual's effort in mobility behaviour change or promotion of such change. Those are some of the examples you can have, that were discussed on the SaMBA deliverable: Points, purchased tickets and tolls, Tradable bottleneck permits, and promotion value.

The second step is to define what are the incentives given for users, to initiate or nudge them towards mobility behaviour change. Even though the first rewards that come to mind are material ones, other supplementary rewards can, and should, be used. Here is a list of those rewards: Discounts, Exclusivity, Material prizes, Loyalty programs, status, and recognition.

At last, the third step is to define the input an individual should invest (e.g. efforts) into his or her habit change. What are the alternatives to actual less-sustainable mobility practices and how would someone achieve better sustainable mobility? Those are questions that need to be answered, to construct a well-designed policy. There are several efforts type that your policy

can apply: Change to more sustainable transportation, peak hour avoidance, route change, teleworking, promotion via social media and starting to change the habit.

Those three steps aligned with what was presented previously in this Handbook should guide you through how to create your mobility behaviour change policy. The next chapters will focus on communication, implementation, and monitoring.

Another relevant product of the SaMBA project which can support the policy formulation is the **SaMBA Tool** which provides urban planners and mobility decision-makers with information about appropriate measures and incentives to address to change the mobility behaviour of residents. The tool contains two components implemented with Microsoft Excel and ArcGIS. Microsoft Excel provides a comprehensive but easy-to-use database with measures and best practices open to a large user group, but it is limited to diagrams and tables regarding its outputs. Based on a user-defined goal and parameters characterizing a target area in terms of mobility (e.g. quality of public transport, presence of high commuter flows, or presence of a park & ride system), the Excel component provides a table including suitable measures for different target groups (e.g. commuters, pupils, tourists or the general public) and their impacts (e.g. on modal split or CO2 emissions) based on best practice examples. The tool contains measures for mobility goals related to public transport, active modes, multimodality, access, and sharing systems, which are based on regional, national and international strategic documents. The optional ArcGIS component requires additional expert knowledge but offers more analysis and visualization options for users with experience in this field. It can be used to derive parameter inputs for the target area to get more exact values, consider areas beyond predefined borders or focus on small areas that are not listed in official statistics. The GIS component also offers methods for the assessment and comparison of mobility demands or potential action areas for behaviour change policies. The idea is to identify and visualize action areas with an adequate infrastructure quality and a high potential for mobility behaviour change measures based on framing conditions regarding settlement structure and infrastructure quality for walking, cycling, public transport, and intermodal trips. The SaMBA tool is freely available for everyone. The Excel tool itself can be downloaded on the SaMBA website and the MBC platform. It includes a user manual and a guideline, which helps developers to extend the tool in different ways. In addition, a concept is provided, which gives more information on the development of the tool components.

References

- “Co-creation of reward/ pricing schemes: methodology” -> [link to access](#)
- “SaMBA Tool for finding policies & estimating impacts in terms of mobility behaviour change” -> [link to access](#)
- “SaMBA Report on pilot cases” -> [link to access](#)

3. Implementation and awareness-raising

3.1. Communication strategy adoption

For a successful mobility behaviour change policy, an effective communication strategy should be designed and implemented. For that, action must be taken to increase the acceptance of new policies and measures, understanding travelers' behaviour, and use this information as the basis for generating messages and recommendations that correspond to their needs and nudge travelers to make sustainable mobility choices. The basis of any action aimed at creating acceptance of a new policy is the development of a **communication strategy**. The SaMBA deliverable D.T3.2.2 "Guidelines for communication, increased acceptance, user and stakeholders engagement" gives a simplified guideline on how to build a communication campaign, which follows the questions below:

- how to set an effective behavioral change communication campaign?
- what is the goal of the campaign? What the policy is trying to accomplish?
- who is the policy trying to reach?
- what will be the message considering the audience will take notice, listen, and hopefully become supportive?
- how to reach the audience?
- who should communicate the message?
- how evaluate what worked and what didn't in the campaign?

The first and most important aspect to consider when building a communication strategy is to be clear about what the communication should address, using simple language, editing content and tone appropriately for each target audience and each of the communication channels used.

A good methodology to follow for setting up an effective communication strategy is 5W 2H, which helps to guide which questions need to be answered in the preparation of the said strategy. The questions are:

- **Why** (why is the campaign being made and its objectives)
- **Who** (who is your campaign target to?)
- **What** (what are the key messages being delivered?)
- **Where** (where this campaign will be aired?)
- **When** (the start and finish of it)
- **How** (which means of communication and tool will be used)
- **How Much** (the budget limitations of the strategy)

Moreover, since mobility behaviour change policies are focused on changing a consolidated behavior those who have values already aligned with your policy will naturally adhere and those who are strongly opposite, demands too much effort to change. For those reasons, the

recommendation is to engage and target the moveable middle, those that do not have a strong opinion against and can be persuaded to change their behaviour. The SaMBA “Guidelines for communication, increased acceptance, user and stakeholders engagement” gives a comprehensive guideline of how to define your message, and also some lessons learned can be studied in the “D.T3.4.1 – Process Evaluation and guideline for scalability & transferability”.

When have defined the kind of messages and the kind of final users, is time to build the **communication plan**, after defining your objective, target audience, and message. Effective communications campaigns need a communication and media plan which is meant to outline how to get the message across. The communications and media plan should link to the overall campaign objective defined within the communication strategy and consists of a set of communications and actions intended to facilitate a clear understanding of the message. Some channels and tools are proposed in the SaMBA “Guidelines for communication, increased acceptance, user and stakeholders engagement”, such example:

- direct dissemination to policy users (for example through letters, e-mails, targeted meetings before policy release to raise awareness of any new requirement);
- development and dissemination of training or education materials to policy users (such as operating procedures, information packages, user guides);
- broad dissemination of policy to the local community (for example through local media, newspapers, radio);
- dissemination through the involvement of individuals to champion a policy (for example policy owners and leaders who can announce and explain the policy) and validators (for example local respected stakeholders who can lend support to the policy);
- communication materials for consistent messaging of policy (for example through a press release and press conferences, fact sheets, posters, flyers, and brochures);
- launching event, presentations, or presence at local events and local and national conferences, fairs;
- social media (possibly including an own hashtag for the campaign – depending on target group);
- public demonstrations.

3.1. Project plan and Budget plan adoption

The implementation is the operational phase of a planning process, where the plans/projects are realised. Of course, a defined mobility policy/measure can only happen after a political decision that legitimates its realisation. When implementing a policy/measure the emphasis lies on the operational plan that guides the process to make the policy happen in effect in terms of time, effort, and budget needed. Indeed, policy implementation involves translating the goals and objectives of a policy into actions and activities, under a “project management” view. Most work plans of a project include the following elements (Perelman, Barrett, & Para, 2001):

- a short description of the project's objective;
- a list of personnel participating in the project;
- a breakdown of the project into specific tasks, with indications of which tasks are dependent upon the completion of others;
- a schedule indicating when each task will be started and when it will be completed and who will perform it.

It is plenty of useful tools to define the aspects listed above. In particular, it is suggested to define:

- **Work Packages (WPs), tasks and sub-tasks** in the so-called **Work Breakdown Structure (WBS)**;
- **deliverables and milestones**;
- **time-schedule** using a **Gantt chart** for each work package, task, and sub-task (which will be used to monitor progress, deviations, or alteration);
- **resources allocation**, in terms of people using for example the Project organization Chart which defines roles and responsibilities such as the project manager and management teams and personnel dedicated to each task.
- **the risks management plan, where lists potential risks**, estimate impacts and define responses to risks. It can be used a **Risk Assessment Matrix** which is a visual depiction of the risks affecting a project to enable developing the project promoter a mitigation strategy.

At the same time, it will have to be elaborated a Budget plan that is the document which outlines planned and estimated expenditures of a project for its lifetime. In some cases, a budget plan can include money that organization expects to receive or generate with the project itself. The budget plan should show how much is needed to cover all expenses to carry out the planned activities and how much estimates to generate. The budget plan normally reflects on project activities and resources required to implement the project. For example, a proper and well-planned budget is required to convince a project donor when is needed to request external funding.

References

- “Guidelines for communication increased acceptance, user and stakeholder engagement” -> [link to access](#)
- SaMBA “Report on Process Evaluation” -> [link to access](#)
- “SaMBA Report on pilot cases” -> [link to access](#)
- Project Management Institute -> [link to access](#)

4. Monitoring & Evaluation

4.1. *Periodic Monitoring*

This handbook so far has given a detailed path for how to plan and execute your policy to provoke mobility behaviour change. However, new factors and barriers may appear, and probably will, after the implementation of your policy. For that, it is important to have in place a continuous monitoring framework to evaluate possible changes and tweaks that need to be done, to achieve the best possible result. The Process which should be adopted is the PDCA which stands for Plan, Do, Check, Act, which consists of a constant monitoring in self-reinforcing cycle that aims to make you move always toward your objectives in the best possible manner and adjust to any setbacks along the way and monitor if you are moving towards your results. The steps are:

- **Plan:** This is the phase where you plan, as the name suggests, the team should define expected objectives, analyze the current state and plan (schedule and actions) of possible solutions (see the previous chapter).
- **Do:** This phase is meant to test the proposed solutions. Often, those solutions are proposed in a smaller and easier to monitor/control scenarios, before a rollout to the whole project/process (see the previous chapter).
- **Check:** This phase serves for the validation of results. It involves a thorough analyze of possible data and measurements that can indicate the achievement, or not, of the previous established results. The “Check” phase also works for identifying any unexpected problems and do an analysis on the root of those.
- **Act:** This phase is for acting on the feedback and results of the previous phase, as well as any lessons learnt. Furthermore, for the implementation of possible solutions to problems identified in the “Check” phase.

The SaMBA pilots suffered severely with the sanitary restrictions due to the coronavirus pandemic that took place during the implementation of actions. From that, all of them had to restructure their implementation and plan again for that roadblock (more information on how they did it in “D.T3.4.1. – Process Evaluation and Guideline for Scalability and Transferability”).

The PDCA cycle is recommended also for minor changes, instead of a complete re-do of the policy in case any of the steps discussed in this handbook in chapter 2 and chapter 3 are found to be incomplete or, perhaps, mistaken. In case that the whole policy/project is found to be flawed in a bigger scale, instead of applying the PDCA cycle, you should re-do the whole process expressed in this handbook.

References

- SaMBA “Report on Process Evaluation” -> [link to access](#)
- PDCA – Plan Do Check Act Process Project Management Process -> [link to access](#)

4.2. Evaluation of relevant KPIs

To evaluate the effectiveness of your policy is important to keep track of key performance indicators (KPIs). Those indicators will vary from whatever actions have been implemented throughout the policy implementation. However, some general KPIs are relevant for all transportation policies, especially those focusing on shifting mobility behaviour towards a more sustainable one. Some of those are already pointed out in chapter 2.1 (Analysis of Territorial Context) and can also be used here to follow the performance of such policies. To give some examples, if your policy focuses on rewards, it would be interesting to map how are those being claimed, and which are most popular to try to further understand why. Furthermore, the number of users, if the policy is specifically focused on those (e.g. students, workers) is, perhaps, the most important metric to assess the success of the measure.

Another relevant tool to define important indicators to measure the impact of a policy is the CIVITAS Evaluation Framework. The CIVITAS Framework aims to layout a standard of evaluation, both for process and impact, of transportation policies. In the document, linked in the reference documents, there is a sample of possible indicators and details on the methodology that aims, through indicators, to assess the impact comparing the before and after situation of an applied policy. Figure 3, present in the CIVITAS Framework, shows why that follow up with relevant KPIs is important, as well, to isolate any external factors that can impact the before and after scenario and, therefore, not to attribute false impacts for the policy in place.

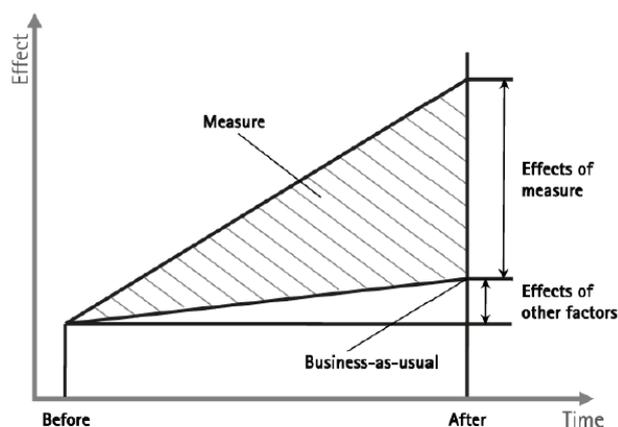


Figure 3. Effects of a mobility measure.

Furthermore, the CIVITAS framework helps to choose the relevant indicators, the main criteria when selecting which one to monitor/measure should be:

- **relevance:** each indicator should represent an assessment criterion, i.e. have a significant importance for the evaluation process;
- **completeness:** the set of indicators should consider all aspects of the system/concept under evaluation;
- **availability:** readily available for entry into the monitoring system;
- **measurability:** the identified indicators should be capable of being measured objectively or subjectively;
- **reliability:** clarity of definition and ease of aggregation;
- **familiarity:** the indicators should be easy to understand;
- **non-redundancy:** indicators should not measure the same aspect of an assessment criterion;
- **independence:** small changes in the measurements of an indicator should not impact preferences assigned to other indicators of the evaluation model.

References

- “SaMBA Report on pilot cases” -> [link to access](#)
- “Scenarios and MUV Key Performance Indicators” -> [link to access](#)
- SaMBA “Report on Process Evaluation”-> [link to access](#)

4.3. Evaluation of the implementation process

Another important methodology for transportation policies is the CIVITAS Evaluation Process. This process is a recognized international method for constant monitoring and improvement of measures, as well as to create knowledge of how and why those measures (and possible supporting measures, like communication) worked to make the policy from the design phase to actual implementation.

For that, the CIVITAS offers a helpful separation between barriers and drivers. Barriers are those facts that worked as roadblocks during your policy and demanded a sort of adjustment of activities (which can be done following the PDCA methodology showed in chapter 6.1.). Drivers are the facts that seemed essential for the project's success, and they can range in a wide variety of types, from stakeholder engagement to effective communication campaigns. The identification of barriers and drivers should be done during the implementation of the project, in periodic meetings and reports, not only after its completion.

That periodicity of evaluation is important for any corrections needed and should be included in the project schedule. To have an insight into how to identify those barriers and drivers, you can check both the CIVITAS document on its framework and a SaMBA deliverable “D.T3.4.1 – Process Evaluation and Guideline for Scalability and Transferability”. The SaMBA deliverable focuses on

the process evaluation, even though CIVITAS also has an impact evaluation in its framework (which is referred to in 6.2.) that can be used to monitor the impacts of your applied policy.

At the end of your policy implementation, it is advisable to take a time to reflect on all the process, from the preliminary analysis until implementation and generate a report that points out the main barriers, drivers and what lessons were learnt throughout the process. As shown in SaMBA deliverable “D.T3.4.1 – Process Evaluation and Guideline for Scalability and Transferability” and also in the CIVITAS document, you should categorize your drivers and barriers into macro-categories to make it for an easier reading and a more cohesive evaluation.

That closing process is important for knowledge construction for the next policy design in the area of transportation and can help you avoid the same mistakes and profit from the drivers found in previous implementations. In that way, your policy and its success and failures will be documented for the following administrators or even for other municipalities/regions that want to implement something like what you did. That knowledge generation, especially in the field of mobility behaviour change is very fruitful for a continuous enhancing of those types of policies towards more sustainable mobility.

References

- CIVITAS Framework – [link to access](#)
- SaMBA “Report on Process Evaluation” -> [link to access](#)