

SUMP-PLUS



D5.1 Draft Evaluation Plan

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Abstract

SUMP-PLUS (Sustainable Urban Mobility Planning: Pathways and Links to Urban Systems) is designed to address urban mobility related challenges and to exploit new opportunities, by developing a strong, rigorous evidence base through a co-created City Laboratories approach building on the strengths of the existing SUMP and SULPs. SUMP-PLUS aims to develop new research concepts and approaches (dealing with strategies for SUMP implementation, transition pathway, links between the mobility and other city sector/system generating/affecting mobility demand, development of innovative business models and use of external funds, enhance of cooperation at governance level, capacity building, co-created methods for stakeholders engagement) and to introduce them in the real city practice with the supporting tools.

The role of CLs in SUMP-PLUS project is to give “practical ground” for the development of innovative concepts, tools and methodologies taking place in WP1 “Conceptual Framework and Analytical tools”, WP3 “Governance and Capacity Building” and WP4 “Engagement of citizens and businesses”.

The focus of WP5 “Living Labs validation” in SUMP-PLUS is the evaluation of the CLs. WP5 starts from the definition of a consistent Evaluation Framework for the development of evaluation activity: this Deliverable represents the first draft of the plan according to the actual progress status of CL activities. The final version of the Evaluation Plan will be completed in Deliverable D5.2.

The SUMP-PLUS evaluation approach is something closely related to “telling the story of the city” under the perspective of mobility policies development, SUMP development/implementation and adopted strategies and actions rather than measuring the impacts of implementing a specific service or system. Just one out seven of the SUMP-PLUS policy and operational activities deals with real demonstration of mobility solutions whereas the others deal with a continuous implementation of co-creation process and modification of working procedure (at strategical and operational level) which give actual impacts beyond the project itself.

It has been identified that the process evaluation method can capture the story behind CLs (lessons learnt, practices working well and practices could have been worked better, facilitating/enabling factors, etc.) as well as the mutual relationships (and impacts) among the processes and actions in CLs. Furthermore, it can be used for the wide range of diverse actions in the CLs as well as it can be customized for specific group of similar actions (according to the project objectives).

Some specific measures implemented in the CLs can be suitable for impact evaluation: these measures will be defined (following the on-going development of CL Plan – CLsP) in collaboration with the Local Evaluation Manager taking into account also city needs and data availability.

This Deliverable specifies the process evaluation method (which has been extended based on CIVITAS SATELLITE) in terms of guidelines for data collection, elements to be assessed and scheduled timing. The CL measures selected for impact evaluation will be specified in the Individual Evaluation Plan (including evaluation indicators, data collection procedures and timing) in D5.2 – Final Evaluation Plan.

List of beneficiaries

No	Name	Short name	Country
1	STAD ANTWERPEN	ANT	Belgium
2	MUNICIPALITY OF ALBA IULIA	ALBA IULIA	Romania
3	KLAIPEDOS MIESTO SAVIVALDYBES ADMINISTRACIJA	KLAIPEDA	Lithuania
4	COMUNE DI LUCCA	COMUNE DI LUCCA	Italy
5	DIMOS PLATANIAS	PLATANIAS CRETE	Greece
6	TRANSPORT FOR GREATER MANCHESTER	TR G MANCHESTER	United Kingdom
7	FONDATION NATIONALE DES SCIENCES POLITIQUE	Science Po	France
8	POLYTECHNEIO KRITIS	TECH UNIV CRETE	Greece
9	UNIVERSITY COLLEGE LONDON	UCL	United Kingdom
10	EUROPEAN INTEGRATED PROJECT	EIP	Romania
11	FORSCHUNGSGESELLSCHAFT MOBILITÄT – Austrian Mobility Research FGM-AMOR gGmbH	FGM-AMOR	Austria
12	MEMEX SRL	MEMEX	Italy
13	SPACE SYNTAX LIMITED	SPACE SYNTAX	United Kingdom
14	VECTOS GmbH	VECTOS	Germany
15	ICLEI EUROPEAN SECRETARIAT GMBH	ICLEI EURO	Germany
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Table of Contents

1	EXECUTIVE SUMMARY	8
2	INTRODUCTION	9
2.1	SUMP-PLUS PROJECT AND CIVITAS INITIATIVE	9
2.2	CO-CREATED CITY LABORATORIES IN SUMP-PLUS PROJECT	10
2.3	OUTLOOK TO SUMP-PLUS CITY CONTEXT	14
2.4	WP5 ROLE IN SUMP-PLUS.....	16
2.5	WP5 ACTIVITIES	16
2.6	OBJECTIVES AND CONTENTS OF THE DOCUMENT.....	17
3	APPROACH TO EVALUATION	17
3.1	GOALS OF THE SUMP-PLUS EVALUATION	18
3.2	SETTING THE FOCUS FOR SUMP-PLUS EVALUATION.....	18
3.3	LEVELS OF SUMP-PLUS EVALUATION	24
3.4	ROLE AND RESPONSIBILITIES FOR THE CL VALIDATION	25
4	EVALUATION METHODOLOGY	27
4.1	PROCESS EVALUATION (QUALITATIVE)	27
4.2	IMPACT EVALUATION (QUANTITATIVE).....	37
5	CONCLUSIONS	41

List of Figures

Figure 1:	Example of the different evaluation levels.....	25
Figure 2:	Effect of BAU on ex-post evaluation impacts	39

List of Tables

Table 1:	SUMP-PLUS primary policy objectives	9
Table 2:	Mapping CL measures into SUMP-PLUS project objectives	13
Table 3:	Key features of SUMP-PLUS cities.....	15
Table 4:	Target audience for SUMP-PLUS Evaluation	18
Table 5:	Clustering of CLs measures based on SUMP-PLUS objectives	23
Table 6:	Role and responsibilities of SUMP-PLUS partners in WP5	26

List of abbreviations

ABBREVIATIONS	EXTENSIVE REFERENCE
CL	co-created City Laboratories. The City Laboratories deliver co-created processes and actions, demonstrating SUMP implementation strategies, as well as integrated policy and solution planning, fostering new partnerships and ‘business models’ and piloting new ‘solutions’ through the engagement of relevant stakeholders (within/outside the mobility sector)
CLP	City Laboratory Plan (D2.1, WP2). This document outlines the activities to be implemented during the project by each city and sets clearly the objectives, timeline of actions and organizational responsibilities. It also identifies issues and activities where specific assistance from project expert partners (WP1,2,3,4) would be beneficial.
EC	Evaluation Coordinator. MemEx as WP5 Leader.
EP	SUMP-PLUS Evaluation Plan. It describes the evaluation framework consisting of the evaluation objectives, methodology, approaches and activities, targets and indicators and timing
EU	European Union
LEM	Local Evaluation Manager. Responsible of evaluation activities at CL level
Measure	A measure is a mobility related action implemented by a city (or other stakeholders) e.g.: a new service or system, a new process (at planning/policy or operative level), a new procedure (i.e. organisation of work, interrelations among the stakeholders) and others similar.
OB.1-OB.8	Labelling for City Laboratories’ measures which have been defined based on SUMP-PLUS policy and operational objectives: OB1. Governance & Partnerships, OB2. Links, OB3. Organisational capacity, OB4. Momentum-building, OB5. Financial resources, OB6. SUMP Implementation Strategy, OB7 Demonstrations of solutions
SUMP	Sustainable Urban Mobility Plan
SULP	Sustainable Urban Logistics Plan
WP	WorkPackage. Self-consistent and homogenous part of a project consisting in activities (task) and outcomes (such as the deliverables)

1 Executive Summary

This Deliverable corresponds to the SUMP-PLUS Draft Evaluation Plan.

The main objectives of this Deliverable are to provide:

- the SUMP-PLUS cities with a consistent evaluation methodology for assessing to what extent the targets and planned results of the CLs have been achieved and why
- the project (WP1) with the inputs to validate the research concepts related to the co-created processes applied to the SUMP implementation strategies and transition pathway
- the project (WP6 and WP7) with the inputs (impact assessment, good practices, lessons learnt, etc.) required to foster knowledge transfer towards external entities (replication in Follower Cities, guidelines)
- the CIVITAS Community with an enhancement of process evaluation approach/method, on the basis of the SATELLITE Evaluation Framework, well fitted to the scope of SUMP-PLUS (strategies and actions for the implementation of SUMP and supporting elements) and the purpose of assessing co-creation processes.

Section 2 gives an introduction to the document in terms of SUMP-PLUS and CLs presentation, the specific role of WP5 “City Labs validation” and the contribution of the Evaluation Plan into the project’s workplan.

Section 3 specifies the definition of the SUMP-PLUS Evaluation Framework in terms of the adopted approach and methodology principles. The SUMP-PLUS CL measures¹ cover a wide range of activities: a few ones are more closely related to demonstrated solutions (in particular the measures planned in the Antwerp CL), on the other side, they mainly deal with the co-creation of new process/procedures facilitating the SUMP implementation such as: definition of SUMP implementation strategy (in terms of priority, spatial and time allocation), development of relationships between mobility and other sectors setting needs for the mobility (i.e. education, health, tourism, retail, etc.), mobility studies, stakeholders’ engagement and consultation, strengthen of multi-sector governance and capacity building, partnerships and cooperation schemes, innovative business models. The principles of the Evaluation Methodology are to assess all the CL measures with process evaluation (suitable to properly catch the added value of the SUMP-PLUS measures in facilitating SUMP implementation/development). Selected measures which are properly demonstrated in the city environment are also evaluated through impact evaluation.

Section 4.1 specifies the process evaluation in terms of scope, monitoring process and data collection procedures and timing. Section 4.2 outlines the impact evaluation, taking into

¹ In the SUMP-PLUS Evaluation Framework the term “measure” is used for the CLs actions according to the terminology adopted in CIVITAS. Anyway it must be highlighted that the CL actions are generally quite different from the usual “piloting actions” experienced in R&D projects as, in SUMP-PLUS, they are not dealing with implementation and operation of new services/systems (tested in the city environment) but with co-creation of new process/procedures for defining SUMP implementation strategies and/or introducing facilitating/supporting conditions for SUMP implementation/development

account that its consolidation and adaptation to selected CL measures will be completed in D5.2 – Final Evaluation Plan.

On the basis of the consolidation and final release of D2.1 – Co-created Laboratory Plan, CL measures and outputs will be duly updated in D5.2 where measures selected for impact evaluation will be identified. Impact evaluation for the selected measures will be specified in terms of evaluation indicators, data collection sources/methods and timing.

2 Introduction

The section sets the framework for the development of WP5 “City Labs validation” providing:

- An overview of the SUMP-PLUS project, the CL role within the project and the SUMP-PLUS cities
- An insight to WP5 role and this Deliverable in the SUMP-PLUS project
- A description of the objectives and the contents of this document

2.1 SUMP-PLUS project and CIVITAS initiative

The project *Sustainable Urban Mobility Planning: Pathways and Links to Urban Systems* (SUMP-PLUS) is a Horizon 2020 three-year project, designed to address urban mobility related challenges and to exploit new opportunities, by developing a strong, rigorous evidence base through a co-created City Laboratories approach building on the strengths of the existing SUMPs and SULPs. Through this general approach, all the SUMP-PLUS objectives are finalized to speed up the evolution of cities along the simplified urban transport development process depicted by CREATE project (<http://www.create-mobility.eu/>).

SUMP-PLUS has four primary policy objectives:



Implementation Strategy / Transition Pathways | To develop a set of context-specific mobility transformation pathways, and supporting methodologies and analytical tools, for different typology of cities, including support for smaller cities with limited resources that develops a mobility vision and simplified Transition Pathway or Implementation Strategy (the definition of these concept is provided in section 3.2)



Links | To demonstrate how cities can develop stronger links with other urban system components that generate the demands for mobility (education, health, retail, land use planning, tourism, etc.) identifying a wide range of potential governance-related barriers and developing new incentive for cross-sector co-operation



Solutions | To identify new solutions that will increase efficiency and sustainability, in both the freight and passenger sectors.



Partnerships | To identify and demonstrate new forms of partnerships and business models that a variety of various mobility objectives to be met cost-effectively through appropriate public/private collaboration

Table 1: SUMP-PLUS primary policy objectives

In order to achieve these primary policy objectives, SUMP-PLUS defines a set of operational objectives:

- To develop enhanced governance arrangements, along with advanced analytics and data capture systems
- To support capacity-building for innovation, taking into account also the use of smart data, analytics and data capture systems
- To engage with citizens, policy makers, business, and civil society to agree city visions, tailored solutions, and delivery pathways.

SUMP-PLUS is one of the projects funded under LC-MG-1-3-2018, being clustered (together with the projects approved under LC-MG-1-2-2018) under the assistance of CIVITAS SATELLITE, a support action providing a reference framework and common tools as a basis for comparison and enhanced exploitation of projects results.

The Coordination and Support Action CIVITAS ELEVATE is taking the hand-over from CIVITAS SATELLITE in 2020 to increase the Europe-wide impact of the CIVITAS 2020 and other ongoing projects on urban mobility policy making in order to advance the CIVITAS Community to a higher level of knowledge, exchange, impac

2.2 Co-created city Laboratories in SUMP-PLUS project

SUMP-PLUS demonstrates its approach in six European cities (co-created City Laboratories, CLs), well differentiated in terms of size or capacity, geography, governance and approach to decision making, or mobility policies implemented, namely Alba Iulia (RO), Antwerp (BE), Lucca (IT), Klaipėda (LT), Greater Manchester (UK), and Platánias (GR).

The City Laboratories represent the core contribution of SUMP-PLUS to advancing the development and implementation of the SUMP concept, taking into account new technologies and business models, and future urban mobility challenges and opportunities. CLs will deliver co-created actions/interventions (measures), to demonstrate and test delivery models to meet the project policy and operational objectives. The actions (measures) taking place in CLs have been classified on the basis of the project objectives in WP2 “City led Innovation Labs”.

The role of CLs in SUMP-PLUS project is to give “practical ground” for the development of innovative concepts, tools and methodologies proposed in WP1 “Conceptual Framework and Analytical tools”, WP3 “Governance and Capacity Building” and WP4 “Engagement of citizens and businesses”. In more details, CLs aim:

- To contribute to the development of these concepts, tools and methodologies providing data-evidence, real cases of applications, supporting information on city mobility history, on-going processes and future perspective
- To contribute to the adaptation of these concepts, tools and methodologies taking into account the different context and needs of SUMP-PLUS cities
- To allow the demonstration of these concepts, tools and methodologies through real-life applications and testing
- To provide feedback for the consolidation of SUMP-PLUS findings and the validation of the defined concepts, tools and methodologies

Table 2 identifies the six SUMP-PLUS CLs and, for each of them, it details the CL measures, according to the draft available version of the CLPs released by WP2 at the date of the completion of this deliverable.

CL	Structured overview of the CL measures
<p>CL1 – Klaipeda</p> <p>Creating a SUMP implementation strategy towards a liveable city</p>	<ul style="list-style-type: none"> • To strengthen cooperation between Klaipeda municipality and surrounding municipalities, particularly in relation to public transport services and active modes • To support capacity-building in relation to mobility planning and delivery • Plan and commence a citizen and stakeholder engagement programme and a linked behavioural change campaign to facilitate a change of mindset – e.g. between motorists, cyclists and pedestrians. • To support the identification of funding/financing sources for a high capacity transit scheme (Bus High Level Service – Bus Rapid Transit) and the development of additional instruments or partnerships for financial contributions from the private sector. • Develop a plan for SUMP implementation focusing on specific packages of measures related to a Bus High Level Service planned system including approaches to temporal sequencing and spatial clustering and key actions for overcoming implementation challenges. • Implementation of specific elements of the strategy (to be defined by Klaipeda team supported by UCL)
<p>CL2 – Greater Manchester</p> <p>Integrating decarbonisation strategies across health and transport</p>	<ul style="list-style-type: none"> • Review of cross-sector governance structures and identification of strategies to remove barriers to cooperation between mobility and health • Prioritise effective, cross-sector solutions with the health sector and develop a City Systems Plan including how to tackle barriers to its effective delivery. • Delivery of task group meetings and workshops addressing both governance processes and cross-sectoral solutions development • Documentation of Greater Manchester’s development of long-term zero-carbon policy pathway, through a case study, to serve as demonstration of the Transition Pathways concept

CL	Structured overview of the CL measures
<p>CL3a – Alba Iulia</p> <p>Using SUMP to enhance smart city impact and implementation</p>	<ul style="list-style-type: none"> • Engagement activities for stakeholders and citizens • Mobility solution selection and prioritisation integrated with financial planning and business model development involving the public, private and community sector partnerships (under verification by Alba Iulia team supported by Vectos, taking into account changes at political level after the last election) • Development of Implementation Strategy focusing on specific measures (under verification by Alba Iulia team supported by UCL, taking into account changes at political level after the last election) • Implementation of specific elements of the Implementation Strategy: development of bus priority route network across the city (under verification by Alba Iulia team supported by UCL, taking into account changes at political level after the last election) • Other CL activities under definition by Alba Iulia team supported by SciencePo (need for approval of the new politicians after change due to recent election)
<p>CL3b – Platanias</p> <p>Co-creating a SUMP for a small island city with seasonal tourism</p>	<ul style="list-style-type: none"> • Strengthen coordination with regional government • Cross-municipal approach to harmonise strategic actions amongst neighbouring coastal municipalities that have shared mobility structures • Facilitate cooperation with public transport operator • Developing cross-sectoral links with transport operators, education, retail and logistics sectors and progressing sustainable mobility solutions with the strong tourism industry • Exploiting cross-sectoral learning processes and monitoring sustainability impacts through smart tools • Undertake a programme for stakeholder and citizen engagement commencing SUMP co-creation activities • Initiate behaviour change activities including approaches to engaging with tourists to try-out new forms of mobility. • Develop a transition pathway for SUMP implementation over 10-15 years, supported by analytical tools. • Identification of short-term, 'quick win' measures with the intention

CL	Structured overview of the CL measures
<p>CL4 – Antwerp</p> <p>Providing seamless intermodality and non-transport solutions for the functional city</p> <p>CL6 – Antwerp</p> <p>Piloting of advanced logistics system, to increase efficiency among business sectors and reduce congestion</p>	<ul style="list-style-type: none"> • Facilitate the cooperation among neighbouring administrative areas without official competence on mobility • Strengthen governance for logistics supply chain at regional and cross-national boundary levels • Co-creation activities involving stakeholders and citizens in order to understand the issues, target groups and potential mobility solutions • Engagement of travel planning for employers to explore potential of non-transport solutions in the context of new working practices • Co-participative design of pedestrian streets (Living Streets) • Co-creation of new ideas and future scenarios with logistics stakeholders in order to rationalise logistics flows in the city centre • Identification of innovative business models involving public, private sector and community to devise new mobility solutions • Undertake a dedicated call within the Antwerp ‘Marketplace for Mobility’, challenging the private and community sectors to devise new mobility solutions in partnership with the city authority and public transport operators • Carry out design appraisals and enhancement of multi-modal nodes and associated public open space to inform priority lists of interventions to provide more efficient interchange options • Test the effects of imposing agreed policy KPIs for service providers to improve social inclusiveness • Piloting of e-trucks and e-cargo bikes services including consolidation and optimisation activities
<p>CL5 – Lucca</p> <p>Strengthening sustainable logistics’ role in SUMP in and beyond city centres</p>	<ul style="list-style-type: none"> • Adaptation of governance structure as framework conditions to integrate SUMP-SULP at city level and city SUMP-SULP with the SUMP at Shire level; relationship management with logistics operators and public entities at the city and Shire level • Enhancing innovative forms of partnerships for sustainable city centre logistics • Undertake citizen and stakeholder engagement to inform plan integration activities and eventual adoption of the city-region strategy • Management of an “innovation call” as dialogue between the Municipality and the logistics operators for further sustainability additions (under verification by Lucca team supported by Vectos) • Study for the upscaling of logistics services to new geographical areas outside the city centre (under verification by Lucca team supported by Vectos)

Table 2: Mapping CL measures into SUMP-PLUS project objectives

Looking at the CL measures planned/under definition in SUMP-PLUS CLs, it is useful to clarify that we are talking about two kinds of different measures typology:

- Measures demonstrating services and mobility solutions in the cities (just a few ones, related to OB7)
- Measures dealing with the introduction of conceptual approaches/tools/methods developed in WP1-4 (for SUMP Implementation Strategy, Cross-sectorial Links, Business Development, Governance, Cross-sectorial Cooperation, Capacity Building and Stakeholder Engagement) in the real city environment (co-created City Laboratories, CLs) through their adaptation/tuning to city context and objectives. The adaptation and introduction of the approaches/tools/methods in the CLs involve a co-creation process, being cross-related with the improvement of current planning policies/processes for mobility and mobility generating city sectors (i.e. education, tourism, health, etc.), the improved coordination of responsibilities and cooperation/working procedures of various city department/stakeholders (internal/external to mobility sector). Most of the measures included in the CLs belong to the second type of measures and they consist of an on-going process of co-design, introduction, evaluation, adjustment and future extension which run along SUMP-PLUS project and beyond.

2.3 Outlook to SUMP-PLUS city context

The key features outlining the SUMP-PLUS cities context are detailed in Table 3.

	Alba Iulia	Antwerp	Klaipeda	Lucca	Greater Manchester	Platanias
Population	75.000	525.000 (1,2 Million in the wider area). Plus 40.000 students and 1 Million tourists/year	150.000. Plus 120.000 tourists (+73% since 2008)	90.000 + 8000 in the historic centre. High tourist flow	2.8 Million. Plus 1,1 Million visitors overseas (3 rd in UK)	21.000, accommodates plus 270.000 tourists yearly, more than 500.000 daily visitors or passing by, use the mobility infrastructures
Size	104 km ²	204 km ²	100 km ²	185 km ²	1.280 km ²	495 km ²
City scale	Medium sized urban area	Metropolitan area	Large urban area	Medium sized urban area	Metropolitan area	Small sized island urban area, high visited tourism destination
Relevant city features and structure	Airport, train station, connections with highways	Part of T-NET network. Second largest port. Major train station. Dense tram network. Vast cycling network	Port. North-South local connections, West/East to outside	Historical centre surrounded by walls and ring avenues. Centre of a well-known paper district in EU.	Hub of UK northern transport connections. Transit corridors including heavy/light rail and BHLS.	The city network consists of a section of the Northern Crete Motorway Axis, national roads and municipal ones.
Car ownership	350 cars/1000 inhab.	558/1000 inhab.	560/1000 inhab.	657/1000 inhab.	519/1000 inhab	586/1000 inhab
Car share	28% of all resident trips	44%	34%	60%	39.5%	Estimated 70%.
Policy impacting on mobility	Sustainable Integrated Development Strategy (for 2014-2023) approved in 2017 "Alba Iulia towards a city for people" developed in 2016	2020 Masterplan aims at shifting 50% movements towards more sustainable modes of transport	Economical City Strategy Plan, Port Masterplan and City Masterplan under development	PAES – Sustainable Energy Action Plan (2013) and PAC – Municipal Environment Plan (2015) to decrease the levels of pollution, noise emissions and energy consumptions	Links between SUMP and Greater Manchester Spatial Framework. Growth concentrated close to the polycentric key town centres, regional centre and international Airport.	Strategic Operational Plan (2015-2019), Sustainable Energy Action Plan (2014) and Tourism Development Plan (2018). Platanias is member of the Covenant of Mayors (2013)
Status of SUMP/SULP	SUMP approved in 2017	Available at city level. Integrated regional SUMP/SULP being drafted by 2019/2020	SUMP completed, to be approved in September 2018.	City level and Province level (uncoordinated) both adopted in 2018. SULP in 2016.	Metropolitan SUMP updated: 2017, to 2040. Regional SULP recently adopted.	NO SUMP/SULP

Table 3: Key features of SUMP-PLUS cities

2.4 WP5 role in SUMP-PLUS

The focus of WP5 “Living Labs validation” is the evaluation of the measures implemented in the SUMP-PLUS CLs. WP5 aims:

- To define a consistent Evaluation Framework for the development of evaluation activities, ensuring consistency of evaluation approaches across the SUMP PLUS CLPs
- To provide methodological and operational guidelines and assistance to the SUMP-PLUS cities to carry out the evaluation process
- To verify the level of achievement of objectives and targets planned for each measure of the CL
- To generate the evaluation findings:
 - Assessing the role and the contribution provided by CL measures for the development/enhancement of urban mobility policies:
 - implementation of SUMP where existing (Klaipeda, Manchester, Alba Iulia, Antwerp, Lucca) in terms of supporting “facilitating/accelerating” actions
 - development of the SUMP (Platanias)
 - Generating feedback and evidence-based results for the validation of the conceptual frameworks developed in WP1
 - Generating lessons learnt and evidence-based knowledge for the guidance and transferability of activities of the project and, more widely, for the CIVITAS network and research community.

Since SUMP-PLUS implements measures in a real, complex, functioning environment, the evaluation needs an optimal balance between technical analyses and synthetic interpretation of observations of the evolution of urban mobility in the site context. This mixed approach is required in order to make the evaluation work feasible, tangible, efficient, and useful for recommendations and informed decision making.

2.5 WP5 activities

WP5 “Living Labs validation” consists of the following tasks:

- Definition of the **Evaluation Plan** in terms of methodology, activity approach, (data collection, monitoring, etc.), responsibilities and timeplan. The Plan sets the overall framework for evaluation specifying the methods used and the requirements
- **Process Evaluation**: The process evaluation methodology will achieve an in-depth understanding of the entire city laboratory process (from planning to demonstration/operation). The purpose is to capture and analyse the whole story about the co-creation development process of CL measures in order to understand the motivations, potential barriers and drivers, key actors and context conditions that explain the factual results, the mutual relationship between the CL measures and how they contribute to facilitate the SUMP implementation/development
- **Impact Evaluation**: Impact evaluation is the assessment of the (intended and unintended) changes which are attributed to a specific measure or integrated package of measures. It is based on measurement of appropriate performance indicators and enables quantification of impacts
- Provision of **appropriate guidance** and **expert support** to the LEMs
- Consolidation of **Evaluation Findings**: Results and achievements from the evaluation of city laboratories will be critically reviewed, synthesized in the form of key findings and reported in D5.3 – Results of the city laboratories evaluation

In order to set the Evaluation Plan, the following activities have been carried out:

- Clear understanding of the measures (objectives, outcomes, timing), by monitoring the CLP development in Task 2.1.3 and collecting the key results of this activity
- Clustering of the CL measures on the basis of project objectives
- Identification of the cross-relations among the measures in each CL
- Identification of the CL measures to be evaluated through process evaluation or through process and impact evaluation
- Definition of the timing of evaluation activities according to the timeplan of the measures in the CLs
- Specification of process and impact evaluation approach according to the guidelines provided by CIVITAS SATELLITE Evaluation Framework.

2.6 Objectives and contents of the document

The SUMP-PLUS EP sets the framework for the development of WP5 activities including the data collection methods, the guidance/assistance provided by MemEx to the SUMP-PLUS cities, the elaboration of the evaluation findings and their final reporting.

The first draft of the Evaluation Plan (EP) is produced when CL planning process (Task 2.1.3 CL Plans (CLPs) is still on-going. For this, WP5 has continuously monitored the progress status of CLP development, capturing the basic information needed for the evaluation (i.e. measures' description and activities, measures' objectives, CL timeplan) and collecting the other required information (i.e. supporting information, which were not included in the CLP), separately through bilateral contacts and close cooperation with the cities. The key elements of the EP are specified in sections 3 and 4. A second version of the Evaluation Plan will be consolidated end 2020 (M16) integrating the comments of the sites and WP leaders (in particular WP1, WP2, WP3 and WP4), the outcomes from final CLP versions (consolidation of CLP measures and specification of the outputs), the Individual Plan for each CL and the specification of impact evaluation (evaluation indicators, baseline and ex-ante evaluation, when needed, see section 3).

The SUMP-PLUS EP is defined in accordance with the main pillars of CIVITAS SATELLITE Evaluation Framework, adjusting them to the SUMP-PLUS perspective and the objectives and the CLs measures (as outlined in section 2.2). As detailed in section 3, SUMP-PLUS aims to facilitate the SUMP implementation and managing (for cities that already developed a SUMP) in a smoother way and the SUMP development (for cities without SUMP, in particular for small urban areas with limited resources). The SUMP-PLUS objectives and the type of measures taking place at CL level (as demonstration of the conceptual innovative approaches, methodologies and tools which are developed in WP1, WP3 and in WP4 and introduced in the CL) require, in any case, an adaptation of the CIVITAS SATELLITE Framework in terms of goals and main focus: this perspective is detailed in the following section 3.

3 Approach to evaluation

This section specifies the “customized” perspective and goals of SUMP-PLUS project approaching the evaluation task, how this can relate with the CIVITAS SATELLITE Framework, which are the main challenges identified in the design of the SUMP-PLUS Evaluation and how the EP has been defined to tackle them and the overall structure of SUMP-PLUS Evaluation Framework.

3.1 Goals of the SUMP-PLUS Evaluation

The goals of the SUMP-PLUS Evaluation are:

- To assess the co-creation development process of the CL measures²
- To measure the impacts produced by CL measures in relation to qualitative observations and to quantifiable targets set in advance (when applicable)
- To assess the contribution and role provided by CL measures for:
 - the development/enhancement of urban mobility policies and
 - the implementation of SUMP, if already defined (Klaipeda, Manchester, Alba Iulia, Antwerp, Lucca) and supporting “facilitating/accelerating” actions
 - the development of the SUMP (Platanias), if not already defined
- To generate feedback and evidence-based results for the validation of conceptual frameworks developed in WP1
- To generate lessons learnt and evidence-based knowledge for the guidance and transferability of activities of the project and, more widely, for the CIVITAS network and research community.

Table 4 maps the abovementioned goals in relation to the target audience.

EVALUATION GOALS	TARGET AUDIENCE
To assess the contribution and role provided by CL measures for the development/enhancement of urban mobility policies and SUMP implementation/development	SUMP-PLUS cities SUMP-PLUS project partners
To generate feedbacks and evidence-based results for the validation of conceptual framework developed in WP1 To generate lessons learnt and evidence-based knowledge for the guidance and transferability activities of the project	SUMP-PLUS project partners
To generate lessons learnt and evidence-based knowledge for other cities and initiatives	CIVITAS Community Follower Cities

Table 4: Target audience for SUMP-PLUS Evaluation

3.2 Setting the focus for SUMP-PLUS Evaluation

As anticipated in section 2.4, SUMP-PLUS objectives focus on accelerating the cities’ evolution along the urban transport development process, in particular facilitating the definition or implementation of the SUMP (and mobility policies, in more general).

For this reason, the SUMP-PLUS evaluation approach is closely related to “telling the story of the city” from the perspective of mobility policies development and adopted strategy approaches rather than measuring the impacts of implementing a specific measure or package of measures. The current stage of the city development in mobility must be positioned setting the baseline in order to set the future targets. Key elements to be considered in the city evolution process are:

² For the specification of the features of CL measures, please see section 2.2

- the city environment not only restricted to mobility but extended to cross-related sectors (actors and the cooperation among them, responsibilities, conflicts, overlapping, gaps, etc.)
- how the mobility ecosystem's links with other ongoing urban processes (i.e. health, education, retail, tourism, etc.)
- the drivers and facilitating elements in the development and implementation of mobility policies
- the barriers to be tackled and how they can be overcome from the different aspects.

The project objectives are reflected into the CL measure where the SUMP-PLUS conceptual innovative approaches, methodologies and tools will be introduced and demonstrated. These innovative methodologies and tools are designed and developed in:

- WP1 for supporting SUMP implementation strategy, cross-sectorial links between mobility and other urban components generating mobility demand, development of innovative business models and testing innovative tools for smart data analytics
- WP3 supporting policy development and capacity building activity
- WP4 supporting stakeholder, citizens and businesses engagement

At CL level, the following classification of activities can be identified, based on the project objectives and general concepts:

- **OB1. Governance & Partnerships:** identifying gaps at governance level, strengthening cooperation between mobility and external stakeholders
- **OB2. Cross-sectorial Links:** developing stronger links with other urban system components that generate the demands for mobility (education, health, retail, tourism, land use planning, etc.) identifying a wide range of potential governance-related barriers and developing new incentives for cross-sector co-operation
- **OB3. Capacity-building:** improving city capacity for the policy development, for the management of innovation in the mobility sector (systems, services and schemes), for scaling up pilots and experience building on previous demonstration results, for using smart tools for data analytics to support the definition of the city baseline scenario
- **OB4. Momentum-building:** initiatives for the engagement of stakeholders, citizens and business, management of co-creation events for design of new mobility and no mobility solutions, new cooperation schemes and new business models
- **OB5. Financial resources:** definition of innovative mobility business model engaging also external actors
- **OB6. Implementation Strategy:** developing a set of context-specific mobility transformation pathway, and supporting methodologies and analytical tools for different typologies of cities. The pathways are usually differentiated based on the time perspective of implementation:
 - high level transition pathways covering a time period of 20-30 years (this is the focus of Manchester CL in SUMP-PLUS)
 - more specific implementation strategies focusing on the first 5-10 years period (this is the focus of all the other CLs working on pathways)
- **OB7. Demonstrations of solutions:** implementation and testing of mobility solutions

In this context SUMP-PLUS CL measures can relate to the following areas:

- Review of governance policies

-
- Engagement activities
 - Co-creation events/meetings
 - Development of action plans/roadmaps/studies
 - Definition of cooperation schemes/approaches within the mobility sector and beyond
 - Definition of business models and external funding for mobility initiatives
 - Demonstrated mobility solutions

All these categories do not deal with the implementation of mobility measures in terms of services, infrastructure, etc. but with the management of a process whose targets are defined largely at qualitative level (i.e. removing barriers for stakeholders' cooperation, identifying gaps in governance and policy approaches, enabling the faster implementation of SUMP measure, etc.).

This type of measures can be properly evaluated through a qualitative approach in order to capture the story behind them, lesson learnt, good practices, errors.

Some specific measures to be implemented in the CLs will be suitable also for an evaluation of the impacts from the quantitative point of view. These measures and the specification of the process will be defined in collaboration with the Local Evaluation Manager and included in D5.2 – Final Evaluation Plan.

Table 5 shows the CL measures already confirmed at CLP level in green, the CL measures to be confirmed at CLP level in yellow and the measures still under definition (with the support of WP1,3,4 Leaders) in red.

CL measures can be mapped on the project objectives in order to group them into clusters (provided in Table 5).

Cluster analysis will support:

- the cross-evaluation of CL measures among those belonging to the same cluster (linked to the same project objectives OB1-7)
- the customization of process evaluation methods (see section 4.1) in order to make it more responsive to the assessment of the co-creation processes involved in the CL measures linked to OB1-6 respectively.

CL	SUMP-PLUS OBJECTIVES						
	OB1 Governance and Partnership	OB2 Cross-sectorial links	OB3 Capacity Building	OB4 Momentum building	OB5 Financial Resources	OB6 SUMP Implementation Strategies / Transition pathways	OB7 Solutions demonstrated
Klaipeda – CL1	To strengthen cooperation between Klaipeda municipality and surrounding municipalities, particularly in relation to public transport services and active modes		To support capacity-building in relation to mobility planning and delivery	To plan and commence a citizen and stakeholder engagement programme and a linked behavioural change campaign to facilitate a change of mindset – e.g. between motorists, cyclists and pedestrians	To support the identification of funding/financing sources for a high capacity transit scheme (Bus High Level Service – Bus Rapid Transit) and the development of additional instruments or partnerships for financial contributions from the private sector	To develop a plan for SUMP implementation focusing on specific packages of measures related to a Bus High Level Service planned system including approaches to temporal sequencing and spatial clustering and key actions for overcoming implementation challenges	Implementation of specific elements of the pathway (to be defined by Klaipeda team supported by UCL)
Manchester- CL2	Review of cross-sector governance structures and identification of strategies to remove barriers to cooperation between mobility and health	To prioritise effective, cross-sector solutions with health sector and develop a City Systems Plan including how to tackle barriers to its effective delivery		Delivery of task group meetings and workshops addressing both governance processes and cross-sectoral solutions development		Documentation of Greater Manchester’s development of long-term zero-carbon policy pathway, through a case study, to serve as demonstration of the Transition Pathways concept	
Alba Iulia – CL3a	Under definition by Alba Iulia team supported by SciencePo, taking into account changes at political level after the last election		Under definition by Alba Iulia team supported by SciencePo, taking into account changes at political level after the last election	Engagement activities for stakeholders and citizens	Mobility solution selection and prioritisation integrated with financial planning and business model development involving the public, private and community sector partnerships (under verification by Alba Iulia team supported by Vectos, taking into account changes at political level after the last election)	Development of Implementation Strategy focusing on specific measures (under verification by Alba Iulia team supported by UCL, taking into account changes at political level after the last election)	Development of bus priority route network across the city (under verification by Alba Iulia team supported by UCL, taking into account changes at political level after the last election)

CL	SUMP-PLUS OBJECTIVES						
	OB1 Governance and Partnership	OB2 Cross-sectorial links	OB3 Capacity Building	OB4 Momentum building	OB5 Financial Resources	OB6 SUMP Implementation Strategies / Transition pathways	OB7 Solutions demonstrated
Platanias – CL3b	<p>To strengthen coordination with regional government</p> <p>Cross-municipal approach to harmonise strategic actions amongst neighbouring coastal municipalities that have shared mobility structures.</p> <p>To facilitate cooperation with public transport operator</p>	<p>Developing cross-sectorial links with transport operators, education, retail and logistics sectors and progressing sustainable mobility solutions with the strong tourism industry</p>	<p>Exploiting cross-sectorial learning processes and monitoring sustainability impacts through smart tools</p>	<p>To undertake a programme for stakeholder and citizen engagement commencing SUMP co-creation activities</p> <p>To initiate behaviour change activities including approaches to engaging with tourists to try-out new forms of mobility</p>		<p>To develop a transition pathway for SUMP implementation over 10-15 years, supported by analytical tools.</p> <p>Identification of short-term, 'quick win' measures with the intention to secure momentum.</p>	
Antwerp – CL4 and CL6	<p>To facilitate the cooperation among neighbouring administrative areas without official competence on mobility</p> <p>To strengthen governance for logistics supply chain at regional and cross-national boundary levels</p>			<p>Co-creation activities involving stakeholders and citizens in order to understand the issues, target groups and potential mobility solutions</p> <p>Engagement of travel planning for employers to explore potential of non-transport solutions in the context of new working practices</p> <p>Co-participative design of pedestrian streets (Living Streets)</p> <p>Co-creation of new ideas and future scenarios with logistics stakeholders in order to rationalise logistics flows in the city centre</p>	<p>Identification of innovative business models involving public, private sector and community to devise new mobility solutions</p>		<p>To undertake a dedicated call within the Antwerp 'Marketplace for Mobility', challenging the private and community sectors to devise new mobility solutions in partnership with the city authority and public transport operators</p> <p>To carry out design appraisals and enhancement of multi-modal nodes and associated public open space to inform priority lists of interventions to provide more efficient interchange options</p> <p>To test the effects of imposing agreed policy KPIs for service providers to improve social inclusiveness</p> <p>Piloting of e-trucks and e-cargo bikes services including consolidation and optimisation activities</p>

CL	SUMP-PLUS OBJECTIVES						
	OB1 Governance and Partnership	OB2 Cross-sectorial links	OB3 Capacity Building	OB4 Momentum building	OB5 Financial Resources	OB6 SUMP Implementation Strategies / Transition pathways	OB7 Solutions demonstrated
Lucca – CL5	<p>Adaptation of governance structure as framework conditions to integrate SUMP-SULP at city level and city SUMP-SULP with the SUMP at Shire level; relationship management with logistics operators and public entities at the city and Shire level</p> <p>Enhancing innovative forms of partnerships for sustainable city centre logistics</p>			<p>To undertake citizen and stakeholder engagement to inform plan integration activities and eventual adoption of the city-region strategy</p>	<p>Management of an “innovation call” as dialogue between the Municipality and the logistics operators for further sustainability additions (under verification by Lucca team supported by Vectos)</p> <p>Study for the upscaling of logistics services to new geographical areas outside the city centre (under verification by Lucca team supported by Vectos)</p>		

Table 5: Clustering of CLs measures based on SUMP-PLUs objectives

3.3 Levels of SUMP-PLUS Evaluation

The SUMP-PLUS Evaluation is structured at three different levels:

- Single measure (or package of measures) level
 - Process evaluation for each one of CL measures (or package of CL measures)
 - Impacts evaluation for selected CL measures (or package of CL measures) where the quantitative approach could be defined by the CL team

This level is the more “granular” one. When a CL measure is enough self-consistent to be assessed separately (linked to a clear identified output) it will be considered stand-alone, otherwise a package will be considered when the separation amongst measures can prevent to look at the “big picture” and topics under evaluation can become too many detailed (as the measure is closely linked/supporting the implementation of another measures and/or it has not a clear output, mainly contributing to the output of another measure and/or its assessment cannot be done unless the measure is considered together with others to which it is closely dependant/cross-related and its impact can be better assessed when it is consider together to others)

- Cluster level: clusters will be formed according to project objectives OB1-7 as detailed in [Table 5](#). This level of the Evaluation captures the common elements of the measures across the CLs grouped in the same cluster. A comparison among them could be done based on the progress status of the city development process and the city context
- CL level. This level of the Evaluation focuses on the CL level trying to look at the whole picture and identify when/how the measures in a city were able to emphasize each other and maximize the impacts.

Figure 1 provides a graphical representation of the three levels of evaluation described above:

- Boxes with the same colour are related to measure and package of measures of one CL
- Evaluation at measure/package of measures level is applied to boxes surrounded by grey dotted line
- Evaluation at cluster level is applied to boxes surrounded by blue dotted line
- Evaluation at CL level is applied to boxes surrounded by black dotted line

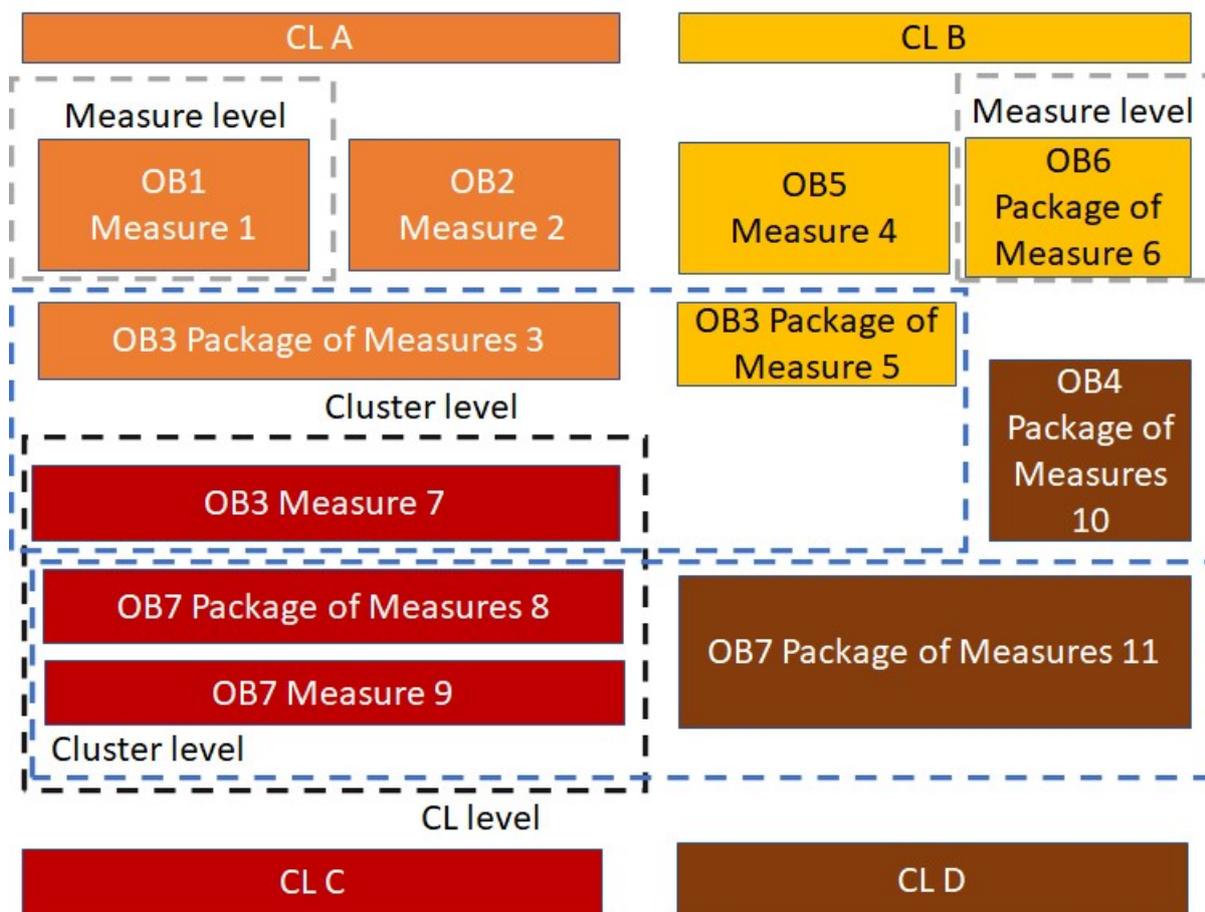


Figure 1: Example of the different evaluation levels

3.4 Role and responsibilities for the CL validation

The role and responsibilities of the SUMP-PLUS partners involved in WP5 is specified in Table 6.

Partner	Role
MemEx	The <i>SUMP-PLUS Evaluation Coordinator (EC)</i> defines the Evaluation Methodology, coordinates and supports the SUMP-PLUS cities in performing the evaluation. He is the coordinator and the supervisor of the end result of all the evaluations at CL and project level. The EC will also draw conclusions specifically related to the focus of the project. As EIP has no resource in the WP, MemEx will be in charge of linking WP4 results (OB4) with CL evaluation in WP5.

Partner	Role
VECTOS	As WP2 Leader, providing inputs for the Evaluation Plan: CLPs will detail activities, outputs and timing. In particular, Vectos is assisting Antwerp and Lucca in the development of CLP. As Task 1.4 Leader, Vectos is supporting specifically the SUMP-PLUS cities in developing new business models and financial cooperation activities which are linked to OB5
UCL	As WP1 Leader, UCL is supporting the SUMP-PLUS cities in developing cross-sectorial links (linked with OB2, Manchester), transition pathways and implementation strategies (linked with OB6, Alba Iulia and Klaipeda)
SCPO	As WP3 Leader, SciencePo is supporting the SUMP-PLUS cities in developing cross-sector governance enhancement (linked with OB1) and capacity building (linked with OB3)
TUC	TUC assists the EC in developing the methodology and monitoring its implementation. It will also coordinate the local evaluation activities and assist the Municipality of Platania in the development and monitoring of the local evaluation plan
SPACE	It assists the EC with feedback for evaluation from supporting a simplified SUMP approach in Platania and a Public Transport performance assessment in Alba Iulia
SUMP-PLUS Cities	<ul style="list-style-type: none"> • Appointment of a Local Evaluation Manager • Adaptation of evaluation approach to their needs • Identification of measures to apply impacts evaluation • Identification of possible indicators and quantifiable targets • Data collection and survey • Contribution to findings • Feedback/comments

Table 6: Role and responsibilities of SUMP-PLUS partners in WP5

4 Evaluation methodology

4.1 Process evaluation (Qualitative)

During the CL development, it is essential to understand how the process goes on compared to the planning (CLP), to what extent the objectives have been achieved (totally or partially), if some problem is identified and any modification is required, which enabling/facilitating factors have been identified (in particular this could be come from the CL activities themselves or could be external), which will be the “not measurable” or “intangible” impacts produced (not only at the end of the project but, in particular, beyond the end of the project as the CL activities have targets positioned in a time horizon from 5 to 10 years) in terms of SUMP implementation strategy, transition pathway and improvement/better coordination of mobility policy. In order to assess such an on-going process, it is necessary to monitor its development along the time for the early beginning of design phase (CLP) to the actual implementation.

In SUMP-PLUS the process evaluation is drawn taking into account that in many cases the measures to be implemented are not services/systems or infrastructure directly realised “on the ground” but they mainly deal with co-creation activities (implementation strategy or transition pathway, stakeholder engagement, innovative business development and identification/maximization of external financial resources, etc.) and on-going process at strategic and operational level (governance analysis, policy evolution and coordination, across different city departments, capacity building, coordination of responsibilities and enhanced working procedures across city departments, etc.). They are continuous process during the project itself and beyond.

In the SUMP-PLUS Evaluation Plan, the process evaluation has been defined on the following pillars:

- Build on the interactions among different concurrent measures in the CL
- Catch the “added value” provided by SUMP-PLUS CL taking into account the former mobility evolution path of the cities, their needs and targets
- Understanding the barriers and the facilitating factors along the development process of CL
- Understanding why measures have succeeded or partially failed

4.1.1 The stages of process evaluation

Process evaluation can be linked to the different stages of a measure from first idea and principles into the operational stage.

In the case of SUMP-PLUS project, taking into account the CL objectives and planned measures, the traditional differentiation between design, implementation and operation of the measure itself is somehow blurring and it needs to be removed in most of the cases. For example, with regard to the measure “Launch of behavioural change campaign”, the following stages can be defined:

- the design stage: developing the campaign, defining the actions, analyse the target groups
- the implementation stage: carrying out the behavioural change activities.

The same approach is applicable to all the CL measures related OB4 – Momentum Building.

In other cases, such as the CL measures related to OB1 - Governance & Partnerships, OB2 - Cross-sectorial Links, OB6 - Implementation strategies/Transition Pathway (which are more closely implemented as a co-creation on-going process) the differentiation between design and implementation is not so clear. In any case, also for this typology of CL measures, we can identify a preliminary phase when the needs and the objectives defined during the proposal preparation (Description of Action annexed to the Grant Agreement) are consolidated/verified according to any modification occurred after the project approval (i.e. the change of the politicians in Alba Iulia), the planned activities (measure) are specified in terms of actions and timing and the targets of the CL are detailed as planning for the development of the measure itself.

In general, the following stages can be identified:

- **The design stage**, including the formulation of different options, the selection of the one more responsive to city needs and its detailed design/planning in terms of activities (CL measure), actors involved, responsibilities, targets and timing. The design of the measure allows its actual development (implementation and operation)
- **The implementation**, which can be differentiated into two different stages, depending on the typology of CL measure considered:
 - For CL measures dealing with co-creation process: it refers to the actual development of the measure including iterations of the co-creation process itself
 - For CL measures dealing with delivery of mobility solutions/services (mostly included in Antwerp CL): it refers to the phase of preparation (i.e. management of the open call on the marketplace), announcement, etc.
- **The operation stage**, which again can be differentiate:
 - For CL measures dealing with co-creation process: it consists of the measure development (overlapping with implementation stage)
 - For CL measures dealing with delivery of mobility solutions/services (mostly included in Antwerp CL): it refers to the proper running operation of the mobility solution/service at the end of the implementation phase (“public” launch of the measure).

4.1.2 Methodology

It is important to highlight that a process evaluation is not merely a monitoring activity, let alone a judgemental audit that mischievously “sniffs around”, eagerly searching for any evidence of things gone wrong. It is a much more constructive activity with the “ultimate aim ... to get insight in the ‘stories’ and to learn from them”³ so that oneself can constructively

³ Dziekan et al., 2013, 80

reflect upon things that could be improved and, obviously, that other cities do not have to reinvent the wheel and can reduce the trial-and-error components in their own implementation measures.

This is important, because the complex reality of the implementation of a co-creation process can be far from the first planning. The same, for different reasons and impacts, can happen when a mobility solution/service is delivered and demonstrated. There is a multitude of challenges/barriers that CL measures can experience: lack of political support, public opposition, not effective engagement of stakeholders (internal/external to mobility sector), barriers for the improvement of cross-sectorial/cross-departmental cooperation, gaps in the allocation of responsibilities among the involved stakeholders and so on. For any city trying to implement a similar process in another area, it will be very interesting to know what has been done successfully, which risk can occur and how they have been mitigated, which benefits can be expected.

In other words, whereas the Impact Evaluation focuses on the input and the output of a complex system – typically conducted as a before-after-comparison – the Process Evaluation opens the black box of the system and looks inside to understand the cogs, chains and gears that are at work.

Whereas the CIVITAS SATELLITE Framework focuses on identifying and understanding drivers and barriers behind the implementation of the measures, this approach is not completely exhaustive to be applied in SUMP-PLUS project where the “intangible” impacts of the CL measures as well as the assessment of their design and implementation process is closely related with the former development of mobility policies, their evolution, the links with supporting actions (i.e. governance cooperation, stakeholder engagement) and with the SUMP implementation/development.

Based on these motivations, a revised methodology for process evaluation is considered in SUMP-PLUS where a differentiated set of elements (including drivers and barriers) is evaluated along with the design and implementation of the CL measures.

A checklist to support the LEM to carry out the process evaluation is provided in the following. It is divided in two steps: the first during the co-creation process (or the implementation process) of the CL (depending on the type of measures, see section 4.1.1) and the second at the end of the co-creation process or the operation. The process evaluation is scheduled according to the milestones for data collection indicated in section 4.1.4. The SUMP-PLUS Evaluation Coordinator will produce the appropriate template for the collection of contributions from each CL, based on this checklist. A first set of instructions how to use the check list is provided in section 4.1.3.

The check-list is divided in two parts:

- The first part (General Check-List) consists of general questions (enabling process evaluation assessment) related to the influence of the context, compliance of the CL measure implementation compared to the planning, barriers, etc. It can be generally applied to all the CL measures (regardless their typology and the SUMP-PLUS objectives, OB1-7, they are related to)
- The second part (OB-related Check-List) consists of a set of questions which are customized for each OB cluster.

General check-list for process evaluation

During the co-creation process (or implementation) of CL measure

During the co-creation process or the implementation of CL activities, the questions which can be assessed for the process evaluation are the following ones:

Context

- How important are/have been the locally specific trends for the planning and implementation of CL measure?
- Which is your feeling at this stage of the co-creation process/implementation that the CL measure will contribute to improve the base/contextual conditions (procedures already in place, institutional cooperation, planning/operational capability)?
- Have local trends been well considered in the early stage of planning phase or not? What else should have been considered? Is any modification required?

Approach and timeplan

- Did any events affect the planned development of co-creation process (or the implementation of the CL measure) up to now? Were these events foreseen in the planning phase or were they unexpected?
- Are (Have there been) any modifications required after the first planning of CL measure (CLP)? If so, which one, which has been/was the impact and how has it been mitigated?
- Which risks do you envisage in the finalization of co-creation process (or implementation of the CL measure)? At which level do they prevent to reach the objectives?

Beneficiaries

- Have the intended beneficiaries of the CL measure been properly identified? Is any modification required?
- Is there evidence of any unintended beneficiaries?
- Was / is there awareness of the problems the CL measure is trying to address?

Organisation and stakeholders

- Are responsibilities clearly articulated, assigned and accepted?
- Was any factual knowledge, know-how, type of information vital for the co-creation process (or the implementation of the CL measure) not duly considered or missing? Can it be got in the remaining part of the co-creation process (or implementation of the CL measure)
- Are there sufficient formal agreements?
- How was the idea received among the involved stakeholders? Which stakeholder group was more active/supporting or opponent (which motivating or demotivating factors?)

- Did all the invited stakeholders participate in the process so far? Which other stakeholders should have been involved and why? Is there someone who should not have been involved? Is there a clear differentiation of the role of the stakeholders for each phase of the co-creation process (or implementation of the CL measure)?
- How would you assess the level of existing awareness / knowledge / acceptance among policy makers, stakeholders, the wider public? How much is it advanced from the early beginning of CL activity?
- How has the cooperation worked so far at intra-institutional (e.g. across city departments, ...) and externally?

Regulations / permissions

- Did any activity (i.e. access to data, finalization of an agreement, decision taking, etc.) require specific permissions, approvals, ...?
- Did you encounter any liability issues?

Outcomes

- Which result has materialised in the CL measure so far? Does it comply with the planning stage?

Finances (if the support of any financial resources has been envisaged in the planning stage of the measure)

- Are the main sources of financing (private and/or public) duly identified?
- How strong is the level of engagement of the external stakeholders which can take part in the measure funding?
- What could be/have been achieved with fewer resources?

Other supporting factors

- What (in a very wide sense) fostered the process? (expected and unexpected). How and to what degree?
- Who were / are the drivers, promoters and supporters of the CL measure? What is their influence? What support was crucial? What support would have been better?
- What are the current 'lessons learned' on the supporting activities?

Barriers

- What were / are the main obstacles? Were they anticipated or not?

Long-term prospects

- How do you see the CL initiative be maintained/improved/scaled up in the long term?
- How resilient do you consider the CL measure to external changes?
- Which impacts (direct/indirect, from a qualitative point of view) do you plan the CL measure will have in the next future (up to 5 years after the end of CL)?

At the end of co-creation process/implementation of CL measure

At the end of co-creation process (or the implementation of the CL measure), the questions which can be assessed for the process evaluation are the following ones:

- What are the impacts of the CL measure on the pre-identified problems? Were the original objectives achieved?
- Are there any other external factors or initiatives active alongside the CL measure which affect or influence it?
- (How) do the actual results deviate from the expected results? Why?
- Have some of your external context conditions changed? (national law, COVID-19 framework conditions, ...). Have some of your locally specific context conditions changed? (e.g. change of political majority; landslide; public perceptions; major event; ...)
- What was easier/more demanding than planned?
- Are there any positive impacts on problems that were not previously identified?
- Are there any unintended side-effects, positive / negative (also second-order effects)?
- How do you expect the achievements will be maintained/evolved in the next future?
- Which was the acceptance from stakeholders, the political sphere and the general public?

Final reflections

- What have been the main lessons learnt?
- What should have been done differently and why? What should not have been done at all?
- What other stakeholders should have been involved and why? Which ones should not have been involved?
- What decisions should have been pre-made?
- What expected obstacles were serious problems? Which ones did not turn out problematic?
- What data/information would have been useful to have (before, during, after)?
- From your experience do you think the results of CL measure could be easily transferred? To which city-context?

Recommendations

- Which are the main transferable elements for other (similar) cities?
- What should someone else with similar aims pay attention to and why?

Specific OB-related check-list for process evaluation

The questions, listed above, help the LEM to assess the co-creation process (or the CL implementation) over its different stages (design/CLP, implementation/operation if applicable). They are defined as general as it would be possible to be applied to the different CLs regardless of their objectives and measures. To build on the clusters' definition (see section 3.2, Table 2), customized measure-related questions are defined for each cluster (corresponding to project's objectives) taking into account their supporting role for SUMP implementation/definition.

OB1. Governance & Partnerships

- How/to what extent the SUMP implementation will benefit from the improved governance cooperation achieved in SUMP-PLUS through CL measures? How will policy coordination benefit from it?
- Which key factors from CL measures have contributed to a smoother governance cooperation? To what extent do they contribute to the SUMP development as a whole? What is the respective role of internal or external drivers?
- Has a clear cooperation agreement been established between the various governance levels to implement CL measures? Is it formal or informal? Were actions/milestone, responsibilities and procedure well specified? Have qualitative or quantitative indicators been defined to monitor the level of cooperation in the future? Which are these indicators?

OB2. Cross-sectorial Links

- How/to what extent the SUMP implementation will benefit from the consolidation of cross-sectorial links achieved in SUMP-PLUS through CL measures? How will policy and operative coordination benefit from them?
- What were the forms and degrees of cooperation between transport and other sectors prior to the SUMP-PLUS initiative? Were there evident limitations arising from this limited cooperation?
- Has a clear cooperation scheme been established between the mobility and other city sectors generating demand for mobility? Is it informal or implemented as formal agreement? Are actions/milestone, responsibilities and procedures well specified? Have qualitative or quantitative indicators been defined to monitor the level of cooperation in the future? Which are these indicators?
- Which advanced steps in the integration of policy development have been reached? Have cross-relations between SUMP and planning documents been adopted in the other city sectors?
- How/to what extent will the SUMP implementation roadmap benefit from the stronger links between the mobility sector and the other city sectors generating mobility demand?

OB3. Capacity-building

- How have SUMP-PLUS CL activities been contributing to improve the city capability to improve the city capability for implementation and lessons-drawing?

- Have needs at capacity and resources been clearly identified? In which are needs are more relevant? Which kind of competence/skills (if any) are missing? How they can be got? Is any possible action to answer to the needs identified?
- How/to what extent the SUMP implementation roadmap will benefit from an increased capacity building programme?
- Have qualitative or quantitative indicators been defined to monitor the progress in terms of capacity-building in the future? Which are these indicators?

OB4. Momentum-building

- How will co-planning of mobility and transport with citizens and stakeholders be improved after the SUMP-PLUS CL experience?
- Based on SUMP-PLUS CL experience, what would you have had changed in stakeholder engagement at the time of the SUMP development? Which are the main weaknesses you identify? What would you have done differently? More on the side of the stakeholder involved or on the side of the engagement procedure adopted?
- Has it been clearly established how to sustain closer engagement procedures in the future? Is there an action plan for this? Have qualitative or quantitative indicators been defined to monitor the progress in terms of capacity-building in the future? Which are these indicators?
- How/to what extent will the SUMP implementation roadmap will benefit from the stakeholder engagement activity undertaken in the SUMP-PLUS CL?

OB5. Financial resources

- Has an action plan for funding the SUMP implementation been clearly identified? Are responsibilities and cost sharing among the involved stakeholder clearly identified? Which were the impacts of SUMP-PLUS CL activities on it?
- Which were the impacts of SUMP-PLUS CL activities on the identification of external funds to be used along the SUMP implementation?
- To which extent is the city's responsiveness improved to match funding opportunities to selected (package) of SUMP measures, when new external funding opportunities emerge?

OB6. Implementation strategies/Transition pathway

- Is a clear implementation pathway defined in terms of temporal sequence, spatial clustering and delivery process? Has a monitoring process been established?
- Have the dependencies been clearly identified between the pathway implementation and the supporting/enabling factors?
- How will the SUMP implementation benefit from the defined pathway?

OB7. Demonstration of solutions

- Which facilitating elements have been identified to extend pilot actions at a larger scale in future pilot actions?
- How has SUMP-PLUS experience improved the city's capability to plan, manage and evaluate pilot actions supporting SUMP implementation?

- How will the results of solutions demonstrated in SUMP-PLUS project will benefit the SUMP-implementation in your city?

4.1.3 How to use the check-list: instructions to the Local Evaluation Managers

In this section some instructions are provided to the LEMs how to use the previous check list in practice:

- The general part of the check-list can be used by all the CLs. In addition, for each measure (see below for details), the specific OB(1.7)-related check-list can be also used
- The whole checklist (general and OB-related parts) should be considered by the LEM as a proposed guidance, it is not mandatory to answer to all the questions (for both the general and OB-related part) and it could happen that some of the question could not be applicable for a certain CL measure: in this case the LEM can skip the question
- The whole checklist (general and OB-related parts) can be applied to the evaluation of:
 - A specific CL measure, when the measure can be considered self-consistent when it has a clear distinctive outcome or it could be enough easy to go throughout
 - A group of CL measure (packed together) when a mutual close interdependence among them is established, preventing to evaluate each of them separately or to catch the “big picture”, when one or more of them mainly act as supporting action for another measure (this means that one or more of the measures have not a specific outcomes whereas contributing to the outcome of another CL measure) or when it is too much demanding for the LEM to go throughout to the whole checklist for each of them
- For some question of the general part of the checklist, an adaptation to the specific background/context of the CL should be required. In this case the question can be seen by LEM as an inspiring element to carry out the process evaluation.

4.1.4 Data collection and timing

A range of activities can be done to gather the information needed to understand the implementation/operation process and assess the status of the implementation, i.e.

- Info collected by the Local Evaluation Manager during the design, implementation and operation of the measure
- Stakeholder survey
- Stakeholder interview
- User survey
- Focus group meeting
- Expert meetings

During the CL, it is essential to monitor all relevant events and reflect regularly and critically to understand what has happened and why. To make it possible to look back to the implementation/operation process and to discuss how and why things have happened, it is helpful to have a log of all relevant events in the implementation/operation process. Especially for more complex measures this will result in a better understanding, instead of relying only on the memory of the involved actors.

The possible techniques to be used for collecting the information by the Local Evaluation Manager could be identified among the following ones, i.e.:

- A record of communications (e.g. emails, telephone records, notes from face-to-face meetings) that have contributed to or inhibited the implementation/operation of the measure
- A logbook of all relevant events in the implementation/operation process with comments on how they supported the process
- A follow-up of relevant milestones set in the design phase.
- The recording of other information dealing with measure coordination and management.

It is envisaged the most of activities above could be also part or combined with/integrated to relevant activities of the CL actions/measures to avoid repetition of contacts with stakeholders. A good coordination of the CL implementation and evaluation activities is required.

The process evaluation can be carried out at specific timing during the measure implementation/operation. There are two options:

- This timing can be linked to the stages of the measures focusing on the process in a specific stage (after design, implementation/operation, ...)
- This timing can be fixed and pre-agreed along the lifetime of the project.

The second option is selected:

- Based on the CLP where the timing of CL activities, across the different SUMP-PLUS cities, is quite homogeneous
- Based on the CIVITAS SATELLITE guidelines

The following milestones for data collection for process evaluation are identified:

- First Process Evaluation Reporting (PR 1, M16), following the delivery of CLP (D2.1) and including the planning phase of the measures and early implementation/stage of co-creation process (for some of the measures)
- Second Process Evaluation Reporting (PR 2, M22), corresponding to an intermediate stage of CL implementation/co-creation process
- Third Process Evaluation Reporting (PR 3, M28), corresponding to the final stage of CL implementation/co-creation process (for most of the measures) and in due time for the delivery of D5.3 Results of City Laboratories Evaluation
- Fourth Process Evaluation Reporting (PR 4, M34), for some of the CL measures which are planned to run longer than the D5.3 deadline, a new data collection will be done to update the D5.3 (for those measures).

MemEx, as EC, will provide the LEM with a guided template to carry out Process Evaluation Reporting. The template will be based on the check-list.

4.2 Impact evaluation (Quantitative)

Impact evaluation is the assessment of the (intended and unintended) changes which are attributed to a specific measure or integrated package of measures.

As it is already indicated in section 3.3, measures in CLs are not all suitable to be evaluated through impact evaluation, not being, most of them, actually implemented/operated of new mobility solution (new service or system). Nevertheless, the impact evaluation can be applied for some selected CL measure when:

- They relate to the implementation of new mobility solutions or services (operated “on the field”)
- LEM feels this kind of evaluation will be useful for the final assessment of the CL
- Secondary data are available for ex-ante evaluation
- Primary data collection (for ex-ante/ex-post evaluation) can be done with acceptable efforts/resources and the time to do it complies with the project scheduling (verification to be done on the basis of a consolidated version of CLP; when available)

This section describes the methodology used for the impact evaluation which is largely taken from the CIVITAS Satellite Framework. Before that, a glossary of the key concepts used for the impact evaluation methodology is provided in order to get a common understanding among all the involved partners (in particular, the CL cities).

4.2.1 Definitions

Output: immediate result of the CL measure implementation and operation. Outputs are considered complete on delivery of the measure and are typically tangible and more easily measured objectively

Impact: related to the changes caused by the measure. Impacts become apparent after the measure delivery. Impacts are often more difficult to measure, and are often measured subjectively by approximation through surveys.

Impact Categories: CIVITAS Satellite identifies the following impact categories:

- Society-people category covers all person-related aspects with a link to the mobility system (accessibility, health, employment opportunities, acceptance, usage levels of the different modes, etc.)
- Society-governance category focuses on the quality of planning process and cooperation structures with stakeholders

- Transport system category focuses on the performance of the mobility system in terms of usage and its characteristics
- Economy category focuses on economic development and benefits/costs efficiency terms, the balance between the impact of a measure and the willingness of users to pay the cost of achieving this impact has to be judged
- Energy category focuses on energy resources and consumption
- Environment category focuses on pollution/nuisance and resource consumption

Evaluation Indicators: They are quantitative variables that provide a simple and reliable means to measure/quantify the impacts of CL measures. Indicators must be closely related to the specific objectives of the measure. They are selected within the previous impact categories.

Baseline: A basic knowledge of the general mobility situation is crucial to get a good interpretation of the observed impact of the measures. Therefore, a range of data should be collected in order to describe the baseline context of the mobility in the city or region. In our case, the baseline context consists of 1) the value of evaluation indicators measured before the implementation of the measure (ex-ante) and 2) the expected value of BAU (if applied). In most cases the context data should be gathered for the city as a whole, but depending on the scale of the project, it could be more reasonable to focus on a specific district. If during the project lifetime, an important change occurs, independent of the CL measures, an update of these parameters may be necessary.

Business as Usual (BAU analysis): In order to draw conclusions, we need to identify what would happen if the measure was not introduced. Therefore, a business-as-usual scenario (BAU) must be established. One of the main objectives of business-as-usual scenarios is to determine the impacts of the measures by comparing results between scenarios with and without the measures implementation. All the factors which may change during the evaluation period and which could influence the ex-post value of the indicators need to be identified at an early stage of the project and included in the baseline. These other factors may be identified as other (SUMP-PLUS related and not SUMP-PLUS related) measures that are implemented during the same time period, or any context changes occurring over time regardless the implementation of the specific CL measure. The value of the evaluation indicator measured ex-post should be considered leaving out the bias introduced by BAU effect. Possible ways to estimate the BAU situation include forecasting from historical data (that can be provided by the baseline measurements), modelling or simulating (where appropriate local models are available or simulation is applicable) or monitoring a parallel 'control' site with the same characteristics without applying the project measures to it. In transport projects, this latter solution is often very expensive and not always very precise or appropriate. BAU should be introduced in case of large projects dealing with long implementation time when it is more likely that the ex-post measures can be biased by the effects of other elements/impacts not directly introduced by the measure.

After a first analysis carried out in the first year of the project, based on the draft version of CLPs, it is considered that the measures which will be suitable to apply impact evaluation in

SUMP-PLUS CLs (OB.7 Demonstrated Solutions) have a scale (spatial/time) which do not allow the application of a BAU analysis.

Ex-post Evaluation: The ex-post evaluation consists of a final set of measurements for evaluation which can be compared with baseline and business-as-usual measurements to assess the effectiveness of the measures implemented.

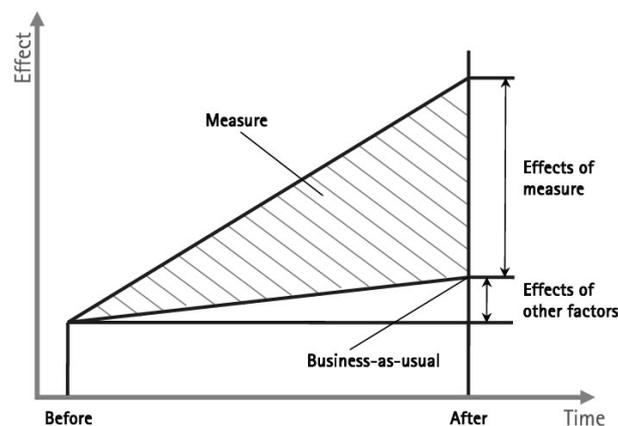


Figure 2: Effect of BAU on ex-post evaluation impacts

4.2.2 Methodology

The impact evaluation of a measure is based on:

- The outputs of the measure are clearly identified
- A set of indicators (evaluation indicators to be identified by LEM supported by MemEx and WP1 and WP2 Leaders) resuming how the CL measure will impact on the city context. MemEx, as EC, will propose a set of indicators (from CIVITAS Satellite Framework where possible/relevant) from which LEM can select the relevant/applicable ones
- The measure of the value of these indicators before the implementation of the CL measure implementation (baseline)
- The measure of the value of these indicators after the implementation of the CL measure implementation (ex-post)
- Other elements influencing the indicators should be considered to remove their impact before assessing the “after” situation (BAU)
- The comparison between the value of the indicator measured before and after the CL measure
- Conclusions drawn from the ex-ante/ex-post comparison and side considerations.

Before going through this process, at an early stage, it must be identified if the CL measures selected for the impact evaluation can be assessed separately or if they should be better packed together as:

- The measures are deeply cross-related and there is no sense to assess the impact of one without including the impact produced by the other
- It is not possible to separate the quantification of the impacts produced by one measure from the impacts produced by another.

4.2.3 Data collection

After the selection of the possible indicators an important consideration is how the indicator is measured and what data will be used for this. In general, there are two different kinds of data you can use for impact evaluation: data that must still be collected by additional measurements or surveys (primary data sources) and data that is already available (secondary data sources). It is always advisable to look for available data, because using high-quality existing data could save time and efforts. When using available data, it is critical to ensure that this data is relevant and reliable. As this data may not be tailored specifically for the needs of one measure, it is important to avoid the trap of using secondary data just because it is available. In most cases, the available data will not be sufficient for monitoring the effects of a measure for all selected indicators. Therefore, it will often be useful to collect data to fill in the missing information, or do a more detailed assessment. The advantage to collecting new data is that the measurement can be customised to the specific evaluation needs.

Once the CL measures to be evaluated through impacts evaluation are defined (with the LEM support) and the related evaluation indicators are identified, the specific data sources will be identified. This integration will be done in D5.2 – Final Evaluation Plan together with the provision of guidelines to the sites and the definition of the scheduled timeplan.

4.2.4 Limitations for impacts evaluation findings

Impacts evaluation will be used for assessing selected CL measures (or package of measures) which are identified as suitable for this type of evaluation. On the contrary, process evaluation (at least at the level of the general check-list) will be used for assessing all the CL measures (or package of measures).

In section 3.3 three evaluation levels (measure/package of measures, cluster and CL) are presented. These three levels will be applied for process evaluation whereas the impacts evaluation will be applied:

- at measure/package of measures (for the selected ones)
- at cluster level only if:
 - more (than one) measures (grouped in the same cluster) are assessed with this evaluation method
 - these measures have similar scope and are comparable
- at CL level only if more (than one) measures (in the same CL) are assessed with this evaluation methods. At this stage of development of the Evaluation Plan, this will occur in Antwerp CL (where large part of demonstrated solutions – OB.7 are implemented) but it is not sure for any of the other CLs.

4.2.5 Next steps

The specification of the impacts evaluation method will be completed in the final version of the Evaluation Plan – D5.2 which is expected to be delivered by end of 2020. In order to do this, a more consolidated version of CLPs (under updating and finalization) is expected in order to clearly identify the CL measures (and their output) which are not completely defined up to now (see Table 2).

Once a deeper understanding is gained about the entire set of CL measures, bilateral telcos between the EC and the LEM will be scheduled (eventually as combination of WP2 telco for CLPs finalization) in order to specify which one will be evaluated through impacts quantification, which are the dependencies between the measures (for each CL) and eventually to consider package of some of them for the evaluation.

In parallel, the EC will propose a set of evaluation indicators (from the CIVITAS Satellite Framework) to be selected by the LEM and confirmed according to the type of secondary data available in each city and which can be collected through primary data collection in an effective way.

After the identification of the evaluation indicator, EC will guide the LEM in specifying the method for the measurement of the indicator and how to plan the data collection accordingly. Guidelines from EC will be issued (if required) based on the planned data collection methods.

5 Conclusions

Based on the type of measures (actions) included into the SUMP-PLUS co-created City Laboratories (CLs) (which will be fully specified in D2.1, Co-created City Laboratory Plans) and the approaches and concepts developed in the research activities carried out by WP1-4 in the early stage of the project, to be demonstrated at CL level, it has been found that these demonstrations are quite different from the “piloting” of service/system which is under the scope of CIVITAS Satellite Evaluation Framework.

Process evaluation has been identified as the most effective methodology:

- To assess the interactions among different concurrent supporting actions and to capture the “added values” provided by SUMP-PLUS CLs measures, understanding to which extend and why measures comply with the expected targets
- To evaluate the role and “intangible” impacts provided by the CL measures along with the development of city mobility policies and actions, accelerating/facilitating the implementation (or development) of SUMP
- To deal with the wide range of different measures planned in CLs which do not envisage “actual operation of service/system”, in most of the cases

For this reason, SUMP-PLUS Evaluation Framework has extended the process evaluation approach suggested by the Satellite Evaluation Framework (from which it has been inspired in principles).

Process evaluation will be applied to all the CL measures (which have been linked and grouped by the SUMP-PLUS policy and operational objective) at measure and CL level as well as across the CLs (section 3.2, Table 2). Only selected CL measures will be considered for impact evaluation (where appropriate): due to the delay in planning of CL measures at the

beginning of the project, the selection of the CL measures for impact evaluation and the appropriate specifications of impact evaluation methodology will be specified in the Final Evaluation Plan (Deliverable D5.2).