

CIVITAS

Sustainable and smart mobility for all

2030



CIVITAS Process & Impact Evaluation Framework: a readers' guide



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About this readers' guide

This document serves to make the CIVITAS 2020 Process and Impact Evaluation Framework (CEF) accessible, as part of a wider effort of ensuring the framework is publicly available to consult on the CIVITAS website (civitas.eu). The CEF provides detailed guidelines and practical advice for the evaluation of mobility-related measures implemented in urban European environments. It is a reference document that acts as the basis for all evaluation processes taken on as part of the CIVITAS Initiative.

This readers' guide synthesises the current version of the CEF. It provides a brief description of the CEF's components, how it works, its methodology, and the main questions and aspects it addresses. The readers' guide furthermore points out where to find various elements in the full CEF, to make it easy for readers to find and access information to match their specific needs.

Authors

Stefano Borgato, Simone Bosetti, Silvia Maffii (TRT Trasporti e Territorio srl, Italy)

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About CIVITAS

CIVITAS is one of the flagship programmes helping the European Commission achieve its ambitious mobility and transport goals. Since its launch in 2002, CIVITAS has advanced research and innovation in sustainable urban mobility and enabled local authorities to develop, test and roll out measures via a range of projects.

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Contact

TRT Trasporti e Territorio, Via Rutilia 10/8, 20141, Milan (Italy); info@trt.it

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Table of Contents

- 1 THE IMPORTANCE OF EVALUATION IN CIVITAS4**
- 2 INTRODUCTION TO THE CIVITAS EVALUATION FRAMEWORK5**
 - 2.1 OBJECTIVES 5
 - 2.2 COMBINATION OF IMPACT AND PROCESS EVALUATION 5
 - 2.3 UNDERSTANDING THE MEASURES AND THEIR CONTEXT 6
 - 2.4 EVALUATION LEVELS..... 7
 - 2.5 KEY STEPS FOR A FEASIBLE, EFFICIENT, AND CONSISTENT EVALUATION..... 7
- 3 IMPACT EVALUATION9**
 - 3.1 MONITORING AND (PARTIAL) EVALUATION AT A CITY LEVEL..... 9
 - 3.2 IMPACT EVALUATION APPROACH 9
 - 3.3 SELECTION OF INDICATORS 10
 - 3.4 UP-SCALING AND LONG-TERM IMPACTS..... 13
 - 3.5 FINANCIAL AND SOCIAL COST-BENEFIT ANALYSIS 14
- 4 PROCESS EVALUATION 15**
 - 4.1 THE CONCEPT OF PROCESS EVALUATION 15
 - 4.2 PROCESS EVALUATION ACTIVITIES 16
- 5 EVALUATION CONCLUSIONS..... 18**
- 6 EVALUATION REPORTING 20**
 - 6.1 THE EVALUATION PLAN..... 20
 - 6.2 THE CIVITAS MEASURE EVALUATION PLANNING AND MONITORING SCHEME (GANTT CHART)..... 20
 - 6.3 MEASURE EVALUATION REPORTS (MERS) 20
 - 6.4 THE PROCESS EVALUATION REPORT (PER) 22
 - 6.5 THE EVALUATION REPORT..... 23
 - 6.6 PRESENTATION OF EVALUATION RESULTS..... 23
- 7 WHAT YOU WILL FIND IN THE CEF 24**

List of Figures

Figure 1: The integrated CIVITAS evaluation approach 6

Figure 2: The different elements in a measure that are crucial for process evaluation 16

Figure 3: Bringing all knowledge together 18

Figure 4: Examples of tables to be filled in as part of the MER 21

Figure 5: Examples of tables to be filled in as part of the PER 22

List of Tables

Table 1: Overview of the evaluation activities 8

Table 2: List of CIVITAS key indicators 11

Table 3: CEF's Table of contents 24

1 The importance of evaluation in CIVITAS

For two decades cities have worked in the context of the CIVITAS Initiative and CIVITAS projects to test and demonstrate innovative solutions to achieve sustainable, cleaner, and better urban mobility. Since the start of the initiative in 2002, it has been clear that a well-structured, transparent, and effective evaluation of the impacts of these measures, and methodical understanding of the implementation process are crucial to achieving the CIVITAS objectives.

Evaluation is a powerful tool to understand what works, what does not, and why. It allows impact to be measured, helps illuminate the story behind figures, improves understanding of how measures were implemented, and helps deduce why observed changes happened. Having a standard, rigorous evaluation process allows cities and projects to exchange experiences and learning to thereby build on each other's successes and failures.

A proper evaluation process helps public authorities to improve urban planning, make better strategic choices, and support effective allocation of resources to measures that can best contribute to achieving envisaged targets. Evaluation provides knowledge on the effectiveness of specific (packages of) measures, and makes it possible to optimise strategies, and to identify good practices and transferability options.

Considering all of this, it is evident why evaluation is a key part of all CIVITAS projects. Furthermore, to harvest the benefits of a thorough evaluation, and to compare policies, CIVITAS evaluation is done in a consistent way across projects and across the sites where mobility measures are being implemented.

Due to the wide variation of CIVITAS projects, one standard approach to evaluation is neither appropriate nor feasible. Still, using common terminology, the same categorisation of impacts, and a similar reporting style is crucial to make findings understandable and even comparable.

To support all projects to build this common understanding based on a consistent evaluation approach, a **CIVITAS Evaluation Framework (CEF)**¹ was developed and implemented. The CEF is used as a reference document by all CIVITAS project and in all the involved cities/sites where measures are implemented. This framework has been iteratively validated and fine-tuned, in cooperation with CIVITAS projects, over the course of consecutive CIVITAS phases.

CIVITAS is one of the flagship programmes helping the European Commission achieve its ambitious mobility and transport goals, and in turn those in the European Green Deal.

It does this by acting as a network of cities, for cities, dedicated to sustainable urban mobility. Through peer exchange, networking and training, CIVITAS fosters political commitment and boosts collective expertise, equipping cities to put mobility at the centre of decarbonisation.

Since its launch in 2002, CIVITAS has advanced research and innovation in sustainable urban mobility and enabled local authorities to develop, test, and roll-out measures via a range of projects. A series of ten thematic areas underpin these.

¹ <https://civitas.eu/resources/civitas-2020-process-and-impact-evaluation-framework>

The latest version, which is referred to in this readers' guide, was developed by CIVITAS SATELLITE in 2020.

While the CEF was developed to support CIVITAS projects, its utility goes beyond the CIVITAS Initiative. It is a useful evaluation instrument for cities in general, and to be used within other EU initiatives (e.g., Driving Urban Transitions, Climate Neutral Cities, etc.).

2 Introduction to the CIVITAS Evaluation Framework

2.1 Objectives

The main objective of the CEF is to understand the process and impact of mobility-related measures that have been implemented by projects in cities or sites. Understanding both successes and failures is crucial to enable replication and to build up evidence-based European knowledge. **As such, the ultimate goal of the CEF is to understand what works and what does not, and to comprehend the reasons why.**

CIVITAS evaluation work focuses on (sustainable) urban mobility measures implemented in a city. It aims to describe, through quantitative measurements related to both quantifiable targets set in advance and to qualitative observations, the impact of implemented measures, as well as the process for their implementation.

What is a measure in the CIVITAS context?

A measure is a mobility related action implemented by a city (by the government or other stakeholders). This can include: new infrastructure, a new service, a new organisation of the travel to work, activities to change awareness, acceptance or attitude and behaviour, etc.

2.2 Combination of impact and process evaluation

The CEF includes two complimentary activities: **impact evaluation** and **process evaluation**.

The **impact evaluation** includes the evaluation of a wide range of technical, social, economic, environmental, and other impacts of the mobility measures implemented by cities. It addresses the following questions:

- *What is the impact of a measure (or an integrated package of measures) based on before and after measurements of a selected set of indicators?*
- *Why do we see the observed change in the selected indicators? What is the contribution of the specific measure, and are there other influences affecting the observed change?*
- *What links are important between the different observed impacts, and how can these inform a useful and correct interpretation of the observed impacts?*

The **process evaluation** evaluates the planning, implementation, and operation processes behind implemented measures, aiming to understand why measures have succeeded or failed, including the roles of information, communication, and participation. The questions addressed by the process evaluation are:

- *How was the measure implemented?*
- *What barriers and drivers do we observe throughout measure implementation?*
- *What was the effect of supporting activities in the implementation of the measure? How did supporting activities facilitate implementation, increase impact, and/or reduce unwanted measure impacts?*

The **integration and interpretation of the results from both** (impact and process) provide the comparative insights necessary to better understand the effectiveness of measures in the city's context.

The integrated CIVITAS evaluation approach

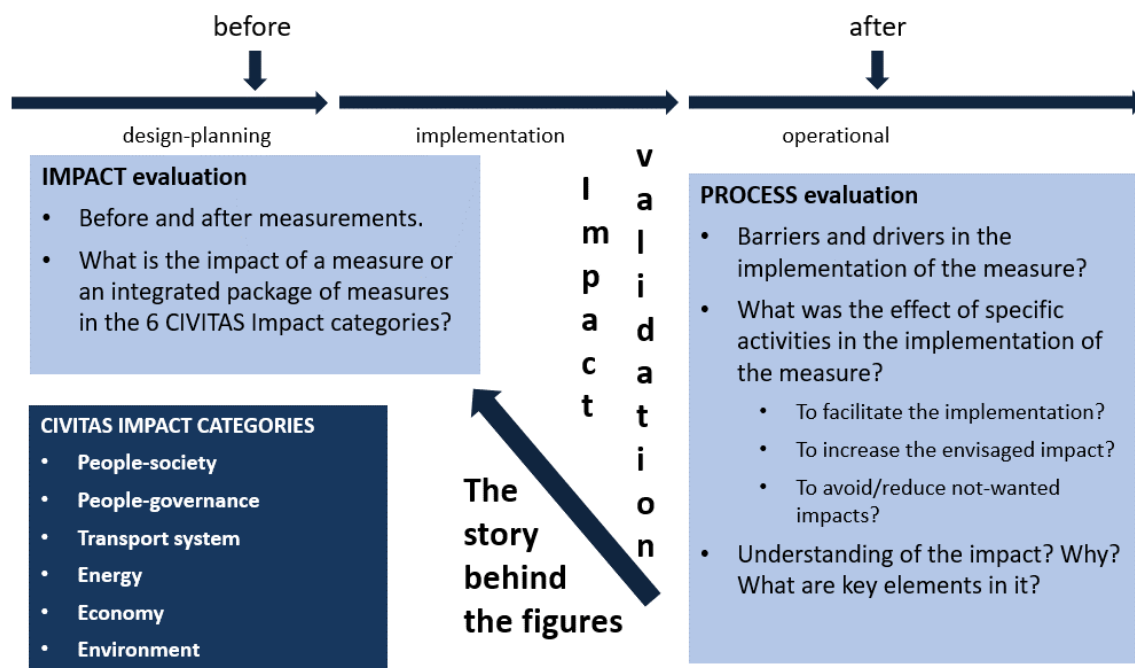


Figure 1: The integrated CIVITAS evaluation approach

Source: CIVITAS 2020 process and impact evaluation framework

2.3 Understanding the measures and their context

For a transparent and thorough evaluation of CIVITAS measures, it is crucial to have a clear and precise understanding of each measure.

- What are the **objectives of the measures** in terms of qualitative goals and quantitative targets?
- What is **really done or realised** as part of this measure in CIVITAS?
 - What is the starting point before the measure is implemented?
 - What sub-measures or supporting activities are part of the measure?
 - What is the output, or the result of the measure?
- What is the **expected impact** of the measure (outcomes)?
 - What are the envisaged impacts (see objectives)?

- *What additional, unforeseen impacts arose, including negative or undesirable impacts?*
- *What is the **target group** of the measure?*
 - *Whose attitude or travel behaviour is the measure trying to change?*
 - *Which part of the transport system is the measure trying to change?*
- *What is the **area** in which we expect to see the measure's impact?*
- *What are **other factors** (with respect to the city context), including other CIVITAS and non-CIVITAS measures affecting its impacts?*

2.4 Evaluation levels

The evaluation approach – including monitoring, evaluation, and conclusion – should be structured across different levels.

Levels of monitoring and evaluation:

- **Measure level:** monitor the indicators affected by the individual measure.
- **Integrated package level:** evaluate packages of measures implemented together.
- **City level (or demonstration zone):** monitor and evaluate city-level indicators that help describe changes in the mobility situation of the city, functional urban area, or site.

Levels of evaluation conclusions – formulate conclusions about:

- **One measure**
- **One integrated package**
- At the overarching **city level**
- Across the project's sites with reference to **CIVITAS thematic areas**²
- Across the project's sites with reference to **integrated strategies in EU cities**

2.5 Key steps for a feasible, efficient, and consistent evaluation

A feasible, efficient, and consistent evaluation requires that all efforts of both impact evaluation and process evaluation are combined in an optimal way, and carried out with appropriate timing. It is, therefore, important to engage all stakeholders and responsible persons when agree upon the objectives and target(s) to be evaluated, on the indicators to be used, and on the data to be collected.

Table 1 provides an overview of the main evaluation tasks to be carried out. This can be used as a basis for planning the key steps for effective evaluation.

² <https://civitas.eu/thematic-areas>

Table 1: Overview of the evaluation activities

Source: CIVITAS 2020 process and impact evaluation framework

Impact evaluation	Process evaluation
Analysis of measures <ul style="list-style-type: none"> Precise definition with identification of sub-measures and supporting activities Target group, objectives, and quantifiable targets Structuring the measures with identification of an "integrated package of measures"	
<ul style="list-style-type: none"> Identification of expected impact and indicators Identification of integrated package of measures Definition of methodology for measurements and data collection Allocation of responsibilities for evaluation activities and resources 	<ul style="list-style-type: none"> Clarifying timing of implementation Defining actors and roles Planning surveys, actor meetings, and interviews
Production of evaluation plans : <ul style="list-style-type: none"> Local Evaluation Plan Project Evaluation Plan 	
Data collection baseline <ul style="list-style-type: none"> First version of Measure Evaluation Report (MER) sheets 	
Data collection current situation and evaluation of available intermediate impact data	Monitoring of implementation process
Intermediate findings on the impacts	Intermediate observations on the implementation process
Impact evaluation on measure level and integrated package level <ul style="list-style-type: none"> Processing collected data and calculation of quantitative indicators Actor meetings to understand the impact based on data Interpretation of indicators (up-scaling) 	Evaluation of implementation process <ul style="list-style-type: none"> Actor meetings to analyse the process Actor interviews Identification of barriers and drivers Understanding the implementation process
In depth analyses (e.g., cost benefit analysis for key measures)	
Final version of MERs <ul style="list-style-type: none"> Impacts per measure, and per integrated package Findings on supporting stakeholders and supporting activities for the implementation 	

Drawing **conclusions at the city level**

Conclusions at the project level

- Conclusion in relation to the focus of the project
- Conclusions per CIVITAS thematic area
- Conclusions on measures and combination of measures

3 Impact evaluation

Impact evaluation consists of the **assessment of the changes attributed to a specific measure or integrated package of measures**. Both intended and unintended impacts of the measure are examined.

3.1 Monitoring and (partial) evaluation at a city level

Evaluating the implementation of measures in the complex situation of a real city requires a good **understanding of its context and of the characteristics of the city** that may influence mobility (e.g., geography, governance, population, infrastructure, etc.)

It is also crucial to have basic, baseline knowledge about the general mobility situation. Data should be collected to describe the **baseline context of mobility in the city** (or region). The most important context parameters include:

- Modal split of the trips made by inhabitants
- Modal split of the trips made by commuters
- Car ownership among inhabitants
- Car congestion level in the city
- Public transport congestion level
- Parking situation (rules, use, congestion)

To get an overall understanding of the functioning of the mobility system and to monitor and evaluate changes, cities can rely on a set of **sustainable mobility indicators** provided by the CEF (see section 3.3) and on SUMI indicators³.

3.2 Impact evaluation approach

The concept of the evaluation approach is quite straightforward:

1. A **set of indicators** are defined that describe the characteristics of the situation.
2. The value of these indicators are measured **before and after** the implementation of the measure.
3. **Other elements are prevented from influencing** the indicators – or if they cannot be prevented, they are accounted for in analysis – before assessing how indicators changed due to measure implementation.

³ https://transport.ec.europa.eu/transport-themes/clean-transport-urban-transport/sumi_en

4. **Comparison** is conducted between the situation before and after measure implementation.
5. **Conclusions** are then drawn regarding the impacts induced by the measures.

Impact evaluation is based on *before-and-after* comparisons, and must be carried out consistently across CIVITAS cities and projects to provide the opportunity to exchange experiences and learn from each other. Here is a summary of the key steps:

- **Measurement of the *baseline*** (or before situation), carried out before the introduction of the measures, to assess subsequent changes resulting from CIVITAS measures.
- **Identification of a *business-as-usual (BAU)* scenario** to determine the impacts of the measures by comparing results to the expected outcome in the city had the measure not been implemented. Possible ways to estimate the BAU include forecasting from historical data, or monitoring a parallel "control" site with similar characteristics.
- **Identification of *other elements*** that could change during the evaluation period, and which could impact mobility. This may include other measures that are implemented during the same period, or contextual changes that occur over time.
- After implementation of the measures, **conducting *after* or *ex-post* evaluation**. This consists of gathering a final set of measurements to be compared with baseline and BAU indicators to assess the impacts of the implemented measures.
- **Methods** that should be used to understand observed changes include: end-user questionnaires conducted before and after measure implementation; the installation of a transport panel; and/or the organisation of post-measure surveys.
- CIVITAS aims to demonstrate and validate measures using *ex-post evaluation techniques*. However, ***ex-ante* evaluation** – in which similar cases are used to assess a measure's expected impact – can also take place before measure implementation.

3.3 Selection of indicators

The implementation of a measure is expected to have an **impact on various aspects** of the complex mobility system in a city. The following categories of impacts should be considered:

- **Society** considers people, their characteristics, and mobility mind-sets, as well as the organisation of society.
 - **Society-people** covers all person-related aspects that link to the mobility system (e.g., activity structures, accessibility, health factors, etc.)
 - **Society-governance** includes the way society is organised both in terms of land-use and in terms of governance.
- **Transport system** focuses on the performance of the mobility system with respect to usage and technical characteristics.
- **Economy** focuses on the estimation of the effectiveness or benefits derived from a measure in relation to the costs associated with its preparation, implementation and operation.
- **Energy** describes the consumption of energy; using alternative fuels and alternative modes are key measures proposed in CIVITAS.
- **Environment** recognises that many CIVITAS measures aim to improve the environment in terms of pollution, nuisance, and resource consumption.

Selecting the right indicators is crucial to measure impact. Indicators can be of three types:

- **Key indicators**, to understand the impact of the CIVITAS measures in the main impact categories listed above;
- **Intermediate indicators**, to use further information to derive in more detail the impact of the measures in the impact categories listed above; and
- **Additional indicators**, to understand specific aspects of the impact of a measure.

The table below provides a list of the CIVITAS key indicators, divided based on the impact categories above – note that *society-people* and *society-governance* are treated as separate categories.

Table 2: List of CIVITAS key indicators

Source: CIVITAS 2020 process and impact evaluation framework

Impact category	Impact aspect	Key indicator
SOCIETY-PEOPLE		
Acceptance	Awareness	Awareness level
	Acceptance/attitude	Acceptance level
Accessibility	Physical accessibility of transport services	Perception of level of physical accessibility of service
	Operational accessibility of transport services	Operational barriers
	Economic accessibility of transport services	Relative cost of service
Health	Health (physical activity)	Average walking/cycling time per week
SOCIETY-GOVERNANCE		
Planning	Planning process	Quality of the SUMP
Operational cooperation structures	Quality of cooperation structures with stakeholders	Quality of cooperation structures with stakeholders
TRANSPORT SYSTEM		
General	Modal split persons	Modal split persons (trips)
	Modal split freight	Modal split freight (trips)
	Total distances of vehicles	Km/type of vehicle

Impact category	Impact aspect	Key indicator
TRANSPORT SYSTEM		
Safety	Transport safety	Number of road collisions, road deaths, and serious injured
Security	Security	Perception of security
Walking	Opportunity for walking	Quality of pedestrian infrastructure
Cycling	Opportunity for cycling	Quality of cycling infrastructure
Public transport	Service reliability	Accuracy of service
	Service reliability	Commercial speed
Car	Congestion levels	Average vehicle speed (peak/off-peak)
Trucks	Freight movements	Number of freight movements
ECONOMY		
Benefits	Operating revenues	Average operating revenue
	Economic development	Job/sales impact
Costs	Investment costs	Capital investments costs
	Operating costs	Average operating costs
ENERGY		
Energy consumption	Fuel consumption	Vehicle fuel efficiency
ENVIRONMENT		
Climate	Greenhouse gases	CO ₂ emissions
Air pollution	Air quality	Small particulate emissions
	Air quality	Small particulate levels
Nuisance	Noise	Noise perception
	Noise	Noise level

To learn more about the **full list of indicators**, please see CEF's **Section 3.3.2**. A detailed description and guidance of each indicator is provided in the CEF's **Annex 1 – Indicator Definition and Methodology Sheet**.

For the **selection of indicators**, the main criteria to follow should include:

- Relevance
- Completeness
- Availability
- Measurability
- Reliability
- Familiarity
- Non-redundancy
- Independence

The **optimal selection and definition of indicators** is a crucial activity. A high quantity of indicators is *not necessarily* a precondition of a good evaluation; but, **the quality of the finally selected indicators** absolutely is! The quality of the indicator will depend on the availability of basic data, the potential to collect the data specifically, and the extent to which the indicator contributes to improving general understanding of the impact of the measure(s).

When deciding which indicators to select, it is important to consider **which data will be used** to measure each indicator. When using available data, it is critical to ensure that this data is relevant and reliable. In most cases, available data will not be sufficient for monitoring the effects of a measure for all selected indicators. Therefore, data will have to be collected to fill in missing information, and to conduct more detailed assessment.

3.4 Up-scaling and long-term impacts

In many cases, the demonstration and testing of a measure is only done on a small scale with an operational period too limited for evaluating its long-term impact.

Up-scaling refers to the estimation of what the effects of a (group of) measure(s) would be, if it were to be applied throughout the city, region, surrounding area, etc. This can be a very useful method to show the impact of the measure if implemented on a larger scale, and to understand whether it is feasible and sensible to scale-up the measure. The key to up-scaling is to take into consideration all the factors that will change when the measure is implemented at a larger scale (compared to in a particular site), and what implications this will have for the measure's impact. Four key elements related to up-scaling include: behaviour and technology, acceptability, network effects, and time.

Many measures will have to be in place for some time before they lead to a significant change. Therefore, it is useful not only to measure the 'before' and 'after' values of the indicators, but also to collect additional information on changing trends, and the ways that different factors are influencing this change. This will provide an indication of **how the observed short-term impacts will further evolve**.

3.5 Financial and social cost-benefit analysis

To deepen the understanding of measures' impacts, it is possible to perform additional analysis, including both financial and social cost-benefit analyses.

A **financial analysis** focuses on cash flows (costs and revenues) to determine if a project is financially viable from the operator's standpoint. It also provides information on whether a project is attainable with and without (additional/external) funding. Such an analysis follows the 'Discounted Cash Flow' method and focuses on two indicators:

- The **financial return on investment**, which considers total investment costs, total operating costs, and revenues.
- The **financial return on capital**, which considers the cost of financing, total operating costs, and revenues.

Social cost-benefit analysis applies a common denominator (money) to all measure impacts to better understand trade-offs between different options. The word *social* means that the costs and benefits are analysed and valued from the viewpoint of society as a whole.

To learn more and to find an extensive description of the recommended approach for the Financial and Social Cost Benefit Analysis, please see CEF's **Annex 6 – Financial and Cost Benefit Analysis**.

To learn more about the CIVITAS Impact Evaluation, please see CEF's **Chapter 3**.

4 Process evaluation

Analysing the **process of implementing a measure – from its idea to its operation** – is complementary to impact evaluation, and equally crucial. This '**process evaluation**' ensures a real understanding of the role a measure can have in a sustainable mobility strategy, and provides insights into which elements are key to the observed impact.

Overall, process evaluation should **improve the direct findings of the impact evaluation** by:

- Understanding why measures have succeeded or failed;
- Understanding the role of supporting activities (e.g., information, communication, participation, etc.);
- Validating the impact of the measure by:
 - Supporting interpretation of the impact indicators
 - Understanding the importance of sub-measures
 - Understanding the influence and importance of supporting activities.

4.1 The concept of process evaluation

The success of a CIVITAS measure is influenced not only by the measure's technical solution, but also by the ways that the measure **optimises the process of solution preparation and implementation**.

Evaluating this process requires examining different stages of measure preparation and implementation, including:

- **Design stage**, including measure development, planning, preparation, and design.
- **Implementation stage**, including the construction, introduction, announcement efforts to get the measure operational for users.
- **Operational stage**, during which the measure is opened to the public – i.e., users can use (or are affected by) the measure.

In particular, the process evaluation should clearly identify the following characteristics of a measure:

- Are there **sub-measures** with a specific target group and implementation area?
- Are there **supporting measures** that are expected to have a significant influence?
- Which are the **target groups** and **implementation areas** of these (sub-) measures?

- Which **stakeholders** have significant roles in the implementation of the measure, and what are their specific roles?

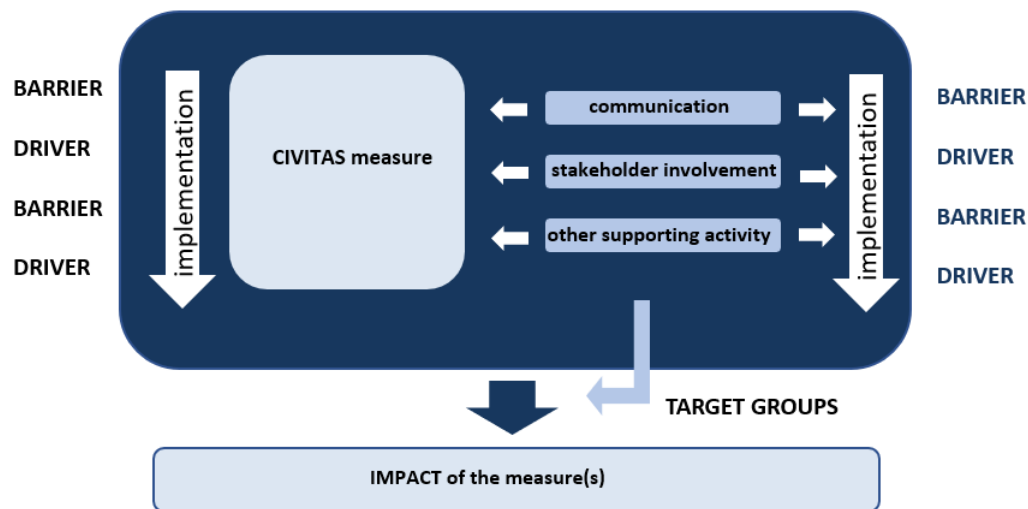


Figure 2: The different elements in a measure that are crucial for process evaluation

Source: CIVITAS 2020 process and impact evaluation framework

4.2 Process evaluation activities

Several key activities must be taken on to perform the process evaluation.

First, it is necessary to perform a **pre-analysis of measures** to have a clear view of which elements are important for measure implementation (e.g., stakeholders, barriers, drivers, etc.), and to decide – as early as possible – how to best understand these elements. It is important to identify: the responsible stakeholders, target groups and people affected by the measure; a detailed description of the supporting activities; and a risk analysis for each measure (e.g., barriers in the implementation process).

It is helpful to have a log of all relevant events in the implementation process (e.g., **monitoring**), which partners can look back on to discuss how and why events occurred and impacts may have been observed.

The core process evaluation activity consists of **periodic evaluation of the implementation process**. Its timing could be linked either to specific stages in measure implementation, or to pre-agreed moments in the lifetime of the project. The key questions for this periodic evaluation are the following:

- What **barriers** have been encountered during this period while trying to reach the measure's objectives? What **actions** have been taken by one or more partners **to overcome the barriers**?
- What **drivers** were encountered during this period that supported reaching the measure's objectives? What **actions** were taken by one or more partners **to make use of these drivers**?
- How have factors (including these barriers and drivers) influenced any **risks** to measure implementation? What risks remain?

- *What have you observed as the quality and influence of **supporting activities** in this period?*
 - *What events helped determine the current status of measure implementation?*
 - *What was the quality of the supporting activities?*
 - *What was the influence of the supporting activities on the implementation process?*
 - *What was the influence of the supporting activities on the measure's (expected or measured) impact?*
 - *What are the current 'lessons learned' regarding supporting activities?*

In many cases, these questions cannot be answered in a quantitative way. Therefore, the CIVITAS approach suggests at least conducting a **qualitative assessment**, that answers the above questions with statements such as: no influence, limited influence, significant influence, or high influence.

To gather the information needed **to understand the implementation process** and assess its status, a **range of activities** can be performed. Information should be gathered from the measure leader and site coordinator, along with stakeholder surveys and/or interviews, user surveys, focus group meetings, learning history sessions, and/or expert (validation) meetings.

Finally, all periodic process evaluation observations should be summarised in a **final assessment of the implementation process**, which should include the following:

- **Important events** during measure implementation
- Implementation **barriers**
- Implementation **drivers**
- **Reporting on activities** taken on to overcome barriers and/or to make use of drivers to reach the measure objectives
- Details on **supporting activities** including their penetration, quality, and influence on measure implementation and impact
- Identification of **lessons learned**

To learn more about the CIVITAS Process Evaluation, please see CEF's **Chapter 4**.

5 Evaluation conclusions

Bringing all evaluation findings together in a structured way is an important task in each project, which contributes to the wider community's knowledge of evidence-based solutions. Good evaluation work at both measure- and city-levels supports decision-making, optimisation, up-scaling, and uptake of strategies.

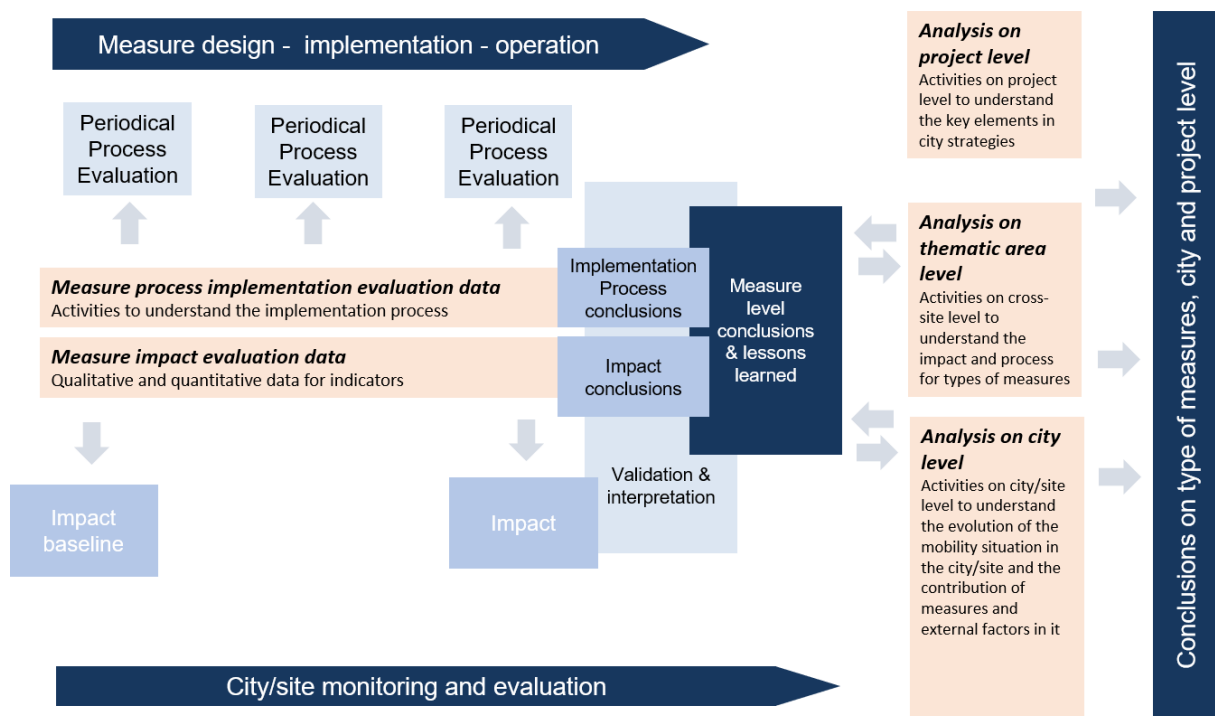


Figure 3: Bringing all knowledge together

Source: CIVITAS 2020 process and impact evaluation framework

The **integration and interpretation of results** from both the impact and process evaluations will provide the information necessary to **understand and compare** the effectiveness of measures, and will contribute to better understanding the story behind the figures.

Measuring the impact using **quantitative approaches is crucial** to fully understanding the results of the measures. However, considering limitations of data collection and the complex environments in which measures are implemented, **additional efforts are needed to validate the observations**.

At a basic level, this validation can be done by the person responsible for evaluation, along with the local coordinator and the person responsible for the implementation of the measure. In more complex situations, an **expert meeting** with people active in the mobility field could be very useful, and a **multi-stakeholder meeting** with all involved actors can be organised. Such activities (that are also part of the process evaluation) will allow for a better understanding of why the observed impacts occurred.

To present the main evaluation conclusions in a structured way, the following aspects should be discussed:

- **Validated impacts**, including the key results regarding the measure's impact, referring to quantitative observations and qualitative appraisal.
- Expected **long-term impacts** of the measure.
- **Implementation factors**, including key barriers, drivers, corresponding actions, and the role of supporting activities.
- **Main lessons learned** as an integrated conclusion of the impact and process evaluation findings.

At the **city level**, evaluation should result in a synthetic understanding of mobility changes in the city (or functional urban area, region) to illuminate the **importance of these measures with respect to the sustainable mobility evolution** envisaged in policy goals at multiple levels. The evaluation should also present the main lessons learned regarding which **integrated package of measures** present the most effective solutions.

Finally, bringing together the **findings from different cities and sites** will allow projects to draw more general conclusions on the impacts and implementation aspects of a type of measure. A **qualitative discussion on the effectiveness of measures** is very helpful, especially if such a discussion considers the contexts of each city and the integration of measures in each case to create efficient urban strategies.

6 Evaluation reporting

6.1 The evaluation plan

All efforts to perform a good evaluation are useless if the evaluation isn't reported in a transparent and clear way. In this regard, an **evaluation plan** should describe in detail how the evaluation will be organised to draw reliable conclusions. The main challenge is to build-up a **feasible and effective evaluation approach** in each city (or site), and to develop a strong approach for all further analysis and conclusions.

To learn more about the structure of a **Local Evaluation Plan** and a **Project Evaluation Plan**, please see CEF's **Section 6.1**.

6.2 The CIVITAS measure evaluation planning and monitoring scheme (GANTT chart)

All activities should be planned out to ensure that necessary data is collected at the right moment; this is crucial to achieve a high-quality evaluation in an efficient way. An **easy planning tool** (MS Excel-based) has been developed to monitor evaluation progress, including the implementation stages and milestones, as well as to track evaluation data, information gathering activities, and reporting.

To learn more about this tool, please see the CEF's **Annex 2 – The CIVITAS measure evaluation planning and monitoring scheme (GANTT chart)**.

6.3 Measure Evaluation Reports (MERs)

To harmonise reporting, increasing the transparency and understanding of findings regarding the implementation of each measure, two templates have been developed to structure all information in a standard way.

The first one is the **Measure Evaluation Report (MER)**, which constitutes the basic report containing all information related to the evaluation of the implemented measures. It should be built-up throughout a project's lifetime, updating and adding new information at each stage.

This report ensures **completeness of evaluation-relevant information** and a common reporting style, facilitates the analysis of evaluation results, enables drawing evaluation conclusions, and helps provide information for dissemination of findings in a clear and concise manner.

The **main inputs** for this report derive from impact measurements and surveys, which are processed by the evaluation team into quantitative and qualitative descriptions of selected indicators, and conclusions with respect to the main impact categories. To keep the report accessible and manageable, only results of data analysis done by evaluators must be included. Findings should be reported in a comprehensible and well-structured manner.

Example									
Ranking	Objective	Quantifiable target							
1	Increase new tailor-made public charging infrastructure for electric vehicles	By 2018: 50 e-charging points in port and city By 2020: 100 e-charging points in port and city							
2	Increase the number of electric vehicles in the taxi-fleet	By 2020: 10% of the fleet e-vehicles							
Ranking: most important objective is described first.									

Example Table 6									
Indicator	Unit	Baseline		BAU		After		Difference: After - Baseline	Difference: After - BAU
		Value	Date	Value	Date	Value	Date		
Awareness	%	0	2017	0	2018	3.9	2018	3.9	3.9
Acceptance	score (1-5)	0	2017	0	2018	3.6	2018	3.6	3.6
Satisfaction	score (1-5)	0	2017	0	2018	3.7	2018	3.7	3.7
CO ₂ emissions	tons/year	13.92	2017	10.86	2018	6.38	2018	-7,54	-4,48
NOx emissions	tons/year	0.0771	2017	0.0092	2018	0.0048	2018	-0,0723	-0,0044
PM emissions	tons/year	0.0047	2017	0.0033	2018	0.0018	2018	-0,0030	-0,0015
Energy	TJ/year	0.187	2017	0.146	2018	0.0859	2018	-0.102	-0.060
Investment costs	€	0	2017	155000	2018	155000	2018	155000	0.00
Operational costs	€/year	-	2017	-1418.10	2018	-4026.78	2018	-4026.78	-2608.68

Ranking	Objective and Target	Rating	Comments
1	At least 20 electric vehicles in the municipality fleet (to be translated into energy, emission reduction)	***	The number of e-cars in the city fleet reached 130 in January 2019.
2	Deployment of at least 3 new fast charging stations	***	5 fast charging stations opened by EMT 9 on-street fast charging stations (ChargeMaster) opened by the municipality
3	Agreement with 5 companies to procure electric vehicles for their fleets	O	In spite of the measure team efforts, none of the companies approached added e-cars to their fleets
NA = Not Assessed O = Not Achieved * = Substantially achieved (at least 50%) ** = Achieved in full *** = Exceeded			

Table: Achievement of objectives.

Figure 4: Examples of tables to be filled in as part of the MER
 Source: CIVITAS 2020 process and impact evaluation framework

To learn more about the MER template, please see the **CEF's Annex 3 – Measure Evaluation Results (MER) template**.

To learn more about the guidelines on the usage of the MER (and PER), including an overview of the content needed and a description of the template's subsection, clarified by examples of good practice from previous CIVITAS projects, please see the CEF's **Annex 5 – Guidelines for the usage of MER and PER**.

6.4 The Process Evaluation Report (PER)

The **Process Evaluation Report (PER)**, which should complement the MER, can be used to report key findings on regular basis regarding the measure implementation process. These findings will be combined with the findings of the impact evaluation to come to a well-founded understanding of the measure.

The PER begins with the same general information presented in the MER; but, it focuses further on the **specific aspects related to the implementation of the measure**, including the barriers/drivers, actions to overcome/make use of them, findings regarding supporting activities, and lessons learned. The main inputs for this report are derived from the various efforts made by the evaluation team to understand the implementation process.

Example

No.	Stages	Relevant milestones
1	Design, planning, preparation	A new concept of e-car sharing is being investigated in the city of Antwerp. The city helps the private stakeholders by being open for discussion and providing charging infrastructure in preferred areas.
2	Implementation	The charging infrastructure is added to the smart travel planner (3ANT1).
3	Operation	An online request tool for charging infrastructure becomes available. A company is tendered to do technical installation and exploitation.

Example

No.	Barrier field	Description	Action to overcome the barrier
1	Institutional	To make a full mobility analysis, personal data of each employee is necessary (address, etc). Due to privacy reasons it takes some companies longer to deliver the necessary data.	Legal departments of participating companies look into the framework before handing over the data.

Example

Ranking	Impact category	Impact aspect	Quantitative data	Qualitative score	Motivation
1	Society-people	Awareness, Acceptance	Focus group (26 participants)	**	The discussion during the focus groups led to an increased acceptance of the measure by the participants and motivation to change their transport behaviour by leading a more car-independent lifestyle

Scores: O = None * = Limited ** = Significant *** = High

Figure 5: Examples of tables to be filled in as part of the PER
Source: CIVITAS 2020 process and impact evaluation framework

To learn more about the PER template, please see the **CEF's Annex 4 – Process Evaluation Report (PER) template**.

To learn more about the guidelines on the usage of the MER (and PER), including an overview of the content needed and a description of the template's subsection, clarified by examples of good practice from previous CIVITAS projects, please see the CEF's **Annex 5 – Guidelines for the usage of MER and PER**.

6.5 The evaluation report

Projects will produce evaluation findings on different levels, and with different foci, to produce insights on measures that can be implemented to achieve European, national, regional, and/or local urban sustainability goals. To this end, the **final evaluation report** should discuss the following:

- A **quantified assessment of the impacts** of the CIVITAS measures across individual cities, which cover the main CIVITAS impact categories.
- An **analysis and interpretation of the results** in relation to context-specific situations that might explain the nature and extent of the results obtained.
- **Conclusions regarding the impacts and implementation processes** of different measure types, clustered based on the CIVITAS thematic areas, and/or otherwise aggregated.
- General conclusions about the impacts of the CIVITAS measures **in each of the cities** in the project.
- General conclusions about the impacts of the CIVITAS measures **for cities with characteristics comparable** to the cities in the project.
- General conclusions about the **challenges faced in the project** (both in the cities and in general), and conclusions about the project objectives (with quantified targets).

6.6 Presentation of evaluation results

Clear and detailed reporting on the ways measures have been evaluated is crucial to ensure that projects contribute to the general knowledge base on innovative sustainable mobility solutions. However, using technical language to present in-depth data and reporting can make results inaccessible. This is a challenge, as projects can only effectively contribute to policy processes if their **findings, insights, and advice** are **explained clearly to both technical experts and policy makers, in ways that suit local decision-making processes**.

As such, evaluation must also be accompanied by a **good dissemination strategy** that considers the expectations and characteristics of the target audiences, to find the best ways to reach them. **Participatory interpretation of the evaluation results** with stakeholders and policy makers will not only build understanding among audiences, but will also validate the evaluation conclusions and create higher acceptance for findings.

7 What you will find in the CEF

Table 3: CEF's Table of contents

Source: CIVITAS 2020 process and impact evaluation framework

Introduction
Context and evaluation objectives
The CIVITAS evaluation framework
Structure of this document
The CIVITAS 2020 Evaluation Framework
The scope of CIVITAS 2020 evaluation
Key elements of the CIVITAS 2020 evaluation approach
Evaluation levels and levels of conclusions
Organisation of the evaluation process
Key steps for a feasible, efficient, and consistent evaluation
Impact evaluation
Impact evaluation approach
Selection of impacts and indicators
Up scaling and long-term impacts
Process evaluation
The concept of process evaluation
Process evaluation activities
Evaluation conclusions
Bringing all knowledge together
(Integrated package of) Measures level conclusions
City level conclusions
Cross-site analysis and conclusions
Evaluation reporting
The evaluation plan
The CIVITAS measure evaluation planning and monitoring scheme (GANTT chart)
Measure level reports
The evaluation report
Conclusions
Annexes
<i>Annex 1: Indicator definition & methodology sheets</i>
<i>Annex 2: The CIVITAS measure evaluation planning and monitoring scheme (GANTT chart)</i>
<i>Annex 3: Measure Evaluation Results (MER) template</i>
<i>Annex 4: Process Evaluation Report (PER) template</i>
<i>Annex 5: Guidelines for the usage of the MER and PER</i>
<i>Annex 6: Financial and Cost Benefit Analysis (FA -CBA)</i>
<i>Annex 7: Learning history sessions</i>
<i>Annex 8: Survey methodologies</i>



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