D4.1a: FINAL ASSESSMENT AND EVALUATION PLAN

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Title	D4.1a: Final Assessment and Evaluation Plan
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Brief Description	This Assessment and Evaluation Plan outlines the general principles for evaluation within the SUNRISE project. It includes the full part A (the principles of evaluation) and the annexes prepared by ENU and TUW. Some information provided by the Neighbourhood Evaluation Managers is included in section B as well as instructions in section C to the neighbourhoods on what is expected from them for the Detailed Evaluation Plan foreseen for month 22.
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0. INTRODUCTION

0.1 Purpose of this document

It is envisaged that three versions of the Assessment and Evaluation Plan will be prepared in SUNRISE:

(1) **Draft plan**: Milestone 6 (MS6) which included the full part A and the annexes (see below) prepared by ENU and TUW; some of the information provided by the Neighbourhood Evaluation Managers; instructions to the neighbourhoods on what is expected from them in the detailed plan.

(2) **Final plan**: Deliverable 4.1a due by month 12 as per the original description of work. This plan outlines the general principles for the SUNRISE evaluation as far as they can be established without knowing which specific measures will eventually be implemented in each of the cities as a result of the co-creation processes.

(3) **Detailed plan**: Deliverable 4.1b. The neighbourhood mobility action plans are due in month 22. Only at this stage the nature of the measures that are to be implemented in each of the neighbourhoods as part of the SUNRISE project will be known. Only then will it be possible to establish how the impact of these measures can be evaluated and, therefore, which evaluation indicators will be used, which data will be needed to assess these indicators, and how this data can be gathered. The addition of the description of these indicators and the necessary data collection to the current general provisions will be the core of this detailed plan. The preparation of this document was not envisaged by the original Description of Work (DoW) because it was not fully anticipated how open the co-creation process would eventually be, but it will be included in the DoW as part of a contract amendment

This current document represents the Final (general) Plan and is intended to serve the following purposes:

• To provide a structure of the Assessment and Evaluation (A&E) plan and to outline the next steps which are required for the preparation of the Detailed A&E plan;

• To inform project partners and neighbourhoods on how evaluation within SUNRISE will be conducted and to clearly define their responsibilities;

• To inform the European Commission about the evaluation activities that will be carried out within the SUNRISE project.

0.2 Structure of the report and its sources

Part A of this report provides an overview of the (impact and process) evaluation process and defines the responsibilities for carrying out the activities included in it.

Part B consists of information about cities and neighbourhoods and existing data that might be useful for evaluation.

Part C outlines what is expected from the cities for the Detailed Evaluation Plan in month 22.

Both parts B and C focus solely on impact evaluation, since it is only this that needs more detailed advance planning in accordance with the individual measures implemented by each city, while the process evaluation will be led in detail by the way the measure planning and implementation and the co-creation processes overall are panning out, and only the general principles are defined at this stage through Part A of this report in conjunction with the two process evaluation templates.

In Part D the Measure Evaluation Results Template (which covers both the impact assessment and the process evaluation for each measure) and the template for the Co-Creation Evaluation Report (CCER) are enclosed, together with examples of indicators, templates for the initial data collection, some neighbourhood data sources, and people involved in the evaluation.

The following projects, and the outputs they have produced, have been considered for the preparation of this document: CIVITAS DYN@MO, CHALLENGE, CIVITAS CAPITAL and CIVITAS SATELLITE.

A. Evaluation in SUNRISE

A.1 The CIVITAS Initiative and Evaluation Framework

The CIVITAS Initiative was launched by the European Commission in 2002. Its fundamental aim is to support cities to introduce ambitious transport measures and policies towards sustainable urban mobility. The goal of CIVITAS is to achieve a significant shift in the modal split towards sustainable transport, an objective reached through encouraging both innovative technology and policy-based strategies. In the first phase of the Initiative (2002 to 2006), 19 cities participated in four research and demonstration projects; in CIVITAS II (2005 to 2009), 17 cities participated across a further four projects; in CIVITAS Plus (2008 to 2012), 25 cities were working together on five collaborative projects. In its fourth phase, CIVITAS Plus II (2012 to 2016), 8 cities worked together on two collaborative projects. The current phase, CIVITAS 2020 (2016 to 2020) encompasses 17 cities and 3 collaborative projects. Three research and innovation projects (ECCENTRIC, PORTIS and DESTINATIONS) also run under CIVITAS and focus on specific aspects of urban mobility. Research projects such as MUV, Cities4People and METAMORPHOSIS examine mobility issues within neighbourhoods.

The CIVITAS Initiative offers cities and their citizens benefits through the knowledge, experience and lessons learnt, disseminated and transferred among the stakeholder community. CIVITAS nurtures political commitment, new marketable solutions, and offers funding and knowledge exchange with a view to creating growth and better connected, more sustainable transport modes. CIVITAS offers practitioners opportunities to see innovative transport solutions being developed and deployed first-hand, and learn from peers and experts working in the field. The CIVITAS Forum Conference, which is held once a year in one of the network's cities, brings together politicians and technical experts and is a powerful tool for knowledge transfer and dissemination.

Ten thematic areas related to sustainable transport mobility are included in the CIVITAS Initiative: car-independent lifestyles; clean fuels and vehicles; collective passenger transport; demand

management strategies; integrated planning; mobility management; public involvement; safety and security; transport telematics, and urban freight logistics.

The CIVITAS evaluation framework includes two complementary aspects: impact evaluation and process evaluation. Impact evaluation is concerned with the impact of a measure or an integrated package of measures in the 6 CIVITAS impact categories, which are defined by the CIVITAS SATELLITE project as:

- People-society;
- People-governance (tbc);
- Transport system;
- Energy;
- Economy;
- Environment.

Impact evaluation is conducted to assess a measure's success in reaching its stated objectives. To this purpose, measurements 'before' and 'after' measure implementation are undertaken. The methods employed in gathering and analysing the data are mainly quantitative. Data are collected for a number of indicators, which are grouped in categories such as economy, society, transport and the environment.

Process evaluation seeks to provide a qualitative understanding of the way in which the measure planning and implementation process was conducted and how the co-creation process worked overall in the SUNRISE project. An analysis of the drivers and barriers for the success or failure of the measures and the participation process is an integral part of process evaluation.

A.2   The approach to evaluation in SUNRISE

A.2.1 Research questions and objectives of SUNRISE

The SUNRISE mission is to develop, implement, assess and facilitate co-learning about new, collaborative ways to address common urban mobility challenges at the urban district level through "neighbourhood mobility labs" and thus to lay the foundation for a Sustainable Neighbourhood Mobility Planning concept.

Its overarching research questions are:

- Which involvement techniques and tools reach and activate a true cross-section of the neighbourhood population?
- Which types of transport innovations at the neighbourhood and district level have the highest impacts and transformative potential?
- In what fields can neighbourhood measures successfully complement city-level actions in the sense of applied local subsidiarity?
- Which support by cities to their neighbourhoods (e.g. legal, financial and technical) is most effective at which phases of the innovation chain?
- What forms of governance are most effective to activate neighbourhoods as a resource to innovate and transform local transport-systems and cultures?

The activities specifically related to assessment, monitoring and evaluation will be overseen within WP4. The following objectives will be pursued in this Work Package:

- To develop new processes in which assessment and evaluation are not undertaken solely from the view of an outsider, but co-operatively between a designated Neighbourhood Evaluation Manager and the members of the neighbourhood.
- To assess which participation techniques and tools are most appropriate to reach and involve certain segments of the population.
- To evaluate the impact of the implemented measures on perceptions and attitudes of the population; on actual mobility patterns, on the local environment in terms of amenity value and use of public spaces, on accessibility, on CO_2 and other emissions from transport; any further indicators to be established locally at the beginning of the co-assessment process.
- To evaluate the costs for running the participation process and the measures' cost effectiveness as well as their transferability to other cities/neighbourhoods.
- To monitor and self-critically assess the effectiveness and representativeness of the co-identification, co-creation, co-implementation and co-assessment processes, in order to allow a permanent review and feedback service to the project and to allow continuous adjustments wherever necessary, and to draw conclusions on how all of these processes can best be applied to other neighbourhoods.

A.2.2 Work packages in SUNRISE and their relation to evaluation

The SUNRISE project will be delivered through seven work packages (WP). A short description of each WP is provided below.

WP1: Co-identification of problems & co-validation of needs

This WP will ensure that all SUNRISE action neighbourhoods lay a solid foundation for all following activities. This encompasses the establishment of strategic local alliances and the thorough participatory identification of problems, needs and opportunities in each SUNRISE action neighbourhood.

Issues resulting from the SWOT analysis for each action neighbourhood, including a description of the co-creation process, will be further considered and evaluated in WP4.

WP2: Co-development & co-selection of solutions

The aim of WP2 is to co-develop and co-select in a broad consensus the practical projects through which the mobility challenges and problems in the action neighbourhoods can be successfully addressed. The work on WP2 will result in the preparation of six Neighbourhood Mobility Action Plans which will then be implemented throughout WP3.

The neighbourhood action plans, which are due in month 22, are the basis for the development of the impact indicators to be analysed in WP4.

WP3: Co-implementation & co-creation of solutions, is the core of the project in the sense that all activities related to the actual implementation of innovative solutions in the six action neighbourhoods will take place under its umbrella.

WP4: Co-assessment & co-evaluation, the most research intensive WP. It is concerned on the one hand with the impact and process evaluation of individual measures implemented in the six participating cities and, on the other hand, focuses on the monitoring of the overall co-creation process. A 'comparative evaluation' will also be carried out wherever similar measures and co-creation activities have been implemented in more than one city.

WP5: Co-learning & Uptake

This WP will build on the work of WP4 and will create visibility for SUNRISE's neighbourhood-based activities.

WP6: Coordination and management, to ensure coherence of all project tasks and smooth collaboration between all project partners.

WP7: Ethics requirements, sets out the 'ethics requirements' that the project (and WP4 in particular) must comply with. Any ethical issues (relating to gender, discrimination and vulnerable groups) are outlined and discussed in section A.2.8.

The Figure below shows how the outputs in WP4 relate to deliverables in other Work Packages.

Input from other WPs
- D1.1 SWOT results and status quo [M12]
- D1.2 Mobility dossiers [M18]
- D2.4 Mobility action plans [M22]
- D7.1-4 Ethics clearance [M6]

→

WP4
- D4.1a Final Assessment and Evaluation Plan [M12]
- D4.1b Detailed Assessment and Evaluation Plan (M22)
- D4.2 Package of Final Assessment and Evaluation Reports [M48]
- D4.3 Final Project Assessment and Evaluation Report [M48]

→

Contribution to other WPs
- D5.7 Neighborhood Mobility Pathfinder [M48]

Figure 1: Correspondence between the outputs in WP4 and other SUNRISE deliverables

A.2.3 Elements of evaluation in SUNRISE

The evaluation process in SUNRISE includes on the one hand the impact and process evaluation of individual measures and, on the other hand, the monitoring of the co-creation process implemented in the six participating neighbourhoods.

The impact evaluation comprises two levels. The first one is the evaluation of the impact of each individual measure in each neighbourhood. A comparative evaluation or cross site comparison,

where similar mobility solutions or similar reorganisations of public spaces have been adopted in different neighbourhoods, is carried out during the second stage.

Process evaluation is an opportunity to critically reflect upon the planning process itself rather than focussing on the implementation outcome by establishing how this final outcome has come about.

The process evaluation of the measures concentrates on the specific activities and environment associated with each of the specific measures to be implemented. It therefore focuses on WP2 and WP3. The process evaluation of the co-creation process as a whole spans the total lifetime of the project and even puts that into the context of the previous planning practice in each neighbourhood. It therefore spans from WP1 to WP4 itself, where it also reflects on the question how well the co-creation principle worked in the evaluation process. Figure 2 illustrates this.
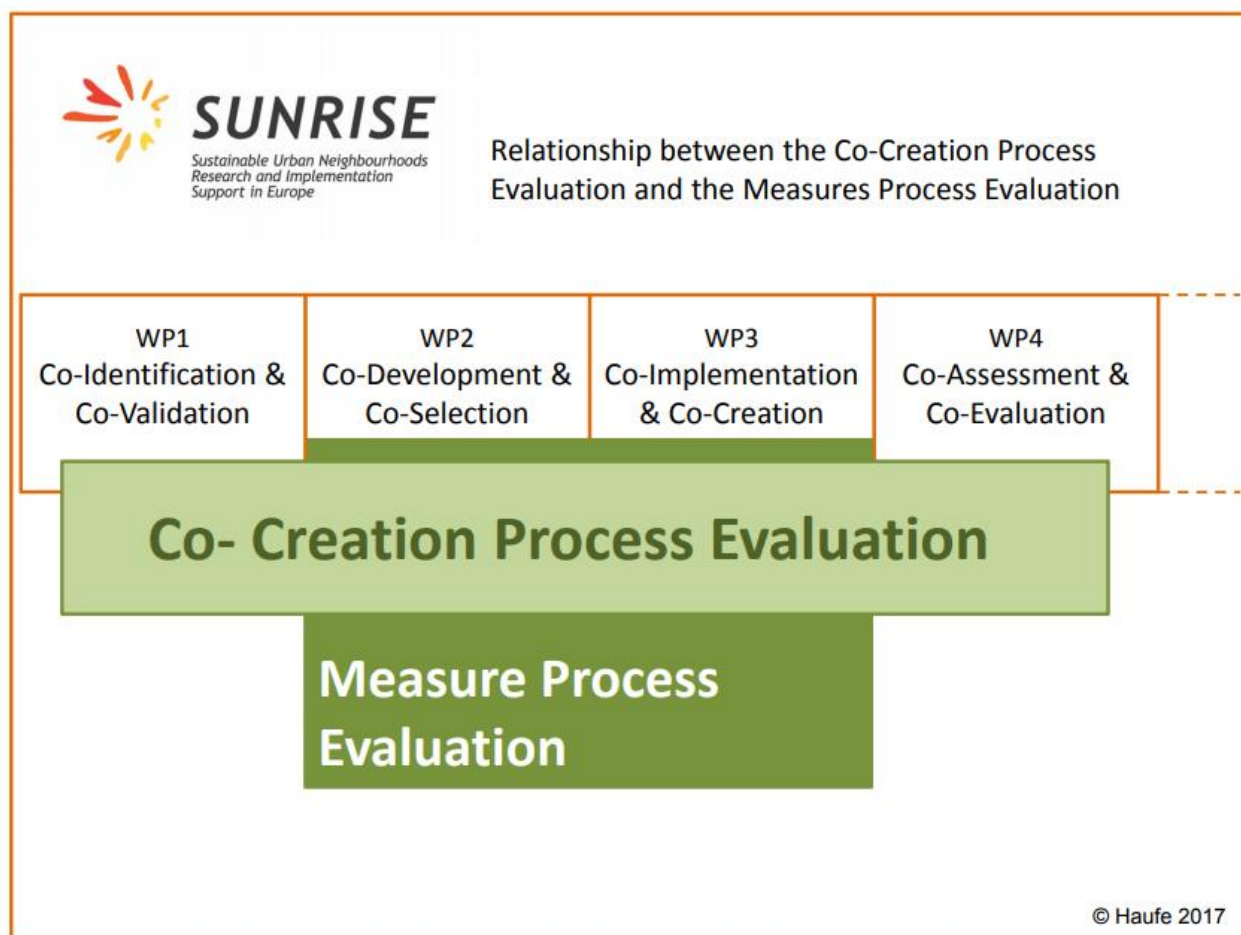
Figure 2: Relationship between the co-creation and the measure process evaluation

Both types of process evaluation centre around the identification of drivers and barriers in the development process and the assessment of their impacts on the success of the process. Tentative categories for the definition of these drivers and barriers are as follows (even though some of

these, such as problem related or technological, tend to be more relevant for the measure than for the co-creation process evaluation):

- Political / strategic,
- Institutional,
- Cultural,
- Problem related,
- Involvement,
- Communication,
- Positional,
- Planning,
- Organisational,
- Financial,
- Technological,
- Spatial.

The required information for both types of process evaluation can be gathered simply by talking to various stakeholders and, more generally speaking, any participant in the process, as well as simply by observing interactions between stakeholders during key meetings, noting any relevant correspondence, or following the local press. Suitable techniques for understanding what has been going on depend on the specific phase, stakeholder types and many other locally specific conditions, but may include for instance surveys/questionnaires, interviews and focus groups.

It is likely that different neighbourhoods will develop and implement largely different measures, and, hence, indicators, methods and plans will largely differ from neighbourhood to neighbourhood due to the differences in the measures applied. However, where there are similarities, every attempt will be made to achieve comparability of indicators in different neighbourhoods.

Parallel to the evaluation of the mobility solutions in each neighbourhood, an overall assessment of the co-creation approach adopted in SUNRISE will be carried out, in order to produce conclusions and recommendations how this approach can be embedded and mainstreamed in practice amongst cities and neighbourhoods across Europe.

A.2.4 Measure evaluation

A.2.4.1   Measure impact evaluation

Impact evaluation is an assessment or estimate of the impacts or effects of a measure (see section A.1 for impact categories) on the particular target groups (drivers, system operators, society, etc.) that are affected. Impact evaluation is based on a set of indicators which describe important characteristics of the situation and which can be quantified or estimated both before and after the implementation of the measure, so that appropriate comparisons can be made of any changes.

The selection of appropriate and relevant indicators is crucial to the success of impact evaluation. The chosen indicators must closely relate to the measure objectives so that an assessment can be

made about the degree to which the objectives have been achieved. Dziekan et al. (2013) point out that indicators need to have the following characteristics to fulfil the impact evaluation requirements:

- They must clearly reflect the performance or impact of the measure under evaluation;
- They must match the objectives of the measure; and
- They are capable of reliable assessment using the experimental tools and measurement methods which are employed in the evaluation.

Other attributes reflecting the quality of good impact indicators include:

- Relevance: chosen indicators are closely connected or appropriate to the neighbourhood goals
- Interpretability: the message carried by the data is evident
- Objectivity: data is unbiased and allows identifying positive and negative outcomes
- Independence: data measure something which is not measured by other indicators
- Internal transferability: the degree to which results can be generalised to other situations and to other people within the neighbourhood
- External transferability: degree to which the results can be transferred and/or applied to other neighbourhoods
- Reputability: the data source can be trusted
- Accuracy: data reflect the actual situation

Attributes reflecting the feasibility of good impact indicators include:

- Availability: data is available or easy to collect and handle
- Manageability: data can be easily managed and elaborated
- Efficiency: data can be collected using cost-effective methods
- Timeliness: the timeframe for collecting quality data is realistic and within the project boundaries
- Replicability: data can be collected in all concerned neighbourhoods

Please refer to Section D.2 in the Appendices ('Examples of indicators') for examples of indicators and other related information.

In SUNRISE, impact evaluation comprises two levels: the first one is the evaluation of the impact of each individual measure in each city, and the second is a comparative evaluation wherever similar measures have been implemented in more than one city.

The individual measure impact evaluation is based on 'before-and-after' comparisons. The "Before" (Baseline), "Business-as-Usual" and "After" scenarios are explained in more detail in section A.2.4.1.2.

The second level of the evaluation is the cross site comparison, wherever similar mobility solutions or similar reorganisations of public spaces have been adopted in different cities. Wherever possible, common indicators will be identified for the cases that will allow such a comparison, which will be carried out by the PEM. The results of this analysis will feed into the Final Project Assessment and Evaluation Report across all neighbourhoods (D4.3).

A.2.4.1.1   Steps in impact evaluation

Impact evaluation consists of the following activities (responsibilities and task numbers are shown in brackets):

1. Agree on measures for impact (and of course also process) evaluation (PEM, PPEM, NEM, CCF, NML; Task 4.1);
2. Identify common indicators, which will allow comparisons between those cases where similar mobility solutions or similar reorganisations of public spaces have been adopted in different neighbourhoods (PEM, NEM; Task 4.1);
3. Produce evaluation plans containing detailed measure description, agreed list of indicators to assess and a plan how to perform measurements (PEM, PPEM, NEM; Task 4.1).

Steps 1-3 will lead to the preparation of the Detailed Assessment and Evaluation Plan D4.1b.

4. Provide guidance on using indicators, measurements, scenarios, up-scaling, and analysis etc. (PEM to NEM), including in a brief and user-friendly format that is easy to translate into local languages for use by the NEMs (Task 4.1).

Step 4 is an interim step that does not lead directly to a deliverable.

5. Collect data for impact evaluations (NEM, PEM support; Tasks 4.2-5);
6. Perform impact evaluation (NEM, PEM support; Task 4.4);
7. Conduct additional analyses e.g. cost-benefit analysis (CBA) for key measures (NEM, PEM support; Task 4.5);
8. Draw conclusions at city level (NEM, PEM support; Task 4.6).

Steps 5-8 lead to the production of the package of Final Assessment and Evaluation Reports in the form of the collection of MERS for all measures and all cities D4.2.

9. Draw conclusions at project level, and on measures and combination of measures (PEM; Task 4.6);
10. Assess the transferability of all the measures to other cities (PEM; Validation Workshops; Task 4.6);

These last steps 9-10 will be reported in the Final Assessment and Evaluation Report D4.3.

A.2.4.1.2   Scenarios

Acknowledgement: The material in this section is based on a report entitled "Optimised CIVITAS process and impact evaluation framework" produced in 2016 by Dirk Engels and Gitte Van Den Bergh as part of the CIVITAS SATELLITE project.

The Figure below illustrates the different scenarios which are employed in impact evaluation. Each of these scenarios is explained in turn in this section.
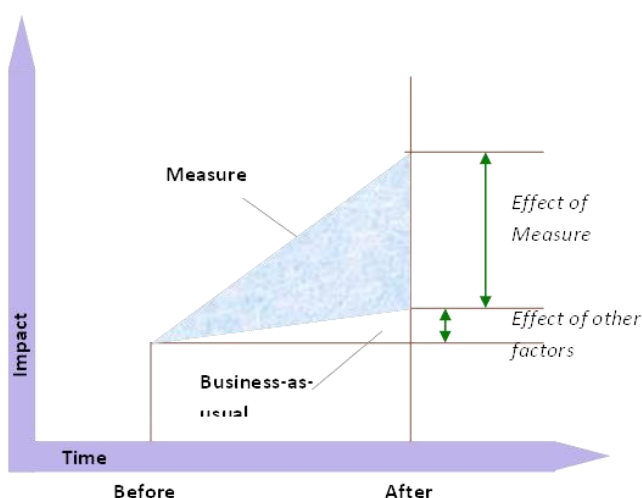
Figure 1: Before (Baseline), Business-as-Usual and After scenarios

"Before" scenario (aka Baseline survey)

Baseline surveys are necessary to enable the evaluation of subsequent changes resulting from CIVITAS measures and will be carried out *prior* to the introduction of CIVITAS measures. The baseline measurements will be of sufficient scale to enable expected changes to be judged statistically where this is appropriate and possible. All measure-related indicators that may change will be encompassed.

"Business as Usual scenario" (BaU)

The business-as-usual scenario is used to predict what would have happened at the end of the project, if the CIVITAS measures had not been introduced. 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.

Therefore, another objective of the baseline survey is to collect data necessary for the predictions of the business-as-usual scenarios for those indicators where such an estimate is possible. Often this will not be the case, since no relevant general trends can be identified or no data had been collected in the past that would allow identifying these trends now. However, where it is possible, the data collection will cover a long enough period to provide the inputs necessary for such predictions and may even make use of data that goes back before the SUNRISE start date.

Possible ways to estimate the 'business-as-usual' situation include forecasting from historical data, modelling (where appropriate local models are available) or monitoring a parallel 'control' site with the same characteristics without applying the project measures to it. In transport projects, this latter solution can be very expensive and not always very precise or appropriate if it refers to very specific circumstances, but in many cases city-wide, regional or national trends are the best predictor, as for instance for the take-up of electric cars.

"After" scenario (aka ex-post situation)

The 'after' or ex-post situation provides a final set of measurements for evaluation which can be compared with the Baseline measurements and the BaU scenario to assess the effectiveness of the measures implemented. With the measures being active, it is possible for many impacts to be measured directly in real transport conditions. However, such measurements have to be statistically sound to ensure the high quality of the evaluations.

A project can also decide to organise a so-called 'after-only survey' with questions on current behaviour, but also change and the motivation for change.

A.2.4.1.3   *Research methodologies*

Both primary and secondary data will be collected within SUNRISE, using quantitative and qualitative research methods.

Data may be collected on the following:

- The general situation of the neighbourhoods in terms of economic vibrancy, quality of the environment (air pollution, noise levels), and social life (e.g. age profile and income distribution);
- Transport demand and supply, especially in terms of active modes and shared-mobility, and including levels of congestion both on the road as well as in public transport;
- Perceptions and the attitudes of citizens, stakeholders and institutions regarding the neighbourhood and its mobility;
- Actual travel behaviours, with particular regard to the current modal split;
- The scope and effectiveness of the co-creation processes already in place within the neighbourhood (as far as applicable) and of the subsidiarity mechanisms regulating the relations between the neighbourhood and higher-level authorities such as the city, transport agencies etc.;
- Special emphasis will be placed in all six cities on establishing the current use of public spaces, including in particular short- and long-term parking behaviour.

Behaviours and attitudes will be studied within the framework of the trans-theoretical model of behaviour change, which considers the different temporal stages of change (pre-contemplation, contemplation, preparation, action, maintenance, termination) and the possibility of relapse, i.e. of regressing from a more to a less advanced stage of change.

An important method to understand changes is the organisation of before and after end-user questionnaires asking persons to report on their travel behaviour and explain their attitudes and reasons for change or no change. Such a survey can be organised on neighbourhood level or on the level of the envisaged target groups taking into account statistical requirements.

Alternatively a transport panel can be installed. A transport panel consists of a set of people (the larger, the better) in a neighbourhood that use the transport system and are contacted a number of times during the different phases of the project to take part in a survey. The benefits of a transport panel are that the shifting opinions based on observed effects of a measure are well recorded. This is more accurate than surveying different people each time.

Data collection methods during the first months of the project should be as easy and straightforward as possible in order to minimise delays in getting an accurate picture of behaviours and attitudes before they are changing; not only directly through the measures implemented later in the project, but already indirectly through the thought processes set into motion in the co-identification (WP1) and co-development (WP2) processes. In the second phase of the Baseline data collection, more sophisticated approaches can be deployed. Where available and applicable, models will be used to derive estimates in changes of congestion as well as CO_2, NOx and particulate emissions.

Data collection methods to be adopted may include (but are not limited to):

- Traffic counts for all modes of transport, wherever possible with automatic means (e.g. data from traffic signals) to provide continuous data and to minimise efforts and costs, but augmented by manual counts to fill in relevant gaps;
- Internet-based questionnaires to establish public views and perceptions;
- Structured, semi-structured as well as open in-depth and key informant interviews;
- Focus groups;
- On-line discussion forums based on WordPress;
- Life blogging, where participants wear cameras and GPS devices to capture their experience of their travel experience in real time;
- Following a "lead user concept", involving citizens also as test users of new mobility services or systems ("SUNRISE Ambassadors"), who will voluntarily contribute to evaluation and quality improvement, supported by mobile communication devices;
- Data from volunteer individuals, in the form of electronic diaries;
- Goal attainment scales: a method to compare results from different contexts (http://tinyurl.com/htd8vzn);
- Hierarchical card sorting to elicit opinions regarding participants' context (http://tinyurl.com/jdxpupr);
- Sketch mapping to "create a visual representation ('map') of a geographically based or defined issue drawn from the interpretation of a group or different groups of stakeholders" (http://tinyurl.com/gwqmluo).

For each measure, the Project Evaluation Manager (PEM) and the Process Evaluation Manager (PPEM) will work in close collaboration with the Neighbourhood Evaluation Manager (NEM) in each city to develop in detail the research methodology for gathering impact data related to the chosen indicators for that measure. The general principles of the process of data collection, requirements, expectations and responsibilities are detailed in the city-specific section (Part B) of this report. Since the specific measures will only be identified at a later stage, methodologies for specific measures will be provided in the Detailed Evaluation Plan in month 22.

A.2.4.1.4   Measures selected for Cost Benefit Analysis

A number of measures will be selected for Cost Benefit Analysis (CBA) to express their impacts in money terms. This selection will be based on the feasibility of such an analysis for each measure, as well as the relative importance of the measures, and will be carried out following a discussion between the Project Evaluation Manager and the local evaluation team. The results will be reported as part of the impact evaluation.

As its name would suggest, CBA can be explained as a procedure for estimating all costs involved (such as investment costs, operating costs and the external costs of transport) and possible benefits to be derived from a given measure.

A user-friendly tool for conducting CBA developed within the CIVITAS DYN@MO project (available at http://www.eltis.org/resources/tools/civitas-dynmo-cost-benefit-analysis-tool) will be adapted to the needs of SUNRISE. This tool is spreadsheet-based and requires very little data about the measure to carry out a simple CBA. It takes into account many different benefits including time, operating cost and changes in air quality and noise. It uses monetised values of these benefits taken from Swedish and UK sources but adapted to take into account differences in purchasing power in different DYN@MO countries. However, if expert users have local values, they can include these in the spreadsheet if they wish.

Where the measure does not lend itself to a CBA, at least a cost-effectiveness analysis will be attempted. Cost-effectiveness analysis (CEA) is a form of economic analysis that compares the relative costs and outcomes (effects) of different courses of action. Cost-effectiveness analysis, unlike cost–benefit analysis, does not assign a monetary value to the measure impact.

A.2.4.1.5 Transferability

One core element for establishing transferability and deriving project wide conclusions and recommendations is the evaluation of the added value and the exploitation potential of the mobility solutions. This will be carried out with the help of a Validation Workshop towards the end of the project. The evaluation of the exploitation potential of core results/products and services will be done on the basis of the criteria suggested by the FP7 CIVITAS Exploitation Task Force (the innovation itself; characteristics of potential users and beneficiaries; measure cost-effectiveness and other important "proof points" such as environmental benefits; lessons learnt with regards to technical, financial, organisational issues; requirements and recommendations for upscaling/ transfer). The PEM will be in charge of preparing the documents referring to the above listed criteria that will serve as input for the SUNRISE Validation Workshop.

Parallel to the evaluation of the mobility solutions is the comparative overall assessment of the co-creation approach adopted in SUNRISE and the derivation of conclusions and recommendations how this approach can be embedded and mainstreamed in practice amongst cities and neighbourhoods across Europe.

In addition, a guidance document on advantages and pitfalls of the co-evaluation process will be produced to assist other neighbourhoods to set up their own evaluation procedures.

The Final Evaluation Report will be integrated in the Neighbourhood Mobility Pathfinder (D5.7), to guide future users in the identification of the solutions best suited to their problems.

A.2.4.1.6 How is measure impact evaluation reported?

The reporting of the SUNRISE impact evaluation is an ongoing exercise. The first draft version of the MERS will be available by the end of month 24 and will include the general inputs about the nature and circumstances of each measure in sections A and B. In month 36 most of the 'Before'

measurements should, and possibly the first of the 'After' measurements, be available and these should be reported in the updated draft of the MERS. The final impact assessment will be the full part C of the MERS, which constitute D4.2, the Assessment and Evaluation Reports, at city level. Conclusions across all neighbourhoods will be reported in the Final Project Assessment and Evaluation Report D4.3.

A.2.4.2 Measure process evaluation

A.2.4.2.1   What is process evaluation?

Acknowledgement: The material in this section is partially based on a report entitled "Monitoring and evaluation. Assessing the impact of measures and evaluating mobility planning processes" produced in 2016 by Astrid Gühnemann as part of the CH4LLENGE project.

Process evaluation is a systematic reflection to understand the way in which the planning and implementation process was conducted. It should be understood as an opportunity to reflect upon the planning process itself critically during and after the implementation phase.

A systematic reflection is important as the quality and success of a planning process also depends on the details of the process. Therefore, process evaluation is meant as an inherently constructive activity with the "ultimate aim […] to get insight in the 'stories behind the figures' and to learn from them" (Dziekan et al., 2013).

Therefore, the monitoring and evaluation activities of every planning process should always include a dedicated "process evaluation". For the planning authority it is important to know which challenges and informal patterns were at play "behind the scenes", why certain unanticipated consequences emerged, but also which positive factors were utilised and how problems have been overcome. In addition, the process evaluation offers to the stakeholders and the public the possibility to provide their feedback about the planning process and their involvement in a systematic manner and to receive information about the quality of the process they have participated in.

The process evaluation opens the black box of the system/ process and looks inside to understand the cogs, chains and gears that are at work. Therefore, process evaluation should provide answers to questions such as:

- How did it go about?
- What went well / wrong and why?
- Who did or should have done what?
- How is the process perceived by key stakeholders?

This can help to detect the reasons for "delays, changes, failures but also success of the measure […] [and] to avoid making the same mistakes again" (Dziekan et al., 2013).

In the case of SUNRISE, there are two aspects to the process evaluation:

1. The evaluation of the processes directly related to the planning and implementation of a specific measure as is standard practice in CIVITAS projects (section A.2.4.2).

2. The evaluation of the overall co-creation process is a particular characteristic of the SUNRISE project. This type of process evaluation is covered in section A.2.5.

The process evaluation is performed by the cities. The Neighbourhood Evaluation Manager (NEM), with input from the CCF and Neighbourhood Mobility Lab (NML), oversees the process in each city and performs the process evaluation. The NEM will closely observe and record progress, and analyse the drivers and barriers for the processes. The Process Evaluation Manager (PPEM) and the Project Evaluation Manager (PEM) provide support to the NEM. The responsibilities of each of these roles are defined in section A.2.6.

A.2.4.2.2 *How is measure process evaluation carried out and reported?*

Section D of the MERS template provides a structure for the analysis of the processes involved in developing and implementing any measure. At the core of this analysis is the investigation of the drivers and barriers for each of the following stages of the implementation:

- Detailed design stage,
- Implementation stage, and
- Operational stage.

There is of course also a Conception stage, i.e. the very first stage, when the rough idea for the measure would be outlined. However, in the case of SUNRISE, this is covered in WP1, and is a stage before concrete measures are being identified, but rather a general concept for the neighbourhood is being developed. Therefore this stage is covered not by the MERS, but by the CCER – see section A.2.5.

The analysis will be based on the purely factual reporting of the steps that have been involved in the process in section B.4 of the MERS template.

The evaluation itself and the reporting of the SUNRISE process evaluation are both part of an ongoing exercise. This involves for each of the cities asking all stakeholders how they perceive progress, barriers and drivers. Any discrepancies between their and the NEM's perception as well as the common findings will be discussed at the next CCF/NML meeting to establish whether any corrective actions are necessary. The Neighbourhood Learning Retreat (NLRs, see Tasks 1.6, 2.2 and 3.9 in the DoW) will form an additional element of SUNRISE's process evaluation approach, because these events will explicitly focus on critical self-reflection for the purpose of improvement and the sharing of lessons learned. The meeting format for these concrete, relatively small but intensive face-to-face events is flexible. The first interim results of the measure process evaluation are to be obtained by the end of month 34 for section C of the draft MERS. The final measure process assessment will be an important section of the MERS, which constitute D4.2, the Assessment and Evaluation Reports, at city level. Conclusions across all neighbourhoods will be reported in the Final Project Assessment and Evaluation Report D4.3.

A.2.5 Evaluation of the co-creation process

The co-creation process evaluation is performed by the cities in the same way as the process evaluation for the measures, i.e. in cooperation between the Neighbourhood Evaluation Manager (NEM), the Co-creation Forum (CCF) and the Neighbourhood Mobility Lab (NML).

One key difference to the measure process evaluation is that the structure of the stages involved is different: while for the measure process evaluation the three stages are planning, implementation and operation, the structure for the co-creation process evaluation follows the structure of the SUNRISE work packages:

- co-identification and co-validation,
- co-development and co- selection,
- co-implementation,
- co-assessment and co-evaluation.

As already mentioned in section A.2.4.2, together with a thorough analysis of the measure accomplishments of SUNRISE, the evaluation shall identify and analyse the drivers and barriers that may occur during the co-creation process. The driver and barrier analysis will allow evaluating the resilience of co-creation approaches against errors and unexpected adverse events.

The NEM performs an ongoing process documentation. The first interim results of the process documentation are to be obtained by the end of month 18 and 34 for section B to D of the draft CCER in milestones M11 and M12 respectively. At the end of the project, each NEM will document the observations made, and lessons learnt, over the four years in the final version of the CCER.

In SUNRISE, the monitoring of the co-creation processes will be done from the outside as well as from the inside of the CCF and NML. For the monitoring of the co-creation process outside of the CCF and NML, interviews will be conducted on the process progress with the WP leaders after the end of the corresponding work package. For the monitoring of the co-creation process inside the CCF and NML, a survey (provided in English language by PPEM, translation by local partners possible) will be made by the end of months 17 and 42 for each of the cities. In the survey, all stakeholders involved in the core group will be asked how they perceive progress, barriers and drivers. Any discrepancies between their and the NEM's perception as well as the common findings will be discussed at the next CCF meeting. Furthermore, for each city reflection and learning interviews (month 42) will be conducted on the process progress, barriers and drivers with the responsible member of the SUNRISE city partners.

The reporting of the SUNRISE co-creation process evaluation is an ongoing exercise as are all SUNRISE evaluation exercises. As already mentioned, the first interim results of the co-creation process evaluation are to be obtained by the end of months 18 and 34 in the first drafts of the CCERs for milestones M11 and M12 respectively. The final co-creation process assessment, i.e. the final CCERs, will be a specific section of the Assessment and Evaluation Reports D4.2 at city level. Conclusions across all neighbourhoods will be reported in the Final Project Assessment and Evaluation Report D4.3.

A.2.6 Roles and responsibilities

Project Evaluation Manager (PEM)

The Project Evaluation Manager (PEM), ENU, is responsible for coordinating and facilitating the overall evaluation process, with particular responsibility for impact evaluation, setting its principles and assisting the NEMs in designing and carrying out monitoring and assessment. The PEM will also coordinate the work on the deliverables within WP4, ensuring the highest level of scientific standards.

Project Process Evaluation Manager (PPEM)

The Project Process Evaluation Manager (PPEM), TUW, in cooperation with the PEM, is in charge of the overall process evaluation process, setting its principles and assisting the NEMs in designing and carrying out the monitoring and assessment of the co-creation process as well as observing the actual operation of the measure process in relation to possible problems arising.

Neighbourhood Evaluation Manager (NEM)

These are the organisations and individuals who will run the evaluation processes in the six neighbourhoods. They will cooperate with their respective Co-creation Forums to develop the local evaluation plan, they will oversee the local data collection, analyse the "Before" and "After" data of their own site, feed these results into CCF discussions and write relevant reports. The NEM will oversee the co-monitoring and co-evaluation activities of the CCFs and Neighbourhood Mobility Labs (NML) in consultation with the PEM. The PEM and PPEM will provide appropriate guidelines and assistance.

Co-creation Forum (CCF) and Neighbourhood Mobility Lab (NML)

The Co-Creation Forum (CCF) is a forum open to every resident and stakeholder of a neighbourhood. It is a 'market place' or platform where everyone can express their views, visions, ideas and concerns related to the current and future mobility situation within a neighbourhood. Conversations within the CCF are typically held in the local language. The CCF 'comes to life' through regular events, mainly face-to-face meetings but also through online / virtual exchanges. Each CCF is a sub-section of the local NML, with the NML functioning as the umbrella for all neighbourhood activities in SUNRISE: a CCF for the co-validation & co-identification phase, a CCF for the co-development & co-selection phase, a CCF for the co-implementation & co-creation phase. The distinction of CCF and NML stems from the fact that mobility labs refer not only to a specific organisational structure, but to a bundle of activities which are co-designed in the lab and co-implemented by the lab organisation in the form of CCFs.

A Mobility Lab is a form of a Living Lab which focuses on impacting the existing mobility behaviour of people/social groups in a particular way. To reduce the negative outputs of traffic, SUNRISE aims to support sustainable forms of mobility encouraging less use of private cars in favour of public transport and/or active forms of mobility (walking, cycling), and use of post-fossil motorising. The aim is to use different mobility modes either in general (multi-modality) or within one trip (inter-modality). A separate deliverable D2.2 "Handbook on Mobility Labs in Practice" contains detailed definitions, the functions and the purpose of mobility labs in SUNRISE (for more detailed information on this matter please see D2.2 Handbook for Mobility Labs in Practice).

Take-up cities

A group of take-up cities will also be involved in the evaluation process. They will be presented with a summative evaluation of the results achieved by SUNRISE and will be given the opportunity to provide feedback that will be taken into account in the final assessment and evaluation.

A.2.7 Timetable

Activity	Date	Responsible partners
Agree on measures for impact and process evaluation (Task 4.1)	M22	PEM, PPEM, NEM, CCF, NML
Produce evaluation plans containing detailed measure description, agreed list of indicators to assess and a plan how to perform measurements (Task 4.1)	M22	PEM, PPEM, NEM
Provide guidance on using indicators, measurements, scenarios, up-scaling, and analysis etc. (PEM to NEM), including in a brief and user-friendly format that is easy to translate into local languages for use by the NEMs (Task 4.1)	• M6 (Draft A&E Plan) • M12 (Final A&E Plan) • M22 (Detailed A&E Plan)	NEM, PEM support
Interim results of the process evaluation to be obtained	• M18 (Milestone 11) and M34 (Milestone 12)	PPEM
Collect data for impact evaluations (Tasks 4.2-5)	• M2 – M45 (Secondary data collection) • M22 – M30 (Primary Before data collection) • M36 – M45 (After data collection)	NEM, PEM support
Perform impact evaluation (Task 4.4)	M36 – M46	NEM, PEM support

Conduct additional analyses e.g. cost-benefit analysis (CBA) for key measures (Task 4.5)	M42 – M46	NEM, PEM support
Draw conclusions at city level (Task 4.6)	M42 – M46	NEM, PEM support
Final process assessment	M42 - M45	PPEM
Draw conclusions at project level, and on measures and combination of measures (Task 4.6)	M46 - M48	PEM
Produce final version of MERS (Task 4.6)	M48	NEM, PEM support
D4.2: Package of Final Assessment and Evaluation Reports (six neighbourhoods)	M48	NEM, PEM, PPEM
D4.3: Final Project Assessment and Evaluation Report (across all neighbourhoods)	M48	PEM, PPEM

A.2.8 Ethical issues (gender, discrimination, vulnerable groups)

Any ethical issues (relating to gender, discrimination and vulnerable groups) are outlined and discussed in D7.1-4.

B.   Evaluation Plan for each Neighbourhood

B.1A Lindängen (Malmö)

B.1A.1   Introduction to the neighbourhood and the city

Lindängen is home to a young and international population who faces severe socio-economic challenges. 34% of its residents are below the age of 24 compared to 29% in the whole of Malmö.

Other characteristics describing Lindängen are an employment rate, per capita income and school results all below the average of the whole of Malmö. Notably, 61% of the local residents indicated that they did not feel safe in their own neighbourhood in 2011, compared to 34% in the rest of Malmö. A high crime rate and open drug dealing contributed to this public perception. A fragmented ownership of the estate has in the past presented a complex situation for municipal initiatives. Without the consent and interest of private real estate managers, public administration has little power to improve the local environment. This situation has left the local population disillusioned with municipal politics. Lindängen has attracted hardly any infrastructure investments since its establishment in the late 1970s. It was not before 2010 that new plans for apartment buildings, schools and preschools have been made.

Co-creation in Lindängen

The municipal district development program 2010-15 was the first initiative to provide a long-term planning horizon for cross-sectorial cooperation in Lindängen. It put Lindängen's population into the focal point and emphasized that any changes are made possible together with rather than for its residents. The objective to "establish a safe and attractive environment for young people as well as more job opportunities" was derived from a comprehensive dialogue process. Many of the program's ideas resulted in activities that continue beyond the program period. Allaktivitetshuset and Framtidenshus are two prominent examples of living labs which have evolved with a particular focus on improving education and employment. Allaktivitetshuset, located at Lindängen's school, provides children and parents a place after school where free time activities are organised according to its users' needs and wishes. Framtidenshus presents a collection of different public services, among them the local district administration, Swedish Red Cross and the unemployment agency with the purpose to help long-time unemployed and refugees with their step into the Swedish job market. Framtidenshus is also a first departure point for projects regarding Lindängen's further development. It connects actors and facilitates project implementation.

Lessons from the district development program will be harvested and institutionalised in 2017. The district-level administration has proposed a new model to ensure a united governance and coordination of investments to the neighbourhood. The model is called "Case Lindängen" and is supported by the European Regional Development Fund. It gathers social and physical investments in a portfolio of programs. It presents a pilot project on how to improve cross-sectorial cooperation in a specific area, expand its planning horizon and increase transparency. A total of twelve departments have already joined forces with public and social actors with the objective to build new homes, re-design public spaces, improve day-care centres and education, develop new jobs, meaningful leisure activities, cultural meeting points and to improve public health. SUNRISE will allow Malmö to add an explicit mobility focus to it.

Upcoming physical changes:

- Detailed development plan: The implementation of the detailed development plan for Lindängen is going to set into motion in November 2017. Notably, the local centre was excluded from the detailed development plan, because the buildings and estate is still owned by a private, Danish investor. Negotiations ongoing.

- New bicycle path along the southern part of Munkhättegatan: planned for 2017/18.
- The city-wide bike-sharing system will be extended with 50 more stations radially leading to the outskirts of town. Lindängen is discussed among one of the destinations.
- Two existing bus lines (line 2 and 8) leading to Lindängen will be transformed into a Bus Rapid Transit system and electrified. The project anticipates three phases: 1) by October 2017 a new terminal design will be developed, and existing bus stations will be reconstructed in 2018, 2) 2022-24: rebuilding of the area surrounding the new station, 3) by 2028 both bus lines will be electrified.

Neighbourhood mobility problems

Lindängen is representative for the Swedish building style of the 1960s-70s. During a time when housing was scarce, the national government encouraged the construction of one million new apartments with a clear separation of transport modes. Up until now, parking is reserved in underground garages and outside the neighbourhood. Inside, bike lanes and pedestrian paths connect residential areas with its central amenities, shops and services. What from the outset sounds like an ideal environment for children to play, is not used as intended. In the absence of an adequate system to direct public and private services (e.g. deliveries, garbage trucks) heavy vehicles regularly occupy pedestrian and bicycle lanes. Moreover, many places are perceived as uninviting and unsafe. Residents do not feel represented by their local centre. Consequently, people take detours to avoid certain locations.

What is needed for residents to spend more time in the local centre and to pick up cycling again? How to foster a sense of ownership for these places' maintenance in the long run? These questions are at the heart of Lindängen's mobility challenge, where public spaces are rare and occupied by not always legitimate businesses, e.g. open drug dealing. In response to public requests, Malmö's Urban Planning Department has forwarded a proposal to redesign Lindängen's local centre. SUNRISE will inform this rebuilding process by testing different functions of public spaces together with residents, local real-estate managers and businesses. Having the neighbourhood's demographics in mind, special attention will be given to children's play, active travel modes and traffic safety. Micro-freight-terminals have a potential to relieve the neighbourhood from heavy goods traffic. Moreover, in order to develop a concept for coordinated dialogue and mobility management measures, the city will evaluate existing communication flows and improve dialogue channels (e.g. customer service) accordingly.

One of the first questions to address in the forthcoming analysis is, why do people move the way they do and what do citizens perceive to be key measures to make them travel in a more sustainable way within, from and to the neighbourhood?

B.1A.2   *Sources of existing data for evaluation*

Sources of data for evaluation can be classified into three main topics, these are mobility, insecurity and co-creativity:

Mobility

- MUNICIPAL TRAVEL SURVEY: Every 5th year, the Streets and parks department issues a travel survey with the objective to measure the city's modal split. Since 2013, the survey differentiates the city in 15 sub areas. The survey includes information on car-ownership, driver licence and a travel diary. 11,000 citizens received the survey via post. New for 2018 will be a complementation with a travel app that allows citizens to share their travel information via smartphone (Trivector's travelvu).

Table 1: Fosie's anticipated modal share for 2030 and its actual numbers from 2013 in brackets

Sub area	🚗	🚌🚊	🚲	🚶
7 Fosie	**30%** (49%)	**35%** (24%)	**25%** (18%)	**10%** (6%)

- ACCESSIBILITY INDEX: The index can function as support for decisions in planning and in weighing different investments and actions. It also allows comparisons between different areas and population groups. It can constitute support for follow-up of how accessibility in the transport system develops over time and thus be one of several indicators of how well SUMP goals are reached. The following eight criteria for sustainable accessibility are included in the index: 1) travel time by walking to 10 destinations, 2) travel time by cycling to 10 destinations, 3) travel time ration bicycle/car to 10 destinations, 4) travel time ration public transport/car to city centre, nearest commercial area/shopping mall, and nearest public transport mode, 5) distance to nearest bus stop (with good headway), 6) distance to nearest major public transport node, 7) distance to nearest car sharing facility, 8) range of travel opportunities, i.e. access to several sustainable transport modes with good accessibility (freedom of choice). According to this index, half of Malmö's 15 sub-areas have acceptable accessibility or better. 59 percent of the population live in these areas. Fosie and Lindängen are located in one area with poor accessibility.
- TRAFFIC COUNTS: The Streets and parks department also collects data from several locations every year.

Data that needs to be collected: We want to improve our means and frequency of data collection. Room for improvement exists regarding pedestrian and cycling data generation. Do other cities generate real time data, how?

Insecurity

- MALMÖ AREA SURVEY (Malmö områdesundersökning MOMS): In 2015 the city of Malmö, the police as well as Malmö University's institute of criminology jointly formulated a survey focusing on security. The survey differentiates between insecurity, fear of exposure to crime within one's own neighbourhood and actual exposure to crime. The survey was sent out to 7,855 recipients between the age of 18 and 85 and had a response rate of 40 percent. 65 percent answered that they feel safe when going out alone in the evening. 15 percent do not feel safe and 20 percent do not go out alone during the evening at all. Men feel safer (76 percent) than women (55 percent). Southern Malmö, including Lindängen, was identified to be

a clear outlier with 49 percent of the population not feeling safe alone in the evening. More information can be found in Swedish under http://malmo.se/Kommun--politik/Sa-arbetar-vi-med.../Trygghetsfragor-i-Malmo/Sarskilda-utmaningar/Brotts--och-drogforebyggande-arbete/Malmo-omradesundersokning-MOMS/Resultat-av-MOMS.html

- NATIONAL POLICE ASSESSMENT ON PARTICULARLY VULNERABLE AREAS (polisens nationella lägesbild om utvecklingen i utsatta områden/ BRÅ): The report presents an in-depth study on the development of particularly vulnerable areas in Sweden as well as the sources of increasing vulnerability. Its objective is to build a foundation for the police's prioritisation of resources where they are most needed. Moreover, it aims to illustrate the situation in all clarity to other administrations. Totally, the assessment includes 61 areas, 23 of which are classified as particularly vulnerable. Lindängen as well as its surrounding areas Nydala and Hermodsdal have been listed for the first time in 2017.

- HABITABILITY INDEX: This index aims to measure the attractiveness of a certain place in town. The index includes ergonomic (use of public space for pedestrians, degree of accessibility to disabled people, a measure between the street's width and building height), psychological (diversity of activities, attractivity of activities, degree of greenery), physiological (noise level, air quality, hours of direct sun light), distance related (proximity to sustainable mean of travel, proximity to places of daily needs like grocery stores and pharmacies, proximity to public institutions like schools, administrations) and Malmö specific parameter (elements that make people want to stay longer, security). Data for Lindängen and Fosie is available in GIS.

Data that needs to be collected: The available data needs to be complemented with Lindängen specific information on places and routes that are perceived as particularly unsecure, e.g. pedestrian and cyclist tunnels, street crossings, the local centre, bicycle path through the park. What groups of society feel most exposed and are there any notable differences between different time of day or night? Qualitative information will be gathered continuously along the lines of reoccurring dialogue sessions in the neighbourhood.

Co-creativity

- NEIGHBOURHOOD SURVEY (Närområdesundersökning): The surveys objective is to assess how satisfied citizens in different parts of Malmö are with their neighbourhood. At the same time, the survey presents an assessment of how well maintenance works across the city and a way to understand what needs to be improved in order to reach a higher degree of satisfaction. In 2016, 2,829 telephone interviews were conducted. Target group were citizens older than 16. A clear majority, 7 out of 10, responded that Malmö is an attractive city to live in. Young people and women were more positive than other groups. This position is not dependent on children or household income. Fosie is an outlier in several aspects. People living in Fosie are least satisfied with their public environment, perceive their own neighbourhood as least attractive to live in and are least positive towards the changes that their neighbourhood had undergone. Only 23 percent of respondents felt that they have a possibility to influence the design and function of public spaces in Malmö. This indicates a negative trend in comparison

to 2014. Notably, the number of people that actually have made contact with the city's politicians and administration in order to highlight their point of view was constant during this period. Young people feel to a higher degree that they have a chance to change Malmö's public spaces than other groups.

- KUNDSERVICE: The Streets and parks department uses an online and telephone tool that allows citizens to report malfunctions in the city's physical environment as well as to pose questions and to make concrete proposals for improvement. Reports include everything from maintenance oriented to policy prioritisation and planning questions. The department receives approximately 37,000 reports every year. Most of them refer to a concrete place in town. Background variables controlled for are age and gender of the reporter. We know that reports are not equally distributed across age groups and neighbourhoods. 34 percent of all reporters are between 35 and 44 years old. Children and young adults below the age of 24 are underrepresented in existing statistics. This pattern does not overlap with Malmö's young population, where age groups between 25 and 32 are strongest represented. Lindängen is one of the neighbourhoods which we receive comparably few reports from: 112 in 2015 and 107 in 2016 to be exact. Topics reported concern mostly maintenance and parks. We see a huge potential in developing our use of kundservice statistics in the future. http://malmo.se/Stadsplanering--trafik/Lamna-synpunkter-pa-stadsmiljon.html

- MALMÖ INITIATIVET: Is the name for Malmö's online petition platform. It presents citizens with an online platform to formulate own proposals, discuss the ideas of others or simply follow the debate. People can support each other's suggestions and in that way show that there are more who agree with it. As soon as a suggestion reaches 100 signatures, it is sent further to the relevant political board. The political discussions in response to proposals are published online: http://malmo.se/Kommun--politik/Var-med-och-paverka/Malmoinitiativet.html

Data that needs to be collected: Since Malmö's ambition with SUNRISE is to find methods and means to strengthen external partnerships, the quality and strength of those partnerships with internal and external actors should be subject for evaluation. What resources can collectively be made available? To which degree does the collectives' realm to influence the future development of Lindängen change? What barriers stand in the way to increased co-creation and how could they be solved?

B.1B Zugló (Budapest)

B.1B.1   Introduction to the neighbourhood and the city

The capital city of Budapest has a two-tier administrative system: the Municipality of the Capital City of Budapest being responsible for the issues of city level interest, and 23 district municipalities responsible for the issues of district-level interest. The **Municipality of Zugló** is the 14th district of Budapest, and has a representative body with elected representatives.

Since the 1960s, the capital had a continuous population growth, which peaked in 1980. This dynamic growth was mostly due to migration from other areas of the country. Since the 1990s, the number of new arrivals has come down, but more and more residents of Budapest have moved

out into the agglomeration area. This process resulted in 2011 in the lowest number of inhabitants in the city compared to previous years. The population decrease of the city stopped in 2011. Within those districts forming the city core, the population decline in the last decades has exceeded the average of the capital city, but the number of inhabitants around the core area (e.g. Zugló) has changed in line with the average of the capital city. The ageing of the population of Budapest has continued in the last decades. The number of children born is decreasing rapidly; at the same time, the number of elderly people is increasing in the capital city.

With the increasing suburbanisation, passenger car use has been gaining ground against public transport, mainly in the urban-suburban relation. Furthermore, the decline in the level of service of public transport between the end of the 1980s and around 2010 has effected a significant unfavourable shift in modal split. The modal split in Budapest in 2014 was as follows: 45% share of public transport, 35% share of individual car use, 18% share of pedestrian traffic and 2% share of cycling. There are typical two peak periods within the daily traffic flow in Budapest. The morning peak can be observed between 6:30 and 9:00, and it is culminating between 7:00 and 8:00, while the less pronounced peak period in the afternoon lies between 14:00 and 18:00, with a culmination between 16:00 and 17:00. Certain transit routes (e.g. Hungária ring) are overcrowded all the time, although the influence of the rush hour in the morning and afternoon is also felt here.

Törökőr is situated in Zugló. The size of the neighbourhood is 1.75km2 and it has a population of approximately 12,000 inhabitants. It has been built up with different residential areas during the 20th century.

Zugló became a district of Budapest in 1935. The first parts of the Törökőr neighbourhood were built between 1900 and 1930, when the main roads on its borders became structural elements of the City of Budapest. After WW2 industry and services were settled here creating jobs for thousands, and new housing estates were built. From 1990 major industry has moved out, while small enterprises and new services were established. New housing estates were built on brownfield areas, but industrial-commercial areas still exist. A 50,000 m2 park area (Pillangó Park) is being developed using a participative planning approach.

The population of Törökőr has been nearly unchanged since 1990 – only a slight growth of some 1-2 % can be observed. The issue of ageing population seriously afflicts the neighbourhood. During the last 10 years the population was growing slightly, with decline in younger, and increase in the number of older dwellers. The 12,045 people that were registered in Törökőr in 2015 fell into the following categories: 0-14 years: 1545, 15-24 years: 970, 25-62 years: 6586, 62+ years: 2944. Törökőr is home of the middle class with higher qualification than the average in Budapest. 5 kindergartens, 2 elementary schools, 7 technical collages and one Highschool are located in Törökőr.

Two city level main roads and two district level main roads run at the edge of the neighbourhood, causing congestion and a high level of air and noise pollution. Törökőr is divided from the inner city of Budapest by the main road Hungária ring. Along this road the volume of traffic has a significant negative effect for businesses. Some can adapt to the circumstances by for instance, changing windows, or rebuilding their facilities. Others move from the place or suffer from the

pollution. The number of private cars using alternative fuels is not known for the neighbourhood, but it is assumed that the number is very low.

The area also suffers from a huge number of parking cars. 6,550 cars were registered in Törökőr in 2013, most of them are parked on public spaces; more than half of the cars are owned by enterprises. The area also serves as an "informal P+R" solution for commuters due to parking fees in neighbouring areas. Having the national sport stadium and Hungary's biggest sports court just across from the Hungária-ring also causes parking problems.

The neighbourhood has a reasonably well-developed public transport system, however, coverage is not satisfying as there are white spots in the inner area. Getting to the main public transport lines causes problem for some groups of people (handicapped, aged or those who carry babies).

Cycling is growing rapidly, the need for developing cycling infrastructure – cycling routes, bicycle parking – is evident. The public bike sharing system MOL Bubi does not reach Törökőr. Within the area of the neighbourhood pedestrians can move in safe conditions. Conditions of crossings or harmonisations of traffic lights could be developed, but the main problem is on the borders of Törökőr, where the main roads block the movement. The area is flat, ideal for walking and cycling.

B.1B.2   Sources of existing data for evaluation

Already available data is heterogeneous by source, topic, method and frequency of data collection, coverage and data availability.

The Hungarian Central Statistical Office publishes territorial data for a limited number of indicators. Annually collected indicators include Resident population, Number of dwellings, Area size, Number of students in primary and secondary education, Number of tourists, Number of guest nights, Number of passenger cars, Number of freight vehicles, Number of traffic accidents (by seriousness and causer), Number of passenger cars and freight vehicles by fuel types. In this case the most detailed territorial coverage is the city district level (i.e. Zugló).

More detailed data is available from the Population Census 2011. In this case Resident population and Number of dwellings are published for the neighbourhood level also (i.e. Törökőr). Any other indicator for any territorial unit below city district can be requested for a fee. The next census is expected to happen in 2021 (beyond the SUNRISE project's horizon). TEIR - Settlement database is partly also based on census data.

Public transport data for the city of Budapest (lines, stops, schedules, public bike sharing system, results of traffic and passenger counting) can be requested from the transport authority BKK Centre for Budapest transport. In principle the Budapest traffic model includes data about the travel habits and traffic for Budapest (or any subset of it), but practical experience suggests that data retrieval is rather complicated and consequently limited.

The Municipality of Zugló operates its own GIS database, which includes data from its own databases (including car tax database, institutions, commercial units), as well as bicycle infrastructure, public transport and population data on the neighbourhood level or even more detailed (by block or by address).

Other continuous data sources are the National Air Quality Measurement Network (air pollution in several locations in Budapest) and the police accident database, which includes every accident reported to the police, but generally uses very outdated technology and consequently data retrieval is rather complicated and consequently limited.

Ad-hoc data occurrence includes data in different strategic plans or documents, such as Zugló integrated settlement development plan, Environmental status analysis of Budapest, 2015 (Air pollution, Noise, Energy consumption on the city – Budapest – level) and the Bicycle friendly Zugló concept (Bicycle traffic at certain locations; Accidents involving cyclists).

B.1C Hulsberg and direct neighbourhood (Bremen)

B.1C.1 Introduction to the neighbourhood and the city

Bremen

The Free Hanseatic City of Bremen (or "State of Bremen") is the smallest of Germany's 16 states and is situated in the North. The state consists of the City of Bremen as well as the small exclave of Bremerhaven which lies around 55 km further north, at the North Sea. The City of Bremen has around 554,000 residents and is the 11th biggest city in Bremen. Bremen is part of the Bremen/Oldenburg Metropolitan Region, with 2.4 million people.

Industries, trade and administration are backbone of the economy. However, Bremen suffered severely under the structural changes of shipbuilding, fish industry etc. Still, the level of unemployment is above German average – causing also some financial restrictions. Today Bremen has particular expertise in maritime services, logistics, aerospace engineering, wind energy and automotive. Bremen is also a key player in digitisation, Industry 4.0 and the creative industries.

Being a harbour city, Bremen is a centre of logistics activities. But nevertheless, the City has a high level of sustainable modes in the modal split of the citizens. In total, 60% of all journeys of Bremen citizens are made with sustainable modes – the bicycle is very present on Bremen's streets with a 25% share, every fourth trip is done by bicycle. Bremen is also a tram city – all public transport is overground. The tram is the backbone – being extended in the last two decades – even into neighbouring municipalities. The public transport system in Bremen is part of the regional public transport association (Verkehrsverbund) – 39 operators working jointly under one ticketing and information regime.

Bremen has recently updated its Sustainable Urban Mobility Plan (Verkehrsentwicklungsplan 2025) and won the European SUMP Award – not only for the ambition in terms of sustainable transport but as well for its innovative participation concept. Online tools were used in addition to concepts of proactive consultations (e.g. on Saturdays in shopping centres) and with an online scenario game. With this concept, new (younger) groups got involved – and the intense involvement on the political level led to an unanimous decision in the political bodies on the Bremen SUMP (2014).

The borough "Östliche Vorstadt" and its quarter "Hulsberg"

The Bremen borough "Östliche Vorstadt" is situated close to the city centre and is densely populated, with its 29,700 inhabitants. It is an area with an extremely wide mix of social groups. Traditionally a high percentage of students and academic live in this borough. More than 40% of the residents are young to middle aged grown-ups (age 25-50 years old). Around 20% of the residents have a migration background. This is however significantly lower than in the whole of Bremen (more than 32%). In the last years house prices have increased significantly. As a consequence, the quarter faces some gentrification. In 2015, the average income of this area has been a bit over the overall city level. The borough hosts a large area for shopping, with a large number of restaurants, pubs and bars. This regularly attracts visitors to the quarter.

The "Östliche Vorstadt" is experiencing some new developments in one of its quarters, the "Hulsberg"-Quarter: On a former 10 ha large hospital area a new and spatially concentrated hospital is built, which makes room available for new housing (about 1,500 new apartments, 2,200 - 2,500 additional inhabitants) and hospital related businesses. This area is referred to as "Neues Hulsberg" (New Hulsberg).

A mobility concept for the "Neues Hulsberg" area has been recently developed. It builds on increased use of the sustainable modes. There is a strategy to promote car sharing in the entire borough to reduce car ownership and reclaim street space. The new development will have a ratio of 4 car parking spaces / 10 apartments but will have high quality bicycle parking, car sharing and services for bike sharing, freight delivery etc. as integral part of an innovative mobility concept. Street space will primarily be dedicated to pedestrians and cyclists with no car-parking except for handicapped.

The direct neighbourhood of the "Neues Hulsberg" area will be in the focus of the SUNRISE project. The street space is very limited as most of the streets are quite narrow. As a consequence, the neighbourhood already face typical challenges of overused street space (Figure 1 and 2). The key problem is the high pressure of car parking and its related consumption of street space, which creates problems for other road users. Over decades, the parking partly on sidewalks was accepted – although not being legal. The introduction of a stricter approach represents a problem as it would mean to reduce the number of parked cars by 50%). Due to the high pressure on parking space, car parking has become emotionally charged and an extremely sensitive theme within the neighbourhood and a political issue.

The integration of the new neighbourhood "Neues Hulsberg") will increase already existing problems: While a significant number of new residents will move to this quarter, the parking situation is becoming even more difficult at the same time. The former hospital area, traditionally used as illegal parking space by residents and visitors, will not be available for this purpose anymore. Unfortunately, conservative solutions like neighbourhood garages are not financeable and the space for building them is rarely available. The modal split of the neighbourhood shows a preference of non-motorised modes (which are quite space efficient). But as sidewalks are partly used for parking, there are limitations for pedestrians. A further problem is related to bicycle parking – there is not enough bike parking available. As many houses have front steps towards the main entry or cellar, many bikes are not parked within private homes but on the street space in front of the house.

Figure 1 and 2: One of the main problems related to car-parking in the Bremen borough "Östliche Vorstadt" is illegal parking, which also can result in blocking fire engines

The aim of the Bremen SUNRISE activities to foster innovative sustainable mobility options so that conditions for both, citizens already living and the new inhabitants, are improved. The City of Bremen actively promotes car-sharing, to offer alternatives to car ownership. The current 11,000 users have taken more than 3,800 cars off the road. Every Car-Sharing car replaces about 15 private cars in Bremen. It is seen as a key measure to reduce the number of cars in the area. Especially for inner city areas like Hulsberg, the promotion of car-sharing has become a crucial part of the strategy in Bremen to reclaim street space - for pedestrians, cyclists, the provision of cycle-parking, etc. Currently, only few car-sharing stations are situated in the close neighbourhood of the new Hulsberg development. This network of car-sharing stations could be further extended.

The introduction of "residential parking" could also be a solution to secure sufficient parking space for the residents. Those have to share the space with visitors of the shops, restaurants and also with visitors of the hospital. Although a parking garage for visitors of the hospital will be build, it is expected that people try to avoid the parking fee and search for free parking spots in the surrounding streets.

The residents and other stakeholders of the 'Östliche Vorstadt' have already experienced many participation processes on various themes of urban development. For the new housing area 'Hulsberg', an intense participation process has started in 2012 and will continue during the planning and implementation phase. (www.neues-hulsberg.de). In addition, there is a need for a continuation of a transparent planning process, for the area around the new development. Such process will happen in SUNRISE, in close cooperation with the local elected committees and the Development Agency GEG.

B.1C.2   Sources of existing data for evaluation

There is some data available about mobility patterns in Bremen.

- **Statistics on Modal Split**

The modal split (Summarised for five broad areas of Bremen) has been identified für the year 2008 and 2013 by means of interviews (around 1000 interviewees) (see "Verkehrsentwicklungsplan 2025 Bremen" (Traffic development plan 2025)

- **Permanent traffic counters**
  The number of bicycles passing is continuously counted by sensors. This provides background information to assess the development of cycling in the inner city areas of Bremen. Currently, none of these stations are situated in the area in question. The information is publically available (http://vmz.bremen.de/radzaehlstationen/)

- **VBN Kundenbarometer**
  Information on customer satisfaction on public transport is regularly collected by the regional operator (by means of interviews)
  https://www.vbn.de/aktuelles/pressemitteilungen/archiv/detailseite/vbn-erreicht-gute-noten-im-oepnv-kundenbarometer.html;
  http://www.zvbn.de/bibliothek/data/VBN-Kundenbarometer-2016_Praesentation-ZVBN-kurz.pdf

- **Car-sharing statistics**
  The operator of car-sharing services provides statistical information on the number of customers in Bremen. Data is available on request on a postal code level.

- **Statistics on private and commercial cars registered**
  Statistics are available from the Federal Motor Transport Authority (Kraftfahrtbundesamt), for the Bremen, all boroughs and quarters (e.g. Hulsberg)
  http://www.statistik-bremen.de/tabellen/kleinraum/stadt_ottab/131.htm#bild15

- **Study on Car-Sharing (to be issued end of 2017)**
  Currently a study is in preparation which will provide data on the use and impact of car-sharing in Bremen. Data will be available for each postal code in Bremen.

Most of these statistics are not suitable for direct use in an evaluation process, as they do not cover specifically the geographic area in question (Hulsberg and neighbouring quarters) or data are not collected regularly. Therefore most effects of the SUNRISE project cannot be directly measured by these data sources.

To have data, which adequately describe the parking situation and the street use before and after the SUNRISE project, we will subcontract a study. The study will cover aspects like the identification of visible problems in the street space as well as the ratio of cars not used daily (which have the potential to be substituted by the use of car-sharing services) The main method applied for data collection by the subcontractor will be observation.

B.1D Southend City Centre Neighbourhood

B.1D.1 Introduction to the neighbourhood and the city

The Southend City Centre neighbourhood lies at the heart of Southend-on-Sea. It is a dynamic neighbourhood with a mixture of business, residential, demographics and environments and is in close proximity to both railway networks and public transport services. The area is also divided by two of the busy roads in the Borough which converge in the north of the neighbourhood. (Refer to map below).

The neighbourhood covers an area of around 0.5 km^2 and has a population of around 4,700. Around 27-30% of the inhabitants in the neighbourhood are economically inactive which includes people who are retired, looking after home/family, long term sick or disabled, and students. The neighbourhood is mixed with some affluent areas and some very low-income groups. There is a higher percentage of people unemployed in this neighbourhood compared to Southend as a whole. The neighbourhood falls under three Council wards which have overall about 15% of the inhabitants over the age of 60. However, the proportion of inhabitants over the age of 50 in certain parts of this neighbourhood is as high as 36-86%.

The neighbourhood falls within one of the most deprived wards in Southend-on-Sea and there are efforts being made to regenerate the area. These societal challenges are mirrored in the quality of some of the neighbourhood's environment. The car is seen as a safer mode of transport and hence many opt not to walk or cycle.

Social networks in the neighbourhood are affected by the on-going regeneration of the neighbourhood, creating a divide between the older, less affluent, original residents, and the younger, more affluent new residents. Car often is perceived to represent affluence and is another reason that some choose the car over public transport, cycling and walking. Having said that, a recent survey revealed that walking is the main mode of travel to the City Centre. This includes people coming from different parts of Southend (not just the City Centre Neighbourhood).

If Southend City Centre is to remain and develop as a destination for visitors, residents and businesses, the streetscape and public spaces must be improved to support the overall offer. If town and city centres across Europe are to continue to have a key economic role in the future, then they have to have quality streetscapes and public realm that can encourage people to visit, dwell in and businesses to invest. Many Local Authorities have recognised this over the last few

years and invested heavily in place-making projects of urban improvements as part of economic regeneration strategies.

London Road is a 24m wide road that runs through the middle of this neighbourhood. As London Road terminates at Victoria Circus, a big public space at the top of the high street, vehicular flows tend to be low in comparison to the adjacent side streets but there are significant turning movements from taxis and pick up and drop offs which increases the perception of a busy road and reduces the permeability for pedestrians. (Refer to map below).
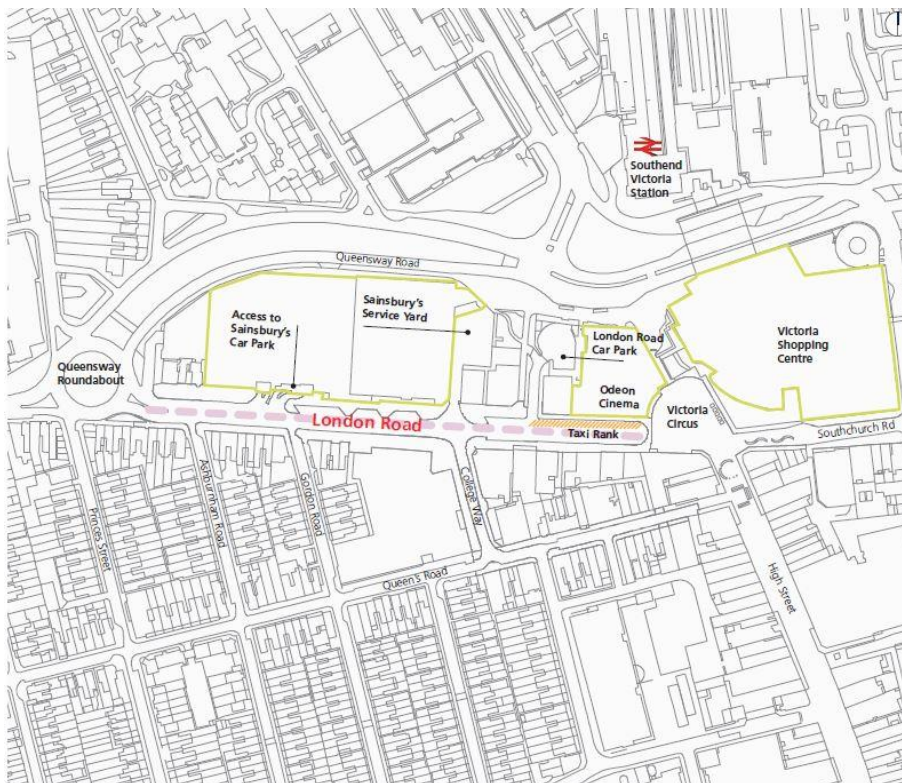
Despite the low traffic flows the infrastructure is built to promote car use. Cyclists and pedestrians, especially the elderly and those with mobility issues perceive this as an unpleasant and dangerous route to the heart of the town centre. The lack of seating, planting and the poor quality of public realm fail to create a welcoming environment for pedestrians and cyclists.

SUNRISE in Southend aims to find creative solutions to the severance problems resulting from the roads. We will test co-developed solutions for the reduction of the roads' barrier effect. The results will form the basis for new design solutions to be implemented as permanent changes by the end of the project.

B.1D.2   *Sources of existing data for evaluation*

We will be using a combination of primary and secondary data for evaluation of the SUNRISE project.

The following data is available for pre-monitoring (current scenario analysis) and can be extracted from local or national sources:

1/ Air quality (C02/NOx)

The Air Quality Action Plan has been produced by Southend-on-Sea Borough Council and constitutes our first Air Quality Plan (AQAP). It is designed primarily to address the air quality problems associated directly with the Air Quality Management Area (AQMA) declared along a stretch of the A127, Prince Avenue, Southend in November 2016. Its secondary purpose is to address air quality issues through a wider, cross Borough approach by so-called 'softer' indirect actions.

In order to effectively discharge duties under the Local Air Quality Management regime Southend-on-Sea Borough Council is required to report on air quality throughout the Borough. This function is undertaken by Regulatory Services. They will continue to ensure that air quality is monitored after the implementation of the AQAP. The team will report regularly on progress, both through the local air quality management reporting schedule to DEFRA and via the Borough Councils Environmental Scrutiny Panel.

Action planning is an essential part of the local air quality management process, providing a practical opportunity for improving air in areas where review and assessment has shown that national measures will be insufficient to meet one or more of the air quality objectives.

- o Quantification of the source of contribution to the pollution burden for example by vehicle categories. This allows action plan measures to be targeted more effectively.
- o Evidence that available options have been considered on the grounds of cost, feasibility and potential scale of impact.
- o Quantification of expected improvement in air quality.
- o Confirmation of how the Council will use/discharge its powers and also work in partnership with other stakeholders in pursuit of the relevant air quality objective.
- o Clear timescales within which the authority and other stakeholders propose to implement the various measures contained in the plan.
- o Quantification of expected impacts of the proposed measures, and where possible, an indication as to whether these will be sufficient to demonstrate compliance with the compliance with the objectives.

The vision of Southend-on-Sea Borough Council is to 'create a better Southend' this principle will be reflected in our work and provide a clear focus for actions we take. Our actions will be reflected in our work and provide a clear focus for actions we take. This is all about people and place, fostering a sense of community belonging and self-sufficiency where communities can solve problems locally with our support. We want to encourage and support local communities to get involved and work with us to strengthen their ability to deal with local challenges. We will work closely with Town and Parish Councils, voluntary groups, local people and other sector organisations to establish community needs and to help those needs in the most effective way.

2/ Accident numbers from Police Records

Statistics on road safety in Great Britain are mostly based on accidents reported to the police via the Stats19 system. This system allows police forces to report all personal-injury accidents to the

department. It does not collect any information about damage-only accidents. Comparisons with death registration statistics show that very few, if any, road accident fatalities are not reported to the police. However, it has long been known that a considerable proportion of non-fatal casualties are not known to the police, as hospital, survey and compensation claims data all indicate a higher number of casualties than are reported.

The department produces an annual 'best estimate' of the total number of road casualties in Great Britain each year, including those not reported to police. This is derived primarily from National Travel Survey (NTS) data. The latest such estimates, along with a description of how the have been derived and their limitations, are set out in an annual article published in the 'Reported road casualties Great Britain: annual report'.

The Stats19 data are therefore not a complete record of all injury accidents and this should be borne in mind when using and analysing the data. However, they remain the most detailed, complete and reliable single source of information on road casualties covering the whole of Great Britain, in particular for monitoring trends over time.

The following data is available for pre-monitoring (current scenario analysis) and was collected for previous/different projects:

- Truck / van delivery times that show current scenario of urban freight delivery.

London Road has a variety of kerbside uses, of which loading is critical due to the needs of the active shop fronts in the area.

There are two loading zones on this section of London Road and there is great demand for loading, with an average of 12 arrivals per hour across the site from 07:00-19:00. Loading activity was observed to last on average 14 minutes per vehicle on weekdays but can reach up to 40 minutes on average at midday.

The proximity of the loading bay to the taxi rank means there is some parking and pick up/drop off activity in the loading bay. There is also significant amounts of parking time in this area. There is also some overspill of loading activity with 65% of servicing arrivals using parking and other spaces to load or unload.

- Kerbside parking- times, number etc. that shows the current parking scenario.

Pick up and drop off activity represents an important share of vehicle arrivals at the eastern end of London Road, however these uses comprise a relatively low proportion of kerbside occupancy time as they are usually short stay.

On a typical Saturday there is an average of 60 vehicles per hour dropping off or picking up passengers in the study area, with a peak activity of 100 vehicles. Whilst the volume of vehicles arriving and departing the site represents a significant share of all vehicular activity, it is only 8% of the time spent kerbside, with an average of 2.5 minutes per vehicle, the lowest proportion of all possible reasons for stopping.

Typical Wednesday activity is 40% lower than that of Saturday. There is an average of 35 vehicles per hour dropping off or picking up passengers in the study area, with a peak activity of 50 vehicle arrivals in the late afternoon. Average stopping time while higher than weekends is under 3 minutes.

Access for taxis is crucial in this area as the High Street is a major destination. Activity is most prevalent at the eastern end of London Road, where pick up/drop off activity often overflows out of the assigned taxi rank and onto adjacent kerb zones.

- Pedestrian activity/use of public space report made through direct observations.

The gathering and analysis of the baseline information is key to understanding the existing situation and is required to ensure that a robust analysis can be undertaken to inform the objectives, option identification and assessment process of the proposals.

Pedestrian flow data was collected at 16 locations to understand movement flows and distribution in the area.

The pedestrian surveys were carried out from video footage on Tuesday and on Saturday. Data was collected from 10:00 to 18:00 for all locations. To investigate the impact of evening activities in the areas, data was collected from 10:00 to 22:00. All counts recorded the direction of movement at 15 minute intervals throughout the survey hours.

- Taxi rank movements

Southend appointed CTS Traffic and Transportation on 29th May 2015 to undertake a demand survey 2015. The review was carried out between July and November 2015, with pedestrian survey work undertaken in July 2015. Licensed vehicle drivers were consulted by a letter sent out during July 2015 with other stakeholder consultation between July and November.

In order to meet the Councils objectives, the following methodology was adopted.

  o Review of relevant policies, standards etc. to understand the authority's aspirations for meeting travel needs and social inclusion and provide context to determining overall demand for travel and how this should be met.
  o Extensive rank observations and audits of all ranks in the Authority, including monitoring passengers waiting time, any legal plying for hire, use of Hackney Carriages by wheelchair users and rank audits.
  o On street interviews of 299 representative people on street to obtain information about their understanding of the sector, their last taxi journey, the overall levels of taxi use, about quality and barriers to use.
  o Consultation including consultation with all relevant stakeholders – the local authorities, police, trade associations, all drivers, mobility impaired, specific user groups, businesses, and other major generators of taxi trips.

In essence the methodology used follows similar principles to all surveys undertaken by CTS together with all developments of methodology more recently applied to our surveys, particularly including guidance from both the 2004 DfT letter and their 2010 Best Practice Guidance, and

including the latest knowledge arising from the Law Commission Review and the current status of the Equality Act.

300 hours of rank operation were observed at ten main active ranks in the area. There are four ranks taking 80% of estimated weekly rank demand. London Road takes a third of trade. Overall demand on the hackney carriage observed side is 9% lower than 2009 but higher than that observed in the 2012 survey. This demonstrates there remains an impact of the recession in the area, but some signs of recovery. The fall in private hire vehicle numbers support this conclusion.

- Traffic surveys

As London Road terminates at Victoria Circus, vehicular flows are low close to Victoria Circus and higher towards the Queesway Roundabout.

Within the study area, the location closest to the roundabout is the primary access to London Road. During the weekend, the observed inflow is 334 vph representing 63.5% compared to College Way (21%) Gordon Road (3%) and Asburnham Road (12.5%) it is also the location with the highest outflows of 389vph (75%) compared to College Way (25%) the second busiest location.

Similar to the weekend vehicular flows at the weekend are lowest towards Victoria Circu and highest at Queensway roundabout where the observed inflows is 403 vehicles 68%) with outflows of 449vph (76%)

Sainsbury's car park is the busiest attraction on this link for those entering London Road from Queensway roundabout approximately 41% of all cars access Sainsbury's car park on weekday and 43% at the weekend.

- Three dimensional existing visualisation

This model allows the concepts and measures produced during the co-creation process to be visualised to enable both the creator and other parties to understand the effect on the space and will be a valuable tool during consultations.

The following data needs to be collected for pre-monitoring (current scenario analysis):

- Noise levels through direct measurement using a decibel (dB) meter.
- Road Safety Audit
- Accident risk established through observation of passenger movements.
- Cycle counts to determine current level of cycling.
- Face-to-face and online surveys with users to establish current perception of the quality of public space, user satisfaction with the usability of the space, perception of safety and personal security, accessibility etc.

The following data needs to be collected at the end of the project for post-monitoring (current scenario analysis):

- Air quality (CO_2/NOx) emissions through direct measurement
- Road Safety Audit

- Accident risk established through observation of passenger movements.
- Truck/van delivery times.
- Kerbside parking- times, number etc.
- Pedestrian activity/use of public space report made through direct observations.
- Taxi rank movements
- Face-to-face and online surveys with users to establish change in perception of the quality of public space, user satisfaction with the usability of the space, perception of safety and personal security, accessibility etc.
- All real costs involved in the development and implementation of the measure (staff, equipment, subcontracting), both: costs covered by the project and those not eligible

Additional data is likely to be required that will emerge from engagement with the stakeholders and the planning of the actual measures.

B.1E Baka (Jerusalem)

B.1E.1   *Introduction to the neighbourhood and the city*

Social Context

The population of Baka is varied – religious and non-religious; economically well to do and economically more marginal; native born and new immigrants; a European cultural orientation and a Middle Eastern cultural orientation. Despite the different cultural orientations of the population, the community has a pluralistic ideology which fosters a shared sense of community identity.

As has been raised in many forums, one of the major challenges in the implementation of programs for sustainable transportation is the cultural-social dynamic, which expressed in high percentage of cars ownership and low satisfaction from public transportation. Thus it is important to emphasise that the population in Baka has a high level of environmental awareness.

Civil society activities, such as forums of urban planning, sustainability and ageing, are diverse and reflect the multi-cultural make-up of the population. However there is a common theme of commitment to sustainability that cuts across these different groups.

Political structure and culture:

Baka is a well-organised community which enables the development of new models for active engagement and community partnership in implementing sustainable transportation innovations at the local level.

The community activity is organised under the "Bak'a neighbourhood community council" which function as "mini municipality", including services, cultural activities, local communal committees that handle operational and strategic matters at the local level, leads the interaction between the municipality and the community at the political level and at the professional level. This has included the preparation of the neighbourhood master plan with active community involvement.

As in many cities there is also the tension between neighbourhood priorities and city wide priorities which at times leads to scepticism and lack of trust. The community centre "Bak'a neighbourhood community council" role is to bridge between the municipality and the community interests. The council is led by elected management which include resident, municipal and political representatives.

Mobility situation/culture

The agricultural history of the neighbourhood has left its imprint of narrow dead-end streets that make travel by road cumbersome. Congestion is a major issue for travel within the neighbourhood and through the neighbourhood. Parts of the infrastructure to enable creating a walkable and cyclable district are already in place. Specifically, an old rail line into the city, which was previously an obstacle to local transportation, has been transformed into a "Rail Line Park" and pedestrian/cycle way linking the neighbourhood on one side to an industrial commercial area and on the other side to the CBD (as shown on the map below).
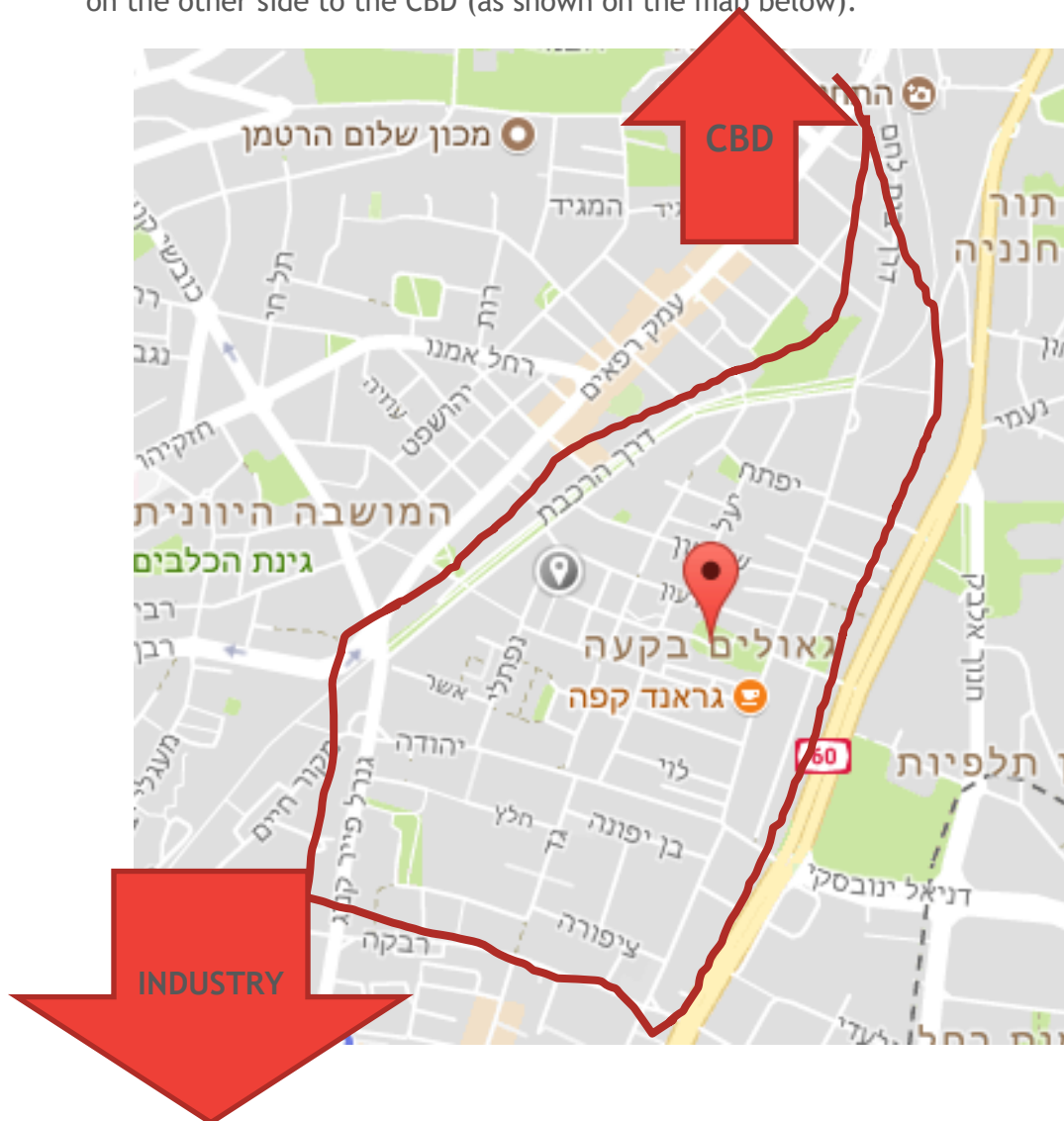
The policy of Jerusalem and Israel in general is to ensure accessibility to all forms of public transportation. In the Baka neighbourhood this has been implemented in most of the bus stops (designed to meet the needs of the visually impaired and wheelchair users) and will be incorporated into the light rail transportation system. Yet at this point close to 60% of the population travels to work by car and about 30% use public transportation with only 4% walking or cycling.

Also in some areas sidewalks and other obstacles have not been adapted to people with disabilities and not all locations have adequate access to public transportation.

The vision of this community as it recently evolved as part of the neighbourhood master plan, with hundreds of residents participating, states:

The Baka Neighbourhood is part of the "weave" of neighbourhoods that make up the city of Jerusalem. The neighbourhood has developed over 120 years and wisely sustained its unique heritage. The neighbourhood is to remain Green with well-developed open public space accessible to all: children, adults, disabled and senior citizens. Streets are to be pleasant and safe, accommodating pedestrians, cyclists, and motorists. The neighbourhood is to develop, linking the past with the future, in keeping with three underlying principles: community, historic preservation, and "green" innovation.

B.1E.2   Sources of existing data for evaluation

Description of the data already available at neighbourhood/city level

Secondary data collection includes:

1.   Air quality monitoring stations for the city.

2.   A dedicated survey in the neighbourhood that examines the programme directly.

3.   Number of passengers by observation (counting), journey properties by face-to-face survey for the city.

4.   Household survey via interviews.

5.   Observation + face-to-face survey concerning parking issues in Baka.

6.   Tourist transportation surveys via face-to-face surveys.

B.1F Neo Rysio, Thermi, Thessaloniki

B.1F.1   Introduction to the neighbourhood and the city

The neighbourhood of Neo Rysio is located in the Municipality of Thermi, about 20 kms from the city centre of the Municipality of Thessaloniki. With a population of 2,952 inhabitants (2011 Census), Neo Rysio consists primarily of residential areas with local commercial activity and it has

strong functional relationship with the urban core of the municipality of Thermi, as well as the centre of Thessaloniki, in terms of administrative, economic, health, educational, and other lifestyle-related activities. The 15,000 km2 area has undergone a noteworthy population increase of 65%, during the decade 2001-2011, which is indicative of the dynamics and the people-focused potential of this neighbourhood. It should be noted though that around 57% of the population is economically non-active, and that unemployment in Neo Rysio is a bit higher than 14%. Additionally, according to the latest Census, around 25% of the population is less than 20 years old, while the respective share of the elderly (>60 years old) is around 20%. Emphasis should be given to new residents that are developing new mobility habits and therefore are more receptive to new sustainable travel choices. Finally, in Neo Rysio there is a high degree of sense of belonging and cultural linkage that dates back to the historical roots of Neo Rysio as a refuge of relocated Greek populations during the 1920s.
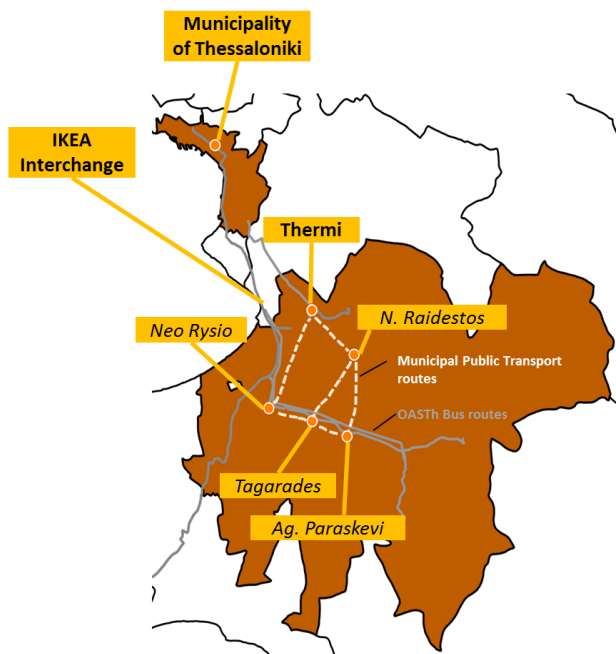
Main challenges

The main challenges for the future are related to its suburban character, thus mobility is an issue of utmost relevance and importance. Indeed, the area is included in the Strategic SUMP for the metropolitan Thessaloniki, while the operational local SUMP for the Municipality was concluded in 2016. Public transport coverage, parking issues and other cases of misuse of public space, as well as the deterioration of these problems in light of the projected increase in urban development in the area. It is considered that the planned activities within the SUNRISE project will contribute to the future-shaping task of understanding local needs, by implementing innovative and participatory methods to incentivise modal share shift in favour of public and non-motorized transport, as well as improve accessibility to crucial infrastructures.

B.1F.2   Sources of existing data for evaluation

Description of the data already available at neighbourhood/city level

There are a number of sources that data can be derived from:

1. Neo Rysio Traffic Study

The Traffic study took place in 2004 and, within this framework, data was collected on an ad hoc basis on traffic volumes (peak, off peak), traffic variance, traffic synthesis, through traffic, on-street and off-street parking accumulation for private cars, heavy vehicles and two-wheelers, and operational characteristics of bus transport in the area under study. Thus, a base scenario exists and further counts and relevant studies can be performed in due time.

2. Municipality of Thermi SUMP

The SUMP was concluded in 2016 and it entails a number of indicators that will constitute the backbone of the SUMP's monitoring and evaluation. More precisely, such indicators are % of main streets with sufficient characteristics for pedestrian facilities, length of streets with traffic calming measures, number of road accidents with vulnerable users involved, length of bicycle lanes, bicycles parking space, use of environmentally friendly material for the construction of bicycle lanes, bike&ride facilities, public transport coverage (existing and expansion areas), public transport frequency, bus and bus stop accessibility of people with reduced mobility, intra-municipal connections by public transport, park & ride facilities, travel time by public transport compared to private car, road safety in school zones, number of traffic accidents, trunk roads crossing conurbations, organized public spaces, CO_2 emission reduction, awareness and information campaigns.

C. Evaluation plan per objective/measure

This section provides information for each measure, following the reporting pattern below, and will be completed by neighbourhoods for the Detailed A&E plan, D4.1b.

C.1   Description of the measure

A brief (up to a page) description of the measure and its objectives.

C.2   Stakeholders and beneficiaries

Discussion of the subjects which will be involved in delivering the measure and of those affected by its implementation, with a special focus on who are the intended beneficiaries.

C.3   Impacts and indicators

The table below will be used by the neighbourhoods to describe the indicators that will be employed to evaluate the measure.

No.	Impact area	Impact	Indicator	Data used	Comments
1					
2					
3					
4					
5					

'Impact area' refers to the following categories – society, economy, transport, energy and environment.

Examples of indicators and other related information are included in Section 6 ('Examples of indicators') in the Appendices.

C.4   Timetable

Includes information about the stages of preparation, implementation and operation of the measure, timings of process evaluation questionnaires/interviews and for each indicator the timing for data collection, analysis and reporting.

A simple Gantt chart can be used to illustrate the planning and scheduling of activities undertaken for the evaluation of the measure.

C.5   Resources

Describes the resources available for the evaluation of each measure.

C.6   Interdependencies between measures

Discussion of the interaction among different measures considered as an integrated package, not in isolation.

D. Appendices

Appendix D.1   MEASURE EVALUATION RESULTS TEMPLATE

Measure Evaluation Results Summary

Measure No.:	
Measure Title:	
Responsible Author(s):	
Responsible Co-Author(s):	
Date:	
Status:	Draft / Final
Dissemination level:	Confidential / Public

Executive Summary

1 page

A brief introduction of the nature of the measure and a summary of the key evaluation results

[[REMINDER: UK English to be used throughout!]]

A. Introduction

A.1 Objectives

The measure objectives are:

(A) High level / strategic:

- ....
- ....
- ....

(B) Measure level:

- ....
- ....
- ....

These are only bullet points, which do not need to comprise full sentences.

The stated objectives will be assessed through the indicators chosen in section C.1.1, and section C.3 will state in general terms to which degree these objectives have been achieved.

A.2 Description

Text text text

1 to 3 pages

This is a concise, but still full, description of the measure including the nature of the measure, the location and scale of the measure, and, where applicable, including maps and/or photos of the measure

B. Measure implementation

B.1 Innovative aspects

- **Innovative aspect 1** – Text text text.

- **Innovative aspect 2** – Text text text.

Although presented in bullet format, this should still be text with full sentences. "Innovative aspect 1" etc should be overwritten with the title / headline of the aspect described

B.2 Research and Technology Development

Text text text.

This section describes any research or development that had to be carried out to enable the implementation of this measure. Typical examples are market research, user surveys or software development. If no research or development was necessary, the text text text should simply be "Neither research nor any technology development was necessary."

B.3 Situation before SUNRISE

Text text text.

This section should explain in full text, and where applicable including figures, whether and which any relevant measures / infrastructure / political decisions that were relevant for the measure, were actually already in place before the start of the SUNRISE project.

Where nothing relevant was in place, this section should state at least whether and which problems, relevant for this measure, had been recognised before the project, for instance lack of accessibility, noise pollution, lack of parking space, lack of night time security, an accident hotspot etc.

B.4 Actual implementation of the measure

Section B.4 provides the narrative and basis for the process evaluation.

"Subtitle" should be overwritten with the actual subtitle, if it is worth subdividing any of the three stages into substages.

In any case each step in the process should be listed with the date when it happened. This could be the concrete date 15.7.2018 or, when it is not a specific day, July 2018 or June – Aug 2018. The text that follows should be a short narrative of what happened then.

If the step was a special event, e.g. the official opening of something, a photo of the event would be nice. Also photos of promotional material are helpful.

B.4.1 Stage 1: Preparation

[if applicable:] *Subtitle*

Date   Text text text.

[if applicable:] *Subtitle*

Date   Text text text.

B.4.2 Stage 2: Implementation

[if applicable:] *Subtitle*

Date   Text text text.

[if applicable:] *Subtitle*

Date   Text text text

B.4.3 Stage 3: Operation

Date   Text text text or "There was no operational phase".

B.5 Inter-relationships with other measures

Text text text:

- **Measure x.y** – Text text text.
- **Measure x.z**. – Text text text.
- ………….

Measure x.y should be overwritten with the actual measure title.

B.6 Cost and Financing of the Measure

Text text text.

Text here is not necessary, if the table below is self-explanatory, but could highlight special issues, for instance unexpected costs or costs only incurred because of special circumstances.

Table B.6.1: Project costs

Costs covered by the project budget: **Staff costs (actual staff wage rates, month year)**	€…..
Other costs • …	€…..
Additional measure costs not covered by the project budget (non-eligible) • …	€…..

Total measure costs	€......

The table above should provide a detailed breakdown of all costs involved in preparation and implementation of the measure. Note that it comprises both eligible and non-eligible costs, since the readers are not interested in how much of the costs has been funded by the EC, but want to get a good idea of the costs they would incur, if they were to replicate the measure in their cities.

C. Impact Evaluation Findings

C.1 Measurement methodology

C.1.1 Impacts and Indicators

Table C1.1: Indicators

No.	Impact	Indicator	Data used	Comments
1				
2				
3				
4				
5				

Impact, indicator and data used / data sources are obligatory, comments can be made in addition, if a special aspect is to be highlighted.

The impacts are neutral expressions of the objectives that this measure tries to achieve and should therefore relate to section A.1.

Detailed description of the indicator methodologies:

- **Indicator 1. Title**. Text text text
- **Indicator 2. Title.** Text text text.
- **Indicator 3. Title.** Text text text.
- **Indicator n. Title.** Text text text.

The text per indicator should specify the indicator in detail. It should also say how, and if relevant in which locations, the data was collected as well as defining the data collection periods: either distinctive points in time, or specific data collection periods, or once per year, or continuous throughout the project etc.

C.1.2 Establishing a Baseline

- **Indicator 1. Title**. Text text text
- **Indicator 2. Title.** Text text text.
- **Indicator 3. Title.** Text text text.
- **Indicator n. Title.** Text text text.

The baseline is a given point or period before the measure implementation started. This section does not include the data for the baseline itself, but describes how the baseline was established, e.g a passenger count on line 5 in June 2018.

C.1.3 Building the Business-as-Usual scenario

- **Indicator 1. Title**. Text text text
- **Indicator 2. Title.** Text text text.
- **Indicator 3. Title.** Text text text.
- **Indicator n. Title.** Text text text..

In some cases the Business-as-Usual, or BaU, scenario would be the same as the baseline, because the data would not have changed between Before and After without the measure; in this case that can be simply stated. But in many cases the data would have changed due to factors that have either nothing to do with the SUNRISE project or would have changed also because of other measures implemented in the project. For instance, there are national trends towards more electro-mobility or more car sharing or increased bus usage or even decreased bus usage. In such cases there are two main options to establish the BaU scenario: either national or regional figures that describe the general trend or, if this is not available or relevant, the trend over the last few years leading to the point of the Before data.

Indicator and indicator number should remain in all of C.1; only Title should be overwritten by the actual indicator name.

C.2 Measure results

The results are presented under subheadings corresponding to the evaluation categories used for indicators – society, economy, transport, energy and environment.
There are no general rules how the results should be presented in the next five sections, since the type and complexity of the data used varies hugely between indicators. The tables below indicate the general principles for the discussion of the data: a presentation of the Before, BaU and After results, and then then comparison between them.

C.2.1 Society

Text text text or "For this measure there are no indicators relating to society".

[If the data is not too complex, then include the following table]

Table C2.1.1:

Indicator	Before (date)	B-a-U (date)	After (date)	Difference: After –Before	Difference: After – B-a-U
1					
2					

3					
n					

C.2.2 Economy

Text text text or "For this measure there are no indicators relating to economy".

[If the data is not too complex, then include the following table]

Table C2.2.1:

Indicator	Before (date)	B-a-U (date)	After (date)	Difference: After –Before	Difference: After – B-a-U
1					
2					
3					
n					

C.2.3 Transport

Text text text or "For this measure there are no indicators relating to transport".

[If the data is not too complex, then include the following table]

Table C2.3.1:

Indicator	Before (date)	B-a-U (date)	After (date)	Difference: After –Before	Difference: After – B-a-U
1					
2					
3					
n					

C.2.4 Energy

Text text text or "For this measure there are no indicators relating to energy".

[If the data is not too complex, then include the following table]

Table C2.4.1:

Indicator	Before (date)	B-a-U (date)	After (date)	Difference: After –Before	Difference: After – B-a-U
1					
2					
3					
n					

C.2.5 Environment

Text text text or "For this measure there are no indicators relating to economy".

[If the data is not too complex, then include the following table]

Table C2.5.1:

Indicator	Before (date)	B-a-U (date)	After (date)	Difference: After –Before	Difference: After – B-a-U
1					
2					
3					
n					

C.2.6 Cost Benefit Analysis

Text text text or "For this measure no cost benefit analysis has been carried out".

The text should provide a full description of the data used for the CBA and the results obtained. The costs are the total costs from table B.6.1.

Where a CBA could not be carried out, an attempt should be made to do a cost-efficiency analysis, i.e. to choose at least one relevant indicator and calculate the cost for this. For instance when the total costs for improvement of a given fleet of vehicles was € 100,000 and the CO_2 emissions from this fleet were reduced by 20 tons, then the cost for reducing the emissions would be € 5,000 / ton.

C.3 Achievement of (quantifiable) targets and objectives

No.	Target	Rating
1	Text text text.	
2	Text text text.	
3	Text text text.	
4	Text text text.	
5	Text text text.	
n	Text text text.	
	NA = Not Assessed O = Not Achieved ✷ = Substantially achieved (at least 50%) ✷✷ = Achieved in full ✷✷✷ = Exceeded	

Text text text for each target used

This text should be brief explanations for the reason why a given rating was chosen.

The targets used correspond to the impacts chosen in section C.1.1 and therefore also directly to the objectives in section A.1.

C.4 Up-scaling of results

Text text text

This section states how, at least in theory, the measure could be expanded to other areas of the city and to which extent. If there is potential for such expansion, then an attempt should be made to estimate to which degree the impacts that have been measure now could be multiplied through such an expansion.

C.5 Appraisal of evaluation approach

Text text text

This section provides a critical assessment of the evaluation approach used. Ideally the conclusion would of course be that the evaluation approach was ideal, but the local evaluation team could have also come to the conclusion that one of the indicators turned out to be rather meaningless and / or another indicator should have been chosen instead. Equally it would be possible that the right indicators have been chosen, but that the data collection was suboptimal, for instance because the data has been collected too early or too late, or from the wrong points in the network, or that response rates to surveys were too low because

of the way they have been conducted. This section helps other cities to plan their own evaluation when they want to replicate the measure.

C.6 Summary of evaluation results

Text text text

This summary shall highlight the key findings of chapter C.2 and will be a major input to the overall project evaluation report.

C.7 Future activities relating to the measure

Text text text

This section should state whether the city has any plans to continue the measure beyond the lifetime of SUNRISE (hopefully yes), and whether and which plans exist to extend the measure further, either by intensifying it in the same area or implementing it also in other parts of the city. In contrast to chapter C.4, which shows what would be hypothetically possible, this section reports on real stated intentions.

D. Process Evaluation Findings

D.1 Drivers

D.1.1 Drivers during the planning phase

- **Driver 1** – Text text text.
- **Driver 2** – Text text text.

D.1.2 Drivers during the implementation phase

- **Driver 1** – Text text text.
- **Driver 2** – Text text text.

D.1.3 Drivers during the operational phase

- **Driver 1** – Text text text.
- **Driver 2** – Text text text.

The drivers to be described in these three sections may be

- *The motivations of the principal actors, e.g. residents, shop keepers, politicians, Council staff or members,*
- *External factors, such as tax regimes, national events or national or European trends, or*
- *Any other issues that were helpful in driving the measure forward.*

Driver 1 etc as well as Barrier 1 etc below should all be overwritten by the title / headline of the issue.

D.2 Barriers

D.2.1 Barriers at the planning phase

D.2.1.1 Barrier 1

Description of the problem

Text Text Text

Corrective action taken (if any)

Text Text Text

Resulting deviation from plan (if any)

Text Text Text

D.2.1.2 Barrier n

Description of the problem

Text Text Text

Corrective action taken (if any)

Text Text Text

Resulting deviation from plan (if any)

Text Text Text

D.2.2 Barriers at the implementation phase

D.2.2.1 Barrier 1

Description of the problem

Text Text Text

Corrective action taken (if any)

Text Text Text

Resulting deviation from plan (if any)

Text Text Text

D.2.2.2 Barrier n

Description of the problem

Text Text Text

Corrective action taken (if any)

Text Text Text

Resulting deviation from plan (if any)

Text Text Text

D.2.3 Barriers at the operation phase

D.2.3.1 Barrier 1
Description of the problem

Text Text Text

Corrective action taken (if any)

Text Text Text

Resulting deviation from plan (if any)

Text Text Text

D.2.3.2 Barrier n
Description of the problem

Text Text Text

Corrective action taken (if any)

Text Text Text

Resulting deviation from plan (if any)

Text Text Text

D.3 Participation

D.3.1 Measure Partners
- **Measure partner 1 –** [Who and what was their role in the project.]
- **Measure partner 2** – [Who and what was their role in the project.]
- **Measure partner 3** – [Who and what was their role in the project.]
- **Measure partner 4** – [Who and what was their role in the project.**]**
- **Measure partner 5** – [Who and what was their role in the project.]

D.3.2 Stakeholders
- **Stakeholder 1 –** [Who and what was their role in the project]
- **Stakeholder 2** – [Who and what was their role in the project.]
- **Stakeholder 3** – [Who and what was their role in the project.]

Measure partner 1 or Stakeholder 1 should be overwritten by the company or institution name

E.Recommendations

E.1.1 Recommendations: measure replication

Text text text

This part of the recommendations is related to the measure itself, i.e. in part to section B4, but in particular to section C.

These recommendations are meant for cities that are planning to introduce the same measure and should therefore state

- *Which elements of the measure will be easy to implement in different contexts,*
- *Which elements of the measure were very dependent on the local context and can only be replicated under special conditions,*
- *Which lessons have been learnt where things may not have gone smoothly with recommendations how other cities could avoid encountering the same problems,*
- *Which elements of the measure worked well and in how far the desired effects were achieved,*
- *Which expected impacts did not emerge and recommendations on what other cities could do to achieve better results.*

E.1.2 Recommendations: process

Text text text

These recommendations are related to driver and barrier fields, i.e. in part to section B4 but mainly to section D. And as in E.1.1 the key in this section is to tell other cities what pitfalls there have been in the planning and implementation process as well as in the operational phase, and how such problems can be avoided or overcome by other cities.

NOTE: In many cases past MERS are not good examples to follow for section E, because this section has often only been added in a rush at the end of the project without due consideration, although it is key for the target audience of the MERS.

Appendix D.2   EXAMPLES OF INDICATORS

ECONOMY

No.	Impact	Indicator	Data used
1	Reduced investment costs	Investment costs	All real costs involved in the development and implementation of the measure (staff, equipment, subcontracting), both: costs covered by the project and those not eligible
2	Reduced system operation costs	Operation costs	Cost records
3	Reduced vehicle operation costs	Operation costs	Cost records
			Estimates based on mileage and average cost parameters
4	Reduced costs of fuel consumption	Type and amount of fuel used	Cost records
			Fuel consumption and fuel costs
			Energy consumption and energy costs (for electric vehicles)
5	Improved economic performance of public transport system operator	Depreciation of investment costs and operations costs	Cost records
6	Time savings	Travel time	Surveys (on-line, face-to-face)
			Modelling based on congestion levels
			Modelling based on modal split

ENERGY

No.	Impact	Indicator	Data used
1	Decrease in energy consumption	Fuel consumption of new vehicles	Directly measured
			Calculated from mileage and average consumption

2		Fuel consumption of converted vehicles	Directly measured
			Calculated from mileage and average consumption
3		Overall fuel consumption	Modelled from modal split and average mileage and fuel consumption
4	Increase in energy production	Output of solar panels installed as part of the measure	Directly measured
			Estimated from statistics

ENVIRONMENT

No.	Impact	Indicator	Data used
1	Reduction of emissions	CO2 emissions	Calculated from traffic volumes and fuel consumption
			Estimated from modal split and average fuel consumption
			Estimated for e-cars from average emissions of national energy production
2		NOx emissions	Calculated from traffic volumes and fuel consumption
			Estimated from modal split and average fuel consumption
3		Particulate emissions	Calculated from traffic volumes and fuel consumption
			Estimated from modal split and average fuel consumption
4		Noise emissions	Direct measurement of passing buses at various speeds at bus depots
			Direct measurement in traffic environment (in general or e.g. for impact of passing buses)

TRANSPORT

No.	Impact	Indicator	Data used
1	Increase traffic safety	Accident numbers	Police records
2		Accident risk	Observation of passenger movements
3		Response time of emergency services	Police records
			Camera data
4	Improved travel information	User satisfaction	Surveys (on-line, face-to-face)
			Comments / feed-back left
5		Increased usage	Usage statistics
6	Increase the use of electromobility	Mileage driven in e-vehicles (trucks, buses, vans, shared cars, bikes)	Usage statistics from fleets
7		Mileage drive in private e-cars	Estimates from observations at key points, new vehicle registrations and average mileage
8		Introduction of new e-vehicles (trucks, vans, cars)	Registrations with vehicles authority
9		Introduction of new e-buses	Statistics from public transport operators
10		Introduction of new e-bikes	Sales statistics
			Counts a key locations
11	Increase of car-sharing	Level of car- sharing	Surveys (on-line, face-to-face)
			Statistics from car-sharing help desks / car-sharing on-line platforms
12	Increase of bike-sharing	Level of bike- sharing	Surveys (on-line, face-to-face)
			Statistics from bike-sharing help desks / car-sharing on-line platforms

13	Increase usage of public transport	Passenger numbers	Statistics of the bus company
			Counts at key locations
14	Decreased private car use	Modal split	Traffic counts
			Modelling
			Usage data from on-street and off-street parking
			Queue length at car parks in peak hours
15	Reduction of noise in buses	Level of noise	Direct measurement at various speeds and in different parts of the bus
16	Reduction of vibration in buses	Level of vibration	Direct measurement at various speeds and in different parts of the bus
17	To improve traffic management operations	Level of congestion	Detector data
			Modelling
18	Increase efficiency of urban freight deliveries	Truck / van travel times	Freight operator surveys
19		Number of deliveries by bike	Business records
			Observation at key locations

SOCIETY

No.	Impact	Indicator	Data used
1	Increased awareness of new mobility offers	Levels of awareness	Surveys (on-line, face-to-face)
2	Increased acceptance of sustainable mobility modes	Higher usage of sustainable modes	Surveys (on-line, face-to-face)
			Traffic counts for modal split (cordon, census points)

			Modelling bases on traffic counts
3		Modal split of employees	Surveys (on-line, face-to-face)
			Counts in company car parks
4		Reaction of test users	Face-to-face surveys, focus groups
5	Increase quality of service	Usability	Interviews with test users
			Surveys (on-line, face-to-face)
6		Increased use of service	Usage statistics
7	Better use of public space	Sqm dedicated for pedestrians, bikes, bike sharing, car clubs, public transport	Direct observation
8		Turn-over of parked cars	Direct observation (e.g. with the help of chalk on tires)
			Data from parking wardens
9	Increased user satisfaction with public spaces	User attitudes	Surveys (on-line, face-to-face)
10	Increased feeling of personal safety	Feeling of safety	Surveys (on-line, face-to-face)
11	Increased feeling of security	Feeling of security	Surveys (on-line, face-to-face)
12	Improved accessibility	Perception of accessibility	Surveys (on-line, face-to-face)
13		Objective accessibility	Modelling (for accessibility of entire areas)
			Distance to car parks and bus stops (for key locations)
14	Improved social inclusion	Accessibility for disadvantaged user groups	Surveys (on-line, face-to-face)

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Appendix D.3   INITIAL DATA COLLECTION PER CITY

MALMO

Title of dataset (e.g. Public Transport Customer Satisfaction Survey 2016)	Data Category (please choose all that apply among Economy, Energy, Society, Enviroment, Transport)	List of indicators included in the dataset (e.g. quality of service, number of PT passengers, average journey time, emissions, etc.)	Method of data collection (survey, interview, observation)	Frequency of data collection (e.g. annual, monthly, continuous)	Coverage (please select from drop-down list)	Data availability (e.g. kept on premise, online, SharePoint, other)	If the dataset is available online, please provide the link to it (incl. the login details if password protected)	Will the dataset be collected until the end of SUNRISE?	Notes (including first occurrence of the data collection and ethical issues, e.g. storage of personal data)	Contact	Please provide your assessment of the relevance of the dataset to SUNRISE	Please indicate the language in which the dataset is available
Accessibility index	society, transport	proximity to e.g. schools, playgrounds, work, healthcare, parks and shopping	collection from existing databases	annually	Neighbourhood	internal database		Yes	since 2017	Mozafar	relevant	Swedish
Municipal travel survey	society, transport	modal split	survey	every 5th year	Neighbourhood	internal database		Yes	latest data collection in 2013, 2018 upcoming, ambition to complement traditional data with travel-app, potential pilot already in 2017 in Lindängen	Frida	relevant	Swedish
Punctual traffic counts	transport	traffic counts and measures, e.g. number of pedestrians, cyclists, cars and trucks	observation	annually, but streets vary	City	internal database		Yes	periodic traffic counts at pre-defined streets, there are some spots in Fosie and Lindängen, but very few. It is unclear how often and when they are going to be measured next.	Biljana	relevant	Swedish
Habitability index	environment	air quality and noice	collection from existing databases	annually	Neighbourhood	internal database		Yes	since 2015	Erik	relevant	Swedish
Neighbourhood survey	society, transport, environment	ca. 70 question about people's perception of their environment	survey	annually (jan/ feb)	Other	internal database		Yes	since 2015, SUMP area level	Erik	relevant	Swedish
Malmö area survey	society	crime rate, perceived security	survey	annually	Other	on premise		Yes	every second year since 2014		relevant	Swedish
National police assessment on particularly vulnerable areas	society	crime rate, perceived security	National authority data	annually	Neighbourhood	on premise		Yes			relevant	Swedish
Kundservice	society	citizen reports	statistics of individual reports	continously	Neighbourhood	on premise		Yes	continously	Anki	relevant	Swedish
Malmö initiativet	society	citizen proposals	statistics of past proposals	continously	Neighbourhood	on premise		Yes	continously		relevant	Swedish
Conzoom	society	lifestyle data	collection of data from Swedish authorities, interviews and surveys	ambition annually	Neighbourhood	internal database		Not sure	2016, under development	Frida	less relevant	Swedish
Statistics Sweden, economical data	economy	level of education, income level, employment	National authority data	annually	Neighbourhood	internal database		Not sure	2017, under development	Erik	relevant	Swedish
Statistics Sweden, population data	society	age groups	National authority data	annually	Neighbourhood	internal database		Not sure	2015, under development	Erik	relevant	Swedish
Statistics Sweden, car ownership	transport	number of cars per 1000 inhabitants	National authority data	annually	Neighbourhood	internal database		Yes	Plan- och Byggatlas	Håkan, SBK	relevant	Swedish

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Title of dataset (e.g. Public Transport Customer Satisfaction Survey 2016)	Data Category (please choose all that apply among Economy, Energy, Society, Enviroment, Transport)	List of indicators included in the dataset (e.g. quality of service, number of PT passengers, average journey time, emissions, etc.)	Method of data collection (survey, interview, observation)	Frequency of data collection (e.g. annual, monthly, continuous)	Coverage (please select from drop-down list)	Data availability (e.g. kept on premise, online, SharePoint, other)	If the dataset is available online, please provide the link to it (incl. the login details if password protected)	Will the dataset be collected until the end of SUNRISE?	Please provide your assessment of the relevance of the dataset to SUNRISE	Please indicate the language in which the dataset is available	Notes (including first occurrence of the data collection and ethical issues, e.g. storage of personal data)
Hungarian Central Statistical Office - Detailed Gazetteer	Society	Resident population, Number of dwellings, Area size	survey and obligatory data collection	annual	Other	online	http://www.ksh.hu/apps/hntr.telepules?p_lang=HU&p_id=16337	Yes	Not sure	Hungarian, English	Coverage: city district
Hungarian Central Statistical Office - Detailed Gazetteer	Society	Distribution of population by nationality and religion	census	2011	Other	online	http://www.ksh.hu/apps/hntr.telepules?p_lang=HU&p_id=16337	No	Not sure	Hungarian, English	Coverage: city district Next census: 2021
Hungarian Central Statistical Office - Detailed Gazetteer	Society	Resident population, Number of dwellings	census	2011	Other	online	http://www.ksh.hu/apps/hntr.telepules?p_lang=HU&p_id=16337	No	Yes	Hungarian, English	Coverage: city district Next census: 2021
Hungarian Central Statistical Office - Population census 2011	Society	Population by age group	census	2011	Other	online	http://www.ksh.hu/nepszamlalas/tablak_teruleti_01	No	Yes	Hungarian, English	Coverage: city district Next census: 2021
TEIR - Settlement database	Society	Number of jobs, Average net monthly income of households	census	2011	Other	online access can be requested by municipalities		No	Not sure	Hungarian	Coverage: city district Next census: 2021
Zugló integrated settlement development plan	Society	Number of primary and secondary education units, Number of tertiary education units	survey	2015	Neighbourhood	online	http://www.zuglo.hu/wp-content/uploads/2015/05/helyzetfeltaras_helyzetelemzes_Zuglo_onscreen.pdf	No	Yes	Hungarian	
Hungarian Central Statistical Office - Dissemination database - Regional statistics	Society, Economy, Transport	Number of students in primary and secondary education, Number of tourists, Number of guest nights, Number of passenger cars, Number of freight vehicles, Number of traffic accidents (by seriousness and causer), Number of passenger cars and freight vehicles by fuel types	survey and obligatory data collection	annual	Other	online	http://statinfo.ksh.hu/Statinfo/themeSelector.jsp?&lang=en	Yes	Yes	Hungarian, English	Coverage: city district Other territorial data (e.g. neighbourhood level) is available only for fee.
BKK Centre for Budapest Transport	Transport	Public transport data (lines, stops, schedules, public bike sharing system etc.) Passenger volume data	Own data; Survey	continuous	Neighbourhood	on request		Yes	Yes	Hungarian	Coverage: any (per line, area etc.) depending on the indicator
BKK Centre for Budapest Transport - Budapest traffic model	Transport	number of PT passangers, average trip distance, average journey time, modal-split, lenght of PT networks/infrastructure, etc.	traffic model based on household surveys and traffic/passenger countings		City	on request		Not sure	Yes	Hungarian	
Data records of Municipality of Zugló	Transport	Number of registered e-cars, hybrid cars, LPG/CNG driven cars Pay parking areas	Own data	continuous	Neighbourhood	on request		Yes	Yes	Hungarian	Data to be requested from different departments
Zugló GIS database	Society, transport	GIS data (Number of cars per address, insitutions, residents by age group per blocks, bicycle infrastructure, public transport routes and stops, commercial activities)	Own data	continuous	Neighbourhood	on request		Yes	Yes	Hungarian	
Environmental status analysis of Budapest, 2015	Energy, Environment	Air pollution, Noise, Energy consumption (by purpose, including transport)	Various	2014	City	online	http://budapest.hu/Documents/BpKAE_2015_honlapra.pdf	No	Not sure	Hungarian	
National Air Quality Measurement Network	Environment	Air quality indicators, Emission data	manual and automatic measurements	annual reporting/continuous measuring	City	online	http://levegominoseg.hu/automata-merohalozat?AspxAutoDetectCookieSupport=1	Yes	Yes	Hungarian	
Bicycle friendly Zugló concept	Transport	Bicycle traffic at certain locations; Accidents involving cyclists	traffic countings; police accident data	2015	Other	available in pdf		No	Yes	Hungarian	
Accident data	Transport	Accidents by location, cause, types of vehicles etc.	police accident data	continuous	Other	on request		Yes	Yes	Hungarian	Coverage: any

Title of dataset (e.g. Public Transport Customer Satisfaction Survey 2016)	Data Category (please choose all that apply among Economy, Energy, Society, Enviroment, Transport)	List of indicators included in the dataset (e.g. quality of service, number of PT passengers, average journey time, emissions, etc.)	Method of data collection (survey, interview, observation)	Frequency of data collection (e.g. annual, monthly, continuous)	Coverage (please select from drop-down list)	Data availability (e.g. kept on premise, online, SharePoint, other)	If the dataset is available online, please provide the link to it (incl. the login details if password protected)	Will the dataset be collected until the end of SUNRISE?	Please provide your assessment of the relevance of the dataset to SUNRISE	Please indicate the language in which the dataset is available	Notes (including first occurrence of the data collection and ethical issues, e.g. storage of personal data)
Permanent traffic counters e.g. 10 cycling counters)	Transportation	number of vehicles / bicycles a counting station	technical counting (loops)	cont	Other	available on website	http://vmz.bremen.de/radzaehlstationen/	Yes	it is a background information to assess the development of cycling in the inner city areas	German (but anyway mainly numbers)	no personal data, publically accessible
VBN Kundenbarometer	Transportation/ Acceptance	customer satisfaction of PT users on regional level	interviews (tel)	annual	Other	via regional PT organisation / see http://www.zvbn.de/bibliothek/data/VBN-Kundenbarometer-2016_Praesentation-ZVBN-kurz.pdf	https://www.vbn.de/aktuelles/pressemitteilungen/archiv/detailseite/vbn-erreicht-gute-noten-im-oepnv-kundenbarometer.html	Yes	background information about satisfaction with Public Transport	German	regional PT
Kundenzahlen Carsharing (customers of car sharing in Bremen)	Transportation	number of Carsharing users	data from operators	quarterly	City	via operators		Yes	very relevant, also data available on post coide level (on request)	German (but anyway mainly numbers)	data according postal codes for neighbouhood on request
Study on Car-Sharing (to be issued end of 2017)	Transportation	data on the use and impact of car-sharing in Bremen.	Interview	once	Neighbourhood	Study will be published, online	not yet	No	relevant	German	no personal data, publically accessible
Official statistics on private and commercial cars registered	Transportation	private and commercial cars registered; data available on city level, boroughs and quarters	Official statistics of Kraftfahrtbundesamt (Federal Motor Transport Authority)	annual	Neighbourhood	online	http://www.statistik-bremen.de/tabellen/kleinraum/stadt_ottab/131.htm#bild15	Yes	relevant	German (but anyway mainly numbers)	no personal data, publically accessible
Statistics on Modal Split (2008, 2013)	Transportation	modal split (Summarised for five broad areas of Bremen)	Interviews (around 1000 interviewees for all of Bremen)	frequently, but only every couple of years (data from 2008 and 20013)	City	Published in "Verkehrsentwicklungsplan 2025 Bremen" (Traffic development plan 2025)	http://bremenbewegen.de/	No	background information only	German	no personal data, publically accessible

BREMEN

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SOUTHEND

Title of dataset (e.g. Public Transport Customer Satisfaction Survey 2016)	Data Category (please choose all that apply among Economy, Energy, Society, Enviroment, Transport)	List of indicators included in the dataset (e.g. quality of service, number of PT passengers, average journey time, emissions, etc.)	Method of data collection (survey, interview, observation)	Frequency of data collection (e.g. annual, monthly, continuous)	Coverage (please select from drop-down list)	Data availability (e.g. kept on premise, online, SharePoint, other)	If the dataset is available online, please provide the link to it (incl. the login details if password protected)	Will the dataset be collected until the end of SUNRISE?	Please provide your assessment of the relevance of the dataset to SUNRISE	Please indicate the language in which the dataset is available	Notes (including first occurrence of the data collection and ethical issues, e.g. storage of personal data)
Air Quality	Enviroment	Emissions	Survey	Continuous	Neighbourhood	Kept on premise		Yes	Very	English	
Accident data	Safety	Accidents History	Survey	As required	Neighbourhood	Kept on premise		Yes	Very	English	
Delivery Survey	Transport	Frequency of Delivery	Survey	As required	Neighbourhood	Kept on premise		Yes	Very	English	
Parking Survey	Transport	Occupancy	Survey	As required	Neighbourhood	Kept on premise		Yes	Very	English	
Taxi Rank Survey	Transport	Frequency and Passenger Numbers	Survey	As required	Neighbourhood	Kept on premise		Yes	Very	English	
Taxi Rank Demand Survey	Transport	Frequency and Passenger Numbers	Survey	Annual	City	Kept on premise		Yes	Very	English	
Traffic Survey	Transport	Volume of Traffic	Survey	Annual	Neighbourhood	Kept on premise		No		English	
Three Dimensional Existing Visualisation	Society	None	Survey	As required	Neighbourhood	Kept on premise		No	Not Very	N/A	
Noise	Enviroment	Decible Level	Survey	As required	Neighbourhood	Not Undertaken		Yes	Very	English	
Road Safety Audit	Safety	Percivied Safety Issues	Observations	As required	Neighbourhood	Not Undertaken		Yes	Very	English	
Cycle Survey	Transport	Volume of Traffic	Survey	As required	Neighbourhood	Not Undertaken		Yes	Very	English	
Face to Face Survey	Society	Perception of space	Interview	Continuous	Neighbourhood	Not Undertaken		Yes	Very	English	
Online Survey	Society	Perception of space	Interview	Continuous	Neighbourhood	Not Undertaken		Yes	Very	English	
Pedestrian Survey	Transport	Destination and Origin	Survey	As required	Neighbourhood	Kept on premise		Yes	Very	English	

Title of dataset (e.g. Public Transport Customer Satisfaction Survey 2016)	Data Category (please choose all that apply among Economy, Energy, Society, Enviroment, Transport)	List of indicators included in the dataset (e.g. quality of service, number of PT passengers, average journey time, emissions, etc.)	Method of data collection (survey, interview, observation)	Frequency of data collection (e.g. annual, monthly, continuous)	Coverage (please select from drop-down list)	Data availability (e.g. kept on premise, online, SharePoint, other)	If the dataset is available online, please provide the link to it (incl. the login details if password protected)	Will the dataset be collected until the end of SUNRISE?	Please provide your assessment of the relevance of the dataset to SUNRISE	Please indicate the language in which the dataset is available	Notes (including first occurrence of the data collection and ethical issues, e.g. storage of personal data)
Air quality	Environment	PM10, NOx, NO2, CO	monitoring stations	every 5 min.	City	online	http://www.svivaaqm.net/Default.rtl.aspx	Yes	Yes	Hebrew	
		WS, WD, RH, Temp.							Not sure		
neighborhood survey	Society & Transport	public transportation efficiency, walkability, safe sidewalks, children's arrival to education institutions, parking, community assets	survey	every 2-3 years	Neighbourhood	internal (municipality)		Yes	Yes	Hebrew	
Jerusalem and Jerusalem suburbs Onboard Passenger Survey 2015-2017	Transport	Number of passengers, trip time, origin address, origin activity, destination address, destination activity, travel frequency (public transportation), method of payment	Number of passengers by observation (counting), journey properties by face-to-face survey	continuous during November - March	City	kept on promise		Yes	Yes	Hebrew	
Jerusalem and Jerusalem suburbs Household Travel survey	Transport	origin address, origin activity, destination address, destination activity, travel frequency, vehicle of transport, number and location of stops, joined trips, etc.	interview + GPS Tracker	continuous during November - June past few years	City	kept on promise		Yes	Yes	Hebrew	
Parkind Demand in Jerusalem Neighbourhoods	Transport	parking Supply vs. demand, number of vehicle by hour, origin & destination activity+address, frequency of parking, payment, parkund duration, etc.	observation + face-to-face survey		Neighbourhood	kept on promise		Not sure	Yes	Hebrew	
Tourist Transportation Survey	Transport	similar as above	face-to-face survey + GPS Tracker		Other	kept on promise		Not sure	Not sure	Hebrew	

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THESSALONIKI

Appendix D.4   PEOPLE INVOLVED IN THE EVALUATION PROCESS

Name	Organisation	Responsibility	Email	Comments
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Krithika Ramesh	Southend-on-Sea Borough Council	NEM - Southend	KrithikaRamesh@southend.gov.uk	

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Partners