Why is monitoring and evaluation a challenge in sustainable urban mobility planning?

Authors:
City of Dresden
Dr Kerstin Burggraf
Institute for Transport Studies University of Leeds
Dr Astrid Gühnemann

Contributions from:
Institute for Transport Studies University of Leeds
Prof. Anthony D May OBE FREng

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Why is monitoring and evaluation a challenge for SUMPs?

1 Aims of CH4LLENGE

The EU co-funded project CH4LLENGE addresses significant barriers for the wider take-up of SUMPs in Europe. In a joint undertaking together with research and resource institutions, the project will support European cities at different stages of advancing the take-up of SUMPs. Building on previous experiences and lessons from earlier and on-going national and European SUMP initiatives, the consortium has identified common challenges which pose significant barriers in the wider take-up of SUMPs in Europe. The project will work on innovative and transferable solutions for four SUMP-challenges.

- **Participation**: Actively involving local stakeholders and citizens in mobility planning processes.
- **Cooperation**: Improving geographic, political, administrative and interdepartmental cooperation.
- **Measure Selection**: Identifying the most appropriate package of measures to meet a city’s policy objectives.
- **Monitoring and Evaluation**: Assessing the impact of measures and evaluating the mobility planning process.

The following sections explain in detail why monitoring and evaluation in particular is a challenge for the take-up of SUMPs in European cities.

2 What is meant by monitoring and evaluation?

Monitoring and evaluation can be applied as management tools both for individual measures and for the overall SUMP planning process. A related process, appraisal, is used in developing proposals for individual measures and for the overall SUMP.

A very short description about it is the following:

- **monitoring**: continuous data collection and data analyses during implementation,
- **evaluation**: systematic determination of measure’s merit and significance during and after implementation - with conclusions,
- **appraisal**: evaluation of the impacts and worth of measures before implementation.
Monitoring and evaluation activities should be conducted on a regular cycle, although their frequency might vary with evaluation taking place at longer time intervals. They are important tools in the development and implementation of Sustainable Urban Mobility Plans (SUMPs) that serve the purpose of timely identification of problems, potential successes and the need for readjustment of a SUMP and its instruments. Providing regular information to decision makers, potential funding bodies and local stakeholders can help to convince them that a SUMP has or will deliver benefits to the community, provides value for money and is worth continuing, or requires modifications to be successful.

Appraisal (ex-ante evaluation) is conducted in the development of proposals for a measure or an overall SUMP, to assess whether the proposals will be effective and represent value for money, or need enhancement. Evaluation (ex-post evaluation) takes place after implementation of a measure or an overall SUMP, and is used to assess whether the measure (or SUMP) has been effective, and does represent value for money, or whether it needs modification or enhancement.

Key steps in monitoring, appraisal and evaluation are

- Definition of objectives
- Definition of performance indicators
- For appraisal (ex-ante evaluation)
  - Determining a do-minimum base against which to assess the proposal
  - Predicting the effects of the proposal
- For evaluation (ex-post evaluation)
  - Measuring the before conditions
  - Measuring the after conditions
- Analysis, interpretation and, if appropriate, assessing value for money.

The “Guidelines for Developing and Implementing a Sustainable Urban Mobility Plan” (www.mobilityplans.eu/docs/SUMP-guidelines_web0.pdf) give the following description:

„Monitoring and evaluation need to be built into the plan as essential management tools to keep track of the planning process and measure implementation, but also so that you can learn from the planning experience, understand what works well and less well, and to build the business case and evidence base for the wider application of similar measures in the future.”

Typical barriers towards an effective use of evaluation and monitoring are lack of financial and staff resources as well as gaps in technical knowledge with regards to defining performance indicators, data retrieval and collection, data preparation and data understanding.

A key element in Sustainable Urban Mobility Planning is evaluation and monitoring progress. Local authorities often underestimate the need for monitoring and evaluation in SUMP. This challenge 4 will provide guidance on monitoring and evaluating both measures and the whole SUMP development process for application by the cities.

The objective is to provide methodologies and feasible ways to assess change and evaluate the effectiveness of a SUMP.
3 Why is monitoring and evaluation important for SUMPs?

Cities get know-how and advice for local implementation for monitoring and evaluation.

Monitoring and evaluation of measures and the SUMP process have benefits to

- efficiency of planning processes and implementation of measures,
- higher quality of a SUMP itself and the SUMP process,
- assess and raise the quality of measures and measure bundles and packages,
- fill the gap between the objectives, the plan and its implementation,
- quality management for all partners: planners, operators, politicians etc.,
- save resources.

Monitoring and evaluation are important to achieve efficient planning and implementation. But there is a lack in experience and know-how in European cities.

4 What research and information is available on monitoring and evaluation?

There are broad information on monitoring and evaluation available from recent European projects:

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<td>CityMobil (2013)</td>
<td>Technological assessments: guidelines for the evaluation plan preparation; Demonstrations and showcases: guidelines for the evaluation plan preparation; Future scenarios: guidelines for the evaluation plan preparation; Evaluation Framework (Deliverable 5.1.1); Towards advanced transport for the urban environment (Deliverable 5.1.1)</td>
<td><a href="http://www.citymobil-project.eu/site/en/documenten.php">http://www.citymobil-project.eu/site/en/documenten.php</a></td>
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<td>ADVANCE (2011-2014)</td>
<td>ADVANCE develops, tests and applies an Audit Scheme to assess the quality of sustainable urban mobility planning</td>
<td><a href="http://www.advance-project.org">www.advance-project.org</a></td>
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<td>QUEST (2011-2013)</td>
<td>Quest is a Quality Management tool to help small- and medium-sized cities to set up and further develop their sustainable mobility policies and actions with assistance of an external auditor. Recommendations with regard to Urban Mobility Assessment from the review of approaches to evaluation (Deliverable 3.1)</td>
<td><a href="http://www.quest-project.eu/index.php?id=7">http://www.quest-project.eu/index.php?id=7</a></td>
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<td>CIVITAS ELAN (2012)</td>
<td>ELAN experiments at all stages from project planning and implementation, to monitoring and evaluation.</td>
<td><a href="http://www.civitas-initiative.org/content/elan">http://www.civitas-initiative.org/content/elan</a></td>
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<td>PROPOLIS (2000-2003)</td>
<td>PROPOLIS focused on developing methodologies and tools for assessment of urban sustainability and on evaluation of different land use and transport policies</td>
<td><a href="http://www.transport-research.info/web/projects/project_details.cfm?ID=4385">http://www.transport-research.info/web/projects/project_details.cfm?ID=4385</a></td>
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These sources highlight a number of barriers to the effective adoption of monitoring and evaluation:

- Many cities have some experiences in monitoring of measures. But they do not have experiences in monitoring the SUMP process. There are very few experiences with evaluation, either for measures or for the SUMP process. The level of experience with monitoring and evaluation activities varies strongly between cities with only limited tradition in preparation of SUMPs where urban transport planning is often either strongly infrastructure based or part of land-use planning and cities which have a long-established tradition of transport planning (see ADVANCE project).
- Differing definitions exist for the indicators to be monitored ranging from indicators for particular impacts (e.g. environmental impacts in COST356), over those for the evaluation of particular types of measures (e.g. for Advanced Transport Systems in MAESTRO or CityMobil or for mobility management measures in MAXSumo) to complete indicator sets (e.g. in DISTILLATE). However, in practice there is little consistency in what is monitored in different cities or over time.
In several cities there are data available, but there is no connection to the SUMP and its objectives. The data are used for the whole development, not for certain measures. The cities do not really have a monitoring and evaluation strategy but they see the need of it.

- Monitoring and evaluation is not very high on the political agenda.
- Involving stakeholder groups in the evaluation process and using monitoring data to inform the public are of growing importance but seen as difficult and potentially prone to pressure from interest groups (see e. g. DISTILLATE project conclusions). Examples from Dutch planning demonstrate how stakeholders could be involved at different steps of the evaluation process (Macharis et al., 2013).
- There are only limited experiences on how monitoring and evaluation should be managed and who should do it (the city administration with focus on measures or an external body/consultant with focus on SUMP-process).
- Monitoring and evaluation need capacities and also money (for behaviour surveys e. g.). But the costs of monitoring and evaluation are much less than the costs of inefficient measures and ineffective strategies.
- Evaluation tools such as cost-benefit analysis and multi-criteria analysis are well developed, however, there is often disagreement about their applicability and usefulness between different actors in the planning process (see e. g. Mouter et al., 2013, Beukers et al., 2012).

5 How does CH4LLENGE address monitoring and evaluation?

The level of using monitoring and evaluation in practice in European cities differs. All CH4LLENGE cities reported that evaluation and monitoring are seen as important by the administrations, but political commitment is sometimes low and generally a lack of manpower and budget can be observed.

The cities need a work method to be more efficient in data collection, monitoring and evaluation (continuously every one, two, or more years). They need a standardised method/an algorithm. This is reflected by the results of the CH4LLENGE survey and the workshops. The Leeds workshop participants agreed that a list of indicators with core indicators and recommendations for the most important indicators would be most helpful. It should be differentiated between output indicators and intermediate indicators. Further, the cities need a guideline to practice monitoring and evaluation (methods of measurement, time scales etc.).

Generally, it should be differentiated between large scale monitoring and evaluation in big cities and smaller scale monitoring and evaluation in smaller cities. It should also be differentiated between monitoring and evaluation of small measures (as a more qualitative one) and of bigger measures/measure packages/ SUMPs (as a more quantitative one). Financing of monitoring and evaluation tasks needs to be addressed, planned and realised. Data collection itself is usually unproblematic, but many cities lack resources to analyse the collected data subsequently. Therefore, the cities need “pro evaluation” arguments for the politicians, the political discussion and for the administration itself. Also an efficient institutional cooperation is required for monitoring and evaluation.
The participating cities will overcome these barriers by piloting strategies and develop clear hands-on guidance for decision makers and practitioners in local authorities in form of practical resource kits. The work has started with a survey of the nine partner cities and the 30 follower cities which gives information about the local situation, the level of practical application and of problems of monitoring and evaluation.

Then key evaluation parameters and core indicator sets will be identified and local monitoring and evaluation programmes will be defined.

In local pilots the advanced cities will set up monitoring and evaluation programmes for SUMP processes and for selected measures with support of the project experts. Piloting will be applied to selected measures (already implemented or currently being implemented outside the project’s budget) or to the entire SUMP process (both only for optimising cities that already have a SUMP in place).

Based on pilots in the cities CH4LLENGE will identify lessons and develop a SUMP evaluation and monitoring kit helping other European cities to plan their own evaluation and monitoring processes in the framework of their own SUMP.

The new experiences and knowledge gained in this CH4LLENGE workpackage monitoring and evaluating progress will help to qualify local SUMP processes and develop further the European Guidelines.

Figure 2: Further qualifying SUMP monitoring and evaluation (CH4LLENGE, City of Dresden)

For more information join us on www.sump-challenges.eu
6 Further reading


http://heatco.ier.uni-stuttgart.de (last accessed 18/12/2013)


ITS (no date) KONSULT Decision Maker’s Guidebook.
http://www.konsult.leeds.ac.uk/public/level1/sec01/index.htm (last accessed 18/12/2013)

http://www.transport-research.info/web/projects/project_details.cfm?id=4385 (last accessed 18/12/2013)


http://www.vtpi.org/sus_liv.pdf (last accessed 18/12/2013)

http://www.vtpi.org/wellmeas.pdf (last accessed 18/12/2013)


http://www.distillate.ac.uk/outputs/reports.php (last accessed 18/12/2013)


Mouter, N. et al. (2013), Attitudes towards the role of Cost-Benefit Analysis in the decision-making process for spatial-infrastructure projects: A Dutch case study, Transportation Research Part A: Policy and Practice, Volume 58, December 2013, Pages 1-14


Odgaard, T. et al. (2005) Current practice in project appraisal in Europe - Analysis of country reports. HEATCO Deliverable 1 http://heatco.ier.uni-stuttgart.de/hd1final.pdf (last accessed 18/12/2013)


German literature:

Forschungsgesellschaft für Straßen- und Verkehrswesen e. V.; Hinweise zur Verkehrsentwicklungsplanung, FGSV Verlag, Köln, 2013


Forschungsgesellschaft für Straßen- und Verkehrswesen e. V.; Hinweise zur Anwendung von Qualitätsmanagement in kommunalen Verkehrsplanungsprozessen, FGSV Verlag, Köln, 2007